IES Institute of Education Sciences

NCES 2024-034
U.S. DEPARTMENT OF EDUCATION

A Publication of the National Center for Education Statistics at IES

Projections of Education Statistics to 2030

Forty-ninth Edition

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February 2024

Véronique Irwin
National Center for Education Statistics

Tabitha M. Bailey
Rajeevee Panditharatna
Amir Sadeghi
S&P Global Inc.

NCES 2024-034
U.S. DEPARTMENT OF EDUCATION

U.S. Department of Education
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February 2024

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This report was prepared in part under Contract No. ED-IES-14-O-5005 with S&P Global Inc. Mention of trade names, commercial products, or organizations does not imply endorsement by the U.S. Government.

Suggested Citation
Irwin, V., Bailey, T.M., Panditharatna, R., and Sadeghi, A. (2024). *Projections of Education Statistics to 2030* (NCES 2024-034). U.S. Department of Education, Washington, DC: National Center for Education Statistics. Retrieved [date] from https://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2024034.

Content Contact
Véronique Irwin, Ph.D.
(202) 453-7387
Veronique.Irwin@ed.gov

Foreword

Projections of Education Statistics to 2030 is the 48th report in a series begun in 1964. It presents statistics on elementary and secondary schools and degree-granting postsecondary institutions, including projections of enrollment, graduates, teachers, and expenditures to the year 2030. This report provides revisions of projections shown in *Projections of Education Statistics to 2028*, as well as the *Digest of Education Statistics 2019* and *2020*, which included projections through 2029. A formal report on the projections to 2029 was never published, because these projections were produced just prior to the onset of the coronavirus pandemic, which had immediate implications for the landscape of education in the United States.

While the current edition cannot forecast unprecedented changes in educational behaviors, it does incorporate more current data from the pandemic period. At the time these forecasts were produced, the latest historical data for public elementary and secondary enrollments were from fall 2020 (during the pandemic), while the latest historical data for other outcomes were from fall 2019 or earlier (prepandemic). By the time of this report publication, new historical data will be available for all of the education statistics presented in this report. These new historical data represent an additional year of education during the pandemic, which will be incorporated into the forthcoming *Projections of Education Statistics to 2031*.

In addition to projections at the national level, the report includes projections of public elementary and secondary school enrollment and public high school graduates to the year 2030 at the state level. The projections in this report were produced by the National Center for Education Statistics (NCES) to provide researchers, policy analysts, and others with state-level projections developed using a consistent methodology. They are not intended to supplant detailed projections prepared for individual states.

Assumptions regarding the population and the economy are the key factors underlying the projections of education statistics. NCES projections do not reflect changes in national, state, or local education policies that may affect education statistics.

Appendix A of this report outlines the projection methodology and describes the models and assumptions used to develop the national and state projections. The enrollment models use enrollment data and population estimates and projections from NCES, the U.S. Census Bureau, and the forecasting service S&P Global Inc. The models are based on the mathematical projection of past data patterns into the future. Some models also use projections of economic variables from S&P Global Inc.

The projections presented in this report are based on assumptions for the fertility rate, internal migration, net immigration, and mortality rate from the Census Bureau. For further information, see appendix A.

Peggy G. Carr, Commissioner
National Center for Education Statistics

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About This Report

PROJECTIONS

This edition of *Projections of Education Statistics* provides projections for key education statistics, including enrollment, graduates, teachers, and expenditures in elementary and secondary public and private schools, as well as enrollment and degrees conferred at degree-granting postsecondary institutions. Included are national data on enrollment and graduates since at least 2010 and projections to the year 2030. This historical period (roughly 10 years prior to the latest historical data) was chosen to highlight recent trends, but longer trends are available in select reference tables. Also included are state-level data on enrollment in public elementary and secondary schools over the same period. This report is organized by the level of schooling with sections 1, 2, 3, and 4 covering aspects of elementary and secondary education and sections 5 and 6 covering aspects of postsecondary education.

There are a number of limitations in projecting some statistics. Because of this, state-level data on enrollment and graduates in private elementary and secondary schools and on enrollment and degrees conferred in degree- granting postsecondary institutions are not included. Neither the actual numbers nor the projections of public and private elementary and secondary school enrollment include homeschooled students. While there were enough years of data to produce projections of public elementary and secondary enrollment separately for Asians and Pacific Islanders, there were not enough years of data to produce separate projections for Asians and Pacific Islanders for either public high school graduates or enrollment in degree-granting postsecondary institutions.

Similar methodologies were used to obtain a uniform set of projections for each of the 50 states and the District of Columbia. These projections are further adjusted to agree with the national projections of public elementary and secondary school enrollment and public high school graduates contained in this report.

The summary of projections provides highlights of the national and state data, while the reference tables (in the *Digest of Education Statistics 2021*) and figures present more detail. All calculations within *Projections of Education Statistics* are based on unrounded estimates. Therefore, the reader may find that a calculation, such as a difference or percentage change, cited in the text or figure may not be identical to the calculation obtained by using the rounded values shown in the accompanying tables. Most figures in this report present historical and forecasted data from 2010 through 2030. The shaded area of these figures highlights the projected data and begins at the last year of actual data and ends in 2030. As the last year of historical data differs by survey, the year in which the shaded area begins also differs.

Most statements in sections 1 through 6 examine a single statistic over a period of time. In each case, a trend test using linear regression was conducted to test for structure in the data over that time period. If the p value for the trend variable was significant at less than or equal to .05, the text states that the statistic has either "increased" or "decreased" (i.e., there was a measurable trend). If the p value was greater than .05 and the data for both the first and last years of the time period come from a universe sample and/or are projections, then the text compares the first and last years in the time period, describing them as "higher" or "lower". However, if the data for at least one of the two years came from a sample survey, a two-tailed t test at the .05 level was conducted to determine if any apparent difference between the data for the two years is not reliably measurable due to the uncertainty around the data. Depending on the results of the test, the text will either include a comparison of the two numbers or say that there was no measurable difference between the two numbers.

Appendix A describes the methodology and assumptions used to develop the projections; appendix B presents supplementary tables; appendix C describes data sources; appendix D is a list of the references; appendix E presents a list of abbreviations; and appendix F is a glossary of terms.

LIMITATIONS OF PROJECTIONS

In this edition, projections are complicated by the onset of the coronavirus pandemic in 2020. Projections are based on the assumption that historical patterns will continue into the future. This presents challenges both for (1) using prepandemic historical data to predict unprecedented pandemic-era behaviors and (2) using

pandemic-era data to predict postpandemic behaviors. This edition of the *Projections of Education Statistics* includes both scenarios. At the time these forecasts were produced, the latest historical data for public elementary and secondary enrollments were from fall 2020 (during the pandemic), while the latest historical data for other outcomes were from fall 2019 or earlier (prepandemic). All data presented in this report were first published in the *Digest of Education Statistics 2021*. By the time of this report publication, new historical data will be available for all of the education statistics presented below. These new historical data represent an additional year of education during the pandemic, which will be incorporated into the forthcoming *Projections of Education Statistics to 2031*.

Even without a pandemic, projections of a time series usually differ from the final reported data due to errors from many sources, such as the properties of the projection methodologies, which depend on the validity of many assumptions.

The mean absolute percentage error is one way to express the forecast accuracy of past projections. This measure expresses the average of the absolute values of errors in percentage terms, where errors are the differences between past projections and actual data. For example, based on past editions of *Projections of Education Statistics*, the mean absolute percentage errors of public school enrollment in grades prekindergarten through 12 for lead times of 1, 2, 5, and 10 years were 0.3, 0.5, 1.1, and 2.5 percent, respectively. In contrast, mean absolute percentage errors of private school enrollment in grades prekindergarten through 8 for lead times of 1, 2, 5, and 10 years were 3.9, 5.6, 8.0, and 19.2 percent, respectively. For more information on mean absolute percentage errors, see table A-2 in appendix A.

Section 1
Elementary and Secondary Enrollment

INTRODUCTION

Total public and private elementary and secondary school enrollment was 56 million in fall 2019, representing a 3 percent increase since fall 2010 (*Digest 2021* table 105.30). Between fall 2019, the last year of actual private school data, and fall 2030, a decrease of 8 percent is expected. This includes a 2 percent drop in total public and private enrollment from fall 2019 to the first fall of the coronavirus pandemic in fall 2020, which includes actual public school data. From fall 2020 to fall 2030, enrollments are expected to decrease another 6 percent. Both public and private school enrollments are projected to be lower in 2030 than in 2019.

Public school enrollments are projected to be higher in 2030 than in 2020 for Asians/Pacific Islander students, Hispanic students, and students of Two or more races (*Digest 2021* table 203.50). Enrollment is projected to be lower for American Indian/Alaska Native, Black, and White students. Public school enrollments are projected to be lower in 2030 than in 2020 for all regions of the country (Northeast, Midwest, South, and West) (*Digest 2021* table 203.20).

Factors affecting the projections

The grade progression rate method was used to project school enrollments. This method assumes that future trends in factors affecting enrollments will be consistent with past patterns. It implicitly includes the net effect of factors such as dropouts, deaths, nonpromotion, transfers to and from public schools, and state-level migration. Progression rates were calculated using historical data through 2019, since pandemic-related changes in enrollments from fall 2019 to fall 2020 are not expected to persist throughout the 10-year forecast period. See appendixes A.0 and A.1 for more details.

Factors that were not considered

The projections do not assume changes in policies or attitudes that may affect enrollment levels. For example, they do not account for changing state and local policies on prekindergarten (preK) and kindergarten programs. Continued expansion of these programs could lead to higher enrollments at the elementary school level. Projections exclude the number of students who are homeschooled.

Accuracy of Projections

An analysis of projection errors from the past 36 editions of *Projections of Education Statistics* indicates that the mean absolute percentage errors (MAPEs) for lead times of 1, 2, 5, and 10 years out for projections of public school enrollment in grades prekindergarten-12 were 0.3, 0.5, 1.1, and 2.5 percent, respectively. For the 1-year-out prediction, this means that the methodology used by the National Center for Education Statistics (NCES) has produced projections that have, on average, deviated from actual observed values by 0.3 percent. For projections of public school enrollment in grades prekindergarten-8, the MAPEs for lead times of 1, 2, 5, and 10 years out were 0.3, 0.6, 1.3, and 3.3 percent, respectively, while the MAPEs for projections of public school enrollment in grades 9-12 were 0.4, 0.6, 1.2, and 2.2 percent, respectively, for the same lead times. An analysis of projection errors from the past 18 editions of *Projections of Education Statistics* indicates that the MAPEs for lead times of 1, 2, 5, and 10 years out for projections of private school enrollment in grades prekindergarten-12 were 3.7, 5.5, 8.5, and 14.2 percent, respectively. For projections of private school enrollment in grades prekindergarten-8, the MAPEs for lead times of 1, 2, 5, and 10 years out were 3.9, 5.6, 8.0, and 19.2 percent, respectively, while the MAPEs for projections of private school enrollment in grades 9-12 were 3.8, 5.2, 9.9, and 9.7 percent, respectively, for the same lead times. For more information, see table A-2 in appendix A.

Enrollment by grade level

Total elementary and secondary enrollment

- ▲ increased 3 percent between 2010 and 2019 (54.9 million vs. 56.3 million); and
- ▼ is projected to decrease 8 percent between 2019 and 2030 to 52.1 million.

Enrollment in prekindergarten through grade 8

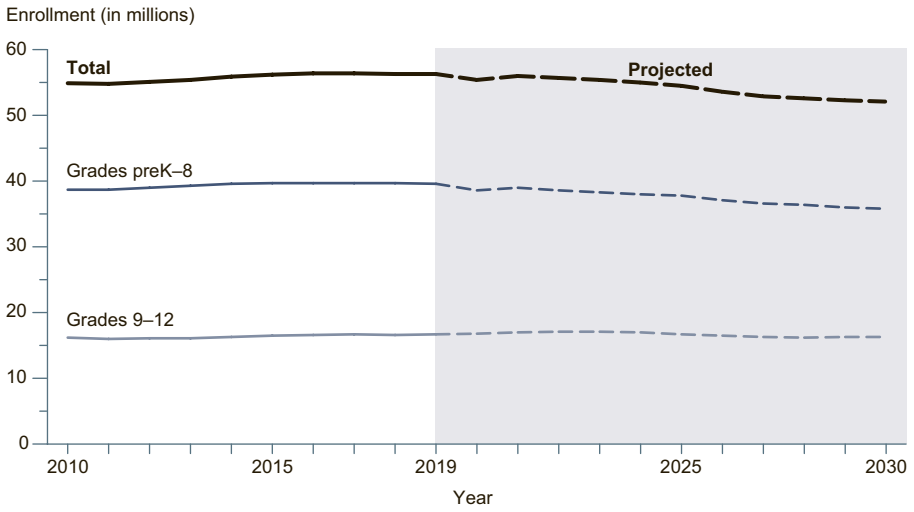
- ▲ increased 2 percent between 2010 and 2019 (38.7 million vs. 39.6 million); and
- ▼ is projected to decrease 10 percent between 2019 and 2030 to 35.8 million.

Enrollment in grades 9–12

- ▲ increased 3 percent between 2010 and 2019 (16.2 million vs. 16.7 million); and
- ▼ is projected to decrease 2 percent between 2019 and 2030 to 16.3 million.

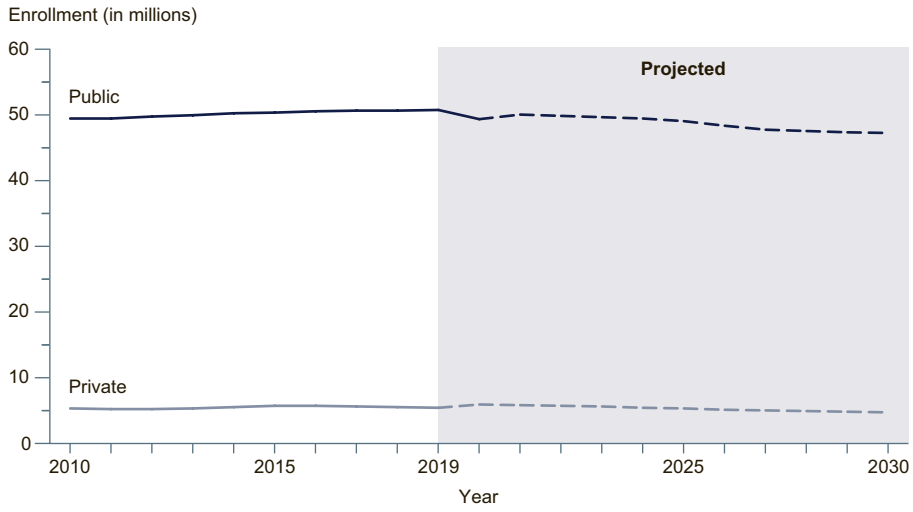
For more information: *Digest 2021* tables 105.30 and 203.10. (Reference tables 1 and 2 in this report)

Figure 1. Actual and projected numbers for enrollment in elementary and secondary schools, by grade level: Fall 2010 through fall 2030



NOTE: Data represent the 50 states and the District of Columbia. PreK = prekindergarten. Enrollment numbers for prekindergarten through 12th grade and prekindergarten through 8th grade include private nursery and prekindergarten enrollment in schools that offer kindergarten or higher grades. Public school enrollments include actual data for 2020; however, private school enrollments are projected, so total enrollments are shown as projected. Includes imputations for nonreported public prekindergarten enrollment in California and Oregon for fall 2020. Includes imputations for nonreported public enrollment for all grades in Illinois for fall 2020. Since the biennial Private School Universe Survey (PSS) is collected in the fall of odd-numbered years, private school numbers for alternate years are estimated based on data from the PSS. Some data have been revised from previously published figures. Mean absolute percentage errors of selected education statistics can be found in table A-2, appendix A.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 2010–11 through 2020–21; Private School Universe Survey (PSS), selected years 2009–10 through 2019–20; and National Elementary and Secondary Enrollment Projection Model, through 2030. (This figure was prepared May 2022.)

Figure 2. Actual and projected numbers for enrollment in elementary and secondary schools, by control of school: Fall 2010 through fall 2030



NOTE: Data represent the 50 states and the District of Columbia. Projected data for public school enrollment begin in 2021, while projected data for private enrollment begin in 2020. Includes imputations for nonreported public prekindergarten enrollment in California and Oregon for fall 2020. Includes imputations for nonreported public enrollment for all grades in Illinois for fall 2020. Private school numbers include private nursery and prekindergarten enrollment in schools that offer kindergarten or higher grades. Since the biennial Private School Universe Survey (PSS) is collected in the fall of odd-numbered years, private school numbers for alternate years are estimated based on data from the PSS. Some data have been revised from previously published figures. Mean absolute percentage errors of selected education statistics can be found in table A-2, appendix A.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 2010–11 through 2020–21; Private School Universe Survey (PSS), selected years 2009–10 through 2019–20; and National Elementary and Secondary Enrollment Projection Model, through 2030. (This figure was prepared May 2022.)

Enrollment by control of school

Enrollment in public elementary and secondary schools

- ▼ was lower in 2020 than in 2010 by less than half of 1 percent (49.4 million vs. 49.5 million); and
- ▼ is projected to decrease 4 percent between 2020 and 2030 to 47.3 million.

Enrollment in private elementary and secondary schools

- ▲ increased 2 percent between 2010 and 2019 (5.4 million vs. 5.5 million); and
- ▼ is projected to decrease by 12 percent between 2019 and 2030 to 4.8 million.

For more information: *Digest 2021* table 105.30. (Reference table 1 in this report)

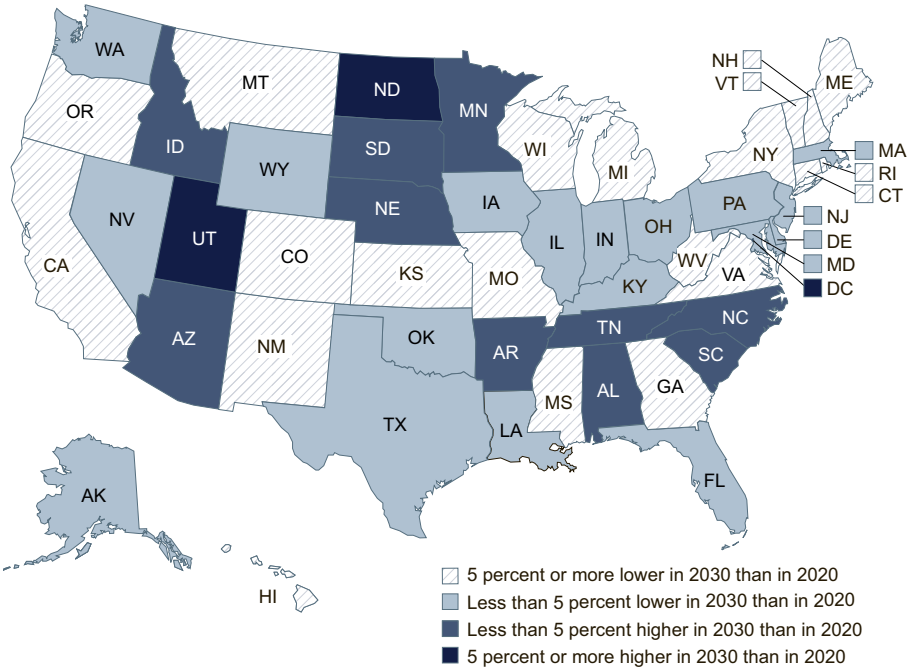
Enrollment by state

The expected 4 percent national decrease in public school enrollment between 2020 and 2030 plays out differently among the states.

- ▼ Enrollments are projected to be lower in 2030 than in 2020 for 38 states, with projected enrollments
  - 5 percent or more lower in 20 states; and
  - less than 5 percent lower in 18 states.
- ▲ Enrollments are projected to be higher in 2030 than in 2020 for 12 states and the District of Columbia, with projected enrollments
  - less than 5 percent higher in 10 states; and
  - 5 percent or more higher in 2 states and the District of Columbia.

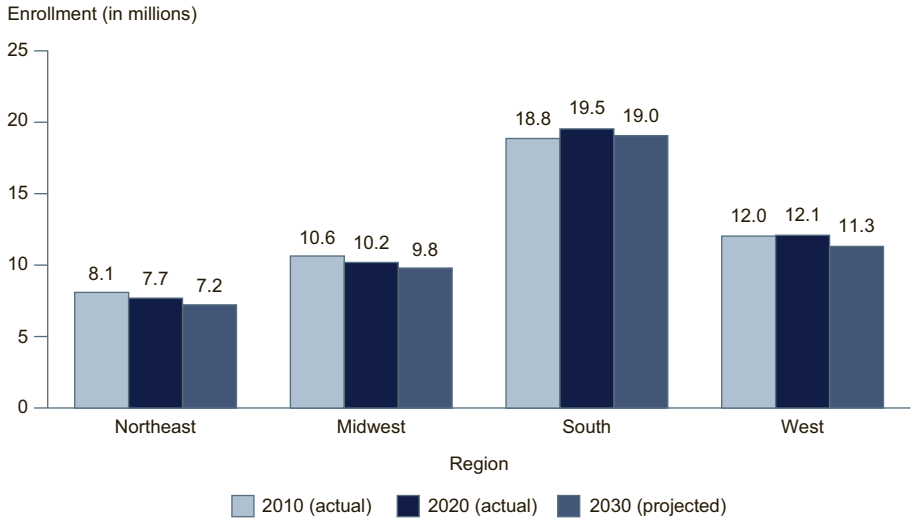
For more information: *Digest 2021* tables 203.20, 203.25, and 203.30. (Reference tables 3, 4, and 5 in this report)

Figure 3. Projected percentage change in enrollment in public elementary and secondary schools, by state: Fall 2020 to fall 2030



NOTE: Includes imputations for nonreported prekindergarten enrollment in California and Oregon for fall 2020. Includes imputations for nonreported enrollment for all grades in Illinois for fall 2020. Mean absolute percentage errors of enrollment in public elementary and secondary schools by state and region can be found in table A-7, appendix A. Calculations are based on unrounded numbers.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 2020–21; and State Public Elementary and Secondary Enrollment Projection Model, through 2030. (This figure was prepared March 2022.)

Figure 4. Actual and projected numbers for enrollment in public elementary and secondary schools, by region: Fall 2010, fall 2020, and fall 2030



NOTE: Data represent the 50 states and the District of Columbia. See the glossary for a list of the states in each region. Includes imputations for nonreported prekindergarten enrollment in California and Oregon for fall 2020. Includes imputations for nonreported enrollment for all grades in Illinois for fall 2020. Mean absolute percentage errors of enrollment in public elementary and secondary schools by state and region can be found in table A-7, appendix A. Some data have been revised from previously published figures.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 2010–11 and 2020–21; and State Public Elementary and Secondary Enrollment Projection Model, through 2030. (This figure was prepared March 2022.)

Enrollment by region

Public elementary and secondary enrollment is projected to

- decrease 6 percent between 2020 and 2030 for students in the Northeast;
- decrease 4 percent between 2020 and 2030 for students in the Midwest;
- be 2 percent lower in 2030 than in 2020 for students in the South; and
- decrease 6 percent between 2020 and 2030 for students in the West.

For more information:
Digest 2021 tables 203.20, 203.25, and 203.30. (Reference tables 3, 4, and 5 in this report)

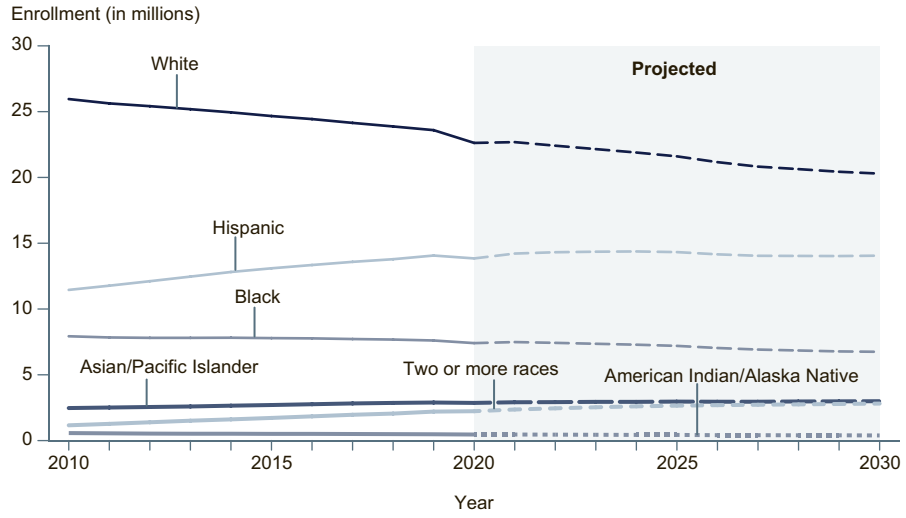
Enrollment by race/ethnicity

Enrollment in public elementary and secondary schools is projected to

- ▼ decrease 15 percent between 2020 and 2030 for American Indian/Alaska Native students;
- ▲ increase 5 percent between 2020 and 2030 for Asian students;
- ▼ decrease 9 percent between 2020 and 2030 for Black students;
- ▲ be 2 percent higher in 2030 than in 2020 for Hispanic students;
- ▼ decrease 3 percent between 2020 and 2030 for Pacific Islander students;
- ▼ decrease 10 percent between 2020 and 2030 for White students; and
- ▲ increase 26 percent between 2020 and 2030 for students of Two or more races.

For more information: *Digest 2021* tables 203.50 and 203.60. (Reference tables 6 and 7 in this report)

Figure 5. Actual and projected numbers for enrollment in public elementary and secondary schools, by race/ethnicity: Fall 2010 through fall 2030



NOTE: Data represent the 50 states and the District of Columbia. Race categories exclude persons of Hispanic ethnicity. Enrollment data for students not reported by race/ethnicity were prorated based on the known racial/ethnic composition of a state by grade to match state totals. Includes imputations for nonreported prekindergarten enrollment in California for fall 2019 and 2020 and in Oregon for fall 2020. Includes imputations for nonreported enrollment for all grades in Illinois for fall 2020. Mean absolute percentage errors of selected education statistics can be found in table A-2, appendix A.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 2010–11 through 2020–21; and National Public Elementary and Secondary Enrollment by Race/Ethnicity Projection Model, through 2030. (This figure was prepared March 2022.)

Section 2
Elementary and Secondary Teachers

INTRODUCTION

Between fall 2019, the last year of actual public school teacher data, and fall 2030, the number of teachers in elementary and secondary schools is projected to decrease 5 percent (*Digest 2021* table 208.20). The decrease is projected to occur in both public and private schools. The annual number of new teacher hires is projected to be lower in 2030 than in 2019 in both public and private schools. However, both public and private schools are projected to experience a decline in pupil/teacher ratios.

Factors affecting the projections

The projections of the number of elementary and secondary teachers are related to projected levels of enrollments and education revenue receipts from state sources per capita. For more details, see appendixes A.0 and A.2.

Factors that were not considered

The projections do not take into account possible changes in the number of teachers due to the effects of government policies. They also do not account for changes in hiring or retiring during the coronavirus pandemic.

About pupil/teacher ratios

The overall elementary and secondary pupil/teacher ratio and pupil/teacher ratios for public and private schools were computed based on elementary and secondary enrollment and the number of classroom teachers by control of school.

About new teacher hires

A teacher is considered to be a new teacher hire for a certain control of school (public or private) for a given year if the teacher teaches in that control that year but had not taught in that control in the previous year. A teacher who moves from teaching in one control of school to the other control is considered a new teacher hire, but a teacher who moves from one school to another school in the same control is not considered a new teacher hire.

Accuracy of Projections

An analysis of projection errors from the past 29 editions of *Projections of Education Statistics* that included projections of teachers indicates that the mean absolute percentage errors (MAPEs) for projections of classroom teachers in public elementary and secondary schools were 0.7 percent for 1 year out, 1.3 percent for 2 years out, 2.7 percent for 5 years out, and 6.6 percent for 10 years out. For the 1-year-out prediction, this means that one would expect the projection to be within 0.7 percent of the actual value, on average. For more information on the MAPEs of different National Center for Education Statistics (NCES) projection series, see table A-2 in appendix A.

Number of teachers

The total number of elementary and secondary teachers

- ▲ increased 4 percent between 2010 and 2019 (3.5 million vs. 3.7 million); and
- ▼ is projected to decrease 5 percent between 2019 and 2030 to 3.5 million.

The number of teachers in public elementary and secondary schools

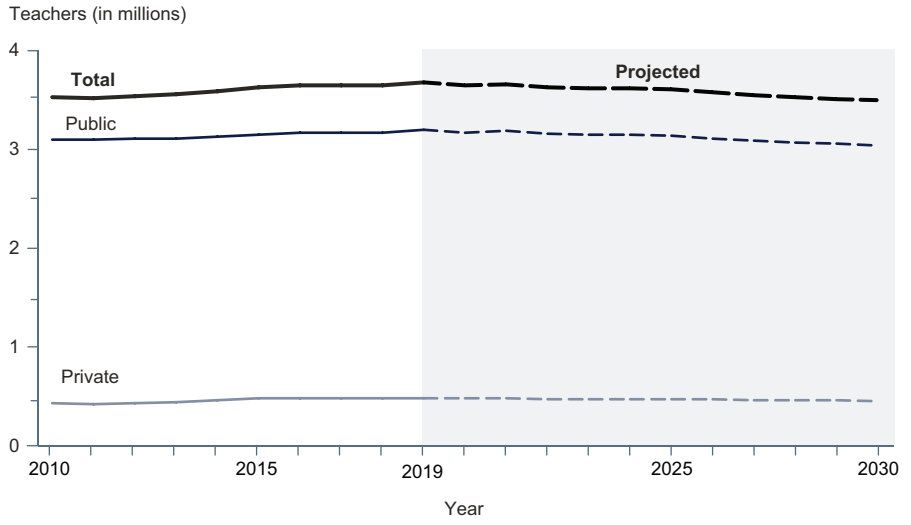
- ▲ increased 3 percent between 2010 and 2019 (3.1 million vs. 3.2 million); and
- ▼ is projected to decrease 5 percent between 2019 and 2030 to 3.0 million.

The number of teachers in private elementary and secondary schools

- ▲ increased 12 percent between 2010 and 2019 (429,000 vs. 481,000); and
- ▼ is projected to decrease by 6 percent between 2019 and 2030 to 454,000.

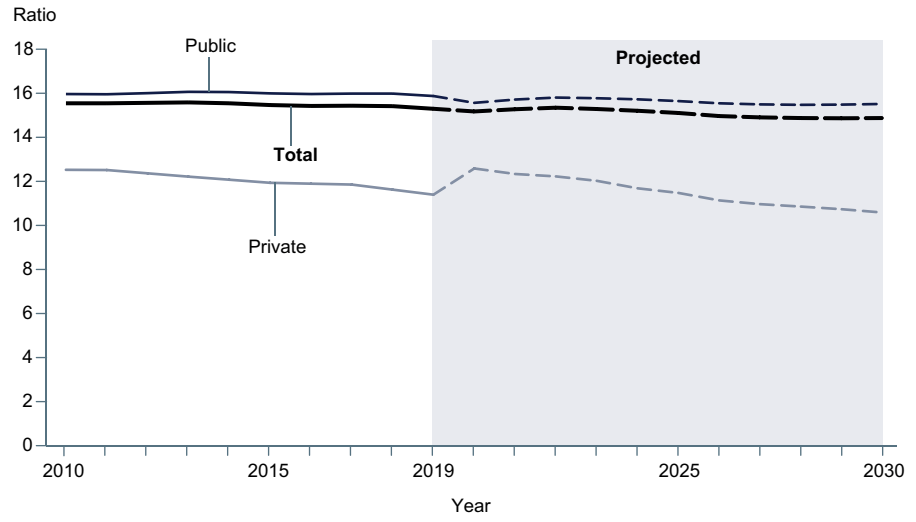
For more information: *Digest 2021* table 208.20. (Reference table 8 in this report)

Figure 6. Actual and projected numbers for elementary and secondary teachers, by control of school: Fall 2010 through fall 2030



NOTE: Data represent the 50 states and the District of Columbia. Since the biennial Private School Universe Survey (PSS) is collected in the fall of odd-numbered years, private school numbers for alternate years are estimated based on data from the PSS. Data for teachers are expressed in full-time equivalents (FTE). Counts of private school teachers include prekindergarten through grade 12 in schools offering kindergarten or higher grades. Counts of public school teachers include prekindergarten through grade 12. Some data have been revised from previously published figures. Mean absolute percentage errors of selected education statistics can be found in table A-2, appendix A.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 2010–11 through 2019–20; Private School Universe Survey (PSS), selected years, 2009–10 through 2019–20; Elementary and Secondary Teacher Projection Model, through 2030. (This figure was prepared March 2022.)

Figure 7. Actual and projected numbers for the pupil/teacher ratios in elementary and secondary schools, by control of school: Fall 2010 through fall 2030



NOTE: Data represent the 50 states and the District of Columbia. Since the biennial Private School Universe Survey (PSS) is collected in the fall of odd-numbered years, private school numbers for alternate years are estimated based on data from the PSS. Data for teachers are expressed in full-time equivalents (FTE). Counts of private school teachers and enrollment include prekindergarten through grade 12 in schools offering kindergarten or higher grades. Counts of public school teachers and enrollment include prekindergarten through grade 12. Some data have been revised from previously published figures. Mean absolute percentage errors of selected education statistics can be found in table A-2, appendix A.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 2010–11 through 2019–20; Private School Universe Survey (PSS), selected years, 2009–10 through 2019–20; National Elementary and Secondary Enrollment Projection Model, through 2030; and Elementary and Secondary Teacher Projection Model, through 2030. (This figure was prepared March 2022.)

Pupil/teacher ratios

The pupil/teacher ratio in all elementary and secondary schools

- decreased between 2010 and 2019 (15.5 vs. 15.3); and
- is projected to decrease to 14.9 in 2030.

The pupil/teacher ratio in public elementary and secondary schools

- was lower in 2019 than in 2010 (15.9 vs. 16.0); and
- is projected to decrease to 15.5 in 2030.

The pupil/teacher ratio in private elementary and secondary schools

- decreased from 12.5 to 11.4 between 2010 and 2019; and
- is projected to decrease to 10.6 in 2030.

For more information: *Digest 2021* table 208.20. (Reference table 8 in this report)

New teacher hires

The total number of new teacher hires

- ▲ was higher in 2019 than in 2011 (358,000 vs. 241,000); and
- ▼ is projected to be 18 percent lower in 2030 (304,000) than in 2019.

The number of new teacher hires in public schools

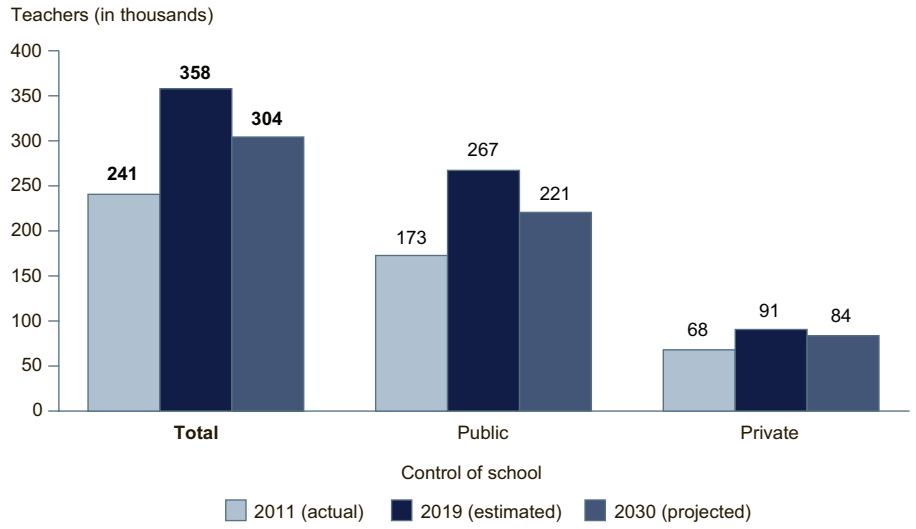
- ▲ was higher in 2019 than in 2011 (267,000 vs. 173,000); and
- ▼ is projected to be 21 percent lower in 2030 (221,000) than in 2019.

The number of new teacher hires in private schools

- ▲ was higher in 2019 than in 2011 (91,000 vs. 68,000); and
- ▼ is projected to decrease 8 percent between 2019 and 2030, to 84,000.

For more information: *Digest 2021* table 208.20. (Reference table 8 in this report)

Figure 8. Actual and projected numbers for elementary and secondary new teacher hires, by control of school: Fall 2011, fall 2019, and fall 2030



NOTE: Data represent the 50 states and the District of Columbia. Data for teachers are expressed in full-time equivalents (FTE). A teacher is considered to be a new hire for a public or private school if the teacher had not taught in that control of school in the previous year. A teacher who moves from a public to private or a private to public school is considered a new teacher hire, but a teacher who moves from one public school to another public school or one private school to another private school is not considered a new teacher hire. For more information about the New Teacher Hires Model, see appendix A.2. Some data have been revised from previously published figures. Detail may not sum to totals because of rounding.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 2011–12 and 2019–20; Private School Universe Survey (PSS), 2011–12 and 2019–20; Schools and Staffing Survey (SASS), "Public School Teacher Data File," 2011–12; "Private School Teacher Data File," 2011–12; National Teacher and Principal Survey (NTPS) 2017–18; Elementary and Secondary Teacher Projection Model, through 2030, and New Teacher Hires Projection Model, through 2030. (This figure was prepared March 2022.)

Section 3
High School Graduates

INTRODUCTION

The number of high school graduates increased nationally by 11 percent between 2005-06 and 2012-13, the last year of actual data for public schools (*Digest 2021* table 219.10). The number of high school graduates is projected to be 2 percent higher in 2030-31 than in 2012-13. The numbers of both public and private high school graduates are projected to be higher in 2030-31 than in 2012-13. The numbers of public high school graduates are projected to be higher in 2030-31 than in 2012-13 in the South and lower in the Northeast, Midwest, and West (*Digest 2021* table 219.20).

Factors affecting the projections

The projections of high school graduates are related to projections of 12th-graders and the historical relationship between the number of 12th-graders and the number of high school graduates. The methodology implicitly includes the net effect of factors such as dropouts, transfers to and from public schools, and state-level migration. For more details, see appendixes A.0 and A.3.

Factors that were not considered

The projections do not assume changes or attitudes that may affect the high school graduate levels. For example, they do not account for changes in policies influencing graduation requirements.

About high school graduates

A high school graduate is defined as an individual who has received formal recognition from school authorities, by the granting of a diploma, for completing a prescribed course of study. This definition does not include other high school completers or high school equivalency recipients.

Accuracy of Projections

For National Center for Education Statistics (NCES) projections of public high school graduates produced over the last 29 editions, the mean absolute percentage errors (MAPEs) for lead times of 1, 2, 5, and 10 years out were 1.0, 1.1, 2.5, and 5.1, respectively. For the 1-year-out prediction, this means that one would expect the projection to be within 1.0 percent of the actual value, on average. For NCES projections of private high school graduates produced over the last 18 editions, the MAPEs for lead times of 1, 2, 5, and 10 years out were 3.0, 2.2, 10.4, and 12.8 percent, respectively. For more information, see table A-2 in appendix A.

High school graduates by control of school

The total number of high school graduates

- ▲ increased 11 percent between 2005-06 and 2012-13 (3.1 million vs. 3.5 million); and
- ▲ is projected to be 2 percent higher in 2030-31 (3.5 million) than in 2012-13.

The number of public high school graduates

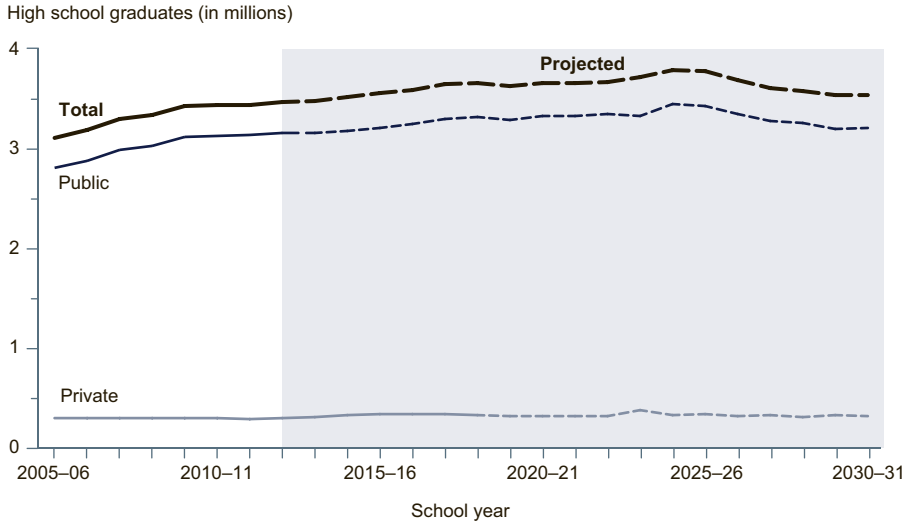
- ▲ increased 13 percent between 2005-06 and 2012-13 (2.8 million vs. 3.2 million); and
- ▲ is projected to be 1 percent higher in 2030-31 (3.2 million) than in 2012-13.

The number of private high school graduates

- ▲ was 1 percent higher in 2012-13 than in 2005-06 (309,000 vs. 307,000); and
- ▲ is projected to be 8 percent higher in 2030-31 (333,000) than in 2012-13.

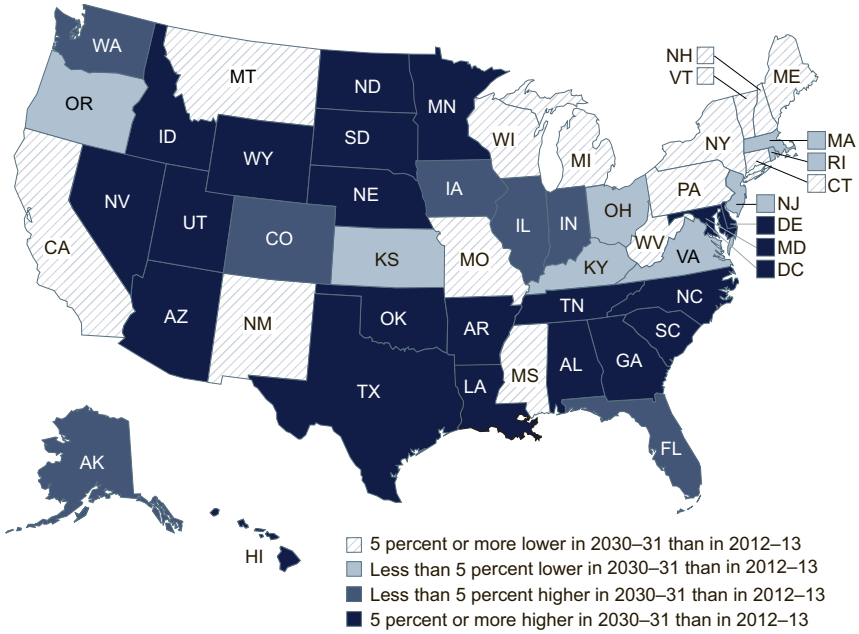
For more information: *Digest 2021* table 219.10. (Reference table 9 in this report)

Figure 9. Actual and projected numbers for high school graduates, by control of school: School years 2005–06 through 2030–31



NOTE: Data represent the 50 states and the District of Columbia. The private school data for 2014–15, 2016–17, and 2018–19 are actuals. Since the biennial Private School Universe Survey (PSS) is collected in the fall of odd-numbered years and the numbers collected for high school graduates are for the preceding year, private school numbers for odd years are estimated based on data from the PSS. Data for 2005–06, 2008–09 include imputations for nonreporting states. Includes graduates of regular day school programs. Excludes graduates of other programs, when separately reported, and recipients of high school equivalency certificates. Some data have been revised from previously published figures. Mean absolute percentage errors of selected education statistics can be found in table A-2, appendix A.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 2005–06; "State Dropout and Completion Data File," 2005–06 through 2012–13; Private School Universe Survey (PSS), selected years, 2005–06 through 2019–20; and National High School Graduates Projection Model, through 2030–31. (This figure was prepared March 2022.)

Figure 10. Projected percentage change in the number of public high school graduates, by state: School years 2012–13 and 2030–31



NOTE: Data include regular diploma recipients, but exclude students receiving a certificate of attendance and persons receiving high school equivalency certificates. Some data have been revised from previously published figures. Includes graduates of regular day school programs. Calculations are based on unrounded numbers. Mean absolute percentage errors of public high school graduates by state and region can be found in table A-14, appendix A.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "State Dropout and Completion Data File," 2012–13; and State Public High School Graduates Projection Model, through 2030–31. (This figure was prepared March 2022.)

High school graduates by state

The number of public high school graduates is projected to be higher in 2030-31 than in 2012-13. This plays out differently among the states.

▼ The number of high school graduates are projected to be lower in 2030-31 than in 2012-13 for 22 states, with projected high school graduates

- less than 5 percent lower in 8 states; and
- 5 percent or more lower in 14 states.

▲ The number of high school graduates are projected to be higher in 2030-31 than in 2012-13 for 28 states and the District of Columbia, with projected high school graduates

- 5 percent or more higher in 21 states and the District of Columbia; and
- less than 5 percent higher in 7 states.

For more information:
Digest 2021 table 219.20. (Reference table 10 in this report)

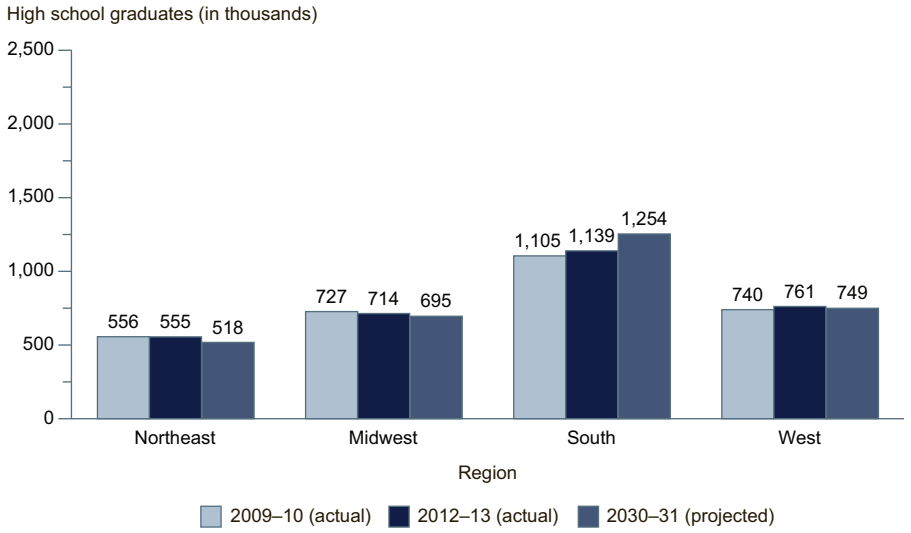
High school graduates by region

The number of public high school graduates is projected to

- ▼ decrease 7 percent between 2012-13 and in 2030-31 in the Northeast;
- ▼ be 3 percent lower in 2030-31 than in 2012-13 in the Midwest;
- ▲ increase 10 percent between 2012-13 and 2030-31 in the South; and
- ▼ be 2 percent lower in 2030-31 than in 2012-13 in the West.

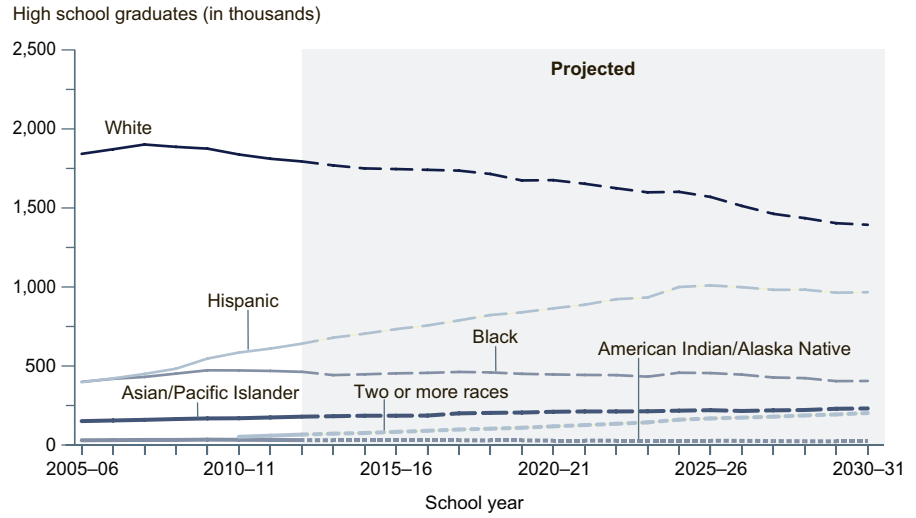
For more information: *Digest 2021* table 219.20. (Reference table 10 in this report)

Figure 11. Actual and projected numbers for public high school graduates, by region: School years 2009–10, 2012–13, and 2030–31



NOTE: See the glossary for a list of the states in each region. Data include regular diploma recipients, but exclude students receiving a certificate of attendance and persons receiving high school equivalency certificates. Some data have been revised from previously published figures. Detail may not sum to totals because of rounding. Includes graduates of regular day school programs. Mean absolute percentage errors of public high school graduates by state and region can be found in table A-14, appendix A.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 2009–10; "State Dropout and Completion Data File," 2012–13; and State Public High School Graduates Projection Model, through 2030–31. (This figure was prepared March 2022.)

Figure 12. Actual and projected numbers for public high school graduates, by race/ethnicity: School years 2005–06 through 2030–31



NOTE: Race categories exclude persons of Hispanic ethnicity. Data on students of Two or more races were not collected separately prior to 2007–08, and data on students of Two or more races from 2007–08 through 2009–10 were not reported by all states. Therefore, the data are not comparable to figures for 2010–11 and later years. Mean absolute percentage errors of selected education statistics can be found in table A-2, appendix A. Some data have been revised from previously published figures.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 2005–06; "State Dropout and Completion Data File," 2005–06 through 2012–13; and National Public High School Graduates by Race/Ethnicity Projection Model, through 2030–31. (This figure was prepared March 2022.)

High school graduates by race/ethnicity

The number of public high school graduates is projected to

- ▼ decrease 26 percent between 2012-13 and 2030-31 (31,000 vs. 23,000) for students who are American Indian/Alaska Native;
- ▲ increase 29 percent between 2012-13 and 2030-31 (179,000 vs. 231,000) for students who are Asian/Pacific Islander;
- ▼ decrease 12 percent between 2012-13 and 2030-31 (462,000 vs. 404,000) for students who are Black;
- ▲ increase 51 percent between 2012-13 and 2030-31 (640,000 vs. 965,000) for students who are Hispanic;
- ▼ decrease 22 percent between 2012-13 and 2030-31 (1,791,000 vs. 1,391,000) for students who are White; and
- ▲ increase 208 percent between 2012-13 and 2030-31 (66,000 vs. 202,000) for students who are of Two or more races.

For more information:
Digest 2021 table 219.30. (Reference table 11 in this report)

Section 4
Expenditures for Public Elementary and Secondary Education

INTRODUCTION

Current expenditures (e.g., instruction and support services) for public elementary and secondary education are projected to be 1 percent higher in constant 2020-21 dollars (adjusted for inflation) in school year 2030-31, compared to 2018-19, the last year of actual data (*Digest 2021* table 236.15).

Factors affecting the projections

The projections of current expenditures are related to projections of economic growth as measured by disposable income per capita and assistance by state governments to local governments. For more details, see appendixes A.0 and A.4.

Factors that were not considered

Many factors that may affect future school expenditures were not considered in the production of these projections. Such factors include policy initiatives as well as potential changes in the age distribution of elementary and secondary teachers as older teachers retire and are replaced by younger teachers, or as older teachers put off retirement for various reasons.

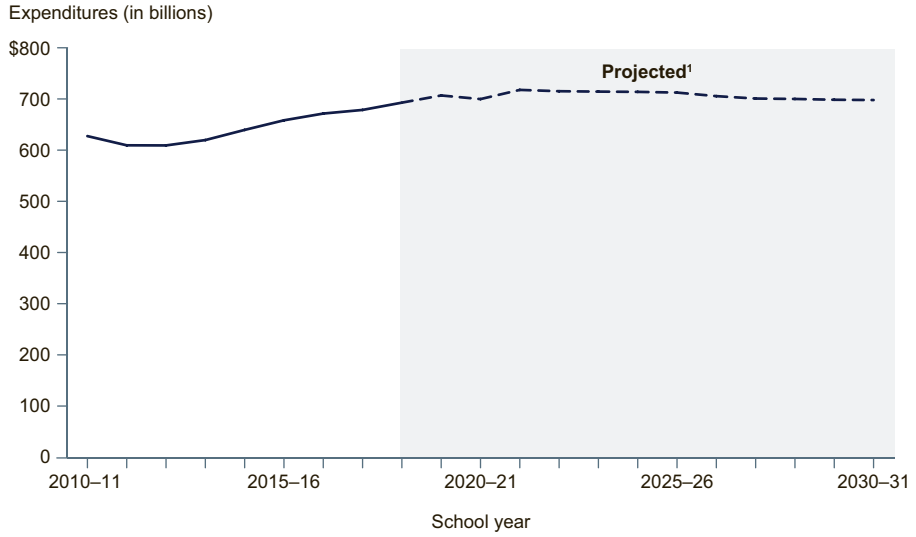
About constant dollars and current dollars

Throughout this section, projections of current expenditures are presented in constant 2020-21 dollars. The reference tables, later in this report, present these data both in constant 2020-21 dollars and in current dollars. The projections were developed in constant dollars and then placed in current dollars using projections for the Consumer Price Index (CPI) (table B-5 in appendix B).

Accuracy of Projections

An analysis of projection errors from similar models used in the past 29 editions of *Projections of Education Statistics* that contained expenditure projections indicates that mean absolute percentage errors (MAPEs) for total current expenditures in constant dollars were 1.6 percent for 1 year out, 2.4 percent for 2 years out, 3.1 percent for 5 years out, and 6.9 percent for 10 years out. For the 1-year-out prediction, this means that one would expect the projection to be within 1.6 percent of the actual value, on average. MAPEs for current expenditures per pupil in fall enrollment in constant dollars were 1.6 percent for 1 year out, 2.4 percent for 2 years out, 3.3 percent for 5 years out, and 7.0 percent for 10 years out. See appendix A for further discussion of the accuracy of recent projections of current expenditures, and see table A-2 in appendix A for the MAPEs of these projections.

Figure 13. Actual and projected current expenditures for public elementary and secondary schools (in constant 2020–21 dollars): School years 2010–11 through 2030–31



[1] Projected expenditures do not account for relief funding administered during the coronavirus pandemic, such as the Coronavirus Aid, Relief, and Economic Security (CARES) Act or the American Rescue Plan (ARP).
NOTE: Data represent the 50 states and the District of Columbia. Excludes prekindergarten expenditures for California in 2018–19. Numbers were placed in constant dollars using the Consumer Price Index (CPI) for all urban consumers, Bureau of Labor Statistics, U.S. Department of Labor. For more detail about CPI, see table B-5 in appendix B. Current expenditures include instruction, support services, food services, and enterprise operations. Some data have been revised from previously published figures. Mean absolute percentage errors of selected education statistics can be found in table A-2, appendix A.
SOURCE: SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "National Public Education Financial Survey," 2010–11 through 2018–19; Public Elementary and Secondary School Current Expenditures Projection Model, through 2030–31. (This figure was prepared March 2022.)

Current expenditures

Current expenditures in constant 2020-21 dollars

- ▲ increased 10 percent from 2010-11 to 2018-19 ($628 billion vs. $693 billion); and
- ▲ are projected to be 1 percent higher in 2030-31 ($698 billion) compared to 2018-19.

For more information: *Digest 2021* table 236.15. (Reference table 12 in this report)

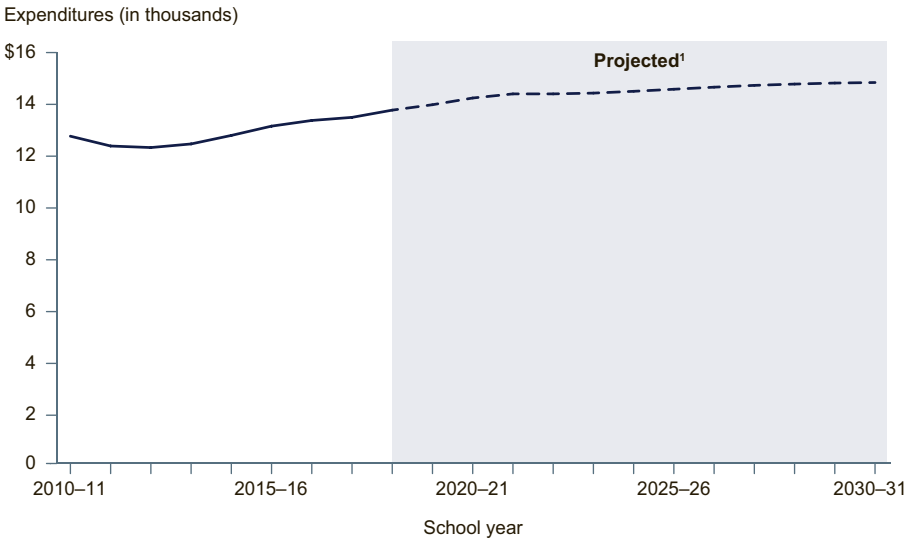
Current expenditures per pupil

Current expenditures per pupil in fall enrollment in constant 2020-21 dollars

- ▲ increased 8 percent from 2010-11 to 2018-19 ($12,700 vs. $13,700); and
- ▲ are projected to increase 8 percent, to $14,800, from 2018-19 to 2030-31

For more information: *Digest 2021* table 236.15. (Reference table 12 in this report)

Figure 14. Actual and projected current expenditures per pupil in fall enrollment in public elementary and secondary schools (in constant 2020–21 dollars): School years 2010–11 through 2030–31



[1] Projected expenditures do not account for relief funding administered during the coronavirus pandemic, such as the Coronavirus Aid, Relief, and Economic Security (CARES) Act or the American Rescue Plan (ARP).
NOTE: Data represent the 50 states and the District of Columbia. Excludes prekindergarten expenditures and prekindergarten enrollment for California in 2018–19. Numbers were placed in constant dollars using the Consumer Price Index (CPI) for all urban consumers, Bureau of Labor Statistics, U.S. Department of Labor. For more detail about CPI, see table B-5 in appendix B. Current expenditures include instruction, support services, food services, and enterprise operations. Some data have been revised from previously published figures. Mean absolute percentage errors of selected education statistics can be found in table A-2, appendix A.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 2010–11 through 2018–19; "National Public Education Financial Survey," 2010–11 through 2018–19; Public Elementary and Secondary School Current Expenditures Projection Model, through 2030–31. (This figure was prepared March 2022.)

Section 5
Enrollment in Degree-Granting Postsecondary Institutions

INTRODUCTION

Total enrollment in degree-granting postsecondary institutions is expected to increase 8 percent between fall 2020, the last year of actual data, and fall 2030 (*Digest 2021* table 303.10). Degree-granting institutions are postsecondary institutions that provide study beyond secondary school and offer programs terminating in an associate's, bachelor's, or higher degree and participate in Title IV federal financial aid programs. Differential growth is expected by student characteristics such as age, sex, and attendance status (part-time or full-time). Enrollment is expected to increase in both public and private degree-granting postsecondary institutions.

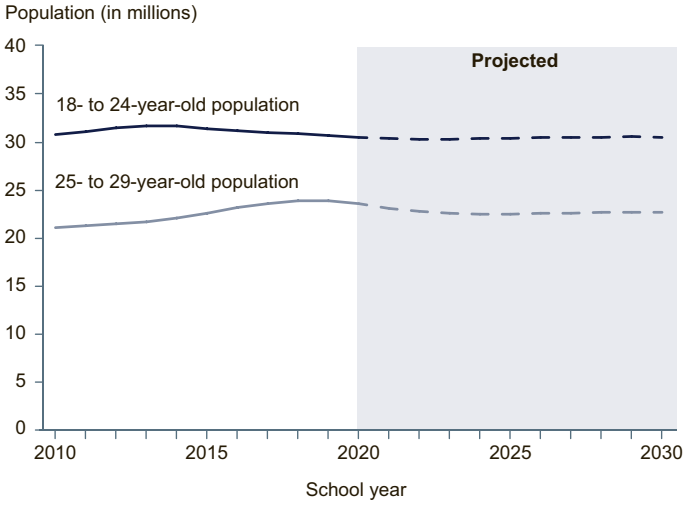
Factors affecting the projections

The projections of enrollment levels are related to projections of college-age populations, disposable income, and unemployment rates. In a combination of approaches from earlier editions, this edition uses a new two-stage approach in which final projections are estimated by calculating a weighted average of economic "model-driven projections" and "population-driven projections." For more details, see appendixes A.0 and A.5. An important factor in the enrollment projections is the expected change in the population of 18- to 29-year- olds from 2010 through 2030 (table B-3 in appendix B). For example, figure 15 shows that the number of 18- to 24-year-olds—who make up the majority of postsecondary students—was 30.5 million in 2020 and is also projected to be 30.5 million in 2030.

Factors that were not considered

The enrollment projections do not take into account such factors as the cost of a college education, the economic value of an education, and the impact of distance learning due to technological changes. These factors may produce changes in enrollment levels. The racial/ethnic backgrounds of U.S. nonresidents are not known.

Figure 15. Actual and projected population numbers for 18- to 24-year-olds and 25- to 29-year-olds: 2010 through 2030



NOTE: Some data have been revised from previously published figures. Historical population data are from the U.S. Census Bureau and are estimates of the population on July 1 of the given year. National population projections are S&P Global forecasts produced in May 2021 with a cohort component model like that used by the Census Bureau. The model incorporates assumptions about fertility rates, survival rates, and net international migration from the 2020 Census Bureau projections, which were modified to take into account the demographic shocks of the previous three years.
SOURCE: U.S. Department of Commerce, Census Bureau, resident population by single year of age and sex retrieved from National Population by Characteristics: 2010–2020 (census.gov) and U.S. resident population retrieved from 2020 Census Apportionment Results; and S&P Global Inc. Population service, May 2021 release (history through 2020 and forecasts through 2030). (This table was prepared April 2022.)

Accuracy of Projections

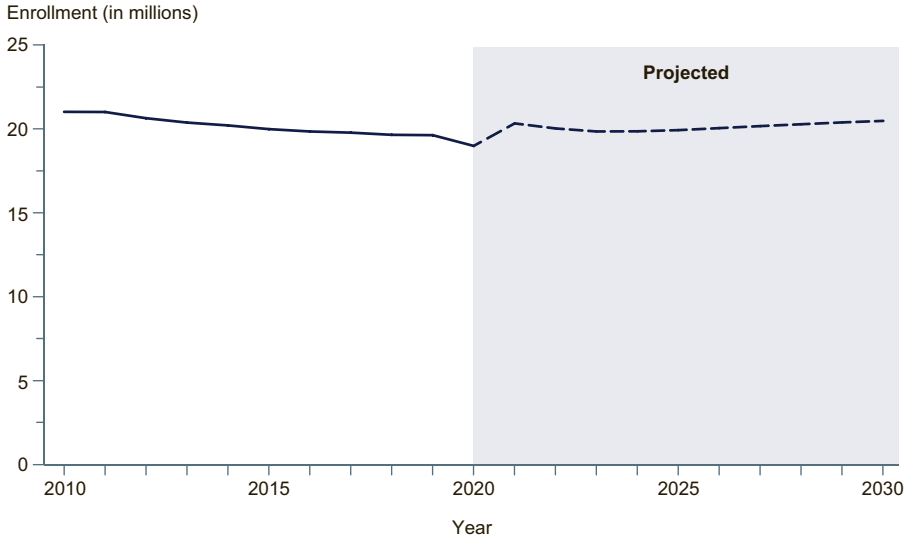
No mean absolute percentage errors were calculated for enrollments in degree-granting postsecondary institutions, as projections were calculated using a new model. For information concerning the accuracy of the previous models used to produce projections of enrollment in degree-granting postsecondary institutions, see page 96 of *Projections of Education Statistics to 2028*.

Total enrollment in degree-granting postsecondary institutions

- ▼ decreased 10 percent from 2010 to 2020 (21.0 million vs. 19.0 million); and
- ▲ is projected to increase 8 percent, to 20.5 million, from 2020 to 2030.

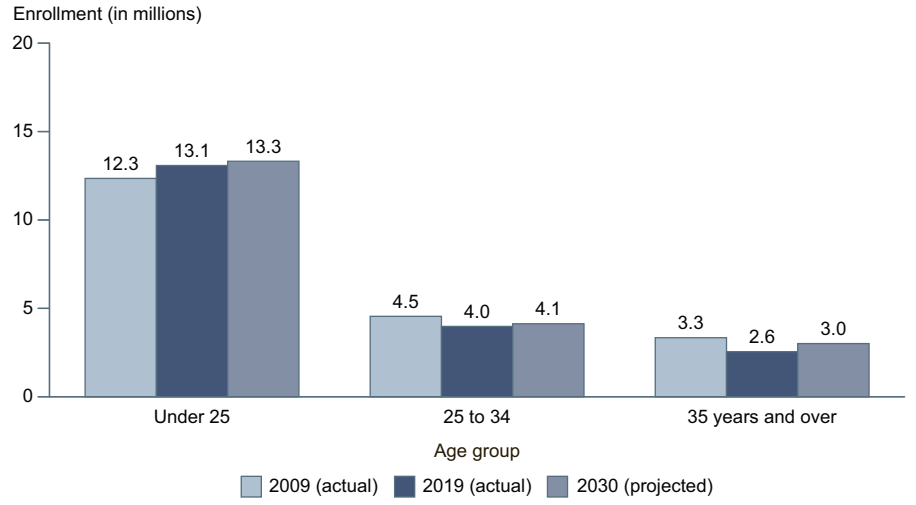
For more information: *Digest 2021* table 303.10. (Reference table 13 in this report)

Figure 16. Actual and projected numbers for total enrollment in all degree-granting postsecondary institutions: Fall 2010 through fall 2030



NOTE: Data represent the 50 states and the District of Columbia. Degree-granting institutions grant associate's or higher degrees and participate in Title IV federal financial aid programs. Actual data for Fall 2020 were not included in projection models. Some data have been revised from previously published figures.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Spring 2011 through Spring 2021, Fall Enrollment component; and Enrollment in Degree-Granting Institutions Projection Model, through 2030. (This figure was prepared March 2022.)

Figure 17. Actual and projected numbers for total enrollment in all degree-granting postsecondary institutions, by age group: Fall 2010, fall 2019, and fall 2030



NOTE: Data represent the 50 states and the District of Columbia. Degree-granting institutions grant associate's or higher degrees and participate in Title IV federal financial aid programs. Persons with unknown age are excluded.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Spring 2010 and Spring 2020, Fall Enrollment component; Enrollment in Degree-Granting Institutions Projection Model, through 2030. (This figure was prepared March 2022.)

Enrollment by age of student

Enrollment in degree-granting postsecondary institutions of students who are under 25 years old

- ▲ increased 6 percent between 2009 and 2019 (12.3 million vs. 13.1 million); and
- ▲ is projected to increase 2 percent between 2019 and 2030 to 13.3 million.

Enrollment in degree-granting postsecondary institutions of students who are 25 to 34 years old

- ▼ decreased 13 percent between 2009 and 2019 (4.5 million vs. 4.0 million); and
- ▲ is projected to be 4 percent higher in 2030 (4.1 million) than in 2019.

Enrollment in degree-granting postsecondary institutions of students who are 35 years old and over

- ▼ decreased 24 percent between 2009 and 2019 (3.3 million vs. 2.6 million); and
- ▲ is projected to increase 18 percent between 2019 and 2030 (3.0 million).

For more information: *Digest 2021* table 303.40. (Reference table 14 in this report)

Enrollment by sex of student

Enrollment of males in degree-granting postsecondary institutions

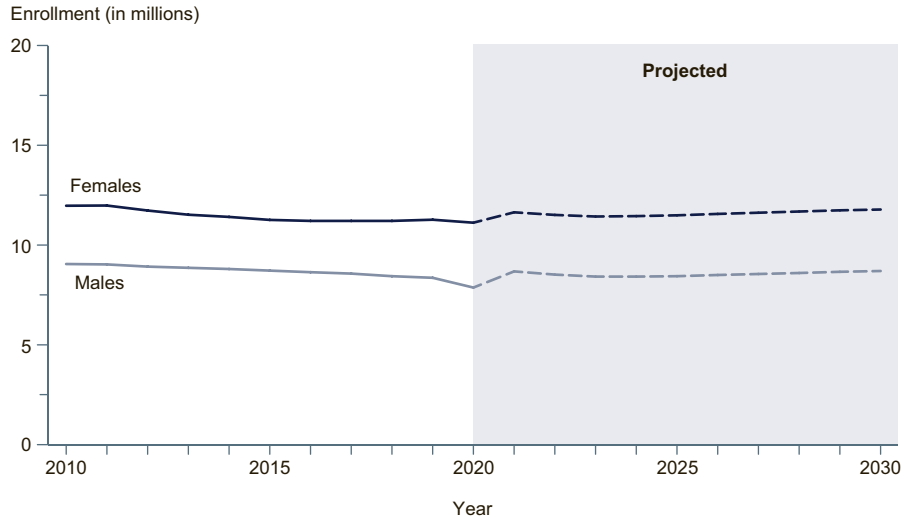
- ▼ decreased 13 percent between 2010 and 2020 (9.0 million vs. 7.9 million); and
- ▲ is projected to increase 11 percent between 2020 and 2030 to 8.7 million.

Enrollment of females in degree-granting postsecondary institutions

- ▼ decreased 7 percent between 2010 and 2020 (12.0 million vs. 11.1 million); and
- ▲ is projected to increase 6 percent between 2020 and 2030 to 11.8 million.

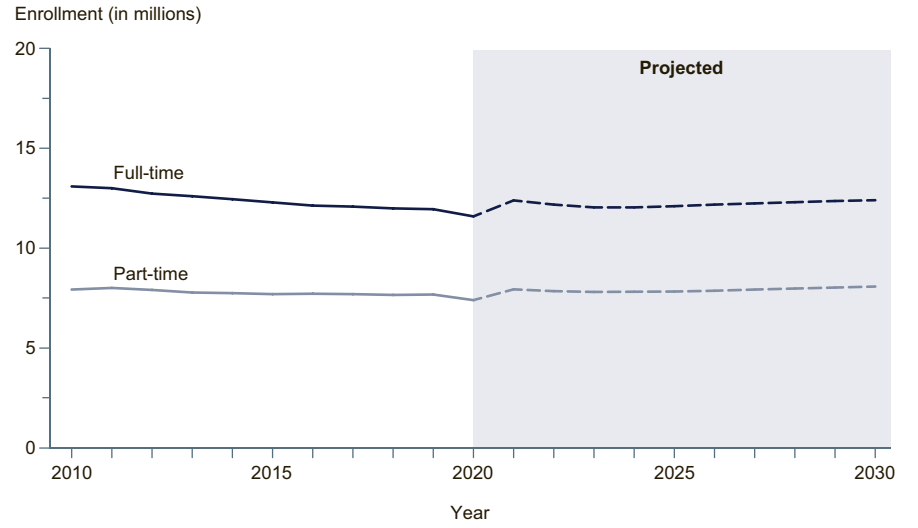
For more information: *Digest 2021* tables 303.10 and 303.40. (Reference tables 13 and 14 in this report)

Figure 18. Actual and projected numbers for enrollment in all degree-granting postsecondary institutions, by sex: Fall 2010 through fall 2030



NOTE: Data represent the 50 states and the District of Columbia. Degree-granting institutions grant associate's or higher degrees and participate in Title IV federal financial aid programs. Actual data for Fall 2020 were not included in projection models. Some data have been revised from previously published figures.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Spring 2011 through Spring 2021, Fall Enrollment component; and Enrollment in Degree-Granting Institutions Projection Model, through 2030. (This figure was prepared March 2022.)

Figure 19. Actual and projected numbers for enrollment in all degree-granting postsecondary institutions, by attendance status: Fall 2010 through fall 2030



NOTE: Data represent the 50 states and the District of Columbia. Degree-granting institutions grant associate's or higher degrees and participate in Title IV federal financial aid programs. Actual data for Fall 2020 were not included in projection models. Some data have been revised from previously published figures.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Spring 2011 through Spring 2021, Fall Enrollment component; and Enrollment in Degree-Granting Institutions Projection Model, through 2030. (This figure was prepared March 2022.)

Enrollment by attendance status

Enrollment of full-time students in degree-granting postsecondary institutions

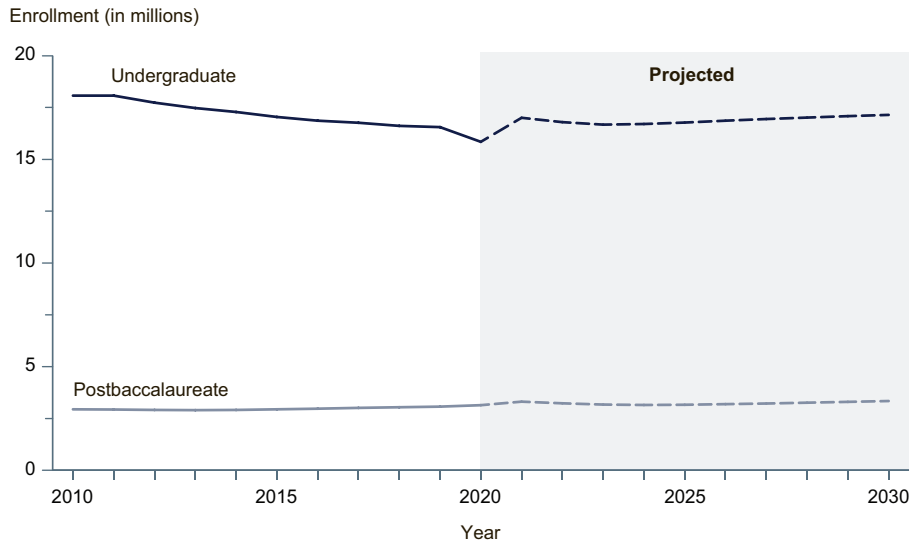
- ▼ decreased 11 percent between 2010 and 2020 (13.1 million vs. 11.6 million); and
- ▲ is projected to increase 7 percent between 2020 and 2030 to 12.4 million.

Enrollment of part-time students in degree-granting postsecondary institutions

- ▼ decreased 7 percent between 2010 and 2020 (7.9 million vs. 7.4 million); and
- ▲ is projected to increase 9 percent between 2020 and 2030 to 8.1 million.

For more information: *Digest 2021* tables 303.10, 303.30, and 303.40. (Reference tables 13, 14, and 15 in this report)

Figure 20. Actual and projected numbers for enrollment in all degree-granting postsecondary institutions, by enrollment level of student: Fall 2010 through fall 2030



NOTE: Data represent the 50 states and the District of Columbia Degree-granting institutions grant associate's or higher degrees and participate in Title IV federal financial aid programs. Actual data for Fall 2020 were not included in projection models. Some data have been revised from previously published figures.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Spring 2011 through Spring 2021, Fall Enrollment component; and Enrollment in Degree-Granting Institutions Projection Model, through 2030. (This figure was prepared March 2022.)

Enrollment by level of student

Enrollment of undergraduate students in degree-granting postsecondary institutions

- ▼ decreased 12 percent between 2010 and 2020 (18.1 million vs. 15.9 million); and
- ▲ is projected to increase 8 percent between 2020 and 2030 to 17.1 million.

Enrollment of postbaccalaureate students in degree-granting postsecondary institutions

- ▲ increased 7 percent between 2010 and 2020 (2.9 million vs. 3.1 million); and
- ▲ is projected to be 6 percent higher in 2030 (3.3 million) than in 2020.

For more information: *Digest 2021* tables 303.70 and 303.80. (Reference tables 16 and 17 in this report)

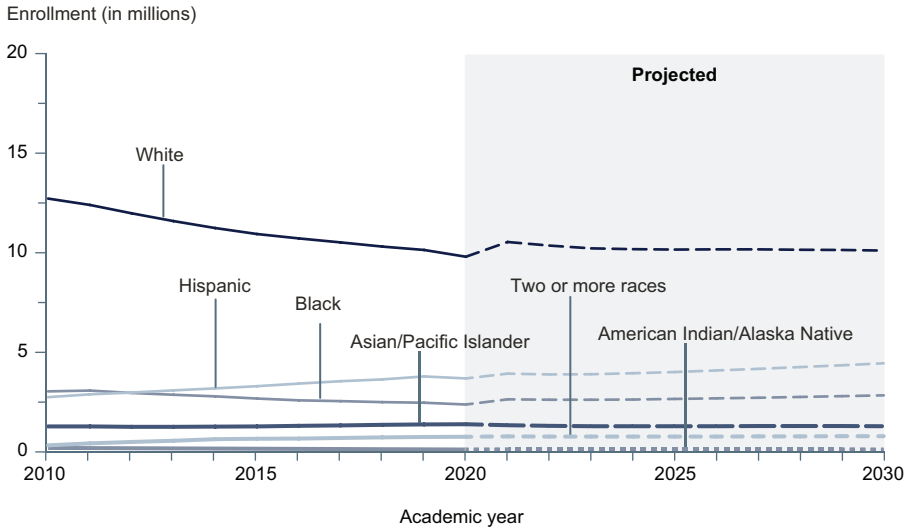
Enrollment by race/ethnicity

Enrollment of U.S. residents is projected to

- ▲ be 3 percent higher for American Indian/Alaska Native students in 2030 than in 2020 (125,000 vs. 121,000);
- ▼ decrease 7 percent for Asian/Pacific Islander students between 2020 and 2030 (1.4 million vs. 1.3 million);
- ▲ increase 19 percent for Black students between 2020 and 2030 (2.4 million vs. 2.8 million);
- ▲ increase 21 percent for Hispanic students between 2020 and 2030 (3.7 million vs. 4.4 million);
- ▲ be 3 percent higher for White students in 2030 than in 2020 (10.1 million vs. 9.8 million); and
- ▲ increase 4 percent for students of Two or more races between 2020 and 2030 (762,000 vs. 793,000).

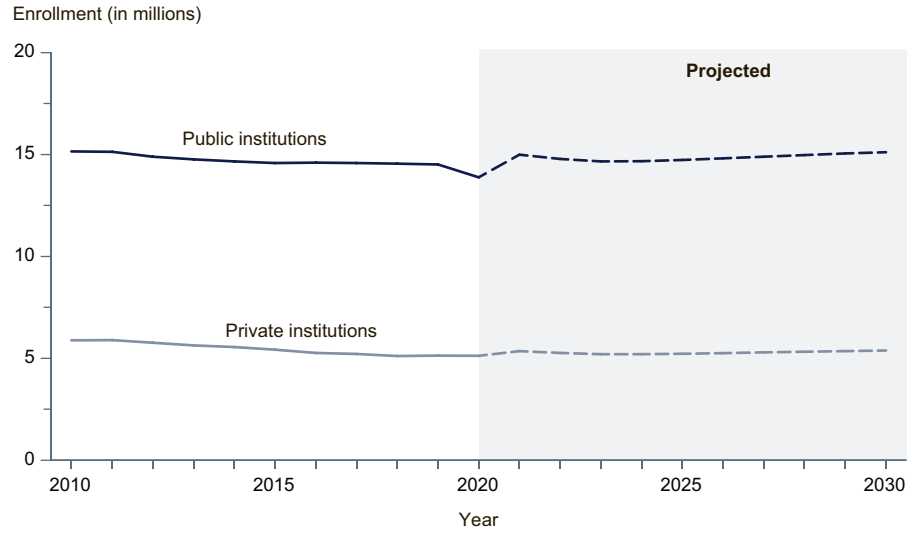
For more information: *Digest 2021* table 306.30. (Reference table 18 in this report)

Figure 21. Actual and projected numbers for enrollment of U.S. residents in all degree-granting postsecondary institutions, by race/ethnicity: Fall 2010 through fall 2030



NOTE: Data represent the 50 states and the District of Columbia. Projections for Asian enrollment and Pacific Islander enrollment are not available separately due to the limited amount of historical data available upon which to base a projection model (prior to 2010, disaggregated data on students who were Asian, Pacific Islander, and of Two or more races were not collected). Degree-granting institutions grant associate's or higher degrees and participate in Title IV federal financial aid programs. Actual data for Fall 2020 were not included in projection models. Some data have been revised from previously published figures.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Spring 2010 through Spring 2020, Fall Enrollment component; and Enrollment in Degree-Granting Institutions by Race/Ethnicity Projection Model, through 2030. (This figure was prepared March 2022.)

Figure 22. Actual and projected numbers for enrollment in all degree-granting postsecondary institutions, by control of institution: Fall 2010 through fall 2030



NOTE: Data represent the 50 states and the District of Columbia. Degree-granting institutions grant associate's or higher degrees and participate in Title IV federal financial aid programs. Actual data for Fall 2020 were not included in projection models. Some data have been revised from previously published figures.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Spring 2011 through Spring 2021, Fall Enrollment component; and Enrollment in Degree-Granting Institutions Projection Model, through 2030. (This figure was prepared March 2022.)

Enrollment in public and private institutions

Enrollment in public degree-granting postsecondary institutions

- ▼ decreased 8 percent between 2010 and 2020 (15.1 million vs. 13.9 million); and
- ▲ is projected to increase 9 percent between 2020 and 2030 to 15.1 million.

Enrollment in private degree-granting postsecondary institutions

- ▼ decreased 13 percent between 2010 and 2020 (5.9 million vs. 5.1 million); and
- ▲ is projected to increase 5 percent between 2020 and 2030 to 5.4 million.

For more information: *Digest 2021* table 303.10. (Reference table 13 in this report)

First-time freshmen fall enrollment

Total first-time freshmen fall enrollment in all degree-granting postsecondary institutions

- ▼ decreased 18 percent between 2010 and 2020 (3.2 million vs. 2.6 million); and
- ▲ is projected to increase 14 percent between 2020 and 2030 to 3.0 million.

First-time freshmen fall enrollment of males in all degree-granting postsecondary institutions

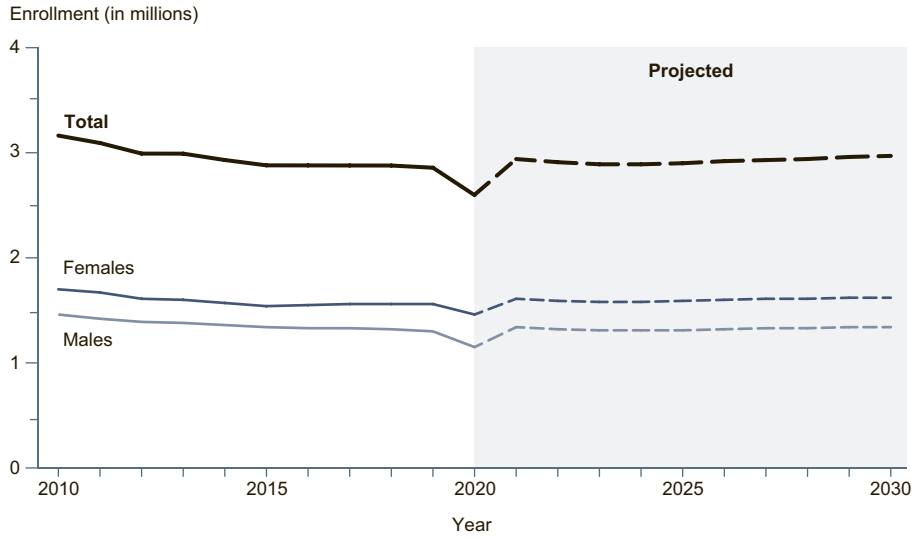
- ▼ decreased 21 percent from 2010 to 2020 (1.5 million vs. 1.1 million); and
- ▲ is projected to be 17 percent higher in 2030 (1.3 million) than in 2020.

First-time freshmen fall enrollment of females in all degree-granting postsecondary institutions

- ▼ decreased 14 percent between 2010 and 2020 (1.7 million vs. 1.5 million); and
- ▲ is projected to increase 11 percent between 2020 and 2030 to 1.6 million.

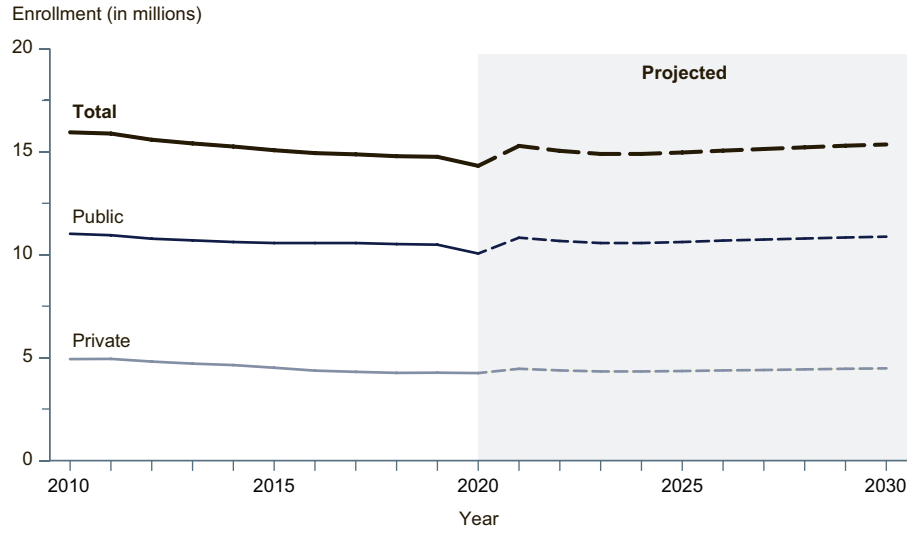
For more information: *Digest 2021* table 305.10. (Reference table 19 in this report)

Figure 23. Actual and projected numbers for total first-time degree/certificate-seeking students in degree-granting postsecondary institutions, by sex: Fall 2010 through fall 2030



NOTE: Data represent the 50 states and the District of Columbia. Degree-granting institutions grant associate's or higher degrees and participate in Title IV federal financial aid programs. Actual data for Fall 2020 were not included in projection models. Some data have been revised from previously published figures.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Spring 2011 through Spring 2021, Fall Enrollment component; and First-Time Freshmen Projection Model, through 2030. (This figure was prepared March 2022.)

Figure 24. Actual and projected numbers for full-time-equivalent fall enrollment in degree-granting postsecondary institutions, by control: Fall 2010 through fall 2030



NOTE: Data represent the 50 states and the District of Columbia. Full-time-equivalent fall enrollment is the full-time enrollment, plus the full-time-equivalent of the part-time students. Degree-granting institutions grant associate's or higher degrees and participate in Title IV federal financial aid programs. Actual data for Fall 2020 were not included in projection models. Some data have been revised from previously published figures.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Spring 2011 through Spring 2021, Fall Enrollment component; and Enrollment in Degree-Granting Institutions Projection Model, through 2030. (This figure was prepared March 2022.)

Full-time-equivalent fall enrollment

Total full-time-equivalent fall enrollment in degree-granting postsecondary institutions

- ▼ decreased 10 percent between 2010 and 2020 (15.9 million vs. 14.3 million); and
- ▲ is projected to increase 7 percent between 2020 and 2030 to 15.4 million.

Full-time-equivalent fall enrollment in public degree-granting postsecondary institutions

- ▼ decreased 9 percent between 2010 and 2020 (11.0 million vs. 10.1 million); and
- ▲ is projected to increase 8 percent between 2020 and 2030 to 10.9 million.

Full-time-equivalent fall enrollment in private degree-granting postsecondary institutions

- ▼ decreased 14 percent between 2010 and 2020 (4.9 million vs. 4.3 million); and
- ▲ is projected to increase 5 percent between 2020 and 2030 to 4.5 million.

For more information: *Digest 2021* table 307.10. (Reference table 20 in this report)

Section 6
Postsecondary Degrees Conferred

INTRODUCTION

Despite enrollment declines from 2010 to 2020 in Title IV degree-granting postsecondary institutions, the numbers of associate's, bachelor's, master's, and doctor's degrees conferred have generally increased (Digest 2021 tables 303.10 and 318.10). Increases in the number of degrees conferred are expected to continue between academic year 2019-20, the last year of actual data, and academic year 2030-31. During that period, the number of associate's degrees is projected to increase 38 percent, the number of bachelor's degrees is projected to increase 20 percent, the numbers of master's degrees is projected to increase 17 percent, and the number of doctor's degrees is projected to increase 16 percent.

Factors affecting the projections

The projections of the number of degrees conferred are related to projections of the college-age populations developed by the Census Bureau and college enrollments from this report. For more details, see appendixes A.0 and A.6.

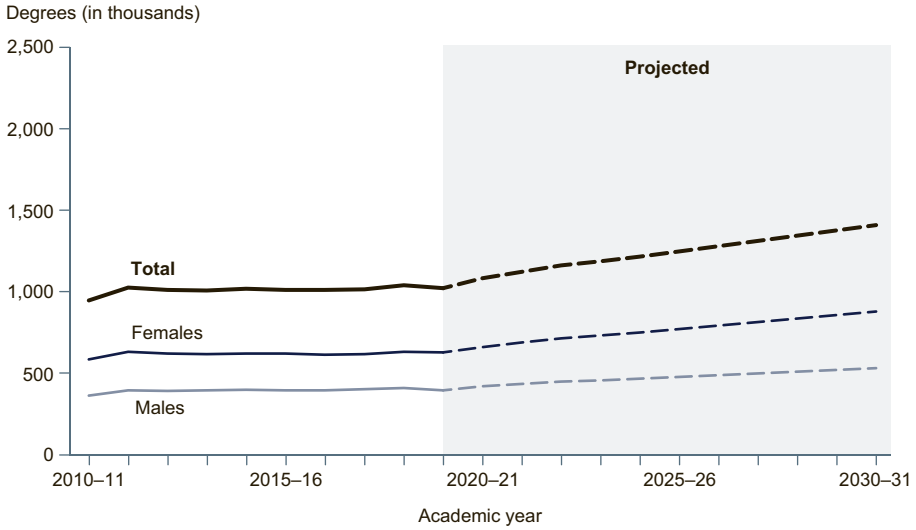
Factors that were not considered

Some factors that may affect future numbers of degrees, such as choice of degree and labor force requirements, were not included in the projection models.

Accuracy of Projections

No mean absolute percentage errors were calculated for degrees conferred because these models are based on projections of enrollments in degree-granting postsecondary institutions, which were calculated using a new model. For information concerning the accuracy of the previous models used to produce projections of postsecondary degrees conferred, see page 125 of *Projections of Education Statistics to 2026*.

Figure 25. Actual and projected numbers for associate's degrees conferred by postsecondary institutions, by sex of recipient: Academic years 2010–11 through 2030–31



NOTE: Data represent the 50 states and the District of Columbia. Degree-granting institutions grant associate's or higher degrees and participate in Title IV federal financial aid programs. Some data have been revised from previously published figures.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Fall 2011 through Fall 2020, Completions component; and Degrees Conferred Projection Model, through 2030. (This figure was prepared March 2022.)

Associate's degrees

The total number of associate's degrees

- ▲ was 8 percent higher in 2019-20 than in 2010-11 (1.0 million vs. 944,000); and
- ▲ is projected to increase 38 percent between 2019-20 and 2030-31 to 1.4 million.

The number of associate's degrees awarded to males

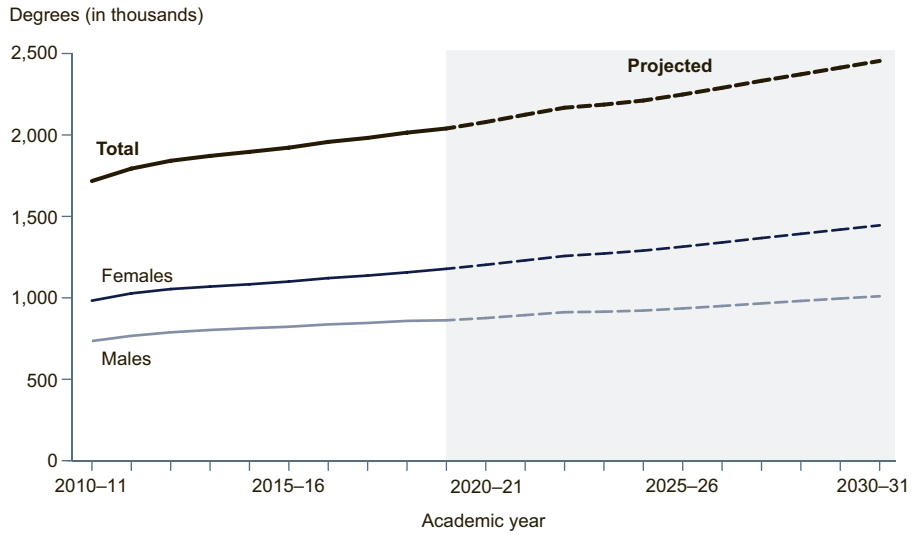
- ▲ increased 9 percent between 2010-11 and 2019-20 (361,000 vs. 393,000); and
- ▲ is projected to increase 35 percent between 2019-20 and 2030-31 to 529,000.

The number of associate's degrees awarded to females

- ▲ was 7 percent higher in 2019-20 than in 2010-11 (625,000 vs. 582,000); and
- ▲ is projected to increase 40 percent between 2019-20 and 2030-31 to 873,000

For more information: *Digest 2021* table 318.10. (Reference table 21 in this report)

Figure 26. Actual and projected numbers for bachelor's degrees conferred by postsecondary institutions, by sex of recipient: Academic years 2010–11 through 2030–31



NOTE: Data represent the 50 states and the District of Columbia. Degree-granting institutions grant associate's or higher degrees and participate in Title IV federal financial aid programs. Some data have been revised from previously published figures.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Fall 2011 through Fall 2020, Completions component; and Degrees Conferred Projection Model, through 2030. (This figure was prepared March 2022.)

Bachelor's degrees

The total number of bachelor's degrees

- ▲ increased 19 percent between 2010-11 and 2019-20 (1.7 million vs. 2.0 million); and
- ▲ is projected to increase 20 percent between 2019-20 and 2030-31 to 2.5 million.

The number of bachelor's degrees awarded to males

- ▲ increased 17 percent between 2010-11 and 2019-20 (734,000 vs. 861,000); and
- ▲ is projected to increase 17 percent between 2019-20 and 2030-31 to 1.0 million.

The number of bachelor's degrees awarded to females

- ▲ increased 20 percent between 2010-11 and 2019-20 (982,000 vs. 1.2 million); and
- ▲ is projected to increase 23 percent between 2019-20 and 2030-31 to 1.4 million.

For more information: *Digest 2021* table 318.10. (Reference table 21 in this report)

Master's degrees

The total number of master's degrees

- ▲ increased 15 percent between 2010-11 and 2019-20 (731,000 vs. 843,000); and
- ▲ is projected to increase 17 percent between 2019-20 and 2030-31 to 983,000.

The number of master's degrees awarded to males

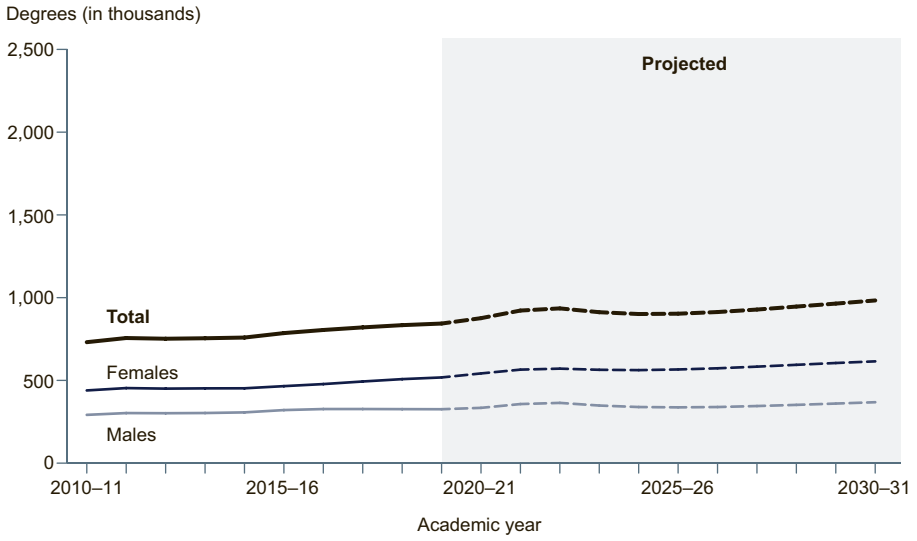
- ▲ increased 12 percent between 2010-11 and 2019-20 (292,000 vs. 326,000); and
- ▲ is projected to be 13 percent higher in 2030-31 (368,000) than in 2019-20.

The number of master's degrees awarded to females

- ▲ increased 18 percent between 2010-11 and 2019-20 (439,000 vs. 518,000); and
- ▲ is projected to increase 19 percent between 2019-20 and 2030-31 to 615,000.

For more information: *Digest 2021* table 318.10. (Reference table 21 in this report)

Figure 27. Actual and projected numbers for master's degrees conferred by postsecondary institutions, by sex of recipient: Academic years 2010–11 through 2030–31



NOTE: Data represent the 50 states and the District of Columbia. Includes some degrees formerly classified as first-professional, such as divinity degrees (M.Div. and M.H.L./Rav). Degree-granting institutions grant associate's or higher degrees and participate in Title IV federal financial aid programs. Some data have been revised from previously published figures.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Fall 2011 through Fall 2020, Completions component; and Degrees Conferred Projection Model, through 2030. (This figure was prepared March 2022.)

Doctor's degrees

The total number of doctor's degrees

- ▲ increased 16 percent between 2010-11 and 2019-20 (164,000 vs. 190,000); and
- ▲ is projected to increase 16 percent between 2019-20 and 2030-31 to 221,000.

The number of doctor's degrees awarded to males

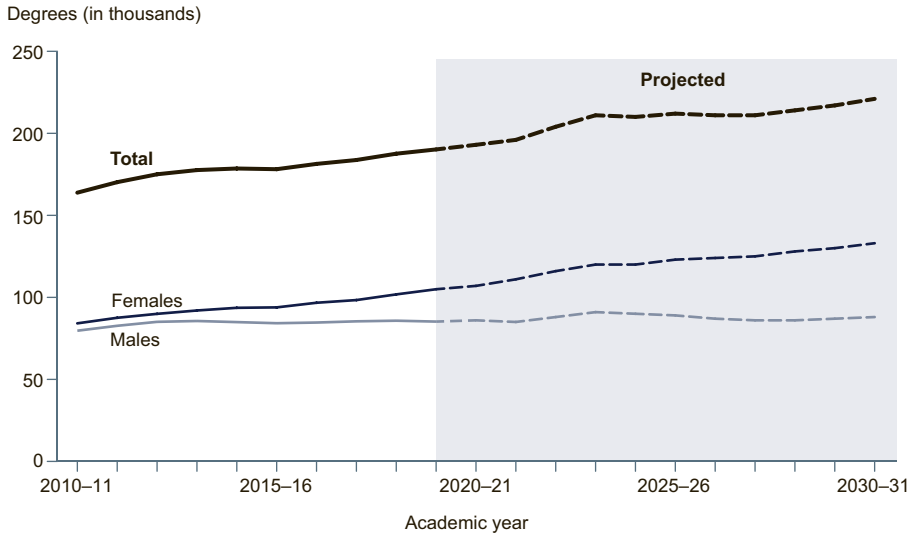
- ▲ increased 7 percent between 2010-11 and 2019-20 (80,000 vs. 85,000); and
- ▲ is projected to be 3 percent higher in 2030-31 (88,000) than in 2019-20.

The number of doctor's degrees awarded to females

- ▲ increased 25 percent between 2010-11 and 2019-20 (84,000 vs. 105,000); and
- ▲ is projected to increase 27 percent between 2019-20 and 2030-31 to 133,000.

For more information: *Digest 2021* table 318.10. (Reference table 21 in this report)

Figure 28. Actual and projected numbers for doctor's degrees conferred by postsecondary institutions, by sex of recipient: Academic years 2010–11 through 2030–31



NOTE: Data represent the 50 states and the District of Columbia. Doctor's degrees include Ph.D., Ed.D., and comparable degrees at the doctoral level. Includes most degrees formerly classified as first-professional, such as M.D., D.D.S., and law degrees. Degree-granting institutions grant associate's or higher degrees and participate in Title IV federal financial aid programs. Some data have been revised from previously published figures.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Fall 2011 through Fall 2020, Completions component; and Degrees Conferred Projection Model, through 2030. (This figure was prepared March 2022.)

Reference Tables

Table 1. Enrollment in elementary, secondary, and degree-granting postsecondary institutions, by level and control of institution: Selected years, 1869–70 through fall 2030

[In thousands]

Year	Total enrollment, all levels	Elementary and secondary, total	Public elementary and secondary schools			Private elementary and secondary schools[1]			Degree-granting postsecondary institutions		
			Total	Prekindergarten through grade 8[3]	Grades 9 through 12[3]	Total	Prekindergarten through grade 8	Grades 9 through 12	Total	Public	Private
1	2	3	4	5	6	7	8	9	10	11	12
1869–70	—	—	6,872	6,792	80	—	—	—	52	—	—
1879–80	—	—	9,868	9,757	110	—	—	—	116	—	—
1889–90	14,491	14,334	12,723	12,520	203	1,611	1,516	95	157	—	—
1899–1900	17,092	16,855	15,503	14,984	519	1,352	1,241	111	238	—	—
1909–10	19,728	19,372	17,814	16,899	915	1,558	1,441	117	355	—	—
1919–20	23,876	23,278	21,578	19,378	2,200	1,699	1,486	214	598	—	—
1929–30	29,430	28,329	25,678	21,279	4,399	2,651	2,310	341	1,101	—	—
1939–40	29,539	28,045	25,434	18,832	6,601	2,611	2,153	458	1,494	797	698
1949–50	31,151	28,492	25,111	19,387	5,725	3,380	2,708	672	2,659	1,355	1,304
Fall 1959	44,497	40,857	35,182	26,911	8,271	5,675	4,640	1,035	3,640	2,181	1,459
Fall 1969	59,055	51,050	45,550	32,513	13,037	5,500[4]	4,200[4]	1,300[4]	8,005	5,897	2,108
Fall 1985	57,226	44,979	39,422	27,034	12,388	5,557	4,195	1,362	12,247	9,479	2,768
Fall 1990	60,683	46,864	41,217	29,876	11,341	5,648[4]	4,512[4]	1,136[4]	13,819	10,845	2,974
Fall 1991	62,087	47,728	42,047	30,503	11,544	5,681	4,550	1,131	14,359	11,310	3,049
Fall 1992	63,181	48,694	42,823	31,086	11,737	5,870[4]	4,746[4]	1,125[4]	14,487	11,385	3,103
Fall 1993	63,837	49,532	43,465	31,502	11,963	6,067	4,950	1,118	14,305	11,189	3,116
Fall 1994	64,385	50,106	44,111	31,896	12,215	5,994[4]	4,856[4]	1,138[4]	14,279	11,134	3,145
Fall 1995	65,020	50,759	44,840	32,338	12,502	5,918	4,756	1,163	14,262	11,092	3,169
Fall 1996	65,911	51,544	45,611	32,762	12,849	5,933[4]	4,755[4]	1,178[4]	14,368	11,120	3,247
Fall 1997	66,574	52,071	46,127	33,071	13,056	5,944	4,759	1,185	14,502	11,196	3,306
Fall 1998	67,033	52,526	46,539	33,344	13,195	5,988[4]	4,776[4]	1,212[4]	14,507	11,138	3,369
Fall 1999	67,725	52,875	46,857	33,486	13,371	6,018	4,789	1,229	14,850	11,376	3,474
Fall 2000	68,685	53,373	47,204	33,686	13,517	6,169[4]	4,906[4]	1,264[4]	15,312	11,753	3,560
Fall 2001	69,920	53,992	47,672	33,936	13,736	6,320	5,023	1,296	15,928	12,233	3,695
Fall 2002	71,015	54,403	48,183	34,114	14,069	6,220[4]	4,915[4]	1,306[4]	16,612	12,752	3,860
Fall 2003	71,551	54,639	48,540	34,201	14,339	6,099	4,788	1,311	16,911	12,859	4,053
Fall 2004	72,154	54,882	48,795	34,178	14,618	6,087[4]	4,756[4]	1,331[4]	17,272	12,980	4,292
Fall 2005	72,674	55,187	49,113	34,204	14,909	6,073	4,724	1,349	17,487	13,022	4,466
Fall 2006	73,061	55,307	49,316	34,235	15,081	5,991[4]	4,631[4]	1,360[4]	17,754	13,175	4,579
Fall 2007	73,459	55,201	49,291	34,204	15,086	5,910	4,546	1,364	18,258	13,501	4,757
Fall 2008	74,055	54,973	49,266	34,286	14,980	5,707[4]	4,365[4]	1,342[4]	19,082	13,971	5,111
Fall 2009	75,163	54,849	49,361	34,409	14,952	5,488	4,179	1,309	20,314	14,811	5,503
Fall 2010	75,886	54,867	49,484	34,625	14,860	5,382[4]	4,084[4]	1,299[4]	21,019	15,142	5,877
Fall 2011	75,800	54,790	49,522	34,773	14,749	5,268	3,977	1,291	21,011	15,116	5,894
Fall 2012	75,748	55,104	49,771	35,018	14,753	5,333[4]	4,031[4]	1,302[4]	20,644	14,885	5,760
Fall 2013	75,817	55,440	50,045	35,251	14,794	5,396	4,084	1,312	20,377	14,747	5,630
Fall 2014	76,097	55,888	50,313	35,370	14,943	5,575[4]	4,202[4]	1,373[4]	20,209	14,655	5,554
Fall 2015	76,177	56,189	50,438	35,388	15,050	5,751	4,304	1,446	19,988	14,573	5,415
Fall 2016	76,216	56,369	50,615	35,477	15,138	5,754[4]	4,272[4]	1,482[4]	19,847	14,586	5,261
Fall 2017	76,184	56,406	50,686	35,496	15,190	5,720	4,252	1,468	19,778	14,572	5,206
Fall 2018	75,955	56,304	50,694	35,498	15,196	5,610[4]	4,167[4]	1,443[4]	19,651	14,539	5,112
Fall 2019	75,912	56,282	50,796	35,551	15,246	5,486	4,066	1,420	19,630	14,504	5,127
Fall 2020	74,361	55,369	49,375	34,059	15,316	5,994[5]	4,492[5]	1,502[5]	18,992	13,867	5,125
Fall 2021[5]	76,294	55,967	50,072	34,614	15,458	5,895	4,383	1,512	20,327	14,975	5,352
Fall 2022[5]	75,751	55,720	49,935	34,360	15,575	5,786	4,251	1,535	20,031	14,769	5,261
Fall 2023[5]	75,267	55,416	49,734	34,160	15,574	5,683	4,141	1,542	19,851	14,650	5,201
Fall 2024[5]	74,856	54,994	49,485	33,983	15,502	5,510	4,026	1,484	19,862	14,664	5,198
Fall 2025[5]	74,453	54,519	49,120	33,835	15,285	5,399	3,934	1,464	19,934	14,716	5,218
Fall 2026[5]	73,609	53,555	48,368	33,347	15,021	5,186	3,729	1,458	20,054	14,801	5,253
Fall 2027[5]	73,047	52,878	47,821	32,967	14,854	5,057	3,602	1,455	20,169	14,882	5,287
Fall 2028[5]	72,857	52,575	47,589	32,829	14,760	4,986	3,522	1,463	20,282	14,960	5,322
Fall 2029[5]	72,648	52,255	47,357	32,494	14,863	4,898	3,501	1,397	20,393	15,038	5,355
Fall 2030[5]	72,541	52,059	47,253	32,261	14,992	4,807	3,496	1,311	20,482	15,101	5,381

— Not available.

[1] Beginning in fall 1985, data include estimates for an expanded universe of private schools. Therefore, direct comparisons with earlier years should be avoided.

[2] Data for 1869–70 through 1949–50 include resident degree-credit students enrolled at any time during the academic year. Beginning in 1959, data include all resident and extension students enrolled at the beginning of the fall term.

[3] Total counts of ungraded students were prorated to prekindergarten through grade 8 and grades 9 through 12 based on prior reports.

[4] Estimated based on data appearing in *Projections of Education Statistics*.

[5] Projected data.

NOTE: Data in this table represent the 50 states and the District of Columbia. Data for 1869–70 through 1949–50 reflect enrollment for the entire school year. Elementary and secondary enrollment includes students in local public school systems and in most private schools (religiously affiliated and nonsectarian), but generally excludes homeschooled children and students in subcollegiate departments of colleges and in federal schools. Excludes preprimary students in private schools that do not offer kindergarten or higher grades. Postsecondary data through 1995 are for institutions of higher education, while later data are for degree-granting institutions. Degree-granting institutions grant associate's or higher degrees and participate in Title IV federal financial aid programs. Projections in this table were calculated after the onset of the coronavirus pandemic and take into account the expected impacts of the pandemic. Some data have been revised from previously published figures. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Annual Report of the Commissioner of Education*, 1870 to 1910; *Biennial Survey of Education in the United States*, 1919–20 through 1949–50; *Statistics of Public Elementary and Secondary School Systems*, 1959 through 1979; *Statistics of Nonpublic Elementary and Secondary Schools*, 1959 through 1980; 1985–86 Private School Survey; Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary and Secondary Education," 1985–86 through 2019-20; Private School Universe Survey (PSS), 1991–92 through 2019–20; National Elementary and Secondary Enrollment Projection Model, through 2030; Opening (Fall) Enrollment in Higher Education, 1959; Higher Education General Information Survey (HEGIS), "Fall Enrollment in Institutions of Higher Education" surveys, 1969 and 1985; Integrated Postsecondary Education Data System (IPEDS), "Fall Enrollment Survey" (IPEDS-EF:90–99); IPEDS Spring 2001 through Spring 2021, Fall Enrollment component; and Enrollment in Degree-Granting Institutions Projection Model, through 2030. (This table was prepared March 2022.)

Table 2. Enrollment in public elementary and secondary schools, by level and grade: Selected years, fall 1980 through fall 2030

[In thousands]

Year	All grades	Prekindergarten through grade 8												Grades 9 through 12					
		Total	Pre-kinder-garten	Kinder-garten	1st grade	2nd grade	3rd grade	4th grade	5th grade	6th grade	7th grade	8th grade	Un-graded[1]	Total	9th grade	10th grade	11th grade	12th grade	Un-graded[1,2]
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1980	40,877	27,647	96	2,593	2,894	2,800	2,893	3,107	3,130	3,038	3,085	3,086	924	13,231	3,377	3,368	3,195	2,925	366
1985	39,422	27,034	151	3,041	3,239	2,941	2,895	2,771	2,776	2,789	2,938	2,982	511	12,388	3,439	3,230	2,866	2,550	303
1990	41,217	29,876	303	3,306	3,499	3,327	3,297	3,248	3,197	3,110	3,067	2,979	541	11,341	3,169	2,896	2,612	2,381	284
1991	42,047	30,503	375	3,311	3,556	3,360	3,334	3,315	3,268	3,239	3,181	3,020	542	11,544	3,313	2,915	2,645	2,392	278
1992	42,823	31,086	505	3,313	3,542	3,431	3,361	3,342	3,325	3,303	3,299	3,129	536	11,737	3,352	3,027	2,656	2,431	272
1993	43,465	31,502	545	3,377	3,529	3,429	3,437	3,361	3,350	3,356	3,355	3,249	513	11,963	3,487	3,050	2,751	2,424	250
1994	44,111	31,896	603	3,444	3,593	3,440	3,439	3,426	3,372	3,381	3,404	3,302	492	12,215	3,604	3,131	2,748	2,488	244
1995	44,840	32,338	637	3,536	3,671	3,507	3,445	3,431	3,438	3,395	3,422	3,356	500	12,502	3,704	3,237	2,826	2,487	247
1996	45,611	32,762	670	3,532	3,770	3,600	3,524	3,454	3,453	3,494	3,464	3,403	399	12,849	3,801	3,323	2,930	2,586	208
1997	46,127	33,071	695	3,503	3,755	3,689	3,597	3,507	3,458	3,492	3,520	3,415	440	13,056	3,819	3,376	2,972	2,673	216
1998	46,539	33,344	729	3,443	3,727	3,681	3,696	3,592	3,520	3,497	3,530	3,480	449	13,195	3,856	3,382	3,021	2,722	214
1999	46,857	33,486	751	3,397	3,684	3,656	3,691	3,686	3,604	3,564	3,541	3,497	415	13,371	3,935	3,415	3,034	2,782	205
2000	47,204	33,686	776	3,382	3,636	3,634	3,676	3,711	3,707	3,663	3,629	3,538	334	13,517	3,963	3,491	3,083	2,803	177
2001	47,672	33,936	865	3,379	3,614	3,593	3,653	3,695	3,727	3,769	3,720	3,616	304	13,736	4,012	3,528	3,174	2,863	159
2002	48,183	34,114	915	3,434	3,594	3,565	3,623	3,669	3,711	3,788	3,821	3,709	285	14,069	4,105	3,584	3,229	2,990	161
2003	48,540	34,201	950	3,503	3,613	3,544	3,611	3,619	3,685	3,772	3,841	3,809	255	14,339	4,190	3,675	3,277	3,046	150
2004	48,795	34,178	990	3,544	3,663	3,560	3,580	3,612	3,635	3,735	3,818	3,825	215	14,618	4,281	3,750	3,369	3,094	122
2005	49,113	34,204	1,036	3,619	3,691	3,606	3,586	3,578	3,633	3,670	3,777	3,802	205	14,909	4,287	3,866	3,454	3,180	121
2006	49,316	34,235	1,084	3,631	3,751	3,641	3,627	3,586	3,602	3,660	3,716	3,766	170	15,081	4,260	3,882	3,551	3,277	110
2007	49,291	34,204	1,081	3,609	3,750	3,704	3,659	3,624	3,600	3,628	3,700	3,709	139	15,086	4,200	3,863	3,557	3,375	92
2008	49,266	34,286	1,180	3,640	3,708	3,699	3,708	3,647	3,629	3,614	3,653	3,692	117	14,980	4,123	3,822	3,548	3,400	87
2009	49,361	34,409	1,223	3,678	3,729	3,665	3,707	3,701	3,652	3,644	3,641	3,651	119	14,952	4,080	3,809	3,541	3,432	90
2010	49,484	34,625	1,279	3,682	3,754	3,701	3,686	3,711	3,718	3,682	3,676	3,659	77	14,860	4,008	3,800	3,538	3,472	42
2011	49,522	34,773	1,291	3,746	3,773	3,713	3,703	3,672	3,699	3,724	3,696	3,679	77	14,749	3,957	3,751	3,546	3,452	43
2012	49,771	35,018	1,307	3,831	3,824	3,729	3,719	3,690	3,673	3,723	3,746	3,699	76	14,753	3,975	3,730	3,528	3,477	43
2013	50,045	35,251	1,328	3,834	3,885	3,791	3,738	3,708	3,697	3,684	3,748	3,753	85	14,794	3,980	3,761	3,526	3,476	52
2014	50,313	35,370	1,369	3,772	3,863	3,857	3,806	3,719	3,719	3,710	3,710	3,757	87	14,943	4,033	3,794	3,568	3,496	52
2015	50,438	35,388	1,402	3,713	3,768	3,842	3,869	3,793	3,733	3,731	3,732	3,719	87	15,050	4,019	3,846	3,598	3,537	49
2016	50,615	35,477	1,426	3,699	3,694	3,761	3,874	3,858	3,814	3,754	3,761	3,749	88	15,138	3,986	3,860	3,669	3,571	52
2017	50,686	35,496	1,471	3,684	3,667	3,684	3,788	3,859	3,877	3,827	3,777	3,772	89	15,190	3,996	3,834	3,677	3,631	52
2018	50,694	35,498	1,540	3,681	3,641	3,654	3,709	3,777	3,876	3,893	3,849	3,788	92	15,196	4,004	3,849	3,653	3,649	41
2019	50,796	35,551	1,586[3]	3,716	3,647	3,638	3,686	3,706	3,801	3,896	3,918	3,865	92	15,246	4,044	3,868	3,671	3,621	41
2020[4]	49,375	34,059	1,234[5]	3,377	3,522	3,531	3,554	3,607	3,647	3,748	3,861	3,889	89	15,316	4,016	3,897	3,700	3,662	42
	Projected																		
2021	50,072	34,614	1,582	3,707	3,679	3,519	3,560	3,545	3,623	3,663	3,772	3,875	90	15,458	4,153	3,879	3,716	3,668	42
2022	49,935	34,360	1,547	3,626	3,651	3,675	3,547	3,551	3,560	3,639	3,687	3,786	90	15,575	4,138	4,012	3,699	3,684	42
2023	49,734	34,160	1,525	3,575	3,574	3,648	3,705	3,539	3,566	3,576	3,662	3,701	89	15,574	4,042	3,997	3,826	3,667	42
2024	49,485	33,983	1,500	3,515	3,524	3,571	3,677	3,696	3,554	3,582	3,599	3,676	89	15,502	3,951	3,905	3,812	3,793	42
2025	49,120	33,835	1,493	3,499	3,466	3,521	3,600	3,668	3,712	3,570	3,605	3,613	88	15,285	3,924	3,817	3,724	3,779	42
2026	48,368	33,347	1,371	3,212	3,450	3,463	3,550	3,591	3,684	3,729	3,592	3,618	87	15,021	3,857	3,791	3,640	3,692	41
2027	47,821	32,967	1,366	3,202	3,169	3,447	3,491	3,541	3,607	3,701	3,752	3,606	86	14,854	3,863	3,726	3,615	3,608	41
2028	47,589	32,829	1,433	3,359	3,159	3,166	3,475	3,483	3,556	3,623	3,724	3,766	85	14,760	3,850	3,732	3,553	3,584	41
2029	47,357	32,494	1,444	3,384	3,314	3,156	3,192	3,467	3,498	3,572	3,646	3,738	84	14,863	4,021	3,719	3,559	3,523	41
2030	47,253	32,261	1,469	3,443	3,339	3,311	3,182	3,184	3,482	3,513	3,595	3,659	83	14,992	3,991	3,885	3,547	3,528	41

[1] Includes ungraded students as well as students whose grade was not specified. These students were prorated into either the prekindergarten through grade 8 level or the grades 9 through 12 level based on the known grade-level distribution of a state.

[2] Includes students reported as being enrolled in grade 13.

[3] Includes imputations for nonreported prekindergarten enrollment in California.

[4] Includes imputations for nonreported enrollment for all grades in Illinois.

[5] Includes imputations for nonreported prekindergarten enrollment in California and Oregon.

NOTE: Data in this table represent the 50 states and the District of Columbia. Due to changes in reporting and imputation practices, prekindergarten enrollment for years prior to 1992 represent an undercount compared with later years. Projections in this table were calculated after the onset of the coronavirus pandemic and take into account the expected impacts of the pandemic. Detail may not sum to totals because of rounding. Some data have been revised from previously published figures.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Statistics of Public Elementary and Secondary School Systems, 1980–81*; Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 1985–86 through 2019–20 and 2020–21 Preliminary; and National Elementary and Secondary Enrollment Projection Model, through 2030. (This table was prepared September 2021.)

Table 3. Enrollment in public elementary and secondary schools, by region, state, and jurisdiction: Selected years, fall 1990 through fall 2030

Region, state, and jurisdiction	Actual total enrollment														Percent change in total enrollment, 2015 to 2020	Projected enrollment					Percent change in total enrollment, 2020 to 2030
	Fall 1990	Fall 2000	Fall 2009	Fall 2010	Fall 2011	Fall 2012	Fall 2013	Fall 2014	Fall 2015	Fall 2016	Fall 2017	Fall 2018	Fall 2019	Fall 2020		Fall 2021	Fall 2022	Fall 2023	Fall 2024	Fall 2030	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
United States	**41,216,683**	**47,203,539**	**49,360,982**	**49,484,181**	**49,521,669**	**49,771,118**	**50,044,522**	**50,312,581**	**50,438,043**	**50,615,189**	**50,685,567**	**50,694,061**	**50,796,445**	**49,375,467**	**-2.1**	**50,072,200**	**49,934,700**	**49,733,800**	**49,484,800**	**47,252,500**	**-4.3**
Region																					
Northeast	7,281,763	8,222,127	8,092,029	8,071,335	7,953,981	7,959,128	7,961,243	7,979,856	7,933,762	7,959,304	7,946,536	7,910,076	7,907,997	7,673,869	-3.3	7,758,500	7,720,300	7,678,900	7,635,700	7,200,000	-6.2
Midwest	9,943,761	10,729,987	10,672,171	10,609,604	10,573,792	10,559,230	10,572,920	10,560,539	10,555,579	10,538,947	10,523,753	10,491,845	10,440,828	10,157,311	-3.8	10,325,100	10,305,100	10,282,500	10,245,400	9,768,200	-3.8
South	14,807,016	17,007,261	18,651,889	18,805,000	18,955,932	19,128,376	19,298,714	19,506,193	19,641,472	19,749,816	19,824,469	19,863,988	19,998,517	19,482,353	-0.8	19,825,800	19,812,500	19,756,200	19,688,200	19,005,200	-2.4
West	9,184,143	11,244,164	11,944,893	11,998,242	12,037,964	12,124,384	12,211,645	12,265,993	12,307,230	12,367,122	12,390,809	12,428,152	12,449,103	12,061,934	-2.0	12,162,800	12,096,700	12,016,200	11,915,400	11,279,100	-6.5
State																					
Alabama	721,806	739,992	748,889	755,552	744,621	744,637	746,204	744,164	743,789	744,930	742,444	739,716	744,235	734,559	-1.2	750,400	753,900	756,100	757,500	740,400	0.8
Alaska	113,903	133,356	131,661	132,104	131,167	131,489	130,944	131,176	132,477	132,737	132,872	130,963	132,017	129,872	-2.0	132,600	133,100	133,400	133,400	128,500	-1.1
Arizona	639,853	877,696	1,077,831	1,071,751	1,080,319	1,089,384	1,102,445	1,111,695	1,109,040	1,123,137	1,110,851	1,141,511	1,152,586	1,116,034	0.6	1,137,800	1,144,400	1,149,100	1,152,300	1,155,000	3.5
Arkansas	436,286	449,959	480,559	482,114	483,114	486,157	489,979	490,917	492,132	493,447	496,085	495,291	496,927	486,305	-1.2	495,900	497,600	498,700	499,600	487,700	0.3
California	4,950,474	6,140,814	6,263,438	6,289,578	6,287,834	6,299,451	6,312,623	6,312,161	6,305,347	6,309,138	6,304,266	6,272,734	6,249,005[1]	6,063,437[1]	-3.8	6,070,000	6,005,300	5,934,900	5,854,800	5,425,900	-10.5
Colorado	574,213	724,508	832,368	843,316	854,265	863,561	876,999	889,006	899,112	905,019	910,280	911,536	913,223	883,199	-1.8	890,300	883,200	875,800	867,100	817,300	-7.5
Connecticut	469,123	562,179	563,968	560,546	554,437	550,954	546,200	542,678	537,933	535,118	531,288	526,634	523,690	509,058	-5.4	515,200	512,300	509,100	505,400	475,600	-6.6
Delaware	99,658	114,676	126,801	129,403	128,946	129,026	131,687	134,042	134,847	136,264	136,293	138,405	139,930	138,092	2.4	140,700	141,500	141,900	142,300	137,600	-0.4
District of Columbia	80,694	68,925	69,433	71,284	73,911	76,140	78,153	80,958	84,024	85,850	87,315	88,493	89,878	89,883	7.0	96,500	98,000	98,900	99,500	94,700	5.4
Florida	1,861,592	2,434,821	2,634,522	2,643,347	2,668,156	2,692,162	2,720,744	2,756,944	2,792,234	2,816,791	2,832,424	2,846,444	2,858,461	2,789,745	-0.1	2,821,200	2,814,600	2,806,000	2,791,000	2,704,600	-3.1
Georgia	1,151,687	1,444,937	1,667,685	1,677,067	1,685,016	1,703,332	1,723,909	1,744,437	1,757,237	1,764,346	1,768,642	1,767,202	1,769,657	1,730,015	-1.5	1,748,700	1,738,100	1,723,000	1,707,200	1,606,600	-7.1
Hawaii	171,708	184,360	180,196	179,601	182,706	184,760	186,825	182,384	181,995	181,550	180,837	181,278	181,088	176,441	-3.1	178,400	177,200	175,000	173,200	158,900	-9.9
Idaho	220,840	245,117	276,299	275,859	279,873	284,834	296,476	290,885	292,277	297,200	301,186	310,522	311,096	307,738	5.3	312,600	314,300	315,000	315,400	312,000	1.4
Illinois	1,821,407	2,048,792	2,104,175	2,091,654	2,083,097	2,072,880	2,066,990	2,050,239	2,041,779	2,026,718	2,005,153	1,982,327	1,943,117	1,891,637[2]	-7.4	1,924,300	1,924,000	1,919,600	1,914,100	1,800,900	-4.8
Indiana	954,525	989,267	1,046,661	1,047,232	1,040,765	1,041,369	1,047,385	1,046,269	1,046,757	1,049,547	1,054,187	1,055,706	1,051,411	1,033,964	-1.2	1,050,100	1,051,400	1,052,100	1,050,300	1,017,800	-1.6
Iowa	483,652	495,080	491,842	495,775	495,870	499,825	502,964	505,311	508,014	509,831	511,850	514,833	517,324	506,656	-0.3	520,100	521,500	521,700	520,700	505,900	-0.1
Kansas	437,034	470,610	474,489	483,701	486,108	489,043	496,440	497,275	495,884	494,347	497,088	497,733	497,963	481,750	-2.9	488,100	484,500	480,700	476,200	440,300	-8.6
Kentucky	636,401	665,850	680,089	673,128	681,987	685,167	677,389	688,640	686,598	684,017	680,978	677,821	691,996	658,668	-4.1	668,300	665,700	661,800	657,500	626,500	-4.9
Louisiana	784,757	743,089	690,915	696,558	703,390	710,903	711,491	716,800	718,711	716,293	715,135	711,783	710,439	693,150	-3.6	707,000	705,000	702,100	699,600	671,700	-3.1
Maine	215,149	207,037	189,225	189,077	188,969	185,739	183,995	182,470	181,613	180,512	180,473	180,461	180,291	172,455	-5.0	174,200	173,000	171,600	170,300	161,800	-6.2
Maryland	715,176	852,920	848,412	852,211	854,086	859,638	866,169	874,514	879,601	886,221	893,684	896,827	909,404	882,527	0.3	900,900	903,100	902,100	900,800	859,700	-2.6
Massachusetts	834,314	975,150	957,053	955,563	953,369	954,773	955,739	955,844	964,026	964,514	964,791	962,297	959,394	921,712	-4.4	930,700	927,200	923,200	920,100	879,900	-4.5
Michigan	1,584,431	1,720,626	1,649,082	1,587,067	1,573,537	1,555,370	1,548,841	1,537,922	1,536,231	1,528,666	1,516,398	1,504,194	1,495,925	1,434,137	-6.6	1,441,900	1,427,600	1,418,900	1,409,200	1,329,900	-7.3
Minnesota	756,374	854,340	837,053	838,037	839,738	845,404	850,973	857,235	864,384	875,021	884,944	889,304	893,203	872,083	0.9	895,900	902,200	908,300	912,800	903,100	3.6
Mississippi	502,417	497,871	492,481	490,526	490,619	493,650	492,586	490,917	487,200	483,150	478,321	471,298	466,002	442,627	-9.1	439,000	429,800	420,800	412,000	364,700	-17.6
Missouri	816,558	912,744	917,982	918,710	916,584	917,900	918,288	917,785	919,234	915,040	915,472	913,441	910,466	882,388	-4.0	891,000	882,700	873,100	862,100	792,200	-10.2
Montana	152,974	154,875	141,807	141,693	142,349	142,908	144,129	144,532	145,319	146,375	149,474	148,844	149,917	146,252	0.6	148,000	147,400	146,600	145,200	136,800	-6.5
Nebraska	274,081	286,199	295,368	298,500	301,296	303,505	307,677	312,635	316,014	319,194	323,766	326,392	330,018	324,697	2.7	333,900	334,400	334,900	335,100	329,200	1.4
Nevada	201,316	340,706	428,947	437,149	439,634	445,707	451,831	459,189	467,527	473,744	485,785	492,640	496,934	482,348	3.2	493,300	494,300	494,000	492,400	476,300	-1.3
New Hampshire	172,785	208,461	197,140	194,711	191,900	188,974	186,310	184,670	182,425	180,888	179,433	178,515	177,351	169,027	-7.3	168,400	165,900	163,200	160,500	144,600	-14.5
New Jersey	1,089,646	1,313,405	1,396,029	1,402,548	1,356,431	1,372,203	1,370,295	1,400,579	1,408,845	1,410,421	1,408,102	1,400,069	1,411,917	1,373,960	-2.5	1,398,100	1,393,000	1,388,200	1,382,300	1,307,600	-4.8
New Mexico	301,881	320,306	334,419	338,122	337,225	338,220	339,244	340,365	335,694	336,263	334,345	333,537	331,206	316,840	-5.6	316,800	311,400	305,200	299,100	263,700	-16.8
New York	2,598,337	2,882,188	2,766,052	2,734,955	2,704,718	2,710,703	2,732,770	2,741,185	2,711,626	2,729,776	2,724,663	2,700,833	2,692,589	2,601,676	-4.1	2,630,400	2,613,000	2,592,700	2,573,000	2,399,100	-7.8
North Carolina	1,086,871	1,293,638	1,483,397	1,490,605	1,507,864	1,518,465	1,530,857	1,548,895	1,544,934	1,550,062	1,553,513	1,552,497	1,560,350	1,513,677	-2.0	1,537,000	1,545,000	1,545,600	1,545,400	1,524,800	0.7
North Dakota	117,825	109,201	95,073	96,323	97,646	101,111	103,947	106,586	108,644	109,706	111,920	113,845	116,185	114,955	5.8	118,900	120,400	121,700	122,600	123,500	7.4
Ohio	1,771,089	1,835,049	1,764,297	1,754,191	1,740,030	1,729,916	1,724,111	1,724,810	1,716,585	1,710,143	1,704,399	1,695,762	1,689,867	1,645,412	-4.1	1,670,800	1,670,300	1,669,400	1,666,100	1,599,400	-2.8
Oklahoma	579,087	623,110	654,802	659,911	666,120	673,483	681,848	688,511	692,878	693,903	695,092	698,891	703,719	694,113	0.2	715,400	717,300	719,600	719,200	692,900	-0.2
Oregon	472,394	546,231	582,839	570,720	568,208	587,564	593,000	601,318	608,825	606,277	608,014	609,507	610,648	578,723[1]	-4.9	586,400	584,300	581,900	577,800	538,900	-6.9
Pennsylvania	1,667,834	1,814,311	1,785,993	1,793,284	1,771,395	1,763,677	1,755,236	1,743,160	1,717,414	1,727,497	1,726,809	1,730,757	1,732,449	1,704,396	-0.8	1,716,200	1,712,900	1,710,100	1,705,200	1,626,600	-4.6
Rhode Island	138,813	157,347	145,118	143,793	142,854	142,481	142,008	141,959	142,014	142,150	142,949	143,436	143,557	139,184	-2.0	140,500	139,500	138,400	137,500	130,200	-6.5

See notes at end of table.

Table 3. Enrollment in public elementary and secondary schools, by region, state, and jurisdiction: Selected years, fall 1990 through fall 2030—Continued

Region, state, and jurisdiction	Actual total enrollment														Percent change in total enrollment, 2015 to 2020	Projected enrollment					Percent change in total enrollment, 2020 to 2030
	Fall 1990	Fall 2000	Fall 2009	Fall 2010	Fall 2011	Fall 2012	Fall 2013	Fall 2014	Fall 2015	Fall 2016	Fall 2017	Fall 2018	Fall 2019	Fall 2020		Fall 2021	Fall 2022	Fall 2023	Fall 2024	Fall 2030	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
South Carolina	622,112	677,411	723,143	725,838	727,186	735,998	745,657	756,523	763,533	771,250	777,507	780,882	786,879	766,819	0.4	786,000	790,300	792,100	792,400	772,200	0.7
South Dakota	129,164	128,603	123,713	126,128	128,016	130,471	130,890	133,040	134,253	136,302	137,823	138,975	139,949	139,566	4.0	144,100	145,500	146,700	147,200	145,800	4.5
Tennessee	824,595	909,161	972,549	987,422	999,693	993,496	993,556	995,475	1,001,235	1,001,562	1,001,967	1,007,624	1,014,744	985,207	-1.6	1,008,600	1,014,100	1,018,800	1,022,000	1,029,900	4.5
Texas	3,382,887	4,059,619	4,850,210	4,935,715	5,000,470	5,077,659	5,153,702	5,233,765	5,301,477	5,360,849	5,401,341	5,433,471	5,495,398	5,372,806	1.3	5,493,900	5,495,100	5,481,200	5,469,300	5,311,300	-1.1
Utah	446,652	481,485	571,586	585,552	598,832	613,279	625,461	635,577	647,870	659,801	668,274	677,031	684,694	680,659	5.1	701,700	710,700	718,700	724,600	742,900	9.1
Vermont	95,762	102,049	91,451	96,858	89,908	89,624	88,690	87,311	87,866	88,428	88,028	87,074	86,759	82,401	-6.2	84,700	83,600	82,500	81,500	74,600	-9.5
Virginia	998,601	1,144,915	1,245,340	1,251,440	1,257,883	1,265,419	1,273,825	1,280,381	1,283,590	1,287,026	1,291,462	1,289,367	1,297,012	1,250,713	-2.6	1,262,000	1,254,300	1,243,900	1,235,200	1,177,500	-5.9
Washington	839,709	1,004,770	1,035,347	1,043,788	1,045,453	1,051,694	1,058,936	1,073,638	1,087,030	1,101,711	1,110,367	1,123,736	1,142,073	1,087,354	#	1,100,800	1,096,900	1,092,700	1,086,600	1,033,500	-5.0
West Virginia	322,389	286,367	282,662	282,879	282,870	283,044	280,958	280,310	277,452	273,855	272,266	267,976	263,486	253,447	-8.7	254,500	249,100	243,400	237,600	202,400	-20.1
Wisconsin	797,621	879,476	872,436	872,286	871,105	872,436	874,414	871,432	867,800	864,432	860,753	859,333	855,400	830,066	-4.3	845,900	840,500	835,400	829,100	780,200	-6.0
Wyoming	98,226	89,940	88,155	89,009	90,099	91,533	92,732	94,067	94,717	94,170	94,258	94,313	94,616	93,037	-1.8	94,100	94,200	94,000	93,500	89,400	-3.9
Jurisdiction																					
Bureau of Indian Education	—	46,938	41,351	41,962	—	—	—	—	—	45,399	46,330	43,706	38,199	34,545	—	—	—	—	—	—	—
DoDEA[3]	—	107,755	85,122	86,182	87,216	84,997	81,771	76,627	74,970	72,226	71,134	71,406	70,419	66,136	-11.8	—	—	—	—	—	—
Other jurisdictions																					
American Samoa	12,463	15,702	—	—	—	—	—	—	—	—	12,620	12,106	10,448	10,246	—	—	—	—	—	—	—
Guam	26,391	32,473	—	31,618	31,243	31,186	33,414	31,144	30,821	30,758	30,112	29,719	28,812	27,497	-10.8	—	—	—	—	—	—
Northern Marianas	6,449	10,004	10,961	11,105	11,011	10,646	10,638	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Puerto Rico	644,734	612,725	493,393	473,735	452,740	434,609	423,934	410,950	379,818	365,181	346,096	307,282	292,518	276,413	-27.2	—	—	—	—	—	—
U.S. Virgin Islands	21,750	19,459	15,493	15,495	15,711	15,192	14,953	14,241	13,805	13,194	10,868	10,718	10,907	10,993	-20.4	—	—	—	—	—	—

— Not available.
Rounds to zero.
[1] Includes imputations for nonreported prekindergarten enrollment.
[2] Includes imputations for nonreported enrollment for all grades.
[3] DoDEA = Department of Defense Education Activity. Includes both domestic and overseas schools.
NOTE: Projections in this table were calculated after the onset of the coronavirus pandemic and take into account the expected impacts of the pandemic. Detail may not sum to totals because of rounding. Some data have been revised from previously published figures.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 1990–91 through 2019–20 and 2020–21 Preliminary; Department of Defense Education Activity (DoDEA) Data Center, Enrollment Data, 2009 through 2014 and 2016 through 2020. Retrieved September 27, 2021, from https://www.dodea.edu/datacenter/enrollment.cfm; and State Public Elementary and Secondary Enrollment Projection Model, through 2030. (This table was prepared March 2022.)

Table 4. Public school enrollment in prekindergarten through grade 8, by region, state, and jurisdiction: Selected years, fall 1990 through fall 2030

Region, state, and jurisdiction	Actual total enrollment														Percent change in total enrollment, 2015 to 2020	Projected enrollment					Percent change in total enrollment, 2020 to 2030
	Fall 1990	Fall 2000	Fall 2009	Fall 2010	Fall 2011	Fall 2012	Fall 2013	Fall 2014	Fall 2015	Fall 2016	Fall 2017	Fall 2018	Fall 2019	Fall 2020		Fall 2021	Fall 2022	Fall 2023	Fall 2024	Fall 2030	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
United States	**29,875,914**	**33,686,421**	**34,409,260**	**34,624,530**	**34,772,751**	**35,017,893**	**35,250,792**	**35,369,694**	**35,387,986**	**35,477,332**	**35,496,055**	**35,497,748**	**35,550,583**	**34,059,364**	**-3.8**	**34,614,300**	**34,359,900**	**34,159,900**	**33,982,800**	**32,260,500**	**-5.3**
Region																					
Northeast	5,188,795	5,839,970	5,494,080	5,540,276	5,479,174	5,493,308	5,502,015	5,519,184	5,486,906	5,509,561	5,494,484	5,475,308	5,476,600	5,248,383	-4.3	5,330,900	5,293,000	5,258,400	5,224,600	4,861,700	-7.4
Midwest	7,129,501	7,523,246	7,361,959	7,349,334	7,358,792	7,368,484	7,394,141	7,374,598	7,361,263	7,346,552	7,331,579	7,306,433	7,278,246	6,987,392	-5.1	7,126,500	7,084,900	7,052,000	7,018,800	6,613,200	-5.4
South	10,858,800	12,314,176	13,300,643	13,434,553	13,578,211	13,711,284	13,830,129	13,917,451	13,951,194	13,995,096	14,033,899	14,069,319	14,165,023	13,602,343	-2.5	13,855,000	13,758,400	13,681,700	13,640,500	13,161,700	-3.2
West	6,698,818	8,009,029	8,252,578	8,300,367	8,356,574	8,444,817	8,524,507	8,558,461	8,588,623	8,626,123	8,636,093	8,646,688	8,630,714	8,221,247	-4.3	8,301,900	8,223,500	8,167,700	8,099,000	7,623,900	-7.3
State																					
Alabama	527,097	538,634	529,394	533,612	527,006	527,434	527,499	523,096	521,607	522,292	523,057	523,523	529,147	518,011	-0.7	529,900	528,800	528,000	528,300	512,800	-1.0
Alaska	85,297	94,442	90,824	91,990	92,057	93,069	92,714	92,745	93,789	94,164	94,618	93,642	94,367	92,101	-1.8	94,300	94,200	93,900	93,700	87,800	-4.7
Arizona	479,046	640,564	760,420	751,992	759,494	767,734	775,280	780,123	775,446	783,905	777,744	793,964	797,840	761,104	-1.8	777,900	779,800	783,400	788,200	774,900	1.8
Arkansas	313,505	318,023	344,209	345,808	346,022	347,631	349,709	349,174	349,817	350,297	352,513	351,719	352,919	342,357	-2.1	348,700	347,200	346,400	346,400	337,300	-1.5
California	3,613,734	4,407,035	4,264,022	4,293,968	4,308,447	4,331,807	4,357,989	4,360,241	4,361,930	4,367,509	4,357,267	4,321,648	4,285,816[1]	4,092,941[1]	-6.2	4,107,400	4,057,200	4,019,200	3,964,800	3,633,900	-11.2
Colorado	419,910	516,566	591,378	601,077	610,854	617,510	627,619	634,363	638,203	639,519	639,875	637,758	636,247	604,662	-5.3	610,200	601,500	593,900	587,800	566,400	-6.3
Connecticut	347,396	406,445	389,964	387,475	383,377	380,709	377,162	374,888	370,877	368,843	365,546	362,125	359,799	345,480	-6.8	351,900	349,400	346,900	344,700	319,100	-7.6
Delaware	72,606	80,801	87,710	90,279	90,624	91,004	93,204	94,696	95,002	95,760	95,390	96,753	97,548	95,141	0.1	97,000	96,900	96,700	96,300	91,000	-4.4
District of Columbia	61,282	53,692	51,656	53,548	56,195	58,273	60,379	62,997	64,955	66,798	68,142	69,581	70,887	70,501	8.5	75,700	76,000	76,000	75,600	68,100	-3.4
Florida	1,369,934	1,759,902	1,850,901	1,858,498	1,876,102	1,892,560	1,913,710	1,933,695	1,952,461	1,969,010	1,980,941	1,994,347	2,004,202	1,929,038	-1.2	1,953,700	1,936,800	1,926,400	1,921,900	1,881,300	-2.5
Georgia	849,082	1,059,983	1,194,751	1,202,479	1,211,250	1,222,289	1,233,877	1,242,832	1,243,372	1,245,574	1,246,608	1,245,461	1,245,759	1,199,416	-3.5	1,207,100	1,190,100	1,174,900	1,164,300	1,113,400	-7.2
Hawaii	122,840	132,293	127,477	127,525	131,005	133,590	135,925	131,307	131,593	131,141	130,255	130,402	129,375	124,242	-5.6	125,400	123,700	124,700	122,500	107,600	-13.4
Idaho	160,091	170,421	194,728	194,144	198,064	202,203	209,333	205,460	205,857	208,561	210,927	216,919	217,111	212,421	3.2	215,100	214,700	214,900	215,300	212,900	0.2
Illinois	1,309,516	1,473,933	1,463,713	1,454,793	1,453,156	1,448,201	1,445,459	1,428,964	1,422,487	1,408,702	1,388,977	1,370,182	1,341,099	1,286,028[2]	-9.6	1,309,300	1,298,600	1,291,400	1,282,200	1,181,800	-8.1
Indiana	675,804	703,261	730,599	729,414	724,605	725,040	731,035	729,804	725,444	725,811	728,666	726,878	730,068	710,467	-2.1	722,800	719,800	717,800	716,700	691,800	-2.6
Iowa	344,804	333,750	341,333	348,112	350,152	355,041	357,953	359,449	361,206	362,666	363,718	365,737	366,825	354,841	-1.8	365,800	364,100	363,300	362,500	350,400	-1.3
Kansas	319,648	323,157	332,997	342,927	347,129	349,695	355,929	355,305	352,910	351,447	353,430	353,649	353,370	337,208	-4.4	342,500	337,600	333,400	329,100	304,300	-9.8
Kentucky	459,200	471,429	484,466	480,334	488,456	491,065	485,001	491,766	487,634	485,275	481,962	479,561	490,580	458,027	-6.1	464,700	459,600	455,000	451,900	437,300	-4.5
Louisiana	586,202	546,579	509,883	512,266	518,802	524,792	523,310	522,009	520,134	516,206	514,159	511,587	509,912	492,008	-5.4	503,300	500,400	498,100	496,700	473,700	-3.7
Maine	155,203	145,701	128,646	128,929	130,046	127,924	127,071	126,109	125,340	124,938	124,937	124,850	124,658	116,965	-6.7	118,800	117,800	116,900	116,500	110,900	-5.2
Maryland	526,744	609,043	581,785	588,156	594,216	602,802	612,580	620,442	626,505	630,440	633,791	635,285	643,092	614,539	-1.9	628,200	625,000	622,600	620,500	579,100	-5.8
Massachusetts	604,234	702,575	666,551	666,402	666,314	667,267	668,261	666,910	669,129	669,178	668,415	665,324	663,354	627,604	-6.2	636,400	632,700	630,400	628,300	594,700	-5.2
Michigan	1,144,878	1,222,482	1,114,611	1,075,584	1,070,873	1,061,930	1,060,065	1,051,722	1,052,418	1,047,414	1,037,784	1,031,332	1,028,257	971,179	-7.7	983,200	979,000	975,200	970,100	896,700	-7.7
Minnesota	545,556	577,766	564,661	569,963	575,544	583,363	589,564	594,161	598,675	607,084	614,476	615,709	617,870	594,472	-0.7	612,900	614,900	617,600	619,400	595,600	0.2
Mississippi	371,641	363,873	351,652	350,885	352,999	356,364	356,432	352,884	348,569	345,125	341,927	338,465	334,743	313,028	-10.2	308,200	299,100	292,100	288,600	262,100	-16.3
Missouri	588,070	644,766	638,082	642,991	645,376	647,530	649,061	648,864	649,885	647,307	648,697	647,461	644,250	613,824	-5.5	618,900	607,700	598,300	590,400	554,400	-9.7
Montana	111,169	105,226	97,868	98,491	99,725	100,819	101,991	102,716	103,497	104,337	106,075	106,357	107,292	102,705	-0.8	103,600	102,200	101,200	100,700	96,400	-6.1
Nebraska	198,080	195,486	206,860	210,292	213,504	215,432	219,122	222,671	224,364	226,051	228,831	230,122	232,335	226,920	1.1	237,000	236,900	236,500	236,100	228,100	0.5
Nevada	149,881	250,720	305,512	307,297	309,360	313,730	319,240	324,518	330,593	333,991	343,807	349,619	351,819	334,843	1.3	342,600	340,200	338,800	337,200	326,900	-2.4
New Hampshire	126,301	147,121	132,768	131,576	129,632	128,169	126,933	125,845	124,305	123,602	122,657	121,965	121,394	113,559	-8.6	113,400	111,200	109,400	108,000	97,100	-14.5
New Jersey	783,422	967,533	968,332	981,255	947,576	956,070	956,379	982,202	989,332	990,740	987,988	979,147	988,018	949,696	-4.0	971,500	965,300	958,400	952,100	886,600	-6.6
New Mexico	208,087	224,879	235,343	239,345	239,481	240,978	241,528	241,105	238,896	236,407	235,839	234,323	231,940	216,891	-9.2	215,900	209,900	204,000	199,700	179,200	-17.4
New York	1,827,418	2,028,906	1,847,003	1,869,150	1,857,574	1,868,561	1,884,845	1,889,428	1,870,048	1,886,863	1,880,208	1,874,568	1,871,145	1,786,774	-4.5	1,817,000	1,802,600	1,788,000	1,771,700	1,630,600	-8.7
North Carolina	783,132	945,470	1,053,801	1,058,409	1,074,063	1,080,090	1,089,594	1,092,368	1,080,536	1,080,196	1,080,861	1,087,608	1,095,860	1,049,660	-2.9	1,070,700	1,068,700	1,067,400	1,069,000	1,052,200	0.2
North Dakota	84,943	72,421	64,576	66,035	67,888	70,995	73,527	76,165	77,969	79,249	81,031	82,288	84,202	82,276	5.5	85,200	85,800	86,300	87,000	86,100	4.6
Ohio	1,257,580	1,293,646	1,225,346	1,222,808	1,217,226	1,211,299	1,208,500	1,204,872	1,194,990	1,190,358	1,187,254	1,184,755	1,184,678	1,142,181	-4.4	1,164,800	1,162,300	1,159,300	1,156,900	1,089,900	-4.6
Oklahoma	424,899	445,402	476,962	483,464	490,196	496,144	501,504	503,846	505,311	504,388	503,796	505,349	509,534	497,546	-1.5	514,500	512,000	509,600	507,400	482,800	-3.0
Oregon	340,243	379,264	404,451	392,601	391,310	409,325	414,405	421,561	427,227	425,768	427,690	428,997	429,663	397,400[1]	-7.0	402,200	397,400	393,500	389,400	362,300	-8.8
Pennsylvania	1,172,164	1,257,824	1,200,446	1,209,766	1,204,850	1,204,732	1,201,169	1,193,762	1,176,868	1,183,671	1,182,944	1,186,383	1,187,808	1,156,394	-1.7	1,166,500	1,160,600	1,156,100	1,152,500	1,082,000	-6.4
Rhode Island	101,797	113,545	98,184	97,734	97,659	97,809	98,738	99,067	99,143	98,871	98,737	98,461	98,367	94,006	-5.2	95,200	94,300	93,700	93,200	88,100	-6.3

See notes at end of table.

Table 4. Public school enrollment in prekindergarten through grade 8, by region, state, and jurisdiction: Selected years, fall 1990 through fall 2030—Continued

Region, state, and jurisdiction	Actual total enrollment														Percent change in total enrollment, 2015 to 2020	Projected enrollment					Percent change in total enrollment, 2020 to 2030
	Fall 1990	Fall 2000	Fall 2009	Fall 2010	Fall 2011	Fall 2012	Fall 2013	Fall 2014	Fall 2015	Fall 2016	Fall 2017	Fall 2018	Fall 2019	Fall 2020		Fall 2021	Fall 2022	Fall 2023	Fall 2024	Fall 2030	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
South Carolina	452,033	493,226	512,124	515,581	519,389	527,350	533,822	539,800	542,753	547,928	553,414	556,875	561,509	538,037	-0.9	550,200	548,700	547,200	547,400	528,500	-1.8
South Dakota	95,165	87,838	85,745	87,936	90,529	93,204	94,251	95,739	97,011	98,712	99,878	100,700	100,831	99,036	2.1	102,000	102,300	102,700	102,900	100,200	1.2
Tennessee	598,111	668,123	686,668	701,707	712,749	711,525	709,668	707,067	709,394	708,027	710,398	716,021	722,878	690,465	-2.7	709,000	711,700	717,400	722,600	718,600	4.1
Texas	2,510,955	2,943,047	3,520,348	3,586,609	3,636,852	3,690,146	3,742,266	3,783,324	3,809,025	3,835,671	3,852,952	3,868,443	3,906,590	3,761,597	-1.2	3,853,000	3,831,400	3,809,200	3,796,800	3,672,700	-2.4
Utah	324,982	333,104	413,343	424,979	434,536	444,202	451,332	456,667	463,567	471,213	475,107	479,370	483,131	473,101	2.1	488,700	492,400	496,400	500,400	506,100	7.0
Vermont	70,860	70,320	62,186	67,989	62,146	62,067	61,457	60,973	61,864	62,855	63,052	62,486	62,057	57,904	-6.4	60,300	59,200	58,500	57,700	52,600	-9.2
Virginia	728,280	815,748	864,020	871,446	881,225	889,444	896,573	897,688	896,809	897,696	900,027	898,317	903,037	856,356	-4.5	864,600	855,400	849,700	846,300	809,300	-5.5
Washington	612,597	694,367	705,387	714,172	718,184	724,560	730,868	740,320	750,222	762,362	769,992	786,827	799,378	744,195	-0.8	753,600	745,800	739,800	735,400	707,700	-4.9
West Virginia	224,097	201,201	200,313	201,472	202,065	202,371	201,001	199,767	197,310	194,413	193,961	190,424	186,825	176,616	-10.5	176,500	170,600	165,100	160,400	141,300	-20.0
Wisconsin	565,457	594,740	593,436	598,479	602,810	606,754	609,675	606,882	603,904	601,751	598,837	597,619	594,462	568,960	-5.8	582,200	575,900	570,200	565,600	534,100	-6.1
Wyoming	70,941	60,148	61,825	62,786	64,057	65,290	66,283	67,335	67,803	67,246	66,897	66,862	66,735	64,640	-4.7	65,000	64,600	64,200	63,900	61,600	-4.7
Jurisdiction																					
Bureau of Indian Education	—	35,746	31,381	31,985	—	—	—	—	—	34,132	35,064	32,632	28,712	25,835	—	—	—	—	—	—	—
DoDEA[3]	—	89,996	69,269	70,195	71,359	69,557	67,056	62,866	61,355	58,942	57,975	58,483	57,546	53,430	-12.9	—	—	—	—	—	—
Other jurisdictions																					
American Samoa	9,390	11,895	—	—	—	—	—	—	—	—	8,877	8,352	6,760	6,669	—	—	—	—	—	—	—
Guam	19,276	23,698	—	21,561	21,223	21,166	23,301	21,112	20,765	20,621	20,227	20,183	19,611	18,453	-11.1	—	—	—	—	—	—
Northern Marianas	4,918	7,809	7,743	7,688	7,703	7,396	7,340	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Puerto Rico	480,356	445,524	347,638	334,613	318,924	305,048	294,976	284,246	261,667	251,197	238,807	210,452	198,918	185,718	-29.0	—	—	—	—	—	—
U.S. Virgin Islands	16,249	13,910	10,409	10,518	10,576	10,302	10,283	9,724	9,503	9,037	12,698	7,309	7,457	7,537	-20.7	—	—	—	—	—	—

— Not available.

[1] Includes imputations for nonreported prekindergarten enrollment.

[2] Includes imputations for nonreported enrollment for all grades.

[3] DoDEA = Department of Defense Education Activity. Includes both domestic and overseas schools.

NOTE: The total counts of ungraded students and those whose grade was not specified were prorated into either the prekindergarten through grade 8 level or the grades 9 through 12 level based on the known grade-level distribution of a state. Projections in this table were calculated after the onset of the coronavirus pandemic and take into account the expected impacts of the pandemic. Detail may not sum to totals because of rounding. Some data have been revised from previously published figures.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 1990–91 through 2019–20 and 2020–21 Preliminary; Department of Defense Education Activity (DoDEA) Data Center, Enrollment Data, 2009 through 2014 and 2016 through 2020. Retrieved September 27, 2021, from https://www.dodea.edu/datacenter/enrollment.cfm; and State Public Elementary and Secondary Enrollment Projection Model, through 2030. (This table was prepared March 2022.)

Table 5. Public school enrollment in grades 9 through 12, by region, state, and jurisdiction: Selected years, fall 1990 through fall 2030

Region, state, and jurisdiction	Actual total enrollment														Percent change in total enrollment, 2015 to 2020	Projected enrollment					Percent change in total enrollment, 2020 to 2030
	Fall 1990	Fall 2000	Fall 2009	Fall 2010	Fall 2011	Fall 2012	Fall 2013	Fall 2014	Fall 2015	Fall 2016	Fall 2017	Fall 2018	Fall 2019	Fall 2020		Fall 2021	Fall 2022	Fall 2023	Fall 2024	Fall 2030	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
United States	**11,340,769**	**13,517,118**	**14,951,722**	**14,859,651**	**14,748,918**	**14,753,225**	**14,793,730**	**14,942,887**	**15,050,057**	**15,137,857**	**15,189,512**	**15,196,313**	**15,245,862**	**15,316,103**	**1.8**	**15,457,900**	**15,574,800**	**15,574,000**	**15,502,000**	**14,992,000**	**-2.1**
Region																					
Northeast	2,092,968	2,382,157	2,597,949	2,531,059	2,474,807	2,465,820	2,459,228	2,460,672	2,446,856	2,449,743	2,452,052	2,434,768	2,431,397	2,425,486	-0.9	2,427,500	2,427,300	2,420,500	2,411,200	2,338,300	-3.6
Midwest	2,814,260	3,206,741	3,310,212	3,260,270	3,215,000	3,190,746	3,178,779	3,185,941	3,194,316	3,192,395	3,192,174	3,185,412	3,162,582	3,169,919	-0.8	3,198,600	3,220,200	3,230,600	3,226,700	3,155,000	-0.5
South	3,948,216	4,693,085	5,351,246	5,370,447	5,377,721	5,417,092	5,468,585	5,588,742	5,690,278	5,754,720	5,790,570	5,794,669	5,833,494	5,880,010	3.3	5,970,800	6,054,100	6,074,400	6,047,700	5,843,500	-0.6
West	2,485,325	3,235,135	3,692,315	3,697,875	3,681,390	3,679,567	3,687,138	3,707,532	3,718,607	3,740,999	3,754,716	3,781,464	3,818,389	3,840,687	3.3	3,861,000	3,873,200	3,848,500	3,816,500	3,655,300	-4.8
State																					
Alabama	194,709	201,358	219,495	221,940	217,615	217,203	218,705	221,068	222,182	222,638	219,387	216,193	215,088	216,548	-2.5	220,400	225,100	228,100	229,200	227,600	5.1
Alaska	28,606	38,914	40,837	40,114	39,110	38,420	38,230	38,431	38,688	38,573	38,254	37,321	37,650	37,771	-2.4	38,300	38,900	39,400	39,700	40,700	7.8
Arizona	160,807	237,132	317,411	319,759	320,825	321,650	327,165	331,572	333,594	339,232	333,107	347,547	354,746	354,930	6.4	360,000	364,600	365,600	364,100	380,100	7.1
Arkansas	122,781	131,936	136,350	136,306	137,092	138,526	140,270	141,743	142,315	143,150	143,572	143,572	144,008	143,948	1.1	147,200	150,400	152,300	153,200	150,500	4.6
California	1,336,740	1,733,779	1,999,416	1,995,610	1,979,387	1,967,644	1,954,634	1,951,920	1,943,417	1,941,629	1,946,999	1,951,086	1,963,189	1,970,496	1.4	1,962,500	1,948,100	1,915,700	1,890,000	1,792,000	-9.1
Colorado	154,303	207,942	240,990	242,239	243,411	246,051	249,380	254,643	260,909	265,500	270,405	273,778	276,976	278,537	6.8	280,100	281,700	281,900	279,300	250,900	-9.9
Connecticut	121,727	155,734	174,004	173,071	171,060	170,245	169,038	167,790	167,056	166,275	165,742	164,509	163,891	163,578	-2.1	163,300	162,900	162,200	160,700	156,500	-4.3
Delaware	27,052	33,875	39,091	39,124	38,322	38,022	38,483	39,346	39,845	40,504	40,903	41,652	42,382	42,951	7.8	43,700	44,600	45,200	46,000	46,600	8.5
District of Columbia	19,412	15,233	17,777	17,736	17,716	17,867	17,774	17,961	19,069	19,052	19,173	18,912	18,991	19,382	1.6	20,700	22,000	22,900	23,900	26,600	37.2
Florida	491,658	674,919	783,621	784,849	792,054	799,602	807,034	823,249	839,773	847,781	851,483	852,097	854,259	860,707	2.5	867,500	877,800	879,600	869,100	823,300	-4.3
Georgia	302,605	384,954	472,934	474,588	473,766	481,043	490,032	501,605	513,865	518,772	522,034	521,741	523,898	530,599	3.3	541,500	548,000	548,100	542,900	493,200	-7.0
Hawaii	48,868	52,067	52,719	52,076	51,701	51,170	50,900	51,077	50,402	50,409	50,582	50,876	51,713	52,199	3.6	53,000	53,500	50,300	50,700	51,300	-1.7
Idaho	60,749	74,696	81,571	81,715	81,809	82,631	87,143	85,425	86,420	88,639	90,259	93,603	93,985	95,317	10.3	97,400	99,600	100,100	100,100	99,100	4.0
Illinois	511,891	574,859	640,462	636,861	629,941	624,679	621,531	621,275	619,292	618,016	616,176	612,145	602,018	605,609[1]	-2.2	615,000	625,400	628,200	631,900	619,100	2.2
Indiana	278,721	286,006	316,062	317,818	316,160	316,329	316,350	316,465	321,313	323,736	325,521	328,828	321,343	323,497	0.7	327,300	331,600	334,300	333,700	326,000	0.8
Iowa	138,848	161,330	150,509	147,663	145,718	144,784	145,011	145,862	146,808	147,165	148,132	149,096	150,499	151,815	3.4	154,300	157,300	158,400	158,200	155,500	2.4
Kansas	117,386	147,453	141,492	140,774	138,979	139,348	140,511	141,970	142,974	142,900	143,658	144,084	144,593	144,542	1.1	145,600	146,900	147,400	147,100	136,000	-5.9
Kentucky	177,201	194,421	195,623	192,794	193,531	194,102	192,388	196,874	198,964	198,742	199,016	198,260	201,416	200,641	0.8	203,700	206,100	206,800	205,600	189,200	-5.7
Louisiana	198,555	196,510	181,032	184,292	184,588	186,111	188,181	194,791	198,577	200,087	200,976	200,196	200,527	201,142	1.3	203,700	204,600	204,100	202,900	198,000	-1.6
Maine	59,946	61,336	60,579	60,148	58,923	57,815	56,924	56,361	56,273	55,574	55,536	55,611	55,633	55,490	-1.4	55,500	55,200	54,700	53,800	50,900	-8.3
Maryland	188,432	243,877	266,627	264,055	259,870	256,836	253,589	254,072	253,096	255,781	259,893	261,542	266,312	267,988	5.9	272,700	278,100	279,500	280,300	280,500	4.7
Massachusetts	230,080	272,575	290,502	289,161	287,055	287,506	287,478	288,934	294,897	295,336	296,376	296,973	296,040	294,108	-0.3	294,300	294,500	292,700	291,800	285,200	-3.0
Michigan	439,553	498,144	534,471	511,483	502,664	493,440	488,776	486,200	483,813	481,252	478,614	472,862	467,668	462,958	-4.3	458,700	448,700	443,700	439,100	433,200	-6.4
Minnesota	210,818	276,574	272,392	268,074	264,194	262,041	261,409	263,074	265,709	267,937	270,468	273,595	275,333	277,611	4.5	283,000	287,300	290,800	293,500	307,500	10.8
Mississippi	130,776	133,998	140,829	139,641	137,620	137,286	136,154	138,033	138,631	138,025	136,394	132,833	131,259	129,599	-6.5	130,800	130,700	128,800	123,500	102,600	-20.8
Missouri	228,488	267,978	279,900	275,719	271,208	270,370	269,227	268,921	269,349	267,733	266,775	265,980	266,216	268,564	-0.3	272,100	275,000	274,700	271,700	237,800	-11.5
Montana	41,805	49,649	43,939	43,202	42,624	42,089	42,138	41,816	41,822	42,038	43,399	42,487	42,625	43,547	4.1	44,400	45,100	45,400	44,600	40,500	-7.0
Nebraska	76,001	90,713	88,508	88,208	87,792	88,073	88,555	89,964	91,650	93,143	94,935	96,270	97,683	97,777	6.7	96,900	97,500	98,500	99,000	101,200	3.5
Nevada	51,435	89,986	123,435	129,852	130,274	131,977	132,591	134,671	136,934	139,753	141,978	143,021	145,115	147,505	7.7	150,700	154,100	155,200	155,200	149,300	1.2
New Hampshire	46,484	61,340	64,372	63,135	62,268	60,805	59,377	58,825	58,120	57,286	56,776	56,550	55,957	55,468	-4.6	55,100	54,600	53,700	52,600	47,500	-14.4
New Jersey	306,224	345,872	427,697	421,293	408,855	416,133	413,916	418,377	419,513	419,681	420,114	420,922	423,899	424,264	1.1	426,600	427,700	429,700	430,200	421,000	-0.8
New Mexico	93,794	95,427	99,076	98,777	97,744	97,242	97,716	99,260	96,798	99,856	98,506	99,214	99,266	99,949	3.3	100,900	101,500	101,200	99,400	84,500	-15.5
New York	770,919	853,282	919,049	865,805	847,144	842,142	847,925	851,757	841,578	842,913	844,455	826,265	821,444	814,902	-3.2	813,400	810,400	804,700	801,300	768,500	-5.7
North Carolina	303,739	348,168	429,596	432,196	433,801	438,375	441,263	456,527	464,398	469,866	472,652	464,889	464,490	464,017	-0.1	466,300	476,300	478,200	476,400	472,500	1.8
North Dakota	32,882	36,780	30,497	30,288	29,758	30,116	30,420	30,421	30,675	30,457	30,889	31,557	31,983	32,679	6.5	33,700	34,600	35,400	35,600	37,400	14.4
Ohio	513,509	541,403	538,951	531,383	522,804	518,617	515,611	519,938	521,595	519,785	517,145	511,007	505,189	503,231	-3.5	506,000	508,000	510,000	509,100	509,500	1.2
Oklahoma	154,188	177,708	177,840	176,447	175,924	177,339	180,344	184,665	187,567	189,515	191,296	193,542	194,185	196,567	4.8	200,900	205,300	210,000	211,800	210,000	6.8
Oregon	132,151	166,967	178,388	178,119	176,898	178,239	178,595	179,757	181,598	180,509	180,324	180,510	180,985	181,323	-0.2	184,200	186,900	188,400	188,400	176,600	-2.6
Pennsylvania	495,670	556,487	585,547	583,518	566,545	558,945	554,067	549,398	540,546	543,826	543,865	544,374	544,641	548,002	1.4	549,700	552,300	554,000	552,700	544,600	-0.6
Rhode Island	37,016	43,802	46,934	46,059	45,195	44,672	43,270	42,892	42,871	43,279	44,212	44,975	45,190	45,178	5.4	45,300	45,200	44,700	44,300	42,100	-6.8

See notes at end of table.

Table 5. Public school enrollment in grades 9 through 12, by region, state, and jurisdiction: Selected years, fall 1990 through fall 2030—Continued

Region, state, and jurisdiction	Actual total enrollment														Percent change in total enrollment, 2015 to 2020	Projected enrollment					Percent change in total enrollment, 2020 to 2030
	Fall 1990	Fall 2000	Fall 2009	Fall 2010	Fall 2011	Fall 2012	Fall 2013	Fall 2014	Fall 2015	Fall 2016	Fall 2017	Fall 2018	Fall 2019	Fall 2020		Fall 2021	Fall 2022	Fall 2023	Fall 2024	Fall 2030	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
South Carolina	170,079	184,185	211,019	210,257	207,797	208,648	211,835	216,723	220,780	223,322	224,093	224,007	225,370	228,782	3.6	235,800	241,500	244,900	245,000	243,700	6.5
South Dakota	33,999	40,765	37,968	38,192	37,487	37,267	36,639	37,301	37,242	37,590	37,945	38,275	39,118	40,530	8.8	42,200	43,200	44,000	44,300	45,600	12.5
Tennessee	226,484	241,038	285,881	285,715	286,944	281,971	283,888	288,408	291,841	293,535	291,569	291,603	291,866	294,742	1.0	299,500	302,400	301,400	299,400	311,300	5.6
Texas	871,932	1,116,572	1,329,862	1,349,106	1,363,618	1,387,513	1,411,436	1,450,441	1,492,452	1,525,178	1,548,389	1,565,028	1,588,808	1,611,209	8.0	1,640,900	1,663,700	1,672,000	1,672,500	1,638,600	1.7
Utah	121,670	148,381	158,243	160,573	164,296	169,077	174,129	178,910	184,303	188,588	193,167	197,661	201,563	207,558	12.6	213,000	218,300	222,300	224,200	236,700	14.0
Vermont	24,902	31,729	29,265	28,869	27,762	27,557	27,233	26,338	26,002	25,573	24,976	24,588	24,702	24,497	-5.8	24,400	24,400	24,000	23,800	22,000	-10.2
Virginia	270,321	329,167	381,320	379,994	376,658	375,975	377,252	382,693	386,781	389,330	391,435	391,050	393,975	394,357	2.0	397,300	398,800	394,200	388,900	368,200	-6.6
Washington	227,112	310,403	329,960	329,616	327,269	327,134	328,068	333,318	336,808	339,349	340,375	336,909	342,695	343,159	1.9	347,200	351,200	353,000	351,300	325,800	-5.1
West Virginia	98,292	85,166	82,349	81,407	80,805	80,673	79,957	80,543	80,142	79,442	78,305	77,552	76,661	76,831	-4.1	78,000	78,600	78,300	77,200	61,100	-20.5
Wisconsin	232,164	284,736	279,000	273,807	268,295	265,682	264,739	264,550	263,896	262,681	261,916	261,714	260,938	261,106	-1.1	263,700	264,600	265,300	263,600	246,100	-5.7
Wyoming	27,285	29,792	26,330	26,223	26,042	26,243	26,449	26,732	26,914	26,924	27,361	27,451	27,881	28,397	5.5	29,100	29,700	29,800	29,600	27,800	-2.1
Jurisdiction																					
Bureau of Indian Education	—	11,192	9,970	9,977	—	—	—	—	—	11,267	11,266	11,074	9,487	8,710	—	—	—	—	—	—	—
DoDEA[2]	—	17,759	15,853	15,987	15,857	15,440	14,715	13,761	13,615	13,284	13,159	12,923	12,873	12,706	-6.7	—	—	—	—	—	—
Other jurisdictions																					
American Samoa	3,073	3,807	—	—	—	—	—	—	—	—	3,743	3,754	3,688	3,577	—	—	—	—	—	—	—
Guam	7,115	8,775	—	10,057	10,020	10,020	10,113	10,032	10,056	10,137	9,885	9,536	9,201	9,044	-10.1	—	—	—	—	—	—
Northern Marianas	1,531	2,195	3,218	3,417	3,308	3,250	3,298	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Puerto Rico	164,378	167,201	145,755	139,122	133,816	129,561	128,958	126,704	118,151	113,984	107,289	96,830	93,600	90,695	-23.2	—	—	—	—	—	—
U.S. Virgin Islands	5,501	5,549	5,084	4,977	5,135	4,890	4,670	4,517	4,302	4,157	3,441	3,409	3,450	3,456	-19.7	—	—	—	—	—	—

— Not available.

[1] Includes imputations for nonreported enrollment for all grades.

[2] DoDEA = Department of Defense Education Activity. Includes both domestic and overseas schools.

NOTE: The total counts of ungraded students and those whose grade was not specified were prorated into either the prekindergarten through grade 8 level or the grades 9 through 12 level based on the known grade-level distribution of a state. In addition to students in grades 9 through 12 and ungraded students, this table includes a small number of students reported as being enrolled in grade 13. Projections in this table were calculated after the onset of the coronavirus pandemic and take into account the expected impacts of the pandemic. Detail may not sum to totals because of rounding. Some data have been revised from previously published figures.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 1990–91 through 2019-20 and 2020–21 Preliminary; Department of Defense Education Activity (DoDEA) Data Center, Enrollment Data, 2009 through 2014 and 2016 through 2020. Retrieved September 27, 2021, from https://www.dodea.edu/datacenter/enrollment.cfm; and State Public Elementary and Secondary Enrollment Projection Model, through 2030. (This table was prepared March 2022.)

Table 6. Enrollment and percentage distribution of enrollment in public elementary and secondary schools, by race/ethnicity and region: Selected years, fall 1995 through fall 2030

Region and year	Enrollment (in thousands)								Percentage distribution							
	Total	White	Black	Hispanic	Asian	Pacific Islander	American Indian/ Alaska Native	Two or more races	Total	White	Black	Hispanic	Asian	Pacific Islander	American Indian/ Alaska Native	Two or more races
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
United States																
1995	44,840	29,044	7,551	6,072	1,668[1]	—	505	—	100.0	64.8	16.8	13.5	3.7[1]	—	1.1	—
2000	47,204	28,878	8,100	7,726	1,950[1]	—	550	—	100.0	61.2	17.2	16.4	4.1[1]	—	1.2	—
2001	47,672	28,735	8,177	8,169	2,028[1]	—	564	—	100.0	60.3	17.2	17.1	4.3[1]	—	1.2	—
2002	48,183	28,618	8,299	8,594	2,088[1]	—	583	—	100.0	59.4	17.2	17.8	4.3[1]	—	1.2	—
2003	48,540	28,442	8,349	9,011	2,145[1]	—	593	—	100.0	58.6	17.2	18.6	4.4[1]	—	1.2	—
2004	48,795	28,318	8,386	9,317	2,183[1]	—	591	—	100.0	58.0	17.2	19.1	4.5[1]	—	1.2	—
2005	49,113	28,005	8,445	9,787	2,279[1]	—	598	—	100.0	57.0	17.2	19.9	4.6[1]	—	1.2	—
2006	49,316	27,801	8,422	10,166	2,332[1]	—	595	—	100.0	56.4	17.1	20.6	4.7[1]	—	1.2	—
2007	49,291	27,454	8,392	10,454	2,396[1]	—	594	—	100.0	55.7	17.0	21.2	4.9[1]	—	1.2	—
2008[2]	49,266	27,057	8,358	10,563	2,405	46	589	247	100.0	54.9	17.0	21.4	4.9	0.1	1.2	0.5
2009[2]	49,361	26,702	8,245	10,991	2,435	49	601	338	100.0	54.1	16.7	22.3	4.9	0.1	1.2	0.7
2010	49,484	25,933	7,917	11,439	2,296	171	566	1,164	100.0	52.4	16.0	23.1	4.6	0.3	1.1	2.4
2011	49,522	25,602	7,827	11,759	2,334	179	547	1,272	100.0	51.7	15.8	23.7	4.7	0.4	1.1	2.6
2012	49,771	25,386	7,803	12,104	2,372	180	534	1,393	100.0	51.0	15.7	24.3	4.8	0.4	1.1	2.8
2013	50,045	25,160	7,805	12,452	2,417	176	523	1,511	100.0	50.3	15.6	24.9	4.8	0.4	1.0	3.0
2014	50,313	24,923	7,807	12,805	2,470	176	519	1,612	100.0	49.5	15.5	25.4	4.9	0.3	1.0	3.2
2015	50,438	24,644	7,784	13,080	2,521	177	510	1,723	100.0	48.9	15.4	25.9	5.0	0.4	1.0	3.4
2016	50,615	24,413	7,765	13,329	2,571	184	511	1,842	100.0	48.2	15.3	26.3	5.1	0.4	1.0	3.6
2017	50,686	24,124	7,709	13,571	2,640	185	498	1,959	100.0	47.6	15.2	26.8	5.2	0.4	1.0	3.9
2018	50,694	23,845	7,669	13,775	2,675	186	490	2,055	100.0	47.0	15.1	27.2	5.3	0.4	1.0	4.1
2019[3]	50,796	23,573	7,605	14,055	2,701	186	481	2,196	100.0	46.4	15.0	27.7	5.3	0.4	0.9	4.3
2020[4,5]	49,375	22,597	7,402	13,832	2,676	180	459	2,229	100.0	45.8	15.0	28.0	5.4	0.4	0.9	4.5
2021[6]	50,072	22,660	7,481	14,203	2,725	184	458	2,361	100.0	45.3	14.9	28.4	5.4	0.4	0.9	4.7
2022[6]	49,935	22,391	7,421	14,297	2,741	184	450	2,452	100.0	44.8	14.9	28.6	5.5	0.4	0.9	4.9
2023[6]	49,734	22,131	7,353	14,340	2,754	182	442	2,532	100.0	44.5	14.8	28.8	5.5	0.4	0.9	5.1
2024[6]	49,485	21,865	7,285	14,356	2,762	181	435	2,601	100.0	44.2	14.7	29.0	5.6	0.4	0.9	5.3
2025[6]	49,120	21,582	7,189	14,313	2,776	180	426	2,653	100.0	43.9	14.6	29.1	5.7	0.4	0.9	5.4
2026[6]	48,368	21,138	7,031	14,142	2,771	178	415	2,693	100.0	43.7	14.5	29.2	5.7	0.4	0.9	5.6
2027[6]	47,821	20,799	6,908	14,032	2,778	177	405	2,722	100.0	43.5	14.4	29.3	5.8	0.4	0.8	5.7
2028[6]	47,589	20,606	6,842	14,019	2,794	176	400	2,753	100.0	43.3	14.4	29.5	5.9	0.4	0.8	5.8
2029[6]	47,357	20,415	6,775	14,005	2,809	175	395	2,783	100.0	43.1	14.3	29.6	5.9	0.4	0.8	5.9
2030[6]	47,253	20,272	6,739	14,044	2,821	174	392	2,811	100.0	42.9	14.3	29.7	6.0	0.4	0.8	5.9
Northeast																
1995	7,894	5,497	1,202	878	295[1]	—	21	—	100.0	69.6	15.2	11.1	3.7[1]	—	0.3	—
2000	8,222	5,545	1,270	1,023	361[1]	—	24	—	100.0	67.4	15.4	12.4	4.4[1]	—	0.3	—
2005	8,240	5,317	1,282	1,189	425[1]	—	27	—	100.0	64.5	15.6	14.4	5.2[1]	—	0.3	—
2010	8,071	4,876	1,208	1,364	494	6	27	96	100.0	60.4	15.0	16.9	6.1	0.1	0.3	1.2
2015	7,934	4,409	1,136	1,610	547	7	29	197	100.0	55.6	14.3	20.3	6.9	0.1	0.4	2.5
2016	7,959	4,345	1,132	1,668	558	13	30	214	100.0	54.6	14.2	21.0	7.0	0.2	0.4	2.7
2017	7,947	4,269	1,117	1,714	570	13	30	232	100.0	53.7	14.1	21.6	7.2	0.2	0.4	2.9
2018	7,910	4,185	1,109	1,748	577	13	31	247	100.0	52.9	14.0	22.1	7.3	0.2	0.4	3.1
2019	7,908	4,108	1,094	1,811	585	13	31	265	100.0	51.9	13.8	22.9	7.4	0.2	0.4	3.4
2020	7,674	3,928	1,061	1,792	579	13	31	271	100.0	51.2	13.8	23.4	7.5	0.2	0.4	3.5
Midwest																
1995	10,512	8,335	1,450	438	197[1]	—	92	—	100.0	79.3	13.8	4.2	1.9[1]	—	0.9	—
2000	10,730	8,208	1,581	610	239[1]	—	92	—	100.0	76.5	14.7	5.7	2.2[1]	—	0.9	—
2005	10,819	7,950	1,654	836	283[1]	—	96	—	100.0	73.5	15.3	7.7	2.6[1]	—	0.9	—
2010	10,610	7,327	1,505	1,077	303	9	94	294	100.0	69.1	14.2	10.2	2.9	0.1	0.9	2.8
2015	10,556	6,968	1,458	1,284	348	12	84	400	100.0	66.0	13.8	12.2	3.3	0.1	0.8	3.8
2016	10,539	6,893	1,449	1,312	360	12	86	426	100.0	65.4	13.8	12.4	3.4	0.1	0.8	4.0
2017	10,524	6,825	1,446	1,340	372	13	82	447	100.0	64.9	13.7	12.7	3.5	0.1	0.8	4.2
2018	10,492	6,750	1,436	1,363	378	13	81	471	100.0	64.3	13.7	13.0	3.6	0.1	0.8	4.5
2019	10,441	6,665	1,423	1,384	383	14	80	493	100.0	63.8	13.6	13.3	3.7	0.1	0.8	4.7
2020[4]	10,157	6,443	1,383	1,367	377	14	78	495	100.0	63.4	13.6	13.5	3.7	0.1	0.8	4.9
South																
1995	16,118	9,565	4,236	1,890	280[1]	—	148	—	100.0	59.3	26.3	11.7	1.7[1]	—	0.9	—
2000	17,007	9,501	4,516	2,468	352[1]	—	170	—	100.0	55.9	26.6	14.5	2.1[1]	—	1.0	—
2005	18,103	9,381	4,738	3,334	456[1]	—	194	—	100.0	51.8	26.2	18.4	2.5[1]	—	1.1	—
2010	18,805	8,869	4,545	4,206	533	22	207	424	100.0	47.2	24.2	22.4	2.8	0.1	1.1	2.3
2015	19,641	8,601	4,583	4,994	637	29	181	615	100.0	43.8	23.3	25.4	3.2	0.1	0.9	3.1
2016	19,750	8,513	4,571	5,142	665	30	177	652	100.0	43.1	23.1	26.0	3.4	0.2	0.9	3.3
2017	19,824	8,439	4,555	5,249	689	32	174	688	100.0	42.6	23.0	26.5	3.5	0.2	0.9	3.5
2018	19,864	8,342	4,532	5,355	706	33	169	727	100.0	42.0	22.8	27.0	3.6	0.2	0.9	3.7
2019	19,999	8,270	4,506	5,516	721	33	166	785	100.0	41.4	22.5	27.6	3.6	0.2	0.8	3.9
2020	19,482	7,924	4,400	5,446	724	33	155	800	100.0	40.7	22.6	28.0	3.7	0.2	0.8	4.1
West																
1995	10,316	5,648	662	2,866	896[1]	—	244	—	100.0	54.7	6.4	27.8	8.7[1]	—	2.4	—
2000	11,244	5,624	733	3,625	998[1]	—	264	—	100.0	50.0	6.5	32.2	8.9[1]	—	2.4	—
2005	11,951	5,356	771	4,428	1,115[1]	—	281	—	100.0	44.8	6.5	37.1	9.3[1]	—	2.4	—
2010	11,998	4,861	659	4,792	966	133	237	349	100.0	40.5	5.5	39.9	8.1	1.1	2.0	2.9
2015	12,307	4,665	606	5,192	988	129	216	511	100.0	37.9	4.9	42.2	8.0	1.1	1.8	4.2
2016	12,367	4,662	612	5,208	989	128	217	550	100.0	37.7	5.0	42.1	8.0	1.0	1.8	4.4
2017	12,391	4,592	592	5,268	1,009	127	211	592	100.0	37.1	4.8	42.5	8.1	1.0	1.7	4.8
2018	12,428	4,568	591	5,309	1,013	127	209	611	100.0	36.8	4.8	42.7	8.2	1.0	1.7	4.9
2019[3]	12,449	4,531	582	5,343	1,012	125	204	652	100.0	36.4	4.7	42.9	8.1	1.0	1.6	5.2
2020[5]	12,062	4,302	557	5,227	997	121	195	663	100.0	35.7	4.6	43.3	8.3	1.0	1.6	5.5

— Not available.
[1] Includes Pacific Islanders.
[2] For 2008 and 2009, data on Pacific Islanders and students of Two or more races were reported by only a small number of states. Therefore, the data are not comparable to figures for 2010 and later years.
[3] Includes imputations for nonreported prekindergarten enrollment in California.
[4] Includes imputations for nonreported enrollment for all grades in Illinois.
[5] Includes imputations for nonreported prekindergarten enrollment in California and Oregon.
[6] Projected.
NOTE: Data in this table represent the 50 states and the District of Columbia. Race categories exclude persons of Hispanic ethnicity. Enrollment data for students not reported by race/ethnicity were prorated based on the known racial/ethnic composition of a state by grade to match state totals. Prior to 2008, separate data on Asian students and Pacific Islander students and data on students of Two or more races were not collected; each student could be assigned to only one of the available race categories. Projections in this table were calculated after the onset of the coronavirus pandemic and take into account the expected impacts of the pandemic. Some data have been revised from previously published figures. Detail may not sum to totals because of rounding.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary and Secondary Education," 1995–96 through 2019–20 and 2020–21 Preliminary; and National Elementary and Secondary Enrollment by Race/Ethnicity Projection Model, through 2030. (This table was prepared September 2021.)

Table 7. Enrollment and percentage distribution of enrollment in public elementary and secondary schools, by race/ethnicity and level of education: Fall 1999 through fall 2030

Level of education and year	Enrollment (in thousands)									Percentage distribution								
					Asian/Pacific Islander			American Indian/ Alaska Native	Two or more races					Asian/Pacific Islander			American Indian/ Alaska Native	Two or more races
	Total	White	Black	Hispanic	Total	Asian	Pacific Islander			Total	White	Black	Hispanic	Total	Asian	Pacific Islander		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Total																		
1999	46,857	29,035	8,066	7,327	1,887	—	—	542	—	100.0	62.0	17.2	15.6	4.0	†	†	1.2	†
2000	47,204	28,878	8,100	7,726	1,950	—	—	550	—	100.0	61.2	17.2	16.4	4.1	†	†	1.2	†
2001	47,672	28,735	8,177	8,169	2,028	—	—	564	—	100.0	60.3	17.2	17.1	4.3	†	†	1.2	†
2002	48,183	28,618	8,299	8,594	2,088	—	—	583	—	100.0	59.4	17.2	17.8	4.3	†	†	1.2	†
2003	48,540	28,442	8,349	9,011	2,145	—	—	593	—	100.0	58.6	17.2	18.6	4.4	†	†	1.2	†
2004	48,795	28,318	8,386	9,317	2,183	—	—	591	—	100.0	58.0	17.2	19.1	4.5	†	†	1.2	†
2005	49,113	28,005	8,445	9,787	2,279	—	—	598	—	100.0	57.0	17.2	19.9	4.6	†	†	1.2	†
2006	49,316	27,801	8,422	10,166	2,332	—	—	595	—	100.0	56.4	17.1	20.6	4.7	†	†	1.2	†
2007	49,291	27,454	8,392	10,454	2,396	—	—	594	—	100.0	55.7	17.0	21.2	4.9	†	†	1.2	†
2008[1]	49,266	27,057	8,358	10,563	2,451	2,405	46	589	247	100.0	54.9	17.0	21.4	5.0	4.9	0.1	1.2	0.5
2009[1]	49,361	26,702	8,245	10,991	2,484	2,435	49	601	338	100.0	54.1	16.7	22.3	5.0	4.9	0.1	1.2	0.7
2010	49,484	25,933	7,917	11,439	2,466	2,296	171	566	1,164	100.0	52.4	16.0	23.1	5.0	4.6	0.3	1.1	2.4
2011	49,522	25,602	7,827	11,759	2,513	2,334	179	547	1,272	100.0	51.7	15.8	23.7	5.1	4.7	0.4	1.1	2.6
2012	49,771	25,386	7,803	12,104	2,552	2,372	180	534	1,393	100.0	51.0	15.7	24.3	5.1	4.8	0.4	1.1	2.8
2013	50,045	25,160	7,805	12,452	2,593	2,417	176	523	1,511	100.0	50.3	15.6	24.9	5.2	4.8	0.4	1.0	3.0
2014	50,313	24,923	7,807	12,805	2,646	2,470	176	519	1,612	100.0	49.5	15.5	25.4	5.3	4.9	0.3	1.0	3.2
2015	50,438	24,644	7,784	13,080	2,697	2,521	177	510	1,723	100.0	48.9	15.4	25.9	5.3	5.0	0.4	1.0	3.4
2016	50,615	24,413	7,765	13,329	2,756	2,571	184	511	1,842	100.0	48.2	15.3	26.3	5.4	5.1	0.4	1.0	3.6
2017	50,686	24,124	7,709	13,571	2,825	2,640	185	498	1,959	100.0	47.6	15.2	26.8	5.6	5.2	0.4	1.0	3.9
2018	50,694	23,845	7,669	13,775	2,860	2,675	186	490	2,055	100.0	47.0	15.1	27.2	5.6	5.3	0.4	1.0	4.1
2019[2]	50,796	23,573	7,605	14,055	2,887	2,701	186	481	2,196	100.0	46.4	15.0	27.7	5.7	5.3	0.4	0.9	4.3
2020[3,4]	49,375	22,597	7,402	13,832	2,856	2,676	180	459	2,229	100.0	45.8	15.0	28.0	5.8	5.4	0.4	0.9	4.5
2021[5]	50,072	22,660	7,481	14,203	2,909	2,725	184	458	2,361	100.0	45.3	14.9	28.4	5.8	5.4	0.4	0.9	4.7
2022[5]	49,935	22,391	7,421	14,297	2,924	2,741	184	450	2,452	100.0	44.8	14.9	28.6	5.9	5.5	0.4	0.9	4.9
2023[5]	49,734	22,131	7,353	14,340	2,936	2,754	182	442	2,532	100.0	44.5	14.8	28.8	5.9	5.5	0.4	0.9	5.1
2024[5]	49,485	21,865	7,285	14,356	2,943	2,762	181	435	2,601	100.0	44.2	14.7	29.0	5.9	5.6	0.4	0.9	5.3
2025[5]	49,120	21,582	7,189	14,313	2,956	2,776	180	426	2,653	100.0	43.9	14.6	29.1	6.0	5.7	0.4	0.9	5.4
2026[5]	48,368	21,138	7,031	14,142	2,949	2,771	178	415	2,693	100.0	43.7	14.5	29.2	6.1	5.7	0.4	0.9	5.6
2027[5]	47,821	20,799	6,908	14,032	2,955	2,778	177	405	2,722	100.0	43.5	14.4	29.3	6.2	5.8	0.4	0.8	5.7
2028[5]	47,589	20,606	6,842	14,019	2,970	2,794	176	400	2,753	100.0	43.3	14.4	29.5	6.2	5.9	0.4	0.8	5.8
2029[5]	47,357	20,415	6,775	14,005	2,984	2,809	175	395	2,783	100.0	43.1	14.3	29.6	6.3	5.9	0.4	0.8	5.9
2030[5]	47,253	20,272	6,739	14,044	2,995	2,821	174	392	2,811	100.0	42.9	14.3	29.7	6.3	6.0	0.4	0.8	5.9
Prekindergarten through grade 8																		
1999	33,486	20,327	5,952	5,512	1,303	—	—	391	—	100.0	60.7	17.8	16.5	3.9	†	†	1.2	†
2000	33,686	20,130	5,981	5,830	1,349	—	—	397	—	100.0	59.8	17.8	17.3	4.0	†	†	1.2	†
2001	33,936	19,960	6,004	6,159	1,409	—	—	405	—	100.0	58.8	17.7	18.1	4.2	†	†	1.2	†
2002	34,114	19,764	6,042	6,446	1,447	—	—	415	—	100.0	57.9	17.7	18.9	4.2	†	†	1.2	†
2003	34,201	19,558	6,015	6,729	1,483	—	—	415	—	100.0	57.2	17.6	19.7	4.3	†	†	1.2	†
2004	34,178	19,368	5,983	6,909	1,504	—	—	413	—	100.0	56.7	17.5	20.2	4.4	†	†	1.2	†
2005	34,204	19,051	5,954	7,216	1,569	—	—	412	—	100.0	55.7	17.4	21.1	4.6	†	†	1.2	†
2006	34,235	18,863	5,882	7,465	1,611	—	—	414	—	100.0	55.1	17.2	21.8	4.7	†	†	1.2	†
2007	34,204	18,679	5,821	7,632	1,660	—	—	412	—	100.0	54.6	17.0	22.3	4.9	†	†	1.2	†
2008[1]	34,286	18,501	5,793	7,689	1,705	1,674	31	410	187	100.0	54.0	16.9	22.4	5.0	4.9	0.1	1.2	0.5
2009[1]	34,409	18,316	5,713	7,977	1,730	1,697	33	419	254	100.0	53.2	16.6	23.2	5.0	4.9	0.1	1.2	0.7
2010	34,625	17,823	5,495	8,314	1,711	1,589	122	394	887	100.0	51.5	15.9	24.0	4.9	4.6	0.4	1.1	2.6
2011	34,773	17,654	5,470	8,558	1,744	1,616	128	384	963	100.0	50.8	15.7	24.6	5.0	4.6	0.4	1.1	2.8
2012	35,018	17,535	5,473	8,804	1,773	1,644	129	375	1,057	100.0	50.1	15.6	25.1	5.1	4.7	0.4	1.1	3.0
2013	35,251	17,390	5,483	9,054	1,809	1,683	126	367	1,148	100.0	49.3	15.6	25.7	5.1	4.8	0.4	1.0	3.3
2014	35,370	17,193	5,471	9,273	1,842	1,718	124	363	1,227	100.0	48.6	15.5	26.2	5.2	4.9	0.4	1.0	3.5
2015	35,388	16,972	5,448	9,424	1,878	1,754	124	356	1,311	100.0	48.0	15.4	26.6	5.3	5.0	0.4	1.0	3.7
2016	35,477	16,823	5,440	9,544	1,914	1,784	129	358	1,399	100.0	47.4	15.3	26.9	5.4	5.0	0.4	1.0	3.9
2017	35,496	16,623	5,409	9,678	1,956	1,827	129	347	1,482	100.0	46.8	15.2	27.3	5.5	5.1	0.4	1.0	4.2
2018	35,498	16,440	5,406	9,784	1,977	1,848	129	342	1,549	100.0	46.3	15.2	27.6	5.6	5.2	0.4	1.0	4.4
2019[2]	35,551	16,271	5,371	9,929	1,991	1,863	128	336	1,653	100.0	45.8	15.1	27.9	5.6	5.2	0.4	0.9	4.7
2020[3,4]	34,059	15,366	5,162	9,609	1,959	1,836	123	316	1,648	100.0	45.1	15.2	28.2	5.8	5.4	0.4	0.9	4.8
2021[5]	34,614	15,513	5,224	9,824	2,005	1,878	126	316	1,733	100.0	44.8	15.1	28.4	5.8	5.4	0.4	0.9	5.0
2022[5]	34,360	15,338	5,148	9,776	2,012	1,886	126	309	1,776	100.0	44.6	15.0	28.5	5.9	5.5	0.4	0.9	5.2
2023[5]	34,160	15,207	5,080	9,736	2,021	1,895	126	303	1,813	100.0	44.5	14.9	28.5	5.9	5.5	0.4	0.9	5.3
2024[5]	33,983	15,095	5,025	9,701	2,022	1,897	125	298	1,842	100.0	44.4	14.8	28.5	5.9	5.6	0.4	0.9	5.4
2025[5]	33,835	14,995	4,973	9,677	2,031	1,907	125	294	1,865	100.0	44.3	14.7	28.6	6.0	5.6	0.4	0.9	5.5
2026[5]	33,347	14,731	4,879	9,559	2,015	1,893	123	286	1,877	100.0	44.2	14.6	28.7	6.0	5.7	0.4	0.9	5.6
2027[5]	32,967	14,520	4,804	9,485	2,004	1,883	121	281	1,873	100.0	44.0	14.6	28.8	6.1	5.7	0.4	0.9	5.7
2028[5]	32,829	14,410	4,772	9,494	2,009	1,888	121	279	1,866	100.0	43.9	14.5	28.9	6.1	5.8	0.4	0.8	5.7
2029[5]	32,494	14,184	4,713	9,452	2,002	1,883	119	276	1,866	100.0	43.7	14.5	29.1	6.2	5.8	0.4	0.8	5.7
2030[5]	32,261	13,997	4,670	9,440	2,009	1,891	118	274	1,870	100.0	43.4	14.5	29.3	6.2	5.9	0.4	0.8	5.8

See notes at end of table.

Table 7. Enrollment and percentage distribution of enrollment in public elementary and secondary schools, by race/ethnicity and level of education: Fall 1999 through fall 2030—Continued

Level of education and year	Enrollment (in thousands)									Percentage distribution								
					Asian/Pacific Islander			American Indian/ Alaska Native	Two or more races					Asian/Pacific Islander			American Indian/ Alaska Native	Two or more races
	Total	White	Black	Hispanic	Total	Asian	Pacific Islander			Total	White	Black	Hispanic	Total	Asian	Pacific Islander		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Grades 9 through 12																		
1999	13,371	8,708	2,114	1,815	584	—	—	151	—	100.0	65.1	15.8	13.6	4.4	†	†	1.1	†
2000	13,517	8,747	2,119	1,896	601	—	—	153	—	100.0	64.7	15.7	14.0	4.4	†	†	1.1	†
2001	13,736	8,774	2,173	2,011	619	—	—	159	—	100.0	63.9	15.8	14.6	4.5	†	†	1.2	†
2002	14,069	8,854	2,257	2,148	642	—	—	168	—	100.0	62.9	16.0	15.3	4.6	†	†	1.2	†
2003	14,339	8,884	2,334	2,282	663	—	—	177	—	100.0	62.0	16.3	15.9	4.6	†	†	1.2	†
2004	14,618	8,950	2,403	2,408	679	—	—	178	—	100.0	61.2	16.4	16.5	4.6	†	†	1.2	†
2005	14,909	8,954	2,490	2,570	709	—	—	186	—	100.0	60.1	16.7	17.2	4.8	†	†	1.2	†
2006	15,081	8,938	2,540	2,701	720	—	—	181	—	100.0	59.3	16.8	17.9	4.8	†	†	1.2	†
2007	15,086	8,775	2,571	2,821	736	—	—	183	—	100.0	58.2	17.0	18.7	4.9	†	†	1.2	†
2008[1]	14,980	8,556	2,565	2,874	746	731	15	179	59	100.0	57.1	17.1	19.2	5.0	4.9	0.1	1.2	0.4
2009[1]	14,952	8,385	2,532	3,014	754	738	16	182	84	100.0	56.1	16.9	20.2	5.0	4.9	0.1	1.2	0.6
2010	14,860	8,109	2,422	3,125	755	707	49	171	277	100.0	54.6	16.3	21.0	5.1	4.8	0.3	1.2	1.9
2011	14,749	7,948	2,357	3,202	769	719	50	163	309	100.0	53.9	16.0	21.7	5.2	4.9	0.3	1.1	2.1
2012	14,753	7,851	2,330	3,300	779	727	51	158	335	100.0	53.2	15.8	22.4	5.3	4.9	0.3	1.1	2.3
2013	14,794	7,770	2,322	3,398	784	733	51	156	363	100.0	52.5	15.7	23.0	5.3	5.0	0.3	1.1	2.5
2014	14,943	7,730	2,336	3,532	804	753	52	156	385	100.0	51.7	15.6	23.6	5.4	5.0	0.3	1.0	2.6
2015	15,050	7,672	2,336	3,656	819	767	52	154	412	100.0	51.0	15.5	24.3	5.4	5.1	0.3	1.0	2.7
2016	15,138	7,590	2,324	3,786	842	787	55	153	443	100.0	50.1	15.4	25.0	5.6	5.2	0.4	1.0	2.9
2017	15,190	7,501	2,300	3,892	869	813	56	150	477	100.0	49.4	15.1	25.6	5.7	5.4	0.4	1.0	3.1
2018	15,196	7,405	2,263	3,991	884	827	57	149	505	100.0	48.7	14.9	26.3	5.8	5.4	0.4	1.0	3.3
2019	15,246	7,302	2,234	4,126	896	838	58	146	542	100.0	47.9	14.7	27.1	5.9	5.5	0.4	1.0	3.6
2020[3]	15,316	7,230	2,241	4,223	898	840	57	143	582	100.0	47.2	14.6	27.6	5.9	5.5	0.4	0.9	3.8
2021[5]	15,458	7,147	2,257	4,379	905	847	58	142	629	100.0	46.2	14.6	28.3	5.9	5.5	0.4	0.9	4.1
2022[5]	15,575	7,052	2,273	4,521	913	855	58	140	676	100.0	45.3	14.6	29.0	5.9	5.5	0.4	0.9	4.3
2023[5]	15,574	6,924	2,273	4,604	915	859	56	139	719	100.0	44.5	14.6	29.6	5.9	5.5	0.4	0.9	4.6
2024[5]	15,502	6,770	2,260	4,655	921	865	56	137	759	100.0	43.7	14.6	30.0	5.9	5.6	0.4	0.9	4.9
2025[5]	15,285	6,587	2,217	4,635	925	869	56	133	789	100.0	43.1	14.5	30.3	6.1	5.7	0.4	0.9	5.2
2026[5]	15,021	6,407	2,152	4,583	934	879	55	128	817	100.0	42.7	14.3	30.5	6.2	5.8	0.4	0.9	5.4
2027[5]	14,854	6,279	2,104	4,547	951	895	56	124	849	100.0	42.3	14.2	30.6	6.4	6.0	0.4	0.8	5.7
2028[5]	14,760	6,196	2,070	4,525	962	906	55	121	887	100.0	42.0	14.0	30.7	6.5	6.1	0.4	0.8	6.0
2029[5]	14,863	6,231	2,062	4,553	982	926	56	119	917	100.0	41.9	13.9	30.6	6.6	6.2	0.4	0.8	6.2
2030[5]	14,992	6,274	2,069	4,604	985	929	56	118	942	100.0	41.9	13.8	30.7	6.6	6.2	0.4	0.8	6.3

— Not available.
† Not applicable.
[1] For 2008 and 2009, data on Pacific Islanders and students of Two or more races were reported by only a small number of states. Therefore, the data are not comparable to figures for 2010 and later years.
[2] Includes imputations for nonreported prekindergarten enrollment in California.
[3] Includes imputations for nonreported enrollment for all grades in Illinois.
[4] Includes imputations for nonreported prekindergarten enrollment in California and Oregon.
[5] Projected.
NOTE: Data in this table represent the 50 states and the District of Columbia. Race categories exclude persons of Hispanic ethnicity. Enrollment data for students not reported by race/ethnicity were prorated based on the known racial/ethnic composition of a state by grade to match state totals. Prior to 2008, separate data on Asian students and Pacific Islander students and data on students of Two or more races were not collected; each student could be assigned to only one of the available race categories. The total counts of ungraded students and those whose grade was not specified were prorated into either the prekindergarten through grade 8 level or the grades 9 through 12 level based on the known grade-level distribution of a state. Projections in this table were calculated after the onset of the coronavirus pandemic and take into account the expected impacts of the pandemic. Some data have been revised from previously published figures. Detail may not sum to totals because of rounding.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary and Secondary Education," 1998–99 through 2019–20 and 2020–21 Preliminary; and National Elementary and Secondary Enrollment by Race/Ethnicity Projection Model, through 2030. (This table was prepared September 2021.)

Table 8. Public and private elementary and secondary teachers, enrollment, pupil/teacher ratios, and new teacher hires: Selected years, fall 1955 through fall 2030

	Teachers (in thousands)			Enrollment (in thousands)			Pupil/teacher ratio			Number of new teacher hires (in thousands)[1]		
Year	Total	Public	Private	Total	Public	Private	Total	Public	Private	Total	Public	Private
1	2	3	4	5	6	7	8	9	10	11	12	13
1955	1,286	1,141	145[2]	35,280	30,680	4,600[2]	27.4	26.9	31.7[2]	—	—	—
1960	1,600	1,408	192[2]	42,181	36,281	5,900[2]	26.4	25.8	30.7[2]	—	—	—
1965	1,933	1,710	223	48,473	42,173	6,300	25.1	24.7	28.3	—	—	—
1970	2,292	2,059	233	51,257	45,894	5,363	22.4	22.3	23.0	—	—	—
1975	2,453	2,198	255[2]	49,819	44,819	5,000[2]	20.3	20.4	19.6[2]	—	—	—
1976	2,457	2,189	268	49,478	44,311	5,167	20.1	20.2	19.3	—	—	—
1977	2,488	2,209	279	48,717	43,577	5,140	19.6	19.7	18.4	—	—	—
1978	2,479	2,207	272	47,637	42,551	5,086	19.2	19.3	18.7	—	—	—
1979	2,461	2,185	276[2]	46,651	41,651	5,000[2]	19.0	19.1	18.1[2]	—	—	—
1980	2,485	2,184	301	46,208	40,877	5,331	18.6	18.7	17.7	—	—	—
1981	2,440	2,127	313[2]	45,544	40,044	5,500[2]	18.7	18.8	17.6[2]	—	—	—
1982	2,458	2,133	325[2]	45,166	39,566	5,600[2]	18.4	18.6	17.2[2]	—	—	—
1983	2,476	2,139	337	44,967	39,252	5,715	18.2	18.4	17.0	—	—	—
1984	2,508	2,168	340[2]	44,908	39,208	5,700[2]	17.9	18.1	16.8[2]	—	—	—
1985	2,549	2,206	343	44,979	39,422	5,557	17.6	17.9	16.2	—	—	—
1986	2,592	2,244	348[2]	45,205	39,753	5,452[2]	17.4	17.7	15.7[2]	—	—	—
1987	2,631	2,279	352	45,488	40,008	5,479	17.3	17.6	15.6	—	—	—
1988	2,668	2,323	345[2]	45,430	40,189	5,242[2]	17.0	17.3	15.2[2]	—	—	—
1989	2,713	2,357	356	46,141	40,543	5,599	17.0	17.2	15.7	—	—	—
1990	2,759	2,398	361[2]	46,864	41,217	5,648[2]	17.0	17.2	15.6[2]	—	—	—
1991	2,797	2,432	365	47,728	42,047	5,681	17.1	17.3	15.6	—	—	—
1992	2,823	2,459	364[2]	48,694	42,823	5,870[2]	17.2	17.4	16.1[2]	—	—	—
1993	2,868	2,504	364	49,532	43,465	6,067	17.3	17.4	16.7	—	—	—
1994	2,922	2,552	370[2]	50,106	44,111	5,994[2]	17.1	17.3	16.2[2]	—	—	—
1995	2,974	2,598	376	50,759	44,840	5,918	17.1	17.3	15.7	—	—	—
1996	3,051	2,667	384[2]	51,544	45,611	5,933[2]	16.9	17.1	15.5[2]	—	—	—
1997	3,138	2,746	391	52,071	46,127	5,944	16.6	16.8	15.2	—	—	—
1998	3,230	2,830	400[2]	52,526	46,539	5,988[2]	16.3	16.4	15.0[2]	—	—	—
1999	3,319	2,911	408	52,875	46,857	6,018	15.9	16.1	14.7	305	222	83
2000	3,366	2,941	424[2]	53,373	47,204	6,169[2]	15.9	16.0	14.5[2]	—	—	—
2001	3,440	3,000	441	53,992	47,672	6,320	15.7	15.9	14.3	—	—	—
2002	3,476	3,034	442[2]	54,403	48,183	6,220[2]	15.7	15.9	14.1[2]	—	—	—
2003	3,490	3,049	441	54,639	48,540	6,099	15.7	15.9	13.8	311	236	74
2004	3,536	3,091	445[2]	54,882	48,795	6,087[2]	15.5	15.8	13.7[2]	—	—	—
2005	3,593	3,143	450	55,187	49,113	6,073	15.4	15.6	13.5	—	—	—
2006	3,619	3,166	453[2]	55,307	49,316	5,991[2]	15.3	15.6	13.2[2]	—	—	—
2007	3,656	3,200	456	55,201	49,291	5,910	15.1	15.4	13.0	327	246	80
2008	3,670	3,222	448[2]	54,973	49,266	5,707[2]	15.0	15.3	12.8[2]	—	—	—
2009	3,647	3,210	437	54,849	49,361	5,488	15.0	15.4	12.5	—	—	—
2010	3,529	3,099	429[2]	54,867	49,484	5,382[2]	15.5	16.0	12.5[2]	—	—	—
2011	3,524	3,103	421	54,790	49,522	5,268	15.5	16.0	12.5	241	173	68
2012	3,540	3,109	431[2]	55,104	49,771	5,333[2]	15.6	16.0	12.4[2]	—	—	—
2013	3,555	3,114	441	55,440	50,045	5,396	15.6	16.1	12.2	—	—	—
2014	3,594	3,132	461[2]	55,888	50,313	5,575[2]	15.6	16.1	12.1[2]	—	—	—
2015	3,633	3,151	482	56,189	50,438	5,751	15.5	16.0	11.9	299	192	107
2016	3,653	3,169	483[2]	56,369	50,615	5,754[2]	15.4	16.0	11.9[2]	—	—	—
2017	3,652	3,170	482	56,406	50,686	5,720	15.4	16.0	11.9	329	241	89
2018	3,652	3,170	482[2]	56,304	50,694	5,610[2]	15.4	16.0	11.6[2]	331[3]	237[3]	94[3]
2019	3,679	3,198	481	56,282	50,796	5,486	15.3	15.9	11.4	358[3]	267[3]	91[3]
2020[3]	3,647	3,171	476	55,369	49,375	5,994	15.2	15.6	12.6	299	211	87
2021[3]	3,664	3,186	478	55,967	50,072	5,895	15.3	15.7	12.3	345	253	92
2022[3]	3,631	3,158	473	55,720	49,935	5,786	15.3	15.8	12.2	296	210	86
2023[3]	3,624	3,152	472	55,416	49,734	5,683	15.3	15.8	12.0	320	232	89
2024[3]	3,617	3,146	471	54,994	49,485	5,510	15.2	15.7	11.7	319	231	88
2025[3]	3,609	3,139	470	54,519	49,120	5,399	15.1	15.6	11.5	318	230	88
2026[3]	3,576	3,111	465	53,555	48,368	5,186	15.0	15.5	11.1	292	208	84
2027[3]	3,547	3,086	461	52,878	47,821	5,057	14.9	15.5	11.0	292	209	83
2028[3]	3,533	3,074	459	52,575	47,589	4,986	14.9	15.5	10.9	306	221	85
2029[3]	3,513	3,057	456	52,255	47,357	4,898	14.9	15.5	10.7	301	217	84
2030[3]	3,498	3,044	454	52,059	47,253	4,807	14.9	15.5	10.6	304	221	84

— Not available.

[1] A teacher is considered to be a new hire for a public or private school if the teacher had not taught in that control of school in the previous year. A teacher who moves from a public to private or a private to public school is considered a new teacher hire, but a teacher who moves from one public school to another public school or one private school to another private school is not considered a new teacher hire.

[2] Estimated.

[3] Projected.

NOTE: Data in this table represent the 50 states and the District of Columbia. Data for teachers are expressed in full-time equivalents (FTE). Counts of private school enrollment include prekindergarten through grade 12 in schools offering kindergarten or higher grades. Counts of private school teachers exclude teachers who teach only prekindergarten students. Counts of public school teachers and enrollment include prekindergarten through grade 12. The pupil/teacher ratio includes teachers for students with disabilities and other special teachers, while these teachers are generally excluded from class size calculations. Ratios for public schools reflect totals reported by states and differ from totals reported for schools or school districts. Projections in this table were calculated after the onset of the coronavirus pandemic and take into account the expected impacts of the pandemic. Some data have been revised from previously published figures. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Statistics of Public Elementary and Secondary Day Schools*, 1955–56 through 1980–81; *Statistics of Nonpublic Elementary and Secondary Schools*, 1955 through 1980; 1983–84, 1985–86, and 1987-88 Private School Survey; Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 1981–82 through 2019–20; Private School Universe Survey (PSS), 1989–90 through 2019–20; Schools and Staffing Survey (SASS), "Public School Teacher Data File" and "Private School Teacher Data File," 1999–2000 through 2011–12; National Teacher and Principal Survey (NTPS), "Public School Teacher Data File," 2015–16 and 2017–18, "Private School Teacher Data File," 2017–18; Elementary and Secondary Teacher Projection Model, through 2030; and New Teacher Hires Projection Model, through 2030. (This table was prepared September 2021.)

Table 9. High school graduates, by sex and control of school; public high school averaged freshman graduation rate (AFGR); and total graduates as a ratio of 17-year-old population: Selected years, 1869–70 through 2030–31

School year	High school graduates							Public school AFGR[3]	Population 17 years old[4]	Total graduates as a ratio of 17-year-old population[5]
		Sex		Control						
				Public[2]						
	Total[1]	Males	Females	Total	Males	Females	Private, total			
1	2	3	4	5	6	7	8	9	10	11
1869–70	16,000	7,064	8,936	—	—	—	—	—	815,000	2.0
1879–80	23,634	10,605	13,029	—	—	—	—	—	946,026	2.5
1889–90	43,731	18,549	25,182	21,882[6]	—	—	21,849[7]	—	1,259,177	3.5
1899–1900	94,883	38,075	56,808	61,737[6]	—	—	33,146[7]	—	1,489,146	6.4
1909–10	156,429	63,676	92,753	111,363[6]	—	—	45,066[7]	—	1,786,240	8.8
1919–20	311,266	123,684	187,582	230,902[6]	—	—	80,364[7]	—	1,855,173	16.8
1929–30	666,904	300,376	366,528	591,719[6]	—	—	75,185[7]	—	2,295,822	29.0
1939–40	1,221,475	578,718	642,757	1,143,246	538,273	604,973	78,229[7]	—	2,403,074	50.8
1949–50	1,199,700	570,700	629,000	1,063,444	505,394	558,050	136,256[7]	—	2,034,450	59.0
1959–60	1,858,023	895,000	963,000	1,627,050	791,426	835,624	230,973	—	2,672,000	69.5
1969–70	2,888,639	1,430,000	1,459,000	2,588,639	1,285,895	1,302,744	300,000[7]	78.7	3,757,000	76.9
1975–76	3,142,120	1,552,000	1,590,000	2,837,129	1,401,064	1,436,065	304,991	74.9	4,272,000	73.6
1979–80	3,042,214	1,503,000	1,539,000	2,747,678	---	---	294,536	71.5	4,262,000	71.4
1985–86	2,642,616	—	—	2,382,616	—	—	260,000[7]	74.3	3,670,000	72.0
1986–87	2,693,803	—	—	2,428,803	—	—	265,000[7]	74.3	3,754,000	71.8
1987–88	2,773,020	—	—	2,500,020	—	—	273,000[7]	74.2	3,849,000	72.0
1988–89	2,743,743	—	—	2,458,800	—	—	284,943	73.4	3,842,000	71.4
1989–90[8]	2,574,162	—	—	2,320,337	—	—	253,825[9]	73.6	3,505,000	73.4
1990–91	2,492,988	—	—	2,234,893	—	—	258,095	73.7	3,417,913	72.9
1991–92	2,480,399	—	—	2,226,016	—	—	254,383[9]	74.2	3,398,884	73.0
1992–93	2,480,519	—	—	2,233,241	—	—	247,278	73.8	3,449,143	71.9
1993–94	2,463,849	—	—	2,220,849	—	—	243,000[7]	73.1	3,442,521	71.6
1994–95	2,519,084	—	—	2,273,541	—	—	245,543	71.8	3,635,803	69.3
1995–96	2,518,109	—	—	2,273,109	—	—	245,000[7]	71.0	3,640,132	69.2
1996–97	2,611,988	—	—	2,358,403	—	—	253,585	71.3	3,792,207	68.9
1997–98	2,704,050	—	—	2,439,050	1,187,647	1,251,403	265,000[7]	71.3	4,008,416	67.5
1998–99	2,758,655	—	—	2,485,630	1,212,924	1,272,706	273,025	71.1	3,917,885	70.4
1999–2000	2,832,844	—	—	2,553,844	1,241,631	1,312,213	279,000[7]	71.7	4,056,639	69.8
2000–01	2,847,973	—	—	2,569,200	1,251,931	1,317,269	278,773	71.7	4,023,686	70.8
2001–02	2,906,534	—	—	2,621,534	1,275,813	1,345,721	285,000[7]	72.6	4,023,968	72.2
2002–03	3,015,735	—	—	2,719,947	1,330,973	1,388,974	295,788	73.9	4,125,087	73.1
2003–04[8,10]	3,054,438	—	—	2,753,438	1,347,800	1,405,638	301,000[7]	74.3	4,113,074	74.3
2004–05	3,106,499	—	—	2,799,250	1,369,749	1,429,501	307,249	74.7	4,120,073	75.4
2005–06[8]	3,122,544	—	—	2,815,544	1,376,458	1,439,086	307,000[7]	73.4	4,200,554	74.3
2006–07	3,199,650	—	—	2,893,045	1,414,069	1,478,976	306,605	73.9	4,297,239	74.5
2007–08	3,312,337	—	—	3,001,337	1,467,180	1,534,157	311,000[7]	74.7	4,436,955	74.7
2008–09[8]	3,347,828	—	—	3,039,015	1,490,317	1,548,698	308,813	75.5	4,336,950	77.2
2009–10	3,435,022	—	—	3,128,022	1,542,684[11]	1,585,338[11]	307,000[7]	78.2	4,311,831	79.7
2010–11	3,449,940	—	—	3,144,100	1,552,981	1,591,113	305,840	79.6	4,367,894	79.0
2011–12	3,454,095	—	—	3,149,185	1,558,489	1,590,694	304,910[7]	80.8	4,294,343	80.4
2012–13	3,478,027	—	—	3,169,257	1,569,675	1,599,579	308,770	81.9	4,256,151	81.7
2013–14[12]	3,488,310	—	—	3,168,450	—	—	319,860	83.1	4,185,184	83.3
2014–15[12]	3,530,250	—	—	3,187,000	—	—	343,250[13]	—	4,171,162	84.6
2015–16[12]	3,574,730	—	—	3,224,140	—	—	350,590	—	4,204,274	85.0
2016–17[12]	3,603,550	—	—	3,255,320	—	—	348,230[13]	—	4,218,770	85.4
2017–18[12]	3,659,820	—	—	3,310,020	—	—	349,800	—	4,290,560	85.3
2018–19[12]	3,666,310	—	—	3,325,700	—	—	340,610[13]	—	4,217,720	86.9
2019–20[12]	3,635,620	—	—	3,300,630	—	—	334,980	—	4,169,359	87.2
2020–21[12]	3,669,350	—	—	3,337,640	—	—	331,710	—	4,166,793	88.1
2021–22[12]	3,669,720	—	—	3,343,180	—	—	326,540	—	4,173,685	87.9
2022–23[12]	3,684,340	—	—	3,358,200	—	—	326,140	—	—	—
2023–24[12]	3,733,330	—	—	3,342,590	—	—	390,740	—	—	—
2024–25[12]	3,798,180	—	—	3,456,870	—	—	341,310	—	—	—
2025–26[12]	3,793,380	—	—	3,444,390	—	—	348,990	—	—	—
2026–27[12]	3,699,790	—	—	3,364,860	—	—	334,940	—	—	—
2027–28[12]	3,624,500	—	—	3,288,980	—	—	335,520	—	—	—
2028–29[12]	3,590,570	—	—	3,266,770	—	—	323,800	—	—	—
2029–30[12]	3,552,640	—	—	3,210,730	—	—	341,910	—	—	—
2030–31[12]	3,548,650	—	—	3,215,840	—	—	332,810	—	—	—

— Not available.

[1] Includes graduates of public and private schools.

[2] Includes estimates for states not reporting counts of graduates by sex.

[3] The averaged freshman graduation rate provides an estimate of the percentage of students who receive a regular diploma within 4 years of entering ninth grade. The rate uses aggregate student enrollment data to estimate the size of an incoming freshman class and aggregate counts of the number of diplomas awarded 4 years later. Averaged freshman graduation rates in this table are based on reported totals of enrollment by grade and high school graduates, rather than on details reported by race/ethnicity.

[4] Derived from Current Population Reports, Series P-25. For years 1869–70 through 1989–90, 17-year-old population is an estimate of the October 17-year-old population based on July data. Data for 1990–91 and later years are October resident population estimates prepared by the Census Bureau.

[5] Based on persons of all ages graduating from high school in a given year divided by the 17-year-old population in the same year. This ratio allows for comparisons over time but does not provide a measure of graduation rates for incoming freshmen who form a cohort (or class) that is scheduled to graduate 4 years later. The ratio of high school graduates to the 17-year-old population differs from measures such as the AFGR, which are designed to estimate high school cohort graduation rates.

[6] Data for 1929–30 and preceding years are from Statistics of Public High Schools and exclude graduates from high schools that failed to report to the Office of Education.

[7] Estimated based on data appearing in *Projections of Education Statistics and Biennial Survey in the United States*, Statistical Summary of Education, 1949–50.

[8] Includes imputations for nonreporting states.

[9] Projected by private schools responding to the Private School Universe Survey.

[10] Includes estimates for public schools in New York and Wisconsin. Without estimates for these two states, the averaged freshman graduation rate for the remaining 48 states and the District of Columbia is 75.0 percent.

[11] Includes estimate for Connecticut, which did not report graduates by sex.

[12] Number of high school graduates is projected by the National Center for Education Statistics (NCES) unless otherwise noted.

[13] Private school data are actual.

NOTE: Data in this table represent the 50 states and the District of Columbia. Includes graduates of regular day school programs. Excludes graduates of other programs, when separately reported, and recipients of high school equivalency certificates. Projections in this table were calculated after the onset of the coronavirus pandemic and take into account the expected impacts of the pandemic. Some data have been revised from previously published figures. Detail may not sum to totals because of rounding and adjustments to protect student privacy.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Annual Report of the Commissioner of Education, 1870 through 1910; *Statistics of Public High Schools*, 1889–90 through 1929–30; *Biennial Survey of Education in the United States*, 1919–20 through 1949–50; Statistics of Public Elementary and Secondary School Systems, 1958–59 through 1979-80; Statistics *of Nonpublic Elementary and Secondary Schools*, 1959 through 1980; Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 1985–86 through 2009–10; "State Dropout and Completion Data File," 2005–06 through 2012–13; *Public School Graduates and Dropouts from the Common Core of Data*, 2007–08 and 2008–09; Private School Universe Survey (PSS), 1989 through 2019; and National High School Graduates Projection Model, through 2030–31. U.S. Department of Commerce, Census Bureau, Current Population Reports, Series P-25, Nos. 1000, 1022, 1045, 1057, 1059, 1092, and 1095; 2000 through 2009 Population Estimates. Retrieved August 14, 2012, from http://www.census.gov/popest/data/national/asrh/2011/index.html; and 2010 through 2021 Population Estimates, retrieved October 11, 2021, from https://www.census.gov/programs-surveys/popest/technical-documentation/research/evaluation-estimates/2020-evaluation-estimates/2010s-national-detail.html. (This table was prepared November 2021.)

Table 10. Public high school graduates, by region, state, and jurisdiction: Selected years, 1980–81 through 2030–31

Region, state, and jurisdiction	Actual data						Projected data					
	1980–81	1989–90	1999–2000	2009–10	2011–12	2012–13	2013–14	2014–15	2015–16	2016–17	2017–18	2018–19
1	2	3	4	5	6	7	8	9	10	11	12	13
United States	**2,725,285**	**2,320,337**[1]	**2,553,844**	**3,128,022**	**3,149,185**	**3,169,257**	**3,168,450**	**3,187,000**	**3,224,140**	**3,255,320**	**3,310,020**	**3,325,700**
Region												
Northeast	593,727	446,045	453,814	556,400	554,705	555,202	546,910	543,080	545,820	551,480	553,700	552,480
Midwest	784,071	616,700	648,020	726,844	716,072	713,662	705,550	708,240	714,040	719,240	728,420	727,640
South	868,068	796,385	861,498	1,104,770	1,121,400	1,138,965	1,145,570	1,162,960	1,189,210	1,211,650	1,247,870	1,262,380
West	479,419	461,207	590,512	740,008	757,008	761,428	770,420	772,720	775,070	772,950	780,030	783,200
State												
Alabama	44,894	40,485	37,819	43,166	45,394	44,233	44,540	45,420	46,070	47,560	48,030	47,280
Alaska	5,343	5,386	6,615	8,245	7,989	7,860	7,720	7,860	7,840	7,910	8,030	7,890
Arizona	28,416	32,103	38,304	61,145	63,208	62,208	66,700	67,200	67,120	68,770	66,670	69,880
Arkansas	29,577	26,475	27,335	28,276	28,419	28,928	29,610	30,350	30,290	30,750	30,940	31,250
California	242,172	236,291	309,866	404,987	418,664	422,125	424,080	422,830	419,190	411,710	415,890	416,300
Colorado	35,897	32,967	38,924	49,321	50,087	50,968	51,310	51,450	53,310	54,060	55,560	56,620
Connecticut	38,369	27,878	31,562	34,495	38,681	38,722	37,860	37,160	37,420	37,890	37,850	37,640
Delaware	7,349	5,550	6,108	8,133	8,247	8,070	8,240	8,390	8,480	8,690	8,780	8,970
District of Columbia[2]	4,848	3,626	2,695	3,602	3,860	3,961	3,880	3,990	4,510	4,430	4,780	4,780
Florida	88,755	88,934	106,708	156,130	151,964	158,029	158,440	163,740	166,540	170,820	175,140	178,610
Georgia	62,963	56,605	62,563	91,561	90,582	92,416	94,380	97,420	100,070	102,050	105,810	107,810
Hawaii	11,472	10,325	10,437	10,998	11,360	10,790	11,050	10,760	10,860	10,690	11,180	10,700
Idaho	12,679	11,971	16,170	17,793	17,568	17,198	19,120	18,050	18,230	19,130	19,510	20,290
Illinois	136,795	108,119	111,835	139,035	139,575	139,228	137,640	140,520	140,850	141,250	142,720	141,970
Indiana	73,381	60,012	57,012	64,551	65,667	66,595	67,560	66,750	66,720	68,970	71,590	74,580
Iowa	42,635	31,796	33,926	34,462	33,230	32,548	32,590	32,450	32,700	32,850	33,280	33,200
Kansas	29,397	25,367	29,102	31,642	31,898	31,922	32,150	31,900	32,790	32,900	33,530	33,400
Kentucky	41,714	38,005	36,830	42,664	42,642	42,888	42,400	42,530	43,280	43,280	44,160	44,260
Louisiana	46,199	36,053	38,430	36,573	36,675	37,508	38,180	37,720	38,790	39,380	41,860	41,330
Maine	15,554	13,839	12,211	14,069	13,473	13,170	12,730	12,560	12,790	12,640	12,690	12,820
Maryland	54,050	41,566	47,849	59,078	58,811	58,896	58,120	57,650	57,490	57,290	59,120	58,280
Massachusetts	74,831	55,941[3]	52,950	64,462	65,157	66,360	65,200	65,790	68,630	68,610	69,250	69,380
Michigan	124,372	93,807	97,679	110,682	105,446	104,210	102,520	102,020	100,800	101,570	102,940	102,310
Minnesota	64,166	49,087	57,372	59,667	57,501	58,255	56,370	56,800	56,640	57,250	57,740	58,840
Mississippi	28,083	25,182	24,232	25,478	26,158	26,502	26,650	26,260	26,770	26,900	28,000	26,960
Missouri	60,359	48,957	52,848	63,994	61,313	61,407	60,900	60,590	61,600	60,890	61,380	60,880
Montana	11,634	9,370	10,903	10,075	9,750	9,369	9,470	9,390	9,320	9,380	9,480	9,350
Nebraska	21,411	17,664	20,149	19,370	20,464	20,442	20,580	20,650	21,090	21,130	21,800	21,880
Nevada	9,069	9,477	14,551	20,956	21,891	23,038	22,720	23,040	23,190	23,780	24,140	24,430
New Hampshire	11,552	10,766	11,829	15,034	14,426	14,262	13,790	13,520	13,600	13,160	13,100	12,960
New Jersey	93,168	69,824	74,420	96,225	93,819	96,490	95,220	95,250	97,130	97,990	98,320	98,380
New Mexico	17,915	14,884	18,031	18,595	20,315	19,232	18,590	19,530	19,480	19,770	19,900	19,910
New York	198,465	143,318	141,731	183,826	180,806	180,351	178,810	179,110	178,260	181,790	182,400	180,750
North Carolina	69,395	64,782	62,140	88,704	93,977	94,339	96,210	97,020	98,970	101,710	104,850	106,900
North Dakota	9,924	7,690	8,606	7,155	6,942	6,900	6,960	7,040	7,020	6,940	6,940	7,140
Ohio	143,503	114,513	111,668	123,437	123,135	122,491	119,520	120,940	125,050	126,590	126,900	124,480
Oklahoma	38,875	35,606	37,646	38,503	37,305	37,033	37,260	38,420	39,690	40,230	41,030	41,610
Oregon	28,729	25,473	30,151	34,671	34,261	33,899	34,440	34,800	35,650	34,700	34,540	34,130
Pennsylvania	144,645	110,527	113,959	131,182	131,733	129,777	127,200	123,560	121,840	123,990	124,750	124,710
Rhode Island	10,719	7,825	8,477	9,908	9,751	9,579	9,730	9,900	10,050	9,390	9,620	10,190
South Carolina	38,347	32,483	31,617	40,438	41,442	42,246	41,720	42,650	43,840	45,090	46,790	46,920
South Dakota	10,385	7,650	9,278	8,162	8,196	8,239	7,960	8,140	8,080	8,160	8,230	8,030
Tennessee	50,648	46,094	41,568	62,408	62,454	61,323	60,970	62,010	63,480	63,710	64,290	64,840
Texas	171,665	172,480	212,925	280,894	292,531	301,390	304,360	309,280	318,660	327,690	339,670	347,610
Utah	19,886	21,196	32,501	31,481	31,157	33,186	33,400	34,070	35,400	36,560	37,550	38,170
Vermont	6,424	6,127	6,675	7,199	6,859	6,491	6,360	6,240	6,090	6,010	5,740	5,650
Virginia	67,126	60,605	65,596	81,511	83,336	83,279	83,100	82,680	84,640	84,720	87,150	87,750
Washington	50,046	45,941	57,597	66,046	65,205	66,066	66,240	68,200	69,770	70,840	71,790	69,720
West Virginia	23,580	21,854	19,437	17,651	17,603	17,924	17,510	17,460	17,640	17,370	17,480	17,230
Wisconsin	67,743	52,038	58,545	64,687	62,705	61,425	60,810	60,460	60,710	60,740	61,380	60,930
Wyoming	6,161	5,823	6,462	5,695	5,553	5,489	5,590	5,550	5,700	5,660	5,790	5,810
Jurisdiction												
Bureau of Indian Education	—	—	—	—	—	—	—	—	—	—	—	—
DoDEA[4]	—	—	3,202	—	—	—	—	—	—	—	—	—
Other jurisdictions												
American Samoa	—	703	698	—	—	—	—	—	—	—	—	—
Guam	—	1,033	1,406	—	—	—	—	—	—	—	—	—
Northern Marianas	—	227	360	—	—	—	—	—	—	—	—	—
Puerto Rico	—	29,049	30,856	25,514	25,720	—	—	—	—	—	—	—
U.S. Virgin Islands	—	1,260	1,060	958	1,046	897	—	—	—	—	—	—

See notes at end of table.

Table 10. Public high school graduates, by region, state, and jurisdiction: Selected years, 1980–81 through 2030–31—Continued

Region, state, and jurisdiction	Projected data												
	2019–20	2020–21	2021–22	2022–23	2023–24	2024–25	2025–26	2026–27	2027–28	2028–29	2029–30	2030–31	Percent change, 2012–13 to 2030–31
1	14	15	16	17	18	19	20	21	22	23	24	25	26
United States	**3,300,630**	**3,337,640**	**3,343,180**	**3,358,200**	**3,342,590**	**3,456,870**	**3,444,390**	**3,364,860**	**3,288,980**	**3,266,770**	**3,210,730**	**3,215,840**	**1.5**
Region													
Northeast	547,850	555,010	551,520	545,880	536,930	556,200	550,750	540,770	529,160	525,990	519,360	517,720	-6.8
Midwest	711,870	718,120	719,090	711,280	711,930	742,570	738,570	722,650	708,980	701,610	691,920	695,170	-2.6
South	1,256,900	1,271,160	1,278,620	1,304,840	1,290,960	1,349,140	1,351,760	1,325,920	1,276,200	1,270,380	1,246,660	1,253,540	10.1
West	784,010	793,350	793,950	796,200	802,780	808,960	803,300	775,520	774,630	768,800	752,790	749,400	-1.6
State													
Alabama	46,260	45,950	46,100	46,520	46,260	49,130	49,950	49,220	47,430	46,560	46,410	46,710	5.6
Alaska	7,700	7,650	7,660	7,780	7,850	8,080	8,190	8,170	8,050	8,130	8,140	8,170	3.9
Arizona	71,120	71,840	71,820	72,650	73,310	75,980	75,610	73,630	71,850	72,410	73,090	74,690	20.1
Arkansas	31,620	31,600	31,610	31,840	31,430	34,370	34,310	33,570	32,470	31,940	32,060	32,260	11.5
California	413,730	418,060	417,580	416,880	419,130	411,010	405,410	389,640	396,750	394,740	384,290	379,140	-10.2
Colorado	57,340	58,350	58,200	58,100	58,580	59,690	59,540	58,340	56,240	55,010	53,120	51,840	1.7
Connecticut	37,110	37,860	36,880	36,730	36,440	37,520	36,590	36,100	35,150	34,960	34,560	34,470	-11.0
Delaware	9,100	9,410	9,530	9,680	9,490	10,050	10,270	10,220	10,260	10,240	10,260	10,120	25.4
District of Columbia[2]	4,630	4,470	4,420	4,920	4,890	5,630	5,720	5,800	5,940	6,000	6,220	6,220	57.0
Florida	175,050	175,920	176,190	176,610	180,000	181,450	184,590	178,510	171,640	178,170	166,410	165,710	4.9
Georgia	107,010	108,510	111,460	114,080	112,720	117,670	116,970	114,610	109,150	106,820	104,900	102,850	11.3
Hawaii	11,230	11,300	11,340	11,690	11,490	11,970	11,850	9,220	11,610	11,350	11,240	11,380	5.5
Idaho	20,030	20,450	20,530	21,330	21,290	22,300	22,460	21,800	21,300	21,180	20,820	21,100	22.7
Illinois	138,940	140,280	139,900	140,640	138,780	148,750	149,190	143,660	142,450	141,660	138,950	140,520	0.9
Indiana	67,900	69,240	69,410	69,180	70,190	72,550	73,050	71,480	69,700	68,560	68,170	67,220	0.9
Iowa	33,250	33,600	33,300	34,010	34,510	35,840	35,990	34,990	34,280	33,310	33,280	33,790	3.8
Kansas	33,350	33,720	33,680	33,380	33,500	34,700	34,790	33,920	33,260	32,270	32,070	31,500	-1.3
Kentucky	44,820	44,210	44,280	44,890	44,420	46,770	46,390	45,670	43,640	43,200	38,660	41,160	-4.0
Louisiana	41,690	41,180	42,120	42,280	40,970	43,210	42,810	41,940	40,350	39,420	38,790	39,580	5.5
Maine	12,460	12,520	12,550	12,520	12,340	12,520	12,320	12,070	11,520	11,410	11,100	11,300	-14.2
Maryland	60,090	60,710	60,700	62,300	61,100	64,780	65,480	63,880	62,300	62,520	61,960	62,570	6.2
Massachusetts	68,550	69,600	69,200	68,680	66,620	69,660	69,330	67,160	65,780	65,690	64,760	65,080	-1.9
Michigan	99,690	99,520	99,800	93,400	92,820	95,550	91,240	89,620	88,900	89,510	88,460	88,670	-14.9
Minnesota	58,130	59,640	60,260	59,850	60,600	63,910	64,050	62,860	62,620	62,060	62,820	63,850	9.6
Mississippi	26,160	25,800	26,120	25,580	24,890	26,640	25,980	24,220	21,200	22,240	20,350	20,350	-23.2
Missouri	60,480	61,400	61,500	62,070	62,240	64,620	64,190	61,930	59,560	57,390	55,770	54,130	-11.8
Montana	9,240	9,350	9,590	9,580	9,970	10,090	10,240	9,840	9,290	9,280	8,980	8,710	-7.0
Nebraska	22,310	22,530	22,730	22,520	22,370	21,720	23,290	23,410	22,860	22,310	22,470	22,370	9.4
Nevada	24,680	25,130	24,880	25,470	26,070	27,330	27,190	26,280	26,110	26,090	25,800	25,660	11.4
New Hampshire	13,040	13,010	12,840	12,740	12,470	12,670	12,440	11,940	11,450	11,490	11,200	11,300	-20.8
New Jersey	96,990	99,310	99,100	97,640	96,600	101,280	100,050	99,760	97,140	96,830	95,800	95,730	-0.8
New Mexico	20,010	20,270	20,500	20,680	20,080	20,990	20,930	20,520	18,930	18,370	17,800	17,620	-8.4
New York	180,570	181,300	179,920	179,260	174,780	179,790	177,050	174,460	171,920	168,920	166,880	164,790	-8.6
North Carolina	105,320	106,090	99,210	105,330	104,390	108,460	108,620	107,230	103,470	102,010	101,920	102,110	8.2
North Dakota	7,070	7,240	7,340	7,490	7,740	8,130	8,230	8,180	7,990	7,970	8,190	8,130	17.9
Ohio	122,460	122,510	121,650	119,850	119,780	124,570	123,300	122,290	119,380	119,770	115,900	119,420	-2.5
Oklahoma	41,740	42,790	43,080	42,130	43,630	46,400	46,740	46,440	45,370	44,680	44,120	45,010	21.5
Oregon	33,600	33,520	33,860	33,600	34,440	35,680	35,880	34,780	34,300	33,470	33,270	33,410	-1.4
Pennsylvania	123,300	125,260	124,980	122,310	122,190	126,590	127,080	124,090	121,240	122,000	120,500	120,620	-7.1
Rhode Island	10,230	10,460	10,480	10,410	10,160	10,600	10,350	10,000	9,760	9,580	9,480	9,530	-0.5
South Carolina	46,360	46,920	47,560	48,970	49,160	52,560	52,450	52,090	49,830	50,050	50,030	50,110	18.6
South Dakota	8,150	8,260	8,680	8,820	9,260	9,680	9,600	9,580	9,540	9,410	9,390	9,560	16.0
Tennessee	63,270	63,490	64,390	64,790	65,410	67,650	66,930	64,130	63,770	64,470	65,000	65,880	7.4
Texas	348,890	358,960	365,190	376,740	366,990	385,550	386,120	384,320	369,620	362,890	361,710	365,840	21.4
Utah	38,880	40,610	41,060	41,540	42,790	45,000	45,240	44,780	44,270	44,020	43,480	44,970	35.5
Vermont	5,590	5,700	5,570	5,590	5,340	5,580	5,550	5,210	5,210	5,100	5,080	4,910	-24.4
Virginia	87,950	88,380	89,600	90,940	88,270	91,080	90,840	87,020	83,650	83,580	82,860	82,120	-1.4
Washington	70,670	70,890	71,000	70,740	71,590	74,300	74,370	72,260	69,840	68,840	67,000	66,930	1.3
West Virginia	16,950	16,790	17,090	17,270	16,960	17,770	17,610	17,060	16,120	15,580	15,030	14,940	-16.7
Wisconsin	60,130	60,180	60,840	60,070	60,130	62,560	61,670	60,740	58,460	57,400	56,470	56,020	-8.8
Wyoming	5,780	5,930	5,930	6,160	6,210	6,540	6,400	6,270	6,100	5,910	5,770	5,790	5.4
Jurisdiction													
Bureau of Indian Education	—	—	—	—	—	—	—	—	—	—	—	—	—
DoDEA[4]	—	—	—	—	—	—	—	—	—	—	—	—	—
Other jurisdictions													
American Samoa	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	—	—	—	—	—	—	—	—	—	—	—	—
Northern Marianas	—	—	—	—	—	—	—	—	—	—	—	—	—
Puerto Rico	—	—	—	—	—	—	—	—	—	—	—	—	—
U.S. Virgin Islands	—	—	—	—	—	—	—	—	—	—	—	—	—

— Not available.

[1] U.S. total includes estimates for nonreporting states.

[2] Beginning in 1989–90, graduates from adult programs are excluded.

[3] Projected data from NCES 91-490, *Projections of Education Statistics to 2002*.

[4] DoDEA = Department of Defense Education Activity. Includes both domestic and overseas schools.

NOTE: Data include regular diploma recipients, but exclude students receiving a certificate of attendance and persons receiving high school equivalency certificates. Projections in this table were calculated after the onset of the coronavirus pandemic and take into account the expected impacts of the pandemic. Some data have been revised from previously published figures. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 1981–82 through 2005–06; "State Dropout and Completion Data File," 2005–06 through 2012–13; and State High School Graduates Projection Model, through 2030–31. (This table was prepared January 2022.)

Table 11. Public high school graduates, by race/ethnicity: 1998–99 through 2030–31

Year	Number of high school graduates							Percentage distribution of graduates						
	Total	White	Black	Hispanic	Asian/ Pacific Islander	American Indian/ Alaska Native	Two or more races	Total	White	Black	Hispanic	Asian/ Pacific Islander	American Indian/ Alaska Native	Two or more races
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1998–99	2,485,630	1,749,561	325,708	270,836	115,216	24,309	—	100.0	70.4	13.1	10.9	4.6	1.0	†
1999–2000	2,553,844	1,778,370	338,116	289,139	122,344	25,875	—	100.0	69.6	13.2	11.3	4.8	1.0	†
2000–01	2,569,200	1,775,036	339,578	301,740	126,465	26,381	—	100.0	69.1	13.2	11.7	4.9	1.0	†
2001–02	2,621,534	1,796,110	348,969	317,197	132,182	27,076	—	100.0	68.5	13.3	12.1	5.0	1.0	†
2002–03	2,719,947	1,856,454	359,920	340,182	135,588	27,803	—	100.0	68.3	13.2	12.5	5.0	1.0	†
2003–04	2,753,438	1,829,177	383,443	374,492	137,496	28,830	—	100.0	66.4	13.9	13.6	5.0	1.0	†
2004–05	2,799,250	1,855,198	385,987	383,714	143,729	30,622	—	100.0	66.3	13.8	13.7	5.1	1.1	†
2005–06	2,815,544	1,838,765	399,406	396,820	150,925	29,628	—	100.0	65.3	14.2	14.1	5.4	1.1	†
2006–07	2,893,045	1,868,056	418,113	421,036	154,837	31,003	—	100.0	64.6	14.5	14.6	5.4	1.1	†
2007–08	3,001,337	1,898,367	429,840	448,887	159,410	32,036	32,797[1]	100.0	63.3	14.3	15.0	5.3	1.1	1.1[1]
2008–09	3,039,015	1,883,382	451,384	481,698	163,575	32,213	26,763[1]	100.0	62.0	14.9	15.9	5.4	1.1	0.9[1]
2009–10	3,128,022	1,871,980	472,261	545,518	167,840	34,131	36,292[1]	100.0	59.8	15.1	17.4	5.4	1.1	1.2[1]
2010–11	3,144,100	1,835,332	471,461	583,907	168,875	32,768	51,748	100.0	58.4	15.0	18.6	5.4	1.0	1.6
2011–12	3,149,185	1,807,528	467,932	608,726	173,835	32,450	58,703	100.0	57.4	14.9	19.3	5.5	1.0	1.9
2012–13	3,169,257	1,791,147	461,919	640,413	179,101	31,100	65,569	100.0	56.5	14.6	20.2	5.7	1.0	2.1
2013–14[2]	3,168,450	1,765,670	441,190	678,020	181,550	30,120	71,890	100.0	55.7	13.9	21.4	5.7	1.0	2.3
2014–15[2]	3,187,000	1,746,730	446,000	703,430	184,780	29,990	76,060	100.0	54.8	14.0	22.1	5.8	0.9	2.4
2015–16[2]	3,224,140	1,742,530	451,780	731,860	184,660	30,160	83,160	100.0	54.0	14.0	22.7	5.7	0.9	2.6
2016–17[2]	3,255,320	1,737,890	455,260	755,350	186,390	30,120	90,310	100.0	53.4	14.0	23.2	5.7	0.9	2.8
2017–18[2]	3,310,020	1,733,070	461,460	787,440	200,160	29,920	97,970	100.0	52.4	13.9	23.8	6.0	0.9	3.0
2018–19[2]	3,325,700	1,711,890	458,110	820,910	202,690	29,380	102,720	100.0	51.5	13.8	24.7	6.1	0.9	3.1
2019–20[2]	3,300,630	1,670,940	448,650	838,350	204,800	28,880	109,010	100.0	50.6	13.6	25.4	6.2	0.9	3.3
2020–21[2]	3,337,640	1,673,240	445,350	863,170	209,930	28,250	117,700	100.0	50.1	13.3	25.9	6.3	0.8	3.5
2021–22[2]	3,343,180	1,650,010	441,620	885,500	212,050	28,190	125,820	100.0	49.4	13.2	26.5	6.3	0.8	3.8
2022–23[2]	3,358,200	1,621,990	441,380	921,350	212,340	27,330	133,800	100.0	48.3	13.1	27.4	6.3	0.8	4.0
2023–24[2]	3,342,590	1,596,480	431,310	932,340	212,870	26,710	142,880	100.0	47.8	12.9	27.9	6.4	0.8	4.3
2024–25[2]	3,456,870	1,599,380	455,790	997,530	217,180	27,460	159,540	100.0	46.3	13.2	28.9	6.3	0.8	4.6
2025–26[2]	3,444,390	1,566,760	454,030	1,008,030	220,160	26,990	168,420	100.0	45.5	13.2	29.3	6.4	0.8	4.9
2026–27[2]	3,364,860	1,510,150	443,690	996,590	215,110	26,450	172,870	100.0	44.9	13.2	29.6	6.4	0.8	5.1
2027–28[2]	3,288,980	1,460,190	425,560	980,320	218,640	25,290	178,980	100.0	44.4	12.9	29.8	6.6	0.8	5.4
2028–29[2]	3,266,770	1,432,630	421,880	980,680	220,760	24,150	186,670	100.0	43.9	12.9	30.0	6.8	0.7	5.7
2029–30[2]	3,210,730	1,400,800	402,900	961,920	228,630	23,480	193,000	100.0	43.6	12.5	30.0	7.1	0.7	6.0
2029–31[2]	3,215,840	1,390,710	404,190	964,890	231,020	22,960	202,070	100.0	43.2	12.6	30.0	7.2	0.7	6.3

— Not available.

† Not applicable.

[1] Data on students of Two or more races were not reported by all states; therefore, the data are not comparable to figures for 2010–11 and later years.

[2] Projected.

NOTE: Race categories exclude persons of Hispanic ethnicity. Prior to 2007–08, data on students of Two or more races were not collected separately. Some data have been revised from previously published figures. Detail may not sum to totals because of rounding and statistical methods used to prevent the identification of individual students.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 1981–82 through 2005–06; "State Dropout and Completion Data File," 2005–06 through 2012–13; and National Public High School Graduates by Race/Ethnicity Projections Model, through 2030–31. (This table was prepared January 2022.)

Table 12. Current expenditures and current expenditures per pupil in public elementary and secondary schools: 1989–90 through 2030–31

School year	Current expenditures in unadjusted dollars[1]			Current expenditures in constant 2020–21 dollars[2]					
				Total current expenditures		Per pupil in fall enrollment		Per pupil in average daily attendance (ADA)	
	Total, in billions	Per pupil in fall enrollment	Per pupil in average daily attendance	In billions	Annual percentage change	Per pupil enrolled	Annual percentage change	Per pupil in ADA	Annual percentage change
1	2	3	4	5	6	7	8	9	10
1989–90	$188.2	$4,643	$4,980	$390.1	3.8	$9,622	2.9	$10,320	2.3
1990–91	202.0	4,902	5,258	397.0	1.8	9,632	0.1	10,332	0.1
1991–92	211.2	5,023	5,421	402.1	1.3	9,564	-0.7	10,322	-0.1
1992–93	220.9	5,160	5,584	407.9	1.4	9,526	-0.4	10,309	-0.1
1993–94	231.5	5,327	5,767	416.7	2.1	9,587	0.6	10,380	0.7
1994–95	243.9	5,529	5,989	426.7	2.4	9,673	0.9	10,478	0.9
1995–96	255.1	5,689	6,147	434.5	1.8	9,690	0.2	10,470	-0.1
1996–97	270.2	5,923	6,393	447.4	3.0	9,809	1.2	10,587	1.1
1997–98	285.5	6,189	6,676	464.5	3.8	10,070	2.7	10,861	2.6
1998–99	302.9	6,508	7,013	484.4	4.3	10,408	3.4	11,216	3.3
1999–2000	323.9	6,912	7,394	503.5	3.9	10,745	3.2	11,493	2.5
2000–01	348.4	7,380	7,904	523.6	4.0	11,092	3.2	11,879	3.4
2001–02	368.4	7,727	8,259	544.0	3.9	11,412	2.9	12,196	2.7
2002–03	387.6	8,044	8,610	560.1	3.0	11,624	1.9	12,441	2.0
2003–04	403.4	8,310	8,900	570.4	1.8	11,752	1.1	12,585	1.2
2004–05	425.0	8,711	9,316	583.5	2.3	11,958	1.8	12,789	1.6
2005–06	449.1	9,145	9,778	593.9	1.8	12,093	1.1	12,931	1.1
2006–07	476.8	9,679	10,336	614.7	3.5	12,477	3.2	13,324	3.0
2007–08	506.9	10,298	10,982	630.1	2.5	12,801	2.6	13,651	2.5
2008–09	518.9	10,540	11,239	636.2	1.0	12,921	0.9	13,777	0.9
2009–10	524.7	10,636	11,427	637.1	0.1	12,914	-0.1	13,874	0.7
2010–11	527.3	10,663	11,433	627.6	-1.5	12,691	-1.7	13,609	-1.9
2011–12	527.2	10,648	11,362	609.7	-2.9	12,313	-3.0	13,139	-3.5
2012–13	535.8	10,771	11,509	609.4	#	12,251	-0.5	13,091	-0.4
2013–14	553.5	11,066	11,819	619.9	1.7	12,394	1.2	13,237	1.1
2014–15	575.3	11,445	12,224	639.7	3.2	12,725	2.7	13,592	2.7
2015–16	596.2	11,842	12,619	658.5	2.9	13,079	2.8	13,936	2.5
2016–17	619.3	12,260	13,096	671.6	2.0	13,296	1.7	14,202	1.9
2017–18	640.0	12,654	13,550	678.7	1.1	13,420	0.9	14,370	1.2
2018–19	666.9[3]	13,187[4]	14,164	692.9[3]	2.1	13,701[4]	2.1	14,716	2.4
2019-20[5]	691.0	13,600	14,570	706.9	2.0	13,910	1.4	14,910	1.3
2020-21[5]	699.9	14,170	15,180	699.9	-1.0	14,170	2.0	15,180	2.0
2021-22[5]	738.6	14,750	15,800	717.8	2.6	14,330	1.1	15,350	1.1
2022-23[5]	750.3	15,030	16,090	715.2	-0.4	14,330	-0.1	15,340	-0.1
2023-24[5]	765.1	15,380	16,470	714.4	-0.1	14,360	0.3	15,380	0.3
2024-25[5]	781.1	15,790	16,900	713.9	-0.1	14,430	0.4	15,450	0.4
2025-26[5]	796.8	16,220	17,370	712.6	-0.2	14,510	0.6	15,530	0.6
2026-27[5]	806.6	16,680	17,860	705.6	-1.0	14,590	0.6	15,620	0.6
2027-28[5]	819.4	17,140	18,350	700.9	-0.7	14,660	0.5	15,700	0.5
2028-29[5]	837.5	17,600	18,840	700.1	-0.1	14,710	0.4	15,750	0.4
2029–30[5]	855.2	18,060	19,340	698.6	-0.2	14,750	0.3	15,800	0.3
2030–31[5]	874.5	18,510	19,820	698.0	-0.1	14,770	0.1	15,820	0.1

Rounds to zero.

[1] Unadjusted (or "current") dollars have not been adjusted to compensate for inflation.

[2] Constant dollars based on the Consumer Price Index, prepared by the Bureau of Labor Statistics, U.S. Department of Labor, adjusted to a school-year basis.

[3] Excludes prekindergarten expenditures for California.

[4] Excludes prekindergarten expenditures and prekindergarten enrollment for California.

[5] Projected. Projected expenditures do not account for relief funding administered during the coronavirus pandemic, such as the Coronavirus Aid, Relief, and Economic Security (CARES) Act or the American Rescue Plan (ARP).

NOTE: Data in this table represent the 50 states and the District of Columbia. Current expenditures include instruction, support services, food services, and enterprise operations. Projections in this table were calculated after the onset of the coronavirus pandemic and take into account the expected impacts of the pandemic. Some data have been revised from previously published figures.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "National Public Education Financial Survey," 1989–90 through 2018–19; National Elementary and Secondary Enrollment Projection Model, through 2030; and Public Elementary and Secondary Education Current Expenditure Projection Model, through 2030–31. (This table was prepared September 2021.)

Table 13. Total fall enrollment in degree-granting postsecondary institutions, by attendance status, sex of student, and control of institution: Selected years, 1947 through 2030

Year	Total enrollment	Attendance status			Sex of student			Control of institution			
		Full-time	Part-time	Percent part-time	Male	Female	Percent female	Public	Private		
									Total	Nonprofit	For-profit
1	2	3	4	5	6	7	8	9	10	11	12
1947[1]	2,338,226	—	—	—	1,659,249	678,977	29.0	1,152,377	1,185,849	—	—
1948[1]	2,403,396	—	—	—	1,709,367	694,029	28.9	1,185,588	1,217,808	—	—
1949[1]	2,444,900	—	—	—	1,721,572	723,328	29.6	1,207,151	1,237,749	—	—
1950[1]	2,281,298	—	—	—	1,560,392	720,906	31.6	1,139,699	1,141,599	—	—
1951[1]	2,101,962	—	—	—	1,390,740	711,222	33.8	1,037,938	1,064,024	—	—
1952[1]	2,134,242	—	—	—	1,380,357	753,885	35.3	1,101,240	1,033,002	—	—
1953[1]	2,231,054	—	—	—	1,422,598	808,456	36.2	1,185,876	1,045,178	—	—
1954[1]	2,446,693	—	—	—	1,563,382	883,311	36.1	1,353,531	1,093,162	—	—
1955[1]	2,653,034	—	—	—	1,733,184	919,850	34.7	1,476,282	1,176,752	—	—
1956[1]	2,918,212	—	—	—	1,911,458	1,006,754	34.5	1,656,402	1,261,810	—	—
1957	3,323,783	—	—	—	2,170,765	1,153,018	34.7	1,972,673	1,351,110	—	—
1959	3,639,847	2,421,016	1,218,831[2]	33.5	2,332,617	1,307,230	35.9	2,180,982	1,458,865	—	—
1961	4,145,065	2,785,133	1,359,932[2]	32.8	2,585,821	1,559,244	37.6	2,561,447	1,583,618	—	—
1963	4,779,609	3,183,833	1,595,776[2]	33.4	2,961,540	1,818,069	38.0	3,081,279	1,698,330	—	—
1964	5,280,020	3,573,238	1,706,782[2]	32.3	3,248,713	2,031,307	38.5	3,467,708	1,812,312	—	—
1965	5,920,864	4,095,728	1,825,136[2]	30.8	3,630,020	2,290,844	38.7	3,969,596	1,951,268	—	—
1966	6,389,872	4,438,606	1,951,266[2]	30.5	3,856,216	2,533,656	39.7	4,348,917	2,040,955	—	—
1967	6,911,748	4,793,128	2,118,620[2]	30.7	4,132,800	2,778,948	40.2	4,816,028	2,095,720	2,074,041	21,679
1968	7,513,091	5,210,155	2,302,936	30.7	4,477,649	3,035,442	40.4	5,430,652	2,082,439	2,061,211	21,228
1969	8,004,660	5,498,883	2,505,777	31.3	4,746,201	3,258,459	40.7	5,896,868	2,107,792	2,087,653	20,139
1970	8,580,887	5,816,290	2,764,597	32.2	5,043,642	3,537,245	41.2	6,428,134	2,152,753	2,134,420	18,333
1971	8,948,644	6,077,232	2,871,412	32.1	5,207,004	3,741,640	41.8	6,804,309	2,144,335	2,121,913	22,422
1972	9,214,860	6,072,389	3,142,471	34.1	5,238,757	3,976,103	43.1	7,070,635	2,144,225	2,123,245	20,980
1973	9,602,123	6,189,493	3,412,630	35.5	5,371,052	4,231,071	44.1	7,419,516	2,182,607	2,148,784	33,823
1974	10,223,729	6,370,273	3,853,456	37.7	5,622,429	4,601,300	45.0	7,988,500	2,235,229	2,200,963	34,266
1975	11,184,859	6,841,334	4,343,525	38.8	6,148,997	5,035,862	45.0	8,834,508	2,350,351	2,311,448	38,903
1976	11,012,137	6,717,058	4,295,079	39.0	5,810,828	5,201,309	47.2	8,653,477	2,358,660	2,314,298	44,362
1977	11,285,787	6,792,925	4,492,862	39.8	5,789,016	5,496,771	48.7	8,846,993	2,438,794	2,386,652	52,142
1978	11,260,092	6,667,657	4,592,435	40.8	5,640,998	5,619,094	49.9	8,785,893	2,474,199	2,408,331	65,868
1979	11,569,899	6,794,039	4,775,860	41.3	5,682,877	5,887,022	50.9	9,036,822	2,533,077	2,461,773	71,304
1980	12,096,895	7,097,958	4,998,937	41.3	5,874,374	6,222,521	51.4	9,457,394	2,639,501	2,527,787	111,714[3]
1981	12,371,672	7,181,250	5,190,422	42.0	5,975,056	6,396,616	51.7	9,647,032	2,724,640	2,572,405	152,235[3]
1982	12,425,780	7,220,618	5,205,162	41.9	6,031,384	6,394,396	51.5	9,696,087	2,729,693	2,552,739	176,954[3]
1983	12,464,661	7,261,050	5,203,611	41.7	6,023,725	6,440,936	51.7	9,682,734	2,781,927	2,589,187	192,740
1984	12,241,940	7,098,388	5,143,552	42.0	5,863,574	6,378,366	52.1	9,477,370	2,764,570	2,574,419	190,151
1985	12,247,055	7,075,221	5,171,834	42.2	5,818,450	6,428,605	52.5	9,479,273	2,767,782	2,571,791	195,991
1986	12,503,511	7,119,550	5,383,961	43.1	5,884,515	6,618,996	52.9	9,713,893	2,789,618	2,572,479	217,139[4]
1987	12,766,642	7,231,085	5,535,557	43.4	5,932,056	6,834,586	53.5	9,973,254	2,793,388	2,602,350	191,038[4]
1988	13,055,337	7,436,768	5,618,569	43.0	6,001,896	7,053,441	54.0	10,161,388	2,893,949	2,673,567	220,382
1989	13,538,560	7,660,950	5,877,610	43.4	6,190,015	7,348,545	54.3	10,577,963	2,960,597	2,731,174	229,423
1990	13,818,637	7,820,985	5,997,652	43.4	6,283,909	7,534,728	54.5	10,844,717	2,973,920	2,760,227	213,693
1991	14,358,953	8,115,329	6,243,624	43.5	6,501,844	7,857,109	54.7	11,309,563	3,049,390	2,819,041	230,349
1992	14,487,359	8,162,118	6,325,241	43.7	6,523,989	7,963,370	55.0	11,384,567	3,102,792	2,872,523	230,269
1993	14,304,803	8,127,618	6,177,185	43.2	6,427,450	7,877,353	55.1	11,189,088	3,115,715	2,888,897	226,818
1994	14,278,790	8,137,776	6,141,014	43.0	6,371,898	7,906,892	55.4	11,133,680	3,145,110	2,910,107	235,003
1995	14,261,781	8,128,802	6,132,979	43.0	6,342,539	7,919,242	55.5	11,092,374	3,169,407	2,929,044	240,363
1996	14,367,520	8,302,953	6,064,567	42.2	6,352,825	8,014,695	55.8	11,120,499	3,247,021	2,942,556	304,465
1997	14,502,334	8,438,062	6,064,272	41.8	6,396,028	8,106,306	55.9	11,196,119	3,306,215	2,977,614	328,601
1998	14,506,967	8,563,338	5,943,629	41.0	6,369,265	8,137,702	56.1	11,137,769	3,369,198	3,004,925	364,273
1999	14,849,691	8,803,139	6,046,552	40.7	6,515,164	8,334,527	56.1	11,375,739	3,473,952	3,055,029	418,923
2000	15,312,289	9,009,600	6,302,689	41.2	6,721,769	8,590,520	56.1	11,752,786	3,559,503	3,109,419	450,084
2001	15,927,987	9,447,502	6,480,485	40.7	6,960,815	8,967,172	56.3	12,233,156	3,694,831	3,167,330	527,501
2002	16,611,711	9,946,359	6,665,352	40.1	7,202,116	9,409,595	56.6	12,751,993	3,859,718	3,265,476	594,242
2003	16,911,481	10,326,133	6,585,348	38.9	7,260,264	9,651,217	57.1	12,858,698	4,052,783	3,341,048	711,735
2004	17,272,044	10,610,177	6,661,867	38.6	7,387,262	9,884,782	57.2	12,980,112	4,291,932	3,411,685	880,247
2005	17,487,475	10,797,011	6,690,464	38.3	7,455,925	10,031,550	57.4	13,021,834	4,465,641	3,454,692	1,010,949
2006	17,754,230	10,957,538	6,796,692	38.3	7,572,265	10,181,965	57.3	13,175,350	4,578,880	3,512,929	1,065,951
2007	18,258,138	11,270,929	6,987,209	38.3	7,819,938	10,438,200	57.2	13,500,894	4,757,244	3,571,395	1,185,849
2008	19,081,686	11,734,636	7,347,050	38.5	8,177,714	10,903,972	57.1	13,970,862	5,110,824	3,660,827	1,449,997
2009	20,313,594	12,605,355	7,708,239	37.9	8,732,953	11,580,641	57.0	14,810,768	5,502,826	3,767,672	1,735,154
2010	21,019,438	13,087,182	7,932,256	37.7	9,045,759	11,973,679	57.0	15,142,171	5,877,267	3,854,482	2,022,785
2011	21,010,590	13,002,531	8,008,059	38.1	9,034,256	11,976,334	57.0	15,116,303	5,894,287	3,926,819	1,967,468
2012	20,644,478	12,734,404	7,910,074	38.3	8,919,006	11,725,472	56.8	14,884,667	5,759,811	3,951,388	1,808,423
2013	20,376,677	12,596,610	7,780,067	38.2	8,861,197	11,515,480	56.5	14,746,848	5,629,829	3,971,390	1,658,439
2014	20,209,092	12,454,464	7,754,628	38.4	8,797,530	11,411,562	56.5	14,654,660	5,554,432	3,997,249	1,557,183
2015	19,988,204	12,287,512	7,700,692	38.5	8,723,819	11,264,385	56.4	14,572,843	5,415,361	4,065,891	1,349,470
2016	19,846,904	12,125,314	7,721,590	38.9	8,638,422	11,208,482	56.5	14,585,840	5,261,064	4,078,956	1,182,108
2017	19,778,151	12,076,141	7,702,010	38.9	8,571,314	11,206,837	56.7	14,571,739	5,206,412	4,108,489	1,097,923
2018	19,651,412	11,989,569	7,661,843	39.0	8,444,614	11,206,798	57.0	14,539,257	5,112,155	4,131,846	980,309
2019	19,630,178	11,954,413	7,675,765	39.1	8,363,889	11,266,289	57.4	14,503,647	5,126,531	4,135,372	991,159

See notes at end of table.

Table 13. Total fall enrollment in degree-granting postsecondary institutions, by attendance status, sex of student, and control of institution: Selected years, 1947 through 2030—Continued

Year	Total enrollment	Attendance status			Sex of student			Control of institution			
		Full-time	Part-time	Percent part-time	Male	Female	Percent female	Public	Private		
									Total	Nonprofit	For-profit
1	2	3	4	5	6	7	8	9	10	11	12
2020	18,991,798	11,591,353	7,400,445	39.0	7,869,545	11,122,253	58.6	13,867,239	5,124,559	4,101,019	1,023,540
2021[5]	20,327,000	12,387,000	7,941,000	39.1	8,685,000	11,643,000	57.3	14,975,000	5,352,000	—	—
2022[5]	20,031,000	12,177,000	7,854,000	39.2	8,524,000	11,506,000	57.4	14,769,000	5,261,000	—	—
2023[5]	19,851,000	12,041,000	7,810,000	39.3	8,422,000	11,429,000	57.6	14,650,000	5,201,000	—	—
2024[5]	19,862,000	12,041,000	7,821,000	39.4	8,416,000	11,446,000	57.6	14,664,000	5,198,000	—	—
2025[5]	19,934,000	12,099,000	7,835,000	39.3	8,444,000	11,490,000	57.6	14,716,000	5,218,000	—	—
2026[5]	20,054,000	12,182,000	7,872,000	39.3	8,497,000	11,557,000	57.6	14,801,000	5,253,000	—	—
2027[5]	20,169,000	12,241,000	7,928,000	39.3	8,550,000	11,619,000	57.6	14,882,000	5,287,000	—	—
2028[5]	20,282,000	12,301,000	7,980,000	39.3	8,603,000	11,679,000	57.6	14,960,000	5,322,000	—	—
2029[5]	20,393,000	12,361,000	8,032,000	39.4	8,656,000	11,737,000	57.6	15,038,000	5,355,000	—	—
2030[5]	20,482,000	12,402,000	8,080,000	39.4	8,700,000	11,783,000	57.5	15,101,000	5,381,000	—	—

— Not available.
[1] Degree-credit enrollment only.
[2] Includes part-time resident students and all extension students (students attending courses at sites separate from the primary reporting campus). In later years, part-time student enrollment was collected as a distinct category.
[3] Large increases are due to the addition of schools accredited by the Accrediting Commission of Career Schools and Colleges of Technology.
[4] Because of imputation techniques, data are not consistent with figures for other years.
[5] Projected.
NOTE: Data in this table represent the 50 states and the District of Columbia. Data through 1995 are for institutions of higher education, while later data are for degree-granting institutions. Degree-granting institutions grant associate's or higher degrees and participate in Title IV federal financial aid programs. The degree-granting classification is very similar to the earlier higher education classification, but it includes more 2-year colleges and excludes a few higher education institutions that did not grant degrees. Projections in this table were calculated after the onset of the coronavirus pandemic and take into account the expected impacts of the pandemic. Some data have been revised from previously published figures.
SOURCE: U.S. Department of Education, National Center for Education Statistics, *Biennial Survey of Education in the United States; Opening Fall Enrollment in Higher Education*, 1963 through 1965; Higher Education General Information Survey (HEGIS), "Fall Enrollment in Colleges and Universities" surveys, 1966 through 1985; Integrated Postsecondary Education Data System (IPEDS), "Fall Enrollment Survey" (IPEDS-EF:86–99); IPEDS Spring 2001 through Spring 2021, Fall Enrollment component; and Enrollment in Degree-Granting Institutions Projection Model, through 2030. (This table was prepared November 2021.)

Table 14. Total fall enrollment in degree-granting postsecondary institutions, by attendance status, sex, and age of student: Selected years, 2001 through 2030

[In thousands]

Attendance status, sex, and age	2001	2003	2005	2007	2009	2011	2013	2015	2017	2019	Projected 2021	Projected 2023	Projected 2030
1	2	3	4	5	6	7	8	9	10	11	12	13	14
All students	**15,928**	**16,911**	**17,474**	**18,258**	**20,314**	**21,011**	**20,377**	**19,988**	**19,778**	**19,630**	**20,327**	**19,851**	**20,482**
Under 18	486	490	567	670	759	796	879	1,054	1,233	1,455	1,461	1,472	1,443
18 and 19	3,355	3,562	3,725	3,970	4,292	4,291	4,266	4,341	4,446	4,511	4,398	4,438	4,463
20 and 21	3,141	3,383	3,505	3,643	3,995	4,161	4,087	4,079	4,096	4,063	4,163	4,045	4,171
22 to 24	2,495	2,811	2,911	3,010	3,301	3,435	3,432	3,325	3,205	3,048	3,191	3,099	3,241
25 to 29	2,031	2,288	2,410	2,551	2,935	3,046	2,856	2,779	2,694	2,575	2,721	2,493	2,589
30 to 34	1,244	1,365	1,352	1,366	1,615	1,760	1,642	1,512	1,422	1,403	1,558	1,545	1,541
35 years old and over	2,688	2,866	2,900	2,953	3,344	3,454	3,164	2,858	2,651	2,554	2,813	2,738	3,012
Age unknown	488	147	104	96	73	67	51	41	31	21	22	22	22
Males	**6,961**	**7,260**	**7,451**	**7,820**	**8,733**	**9,034**	**8,861**	**8,724**	**8,571**	**8,364**	**8,685**	**8,422**	**8,700**
Under 18	208	200	234	278	315	330	363	435	506	592	595	600	589
18 and 19	1,496	1,586	1,674	1,797	1,944	1,935	1,921	1,955	1,994	2,002	1,949	1,967	1,987
20 and 21	1,423	1,522	1,572	1,648	1,812	1,874	1,852	1,849	1,845	1,812	1,860	1,803	1,870
22 to 24	1,176	1,298	1,332	1,381	1,516	1,575	1,581	1,541	1,471	1,372	1,441	1,391	1,457
25 to 29	918	998	1,030	1,092	1,268	1,329	1,259	1,227	1,168	1,085	1,156	1,036	1,059
30 to 34	540	571	550	551	657	727	695	644	598	571	637	624	620
35 years old and over	985	1,020	1,014	1,032	1,189	1,235	1,168	1,056	977	921	1,038	993	1,107
Age unknown	214	65	45	41	32	29	22	16	13	9	9	9	9
Females	**8,967**	**9,651**	**10,024**	**10,438**	**11,581**	**11,976**	**11,515**	**11,264**	**11,207**	**11,266**	**11,643**	**11,429**	**11,783**
Under 18	278	289	333	392	444	466	515	618	727	863	866	872	854
18 and 19	1,860	1,975	2,052	2,173	2,348	2,356	2,345	2,387	2,452	2,509	2,449	2,471	2,475
20 and 21	1,718	1,861	1,933	1,996	2,183	2,287	2,234	2,230	2,252	2,251	2,304	2,241	2,301
22 to 24	1,319	1,513	1,579	1,628	1,785	1,860	1,851	1,784	1,734	1,676	1,750	1,708	1,784
25 to 29	1,112	1,290	1,380	1,459	1,666	1,716	1,597	1,552	1,526	1,490	1,565	1,458	1,529
30 to 34	704	795	803	815	958	1,033	946	867	824	832	921	920	921
35 years old and over	1,703	1,846	1,886	1,921	2,155	2,219	1,996	1,802	1,674	1,633	1,775	1,745	1,905
Age unknown	274	82	59	55	41	38	30	24	19	12	13	13	13
Full-time	**9,448**	**10,326**	**10,793**	**11,271**	**12,605**	**13,003**	**12,597**	**12,288**	**12,076**	**11,954**	**12,387**	**12,041**	**12,402**
Under 18	136	143	156	172	177	181	185	207	221	255	257	259	254
18 and 19	2,869	3,053	3,188	3,388	3,631	3,571	3,549	3,612	3,696	3,754	3,654	3,685	3,690
20 and 21	2,538	2,752	2,855	2,964	3,240	3,311	3,246	3,242	3,267	3,251	3,318	3,215	3,280
22 to 24	1,621	1,850	1,922	1,986	2,183	2,258	2,240	2,156	2,068	1,973	2,074	2,004	2,086
25 to 29	958	1,139	1,220	1,284	1,514	1,607	1,498	1,442	1,372	1,312	1,427	1,288	1,355
30 to 34	443	541	557	565	706	793	724	650	591	582	674	660	669
35 years old and over	637	794	857	878	1,127	1,251	1,128	960	847	820	976	924	1,061
Age unknown	245	55	38	33	28	30	26	19	14	7	8	7	8
Males	**4,300**	**4,638**	**4,802**	**5,030**	**5,632**	**5,793**	**5,682**	**5,558**	**5,424**	**5,276**	**5,472**	**5,286**	**5,447**
Under 18	57	56	63	69	71	72	74	83	86	101	101	102	100
18 and 19	1,273	1,354	1,424	1,525	1,633	1,598	1,586	1,613	1,645	1,655	1,608	1,622	1,631
20 and 21	1,155	1,246	1,286	1,347	1,474	1,495	1,473	1,471	1,475	1,454	1,485	1,436	1,471
22 to 24	796	892	915	949	1,042	1,072	1,068	1,034	983	917	965	928	967
25 to 29	463	531	555	585	696	746	705	682	637	589	643	569	589
30 to 34	201	238	235	235	298	342	325	296	266	253	293	284	287
35 years old and over	241	297	306	306	405	455	441	373	326	304	374	343	399
Age unknown	114	25	17	14	12	13	11	7	6	3	3	3	3
Females	**5,148**	**5,688**	**5,991**	**6,241**	**6,973**	**7,210**	**6,914**	**6,729**	**6,652**	**6,679**	**6,914**	**6,755**	**6,955**
Under 18	80	87	93	103	105	109	111	124	134	155	156	157	153
18 and 19	1,595	1,700	1,763	1,864	1,998	1,974	1,963	2,000	2,051	2,099	2,046	2,063	2,059
20 and 21	1,383	1,506	1,568	1,618	1,766	1,816	1,773	1,771	1,792	1,797	1,832	1,779	1,809
22 to 24	825	958	1,007	1,036	1,141	1,185	1,173	1,122	1,085	1,056	1,109	1,076	1,119
25 to 29	495	608	666	700	818	861	793	760	735	723	784	719	766
30 to 34	243	304	322	330	408	451	399	353	325	330	381	376	382
35 years old and over	396	497	551	572	722	796	687	587	520	516	602	581	663
Age unknown	131	29	21	19	15	17	15	12	8	4	5	4	5
Part-time	**6,480**	**6,585**	**6,681**	**6,987**	**7,708**	**8,008**	**7,780**	**7,701**	**7,702**	**7,676**	**7,941**	**7,810**	**8,080**
Under 18	350	347	411	498	582	615	693	847	1,013	1,199	1,204	1,213	1,189
18 and 19	486	508	537	582	661	720	717	729	750	757	744	753	773
20 and 21	603	631	650	679	755	850	841	837	829	812	846	830	891
22 to 24	874	961	989	1,024	1,117	1,177	1,192	1,169	1,136	1,075	1,117	1,095	1,155
25 to 29	1,073	1,149	1,190	1,267	1,421	1,439	1,358	1,337	1,322	1,263	1,294	1,205	1,234
30 to 34	800	824	795	801	909	967	917	862	830	820	884	885	872
35 years old and over	2,051	2,072	2,043	2,074	2,217	2,204	2,036	1,898	1,804	1,735	1,838	1,813	1,951
Age unknown	243	92	66	63	45	37	26	22	17	14	15	14	15
Males	**2,661**	**2,622**	**2,649**	**2,790**	**3,101**	**3,241**	**3,179**	**3,165**	**3,147**	**3,088**	**3,212**	**3,137**	**3,253**
Under 18	152	145	171	209	244	258	289	352	420	492	494	498	489
18 and 19	222	233	249	273	311	337	335	342	350	347	340	345	357
20 and 21	268	277	286	301	338	379	379	378	370	358	375	368	399
22 to 24	381	406	417	432	474	502	513	507	488	455	476	463	490
25 to 29	456	467	475	507	572	584	554	545	531	496	513	467	470
30 to 34	339	333	314	316	359	385	371	348	331	318	344	341	333
35 years old and over	744	723	709	725	784	780	727	683	650	617	665	649	708
Age unknown	100	39	28	27	20	16	11	9	7	6	6	6	6
Females	**3,820**	**3,963**	**4,032**	**4,197**	**4,607**	**4,767**	**4,601**	**4,535**	**4,555**	**4,587**	**4,729**	**4,674**	**4,827**
Under 18	198	202	239	289	339	358	404	495	592	708	710	715	700
18 and 19	264	276	288	309	350	382	382	387	401	410	403	408	417
20 and 21	336	354	365	378	417	471	462	459	460	454	471	463	492
22 to 24	494	555	572	592	644	675	678	661	648	620	641	632	665
25 to 29	617	682	715	760	849	855	804	792	791	767	781	738	764
30 to 34	461	491	481	485	550	582	547	514	499	502	540	545	539
35 years old and over	1,307	1,349	1,335	1,349	1,433	1,423	1,309	1,214	1,154	1,118	1,173	1,164	1,242
Age unknown	143	53	38	36	26	21	15	13	10	8	8	8	9

NOTE: Data in this table represent the 50 states and the District of Columbia. Degree-granting institutions grant associate's or higher degrees and participate in Title IV federal financial aid programs. Projections in this table were calculated after the onset of the coronavirus pandemic and take into account the expected impacts of the pandemic. Some data have been revised from previously published figures. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Spring 2002 through Spring 2021, Fall Enrollment component; and Enrollment in Degree-Granting Institutions Projection Model, through 2030. (This table was prepared February 2022.)

Table 15. Total fall enrollment in degree-granting postsecondary institutions, by level and control of institution, attendance status, and sex of student: Selected years, 1970 through 2030

Level and control of institution, attendance status, and sex of student	Actual												
	1970	1975	1980	1985	1990	1995	2000	2005	2010	2015	2016	2017	2018
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Total	**8,580,887**	**11,184,859**	**12,096,895**	**12,247,055**	**13,818,637**	**14,261,781**	**15,312,289**	**17,487,475**	**21,019,438**	**19,988,204**	**19,846,904**	**19,778,151**	**19,651,412**
Full-time	5,816,290	6,841,334	7,097,958	7,075,221	7,820,985	8,128,802	9,009,600	10,797,011	13,087,182	12,287,512	12,125,314	12,076,141	11,989,569
Males	3,504,095	3,926,753	3,689,244	3,607,720	3,807,752	3,807,392	4,111,093	4,803,388	5,838,383	5,558,447	5,472,798	5,423,955	5,337,410
Females	2,312,195	2,914,581	3,408,714	3,467,501	4,013,233	4,321,410	4,898,507	5,993,623	7,248,799	6,729,065	6,652,516	6,652,186	6,652,159
Part-time	2,764,597	4,343,525	4,998,937	5,171,834	5,997,652	6,132,979	6,302,689	6,690,464	7,932,256	7,700,692	7,721,590	7,702,010	7,661,843
Males	1,539,547	2,222,244	2,185,130	2,210,730	2,476,157	2,535,147	2,610,676	2,652,537	3,207,376	3,165,372	3,165,624	3,147,359	3,107,204
Females	1,225,050	2,121,281	2,813,807	2,961,104	3,521,495	3,597,832	3,692,013	4,037,927	4,724,880	4,535,320	4,555,966	4,554,651	4,554,639
4-year	**6,261,502**	**7,214,740**	**7,570,608**	**7,715,978**	**8,578,554**	**8,769,252**	**9,363,858**	**10,999,420**	**13,335,841**	**13,488,743**	**13,754,486**	**13,825,380**	**13,898,450**
Full-time	4,587,379	5,080,256	5,344,163	5,384,614	5,937,023	6,151,755	6,792,551	8,150,209	9,721,803	9,776,828	9,815,967	9,848,817	9,878,281
Males	2,732,796	2,891,192	2,809,528	2,781,412	2,926,360	2,929,177	3,115,252	3,649,622	4,355,153	4,414,743	4,414,959	4,410,360	4,383,668
Females	1,854,583	2,189,064	2,534,635	2,603,202	3,010,663	3,222,578	3,677,299	4,500,587	5,366,650	5,362,085	5,401,008	5,438,457	5,494,613
Part-time	1,674,123	2,134,484	2,226,445	2,331,364	2,641,531	2,617,497	2,571,307	2,849,211	3,614,038	3,711,915	3,938,519	3,976,563	4,020,169
Males	936,189	1,092,461	1,017,813	1,034,804	1,124,780	1,084,753	1,047,917	1,125,935	1,424,721	1,491,001	1,586,069	1,594,427	1,605,980
Females	737,934	1,042,023	1,208,632	1,296,560	1,516,751	1,532,744	1,523,390	1,723,276	2,189,317	2,220,914	2,352,450	2,382,136	2,414,189
Public 4-year	4,232,722	4,998,142	5,128,612	5,209,540	5,848,242	5,814,545	6,055,398	6,837,605	7,924,108	8,348,539	8,742,931	8,854,279	8,983,172
Full-time	3,086,491	3,469,821	3,592,193	3,623,341	4,033,654	4,084,711	4,371,218	5,021,745	5,811,214	6,081,177	6,236,018	6,309,569	6,336,079
Males	1,813,584	1,947,823	1,873,397	1,863,689	1,982,369	1,951,140	2,008,618	2,295,456	2,707,307	2,833,998	2,894,232	2,911,441	2,894,658
Females	1,272,907	1,521,998	1,718,796	1,759,652	2,051,285	2,133,571	2,362,600	2,726,289	3,103,907	3,247,179	3,341,786	3,398,128	3,441,421
Part-time	1,146,231	1,528,321	1,536,419	1,586,199	1,814,588	1,729,834	1,684,180	1,815,860	2,112,894	2,267,362	2,506,913	2,544,710	2,647,093
Males	609,422	760,469	685,051	693,115	764,248	720,402	683,100	724,375	860,968	955,658	1,065,112	1,077,611	1,111,110
Females	536,809	767,852	851,368	893,084	1,050,340	1,009,432	1,001,080	1,091,485	1,251,926	1,311,704	1,441,801	1,467,099	1,535,983
Private 4-year	2,028,780	2,216,598	2,441,996	2,506,438	2,730,312	2,954,707	3,308,460	4,161,815	5,411,733	5,140,204	5,011,555	4,971,101	4,915,278
Full-time	1,500,888	1,610,435	1,751,970	1,761,273	1,903,369	2,067,044	2,421,333	3,128,464	3,910,589	3,695,651	3,579,949	3,539,248	3,542,202
Males	919,212	943,369	936,131	917,723	943,991	978,037	1,106,634	1,354,166	1,647,846	1,580,745	1,520,727	1,498,919	1,489,010
Females	581,676	667,066	815,839	843,550	959,378	1,089,007	1,314,699	1,774,298	2,262,743	2,114,906	2,059,222	2,040,329	2,053,192
Part-time	527,892	606,163	690,026	745,165	826,943	887,663	887,127	1,033,351	1,501,144	1,444,553	1,431,606	1,431,853	1,373,076
Males	326,767	331,992	332,762	341,689	360,532	364,351	364,817	401,560	563,753	535,343	520,957	516,816	494,870
Females	201,125	274,171	357,264	403,476	466,411	523,312	522,310	631,791	937,391	909,210	910,649	915,037	878,206
Nonprofit 4-year	2,021,121	2,198,451	2,413,693	2,463,000	2,671,069	2,853,890	3,050,575	3,411,170	3,821,799	4,015,882	4,028,401	4,060,094	4,086,674
Full-time	1,494,625	1,596,074	1,733,014	1,727,707	1,859,124	1,989,457	2,226,028	2,534,793	2,864,640	3,009,240	3,019,342	3,040,980	3,085,932
Males	914,020	930,842	921,253	894,080	915,100	931,956	996,113	1,109,075	1,259,638	1,320,947	1,318,323	1,318,131	1,327,144
Females	580,605	665,232	811,761	833,627	944,024	1,057,501	1,229,915	1,425,718	1,605,002	1,688,293	1,701,019	1,722,849	1,758,788
Part-time	526,496	602,377	680,679	735,293	811,945	864,433	824,547	876,377	957,159	1,006,642	1,009,059	1,019,114	1,000,742
Males	325,693	329,662	327,986	336,168	352,106	351,874	332,814	339,572	366,735	385,942	385,008	389,975	382,807
Females	200,803	272,715	352,693	399,125	459,839	512,559	491,733	536,805	590,424	620,700	624,051	629,139	617,935
For-profit 4-year	7,659	18,147	28,303	43,438	59,243	100,817	257,885	750,645	1,589,934	1,124,322	983,154	911,007	828,604
2-year	**2,319,385**	**3,970,119**	**4,526,287**	**4,531,077**	**5,240,083**	**5,492,529**	**5,948,431**	**6,488,055**	**7,683,597**	**6,499,461**	**6,092,418**	**5,952,771**	**5,752,962**
Full-time	1,228,911	1,761,078	1,753,795	1,690,607	1,883,962	1,977,047	2,217,049	2,646,802	3,365,379	2,510,684	2,309,347	2,227,324	2,111,288
Males	771,299	1,035,561	879,716	826,308	881,392	878,215	995,841	1,153,766	1,483,230	1,143,704	1,057,839	1,013,595	953,742
Females	457,612	725,517	874,079	864,299	1,002,570	1,098,832	1,221,208	1,493,036	1,882,149	1,366,980	1,251,508	1,213,729	1,157,546
Part-time	1,090,474	2,209,041	2,772,492	2,840,470	3,356,121	3,515,482	3,731,382	3,841,253	4,318,218	3,988,777	3,783,071	3,725,447	3,641,674
Males	603,358	1,129,783	1,167,317	1,175,926	1,351,377	1,450,394	1,562,759	1,526,602	1,782,655	1,674,371	1,579,555	1,552,932	1,501,224
Females	487,116	1,079,258	1,605,175	1,664,544	2,004,744	2,065,088	2,168,623	2,314,651	2,535,563	2,314,406	2,203,516	2,172,515	2,140,450
Public 2-year	2,195,412	3,836,366	4,328,782	4,269,733	4,996,475	5,277,829	5,697,388	6,184,229	7,218,063	6,224,304	5,842,909	5,717,460	5,556,085
Full-time	1,129,165	1,662,621	1,595,493	1,496,905	1,716,843	1,840,590	2,000,008	2,387,016	2,950,024	2,272,769	2,091,361	2,016,905	1,931,294
Males	720,440	988,701	811,871	742,673	810,664	818,605	891,282	1,055,029	1,340,820	1,062,633	983,567	945,990	892,608
Females	408,725	673,920	783,622	754,232	906,179	1,021,985	1,108,726	1,331,987	1,609,204	1,210,136	1,107,794	1,070,915	1,038,686
Part-time	1,066,247	2,173,745	2,733,289	2,772,828	3,279,632	3,437,239	3,697,380	3,797,213	4,268,039	3,951,535	3,751,548	3,700,555	3,624,791
Males	589,439	1,107,680	1,152,268	1,138,011	1,317,730	1,417,488	1,549,407	1,514,363	1,769,737	1,665,373	1,571,824	1,546,504	1,496,660
Females	476,808	1,066,065	1,581,021	1,634,817	1,961,902	2,019,751	2,147,973	2,282,850	2,498,302	2,286,162	2,179,724	2,154,051	2,128,131
Private 2-year	123,973	133,753	197,505	261,344	243,608	214,700	251,043	303,826	465,534	275,157	249,509	235,311	196,877
Full-time	99,746	98,457	158,302	193,702	167,119	136,457	217,041	259,786	415,355	237,915	217,986	210,419	179,994
Males	50,859	46,860	67,845	83,635	70,728	59,610	104,559	98,737	142,410	81,071	74,272	67,605	61,134
Females	48,887	51,597	90,457	110,067	96,391	76,847	112,482	161,049	272,945	156,844	143,714	142,814	118,860
Part-time	24,227	35,296	39,203	67,642	76,489	78,243	34,002	44,040	50,179	37,242	31,523	24,892	16,883
Males	13,919	22,103	15,049	37,915	33,647	32,906	13,352	12,239	12,918	8,998	7,731	6,428	4,564
Females	10,308	13,193	24,154	29,727	42,842	45,337	20,650	31,801	37,261	28,244	23,792	18,464	12,319
Nonprofit 2-year	113,299	112,997	114,094	108,791	89,158	75,154	58,844	43,522	32,683	50,009	50,555	48,395	45,172
Full-time	91,514	82,158	83,009	76,547	62,003	54,033	46,670	28,939	23,127	36,027	39,513	41,091	38,082
Males	46,030	40,548	34,968	30,878	25,946	23,265	21,950	12,086	9,944	11,972	11,950	10,794	9,440
Females	45,484	41,610	48,041	45,669	36,057	30,768	24,720	16,853	13,183	24,055	27,563	30,297	28,642
Part-time	21,785	30,839	31,085	32,244	27,155	21,121	12,174	14,583	9,556	13,982	11,042	7,304	7,090
Males	12,097	18,929	11,445	10,786	7,970	6,080	4,499	3,566	2,585	2,707	2,547	1,925	1,835
Females	9,688	11,910	19,640	21,458	19,185	15,041	7,675	11,017	6,971	11,275	8,495	5,379	5,255
For-profit 2-year	10,674	20,756	83,411[1]	152,553	154,450	139,546	192,199	260,304	432,851	225,148	198,954	186,916	151,705

See notes at end of table.

Table 15. Total fall enrollment in degree-granting postsecondary institutions, by level and control of institution, attendance status, and sex of student: Selected years, 1970 through 2030—Continued

Level and control of institution, attendance status, and sex of student	Actual		Projected									
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
1	15	16	17	18	19	20	21	22	23	24	*25*	26
Total	**19,630,178**	**18,991,798**	**20,327,000**	**20,031,000**	**19,851,000**	**19,862,000**	**19,934,000**	**20,054,000**	**20,169,000**	**20,282,000**	**20,393,000**	**20,482,000**
Full-time	11,954,413	11,591,353	12,387,000	12,177,000	12,041,000	12,041,000	12,099,000	12,182,000	12,241,000	12,301,000	12,361,000	12,402,000
Males	5,275,612	4,980,417	5,472,000	5,360,000	5,286,000	5,280,000	5,303,000	5,339,000	5,367,000	5,396,000	5,425,000	5,447,000
Females	6,678,801	6,610,936	6,914,000	6,817,000	6,755,000	6,761,000	6,796,000	6,843,000	6,874,000	6,906,000	6,936,000	6,955,000
Part-time	7,675,765	7,400,445	7,941,000	7,854,000	7,810,000	7,821,000	7,835,000	7,872,000	7,928,000	7,980,000	8,032,000	8,080,000
Males	3,088,277	2,889,128	3,212,000	3,164,000	3,137,000	3,137,000	3,141,000	3,157,000	3,183,000	3,207,000	3,230,000	3,253,000
Females	4,587,488	4,511,317	4,729,000	4,690,000	4,674,000	4,684,000	4,694,000	4,715,000	4,745,000	4,773,000	4,801,000	4,827,000
4-year	**14,039,467**	**14,078,015**	**14,562,000**	**14,328,000**	**14,180,000**	**14,181,000**	**14,236,000**	**14,328,000**	**14,414,000**	**14,500,000**	**14,579,000**	**14,641,000**
Full-time	9,909,940	9,781,782	10,268,000	10,088,000	9,970,000	9,970,000	10,017,000	10,086,000	10,140,000	10,194,000	10,241,000	10,274,000
Males	4,356,062	4,214,144	4,526,000	4,429,000	4,364,000	4,358,000	4,377,000	4,407,000	4,433,000	4,459,000	4,483,000	4,500,000
Females	5,553,878	5,567,638	5,743,000	5,659,000	5,606,000	5,612,000	5,641,000	5,679,000	5,707,000	5,735,000	5,759,000	5,774,000
Part-time	4,129,527	4,296,233	4,293,000	4,241,000	4,210,000	4,211,000	4,219,000	4,242,000	4,274,000	4,306,000	4,338,000	4,367,000
Males	1,633,541	1,678,104	1,710,000	1,681,000	1,662,000	1,659,000	1,661,000	1,670,000	1,685,000	1,699,000	1,713,000	1,726,000
Females	2,495,986	2,618,129	2,583,000	2,560,000	2,548,000	2,552,000	2,558,000	2,571,000	2,589,000	2,607,000	2,624,000	2,640,000
Public 4-year	9,102,782	9,164,582	9,418,000	9,273,000	9,183,000	9,187,000	9,223,000	9,281,000	9,334,000	9,385,000	9,433,000	9,469,000
Full-time	6,350,443	6,277,558	6,557,000	6,447,000	6,378,000	6,380,000	6,411,000	6,454,000	6,485,000	6,517,000	6,543,000	6,561,000
Males	2,873,678	2,773,709	2,975,000	2,914,000	2,875,000	2,873,000	2,886,000	2,905,000	2,921,000	2,936,000	2,951,000	2,961,000
Females	3,476,765	3,503,849	3,583,000	3,533,000	3,503,000	3,507,000	3,526,000	3,549,000	3,565,000	3,580,000	3,593,000	3,600,000
Part-time	2,752,339	2,887,024	2,860,000	2,825,000	2,806,000	2,807,000	2,812,000	2,826,000	2,848,000	2,869,000	2,890,000	2,908,000
Males	1,145,259	1,180,755	1,198,000	1,178,000	1,165,000	1,163,000	1,165,000	1,171,000	1,181,000	1,191,000	1,201,000	1,210,000
Females	1,607,080	1,706,269	1,662,000	1,648,000	1,641,000	1,644,000	1,647,000	1,655,000	1,667,000	1,678,000	1,689,000	1,699,000
Private 4-year	4,936,685	4,913,433	5,144,000	5,056,000	4,997,000	4,994,000	5,013,000	5,047,000	5,080,000	5,114,000	5,146,000	5,172,000
Full-time	3,559,497	3,504,224	3,711,000	3,640,000	3,593,000	3,590,000	3,606,000	3,632,000	3,654,000	3,677,000	3,698,000	3,714,000
Males	1,482,384	1,440,435	1,551,000	1,515,000	1,489,000	1,485,000	1,491,000	1,502,000	1,512,000	1,522,000	1,532,000	1,540,000
Females	2,077,113	2,063,789	2,160,000	2,126,000	2,104,000	2,104,000	2,115,000	2,130,000	2,142,000	2,155,000	2,166,000	2,174,000
Part-time	1,377,188	1,409,209	1,433,000	1,416,000	1,404,000	1,404,000	1,407,000	1,415,000	1,426,000	1,437,000	1,448,000	1,458,000
Males	488,282	497,349	513,000	503,000	497,000	496,000	496,000	499,000	504,000	508,000	513,000	517,000
Females	888,906	911,860	921,000	912,000	908,000	909,000	911,000	916,000	923,000	929,000	936,000	942,000
Nonprofit 4-year	4,101,882	4,068,767	—	—	—	—	—	—	—	—	—	—
Full-time	3,098,351	3,045,254	—	—	—	—	—	—	—	—	—	—
Males	1,323,234	1,286,867	—	—	—	—	—	—	—	—	—	—
Females	1,775,117	1,758,387	—	—	—	—	—	—	—	—	—	—
Part-time	1,003,531	1,023,513	—	—	—	—	—	—	—	—	—	—
Males	380,238	387,952	—	—	—	—	—	—	—	—	—	—
Females	623,293	635,561	—	—	—	—	—	—	—	—	—	—
For-profit 4-year	834,803	844,666	—	—	—	—	—	—	—	—	—	—
2-year	**5,590,711**	**4,913,783**	**5,766,000**	**5,702,000**	**5,671,000**	**5,681,000**	**5,698,000**	**5,726,000**	**5,755,000**	**5,782,000**	**5,814,000**	**5,841,000**
Full-time	2,044,473	1,809,571	2,118,000	2,089,000	2,070,000	2,071,000	2,082,000	2,096,000	2,102,000	2,108,000	2,120,000	2,128,000
Males	919,550	766,273	947,000	931,000	921,000	921,000	926,000	932,000	934,000	937,000	943,000	946,000
Females	1,124,923	1,043,298	1,171,000	1,158,000	1,149,000	1,150,000	1,156,000	1,164,000	1,167,000	1,171,000	1,177,000	1,181,000
Part-time	3,546,238	3,104,212	3,647,000	3,613,000	3,600,000	3,610,000	3,615,000	3,630,000	3,654,000	3,674,000	3,694,000	3,714,000
Males	1,454,736	1,211,024	1,502,000	1,483,000	1,475,000	1,478,000	1,480,000	1,487,000	1,498,000	1,508,000	1,517,000	1,526,000
Females	2,091,502	1,893,188	2,146,000	2,130,000	2,126,000	2,132,000	2,136,000	2,143,000	2,156,000	2,167,000	2,177,000	2,187,000
Public 2-year	5,400,865	4,702,657	5,557,000	5,497,000	5,467,000	5,477,000	5,493,000	5,520,000	5,549,000	5,575,000	5,605,000	5,632,000
Full-time	1,868,792	1,612,636	1,927,000	1,901,000	1,884,000	1,885,000	1,895,000	1,907,000	1,912,000	1,918,000	1,929,000	1,936,000
Males	856,617	696,290	882,000	868,000	858,000	858,000	863,000	868,000	870,000	873,000	878,000	881,000
Females	1,012,175	916,346	1,046,000	1,033,000	1,026,000	1,026,000	1,032,000	1,039,000	1,042,000	1,045,000	1,051,000	1,055,000
Part-time	3,532,073	3,090,021	3,630,000	3,596,000	3,583,000	3,593,000	3,598,000	3,613,000	3,637,000	3,657,000	3,676,000	3,696,000
Males	1,450,430	1,206,765	1,496,000	1,478,000	1,469,000	1,472,000	1,475,000	1,481,000	1,493,000	1,502,000	1,512,000	1,521,000
Females	2,081,643	1,883,256	2,134,000	2,118,000	2,114,000	2,120,000	2,124,000	2,131,000	2,144,000	2,155,000	2,165,000	2,175,000
Private 2-year	189,846	211,126	208,000	205,000	204,000	204,000	205,000	206,000	207,000	207,000	209,000	209,000
Full-time	175,681	196,935	191,000	188,000	187,000	187,000	188,000	189,000	189,000	190,000	191,000	192,000
Males	62,933	69,983	65,000	64,000	63,000	63,000	64,000	64,000	64,000	64,000	65,000	65,000
Females	112,748	126,952	126,000	124,000	123,000	123,000	124,000	125,000	125,000	126,000	126,000	127,000
Part-time	14,165	14,191	17,000	17,000	17,000	17,000	17,000	17,000	17,000	17,000	18,000	18,000
Males	4,306	4,259	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	6,000
Females	9,859	9,932	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000
Nonprofit 2-year	33,490	32,252	—	—	—	—	—	—	—	—	—	—
Full-time	27,652	26,458	—	—	—	—	—	—	—	—	—	—
Males	8,918	8,225	—	—	—	—	—	—	—	—	—	—
Females	18,734	18,233	—	—	—	—	—	—	—	—	—	—
Part-time	5,838	5,794	—	—	—	—	—	—	—	—	—	—
Males	1,642	1,588	—	—	—	—	—	—	—	—	—	—
Females	4,196	4,206	—	—	—	—	—	—	—	—	—	—
For-profit 2-year	156,356	178,874	—	—	—	—	—	—	—	—	—	—

— Not available.

[1] Large increase in private 2-year institutions in 1980 is due to the addition of schools accredited by the Accrediting Commission of Career Schools and Colleges of Technology.

NOTE: Data in this table represent the 50 states and the District of Columbia. Data through 1995 are for institutions of higher education, while later data are for degree-granting institutions. Degree-granting institutions grant associate's or higher degrees and participate in Title IV federal financial aid programs. The degree-granting classification is very similar to the earlier higher education classification, but it includes more 2-year colleges and excludes a few higher education institutions that did not grant degrees. Projections in this table were calculated after the onset of the coronavirus pandemic and take into account the expected impacts of the pandemic. Some data have been revised from previously published figures.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Higher Education General Information Survey (HEGIS), "Fall Enrollment in Colleges and Universities" surveys, 1970 through 1985; Integrated Postsecondary Education Data System (IPEDS), "Fall Enrollment Survey" (IPEDS-EF:90–99); IPEDS Spring 2001 through Spring 2021, Fall Enrollment component; and Enrollment in Degree-Granting Institutions Projection Model, through 2030. (This table was prepared November 2021.)

Table 16. Total undergraduate fall enrollment in degree-granting postsecondary institutions, by attendance status, sex of student, and control and level of institution: Selected years, 1970 through 2030

Level and year	Total	Full-time	Part-time	Males	Females	Males		Females		Public	Private		
						Full-time	Part-time	Full-time	Part-time		Total	Nonprofit	For-profit
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Total, all levels													
1970	7,368,644	5,280,064	2,088,580	4,249,702	3,118,942	3,096,371	1,153,331	2,183,693	935,249	5,620,255	1,748,389	1,730,133	18,256
1975	9,679,455	6,168,396	3,511,059	5,257,005	4,422,450	3,459,328	1,797,677	2,709,068	1,713,382	7,826,032	1,853,423	1,814,844	38,579
1980	10,475,055	6,361,744	4,113,311	5,000,177	5,474,878	3,226,857	1,773,320	3,134,887	2,339,991	8,441,955	2,033,100	1,926,703	106,397
1985	10,596,674	6,319,592	4,277,082	4,962,080	5,634,594	3,156,446	1,805,634	3,163,146	2,471,448	8,477,125	2,119,549	1,928,996	190,553
1986	10,797,975	6,352,073	4,445,902	5,017,505	5,780,470	3,146,330	1,871,175	3,205,743	2,574,727	8,660,716	2,137,259	1,928,294	208,965
1987	11,046,235	6,462,549	4,583,686	5,068,457	5,977,778	3,163,676	1,904,781	3,298,873	2,678,905	8,918,589	2,127,646	1,939,942	187,704
1988	11,316,548	6,642,428	4,674,120	5,137,644	6,178,904	3,206,442	1,931,202	3,435,986	2,742,918	9,103,146	2,213,402	—	—
1989	11,742,531	6,840,696	4,901,835	5,310,990	6,431,541	3,278,647	2,032,343	3,562,049	2,869,492	9,487,742	2,254,789	—	—
1990	11,959,106	6,976,030	4,983,076	5,379,759	6,579,347	3,336,535	2,043,224	3,639,495	2,939,852	9,709,596	2,249,510	2,043,407	206,103
1991	12,439,287	7,221,412	5,217,875	5,571,003	6,868,284	3,435,526	2,135,477	3,785,886	3,082,398	10,147,957	2,291,330	2,072,354	218,976
1992	12,537,700	7,244,442	5,293,258	5,582,936	6,954,764	3,424,739	2,158,197	3,819,703	3,135,061	10,216,297	2,321,403	2,101,721	219,682
1993	12,323,959	7,179,482	5,144,477	5,483,682	6,840,277	3,381,997	2,101,685	3,797,485	3,042,792	10,011,787	2,312,172	2,099,197	212,975
1994	12,262,608	7,168,706	5,093,902	5,422,113	6,840,495	3,341,591	2,080,522	3,827,115	3,013,380	9,945,128	2,317,480	2,100,465	217,015
1995	12,231,719	7,145,268	5,086,451	5,401,130	6,830,589	3,296,610	2,104,520	3,848,658	2,981,931	9,903,626	2,328,093	2,104,693	223,400
1996	12,326,948	7,298,839	5,028,109	5,420,672	6,906,276	3,339,108	2,081,564	3,959,731	2,946,545	9,935,283	2,391,665	2,112,318	279,347
1997	12,450,587	7,418,598	5,031,989	5,468,532	6,982,055	3,379,597	2,088,935	4,039,001	2,943,054	10,007,479	2,443,108	2,139,824	303,284
1998	12,436,937	7,538,711	4,898,226	5,446,133	6,990,804	3,428,161	2,017,972	4,110,550	2,880,254	9,950,212	2,486,725	2,152,655	334,070
1999	12,739,445	7,753,548	4,985,897	5,584,234	7,155,211	3,524,586	2,059,648	4,228,962	2,926,249	10,174,228	2,565,217	2,185,290	379,927
2000	13,155,393	7,922,926	5,232,467	5,778,268	7,377,125	3,588,246	2,190,022	4,334,680	3,042,445	10,539,322	2,616,071	2,213,180	402,891
2001	13,715,610	8,327,640	5,387,970	6,004,431	7,711,179	3,768,630	2,235,801	4,559,010	3,152,169	10,985,871	2,729,739	2,257,718	472,021
2002	14,257,077	8,734,252	5,522,825	6,192,390	8,064,687	3,934,168	2,258,222	4,800,084	3,264,603	11,432,855	2,824,222	2,306,091	518,131
2003	14,480,364	9,045,253	5,435,111	6,227,372	8,252,992	4,048,682	2,178,690	4,996,571	3,256,421	11,523,103	2,957,261	2,346,673	610,588
2004	14,780,630	9,284,336	5,496,294	6,340,048	8,440,582	4,140,628	2,199,420	5,143,708	3,296,874	11,650,580	3,130,050	2,389,366	740,684
2005	14,963,964	9,446,430	5,517,534	6,408,871	8,555,093	4,200,863	2,208,008	5,245,567	3,309,526	11,697,730	3,266,234	2,418,368	847,866
2006	15,179,591	9,571,349	5,608,242	6,511,198	8,668,393	4,264,722	2,246,476	5,306,627	3,361,766	11,842,625	3,336,966	2,448,250	888,716
2007	15,613,540	9,841,973	5,771,567	6,731,561	8,881,979	4,397,402	2,334,159	5,444,571	3,437,408	12,147,744	3,465,796	2,470,463	995,333
2008	16,344,592	10,244,174	6,100,418	7,055,640	9,288,952	4,570,913	2,484,727	5,673,261	3,615,691	12,589,947	3,754,645	2,535,789	1,218,856
2009	17,464,179	11,038,275	6,425,904	7,563,176	9,901,003	4,942,120	2,621,056	6,096,155	3,804,848	13,386,375	4,077,804	2,595,171	1,482,633
2010	18,082,427	11,457,040	6,625,387	7,836,282	10,246,145	5,118,975	2,717,307	6,338,065	3,908,080	13,703,000	4,379,427	2,652,993	1,726,434
2011	18,077,303	11,365,175	6,712,128	7,822,992	10,254,311	5,070,553	2,752,439	6,294,622	3,959,689	13,694,899	4,382,404	2,718,923	1,663,481
2012	17,735,638	11,097,092	6,638,546	7,714,938	10,020,700	4,984,389	2,730,549	6,112,703	3,907,997	13,478,100	4,257,538	2,744,400	1,513,138
2013	17,476,304	10,939,276	6,537,028	7,660,140	9,816,164	4,950,210	2,709,930	5,989,066	3,827,098	13,348,292	4,128,012	2,755,463	1,372,549
2014	17,294,136	10,784,392	6,509,744	7,586,299	9,707,837	4,877,531	2,708,768	5,906,861	3,800,976	13,244,533	4,049,603	2,772,065	1,277,538
2015	17,046,673	10,603,030	6,443,643	7,502,254	9,544,419	4,809,098	2,693,156	5,793,932	3,750,487	13,150,823	3,895,850	2,822,122	1,073,728
2016	16,874,649	10,430,068	6,444,581	7,416,859	9,457,790	4,725,510	2,691,349	5,704,558	3,753,232	13,143,979	3,730,670	2,813,742	916,928
2017	16,773,036	10,371,863	6,401,173	7,351,259	9,421,777	4,683,715	2,667,544	5,688,148	3,733,629	13,112,594	3,660,442	2,819,080	841,362
2018	16,616,370	10,266,392	6,349,978	7,228,148	9,388,222	4,601,834	2,626,314	5,664,558	3,723,664	13,059,760	3,556,610	2,819,406	737,204
2019	16,557,539	10,209,793	6,347,746	7,149,450	9,408,089	4,543,556	2,605,894	5,666,237	3,741,852	13,004,143	3,553,396	2,794,796	758,600
2020	15,851,906	9,829,742	6,022,164	6,650,345	9,201,561	4,260,719	2,389,626	5,569,023	3,632,538	12,321,146	3,530,760	2,742,949	787,811
2021[1]	17,014,000	10,467,000	6,547,000	7,359,000	9,655,000	4,659,000	2,700,000	5,808,000	3,847,000	13,359,000	3,655,000	—	—
2022[1]	16,799,000	10,319,000	6,480,000	7,243,000	9,557,000	4,580,000	2,663,000	5,739,000	3,817,000	13,193,000	3,606,000	—	—
2023[1]	16,683,000	10,231,000	6,451,000	7,176,000	9,507,000	4,532,000	2,644,000	5,700,000	3,808,000	13,104,000	3,579,000	—	—
2024[1]	16,711,000	10,246,000	6,464,000	7,182,000	9,529,000	4,535,000	2,646,000	5,711,000	3,818,000	13,126,000	3,584,000	—	—
2025[1]	16,775,000	10,301,000	6,474,000	7,208,000	9,567,000	4,559,000	2,650,000	5,743,000	3,824,000	13,175,000	3,601,000	—	—
2026[1]	16,868,000	10,366,000	6,502,000	7,251,000	9,617,000	4,588,000	2,663,000	5,778,000	3,839,000	13,247,000	3,622,000	—	—
2027[1]	16,948,000	10,400,000	6,547,000	7,289,000	9,658,000	4,605,000	2,684,000	5,795,000	3,863,000	13,311,000	3,637,000	—	—
2028[1]	17,022,000	10,434,000	6,588,000	7,326,000	9,696,000	4,622,000	2,703,000	5,812,000	3,884,000	13,370,000	3,652,000	—	—
2029[1]	*17,092,000*	*10,466,000*	*6,626,000*	*7,361,000*	*9,731,000*	*4,640,000*	*2,721,000*	*5,826,000*	*3,905,000*	*13,428,000*	*3,664,000*	—	—
2030[1]	17,146,000	10,483,000	6,664,000	7,390,000	9,756,000	4,651,000	2,739,000	5,832,000	3,924,000	13,474,000	3,672,000	—	—
2-year institutions[2]													
1970	2,318,956	1,228,909	1,090,047	1,374,426	944,530	771,298	603,128	457,611	486,919	2,194,983	123,973	113,299	10,674
1975	3,965,726	1,761,009	2,204,717	2,163,604	1,802,122	1,035,531	1,128,073	725,478	1,076,644	3,831,973	133,753	112,997	20,756
1980	4,525,097	1,753,637	2,771,460	2,046,642	2,478,455	879,619	1,167,023	874,018	1,604,437	4,327,592	197,505	114,094	83,411
1985	4,531,077	1,690,607	2,840,470	2,002,234	2,528,843	826,308	1,175,926	864,299	1,664,544	4,269,733	261,344	108,791	152,553
1986	4,679,548	1,696,261	2,983,287	2,060,932	2,618,616	824,551	1,236,381	871,710	1,746,906	4,413,691	265,857	101,498	164,359
1987	4,776,222	1,708,669	3,067,553	2,072,823	2,703,399	820,167	1,252,656	888,502	1,814,897	4,541,054	235,168	90,102	145,066
1988	4,875,155	1,743,592	3,131,563	2,089,689	2,785,466	818,593	1,271,096	924,999	1,860,467	4,615,487	259,668	—	—
1989	5,150,889	1,855,701	3,295,188	2,216,800	2,934,089	869,688	1,347,112	986,013	1,948,076	4,883,660	267,229	—	—
1990	5,240,083	1,883,962	3,356,121	2,232,769	3,007,314	881,392	1,351,377	1,002,570	2,004,744	4,996,475	243,608	89,158	154,450
1991	5,651,900	2,074,530	3,577,370	2,401,910	3,249,990	961,397	1,440,513	1,113,133	2,136,857	5,404,815	247,085	89,289	157,796
1992	5,722,349	2,080,005	3,642,344	2,413,266	3,309,083	951,816	1,461,450	1,128,189	2,180,894	5,484,514	237,835	83,288	154,547
1993	5,565,561	2,043,319	3,522,242	2,345,396	3,220,165	928,216	1,417,180	1,115,103	2,105,062	5,337,022	228,539	86,357	142,182
1994	5,529,609	2,031,713	3,497,896	2,323,161	3,206,448	911,589	1,411,572	1,120,124	2,086,324	5,308,366	221,243	85,607	135,636
1995	5,492,098	1,977,046	3,515,052	2,328,500	3,163,598	878,215	1,450,285	1,098,831	2,064,767	5,277,398	214,700	75,154	139,546
1996	5,562,780	2,072,215	3,490,565	2,358,792	3,203,988	916,452	1,442,340	1,155,763	2,048,225	5,314,038	248,742	75,253	173,489
1997	5,605,569	2,095,171	3,510,398	2,389,711	3,215,858	931,394	1,458,317	1,163,777	2,052,081	5,360,686	244,883	71,794	173,089
1998	5,489,314	2,085,906	3,403,408	2,333,334	3,155,980	936,421	1,396,913	1,149,485	2,006,495	5,245,963	243,351	65,870	177,481
1999	5,653,256	2,167,242	3,486,014	2,413,322	3,239,934	979,203	1,434,119	1,188,039	2,051,895	5,397,786	255,470	63,301	192,169
2000	5,948,104	2,217,044	3,731,060	2,558,520	3,389,584	995,839	1,562,681	1,221,205	2,168,379	5,697,061	251,043	58,844	192,199
2001	6,250,529	2,374,490	3,876,039	2,675,193	3,575,336	1,066,281	1,608,912	1,308,209	2,267,127	5,996,651	253,878	47,549	206,329
2002	6,529,198	2,556,032	3,973,166	2,753,405	3,775,793	1,135,669	1,617,736	1,420,363	2,355,430	6,270,199	258,999	47,087	211,912
2003	6,493,862	2,650,337	3,843,525	2,689,928	3,803,934	1,162,555	1,527,373	1,487,782	2,316,152	6,208,885	284,977	43,868	241,109
2004	6,545,570	2,683,489	3,862,081	2,697,507	3,848,063	1,166,554	1,530,953	1,516,935	2,331,128	6,243,344	302,226	42,250	259,976
2005	6,487,826	2,646,763	3,841,063	2,680,299	3,807,527	1,153,759	1,526,540	1,493,004	2,314,523	6,184,000	303,826	43,522	260,304
2006	6,513,303	2,643,162	3,870,141	2,701,970	3,811,333	1,159,733	1,542,237	1,483,429	2,327,904	6,219,880	293,423	39,156	254,267
2007	6,628,936	2,694,608	3,934,328	2,775,166	3,853,770	1,191,058	1,584,108	1,503,550	2,350,220	6,335,826	293,110	33,492	259,618
2008	6,970,947	2,832,412	4,138,535	2,935,799	4,035,148	1,250,063	1,685,736	1,582,349	2,452,799	6,639,928	331,019	35,358	295,661
2009	7,522,581	3,243,952	4,278,629	3,197,338	4,325,243	1,446,372	1,750,966	1,797,580	2,527,663	7,101,569	421,012	34,772	386,240

See notes at end of table.

Table 16. Total undergraduate fall enrollment in degree-granting postsecondary institutions, by attendance status, sex of student, and control and level of institution: Selected years, 1970 through 2030—Continued

Level and year	Total	Full-time	Part-time	Males	Females	Males		Females		Public	Private		
						Full-time	Part-time	Full-time	Part-time		Total	Nonprofit	For-profit
1	2	3	4	5	6	7	8	9	10	11	12	13	14
2010	7,683,597	3,365,379	4,318,218	3,265,885	4,417,712	1,483,230	1,782,655	1,882,149	2,535,563	7,218,063	465,534	32,683	432,851
2011	7,511,150	3,170,207	4,340,943	3,175,803	4,335,347	1,391,183	1,784,620	1,779,024	2,556,323	7,068,158	442,992	39,855	403,137
2012	7,167,840	2,941,797	4,226,043	3,046,093	4,121,747	1,305,657	1,740,436	1,636,140	2,485,607	6,792,065	375,775	37,698	338,077
2013	6,970,644	2,836,274	4,134,370	2,998,440	3,972,204	1,279,794	1,718,646	1,556,480	2,415,724	6,626,411	344,233	32,191	312,042
2014	6,714,678	2,661,107	4,053,571	2,894,020	3,820,658	1,200,648	1,693,372	1,460,459	2,360,199	6,397,552	317,126	30,376	286,750
2015	6,499,461	2,510,684	3,988,777	2,818,075	3,681,386	1,143,704	1,674,371	1,366,980	2,314,406	6,224,304	275,157	50,009	225,148
2016	6,092,418	2,309,347	3,783,071	2,637,394	3,455,024	1,057,839	1,579,555	1,251,508	2,203,516	5,842,909	249,509	50,555	198,954
2017	5,952,771	2,227,324	3,725,447	2,566,527	3,386,244	1,013,595	1,552,932	1,213,729	2,172,515	5,717,460	235,311	48,395	186,916
2018	5,752,962	2,111,288	3,641,674	2,454,966	3,297,996	953,742	1,501,224	1,157,546	2,140,450	5,556,085	196,877	45,172	151,705
2019	5,590,711	2,044,473	3,546,238	2,374,286	3,216,425	919,550	1,454,736	1,124,923	2,091,502	5,400,865	189,846	33,490	156,356
2020	4,913,783	1,809,571	3,104,212	1,977,297	2,936,486	766,273	1,211,024	1,043,298	1,893,188	4,702,657	211,126	32,252	178,874
2021[1]	5,766,000	2,118,000	3,647,000	2,448,000	3,317,000	947,000	1,502,000	1,171,000	2,146,000	5,557,000	208,000	—	—
2022[1]	5,702,000	2,089,000	3,613,000	2,414,000	3,288,000	931,000	1,483,000	1,158,000	2,130,000	5,497,000	205,000	—	—
2023[1]	5,671,000	2,070,000	3,600,000	2,396,000	3,274,000	921,000	1,475,000	1,149,000	2,126,000	5,467,000	204,000	—	—
2024[1]	5,681,000	2,071,000	3,610,000	2,399,000	3,282,000	921,000	1,478,000	1,150,000	2,132,000	5,477,000	204,000	—	—
2025[1]	5,698,000	2,082,000	3,615,000	2,406,000	3,292,000	926,000	1,480,000	1,156,000	2,136,000	5,493,000	205,000	—	—
2026[1]	5,726,000	2,096,000	3,630,000	2,419,000	3,307,000	932,000	1,487,000	1,164,000	2,143,000	5,520,000	206,000	—	—
2027[1]	5,755,000	2,102,000	3,654,000	2,433,000	3,323,000	934,000	1,498,000	1,167,000	2,156,000	5,549,000	207,000	—	—
2028[1]	5,782,000	2,108,000	3,674,000	2,445,000	3,337,000	937,000	1,508,000	1,171,000	2,167,000	5,575,000	207,000	—	—
2029[1]	5,814,000	2,120,000	3,694,000	2,460,000	3,354,000	943,000	1,517,000	1,177,000	2,177,000	5,605,000	209,000	—	—
2030[1]	5,841,000	2,128,000	3,714,000	2,473,000	3,369,000	946,000	1,526,000	1,181,000	2,187,000	5,632,000	209,000	—	—
4-year institutions													
1970	5,049,688	4,051,155	998,533	2,875,276	2,174,412	2,325,073	550,203	1,726,082	448,330	3,425,272	1,624,416	1,616,834	7,582
1975	5,713,729	4,407,387	1,306,342	3,093,401	2,620,328	2,423,797	669,604	1,983,590	636,738	3,994,059	1,719,670	1,701,847	17,823
1980	5,949,958	4,608,107	1,341,851	2,953,535	2,996,423	2,347,238	606,297	2,260,869	735,554	4,114,363	1,835,595	1,812,609	22,986
1985	6,065,597	4,628,985	1,436,612	2,959,846	3,105,751	2,330,138	629,708	2,298,847	806,904	4,207,392	1,858,205	1,820,205	38,000
1986	6,118,427	4,655,812	1,462,615	2,956,573	3,161,854	2,321,779	634,794	2,334,033	827,821	4,247,025	1,871,402	1,826,796	44,606
1987	6,270,013	4,753,880	1,516,133	2,995,634	3,274,379	2,343,509	652,125	2,410,371	864,008	4,377,535	1,892,478	1,849,840	42,638
1988	6,441,393	4,898,836	1,542,557	3,047,955	3,393,438	2,387,849	660,106	2,510,987	882,451	4,487,659	1,953,734	—	—
1989	6,591,642	4,984,995	1,606,647	3,094,190	3,497,452	2,408,959	685,231	2,576,036	921,416	4,604,082	1,987,560	—	—
1990	6,719,023	5,092,068	1,626,955	3,146,990	3,572,033	2,455,143	691,847	2,636,925	935,108	4,713,121	2,005,902	1,954,249	51,653
1991	6,787,387	5,146,882	1,640,505	3,169,093	3,618,294	2,474,129	694,964	2,672,753	945,541	4,743,142	2,044,245	1,983,065	61,180
1992	6,815,351	5,164,437	1,650,914	3,169,670	3,645,681	2,472,923	696,747	2,691,514	954,167	4,731,783	2,083,568	2,018,433	65,135
1993	6,758,398	5,136,163	1,622,235	3,138,286	3,620,112	2,453,781	684,505	2,682,382	937,730	4,674,765	2,083,633	2,012,840	70,793
1994	6,732,999	5,136,993	1,596,006	3,098,952	3,634,047	2,430,002	668,950	2,706,991	927,056	4,636,762	2,096,237	2,014,858	81,379
1995	6,739,621	5,168,222	1,571,399	3,072,630	3,666,991	2,418,395	654,235	2,749,827	917,164	4,626,228	2,113,393	2,029,539	83,854
1996	6,764,168	5,226,624	1,537,544	3,061,880	3,702,288	2,422,656	639,224	2,803,968	898,320	4,621,245	2,142,923	2,037,065	105,858
1997	6,845,018	5,323,427	1,521,591	3,078,821	3,766,197	2,448,203	630,618	2,875,224	890,973	4,646,793	2,198,225	2,068,030	130,195
1998	6,947,623	5,452,805	1,494,818	3,112,799	3,834,824	2,491,740	621,059	2,961,065	873,759	4,704,249	2,243,374	2,086,785	156,589
1999	7,086,189	5,586,306	1,499,883	3,170,912	3,915,277	2,545,383	625,529	3,040,923	874,354	4,776,442	2,309,747	2,121,989	187,758
2000	7,207,289	5,705,882	1,501,407	3,219,748	3,987,541	2,592,407	627,341	3,113,475	874,066	4,842,261	2,365,028	2,154,336	210,692
2001	7,465,081	5,953,150	1,511,931	3,329,238	4,135,843	2,702,349	626,889	3,250,801	885,042	4,989,220	2,475,861	2,210,169	265,692
2002	7,727,879	6,178,220	1,549,659	3,438,985	4,288,894	2,798,499	640,486	3,379,721	909,173	5,162,656	2,565,223	2,259,004	306,219
2003	7,986,502	6,394,916	1,591,586	3,537,444	4,449,058	2,886,127	651,317	3,508,789	940,269	5,314,218	2,672,284	2,302,805	369,479
2004	8,235,060	6,600,847	1,634,213	3,642,541	4,592,519	2,974,074	668,467	3,626,773	965,746	5,407,236	2,827,824	2,347,116	480,708
2005	8,476,138	6,799,667	1,676,471	3,728,572	4,747,566	3,047,104	681,468	3,752,563	995,003	5,513,730	2,962,408	2,374,846	587,562
2006	8,666,288	6,928,187	1,738,101	3,809,228	4,857,060	3,104,989	704,239	3,823,198	1,033,862	5,622,745	3,043,543	2,409,094	634,449
2007	8,984,604	7,147,365	1,837,239	3,956,395	5,028,209	3,206,344	750,051	3,941,021	1,087,188	5,811,918	3,172,686	2,436,971	735,715
2008	9,373,645	7,411,762	1,961,883	4,119,841	5,253,804	3,320,850	798,991	4,090,912	1,162,892	5,950,019	3,423,626	2,500,431	923,195
2009	9,941,598	7,794,323	2,147,275	4,365,838	5,575,760	3,495,748	870,090	4,298,575	1,277,185	6,284,806	3,656,792	2,560,399	1,096,393
2010	10,398,830	8,091,661	2,307,169	4,570,397	5,828,433	3,635,745	934,652	4,455,916	1,372,517	6,484,937	3,913,893	2,620,310	1,293,583
2011	10,566,153	8,194,968	2,371,185	4,647,189	5,918,964	3,679,370	967,819	4,515,598	1,403,366	6,626,741	3,939,412	2,679,068	1,260,344
2012	10,567,798	8,155,295	2,412,503	4,668,845	5,898,953	3,678,732	990,113	4,476,563	1,422,390	6,686,035	3,881,763	2,706,702	1,175,061
2013	10,505,660	8,103,002	2,402,658	4,661,700	5,843,960	3,670,416	991,284	4,432,586	1,411,374	6,721,881	3,783,779	2,723,272	1,060,507
2014	10,579,458	8,123,285	2,456,173	4,692,279	5,887,179	3,676,883	1,015,396	4,446,402	1,440,777	6,846,981	3,732,477	2,741,689	990,788
2015	10,547,212	8,092,346	2,454,866	4,684,179	5,863,033	3,665,394	1,018,785	4,426,952	1,436,081	6,926,519	3,620,693	2,772,113	848,580
2016	10,782,231	8,120,721	2,661,510	4,779,465	6,002,766	3,667,671	1,111,794	4,453,050	1,549,716	7,301,070	3,481,161	2,763,187	717,974
2017	10,820,265	8,144,539	2,675,726	4,784,732	6,035,533	3,670,120	1,114,612	4,474,419	1,561,114	7,395,134	3,425,131	2,770,685	654,446
2018	10,863,408	8,155,104	2,708,304	4,773,182	6,090,226	3,648,092	1,125,090	4,507,012	1,583,214	7,503,675	3,359,733	2,774,234	585,499
2019	10,966,828	8,165,320	2,801,508	4,775,164	6,191,664	3,624,006	1,151,158	4,541,314	1,650,350	7,603,278	3,363,550	2,761,306	602,244
2020	10,938,123	8,020,171	2,917,952	4,673,048	6,265,075	3,494,446	1,178,602	4,525,725	1,739,350	7,618,489	3,319,634	2,710,697	608,937
2021[1]	11,248,000	8,349,000	2,900,000	4,911,000	6,338,000	3,712,000	1,198,000	4,636,000	1,701,000	7,801,000	3,447,000	—	—
2022[1]	11,097,000	8,230,000	2,867,000	4,828,000	6,269,000	3,649,000	1,180,000	4,581,000	1,687,000	7,696,000	3,401,000	—	—
2023[1]	11,012,000	8,161,000	2,851,000	4,780,000	6,233,000	3,610,000	1,169,000	4,551,000	1,682,000	7,637,000	3,375,000	—	—
2024[1]	11,030,000	8,175,000	2,855,000	4,783,000	6,247,000	3,614,000	1,169,000	4,561,000	1,686,000	7,649,000	3,380,000	—	—
2025[1]	11,078,000	8,219,000	2,859,000	4,802,000	6,275,000	3,632,000	1,170,000	4,587,000	1,689,000	7,682,000	3,396,000	—	—
2026[1]	11,142,000	8,270,000	2,872,000	4,832,000	6,310,000	3,656,000	1,176,000	4,614,000	1,696,000	7,727,000	3,416,000	—	—
2027[1]	11,192,000	8,299,000	2,894,000	4,857,000	6,335,000	3,671,000	1,186,000	4,628,000	1,707,000	7,762,000	3,430,000	—	—
2028[1]	11,239,000	8,326,000	2,913,000	4,881,000	6,359,000	3,685,000	1,195,000	4,641,000	1,718,000	7,795,000	3,444,000	—	—
2029[1]	11,278,000	8,346,000	2,932,000	4,902,000	6,377,000	3,697,000	1,204,000	4,649,000	1,728,000	7,823,000	3,455,000	—	—
2030[1]	11,305,000	8,355,000	2,950,000	4,917,000	6,388,000	3,704,000	1,213,000	4,651,000	1,737,000	7,842,000	3,463,000	—	—

— Not available.

[1] Projected.

[2] Beginning in 1980, 2-year institutions include schools accredited by the Accrediting Commission of Career Schools and Colleges of Technology.

NOTE: Data in this table represent the 50 states and the District of Columbia. Data through 1995 are for institutions of higher education, while later data are for degree-granting institutions. Degree-granting institutions grant associate's or higher degrees and participate in Title IV federal financial aid programs. The degree-granting classification is very similar to the earlier higher education classification, but it includes more 2-year colleges and excludes a few higher education institutions that did not grant degrees. Projections in this table were calculated after the onset of the coronavirus pandemic and take into account the expected impacts of the pandemic. Some data have been revised from previously published figures.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Higher Education General Information Survey (HEGIS), "Fall Enrollment in Colleges and Universities" surveys, 1970 through 1985; Integrated Postsecondary Education Data System (IPEDS), "Fall Enrollment Survey" (IPEDS-EF:86–99); IPEDS Spring 2001 through Spring 2021, Fall Enrollment component; and Enrollment in Degree-Granting Institutions Projection Model, through 2030. (This table was prepared November 2021.)

Table 17. Total postbaccalaureate fall enrollment in degree-granting postsecondary institutions, by attendance status, sex of student, and control of institution: 1970 through 2030

Year	Total	Full-time	Part-time	Males	Females	Males		Females		Public	Private		
						Full-time	Part-time	Full-time	Part-time		Total	Nonprofit	For-profit
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1970	1,212,243	536,226	676,017	793,940	418,303	407,724	386,216	128,502	289,801	807,879	404,364	404,287	77
1971	1,204,390	564,236	640,154	789,131	415,259	428,167	360,964	136,069	279,190	796,516	407,874	407,804	70
1972	1,272,421	583,299	689,122	810,164	462,257	436,533	373,631	146,766	315,491	848,031	424,390	424,278	112
1973	1,342,452	610,935	731,517	833,453	508,999	444,219	389,234	166,716	342,283	897,104	445,348	445,205	143
1974	1,425,001	643,927	781,074	856,847	568,154	454,706	402,141	189,221	378,933	956,770	468,231	467,950	281
1975	1,505,404	672,938	832,466	891,992	613,412	467,425	424,567	205,513	407,899	1,008,476	496,928	496,604	324
1976	1,577,546	683,825	893,721	904,551	672,995	459,286	445,265	224,539	448,456	1,033,115	544,431	541,064	3,367
1977	1,569,084	698,902	870,182	891,819	677,265	462,038	429,781	236,864	440,401	1,004,013	565,071	561,384	3,687
1978	1,575,693	704,831	870,862	879,931	695,762	458,865	421,066	245,966	449,796	998,608	577,085	573,563	3,522
1979	1,571,922	714,624	857,298	862,754	709,168	456,197	406,557	258,427	450,741	989,991	581,931	578,425	3,506
1980	1,621,840	736,214	885,626	874,197	747,643	462,387	411,810	273,827	473,816	1,015,439	606,401	601,084	5,317
1981	1,617,150	732,182	884,968	866,785	750,365	452,364	414,421	279,818	470,547	998,669	618,481	613,557	4,924
1982	1,600,718	736,813	863,905	860,890	739,828	453,519	407,371	283,294	456,534	983,014	617,704	613,350	4,354
1983	1,618,666	747,016	871,650	865,425	753,241	455,540	409,885	291,476	461,765	985,616	633,050	628,111	4,939
1984	1,623,869	750,735	873,134	856,761	767,108	452,579	404,182	298,156	468,952	983,879	639,990	634,109	5,881
1985	1,650,381	755,629	894,752	856,370	794,011	451,274	405,096	304,355	489,656	1,002,148	648,233	642,795	5,438
1986	1,705,536	767,477	938,059	867,010	838,526	452,717	414,293	314,760	523,766	1,053,177	652,359	644,185	8,174
1987	1,720,407	768,536	951,871	863,599	856,808	447,212	416,387	321,324	535,484	1,054,665	665,742	662,408	3,334
1988	1,738,789	794,340	944,449	864,252	874,537	455,337	408,915	339,003	535,534	1,058,242	680,547	—	—
1989	1,796,029	820,254	975,775	879,025	917,004	461,596	417,429	358,658	558,346	1,090,221	705,808	—	—
1990	1,859,531	844,955	1,014,576	904,150	955,381	471,217	432,933	373,738	581,643	1,135,121	724,410	716,820	7,590
1991	1,919,666	893,917	1,025,749	930,841	988,825	493,849	436,992	400,068	588,757	1,161,606	758,060	746,687	11,373
1992	1,949,659	917,676	1,031,983	941,053	1,008,606	502,166	438,887	415,510	593,096	1,168,270	781,389	770,802	10,587
1993	1,980,844	948,136	1,032,708	943,768	1,037,076	508,574	435,194	439,562	597,514	1,177,301	803,543	789,700	13,843
1994	2,016,182	969,070	1,047,112	949,785	1,066,397	513,592	436,193	455,478	610,919	1,188,552	827,630	809,642	17,988
1995	2,030,062	983,534	1,046,528	941,409	1,088,653	510,782	430,627	472,752	615,901	1,188,748	841,314	824,351	16,963
1996	2,040,572	1,004,114	1,036,458	932,153	1,108,419	512,100	420,053	492,014	616,405	1,185,216	855,356	830,238	25,118
1997	2,051,747	1,019,464	1,032,283	927,496	1,124,251	510,845	416,651	508,619	615,632	1,188,640	863,107	837,790	25,317
1998	2,070,030	1,024,627	1,045,403	923,132	1,146,898	505,492	417,640	519,135	627,763	1,187,557	882,473	852,270	30,203
1999	2,110,246	1,049,591	1,060,655	930,930	1,179,316	508,930	422,000	540,661	638,655	1,201,511	908,735	869,739	38,996
2000	2,156,896	1,086,674	1,070,222	943,501	1,213,395	522,847	420,654	563,827	649,568	1,213,464	943,432	896,239	47,193
2001	2,212,377	1,119,862	1,092,515	956,384	1,255,993	531,260	425,124	588,602	667,391	1,247,285	965,092	909,612	55,480
2002	2,354,634	1,212,107	1,142,527	1,009,726	1,344,908	566,930	442,796	645,177	699,731	1,319,138	1,035,496	959,385	76,111
2003	2,431,117	1,280,880	1,150,237	1,032,892	1,398,225	589,190	443,702	691,690	706,535	1,335,595	1,095,522	994,375	101,147
2004	2,491,414	1,325,841	1,165,573	1,047,214	1,444,200	598,727	448,487	727,114	717,086	1,329,532	1,161,882	1,022,319	139,563
2005	2,523,511	1,350,581	1,172,930	1,047,054	1,476,457	602,525	444,529	748,056	728,401	1,324,104	1,199,407	1,036,324	163,083
2006	2,574,639	1,386,189	1,188,450	1,061,067	1,513,572	614,706	446,361	771,483	742,089	1,332,725	1,241,914	1,064,679	177,235
2007	2,644,598	1,428,956	1,215,642	1,088,377	1,556,221	632,619	455,758	796,337	759,884	1,353,150	1,291,448	1,100,932	190,516
2008	2,737,094	1,490,462	1,246,632	1,122,074	1,615,020	656,213	465,861	834,249	780,771	1,380,915	1,356,179	1,125,038	231,141
2009	2,849,415	1,567,080	1,282,335	1,169,777	1,679,638	689,977	479,800	877,103	802,535	1,424,393	1,425,022	1,172,501	252,521
2010	2,937,011	1,630,142	1,306,869	1,209,477	1,727,534	719,408	490,069	910,734	816,800	1,439,171	1,497,840	1,201,489	296,351
2011	2,933,287	1,637,356	1,295,931	1,211,264	1,722,023	722,265	488,999	915,091	806,932	1,421,404	1,511,883	1,207,896	303,987
2012	2,908,840	1,637,312	1,271,528	1,204,068	1,704,772	724,017	480,051	913,295	791,477	1,406,567	1,502,273	1,206,988	295,285
2013	2,900,373	1,657,334	1,243,039	1,201,057	1,699,316	732,112	468,945	925,222	774,094	1,398,556	1,501,817	1,215,927	285,890
2014	2,914,956	1,670,072	1,244,884	1,211,231	1,703,725	742,247	468,984	927,825	775,900	1,410,127	1,504,829	1,225,184	279,645
2015	2,941,531	1,684,482	1,257,049	1,221,565	1,719,966	749,349	472,216	935,133	784,833	1,422,020	1,519,511	1,243,769	275,742
2016	2,972,255	1,695,246	1,277,009	1,221,563	1,750,692	747,288	474,275	947,958	802,734	1,441,861	1,530,394	1,265,214	265,180
2017	3,005,115	1,704,278	1,300,837	1,220,055	1,785,060	740,240	479,815	964,038	821,022	1,459,145	1,545,970	1,289,409	256,561
2018	3,035,042	1,723,177	1,311,865	1,216,466	1,818,576	735,576	480,890	987,601	830,975	1,479,497	1,555,545	1,312,440	243,105
2019	3,072,639	1,744,620	1,328,019	1,214,439	1,858,200	732,056	482,383	1,012,564	845,636	1,499,504	1,573,135	1,340,576	232,559
2020	3,139,892	1,761,611	1,378,281	1,219,200	1,920,692	719,698	499,502	1,041,913	878,779	1,546,093	1,593,799	1,358,070	235,729
2021[1]	3,313,000	1,920,000	1,394,000	1,326,000	1,988,000	814,000	512,000	1,106,000	881,000	1,616,000	1,697,000	—	—
2022[1]	3,231,000	1,858,000	1,374,000	1,282,000	1,950,000	780,000	501,000	1,077,000	872,000	1,576,000	1,655,000	—	—
2023[1]	3,168,000	1,809,000	1,359,000	1,246,000	1,922,000	754,000	493,000	1,056,000	866,000	1,546,000	1,622,000	—	—
2024[1]	3,151,000	1,795,000	1,357,000	1,235,000	1,917,000	744,000	490,000	1,050,000	866,000	1,538,000	1,614,000	—	—
2025[1]	3,159,000	1,798,000	1,360,000	1,235,000	1,923,000	744,000	491,000	1,054,000	869,000	1,541,000	1,618,000	—	—
2026[1]	3,185,000	1,816,000	1,370,000	1,246,000	1,940,000	751,000	494,000	1,065,000	875,000	1,554,000	1,631,000	—	—
2027[1]	3,222,000	1,841,000	1,381,000	1,261,000	1,961,000	762,000	499,000	1,079,000	882,000	1,572,000	1,650,000	—	—
2028[1]	3,260,000	1,867,000	1,393,000	1,277,000	1,983,000	773,000	504,000	1,094,000	889,000	1,590,000	1,670,000	—	—
2029[1]	3,301,000	1,895,000	1,406,000	1,294,000	2,006,000	785,000	509,000	1,110,000	897,000	1,610,000	1,691,000	—	—
2030[1]	3,336,000	1,919,000	1,417,000	1,309,000	2,026,000	796,000	514,000	1,123,000	903,000	1,627,000	1,709,000	—	—

— Not available.

[1] Projected.

NOTE: Data in this table represent the 50 states and the District of Columbia. Data through 1985 include unclassified graduate students. Data through 1995 are for institutions of higher education, while later data are for degree-granting institutions. Degree-granting institutions grant associate's or higher degrees and participate in Title IV federal financial aid programs. The degree-granting classification is very similar to the earlier higher education classification, but it includes more 2-year colleges and excludes a few higher education institutions that did not grant degrees. Projections in this table were calculated after the onset of the coronavirus pandemic and take into account the expected impacts of the pandemic. Some data have been revised from previously published figures.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Higher Education General Information Survey (HEGIS), "Fall Enrollment in Colleges and Universities" surveys, 1970 through 1985; Integrated Postsecondary Education Data System (IPEDS), "Fall Enrollment Survey" (IPEDS-EF:86–99); IPEDS Spring 2001 through Spring 2021, Fall Enrollment component; and Enrollment in Degree-Granting Institutions Projection Model, through 2030. (This table was prepared November 2021.)

Table 18. Fall enrollment of U.S. residents in degree-granting postsecondary institutions, by race/ethnicity: Selected years, 1976 through 2030

	Enrollment (in thousands)									Percentage distribution								
					Asian/Pacific Islander									Asian/Pacific Islander				
Year	Total	White	Black	Hispanic	Total	Asian	Pacific Islander	American Indian/ Alaska Native	Two or more races	Total	White	Black	Hispanic	Total	Asian	Pacific Islander	American Indian/ Alaska Native	Two or more races
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1976	10,767	9,076	1,033	384	198	—	—	76	—	100.0	84.3	9.6	3.6	1.8	—	—	0.7	—
1980	11,782	9,833	1,107	472	286	—	—	84	—	100.0	83.5	9.4	4.0	2.4	—	—	0.7	—
1990	13,427	10,722	1,247	782	572	—	—	103	—	100.0	79.9	9.3	5.8	4.3	—	—	0.8	—
1994	13,823	10,427	1,449	1,046	774	—	—	127	—	100.0	75.4	10.5	7.6	5.6	—	—	0.9	—
1995	13,807	10,311	1,474	1,094	797	—	—	131	—	100.0	74.7	10.7	7.9	5.8	—	—	1.0	—
1996	13,901	10,264	1,506	1,166	828	—	—	138	—	100.0	73.8	10.8	8.4	6.0	—	—	1.0	—
1997	14,037	10,266	1,551	1,218	859	—	—	142	—	100.0	73.1	11.0	8.7	6.1	—	—	1.0	—
1998	14,063	10,179	1,583	1,257	900	—	—	144	—	100.0	72.4	11.3	8.9	6.4	—	—	1.0	—
1999	14,361	10,329	1,649	1,324	914	—	—	146	—	100.0	71.9	11.5	9.2	6.4	—	—	1.0	—
2000	14,784	10,462	1,730	1,462	978	—	—	151	—	100.0	70.8	11.7	9.9	6.6	—	—	1.0	—
2001	15,363	10,775	1,850	1,561	1,019	—	—	158	—	100.0	70.1	12.0	10.2	6.6	—	—	1.0	—
2002	16,021	11,140	1,979	1,662	1,074	—	—	166	—	100.0	69.5	12.4	10.4	6.7	—	—	1.0	—
2003	16,314	11,281	2,068	1,716	1,076	—	—	173	—	100.0	69.1	12.7	10.5	6.6	—	—	1.1	—
2004	16,682	11,423	2,165	1,810	1,109	—	—	176	—	100.0	68.5	13.0	10.8	6.6	—	—	1.1	—
2005	16,903	11,495	2,215	1,882	1,134	—	—	176	—	100.0	68.0	13.1	11.1	6.7	—	—	1.0	—
2006	17,158	11,568	2,280	1,964	1,165	—	—	181	—	100.0	67.4	13.3	11.4	6.8	—	—	1.1	—
2007	17,635	11,761	2,384	2,081	1,218	—	—	190	—	100.0	66.7	13.5	11.8	6.9	—	—	1.1	—
2008	18,421	12,075	2,580	2,271	1,303	—	—	193	—	100.0	65.5	14.0	12.3	7.1	—	—	1.0	—
2009	19,631	12,669	2,884	2,537	1,335	—	—	206	—	100.0	64.5	14.7	12.9	6.8	—	—	1.0	—
2010	20,312	12,721	3,039	2,749	1,282	1,218	64	196	325	100.0	62.6	15.0	13.5	6.3	6.0	0.3	1.0	1.6
2011	20,270	12,402	3,079	2,893	1,277	1,211	66	186	433	100.0	61.2	15.2	14.3	6.3	6.0	0.3	0.9	2.1
2012	19,861	11,982	2,962	2,980	1,258	1,195	64	173	505	100.0	60.3	14.9	15.0	6.3	6.0	0.3	0.9	2.5
2013	19,537	11,589	2,872	3,093	1,260	1,199	61	162	560	100.0	59.3	14.7	15.8	6.4	6.1	0.3	0.8	2.9
2014	19,291	11,239	2,793	3,192	1,272	1,214	58	153	642	100.0	58.3	14.5	16.5	6.6	6.3	0.3	0.8	3.3
2015	19,006	10,939	2,681	3,298	1,284	1,229	55	146	658	100.0	57.6	14.1	17.4	6.8	6.5	0.3	0.8	3.5
2016	18,849	10,717	2,589	3,428	1,307	1,253	53	142	666	100.0	56.9	13.7	18.2	6.9	6.7	0.3	0.8	3.5
2017	18,778	10,517	2,550	3,546	1,328	1,276	52	137	700	100.0	56.0	13.6	18.9	7.1	6.8	0.3	0.7	3.7
2018	18,661	10,305	2,496	3,643	1,355	1,305	50	133	729	100.0	55.2	13.4	19.5	7.3	7.0	0.3	0.7	3.9
2019	18,656	10,140	2,467	3,786	1,378	1,327	51	130	755	100.0	54.4	13.2	20.3	7.4	7.1	0.3	0.7	4.0
2020	18,143	9,798	2,382	3,690	1,391	1,342	49	121	762	100.0	54.0	13.1	20.3	7.7	7.4	0.3	0.7	4.2
2021[1]	19,353	10,538	2,638	3,925	1,336	—	—	132	784	100.0	54.5	13.6	20.3	6.9	—	—	0.7	4.1
2022[1]	19,077	10,358	2,618	3,891	1,307	—	—	130	773	100.0	54.3	13.7	20.4	6.9	—	—	0.7	4.1
2023[1]	18,917	10,219	2,616	3,900	1,289	—	—	128	766	100.0	54.0	13.8	20.6	6.8	—	—	0.7	4.1
2024[1]	18,938	10,175	2,633	3,949	1,286	—	—	128	767	100.0	53.7	13.9	20.9	6.8	—	—	0.7	4.1
2025[1]	19,015	10,161	2,656	4,013	1,288	—	—	127	770	100.0	53.4	14.0	21.1	6.8	—	—	0.7	4.1
2026[1]	19,139	10,168	2,686	4,089	1,293	—	—	127	775	100.0	53.1	14.0	21.4	6.8	—	—	0.7	4.1
2027[1]	19,261	10,167	2,720	4,170	1,296	—	—	127	780	100.0	52.8	14.1	21.6	6.7	—	—	0.7	4.1
2028[1]	19,380	10,154	2,758	4,259	1,298	—	—	127	785	100.0	52.4	14.2	22.0	6.7	—	—	0.7	4.1
2029[1]	19,499	10,136	2,797	4,354	1,296	—	—	126	790	100.0	52.0	14.3	22.3	6.6	—	—	0.6	4.1
2030[1]	19,597	10,105	2,835	4,448	1,291	—	—	125	794	100.0	51.6	14.5	22.7	6.6	—	—	0.6	4.1

— Not available.

[1] Projected.

NOTE: Data in this table represent the 50 states and the District of Columbia. Prior to 2010, disaggregated data on students who were Asian, Pacific Islander, and of Two or more races were not collected. Data for students who were Asian included students who were Pacific Islander, and students of Two or more races were required to select a single category from among the offered race/ethnicity categories (i.e., White, Black, Hispanic, Asian, and American Indian/Alaska Native). Projections for Asian enrollment and Pacific Islander enrollment are not available separately due to the limited amount of historical data available upon which to base a projection model. Data through 1995 are for institutions of higher education, while later data are for degree-granting institutions. Degree-granting institutions grant associate's or higher degrees and participate in Title IV federal financial aid programs. The degree-granting classification is very similar to the earlier higher education classification, but it includes more 2-year colleges and excludes a few higher education institutions that did not grant degrees. Projections in this table were calculated after the onset of the coronavirus pandemic and take into account the expected impacts of the pandemic. Race categories exclude persons of Hispanic ethnicity. Detail may not sum to totals because of rounding. Some data have been revised from previously published figures.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Higher Education General Information Survey (HEGIS), "Fall Enrollment in Colleges and Universities" surveys, 1976 and 1980; Integrated Postsecondary Education Data System (IPEDS), "Fall Enrollment Survey" (IPEDS-EF:90–99); IPEDS Spring 2001 through Spring 2021, Fall Enrollment component; and Enrollment in Degree-Granting Institutions by Race/Ethnicity Projection Model, through 2030. (This table was prepared November 2021.)

Table 19. Total fall enrollment of first-time degree/certificate-seeking students in degree-granting postsecondary institutions, by attendance status, sex of student, and level and control of institution: 1960 through 2030

Year	Total	Full-time	Part-time	Males			Females			4-year		2-year	
				Total	Full-time	Part-time	Total	Full-time	Part-time	Public	Private	Public	Private
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1960[1]	923,069	—	—	539,512	—	—	383,557	—	—	395,884[2]	313,209[2]	181,860[2]	32,116[2]
1961[1]	1,018,361	—	—	591,913	—	—	426,448	—	—	438,135[2]	336,449[2]	210,101[2]	33,676[2]
1962[1]	1,030,554	—	—	598,099	—	—	432,455	—	—	445,191[2]	324,923[2]	224,537[2]	35,903[2]
1963[1]	1,046,424	—	—	604,282	—	—	442,142	—	—	—	—	—	—
1964[1]	1,224,840	—	—	701,524	—	—	523,316	—	—	539,251[2]	363,348[2]	275,413[2]	46,828[2]
1965[1]	1,441,822	—	—	829,215	—	—	612,607	—	—	642,233[2]	398,792[2]	347,788[2]	53,009[2]
1966	1,554,337	—	—	889,516	—	—	664,821	—	—	626,472[2]	382,889[2]	478,459[2]	66,517[2]
1967	1,640,936	1,335,512	305,424	931,127	761,299	169,828	709,809	574,213	135,596	644,525	368,300	561,488	66,623
1968	1,892,849	1,470,653	422,196	1,082,367	847,005	235,362	810,482	623,648	186,834	724,377	378,052	718,562	71,858
1969	1,967,104	1,525,290	441,814	1,118,269	876,280	241,989	848,835	649,010	199,825	699,167	391,508	814,132	62,297
1970	2,063,397	1,587,072	476,325	1,151,960	896,281	255,679	911,437	690,791	220,646	717,449	395,886	890,703	59,359
1971	2,119,018	1,606,036	512,982	1,170,518	895,715	274,803	948,500	710,321	238,179	704,052	384,695	971,295	58,976
1972	2,152,778	1,574,197	578,581	1,157,501	858,254	299,247	995,277	715,943	279,334	680,337	380,982	1,036,616	54,843
1973	2,226,041	1,607,269	618,772	1,182,173	867,314	314,859	1,043,868	739,955	303,913	698,777	378,994	1,089,182	59,088
1974	2,365,761	1,673,333	692,428	1,243,790	896,077	347,713	1,121,971	777,256	344,715	745,637	386,391	1,175,759	57,974
1975	2,515,155	1,763,296	751,859	1,327,935	942,198	385,737	1,187,220	821,098	366,122	771,725	395,440	1,283,523	64,467
1976	2,347,014	1,662,333	684,681	1,170,326	854,597	315,729	1,176,688	807,736	368,952	717,373	413,961	1,152,944	62,736
1977	2,394,426	1,680,916	713,510	1,155,856	839,848	316,008	1,238,570	841,068	397,502	737,497	404,631	1,185,648	66,650
1978	2,389,627	1,650,848	738,779	1,141,777	817,294	324,483	1,247,850	833,554	414,296	736,703	406,669	1,173,544	72,711
1979	2,502,896	1,706,732	796,164	1,179,846	840,315	339,531	1,323,050	866,417	456,633	760,119	415,126	1,253,854	73,797
1980	2,587,644	1,749,928	837,716	1,218,961	862,458	356,503	1,368,683	887,470	481,213	765,395	417,937	1,313,591	90,721[3]
1981	2,595,421	1,737,714	857,707	1,217,680	851,833	365,847	1,377,741	885,881	491,860	754,007	419,257	1,318,436	103,721[3]
1982	2,505,466	1,688,620	816,846	1,199,237	837,223	362,014	1,306,229	851,397	454,832	730,775	404,252	1,254,193	116,246[3]
1983	2,443,703	1,678,071	765,632	1,159,049	824,609	334,440	1,284,654	853,462	431,192	728,244	403,882	1,189,869	121,708
1984	2,356,898	1,613,185	743,713	1,112,303	786,099	326,204	1,244,595	827,086	417,509	713,790	402,959	1,130,311	109,838
1985	2,292,222	1,602,038	690,184	1,075,736	774,858	300,878	1,216,486	827,180	389,306	717,199	398,556	1,060,275	116,192
1986	2,219,208	1,589,451	629,757	1,046,527	768,856	277,671	1,172,681	820,595	352,086	719,974	391,673	990,973	116,588
1987	2,246,359	1,626,719	619,640	1,046,615	779,226	267,389	1,199,744	847,493	352,251	757,833	405,113	979,820	103,593
1988	2,378,803	1,698,927	679,876	1,100,026	807,319	292,707	1,278,777	891,608	387,169	783,358	425,907	1,048,914	120,624
1989	2,341,035	1,656,594	684,441	1,094,750	791,295	303,455	1,246,285	865,299	380,986	762,217	413,836	1,048,529	116,453
1990	2,256,624	1,617,118	639,506	1,045,191	771,372	273,819	1,211,433	845,746	365,687	727,264	400,120	1,041,097	88,143
1991	2,277,920	1,652,983	624,937	1,068,433	798,043	270,390	1,209,487	854,940	354,547	717,697	392,904	1,070,048	97,271
1992	2,184,113	1,603,737	580,376	1,013,058	760,290	252,768	1,171,055	843,447	327,608	697,393	408,306	993,074	85,340
1993	2,160,710	1,608,274	552,436	1,007,647	762,240	245,407	1,153,063	846,034	307,029	702,273	410,688	973,545	74,204
1994	2,133,205	1,603,106	530,099	984,558	751,081	233,477	1,148,647	852,025	296,622	709,042	405,917	952,468	65,778
1995	2,168,831	1,646,812	522,019	1,001,052	767,185	233,867	1,167,779	879,627	288,152	731,836	419,025	954,595	63,375
1996	2,274,319	1,739,852	534,467	1,046,662	805,982	240,680	1,227,657	933,870	293,787	741,164	427,442	989,536	116,177
1997	2,219,255	1,733,512	485,743	1,026,058	806,054	220,004	1,193,197	927,458	265,739	755,362	442,397	923,954	97,542
1998	2,212,593	1,775,412	437,181	1,022,656	825,577	197,079	1,189,937	949,835	240,102	792,772	460,948	858,417	100,456
1999	2,357,590	1,849,741	507,849	1,094,539	865,545	228,994	1,263,051	984,196	278,855	819,503	474,223	955,499	108,365
2000	2,427,551	1,918,093	509,458	1,123,948	894,432	229,516	1,303,603	1,023,661	279,942	842,228	498,532	952,175	134,616
2001	2,497,078	1,989,179	507,899	1,152,837	926,393	226,444	1,344,241	1,062,786	281,455	866,619	508,030	988,726	133,703
2002	2,570,611	2,053,065	517,546	1,170,609	945,938	224,671	1,400,002	1,107,127	292,875	886,297	517,621	1,037,267	129,426
2003	2,591,754	2,102,394	489,360	1,175,856	965,075	210,781	1,415,898	1,137,319	278,579	918,602	537,726	1,004,428	130,998
2004	2,630,243	2,147,546	482,697	1,190,268	981,591	208,677	1,439,975	1,165,955	274,020	925,249	562,485	1,009,082	133,427
2005	2,657,338	2,189,884	467,454	1,200,055	995,610	204,445	1,457,283	1,194,274	263,009	953,903	606,712	977,224	119,499
2006	2,707,205	2,220,184	487,021	1,228,703	1,015,786	212,917	1,478,502	1,204,398	274,104	990,077	598,266	1,013,419	105,443
2007	2,777,168	2,295,518	481,650	1,268,137	1,053,375	214,762	1,509,031	1,242,143	266,888	1,023,789	633,772	1,016,636	102,971
2008	3,022,736	2,425,987	596,749	1,388,441	1,114,724	273,717	1,634,295	1,311,263	323,032	1,053,829	672,372	1,186,640	109,895
2009	3,156,882	2,534,440	622,442	1,464,424	1,177,119	287,305	1,692,458	1,357,321	335,137	1,090,980	658,808	1,275,974	131,120
2010	3,156,727	2,533,636	623,091	1,461,016	1,171,090	289,926	1,695,711	1,362,546	333,165	1,110,601	674,573	1,238,491	133,062
2011	3,091,496	2,479,155	612,341	1,424,140	1,140,843	283,297	1,667,356	1,338,312	329,044	1,131,091	656,864	1,195,083	108,458
2012	2,994,187	2,408,063	586,124	1,387,316	1,115,266	272,050	1,606,871	1,292,797	314,074	1,128,344	642,716	1,137,927	85,200
2013	2,985,366	2,415,969	569,397	1,383,852	1,117,525	266,327	1,601,514	1,298,444	303,070	1,144,102	633,184	1,126,978	81,102
2014	2,925,998	2,383,328	542,670	1,355,164	1,100,005	255,159	1,570,834	1,283,323	287,511	1,170,639	612,162	1,070,625	72,572
2015	2,882,949	2,368,283	514,666	1,338,853	1,096,976	241,877	1,544,096	1,271,307	272,789	1,190,206	599,242	1,031,117	62,384
2016	2,882,991	2,369,021	513,970	1,333,598	1,093,968	239,630	1,549,393	1,275,053	274,340	1,259,214	581,098	981,029	61,650
2017	2,883,001	2,377,999	505,002	1,326,237	1,091,909	234,328	1,556,764	1,286,090	270,674	1,285,500	588,395	954,930	54,176
2018	2,879,882	2,389,624	490,258	1,315,440	1,092,002	223,438	1,564,442	1,297,622	266,820	1,309,690	594,366	930,083	45,743
2019	2,857,215	2,373,393	483,822	1,298,483	1,080,257	218,226	1,558,732	1,293,136	265,596	1,323,802	580,355	911,238	41,820
2020	2,603,215	2,173,451	429,764	1,147,529	961,732	185,797	1,455,686	1,211,719	243,967	1,270,170	556,717	732,553	43,775
2021[4]	2,943,000	—	—	1,339,000	—	—	1,605,000	—	—	—	—	—	—
2022[4]	2,906,000	—	—	1,318,000	—	—	1,588,000	—	—	—	—	—	—
2023[4]	2,885,000	—	—	1,305,000	—	—	1,580,000	—	—	—	—	—	—
2024[4]	2,890,000	—	—	1,306,000	—	—	1,584,000	—	—	—	—	—	—
2025[4]	2,901,000	—	—	1,311,000	—	—	1,590,000	—	—	—	—	—	—
2026[4]	2,917,000	—	—	1,319,000	—	—	1,598,000	—	—	—	—	—	—
2027[4]	2,931,000	—	—	1,326,000	—	—	1,605,000	—	—	—	—	—	—
2028[4]	2,944,000	—	—	1,333,000	—	—	1,611,000	—	—	—	—	—	—
2029[4]	2,956,000	—	—	1,339,000	—	—	1,617,000	—	—	—	—	—	—
2030[4]	2,966,000	—	—	1,344,000	—	—	1,621,000	—	—	—	—	—	—

— Not available.

[1] Excludes first-time degree/certificate-seeking students in occupational programs not creditable toward a bachelor's degree.

[2] Data for 2-year branches of 4-year college systems are aggregated with the 4-year institutions.

[3] Large increases are due to the addition of schools accredited by the Accrediting Commission of Career Schools and Colleges of Technology.

[4] Projected.

NOTE: Data in this table represent the 50 states and the District of Columbia. Data through 1995 are for institutions of higher education, while later data are for degree-granting institutions. Degree-granting institutions grant associate's or higher degrees and participate in Title IV federal financial aid programs. The degree-granting classification is very similar to the earlier higher education classification, but it includes more 2-year colleges and excludes a few higher education institutions that did not grant degrees. Alaska and Hawaii are included in all years. Projections in this table were calculated after the onset of the coronavirus pandemic and take into account the expected impacts of the pandemic. Some data have been revised from previously published figures.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Biennial Survey of Education in the United States; Opening Fall Enrollment in Higher Education, 1963 through 1965; Higher Education General Information Survey (HEGIS), "Fall Enrollment in Colleges and Universities" surveys, 1966 through 1985; Integrated Postsecondary Education Data System (IPEDS), "Fall Enrollment Survey" (IPEDS-EF:86–99); IPEDS Spring 2001 through Spring 2021, Fall Enrollment component; and First-Time Freshmen Projection Model, through 2030. (This table was prepared November 2021.)

Table 20. Full-time-equivalent fall enrollment in degree-granting postsecondary institutions, by control and level of institution: 1967 through 2030

Year	All institutions			Public institutions			Private institutions						
								4-year			2-year		
	Total	4-year	2-year	Total	4-year	2-year	Total	Total	Nonprofit	For-profit	Total	Nonprofit	For-profit
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1967	5,499,360	4,448,302	1,051,058	3,777,701	2,850,432	927,269	1,721,659	1,597,870	—	—	123,789	—	—
1968	5,977,768	4,729,522	1,248,246	4,248,639	3,128,057	1,120,582	1,729,129	1,601,465	—	—	127,664	—	—
1969	6,333,357	4,899,034	1,434,323	4,577,353	3,259,323	1,318,030	1,756,004	1,639,711	—	—	116,293	—	—
1970	6,737,819	5,145,422	1,592,397	4,953,144	3,468,569	1,484,575	1,784,675	1,676,853	—	—	107,822	—	—
1971	7,148,558	5,357,647	1,790,911	5,344,402	3,660,626	1,683,776	1,804,156	1,697,021	—	—	107,135	—	—
1972	7,253,757	5,406,833	1,846,924	5,452,854	3,706,238	1,746,616	1,800,903	1,700,595	—	—	100,308	—	—
1973	7,453,463	5,439,230	2,014,233	5,629,563	3,721,037	1,908,526	1,823,900	1,718,193	—	—	105,707	—	—
1974	7,805,452	5,606,247	2,199,205	5,944,799	3,847,543	2,097,256	1,860,653	1,758,704	—	—	101,949	—	—
1975	8,479,698	5,900,408	2,579,290	6,522,319	4,056,502	2,465,817	1,957,379	1,843,906	—	—	113,473	—	—
1976	8,312,502	5,848,001	2,464,501	6,349,903	3,998,450	2,351,453	1,962,599	1,849,551	—	—	113,048	—	—
1977	8,415,339	5,935,076	2,480,263	6,396,476	4,039,071	2,357,405	2,018,863	1,896,005	—	—	122,858	—	—
1978	8,348,482	5,932,357	2,416,125	6,279,199	3,996,126	2,283,073	2,069,283	1,936,231	—	—	133,052	—	—
1979	8,487,317	6,016,072	2,471,245	6,392,617	4,059,304	2,333,313	2,094,700	1,956,768	—	—	137,932	—	—
1980	8,819,013	6,161,372	2,657,641	6,642,294	4,158,267	2,484,027	2,176,719	2,003,105	—	—	173,614[1]	—	—
1981	9,014,521	6,249,847	2,764,674	6,781,300	4,208,506	2,572,794	2,233,221	2,041,341	—	—	191,880[1]	—	—
1982	9,091,648	6,248,923	2,842,725	6,850,589	4,220,648	2,629,941	2,241,059	2,028,275	—	—	212,784[1]	—	—
1983	9,166,398	6,325,222	2,841,176	6,881,479	4,265,807	2,615,672	2,284,919	2,059,415	—	—	225,504	—	—
1984	8,951,695	6,292,711	2,658,984	6,684,664	4,237,895	2,446,769	2,267,031	2,054,816	—	—	212,215	—	—
1985	8,943,433	6,294,339	2,649,094	6,667,781	4,239,622	2,428,159	2,275,652	2,054,717	—	—	220,935	—	—
1986	9,064,165	6,360,325	2,703,842	6,778,045	4,295,494	2,482,551	2,286,122	2,064,831	—	—	221,291[2]	—	—
1987	9,229,736	6,486,504	2,743,230	6,937,690	4,395,728	2,541,961	2,292,045	2,090,776	—	—	201,269[2]	—	—
1988	9,464,271	6,664,146	2,800,125	7,096,905	4,505,774	2,591,131	2,367,366	2,158,372	—	—	208,994	—	—
1989	9,780,881	6,813,602	2,967,279	7,371,590	4,619,828	2,751,762	2,409,291	2,193,774	—	—	215,517	—	—
1990	9,983,436	6,968,008	3,015,428	7,557,982	4,740,049	2,817,933	2,425,454	2,227,959	2,177,668	50,291	197,495	72,785	124,710
1991	10,360,606	7,081,454	3,279,152	7,862,845	4,795,704	3,067,141	2,497,761	2,285,750	2,223,463	62,287	212,011	72,545	139,466
1992	10,436,776	7,129,379	3,307,397	7,911,701	4,797,884	3,113,817	2,525,075	2,331,495	2,267,373	64,122	193,580	66,647	126,933
1993	10,351,415	7,120,921	3,230,494	7,812,394	4,765,983	3,046,411	2,539,021	2,354,938	2,282,643	72,295	184,083	70,469	113,614
1994	10,348,072	7,137,341	3,210,731	7,784,396	4,749,524	3,034,872	2,563,676	2,387,817	2,301,063	86,754	175,859	69,578	106,281
1995	10,334,956	7,172,844	3,162,112	7,751,815	4,757,223	2,994,592	2,583,141	2,415,621	2,328,730	86,891	167,520	62,416	105,104
1996	10,481,886	7,234,541	3,247,345	7,794,895	4,767,117	3,027,778	2,686,991	2,467,424	2,353,561	113,863	219,567	63,954	155,613
1997	10,615,028	7,338,794	3,276,234	7,869,764	4,813,849	3,055,915	2,745,264	2,524,945	2,389,627	135,318	220,319	61,761	158,558
1998	10,698,775	7,467,828	3,230,947	7,880,135	4,868,857	3,011,278	2,818,640	2,598,971	2,436,188	162,783	219,669	56,834	162,835
1999	10,974,519	7,634,247	3,340,272	8,059,240	4,949,851	3,109,389	2,915,279	2,684,396	2,488,140	196,256	230,883	53,956	176,927
2000	11,267,025	7,795,139	3,471,886	8,266,932	5,025,588	3,241,344	3,000,093	2,769,551	2,549,676	219,875	230,542	51,503	179,039
2001	11,765,945	8,087,980	3,677,965	8,639,154	5,194,035	3,445,119	3,126,791	2,893,945	2,612,833	281,112	232,846	41,037	191,809
2002	12,331,319	8,439,064	3,892,255	9,061,411	5,406,283	3,655,128	3,269,908	3,032,781	2,699,702	333,079	237,127	40,110	197,017
2003	12,687,597	8,744,188	3,943,409	9,240,724	5,557,680	3,683,044	3,446,873	3,186,508	2,776,850	409,658	260,365	36,815	223,550
2004	13,000,994	9,018,024	3,982,970	9,348,081	5,640,650	3,707,431	3,652,913	3,377,374	2,837,251	540,123	275,539	34,202	241,337
2005	13,200,790	9,261,634	3,939,156	9,390,216	5,728,327	3,661,889	3,810,574	3,533,307	2,878,354	654,953	277,267	34,729	242,538
2006	13,401,696	9,456,480	3,945,216	9,502,028	5,824,962	3,677,066	3,899,668	3,631,518	2,936,261	695,257	268,150	31,203	236,947
2007	13,786,735	9,768,388	4,018,347	9,744,001	5,992,611	3,751,390	4,042,734	3,775,777	2,993,901	781,876	266,957	26,140	240,817
2008	14,377,990	10,153,074	4,224,916	10,061,076	6,138,686	3,922,390	4,316,914	4,014,388	3,058,910	955,478	302,526	28,072	274,454
2009	15,379,473	10,695,816	4,683,657	10,746,637	6,452,414	4,294,223	4,632,836	4,243,402	3,153,294	1,090,108	389,434	27,964	361,470
2010	15,947,474	11,129,239	4,818,235	11,018,756	6,635,799	4,382,957	4,928,718	4,493,440	3,235,149	1,258,291	435,278	26,920	408,358
2011	15,892,792	11,261,845	4,630,947	10,954,754	6,734,116	4,220,638	4,938,038	4,527,729	3,285,711	1,242,018	410,309	34,267	376,042
2012	15,593,434	11,229,774	4,363,660	10,781,798	6,764,184	4,017,614	4,811,636	4,465,590	3,309,242	1,156,348	346,046	32,684	313,362
2013	15,410,058	11,183,239	4,226,819	10,697,939	6,790,930	3,907,009	4,712,119	4,392,309	3,337,799	1,054,510	319,810	27,313	292,497
2014	15,263,179	11,238,618	4,024,561	10,624,163	6,891,984	3,732,179	4,639,016	4,346,634	3,363,101	983,533	292,382	25,808	266,574
2015	15,078,504	11,226,353	3,852,151	10,569,574	6,970,121	3,599,453	4,508,930	4,256,232	3,399,283	856,949	252,698	41,579	211,119
2016	14,937,939	11,356,540	3,581,399	10,572,028	7,221,134	3,350,894	4,365,911	4,135,406	3,410,337	725,069	230,505	43,900	186,605
2017	14,883,617	11,404,002	3,479,615	10,568,658	7,309,343	3,259,315	4,314,959	4,094,659	3,435,813	658,846	220,300	43,992	176,308
2018	14,786,090	11,451,124	3,334,966	10,524,813	7,376,540	3,148,273	4,261,277	4,074,584	3,473,556	601,028	186,693	40,892	145,801
2019	14,762,177	11,526,240	3,235,937	10,487,368	7,432,735	3,054,633	4,274,809	4,093,505	3,486,978	606,527	181,304	29,970	151,334
2020	14,316,027	11,463,390	2,852,637	10,062,819	7,412,751	2,650,068	4,253,208	4,050,639	3,441,613	609,026	202,569	28,758	173,811
2021[3]	15,292,000	11,949,000	3,344,000	10,828,000	7,682,000	3,146,000	4,464,000	4,267,000	—	—	198,000	—	—
2022[3]	15,050,000	11,747,000	3,303,000	10,666,000	7,558,000	3,108,000	4,384,000	4,189,000	—	—	195,000	—	—
2023[3]	14,898,000	11,618,000	3,280,000	10,567,000	7,481,000	3,087,000	4,331,000	4,137,000	—	—	193,000	—	—
2024[3]	14,902,000	11,618,000	3,284,000	10,574,000	7,484,000	3,091,000	4,328,000	4,134,000	—	—	194,000	—	—
2025[3]	14,966,000	11,668,000	3,297,000	10,619,000	7,517,000	3,103,000	4,346,000	4,152,000	—	—	195,000	—	—
2026[3]	15,062,000	11,746,000	3,316,000	10,686,000	7,565,000	3,120,000	4,376,000	4,181,000	—	—	196,000	—	—
2027[3]	15,142,000	11,812,000	3,329,000	10,738,000	7,605,000	3,133,000	4,404,000	4,207,000	—	—	196,000	—	—
2028[3]	15,221,000	11,879,000	3,343,000	10,790,000	7,644,000	3,146,000	4,431,000	4,234,000	—	—	197,000	—	—
2029[3]	15,300,000	11,939,000	3,361,000	10,842,000	7,679,000	3,163,000	4,458,000	4,259,000	—	—	198,000	—	—
2030[3]	15,359,000	11,983,000	3,376,000	10,881,000	7,704,000	3,177,000	4,478,000	4,279,000	—	—	199,000	—	—

— Not available.

[1] Large increases are due to the addition of schools accredited by the Accrediting Commission of Career Schools and Colleges of Technology.

[2] Because of imputation techniques, data are not consistent with figures for other years.

[3] Projected.

NOTE: Data in this table represent the 50 states and the District of Columbia. Full-time-equivalent enrollment is the number of full-time students enrolled, plus the full-time equivalent of the part-time students. For more information, see "Calculation of FTE students (using fall student headcounts)" in the IPEDS Glossary (https://surveys.nces.ed.gov/ipeds/public/glossary). Data through 1995 are for institutions of higher education, while later data are for degree-granting institutions. Degree-granting institutions grant associate's or higher degrees and participate in Title IV federal financial aid programs. The degree-granting classification is very similar to the earlier higher education classification, but it includes more 2-year colleges and excludes a few higher education institutions that did not grant degrees. Projections in this table were calculated after the onset of the coronavirus pandemic and take into account the expected impacts of the pandemic. Some data have been revised from previously published figures. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Higher Education General Information Survey (HEGIS), "Fall Enrollment in Colleges and Universities" surveys, 1967 through 1985; Integrated Postsecondary Education Data System (IPEDS), "Fall Enrollment Survey" (IPEDS-EF:86–99); IPEDS Spring 2001 through Spring 2021, Fall Enrollment component; and Enrollment in Degree-Granting Institutions Projection Model, through 2030. (This table was prepared December 2021.)

Table 21. Degrees conferred by postsecondary institutions, by level of degree and sex of student: Selected years, 1869–70 through 2030–31

Year	Associate's degrees				Bachelor's degrees				Master's degrees				Doctor's degrees[1]			
	Total	Males	Females	Percent female	Total	Males	Females	Percent female	Total	Males	Females	Percent female	Total	Males	Females	Percent female
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1869–70	—	—	—	—	9,371[2]	7,993[2]	1,378[2]	14.7	0	0	0	—	1	1	0	0.0
1879–80	—	—	—	—	12,896[2]	10,411[2]	2,485[2]	19.3	879	868	11	1.3	54	51	3	5.6
1889–90	—	—	—	—	15,539[2]	12,857[2]	2,682[2]	17.3	1,015	821	194	19.1	149	147	2	1.3
1899–1900	—	—	—	—	27,410[2]	22,173[2]	5,237[2]	19.1	1,583	1,280	303	19.1	382	359	23	6.0
1909–10	—	—	—	—	37,199[2]	28,762[2]	8,437[2]	22.7	2,113	1,555	558	26.4	443	399	44	9.9
1919–20	—	—	—	—	48,622[2]	31,980[2]	16,642[2]	34.2	4,279	2,985	1,294	30.2	615	522	93	15.1
1929–30	—	—	—	—	122,484[2]	73,615[2]	48,869[2]	39.9	14,969	8,925	6,044	40.4	2,299	1,946	353	15.4
1939–40	—	—	—	—	186,500[2]	109,546[2]	76,954[2]	41.3	26,731	16,508	10,223	38.2	3,290	2,861	429	13.0
1949–50	—	—	—	—	432,058[2]	328,841[2]	103,217[2]	23.9	58,183	41,220	16,963	29.2	6,420	5,804	616	9.6
1959–60	—	—	—	—	392,440[2]	254,063[2]	138,377[2]	35.3	74,435	50,898	23,537	31.6	9,829	8,801	1,028	10.5
1969–70	206,023	117,432	88,591	43.0	792,316	451,097	341,219	43.1	213,589	130,799	82,790	38.8	59,486	53,792	5,694	9.6
1979–80	400,910	183,737	217,173	54.2	929,417	473,611	455,806	49.0	305,196	156,882	148,314	48.6	95,631	69,526	26,105	27.3
1980–81	416,377	188,638	227,739	54.7	935,140	469,883	465,257	49.8	302,637	152,979	149,658	49.5	98,016	69,567	28,449	29.0
1981–82	434,526	196,944	237,582	54.7	952,998	473,364	479,634	50.3	302,447	151,349	151,098	50.0	97,838	68,630	29,208	29.9
1982–83	449,620	203,991	245,629	54.6	969,510	479,140	490,370	50.6	296,415	150,092	146,323	49.4	99,335	67,757	31,578	31.8
1983–84	452,240	202,704	249,536	55.2	974,309	482,319	491,990	50.5	291,141	149,268	141,873	48.7	100,799	67,769	33,030	32.8
1984–85	454,712	202,932	251,780	55.4	979,477	482,528	496,949	50.7	293,472	149,276	144,196	49.1	100,785	66,269	34,516	34.2
1985–86	446,047	196,166	249,881	56.0	987,823	485,923	501,900	50.8	295,850	149,373	146,477	49.5	100,280	65,215	35,065	35.0
1986–87	436,304	190,839	245,465	56.3	991,264	480,782	510,482	51.5	296,530	147,063	149,467	50.4	98,477	62,790	35,687	36.2
1987–88	435,085	190,047	245,038	56.3	994,829	477,203	517,626	52.0	305,783	150,243	155,540	50.9	99,139	63,019	36,120	36.4
1988–89	436,764	186,316	250,448	57.3	1,018,755	483,346	535,409	52.6	316,626	153,993	162,633	51.4	100,571	63,055	37,516	37.3
1989–90	455,102	191,195	263,907	58.0	1,051,344	491,696	559,648	53.2	330,152	158,052	172,100	52.1	103,508	63,963	39,545	38.2
1990–91	481,720	198,634	283,086	58.8	1,094,538	504,045	590,493	53.9	342,863	160,842	182,021	53.1	105,547	64,242	41,305	39.1
1991–92	504,231	207,481	296,750	58.9	1,136,553	520,811	615,742	54.2	358,089	165,867	192,222	53.7	109,554	66,603	42,951	39.2
1992–93	514,756	211,964	302,792	58.8	1,165,178	532,881	632,297	54.3	375,032	173,354	201,678	53.8	112,072	67,130	44,942	40.1
1993–94	530,632	215,261	315,371	59.4	1,169,275	532,422	636,853	54.5	393,037	180,571	212,466	54.1	112,636	66,773	45,863	40.7
1994–95	539,691	218,352	321,339	59.5	1,160,134	526,131	634,003	54.6	403,609	183,043	220,566	54.6	114,266	67,324	46,942	41.1
1995–96	555,216	219,514	335,702	60.5	1,164,792	522,454	642,338	55.1	412,180	183,481	228,699	55.5	115,507	67,189	48,318	41.8
1996–97	571,226	223,948	347,278	60.8	1,172,879	520,515	652,364	55.6	425,260	185,270	239,990	56.4	118,747	68,387	50,360	42.4
1997–98	558,555	217,613	340,942	61.0	1,184,406	519,956	664,450	56.1	436,037	188,718	247,319	56.7	118,735	67,232	51,503	43.4
1998–99	564,984	220,508	344,476	61.0	1,202,239	519,961	682,278	56.8	446,038	190,230	255,808	57.4	116,700	65,340	51,360	44.0
1999–2000	564,933	224,721	340,212	60.2	1,237,875	530,367	707,508	57.2	463,185	196,129	267,056	57.7	118,736	64,930	53,806	45.3
2000–01	578,865	231,645	347,220	60.0	1,244,171	531,840	712,331	57.3	473,502	197,770	275,732	58.2	119,585	64,171	55,414	46.3
2001–02	595,133	238,109	357,024	60.0	1,291,900	549,816	742,084	57.4	487,313	202,604	284,709	58.4	119,663	62,731	56,932	47.6
2002–03	634,016	253,451	380,565	60.0	1,348,811	573,258	775,553	57.5	518,699	215,172	303,527	58.5	121,579	62,730	58,849	48.4
2003–04	665,301	260,033	405,268	60.9	1,399,542	595,425	804,117	57.5	564,272	233,056	331,216	58.7	126,087	63,981	62,106	49.3
2004–05	696,660	267,536	429,124	61.6	1,439,264	613,000	826,264	57.4	580,151	237,155	342,996	59.1	134,387	67,257	67,130	50.0
2005–06	713,315	270,139	443,176	62.1	1,485,104	630,502	854,602	57.5	599,862	241,701	358,161	59.7	138,056	68,912	69,144	50.1
2006–07	727,616	275,034	452,582	62.2	1,524,729	649,816	874,913	57.4	610,703	242,213	368,490	60.3	144,694	71,311	73,383	50.7
2007–08	750,166	282,695	467,471	62.3	1,563,734	668,184	895,550	57.3	630,844	250,203	380,641	60.3	149,190	73,340	75,850	50.8
2008–09	787,243	298,066	489,177	62.1	1,601,399	685,422	915,977	57.2	662,082	263,515	398,567	60.2	154,564	75,674	78,890	51.0
2009–10	848,856	322,747	526,109	62.0	1,649,919	706,660	943,259	57.2	693,313	275,317	417,996	60.3	158,590	76,610	81,980	51.7
2010–11	943,506	361,408	582,098	61.7	1,716,053	734,159	981,894	57.2	730,922	291,680	439,242	60.1	163,827	79,672	84,155	51.4
2011–12	1,021,718	393,479	628,239	61.5	1,792,163	765,772	1,026,391	57.3	755,967	302,484	453,483	60.0	170,217	82,670	87,547	51.4
2012–13	1,007,427	389,195	618,232	61.4	1,840,381	787,408	1,052,973	57.2	751,718	301,552	450,166	59.9	175,026	85,080	89,946	51.4
2013–14	1,005,155	391,474	613,681	61.1	1,870,150	801,905	1,068,245	57.1	754,582	302,846	451,736	59.9	177,587	85,585	92,002	51.8
2014–15	1,014,341	396,782	617,559	60.9	1,894,969	812,693	1,082,276	57.1	758,804	306,615	452,189	59.6	178,548	84,922	93,626	52.4
2015–16	1,008,228	392,084	616,144	61.1	1,920,750	821,746	1,099,004	57.2	785,757	320,574	465,183	59.2	178,134	84,240	93,894	52.7
2016–17	1,005,687	394,147	611,540	60.8	1,956,114	836,021	1,120,093	57.3	804,542	326,857	477,685	59.4	181,357	84,649	96,708	53.3
2017–18	1,011,696	398,692	613,004	60.6	1,980,665	844,979	1,135,686	57.3	820,242	326,907	493,335	60.1	183,734	85,389	98,345	53.5
2018–19	1,036,640	407,219	629,421	60.7	2,013,086	857,607	1,155,479	57.4	833,792	326,201	507,591	60.9	187,577	85,771	101,806	54.3
2019–20	1,018,233	393,079	625,154	61.4	2,038,431	861,263	1,177,168	57.7	843,449	325,664	517,785	61.4	190,178	85,225	104,953	55.2
2020–21[3]	1,077,000	419,000	658,000	61.1	2,078,000	875,000	1,202,000	57.9	876,000	334,000	542,000	61.9	193,000	86,000	107,000	55.7
2021–22[3]	1,117,000	433,000	685,000	61.3	2,123,000	893,000	1,229,000	57.9	922,000	357,000	565,000	61.3	196,000	85,000	111,000	56.5
2022–23[3]	1,156,000	446,000	711,000	61.5	2,166,000	911,000	1,256,000	58.0	935,000	364,000	571,000	61.1	204,000	88,000	116,000	56.9
2023–24[3]	1,183,000	454,000	728,000	61.6	2,185,000	914,000	1,271,000	58.2	912,000	348,000	564,000	61.8	211,000	91,000	120,000	56.9
2024–25[3]	1,210,000	463,000	747,000	61.7	2,210,000	921,000	1,289,000	58.3	901,000	339,000	562,000	62.4	210,000	90,000	120,000	57.0
2025–26[3]	1,241,000	473,000	768,000	61.9	2,247,000	934,000	1,313,000	58.4	903,000	337,000	566,000	62.7	212,000	89,000	123,000	57.8
2026–27[3]	1,274,000	485,000	790,000	62.0	2,288,000	949,000	1,339,000	58.5	913,000	339,000	573,000	62.8	211,000	87,000	124,000	58.6
2027–28[3]	1,308,000	496,000	812,000	62.1	2,331,000	965,000	1,366,000	58.6	928,000	345,000	583,000	62.8	211,000	86,000	125,000	59.2
2028–29[3]	1,339,000	507,000	832,000	62.1	2,371,000	980,000	1,392,000	58.7	946,000	352,000	594,000	62.7	214,000	86,000	128,000	59.6
2029–30[3]	1,370,000	518,000	852,000	62.2	2,412,000	995,000	1,418,000	58.8	964,000	360,000	605,000	62.7	217,000	87,000	130,000	60.0
2030–31[3]	1,403,000	529,000	873,000	62.3	2,453,000	1,009,000	1,444,000	58.8	983,000	368,000	615,000	62.6	221,000	88,000	133,000	60.2

— Not available.

[1] Includes Ph.D., Ed.D., and comparable degrees at the doctoral level. Includes most degrees that were classified as first-professional prior to 2010–11, such as M.D., D.D.S., and law degrees.

[2] Includes some degrees classified as master's or doctor's degrees in later years.

[3] Projected.

NOTE: Data in this table represent the 50 states and the District of Columbia. Data through 1994–95 are for institutions of higher education, while later data are for degree-granting institutions. Degree-granting institutions grant associate's or higher degrees and participate in Title IV federal financial aid programs. Some data have been revised from previously published figures. Projections in this table were calculated after the onset of the coronavirus pandemic and take into account the expected impacts of the pandemic. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Earned Degrees Conferred*, 1869–70 through 1964–65; Higher Education General Information Survey (HEGIS), "Degrees and Other Formal Awards Conferred" surveys, 1965–66 through 1985–86; Integrated Postsecondary Education Data System (IPEDS), "Completions Survey" (IPEDS-C:87–99); IPEDS Fall 2000 through Fall 2020, Completions component; and Degrees Conferred Projection Model, through 2030–31. (This table was prepared October 2021.)

Technical Appendixes

Appendix A
Introduction to Projection Methodology

A.0. INTRODUCTION TO PROJECTION METHODOLOGY

Content of appendix A

Since its inception in 1964, the *Projections of Education Statistics* series has been providing projections of key education statistics to policymakers, educators, researchers, the press, and the general public. This edition of *Projections of Education Statistics* is the 48th in the series.

Appendix A contains this introduction, which provides a general overview of the projection methodology, as well as six additional sections that discuss the specific methodology for the different statistics projected:

- A.0. Introduction to Projection Methodology;
- A.1. Elementary and Secondary Enrollment;
- A.2. Elementary and Secondary Teachers;
- A.3. High School Graduates;
- A.4. Expenditures for Public Elementary and Secondary Education;
- A.5. Enrollment in Degree-Granting Postsecondary Institutions; and
- A.6. Postsecondary Degrees Conferred.

This introduction

- outlines the two major techniques used to make the projections;
- summarizes key demographic and economic assumptions underlying the projections;
- examines the accuracy of the projections; and
- introduces the subsequent sections of appendix A.

Projection techniques

Two main projection techniques were used to develop the projections presented in this publication:

- Exponential smoothing was the technique used in the projections of elementary and secondary enrollments and high school graduates. This technique also played a role in the projections of teachers at the elementary and secondary level, as well as enrollments and degrees conferred at the postsecondary level.
- Linear regression was the primary technique used in the projections of teachers and expenditures at the elementary and secondary level, as well as enrollments and degrees conferred at the postsecondary level.

Exponential smoothing

Single exponential smoothing produces a single forecast for all years in the forecast period and is used when the historical data have basically a horizontal pattern. In developing projections of elementary and secondary enrollments, for example, the rate at which students progress from one particular grade to the next (e.g., from grade 2 to grade 3) was projected using single exponential smoothing. Thus, this percentage was assumed to be constant over the forecast period.

In general, exponential smoothing places more weight on recent observations than on earlier ones. The weights for observations decrease exponentially as one moves further into the past. As a result, the older data have less influence on the projections. The rate at which the weights of older observations decrease is determined by the smoothing constant.

When using single exponential smoothing for a time series, P_t, a smoothed series, $\hat{P}$, is computed recursively by evaluating where

$$\hat{P}_t = \propto P_t + (1 - \propto) P_{t-1}$$

$0 < \propto \leq 1$ is the smoothing constant.

By repeated substitution, we can rewrite the equation as

$$P_t = \propto \sum_{s=0}^{t-1} (1 - \propto)^s P_{t-s}$$

where time, s, goes from the first period in the time series, 0, to time period t-1.

The forecasts are constant for all years in the forecast period. The constant equals

$$\hat{P}_{T+k} = \hat{P}_t$$

where T is the last year of actual data and k is the kth year in the forecast period where $k > 0$.

These equations illustrate that the projection is a weighted average based on exponentially decreasing weights. For higher smoothing constants, weights for earlier observations decrease more rapidly than for lower smoothing constants.

For each of the approximately 1,200 single exponential smoothing equations in this edition of *Projections of Education Statistics*, a smoothing constant was individually chosen to minimize the sum of squared forecast errors for that equation. The smoothing constants used to produce the projections in this report ranged from 0.001 to 0.999.

Multiple linear regression

Multiple linear regression was used in cases where a strong relationship exists between the variable being projected (the dependent variable) and independent variables. This technique can be used only when accurate data and reliable projections of the independent variables are available. Key independent variables for this publication include demographic and economic factors. For example, current expenditures for public elementary and secondary education are related to economic factors such as disposable income and education revenues from state sources. The sources of the demographic and economic projections used for this publication are discussed below, under "Assumptions."

The equations in this appendix should be viewed as forecasting rather than structural equations. That is, the equations are intended only to project values for the dependent variables, not to reflect all elements of underlying social, political, and economic structures. Lack of available data precluded the building of large-scale structural models. The particular equations shown were selected on the basis of their statistical properties, such as coefficients of determination (R^2s), the t-statistics of the coefficients, the Durbin-Watson statistic, the Breusch-Godfrey Serial Correlation LM test statistic, and residual plots.

The functional form primarily used is the multiplicative model. When used with two independent variables, this model takes the form:

$$Y = a \cdot X_1^{b_1} \cdot X_2^{b_2}$$

This equation can easily be transformed into the linear form by taking the natural log (ln) of both sides of the equation:

$$ln(Y) = ln(a) + b_1 lnX_1 + b_2 lnX_2$$

One property of this model is that the coefficient of an independent variable shows how responsive in percentage terms the dependent variable is to a one percent change in that independent variable (also called the elasticity). For example, a 1 percent change in X_1 in the above equation would lead to a b_1 percent change in Y.

Assumptions

All projections are based on underlying assumptions, and these assumptions determine projection results to a large extent. It is important that users of projections understand the assumptions to determine the acceptability of projected time series for their purposes. All the projections in this publication are to some extent dependent on demographic and/or economic assumptions.

Demographic assumptions

Many of the projections in this publication are demographically based on the S&P Global, Population Projections, May 2021 produced by S&P Global Inc. This is the first edition of *Projections of Education Statistics* to use population projections at the national level from S&P Global rather than from the Census Bureau and the fifth edition to use S&P Global's projections at the state-level.

Historical estimates of national population by age, sex, and race/ethnicity were obtained from the Census Bureau's Population Estimates Program (PEP). The most recently available estimates were from the Vintage 2020 data released in May 2021 for total population by age from 2010 through 2020. These estimates were adjusted by S&P Global to be consistent with total population as of April 1, 2020, from the 2020 Decennial Census. Population projections were done by S&P Global using a cohort component model like the model used by the Census Bureau. The model incorporates assumptions about fertility rates, survival rates, and net international migration from the 2017 Census Bureau projections, which were modified to take into account the demographic shocks of the previous three years, one of them being the impact of the COVID-19 pandemic. An additional adjustment was applied to account for recent increases in drug overdose deaths (opioid crisis) using data on deaths by age, sex, and race/ethnicity obtained from the U.S. Centers for Disease Control and Prevention.

Annual estimates of state population by age and sex from 2010 through 2020 are the U.S. Census Bureau's Vintage 2020 estimates, adjusted by S&P Global to be consistent with total population on April 1, 2020, by state reported in the 2020 Decennial Census. Annual estimates of state population by the more detailed age, sex, and race/ethnicity from 2010 through 2019 are the U.S. Census Bureau's Vintage 2019 estimates, adjusted by S&P Global to be consistent with the national population estimates by sex and single year of age and the state estimates of total population described above. For more information on the methodology used for S&P Global population projections, see appendix C, Data Sources.

The enrollment projections in this publication depend on population projections for the various age groups that attend school. The future fertility rate assumption (along with corresponding projections of female populations) determines projections of the number of births, a key factor for population projections. The fertility rate assumption plays a major role in determining population projections for the age groups enrolled in nursery school, kindergarten, and elementary grades. The effects of the fertility rate assumption are more pronounced toward the end of the forecast period, while immigration assumptions affect all years. For enrollments in secondary grades and college, the fertility rate assumption is of no consequence, since all the population cohorts for these enrollment ranges have already been born.

Economic assumptions

Various economic variables are used in the forecasting models for numbers of elementary and secondary teachers, public elementary and secondary school expenditures, and postsecondary enrollment.

Projections of the economic variables were from the trend scenario of the "U.S. Quarterly Macroeconomic Model June 2021 Short-Term Baseline Projections" developed by the S&P Global Inc. This set of projections was S&P Global Inc.'s most recent set at the time the education projections in this report were produced. The baseline projections depict a mean of possible paths that the economy could take over the forecast period given the incorporation of latest historical macroeconomic data, barring major shocks. The economy, in this scenario, evolves smoothly, without major fluctuations.

More information about specific assumptions

For details about the primary assumptions used in this edition of *Projections of Education Statistics*, see table A-1 on page 68.

Accuracy of the projections

Projections of time series data usually differ from the final reported (actual) data due to errors from many sources. This is because of the inherent nature of the statistical universe from which the basic data are obtained and the properties of projection methodologies, which depend on the validity of many assumptions.

The mean absolute percentage error (MAPE) is one way to express the forecast accuracy of past projections. This measure expresses the average absolute value of errors over past projections in percentage terms. For example, an analysis of projection errors over the past 36 editions of *Projections of Education Statistics* indicates that the MAPEs for public school enrollment in grades preK–12 for lead times of 1, 2, 5, and 10 years were 0.3, 0.5, 1.1, and 2.5 percent, respectively. For the 1-year-out projection, this means that one would expect the projection to be within 0.3 percent of the actual value, on average.

For a list of MAPEs for selected national statistics in this publication, see table A-2 on page 68. Sections A.1 through A.4 each contain at least one text table (tables A through F) that presents the MAPEs for the key national statistics of that section. Each text table appears directly after the discussion of accuracy of that section's national projections. For a list of MAPEs by state and region for public elementary and secondary enrollment, see tables A-7 through A-9 on pages 77–79 and for a list of MAPEs by state and region for the number of high school graduates in public schools, see table A-14 on page 92.

Tables A-3 and A-4 present an example of how the MAPEs were constructed using actual values for public school enrollment in grades 9 through 12 for schools years 2014–15 through 2017–18 and enrollment projections from the last four editions of *Projections of Education Statistics*. The top two panels of table A-3 shows the actual values fall 2014 through fall 2017 and enrollment projections for each year from *Projections of Education Statistics to 2025* with the number of projections generally decreasing by one for each subsequent edition. The bottom panel of table A-3 shows the percentage differences between the actual values and the projected values. For example, the projected value for fall 2014 presented in *Projections of Education Statistics to 2025* was 0.4 percent lower than the actual value for that year.

The top panel of table A-4 shows the absolute value of the percent differences from table A-3 arranged by lead time rather than year. For example, in the *Projections of Education Statistics to 2025*, the last actual data reported was for fall 2013 and thus the lead time for the projection of fall 2014 data was 1 year. Thus, the 0.4 appearing in the 2014 column of table A-3 for *Projections of Education Statistics to 2025* appears in the column for lead times of 1 year in table A-4, indicating that projection of the one-year-out forecast from *Projections of Education Statistics to 2025* differed by 0.4 percent in absolute terms from its actual value. The MAPEs for each lead time shown in the bottom panel of table A-4 were calculated by computing the average of the absolute values of the percentage differences for that lead time. For example, actual values are available to calculate the absolute values of the percentage differences for a lead time of 2 years for the first three editions of the *Projections of Education Statistics* listed in table A-4. These absolute values are 0.5, 0.2, and 0.6. The MAPE for a lead time of 2 years was then calculated by taking the average of these numbers, or 0.4. This matches the MAPE that appears in the bottom panel for a lead time of 2 years. (Calculations for table A-3 are based on unrounded numbers.) These MAPEs are different from the MAPEs for public school enrollment in grades 9 through 12 projections elsewhere in this report because the MAPEs in the example were calculated using only the last four editions of *Projections of Education Statistics*.

The number of years used in the analyses of the projection errors differ both because projections of additional education statistics have been added to the report over time and because, in some cases, there have been substantial changes in the methodology used to produce the projections such that the MAPEs for the earlier projections are no longer relevant. MAPEs are presented for a statistic only after it has been produced using substantially the same methodology in five previous editions of *Projections of Education Statistics* and there are at least 5 years of historical data for use in calculating the MAPEs.

Table A-1. Summary of forecast assumptions to 2030

Variable	Assumption
1	2
Demographic assumptions	
Population	Projections are consistent with the historical Census Bureau estimates[1]
18- to 24-year-old population	S&P Global projection: average annual growth rate of -0.1%
25- to 29-year-old population	S&P Global projection: average annual growth rate of -0.5%
30- to 34-year-old population	S&P Global projection: average annual growth rate of 0.2%
35- to 44-year-old population	S&P Global projection: average annual growth rate of 1.2%
Economic assumptions	
Disposable income per capita in constant dollars	Annual percentage changes range between -2.8% and 2.3% with an average annual growth rate of 2.0%
Education revenue receipts from state sources per capita in constant dollars	Annual percentage changes range between -2.9% and 4.9% with an average annual growth rate of 0.5%
Inflation rate	Inflation rate ranges between 1.9% and 2.9%
Unemployment rate (males)	
Ages 18 and 19	Remains between 3.6% and 16.0%
Ages 20 to 24	Remains between 7.6% and 12.1%
Age 25 and over	Remains between 3.1% and 6.1%
Unemployment rate (females)	
Ages 18 and 19	Remains between 9.2% and 12.7%
Ages 20 to 24	Remains between 5.7% and 10.8%
Age 25 and over	Remains between 2.9% and 6.2%

[1] Annual estimates of U.S. population, total and by age, through 2020 are the U.S. Census Bureau's Vintage 2020 estimates, adjusted by S&P Global to be consistent with total population on April 1, 2020 reported in the 2020 Census of Population.
SOURCE: Historical population data are from the U.S. Department of Commerce, Census Bureau, resident population by single year of age and sex retrieved from National Population by Characteristics: 2010–2020 (census.gov) and U.S. resident population retrieved from 2020 Census Apportionment Results. National population projections are S&P Global forecasts produced in May 2021 with a cohort component model like that used by the Census Bureau. The model incorporates assumptions about fertility rates, survival rates, and net international migration from the 2017 Census Bureau projections, which were modified to take into account the demographic shocks of the previous three years. Other macroeconomic data are from S&P Global Macroeconomic service, June 2021 release (history through 2020 and forecasts through 2030) and S&P Global Costs and Prices service (history through 2020 and forecasts though 2030). (This table was prepared in April 2022.)

Table A-2. Mean absolute percentage errors (MAPEs), by lead time for selected statistics in all elementary and secondary schools: MAPEs constructed using projections from *Projections of Education Statistics to 1984–85* through *Projections of Education Statistics to 2030*

Statistic	Lead time (years)									
	1 year	2 years	3 years	4 years	5 years	6 years	7 years	8 years	9 years	10 years
1	2	3	4	5	6	7	8	9	10	11
Public elementary and secondary schools										
Prekindergarten–12 enrollment[1]	0.3	0.5	0.7	0.9	1.1	1.3	1.6	1.9	2.2	2.5
Prekindergarten–8 enrollment[1]	0.3	0.6	0.8	1.0	1.3	1.6	2.0	2.5	2.9	3.3
Grades 9 through 12 enrollment[1]	0.4	0.6	0.9	1.1	1.2	1.4	1.6	1.8	2.0	2.2
American Indian/Alaska Native[2]	1.4	2.3	4.0	5.4	7.4	10.0	13.9	18.3	30.3	33.9
Asian/Pacific Islander[2]	0.7	1.7	2.7	3.5	4.5	5.3	5.9	6.1	8.3	10.3
Black[2]	0.6	1.3	1.9	2.3	2.5	2.1	2.7	3.7	6.3	6.9
Hispanic[2]	0.8	1.0	1.2	1.5	2.2	3.0	3.7	3.9	3.7	4.0
White[2]	0.4	0.8	1.3	1.7	2.3	2.8	3.9	5.1	8.5	10.4
Elementary and secondary teachers[3]	0.7	1.3	1.5	2.1	2.7	3.6	4.6	5.4	6.0	6.6
High school graduates[4]	1.0	1.1	1.8	2.2	2.5	2.9	3.5	4.2	4.8	5.1
American Indian/Alaska Native[2]	1.9	1.8	3.7	6.9	8.8	7.8	—	—	—	—
Asian/Pacific Islander[2]	1.5	2.6	2.7	1.6	2.2	0.3	—	—	—	—
Black[2]	2.3	3.0	3.5	5.8	7.1	9.3	—	—	—	—
Hispanic[2]	3.6	4.5	6.6	13.2	16.9	16.2	—	—	—	—
White[2]	1.0	0.5	0.8	1.3	2.5	3.5	—	—	—	—
Total current expenditures[5]	1.6	2.4	2.6	2.8	3.1	4.0	5.0	5.9	6.4	6.9
Current expenditures per pupil in fall enrollment[5]	1.6	2.4	2.6	2.8	3.3	4.1	5.0	5.9	6.5	7.0
Private elementary and secondary schools[6]										
Prekindergarten–12 enrollment[6]	3.7	5.5	5.8	9.8	8.5	11.7	9.6	12.2	10.6	14.2
Prekindergarten–8 enrollment[6]	3.9	5.6	5.6	9.8	8.0	12.0	9.4	13.2	12.3	19.2
9–12 enrollment[6]	3.8	5.2	6.5	9.7	9.9	10.4	10.9	13.7	13.7	9.7
High school graduates[6]	3.0	2.2	5.9	5.5	10.4	9.9	12.5	12.5	11.0	12.8

—Not available.
[1] MAPEs for public prekindergarten through grade 12 enrollments were calculated using the last 36 editions of *Projections of Education Statistics*, from *Projections of Education Statistics to 1984–85* through *Projections of Education Statistics to 2028*.
[2] MAPEs for public prekindergarten through grade 12 enrollments and high school graduates by race/ethnicity were calculated using the last 11 editions of *Projections of Education Statistics*, from *Projections of Education Statistics to 2019* through *Projections of Education Statistics to 2028*.
[3] Data for teachers expressed in full-time equivalents. MAPEs for teachers were calculated from the past 29 editions of *Projections of Education Statistics*, from *Projections of Education Statistics to 1997–98* through *Projections of Education Statistics to 2028*, excluding *Projections of Education Statistics to 2012* which did not include projections of teachers.
[4] MAPEs for public high school graduates were calculated from the past 29 editions of *Projections of Education Statistics*, from *Projections of Education Statistics to 2000* through *Projections of Education Statistics to 2028*.
[5] In constant dollars based on the Consumer Price Index for all urban consumers, Bureau of Labor Statistics, U.S. Department of Labor. MAPEs for current expenditures were calculated using projections from the last 29 editions of *Projections of Education Statistics*, from *Projections of Education Statistics to 1997–98* through *Projections of Education Statistics to 2028*, excluding *Projections of Education Statistics to 2012* which did not include projections of current expenditures.
[6] MAPEs for private prekindergarten–12 enrollments and high school graduates were calculated from the past 18 editions of *Projections of Education Statistics*, from *Projections of Education Statistics to 2011* through *Projections of Education Statistics to 2028*.
NOTE: Mean absolute percentage error is the average value over past projections of the absolute values of errors expressed in percentage terms. No MAPEs are presented for enrollments in degree-granting postsecondary institutions and postsecondary degrees conferred as projections of some of these statistics were calculated using a new model and all remaining projections were calculated using projections from a new model. Calculations were made using unrounded numbers. Some data have been revised from previously published figures.
SOURCE: U.S. Department of Education, National Center for Education Statistics, *Projections of Education Statistics*, various issues. (This table was prepared April 2022.)

Table A-3. Example of constructing mean absolute percentage errors (MAPEs) on public school enrollment in grades 9 through 12, part 1

	Year of data (fall)			
Source	2014	2015	2016	2017
1	2	3	4	5
	Enrollment in thousands			
Actual	14,943	15,050	15,138	15,190
	Projected enrollment in thousands			
Projections of Education Statistics to 2025	14,883	14,970	14,983	15,026
Projections of Education Statistics to 2026	†	15,070	15,111	15,148
Projections of Education Statistics to 2027	†	†	15,076	15,097
Projections of Education Statistics to 2028	†	†	†	15,222
	Percentage difference between actual and projected values			
Projections of Education Statistics to 2025	-0.4	-0.5	-1.0	-1.1
Projections of Education Statistics to 2026	†	0.1	-0.2	-0.3
Projections of Education Statistics to 2027	†	†	-0.4	-0.6
Projections of Education Statistics to 2028	†	†	†	0.2

† Not applicable.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 2014–15 through 2017–18; and *Projections of Education Statistics*, various editions. (This exhibit was prepared May 2022.)

Table A-4. Example of constructing mean absolute percentage errors (MAPEs) on public school enrollment in grades 9 through 12, part 2

	Lead time (years)			
Source	1 year	2 years	3 years	4 years
1	2	3	4	5
	Absolute value of percentage difference between actual and projected values			
Projections of Education Statistics to 2025	0.4	0.5	1.0	1.1
Projections of Education Statistics to 2026	0.1	0.2	0.3	†
Projections of Education Statistics to 2027	0.4	0.6	†	†
Projections of Education Statistics to 2028	0.2	†	†	†
	Mean absolute percentage error			
Example	0.3	0.4	0.6	1.1

† Not applicable.
NOTE: The mean absolute percentage errors presented in this table are for illustrative purpose only.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 2014–15 through 2017–18; and *Projections of Education Statistics*, various editions. (This exhibit was prepared May 2022.)

A.1. ELEMENTARY AND SECONDARY ENROLLMENT

Projections in this edition

This edition of *Projections of Education Statistics* presents projected trends in elementary and secondary enrollment from 2021 to 2030. These projections were made using three models:

- The *National Elementary and Secondary Enrollment Projection Model* was used to project total, public, and private school enrollments for the nation by grade level and for ungraded elementary and ungraded secondary programs.
- The *State Public Elementary and Secondary Enrollment Projection Model* was used to project total public school enrollments by grade level for individual states and regions.
- The *National Public Elementary and Secondary Enrollment by Race/Ethnicity Projection Model* was used to project public school enrollments for the nation by race/ethnicity and grade level.

All three elementary and secondary enrollment models used the following same methods.

Overview of approach

Two methods were used in all the elementary and secondary enrollment models:

- The *grade progression rate method* was used to project enrollments in grades 2 through 12. In this method, a rate of progression from each grade (1 through 11) to the next grade (2 through 12) was projected using single exponential smoothing. (For example, the rate of progression from grade 2 to grade 3 is the current year's grade 3 enrollment expressed as a percentage of the previous year's grade 2 enrollment.) To calculate enrollment for each year in the forecast period, the progression rate for each grade was applied to the previous year's enrollment in the previous grade.
- The *enrollment rate method* was used to project prekindergarten, kindergarten, and first-grade enrollments as well as elementary and secondary ungraded enrollments. In this method, an enrollment rate for each grade (or ungraded level) was projected using single exponential smoothing. (For example, the enrollment rate for grade 1 is the number of students enrolled in grade 1 divided by the number of 6-year-olds.) To calculate enrollment for each year in the forecast period, the enrollment rate for each category was applied to the projected population in the appropriate age group.

Assumptions underlying these methods

The grade progression and enrollment rate methods assume that past trends in factors affecting public and private elementary and secondary school enrollments will continue over the forecast period. This assumption implies that all factors influencing enrollments will display future patterns consistent with past patterns. This method implicitly includes the net effect of such factors as migration, dropouts, deaths, nonpromotion, and transfers between public and private schools.

Procedures and equations used in all three elementary and secondary enrollment projection models

The notation and equations that follow describe the basic procedures used to project elementary and secondary enrollments in each of the three elementary and secondary enrollment projection models.

Let:

i = Subscript denoting age
j = Subscript denoting grade
t = Subscript denoting time
T = Subscript of the first year in the forecast period
N_t = Enrollment at the prekindergarten (nursery) level
K_t = Enrollment at the kindergarten level
$G_{j,t}$ = Enrollment
E_t = Enrollment in elementary ungraded programs
S_t = Enrollment in secondary ungraded programs
$P_{i,t}$ = Population
$R_{j,t}$ = Progression rate
RN_t = Enrollment rate for prekindergarten (nursery school)
RK_t = Enrollment rate for kindergarten
$RG_{1,t}$ = Enrollment rate for grade 1
RE_t = Enrollment rate for elementary ungraded programs
RS_t = Enrollment rate for secondary ungraded programs.

Step 1. *Calculate historical grade progression rates for each of grades 2 through 12.* The first step in projecting the enrollments for grades 2 through 12 using the grade progression method was to calculate, for each grade, a progression rate for each year of actual data used to produce the projections except for the first year. The progression rate for grade *j* in year *t* equals

$$R_{j,t} = G_{j,t} / G_{j-1,\,t-1}$$

Step 2. *Produce a projected progression rate for each of grades 2 through 12.* Projections for each grade's progression rate were then produced for the forecast period using single exponential smoothing. A separate smoothing constant, chosen to minimize the sum of squared forecast errors, was used to calculate the projected progression rate for each grade. Single exponential smoothing produces a single forecast for all years in the forecast period. Therefore, for each grade *j*, the projected progression rate, $\hat{R}_j$, is the same for each year in the forecast period.

Step 3. *Calculate enrollment projections for each of grades 2 through 12.* For the first year in the forecast period, *T*, enrollment projections, $\hat{G}_{j,t}$, for grades 2 through 12, were produced using the projected progression rates and the enrollments of grades 1 through 11 from the last year of actual data, *T*-1. Specifically,

$$\hat{G}_{j,T} = \hat{R}_j * \hat{G}_{j-1,\,T-1}$$

This same procedure was then used to produce the projections for the following year, *T*+1, except that enrollment projections for year *T* were used rather than actual numbers:

$$\hat{G}_{j,T+1} = \hat{R}_j * \hat{G}_{j,T}$$

The enrollment projections for grades 2 through 11 for year T were those just produced using the grade progression method. The projection for grade 1 for year T was produced using the enrollment rate method, as outlined in steps 4, 5 and 6 below.

The same procedure was used for the remaining years in the projections period.

Step 4. *Calculate historical enrollment rates for prekindergarten, kindergarten, grade 1, elementary ungraded, and secondary ungraded.* The first step in projecting prekindergarten, kindergarten, first-grade, elementary ungraded, and secondary ungraded enrollments using the enrollment rate method was to calculate enrollment rates for each enrollment category for the last year of actual data, T-1, where:

$$RN_t = N_t / P_{5,t}$$
$$RK_t = K_t / P_{5,t}$$
$$RG_{1,t} = G_{1,t} / P_{6,t}$$
$$RE_t = E_t / \sum_{i=5}^{13} P_{i,t}$$
$$RS_t = S_t / \sum_{i=14}^{17} P_{i,t}$$

Step 5. *Produce a projected enrollment rate for prekindergarten, kindergarten, grade 1, elementary ungraded, and secondary ungraded.* Projections for each category's enrollment rate were produced for the forecast period using single exponential smoothing. A separate smoothing constant, chosen to minimize the sum of squared forecast errors, was used to calculate the projected enrollment rate for each of these grades (or ungraded levels), specifically for prekindergarten, kindergarten, grade 1, elementary ungraded, and secondary ungraded. Single exponential smoothing produces a single forecast for all years in the forecast period. These enrollment rates were then used as the projected enrollment rates for each year in the forecast period ($\widehat{RN}$, $\widehat{RK}$, $\widehat{RG_1}$, $\widehat{RE}$, and $\widehat{RS}$).

Step 6. *Calculate enrollment projections for prekindergarten through grade 1 and the ungraded categories.* For each year in the forecast period, the enrollment rates were then multiplied by the appropriate population projections from S&P Global ($\hat{P}_{i,t}$) to calculate enrollment projections for prekindergarten (nursery school) ($\hat{N}_t$), kindergarten ($\hat{K}_t$), first grade ($\hat{G}_{1,t}$), elementary ungraded ($\hat{E}_t$), and secondary ungraded ($\hat{S}_t$).

$$\hat{N}_t = \widehat{RN} * \hat{P}_{5,t}$$
$$\hat{K}_t = \widehat{RK} * \hat{P}_{5,t}$$
$$\hat{G}_{1,t} = \widehat{RG_1} * \hat{P}_{6,t}$$
$$\hat{E}_t = \widehat{RE} * \sum_{i=5}^{13} \hat{P}_{i,t}$$
$$\hat{S}_t = \widehat{RS} * \sum_{i=14}^{17} \hat{P}_{i,t}$$

Step 7. *Calculate total elementary and secondary enrollments by summing the projections for each grade and the ungraded categories*. To obtain projections of total enrollment, projections of enrollments for the individual grades (prekindergarten through 12), elementary ungraded, and secondary ungraded were summed.

National Elementary and Secondary Enrollment Projection Model

This model was used to project national total, public, and private school enrollments by grade level and for ungraded elementary and ungraded secondary programs. National enrollment projections for public and private schools were developed separately, then added together to yield total elementary and secondary enrollment projections for the nation. To develop these projections, enrollment data from NCES were used, along with population estimates and projections from S&P Global. Below is information about the specific data used to develop the public school projections and the private school projections, as well as information about the grade progression rates and enrollment rates specific to public schools and private schools.

For details on procedures used to develop the projections, see "Procedures and equations used in all three elementary and secondary enrollment projection models," earlier in this section of appendix A.

Data used to develop national elementary and secondary enrollment projections

Public school enrollment data. Public school enrollment data from the NCES *Statistics of Public Elementary and Secondary School Systems* for 1972 to 1980 and the NCES Common Core of Data (CCD) for 1981 to 2020 were used to develop the national public school enrollment projections.

Private school enrollment data. Private school enrollment data from the NCES Private School Universe Survey (PSS) for 1989-90, 1991-92, 1993-94, 1995-96, 1997-98, 1999-2000, 2001-02, 2003-04, 2005-06, 2007-08, 2009-10, 2011-12, 2013-14, 2015-16, 2017-18, and 2019-2020 were used to develop the national private school enrollment projections. Since the PSS is collected in the fall of odd-numbered years, data for even-numbered years without a PSS collection were estimated by interpolating grade-by-grade progression data from PSS.

Population estimates and projections used for public school enrollment projections. Population estimates for 1972 to 2020 from the U.S. Census Bureau and population projections for 2021 to 2030 from S&P Global were also used to develop the public school enrollment projections. (See table B-1 on page 112 and table B-2 on page 113.) The set of population projections used in this year's *Projections of Education Statistics* are S&P Global's May 2021 National Population Projections by age and sex. For more details on the underlying population utilized in the public school enrollment projections, see the earlier section, Demographic assumptions.

Population estimates and projections used for private school enrollment projections. Population estimates for 1989 to 2020 from the U.S. Census Bureau and population projections for 2021 to 2030 from S&P Global were used to develop the private school enrollment projections.

Grade progression and enrollment rates for national elementary and secondary enrollment projections

Public school grade progression and enrollment rates. Table A-5 on page 76 shows the public school grade progression rates for 2020 and projections for 2021 through 2030. Table A-6 on page 76 shows the public school enrollment rates for 2020 and projections for 2021 through 2030.

Special note on calculating projected progression and enrollment rates during the coronavirus pandemic

Latest year of historical data. In the procedure for calculating projected progression and enrollment rates, single exponential smoothing heavily weights the most recent year of history. The most recent year of history for public school enrollments for these projections was fall 2020, the beginning of the first full school year of the coronavirus pandemic. To avoid producing a forecast based on the unprecedented public school enrollment declines in fall 2020, steps 2 and 5, above, instead treat 2019 as the last year of historical data. However, in step 3, projected progression rates were applied to enrollment levels from 2020 to produce the first year of projected enrollment levels for 2021.

Handling 2020 public school leavers. Enrollment in public schools dropped 3 percent from fall 2019 to fall 2020. Even though drops were most pronounced in prekindergarten and kindergarten, enrollments were also generally lower in grades 1 through 8, when schooling is compulsory (see *Digest 2021* table 203.10 for more detail). Since enrollment in grades 1 through 8 is compulsory in the United States, it follows that students who left public schools in these grades would have sought

alternatives, rather than leaving schooling altogether. However, the latest historical data for private school enrollments was from fall 2019. Therefore, a portion of public school leavers in compulsory grades in 2020 were assumed to have enrolled in private schools. This portion was based on the percentage of nonpublic (i.e., private school students and homeschooled students) who attended private schools in 2019, according to the National Household Educational Survey (NHES).

Accuracy of national elementary and secondary enrollment projections

Mean absolute percentage errors (MAPEs) for projections of public school enrollment were calculated using the last 36 editions of *Projections of Education Statistics*, while MAPEs for projections of private school enrollment were calculated using the last 18 editions. Table A, below, shows MAPEs for both public and private school enrollment projections.

Table A. Mean absolute percentage errors (MAPEs) of enrollment projections, by lead time, control of school, and grade in elementary and secondary schools: MAPEs constructed using projections from *Projections of Education Statistics to 1984–85* through *Projections of Education Statistics to 2028*

	Lead time (years)									
Statistic	1	2	3	4	5	6	7	8	9	10
Public elementary and secondary schools										
Prekindergarten through 12 enrollment	0.3	0.5	0.7	0.9	1.1	1.3	1.6	1.9	2.2	2.5
Prekindergarten through grade 8 enrollment	0.3	0.6	0.8	1.0	1.3	1.6	2.0	2.5	2.9	3.3
Grades 9 through 12 enrollment	0.4	0.6	0.9	1.1	1.2	1.4	1.6	1.8	2.0	2.2
Private elementary and secondary schools										
Prekindergarten through 12 enrollment	3.7	5.5	5.8	9.8	8.5	11.7	9.6	12.2	10.6	14.2
Prekindergarten through grade 8 enrollment	3.9	5.6	5.6	9.8	8.0	12.0	9.4	13.2	12.3	19.2
Grades 9 through 12 enrollment	3.8	5.2	6.5	9.7	9.9	10.4	10.9	13.7	13.7	9.7

NOTE: Mean absolute percentage error is the average value over past projections of the absolute values of errors expressed in percentage terms. MAPEs for public prekindergarten through grade 12 enrollments were calculated using the last 36 editions of *Projections of Education Statistics*, from *Projections of Education Statistics to 1984–85* through *Projections of Education Statistics to 2028*. MAPEs for private prekindergarten through grade 12 enrollments were calculated from the past 18 editions, from *Projections of Education Statistics to 2011* through *Projections of Education Statistics to 2028*. Calculations were made using unrounded numbers. Some data have been revised from previously published figures.
SOURCE: U.S. Department of Education, National Center for Education Statistics, *Projections of Education Statistics*, various issues. (This table was prepared March 2022.)

State Public Elementary and Secondary Enrollment Projection Model

This edition of *Projections of Education Statistics* contains projected trends in public elementary and secondary enrollment by grade level from 2021 to 2030 for each of the 50 states and the District of Columbia, as well as for each region of the country. The state enrollment projections were produced in two stages:

- *first, an initial set of projections for each state was produced; and*
- *second, these initial projections were adjusted to sum to the national public enrollment totals produced by the National Elementary and Secondary Enrollment Projection Model.*

For each region, the enrollment projections equaled the sum of enrollment projections for the states within that region. The states within each geographic region can be found in appendix F.

Initial set of state projections

The same methods used to produce the national enrollment projections—namely, the grade progression rate method and the enrollment rate method—were used to produce the initial sets of public school enrollment projections for each state and the District of Columbia. A separate smoothing constant, chosen to minimize the sum of squared forecast errors, was used to calculate the projected progression rate for each combination of jurisdiction and grade.

For details on the procedures used to develop the initial sets of projections, see "Procedures and equations used in all three elementary and secondary enrollment projection models," earlier in this section of appendix A.

Limitations of the grade progression method for state projections

The grade progression rate method assumes that past trends in factors affecting public school enrollments will continue over the forecast period. This assumption implies that all factors influencing enrollments will display future patterns consistent with past patterns. Therefore, this method has limitations when applied to states with unanticipated changes in migration rates. This method implicitly includes the net effect of such factors as migration, dropouts, deaths, nonpromotion, and transfers to and from private schools.

Adjustments to the state projections

The initial projections of state public school enrollments were adjusted to sum to the national projections of public school prekindergarten (preK)-12, preK-8, and 9-12 enrollments shown in *Digest 2021* table 105.30. This was done through the use of ratio adjustments in which all the states' initial enrollment projections for each grade level were multiplied by the ratio of the national enrollment projection for that grade level to the sum of the state enrollment projections for that grade level.

Data used to develop state elementary and secondary enrollment projections

Public school enrollment data. Public school enrollment data from the NCES *Statistics of Public Elementary and Secondary School Systems* for 1980 and from the NCES Common Core of Data (CCD) for 1981 to 2020 were used to develop these projections.

Population estimates and projections. Population estimates for 1980 to 2020 from the U.S. Census Bureau and population projections for 2021 to 2030 from S&P Global were used to develop the state-level enrollment projections. This is the fifth edition of *Projections of Education Statistics* to use population projections from S&P Global rather than from the U.S. Census Bureau. The change was made because it had been many years since the Census Bureau had produced population projections at the state level. Annual estimates of state population by age and sex from 2010 through 2020 are the U.S. Census Bureau's Vintage 2020 estimates, adjusted by S&P Global to be consistent with total population on April 1, 2020, by state reported in the 2020 Decennial Census. Annual estimates of state population by the more detailed age, sex, and race/ethnicity from 2010 through 2019 are the U.S. Census Bureau's Vintage 2019 estimates, adjusted by S&P Global to be consistent with the national population estimates by sex and single year of age and the state estimates of total population described above.

Accuracy of state elementary and secondary enrollment projections

MAPEs for projections of public school enrollment by state were calculated using the last 24 editions of *Projections of Education Statistics*. Tables A-7 through A-9 on pages 77-79 show MAPEs for preK-12, preK-8, and 9-12 enrollment in public elementary and secondary schools by state.

National Public Elementary and Secondary Enrollment by Race/Ethnicity Projection Model

This edition of *Projections of Education Statistics* contains projected trends in national public elementary and secondary enrollment by race/ethnicity from 2021 to 2030. Race categories exclude persons of Hispanic ethnicity.

The enrollment projections by race/ethnicity were produced in two stages:

- first, an initial set of projections by race/ethnicity was produced; and
- second, these initial projections were adjusted to sum to the national totals.

Initial set of projections by race/ethnicity

The same methods used to produce the national enrollment projections—namely, the grade progression rate method and the enrollment rate method—were used to produce initial sets of projections for each of the following seven racial/ethnic groups: American Indian/Alaska Native, Asian, Black, Hispanic, Pacific Islander, White, and Two or more races. A separate smoothing constant, chosen to minimize the sum of squared forecast errors, was used to calculate the projected progression rate for each combination of race/ethnicity and grade.

For details on the procedures used to develop the initial sets of projections, see "Procedures and equations used in all three elementary and secondary enrollment models," earlier in this section of appendix A.

Adjustments to the projections by race/ethnicity

The initial projections of enrollments by race/ethnicity were adjusted to sum to the national projections of public school preK-12, preK-8, and 9-12 enrollments shown in *Digest 2021* table 105.30. This was done through the use of ratio adjustments in which all the initial enrollment projections by race/ethnicity for each grade level were multiplied by the ratio of the national enrollment projection for that grade level to the sum of the initial enrollment projections by race/ethnicity for that grade level.

Data and imputations used to develop enrollment projections by race/ethnicity

Public school enrollment data. Public school enrollment data by grade level and race/ethnicity from the NCES Common Core of Data (CCD) for 1994 to 2020 were used to develop these projections. Data for Pacific Islander students and students of Two or more races became consistently available across states in 2010. While projections by race/ethnicity were produced at the national level only, the national data used to develop these projections were constructed from state-level data on enrollment by grade level and race/ethnicity. In those instances where states did not report their enrollment data by grade level and race/ethnicity, the state-level data had to be examined and some imputations made in order to produce the national public school enrollment by grade level and race/ethnicity data. For example, in 1994, North Dakota did not report grade-level enrollment data by race/ethnicity. It did, however, report these numbers for 1995. So, to impute these numbers for 1994, North Dakota's 1994 grade-level enrollment data were estimated by the state's 1995 racial/ethnic distribution at each grade level.

Population estimates and projections. Population estimates for 2000 to 2019 from the U.S. Census Bureau and population projections for 2020 to 2030 from S&P Global were used to develop the enrollment projections by race/ethnicity. The set of population projections used in this year's *Projections of Education Statistics* are S&P Global's May 2021 National Population Projections by age, sex, and race/ethnicity. For more details on the underlying population utilized in the enrollment projections by race/ethnicity, see the earlier section, Demographic assumptions.

Accuracy of enrollment projections by race/ethnicity

MAPEs for projections of public school enrollment by race/ethnicity were calculated using the last 10 editions of *Projections of Education Statistics*. Table B, below, shows MAPEs for public school enrollment by race/ethnicity projections.

Table B. Mean absolute percentage errors (MAPEs) of enrollment projections, by lead time and race/ethnicity: MAPEs constructed using projections from *Projections of Education Statistics to 1984–85* through *Projections of Education Statistics to 2028*

	Lead time (years)									
Statistic	1	2	3	4	5	6	7	8	9	10
Total enrollment	**0.3**	**0.5**	**0.7**	**1.0**	**1.1**	**1.3**	**1.6**	**1.9**	**2.2**	**2.5**
American Indian/Alaska Native	1.4	2.3	4.0	5.4	7.4	10.0	13.9	18.3	30.3	33.9
Asian/Pacific Islander	0.7	1.7	2.7	3.5	4.5	5.3	5.9	6.1	8.3	10.3
Black	0.6	1.3	1.9	2.3	2.5	2.1	2.7	3.7	6.3	6.9
Hispanic	0.8	1.0	1.2	1.5	2.2	3.0	3.7	3.9	3.7	4.0
White	0.4	0.8	1.3	1.7	2.3	2.8	3.9	5.1	8.5	10.4

NOTE: Mean absolute percentage error is the average value over past projections of the absolute values of errors expressed in percentage terms. MAPEs for public prekindergarten through grade 12 enrollments were calculated using the last 36 editions of *Projections of Education Statistics*, from *Projections of Education Statistics to 1984–85* through *Projections of Education Statistics to 2028*. MAPEs for public prekindergarten through grade 12 enrollments by race/ethnicity were calculated using the last 10 editions of *Projections of Education Statistics*, from *Projections of Education Statistics to 2019* through *Projections of Education Statistics to 2028*. Calculations were made using unrounded numbers. Some data have been revised from previously published figures.
SOURCE: U.S. Department of Education, National Center for Education Statistics, *Projections of Education Statistics*, various issues. (This table was prepared March 2022.)

Table A-5. Actual and projected national public school grade progression rates: Fall 2020, and fall 2021 through fall 2030

Grade	Actual 2020	Projected 2021 through 2030
1	2	3
1 to 2	96.8	99.9
2 to 3	97.7	100.8
3 to 4	97.9	99.8
4 to 5	98.4	100.4
5 to 6	98.6	100.4
6 to 7	99.1	100.6
7 to 8	99.3	100.4
8 to 9	103.9	106.8
9 to 10	96.4	96.6
10 to 11	95.6	95.4
11 to 12	99.8	99.1

NOTE: The progression rate for a particular grade in a year equals the enrollment in the grade for that year divided by the enrollment in the previous grade in the previous year all multiplied by 100. For example, the progression rate for third-graders in 2020 equals the enrollment of third-graders in 2020 divided by the enrollment of second-graders in 2019, all multiplied by 100. Progression rates for fall 2020 were impacted by the coronavirus pandemic. Progression rates for the projected period are based on historical progression rates through fall 2019.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 2019–20 and 2020–21; and National Elementary and Secondary Enrollment Projection Model, through 2030. (This table was prepared March 2022.)

Table A-6. Actual and projected national enrollment rates in public schools, by grade level: Fall 2020, and fall 2021 through fall 2030

Grade	Actual 2020	Projected 2021 through 2030
1	2	3
Prekindergarten	30.3	39.1
Kindergarten	82.9	91.7
Grade 1	86.7	90.2
Elementary ungraded	0.2	0.2
Secondary ungraded	0.2	0.2

NOTE: The enrollment rate for each grade level equals the enrollment at that grade level divided by the population of that grade's base age, all multiplied by 100. The base age for each grade level is as follows: prekindergarten and kindergarten, 5 years old; grade 1, 6 years old; elementary ungraded, 5 to 13 years olds; and secondary ungraded, 14 to 17 years olds. Enrollment rates for fall 2020 were impacted by the coronavirus pandemic. Enrollment rates for the projected period are based on historical enrollment rates through fall 2019.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 2020–21; and National Elementary and Secondary Enrollment Projection Model, through 2030. (This table was prepared March 2022.)

Table A-7. Mean absolute percentage errors (MAPEs) for projected prekindergarten through grade 12 enrollment in public elementary and secondary schools, by lead time, region, and state: MAPEs constructed using projections from *Projections of Education Statistics to 1984–85* through *Projections of Education Statistics to 2028*

Region and state	Lead time (years)									
	1 year	2 years	3 years	4 years	5 years	6 years	7 years	8 years	9 years	10 years
1	2	3	4	5	6	7	8	9	10	11
United States	**0.3**	**0.5**	**0.7**	**0.9**	**1.1**	**1.3**	**1.6**	**1.9**	**2.2**	**2.5**
Region										
Northeast	0.5	0.7	0.9	1.0	1.0	1.1	1.2	1.2	1.4	1.4
Midwest	0.2	0.3	0.4	0.6	0.7	0.9	1.1	1.4	1.6	1.7
South	0.4	0.7	1.1	1.4	1.6	1.9	2.2	2.8	3.6	4.4
West	0.4	0.7	1.0	1.2	1.5	1.9	2.4	2.7	3.1	3.3
State										
Alabama	0.6	0.8	1.1	1.4	1.9	2.3	2.8	3.4	4.0	4.4
Alaska	0.9	1.6	2.3	2.8	3.3	4.1	5.3	6.5	8.0	9.2
Arizona	1.9	2.7	3.8	4.9	6.3	7.7	9.1	10.5	13.2	14.9
Arkansas	0.5	0.9	1.4	1.8	2.4	3.0	3.5	3.6	4.2	4.7
California	0.5	0.9	1.2	1.7	2.1	2.6	3.2	3.6	4.3	4.8
Colorado	0.5	0.8	1.1	1.4	1.8	2.2	2.9	3.5	4.4	5.2
Connecticut	0.6	0.9	1.1	1.4	1.8	2.0	2.4	2.9	3.7	4.2
Delaware	0.7	1.2	1.6	1.9	2.5	3.0	3.8	4.2	5.2	5.9
District of Columbia	4.2	4.3	5.8	7.1	7.6	7.8	8.0	7.6	9.0	7.4
Florida	0.8	1.4	2.0	2.8	3.5	4.2	5.1	6.0	7.4	8.6
Georgia	0.6	1.1	1.6	2.2	2.7	3.1	3.6	4.3	5.6	6.7
Hawaii	1.7	2.7	3.6	4.6	5.9	6.6	7.5	8.3	10.3	12.1
Idaho	0.9	1.7	2.4	3.1	3.3	3.6	3.7	4.1	4.5	4.8
Illinois	0.5	0.8	1.1	1.4	1.8	2.0	2.4	2.7	3.1	3.4
Indiana	0.4	0.7	1.1	1.4	1.8	1.9	2.1	2.1	2.2	2.4
Iowa	0.5	0.8	1.0	1.3	1.6	1.8	2.0	2.5	3.1	3.7
Kansas	0.7	1.1	1.3	1.4	1.7	1.9	2.1	2.3	2.6	2.7
Kentucky	1.4	1.4	2.0	2.2	1.9	2.5	2.4	2.7	3.5	3.8
Louisiana	1.6	2.4	3.0	3.8	4.5	5.1	5.7	5.8	7.1	7.8
Maine	0.8	1.2	1.6	2.0	2.4	2.2	2.1	2.3	2.6	2.7
Maryland	0.4	0.7	1.0	1.3	1.7	2.1	2.4	2.5	2.5	2.4
Massachusetts	0.4	0.6	0.9	1.2	1.5	1.6	1.8	1.9	2.4	2.8
Michigan	0.6	1.4	1.8	2.2	2.6	2.9	3.4	4.0	4.8	5.2
Minnesota	0.3	0.5	0.7	0.8	1.1	1.3	1.6	1.8	2.0	2.1
Mississippi	0.4	0.9	1.2	1.5	1.8	1.9	2.0	2.0	2.4	2.8
Missouri	0.3	0.4	0.5	0.6	0.8	0.8	1.0	1.2	1.5	1.7
Montana	0.7	1.1	1.7	2.2	2.8	3.7	4.6	5.5	6.9	8.1
Nebraska	0.4	0.8	1.1	1.5	1.9	2.3	2.6	2.9	3.4	3.7
Nevada	1.0	1.6	2.6	3.7	5.0	6.3	7.8	9.4	12.0	14.2
New Hampshire	0.5	0.8	1.1	1.4	1.7	2.1	2.7	3.6	4.5	5.2
New Jersey	0.9	1.3	1.9	2.2	2.5	2.7	3.1	3.6	4.1	4.3
New Mexico	1.2	1.8	2.5	3.3	4.4	5.4	6.6	7.6	8.8	9.5
New York	0.8	1.1	1.3	1.7	2.2	2.4	2.6	2.9	3.4	3.3
North Carolina	0.8	1.3	1.9	2.5	3.1	3.7	4.5	5.2	6.6	8.0
North Dakota	0.9	1.7	2.4	3.4	4.5	5.6	7.1	8.8	10.7	12.0
Ohio	0.4	0.5	0.8	0.9	1.3	1.5	1.7	1.9	2.3	2.4
Oklahoma	0.8	1.2	1.6	2.1	2.5	3.0	3.5	4.2	5.1	5.8
Oregon	0.8	1.3	1.7	1.8	1.9	1.9	2.2	2.6	3.1	3.3
Pennsylvania	0.9	1.2	1.4	1.6	1.7	1.8	1.9	2.1	2.3	2.5
Rhode Island	0.9	1.5	2.2	2.7	3.0	3.1	3.3	3.4	4.0	4.3
South Carolina	0.6	1.0	1.3	1.8	2.2	2.7	3.3	3.9	4.5	5.0
South Dakota	1.1	1.8	2.6	3.5	4.4	5.3	5.9	6.7	7.7	8.6
Tennessee	0.8	1.1	1.4	1.7	1.9	2.3	2.7	3.2	3.5	3.6
Texas	0.6	1.1	1.5	1.9	2.3	2.9	3.7	4.7	6.0	7.0
Utah	1.2	1.6	1.8	2.6	3.3	4.0	4.8	5.6	6.8	6.6
Vermont	1.4	2.2	2.6	3.1	3.5	3.8	4.3	5.0	5.2	5.5
Virginia	0.4	0.5	0.7	1.0	1.4	1.7	2.1	2.5	3.0	3.5
Washington	0.4	0.8	1.1	1.4	1.8	1.9	2.0	2.3	2.7	2.9
West Virginia	0.6	0.8	1.0	1.5	1.9	2.0	2.4	2.9	3.6	4.1
Wisconsin	0.5	0.7	0.9	1.2	1.5	1.7	2.1	2.2	2.3	2.1
Wyoming	0.8	1.3	2.2	3.3	4.3	5.0	5.9	7.0	8.9	10.4

NOTE: Mean absolute percentage error (MAPE) is the average value over past projections of the absolute values of errors expressed in percentage terms. National MAPEs for public prekindergarten through grade 12 enrollments were calculated using the last 36 editions of *Projections of Education Statistics*, from *Projections of Education Statistics to 1984–85* through *Projections of Education Statistics to 2028*. State MAPEs were calculated using the last 24 editions of *Projections of Education Statistics*, from *Projections of Education Statistics to 2005* through *Projections of Education Statistics to 2028*. Calculations were made using unrounded numbers. Some data have been revised from previously published figures.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Projections of Education Statistics*, various issues. (This table was prepared March 2022.)

Table A-8. Mean absolute percentage errors (MAPEs) for projected prekindergarten through grade 8 enrollment in public elementary and secondary schools, by lead time, region, and state: MAPEs constructed using projections from *Projections of Education Statistics to 1984–85* through *Projections of Education Statistics to 2028*

Region and state	Lead time (years)									
	1 year	2 years	3 years	4 years	5 years	6 years	7 years	8 years	9 years	10 years
1	2	3	4	5	6	7	8	9	10	11
United States	**0.3**	**0.6**	**0.8**	**1.0**	**1.3**	**1.6**	**2.0**	**2.5**	**2.9**	**3.3**
Region										
Northeast	0.4	0.7	0.9	0.9	1.0	1.0	1.1	1.2	1.2	1.2
Midwest	0.2	0.4	0.5	0.6	0.8	0.9	1.1	1.4	1.6	1.6
South	0.5	0.9	1.4	1.8	2.1	2.4	2.9	3.5	4.5	5.4
West	0.5	0.9	1.2	1.5	1.9	2.4	3.1	3.5	4.0	4.3
State										
Alabama	0.6	0.9	1.2	1.6	2.2	2.6	3.1	3.7	4.2	4.5
Alaska	1.1	1.8	2.8	3.6	4.5	5.7	7.5	9.4	11.4	13.0
Arizona	1.9	2.8	4.1	5.3	6.8	8.5	9.8	11.3	13.6	15.0
Arkansas	0.7	1.1	1.7	2.2	2.8	3.6	4.2	4.2	4.9	5.3
California	0.7	1.2	1.6	2.2	2.8	3.5	4.4	5.0	6.0	6.8
Colorado	0.6	0.9	1.2	1.7	2.1	2.7	3.5	4.3	5.3	6.1
Connecticut	0.6	1.0	1.4	1.8	2.3	2.5	3.0	3.7	4.4	4.8
Delaware	0.9	1.4	1.8	2.2	2.6	3.4	4.1	4.7	5.9	6.7
District of Columbia	3.7	4.6	5.8	7.0	7.4	7.5	8.3	7.6	9.0	7.3
Florida	0.9	1.7	2.5	3.3	4.1	4.9	6.0	7.2	8.6	9.8
Georgia	0.8	1.3	2.0	2.7	3.2	3.6	4.5	5.4	6.7	7.8
Hawaii	2.0	3.2	4.1	5.3	7.0	8.0	9.3	10.6	13.3	15.2
Idaho	1.0	2.1	3.0	3.8	4.1	4.2	4.3	4.6	4.9	5.2
Illinois	0.6	0.9	1.2	1.5	1.9	2.3	2.8	3.3	3.8	4.1
Indiana	0.5	0.8	1.1	1.4	1.7	1.8	2.0	2.0	2.2	2.5
Iowa	0.6	1.0	1.3	1.8	2.3	2.7	3.2	3.8	4.7	5.4
Kansas	0.8	1.2	1.4	1.5	1.9	2.3	2.6	3.0	3.4	3.7
Kentucky	1.5	1.8	2.5	2.7	2.7	2.7	2.7	3.0	3.8	4.4
Louisiana	1.5	2.4	2.8	3.4	4.0	4.4	4.8	4.7	5.8	6.5
Maine	0.6	1.0	1.4	2.0	2.6	2.9	3.3	4.2	5.1	5.6
Maryland	0.5	0.8	1.1	1.5	2.0	2.5	3.0	3.3	3.5	3.5
Massachusetts	0.4	0.7	1.1	1.3	1.5	1.7	1.8	1.8	2.1	2.4
Michigan	0.7	1.4	1.8	2.4	2.7	3.1	3.6	4.6	5.6	6.1
Minnesota	0.4	0.5	0.8	1.1	1.3	1.5	1.7	1.8	1.9	1.9
Mississippi	0.6	1.1	1.6	2.0	2.4	2.5	2.5	2.6	3.1	3.4
Missouri	0.5	0.7	0.8	0.9	1.1	1.2	1.3	1.4	1.4	1.5
Montana	0.9	1.4	2.1	2.9	3.9	5.2	6.6	8.0	9.9	10.9
Nebraska	0.6	1.0	1.4	1.8	2.3	2.7	3.0	3.4	4.0	4.5
Nevada	1.1	2.2	3.6	5.0	6.6	8.2	10.1	12.3	15.1	17.1
New Hampshire	0.6	1.0	1.4	1.9	2.7	3.3	4.3	5.5	6.8	7.8
New Jersey	1.0	1.5	2.0	2.2	2.4	2.5	2.9	3.2	3.6	3.7
New Mexico	1.0	1.8	2.3	3.1	4.3	5.5	6.9	8.3	9.5	9.9
New York	0.7	0.9	1.1	1.5	1.9	2.0	2.4	2.6	3.0	3.1
North Carolina	1.0	1.7	2.4	3.3	4.0	4.8	5.5	6.5	8.0	9.6
North Dakota	1.2	2.2	3.1	4.1	5.5	6.8	8.7	11.0	13.0	13.9
Ohio	0.4	0.5	0.6	0.7	1.0	1.2	1.3	1.6	1.9	2.1
Oklahoma	1.0	1.6	2.2	2.8	3.3	3.8	4.4	5.1	6.1	6.8
Oregon	1.0	1.5	1.7	1.8	2.1	2.1	2.1	2.6	3.4	3.4
Pennsylvania	0.6	0.9	1.2	1.4	1.6	1.6	1.9	2.0	2.2	2.2
Rhode Island	1.1	1.7	2.3	2.9	3.2	3.5	3.9	4.1	4.8	5.1
South Carolina	0.8	1.2	1.5	2.1	2.4	2.9	3.5	4.0	4.7	5.0
South Dakota	1.2	1.9	2.7	3.9	5.1	6.5	7.4	8.8	10.2	10.7
Tennessee	0.8	1.1	1.6	1.9	2.1	2.3	2.5	2.8	3.2	3.5
Texas	0.8	1.4	2.0	2.6	3.0	3.6	4.5	5.6	7.0	8.1
Utah	1.2	1.6	1.9	2.5	3.2	3.9	4.6	5.4	6.5	6.7
Vermont	1.9	2.9	3.4	4.0	4.7	5.2	6.1	7.3	7.4	7.4
Virginia	0.5	0.7	0.8	1.1	1.6	2.1	2.6	3.1	3.6	4.0
Washington	0.4	0.7	1.0	1.4	1.8	2.0	2.1	2.4	2.7	2.7
West Virginia	0.6	0.7	1.0	1.5	2.1	2.2	2.5	3.0	3.7	4.1
Wisconsin	0.5	0.7	0.9	1.2	1.6	2.0	2.4	2.5	2.3	2.1
Wyoming	0.9	1.6	2.8	4.0	5.4	6.4	7.5	9.1	11.3	12.5

NOTE: Mean absolute percentage error (MAPE) is the average value over past projections of the absolute values of errors expressed in percentage terms. National MAPEs for public prekindergarten through grade 8 enrollments were calculated using the last 36 editions of *Projections of Education Statistics*, from *Projections of Education Statistics to 1984–85* through *Projections of Education Statistics to 2028*. State MAPEs were calculated using the last 24 editions of *Projections of Education Statistics,* from *Projections of Education Statistics to 2005* through *Projections of Education Statistics to 2028*. Calculations were made using unrounded numbers. Some data have been revised from previously published figures.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Projections of Education Statistics*, various issues. (This table was prepared March 2022.)

Table A-9. Mean absolute percentage errors (MAPEs) for projected grades 9–12 enrollment in public schools, by lead time, region, and state: MAPEs constructed using projections from *Projections of Education Statistics to 1984–85* through *Projections of Education Statistics to 2028*

Region and state	Lead time (years)									
	1 year	2 years	3 years	4 years	5 years	6 years	7 years	8 years	9 years	10 years
1	2	3	4	5	6	7	8	9	10	11
United States	**0.4**	**0.6**	**0.9**	**1.1**	**1.2**	**1.4**	**1.6**	**1.8**	**2.0**	**2.2**
Region										
Northeast	0.9	1.1	1.2	1.5	1.7	1.7	1.7	1.9	2.1	2.3
Midwest	0.4	0.6	0.8	0.8	0.9	1.0	1.3	1.5	1.6	1.8
South	0.3	0.8	1.2	1.5	1.8	2.0	2.1	2.2	2.6	3.1
West	0.5	0.7	1.0	1.2	1.3	1.4	1.5	1.7	1.7	1.6
State										
Alabama	0.9	1.6	2.2	2.6	2.9	3.2	3.7	4.4	5.2	5.5
Alaska	1.0	1.9	2.7	2.8	2.8	3.1	3.6	4.0	4.2	3.9
Arizona	3.4	5.0	6.7	7.5	7.9	7.9	8.4	9.5	12.9	15.0
Arkansas	0.4	0.8	1.2	1.5	1.7	1.8	2.0	2.2	2.7	3.4
California	0.5	0.8	1.1	1.5	1.7	2.1	2.4	2.6	2.4	2.1
Colorado	0.6	1.1	1.5	1.8	2.1	2.4	2.5	2.5	3.0	3.6
Connecticut	0.7	1.1	1.2	1.6	2.1	2.6	3.1	3.7	4.7	5.6
Delaware	1.2	1.6	2.1	2.5	2.7	3.0	3.4	3.4	4.2	5.0
District of Columbia	6.4	7.4	9.8	12.0	14.0	15.0	14.2	14.4	16.4	15.4
Florida	0.7	1.1	1.6	2.1	2.6	3.5	4.4	5.1	6.0	6.2
Georgia	0.5	0.9	1.2	1.6	2.0	2.6	3.1	3.5	4.4	5.3
Hawaii	1.4	2.0	2.7	3.4	3.9	4.2	4.5	4.8	5.0	5.9
Idaho	1.0	1.5	1.9	2.4	2.8	2.9	3.7	4.3	4.7	4.7
Illinois	0.7	1.0	1.5	1.9	2.3	2.5	2.7	2.8	2.7	2.8
Indiana	0.5	1.0	1.5	2.1	2.5	2.6	2.9	3.0	3.1	3.5
Iowa	0.6	0.7	0.9	0.9	1.3	1.4	1.7	2.1	2.5	2.9
Kansas	0.9	1.4	1.7	1.9	1.9	1.7	1.4	1.6	1.7	1.2
Kentucky	1.4	1.7	1.8	1.9	1.9	2.8	3.1	3.2	4.1	4.0
Louisiana	2.3	3.3	4.5	5.6	7.1	8.2	9.0	9.5	11.7	13.1
Maine	1.4	2.5	3.1	3.9	4.5	5.0	5.8	6.5	7.5	7.5
Maryland	0.5	0.8	1.1	1.5	1.5	1.7	1.9	2.3	2.7	2.8
Massachusetts	0.6	1.1	1.6	2.1	2.8	3.2	3.6	3.9	4.6	5.1
Michigan	1.2	1.9	2.4	2.7	3.1	3.6	4.4	5.2	6.7	7.4
Minnesota	0.5	0.8	1.0	1.1	1.3	1.6	1.9	2.1	2.5	2.8
Mississippi	0.6	1.2	1.7	2.0	2.3	2.7	3.1	3.5	4.0	4.0
Missouri	0.3	0.6	0.8	1.1	1.3	1.3	1.3	1.6	2.1	2.3
Montana	0.6	0.9	1.4	1.5	1.8	2.2	2.7	2.9	2.9	2.9
Nebraska	0.4	0.8	1.1	1.4	1.6	1.7	2.1	2.3	2.6	2.8
Nevada	1.1	2.0	2.5	2.8	3.4	4.2	5.4	7.1	9.0	9.9
New Hampshire	0.5	0.9	1.3	1.5	1.6	1.8	2.1	2.6	3.4	3.8
New Jersey	0.7	1.4	2.0	2.3	2.8	3.5	4.1	4.8	5.5	5.8
New Mexico	2.5	3.5	4.5	5.3	6.2	6.8	7.5	8.0	8.7	9.5
New York	1.4	2.1	2.2	2.6	3.2	3.4	3.5	4.0	5.0	4.2
North Carolina	1.0	1.3	1.5	1.7	2.1	2.5	2.8	3.1	4.0	5.5
North Dakota	0.8	1.3	1.8	2.7	3.6	4.0	5.0	6.1	8.1	9.3
Ohio	1.0	1.5	1.8	2.1	2.4	2.8	3.2	3.3	3.4	3.3
Oklahoma	0.4	0.8	1.2	1.6	2.0	2.1	2.3	2.8	3.6	4.4
Oregon	1.0	1.5	2.0	2.2	2.3	2.6	3.0	3.6	4.0	4.3
Pennsylvania	1.6	2.0	2.2	2.3	2.5	2.4	2.5	2.8	2.9	3.7
Rhode Island	0.7	1.4	2.2	3.1	3.8	4.4	4.7	5.0	5.4	6.4
South Carolina	0.6	1.2	1.7	2.1	2.6	3.0	3.4	3.9	4.5	5.5
South Dakota	1.3	2.4	3.5	4.3	5.3	5.9	6.8	7.8	8.9	9.4
Tennessee	1.7	1.8	2.4	3.2	3.7	4.2	4.6	5.0	5.4	5.5
Texas	0.4	1.0	1.4	1.7	2.1	2.4	2.8	3.3	4.1	5.0
Utah	1.5	1.8	1.7	2.9	3.7	4.6	5.9	7.2	9.0	8.7
Vermont	1.0	2.1	2.4	2.9	3.2	3.4	3.3	3.5	3.7	3.6
Virginia	0.5	0.9	1.3	1.8	2.1	2.4	2.4	2.5	2.7	2.8
Washington	0.6	1.0	1.4	1.6	2.1	2.3	2.7	3.0	3.5	4.1
West Virginia	0.7	1.0	1.3	1.6	2.2	2.5	3.2	3.8	4.3	4.5
Wisconsin	0.7	1.0	1.2	1.4	1.7	1.9	2.2	2.6	2.8	2.8
Wyoming	0.7	1.1	1.7	2.5	3.6	4.5	5.7	6.9	8.2	8.8

NOTE: Mean absolute percentage error (MAPE) is the average value over past projections of the absolute values of errors expressed in percentage terms. National MAPEs for public grades 9 through 12 enrollments were calculated using the last 36 editions of *Projections of Education Statistics*, from *Projections of Education Statistics to 1984–85* through *Projections of Education Statistics to 2028*. State MAPEs were calculated using the last 24 editions of *Projections of Education Statistics*, from *Projections of Education Statistics to 2005* through *Projections of Education Statistics to 2028*. Calculations were made using unrounded numbers. Some data have been revised from previously published figures.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Projections of Education Statistics*, various issues. (This table was prepared March 2022.)

A.2. ELEMENTARY AND SECONDARY TEACHERS

Projections in this edition

This edition of *Projections of Education Statistics* presents projected trends in elementary and secondary teachers, pupil/teacher ratios, and new teacher hires from 2019 to 2030. These projections were made using two models:

- The *Elementary and Secondary Teacher Projection Model* was used to project the number of public school teachers, the number of private school teachers, and the total number of teachers for the nation. It was also used to project pupil/teacher ratios for public schools, private schools, and all elementary and secondary schools.
- The *New Teacher Hires Projection Model* was used to project the number of new teacher hires in public schools, private schools, and all schools.

Overview of approach

Approach for numbers of teachers and pupil/teacher ratios

Public schools. Linear regression was used to produce initial projections of public school pupil/teacher ratios separately for elementary and secondary schools. The initial projections of elementary pupil/teacher ratios and secondary pupil/teacher ratios were applied to enrollment projections to project the numbers of elementary teachers and secondary teachers, which were summed to get the total number of public school teachers. Final projections of the overall public school pupil/teacher ratios were produced by dividing total projected public school enrollment by the total projected number of public school teachers.

Assumptions underlying this method

This method assumes that past relationships between the public school pupil/teacher ratio (the dependent variable) and the independent variables used in the regression analysis will continue throughout the forecast period. For more information about the independent variables, see "Elementary and Secondary Teacher Projection Model," later in this section of appendix A.

Private schools. Private school teachers were projected by applying the ratio of private school teachers to public school teachers in 2019 to each year's projected number of public school teachers. This was done separately for elementary and secondary teachers, which were summed to get the total number of private school teachers. The projections for private pupil/teacher ratios were produced by dividing total projected private school enrollment by the total projected number of private school teachers.

Assumptions underlying this method

This method assumes that the future pattern in the trend of private school teachers will be the same as that for public school teachers. The reader is cautioned that a number of factors could alter the assumption of consistent patterns of change in private/public teacher ratios over the forecast period.

Approach for new teacher hires

The following numbers were projected separately for public schools and for private schools:

- *The number of teachers needed to fill openings when there is an increase in the size of the teaching workforce from one year to the next and the decrease in the number of replacement teachers needed if there is a decrease in the size of the teaching workforce from one year to the next*. This number was estimated based on continuation rates of teachers by their age.
- *The number of teachers needed to fill openings due to an increase in the size of the teaching workforce from one year to the next*. This number was estimated by subtracting the projected number of teachers in one year from the projected number of teachers in the next year.

These two numbers were summed to yield the total number of "new teacher hires" for each control (public or private) of school–that is, teachers who will be hired in a given year, but who did not teach in that control the previous year. A teacher who moves from one control to the other control (i.e., from a public to private school or from a private to a public school) is considered a new teacher hire, but a teacher who moves from one school to another school in the same control is not considered a new teacher hire.

ELEMENTARY AND SECONDARY TEACHER PROJECTION MODEL

Projections for public schools were produced first. Projections for private schools were produced based partially on input from the public school projections. Finally, the public and private school projections were combined into total elementary and secondary school projections (not shown in the steps below).

Steps used to project numbers of teachers and pupil/teacher ratios

Public school teachers. The following steps were used for the public school projections:

Step 1. *Produce projections of pupil/teacher ratios for public elementary schools and public secondary schools separately.* Two separate regression models were developed—one for elementary schools and one for secondary schools. The independent variables for each of the equations are as follows:

- *Independent variables for public elementary school pupil/teacher ratios*—(1) level of education revenue from state sources in constant dollars per public elementary student. The equation for elementary schools includes an error correction term to capture the long-term relationship between the elementary pupil-to-teacher ratio and state education funding per elementary student.
- *Independent variables for public secondary school pupil/teacher ratios*—(1) level of education revenue from state sources in constant dollars per public secondary student, and (2) the number of students enrolled in public secondary schools relative to the secondary school-age population.

To estimate the model, each equation was first transformed into nonlinear dlog-dlog form and then the coefficients were estimated by applying Marquardt nonlinear least squares to the public secondary school pupil/teacher ratio equation and least squares estimation to the public elementary school pupil/teacher ratio equation.

For details on the equations, model statistics, and data used to project public school pupil/teacher ratios, see "Data and equations used for projections of teachers and pupil/teacher ratios," below.

Step 2. *Produce projections of the number of teachers for public elementary schools and public secondary schools separately.* The projections of the public elementary pupil/teacher ratio and public secondary pupil/teacher ratio were applied to projections of enrollments in elementary schools and secondary schools, respectively, to produce projections of public elementary teachers and public secondary teachers.

Step 3. *Produce projections of the total number of teachers for public elementary and secondary schools combined.* The projections of public elementary teachers and public secondary teachers were added together to produce the projections of the total number of public elementary and secondary teachers.

Step 4. *Produce projections of the pupil/teacher ratio for public elementary and secondary schools combined.* The projections of total enrollment in public elementary and secondary schools were divided by the projections of the total number of public elementary and secondary teachers to produce projections of the overall pupil/teacher ratio in public elementary and secondary schools.

Private school teachers. The following steps were used for the private school projections:

Step 1. *Produce projections of the elementary and secondary private teachers to public teachers ratio.* First, the historical ratio of elementary private teachers to elementary public teachers and secondary private school teachers to secondary public school teachers were generated through the last historical year for which both public and private data exist. Then, given the typical one-year lag in the private school data, the ratio of private teachers to public teachers for both elementary and secondary were calculated for the missing year of private data by setting the missing year equal to the last historical estimate. This method was applied throughout the forecast period such that the elementary and secondary private teachers to public teachers ratio throughout the projections period equaled the last historical ratio—for the projections through 2030, that year was 2019.

Step 2. *Produce projections of the number of private school teachers.* The projected public teachers/private teachers ratios were applied to projected public school teachers to produce projections of private school teachers from 2020 through 2030 for both elementary and secondary levels.

For information about the private school teacher and enrollment data used for the private school projections, see "Data and equations used for projections of teachers and pupil/teacher ratios," below.

Data and equations used for projections of teachers and pupil/teacher ratios

Public school data used in these projections were by organizational level (i.e., school level), not by grade level. Thus, secondary school enrollment is not the same as enrollment in grades 9 through 12 because many jurisdictions count some grade 7 and 8 enrollment as secondary. For example, some jurisdictions may have 6-year high schools with grades 7 through 12.

Data used to estimate the equation for public elementary school pupil/teacher ratios. The following data were used to estimate the equation:

- To compute the historical elementary school pupil/teacher ratios, data on 1972–73 to 1980–81 enrollments in public elementary schools came from the NCES *Statistics of Public Elementary and Secondary Day Schools* and data on 1981–82 to 2019–20 enrollment came from the NCES Common Core of Data (CCD). The proportion of public school teachers who taught in elementary schools was taken from the National Education Association and then applied to the total number of public school teachers from the CCD to produce the number of teachers in elementary schools.
- For 1973–74 and 1975–76, the education revenue from state sources data came from *Statistics of State School Systems*, published by NCES. For 1972–73, 1974–75, and 1976–77, the education revenue from state sources data came from *Revenues and Expenditures for Public Elementary and Secondary Education*, also published by NCES. For 1977–78 through 2018–19, these data came from the NCES Common Core of Data (CCD).

Estimated equation and model statistics for public elementary school pupil/teacher ratios. For the estimated equation and model statistics, see table A-10 on page 85. In the public elementary pupil/teacher ratio equation, the independent variable affects the dependent variable in the expected ways:

- As the level of education revenue from state sources in constant dollars per public elementary student increases, the pupil/teacher ratio decreases.

Data used to project public elementary school pupil/teacher ratios. The estimated equation was run using projected values for education revenues from state sources from 2019–20 through 2030–31. For more information, see Section A.0. Introduction to Projection Methodology, earlier in this appendix and Section A.4. Expenditures for Public Elementary and Secondary Education later in this appendix.

Data used to estimate the equation for public secondary school pupil/teacher ratios. The following data were used to estimate the equation:

- To compute the historical secondary school pupil/teacher ratios—Data on 1972–73 to 1980–81 enrollments in public secondary schools came from the NCES *Statistics of Public Elementary and Secondary Day Schools* and data on 1981–82 to 2019–20 enrollment came from the NCES Common Core of Data (CCD). The proportion of public school teachers who taught in secondary schools was taken from the National Education Association and then applied to the total number of public school teachers from the CCD to produce the number of teachers in secondary schools.
- For 1973–74 and 1975–76, the education revenue from state sources data came from *Statistics of State School Systems*, published by NCES. For 1972–73, 1974–75, and 1976–77, the education revenue from state sources data came from *Revenues and Expenditures for Public Elementary and Secondary Education*, also published by NCES. For 1977–78 through 2018–19, these data came from the NCES Common Core of Data (CCD).
- To compute the historical secondary school enrollment rate—Data on the secondary school-age population from 1972–73 to 2019–20 came from the U.S. Census Bureau. Data on enrollments in public secondary schools during the same period came from the CCD, as noted above.

Estimated equation and model statistics for public secondary school pupil/teacher ratios. For the estimated equation and model statistics, see table A-10 on page 85. In the public secondary pupil/teacher ratio equation, the independent variables affect the dependent variable in the expected way:

- As the level of education revenue from state sources in constant dollars per public secondary student increases, the pupil/teacher ratio decreases.
- As enrollment rates (number of enrolled students relative to the school-age population) increase, the pupil/teacher ratio increases; and

Data used to project public secondary school pupil/teacher ratios. The estimated equation was run using projections for education revenues, public secondary enrollments, and secondary school-age populations from 2019-20 through 2030-31. Secondary enrollment projections were derived from the enrollment projections described in Section A.1. Elementary and Secondary Enrollment. Population projections were from S&P Global's May 2021 National Population Projections by age and sex. For more details on the underlying population utilized in the public school enrollment projections, see the earlier section, Demographic assumptions.

Private school teacher and enrollment data. Private school data for 1989-90, 1991-92, 1993-94, 1995-96, 1997-98, 1999-2000, 2001-02, 2003-04, 2005-06, 2007-08, 2009-10, 2011-12, 2013-14, 2015-16, 2017-18, and 2019-20 came from the biennial NCES Private School Universe Survey (PSS). Since the PSS is collected in the fall of odd-numbered years, data for years without a PSS collection were estimated using data from the PSS.

Private school enrollment projections. Private school enrollments from 2020 to 2030 came from the projections described in Section A.1. Elementary and Secondary Enrollment, earlier in this appendix.

Accuracy of projections of numbers of teachers

Mean absolute percentage errors (MAPEs) for projections of public school teachers were calculated using the last 29 editions of *Projections of Education Statistics* that included projections of teachers. Table C shows MAPEs for projections of the numbers of public school teachers. No MAPEs were calculated for private elementary and secondary teachers as this is the second edition of *Projections of Education Statistics* to use the new Private Elementary and Secondary Teachers Model. For information concerning the accuracy of the previous models used to produce projections of private elementary and secondary teachers, see page 91 of *Projections of Education Statistics to 2027*.

For more information about MAPEs, see Section A.0. Introduction to Projection Methodology, earlier in this appendix.

Table C. Mean absolute percentage errors (MAPEs) of projections of number of public elementary and secondary school teachers, by lead time: MAPEs constructed using projections from *Projections of Education Statistics to 1997–98* through *Projections of Education Statistics to 2028*

	Lead time (years)									
Statistic	1	2	3	4	5	6	7	8	9	10
Public elementary and secondary teachers	0.7	1.3	1.5	2.1	2.7	3.6	4.6	5.4	6.0	6.6

NOTE: Mean absolute percentage error is the average value over past projections of the absolute values of errors expressed in percentage terms. MAPEs for public elementary and secondary school teachers were calculated from the past 29 editions of *Projections of Education Statistics*, from *Projections of Education Statistics to 1997–98* through *Projections of Education Statistics to 2028*, excluding *Projections of Education Statistics to 2012* which did not include projections of teachers. Calculations were made using unrounded numbers. Some data have been revised from previously published figures. Number of teachers reported in full-time equivalents.
SOURCE: U.S. Department of Education, National Center for Education Statistics, *Projections of Education Statistics*, various issues. (This table was prepared March 2022.)

New Teacher Hires Projection Model

The New Teacher Hires Projection Model was estimated separately for public and private school teachers. The model produces projections of the number of teachers who were not teaching in the previous year, but who will be hired in a given year.

About new teacher hires

A teacher is considered to be a new teacher hire for a control of school (public or private) for a given year if the teacher teaches in that control that year but had not taught in that control in the previous year. Included among new teachers hires are: (1) teachers who are new to the profession; (2) teachers who had taught previously but had not been teaching the previous year; and (3) teachers who had been teaching in one control the previous year but have moved to the other control. Concerning the last category, if a teacher moves from one public school to a different public school, that teacher would not be counted as a new teacher hire for the purposes of this model. On the other hand, if a teacher moves from a public school to a private school, that teacher would be counted as a private school new teacher hire, since the teacher did not teach in a private school in the previous year.

The New Teacher Hires Projection Model measures the demand for teacher hires. Due to difficulties in defining and measuring the pool of potential teachers, no attempt was made to measure the supply of new teacher candidates.

Steps used to project numbers of new teacher hires

The steps outlined below provide a general summary of how the New Teacher Hires Projection Model was used to produce projections of the need for new teacher hires.

For more information about the New Teacher Hires Projection Model, see Hussar (1999).

First, the series of steps outlined below was used to produce projections of public school new teacher hires. Then, the same steps were used to produce projections of private school new hires. Finally, the public and private new teacher hires were combined to produce projections of total new teacher hires.

Step 1. *Estimate the age distribution of full-time-equivalent (FTE) teachers in 2017–18 (the most recent year of data available from the National Teacher and Principals Survey [NTPS])*. For this estimate, the age distribution of the headcount of school teachers (including both full-time and part-time teachers) in 2017–18 was applied to the national number of FTE teachers in the same year.

Step 2. *Project the number of new FTE teacher hires needed to replace those who left teaching between 2017–18 and 2018–19*.

- Age-specific continuation rates from 2011–12 to 2012–13 for public school teachers and 2007–08 to 2008–09 for private school teachers (based on latest available data from the Teacher Follow-Up Survey) were applied to the FTE count of teachers by age for fall 2017, resulting in estimates of the number of FTE teachers who remained in teaching in fall 2018 by individual age.
- The FTE teachers who remained in teaching by individual age were summed across all ages to produce a projection of the total number of FTE teachers who remained teaching in fall 2018.
- The total projection of remaining FTE teachers in fall 2018 was subtracted from the total FTE teacher count for 2017 to produce the projected number of FTE teachers who left teaching.

Step 3. *Project the number of new FTE teacher hires needed due to the overall increase in the teacher workforce between fall 2017 and 2018*. The total number of FTE teachers in fall 2017 was subtracted from the total projected number of FTE teachers in 2018 to project the overall increase in the teaching workforce between 2017 and 2018.

Step 4. *Project the total number of new FTE teacher hires needed in 2018–19*. The number of FTE teachers who left teaching from step 2 was added to the projected net change in the number of FTE teachers from step 3 to project the total number of new FTE teacher hires needed in 2017–18.

Step 5. *Project the FTE count of teachers by age for 2017–18.* In this step

- The age distribution for the headcount of newly hired teachers in 2017–18 was applied to the projected total number of new FTE teacher hires in fall 2018, resulting in the projected number of new FTE teacher hires by age.
- For each individual age, the projected number of new FTE teacher hires was added to the projected number of remaining FTE teachers (from step 2, first bullet) to produce the projected FTE count of teachers by age for fall 2018.

Step 6. *Repeat steps 2 to 5 for each year from 2019–20 through 2030–31.*

- In step 2, teacher ages were capped at 80.
- In step 3, projections of the numbers of FTE teachers were used for all years in which there were no actual teacher numbers. The projections of FTE teachers are described under "Elementary and Secondary Teacher Projection Model," earlier in this section of appendix A.

Assumptions underlying this method

A number of assumptions are made in order to make these projections. They include that (1) the age distribution of FTE teachers in 2017–18 was similar to that of full-time and part-time teachers in that year (step 1); (2) the age-specific continuation rates for FTE teachers for each year from 2018–19 through 2030–31 are similar to the values for 2017–18, depending on the age of the teachers (step 2); (3) the age distribution for newly hired FTE teachers from fall 2018 through fall 2030 is similar to that of newly hired full-time and part-time teachers in 2017–18 (step 3); (4) the actual numbers of FTE teachers for each year from 2018–19 through 2030–31 are similar to projections of FTE teachers shown in *Digest 2021* table 208.20; and (5) no economic or political changes further affect the size of the teaching force.

Data used for projections of new teacher hires

Data on numbers of public school teachers. The number of FTE teachers for fall 2017, fall 2018, and fall 2019 came from the NCES Common Core of Data (CCD).

Data on numbers of private school teachers. Private school data on the numbers of FTE teachers in 2017–18 and 2019–20 came from the biennial NCES Private School Universe Survey (PSS). Since the PSS is collected in the fall of odd-numbered years, data for years without a PSS collection were estimated using data from the PSS.

Data on the age distribution of public and private school teachers. Data on the age distribution of full-time and part-time public and private school teachers came from the National Teacher and Principal Survey (NTPS), 2017–18. These data and their standard errors are shown in table A-11 on page 86.

Data on the age distribution of public and private new teacher hires. Data on the age distribution of newly hired full-time and part-time public and private school teachers came from the National Teacher and Principal Survey (NTPS), 2017–18. These data and their standard errors are shown in table A-12 on page 86.

Data on the projections of age-specific continuation rates of public and private school teachers. The 2007–08 to 2008–09 continuation rates came from the 2008–09 NCES Teacher Follow-Up Survey (TFS) and the 2011–12 to 2012–13 continuation rates came from the 2012–13 TFS. The actual data, their standard errors, and the projections are shown in table A-13 on page 87.

Projections of the numbers of public and private elementary and secondary school teachers. These projections are described under "Elementary and Secondary Teacher Projection Model," earlier in this section of appendix A.

Accuracy of projections of new teacher hires

No MAPEs are presented for new teacher hires as there has only been four additional years of historical data for this statistic since it was first included in *Projections of Education Statistics to 2018*.

Table A-10. Estimated equations and model statistics for public elementary and secondary teachers based on data from 1972 through 2019

Dependent variable	Equation[1]	Adjusted R^2	Breusch-Godfrey Serial Correlation LM test statistic[2]	Time period
1	2	3	4	5
Elementary pupil/teacher ratio	D(LN(RELENRPU_TCH)) = 0.02 (0.010) – 0.17 (0.034) D(LN(TSGRANT/ELENRPU)) – 0.02 (0.006) ELEM_ECT + 0.04 (0.008) @DURING("2010") – 0.03 (0.008) @DURING("2012")	0.65	0.02 (0.989)	1973 to 2019
Secondary pupil/teacher ratio	D(LN(RSCENRPU_TCH)) = 0.00 (0.002) – 0.24 (0.061) D(LN(TSGRANT/SCENRPU)) + 0.04 (0.012) @DURING("2010") + 0.04 (0.012) @DURING("2010") + 0.41 (0.197) D(LN(SCENRPU/N11TO18))	0.59	0.60 (0.741)	1981 to 2019

[1] Standard errors in parentheses. D() refers to the first difference of a variable, or the difference between the variable at time *t* and time *t*-1. This transformation is used in models to make the data series "stationary," meaning that it has the same statistical properties over time. LN() refers to the natural log of a variable. ELEM_ECT is included in the elementary teachers model to capture the long-term relationship between the elementary pupil-to-teacher ratio and state education funding per elementary student.

[2] The number in parentheses is the probability of the Chi-Square associated with the Breusch-Godfrey Serial Correlation LM Test. A *p* value greater that 0.05 implies that we do not reject the null hypothesis of no autocorrelation at the 5 percent significance level for a two-tailed test and 10 percent significance level for a one-tailed test, i.e., there is no autocorrelation present. For an explanation of the Breusch-Godfrey Serial Correlation LM test statistic, see Greene, W. (2000). *Econometric Analysis*. New Jersey: Prentice-Hall.

NOTE: Adjusted R^2 indicates the coefficient of determination adjusted for the number of explanatory variables.

RELENRPU_TCH = Ratio of public elementary school enrollment to classroom teachers (i.e., pupil/teacher ratio).

RSCENRPU_TCH = Ratio of public secondary school enrollment to classroom teachers (i.e., pupil/teacher ratio).

TSGRANT/ELENRPU = State education revenue per public elementary pupil in constant dollars (index 2012 = 100).

TSGRANT/SCENRPU = State education revenue per public secondary pupil in constant dollars (index 2012 = 100).

RSCENRPU/N11TO18 = Ratio of enrollment in public secondary schools to the 11- to 18-year-old population.

ELEM_ECT (Elementary Error Correction Term) = LN(RELENRPU_TCH(-1))-0.3*LN([TSGRANT/ELENRPU](-1)), where the (-1) term indicates that the variable is lagged by one year.

@DURING("2010") = Dummy variable to account for a structural shift in historical data in 2010.

@DURING("2012") = Dummy variable to account for a structural shift in historical data in 2012.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Elementary and Secondary Teacher Projection Model. (This table was prepared April 2022.)

Table A-11. Percentage distribution of full-time and part-time school teachers, by age group, control of school, and teaching status: School years 2011–12, 2015–16, and 2017–18

Control of school and teaching status	Percent of total		Age distribution															
			Total	Less than 25 years		25–29 years		30–39 years		40–49 years		50–59 years		60–64 years		65 years or more	
1	2		3	4		5		6		7		8		9		10	
Public actual, 2011–12	100.0	(†)	100.0	2.8	(0.24)	12.5	(0.58)	28.9	(0.79)	25.1	(0.75)	23.1	(0.72)	6.1	(0.45)	1.4	(0.20)
Full-time	93.1	(0.46)	100.0	2.9	(0.25)	12.8	(0.60)	29.3	(0.85)	24.9	(0.81)	22.8	(0.76)	6.0	(0.48)	1.3	(0.21)
Part-time	6.9	(0.46)	100.0	1.9!	(0.59)	8.7	(2.04)	23.4	(2.92)	27.5	(3.22)	27.0	(2.58)	8.7	(1.80)	2.9!	(0.99)
Public actual, 2015–16	100.0	(†)	100.0	3.2	(0.10)	11.9	(0.20)	28.5	(0.29)	27.4	(0.28)	21.5	(0.24)	5.7	(0.15)	1.8	(0.08)
Full-time	93.3	(0.17)	100.0	3.3	(0.11)	12.1	(0.22)	28.8	(0.30)	27.4	(0.30)	21.3	(0.25)	5.5	(0.15)	1.6	(0.07)
Part-time	6.7	(0.17)	100.0	2.0	(0.29)	9.1	(0.67)	25.2	(0.99)	27.0	(1.01)	23.6	(1.01)	8.9	(0.64)	4.2	(0.46)
Public actual, 2017–18	100.0	(†)	100.0	3.5	(0.12)	11.5	(0.22)	27.9	(0.29)	29.0	(0.32)	20.7	(0.29)	5.4	(0.14)	2.0	(0.09)
Full-time	94.0	(0.14)	100.0	3.6	(0.13)	11.7	(0.23)	28.2	(0.30)	29.1	(0.33)	20.4	(0.29)	5.2	(0.14)	1.8	(0.09)
Part-time	6.0	(0.14)	100.0	1.7	(0.26)	7.9	(0.69)	24.6	(1.06)	27.9	(1.11)	24.8	(1.16)	8.5	(0.81)	4.7	(0.52)
Private actual, 2011–12	100.0	(†)	100.0	4.6	(1.35)	12.2	(1.26)	24.0	(1.58)	23.8	(1.57)	21.3	(1.57)	9.6	(0.97)	4.6	(0.93)
Full-time	79.4	(2.04)	100.0	4.7	(1.30)	12.5	(1.25)	25.6	(1.82)	23.8	(1.75)	21.1	(1.66)	9.0	(1.07)	3.3	(0.94)
Part-time	20.6	(2.04)	100.0	4.0!	(1.90)	10.9	(3.14)	18.2	(4.31)	23.5	(3.39)	22.2	(3.15)	11.8	(3.09)	9.4	(2.60)
Private actual, 2017–18	100.0	(†)	100.0	4.7	(0.32)	11.6	(0.58)	24.4	(0.66)	22.7	(0.68)	21.2	(0.64)	8.3	(0.45)	7.2	(0.40)
Full-time	80.9	(0.64)	100.0	4.9	(0.39)	12.9	(0.67)	24.7	(0.71)	22.5	(0.74)	21.3	(0.73)	7.8	(0.51)	6.0	(0.42)
Part-time	19.1	(0.64)	100.0	3.8	(0.62)	6.1	(0.76)	23.1	(1.48)	23.5	(1.56)	20.8	(1.34)	10.1	(1.09)	12.6	(1.15)

† Not applicable.
! Interpret data with caution. The coefficient of variation (CV) for this estimate is between 30 and 50 percent.
NOTE: Detail may not sum to totals because of rounding. Standard errors appear in parentheses. Some data have been revised from previously published figures.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS), "Public School Teacher Data File," 2011–12; and National Teacher and Principal Survey (NTPS), "Public School Teacher Data File," 2015-16 and 2017–18, and "Private School Teacher Data File," 2017–18. (This table was prepared May 2022.)

Table A-12. Percentage distribution of full-time and part-time newly hired teachers, by age and control of school: Selected school years, 1987–88 through 2017–18

Control of school and school year	Age distribution															
	Total	Less than 25 years		25–29 years		30–39 years		40–49 years		50–59 years		60–64 years		65 years or more	
1	2	3		4		5		6		7		8		9	
Public															
1987–88	100.0	17.7	(0.79)	23.7	(1.19)	33.0	(1.43)	21.2	(0.80)	4.0	(0.51)	0.3!	(0.11)	‡	(†)
1990–91	100.0	17.5	(1.06)	24.0	(1.35)	30.6	(1.33)	21.4	(1.28)	5.6	(0.65)	0.6	(0.18)	‡	(†)
1993–94	100.0	16.2	(0.91)	28.7	(1.15)	24.9	(1.04)	24.6	(1.16)	5.0	(0.63)	0.5	(0.13)	0.2!	(0.09)
1999–2000	100.0	23.6	(1.28)	22.5	(0.97)	22.2	(1.10)	19.2	(0.90)	11.1	(0.88)	0.9	(0.23)	0.6!	(0.26)
2003–04	100.0	24.4	(1.21)	19.0	(1.23)	24.6	(1.10)	16.5	(1.18)	13.3	(0.93)	1.5	(0.29)	0.7!	(0.29)
2007–08	100.0	23.8	(1.75)	24.3	(1.79)	20.4	(1.56)	15.1	(0.94)	13.6	(1.22)	2.3	(0.39)	0.5!	(0.22)
2011–12	100.0	21.9	(2.46)	23.0	(2.93)	24.1	(2.79)	15.9	(2.79)	10.9	(2.58)	3.5!	(1.35)	‡	(†)
2015–16	100.0	24.2	(1.06)	21.9	(1.07)	23.5	(1.09)	17.3	(0.99)	9.2	(0.69)	2.8	(0.37)	1.0	(0.22)
2017–18	100.0	24.3	(1.01)	17.8	(0.95)	24.1	(1.05)	18.7	(0.89)	10.9	(0.71)	3.0	(0.44)	1.2	(0.21)
Private															
1987–88	100.0	17.0	(1.27)	22.8	(1.68)	32.5	(2.17)	17.9	(1.61)	5.3	(1.09)	‡	(†)	1.8!	(0.77)
1990–91	100.0	15.8	(1.47)	26.3	(1.83)	29.1	(1.86)	21.1	(1.67)	5.6	(0.88)	1.1!	(0.40)	1.0!	(0.42)
1993–94	100.0	19.3	(1.13)	24.4	(1.19)	24.9	(1.49)	22.6	(1.18)	7.3	(0.85)	0.9	(0.20)	0.6!	(0.23)
1999–2000	100.0	18.5	(0.89)	17.2	(0.87)	24.1	(1.24)	22.1	(1.19)	14.0	(1.01)	2.6	(0.39)	1.5	(0.38)
2003–04	100.0	17.1	(1.59)	16.0	(2.13)	23.0	(2.19)	22.8	(3.32)	15.3	(1.77)	3.6	(0.83)	2.1	(0.58)
2007–08	100.0	14.3	(1.26)	18.2	(1.36)	23.2	(1.97)	23.6	(1.92)	14.4	(1.49)	4.2	(0.84)	2.1!	(0.69)
2011–12	100.0	14.9!	(5.78)	20.7	(4.29)	27.5	(4.62)	17.4	(4.74)	10.8	(2.51)	5.3!	(2.32)	‡	(†)
2017–18	100.0	15.3	(1.41)	15.0	(1.37)	24.9	(1.59)	18.4	(1.37)	17.2	(1.46)	6.0	(0.90)	3.2	(0.59)

† Not applicable.
! Interpret with caution. The coefficient of variation (CV) for this estimate is 30 percent or greater.
‡ Reporting standards not met. The coefficient of variation (CV) for this estimate is 50 percent or greater.
NOTE: Detail may not sum to totals because of rounding. Standard errors appear in parentheses. Some data have been revised from previously published figures. A teacher is considered to be a new teacher hire for a certain control of school (public or private) for a given year if the teacher teaches in that control that year but had not taught in that control in the previous year.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS), "Public School Teacher Questionnaire," 1987–88 through 2011–12 and "Private School Teacher Questionnaire," 1987–88 through 2011–12; and National Teacher and Principal Survey (NTPS), "Public School Teacher Data File," 2015–16 and 2017–18, and "Private School Teacher Data File," 2017–18. (This table was prepared May 2022.)

Table A-13. Actual and projected continuation rates of full-time and part-time school teachers, by age and control of school: Selected school years, 1993–94 to 1994–95 through 2029–30 to 2030–31

Control of school and school year	Continuation rates, by age																	
	Total		Less than 25 years		25–29 years		30–39 years		40–49 years		50–59 years		60–64 years		65 years or more	
1	2		3		4		5		6		7		8		9	
Public actual																
1993–94 to 1994–95	93.4	(0.36)	96.2	(1.09)	90.0	(1.22)	93.3	(1.03)	96.1	(0.54)	93.7	(0.77)	69.5	(4.79)	65.9	(8.81)
1999–2000 to 2000–01	92.4	(0.38)	95.8	(0.98)	89.3	(7.38)	93.2	(2.76)	94.5	(0.61)	92.9	(4.58)	76.8 !	(29.18)	(‡)	(†)
2003–04 to 2004–05	91.4	(0.55)	94.9	(1.79)	90.1	(1.71)	92.6	(0.93)	94.5	(0.78)	90.8	(0.81)	77.2	(3.00)	70.3	(9.40)
2007–08 to 2008–09	91.8	(0.45)	92.2	(1.95)	89.0	(2.33)	92.4	(1.29)	95.1	(1.06)	92.3	(1.23)	82.8	(3.97)	88.9	(4.26)
2011–12 to 2012–13	92.1	(0.65)	83.1	(9.79)	92.3	(1.39)	94.2	(1.14)	96.7	(0.53)	90.2	(1.38)	81.9	(3.11)	70.2	(12.44)
Public projected																
2019–20 to 2020–21	92.5	(†)	89.8	(†)	91.9	(†)	94.0	(†)	96.6	(†)	90.4	(†)	81.7	(†)	71.7	(†)
2020–21 to 2021–22	92.5	(†)	89.6	(†)	91.7	(†)	94.0	(†)	96.7	(†)	90.4	(†)	81.6	(†)	72.4	(†)
2021–22 to 2022–22	92.5	(†)	89.8	(†)	91.8	(†)	94.0	(†)	96.7	(†)	90.4	(†)	81.5	(†)	71.3	(†)
2022–23 to 2023–24	92.5	(†)	89.6	(†)	91.7	(†)	93.9	(†)	96.7	(†)	90.4	(†)	81.7	(†)	71.4	(†)
2023–24 to 2024–25	92.5	(†)	89.8	(†)	91.8	(†)	93.9	(†)	96.6	(†)	90.4	(†)	81.7	(†)	71.3	(†)
2024–25 to 2025–26	92.5	(†)	89.7	(†)	91.8	(†)	93.8	(†)	96.7	(†)	90.4	(†)	81.6	(†)	71.4	(†)
2025–26 to 2026–27	92.5	(†)	89.7	(†)	91.8	(†)	94.0	(†)	96.6	(†)	90.4	(†)	81.6	(†)	71.4	(†)
2026–27 to 2027–28	92.5	(†)	89.7	(†)	91.8	(†)	94.0	(†)	96.6	(†)	90.4	(†)	81.6	(†)	71.8	(†)
2027–28 to 2028–29	92.4	(†)	89.7	(†)	91.8	(†)	94.0	(†)	96.6	(†)	90.4	(†)	81.7	(†)	71.7	(†)
2028–29 to 2029–30	92.4	(†)	89.8	(†)	91.8	(†)	94.0	(†)	96.6	(†)	90.4	(†)	81.6	(†)	71.5	(†)
2029–30 to 2030–31	92.4	(†)	89.7	(†)	91.8	(†)	94.0	(†)	96.6	(†)	90.4	(†)	81.6	(†)	71.6	(†)
Private actual																
1993–94 to 1994–95	88.1	(0.74)	80.0	(4.42)	86.9	(1.64)	85.1	(1.70)	91.3	(1.14)	91.8	(1.52)	86.9	(2.74)	58.1	(8.67)
1999–2000 to 2000–01	83.0	(0.72)	61.7	(4.90)	72.2	(2.76)	80.2	(1.57)	86.1	(1.47)	92.3	(1.00)	78.8	(4.79)	75.2	(5.17)
2003–04 to 2004–05	83.3	(2.06)	75.4	(5.97)	71.7	(3.62)	82.2	(2.30)	86.8	(2.28)	89.2	(9.17)	80.1	(4.15)	79.5	(6.07)
2007–08 to 2008–09	82.2	(1.69)	77.7	(8.33)	71.7	(6.44)	79.1	(3.43)	86.1	(2.92)	86.8	(2.17)	85.2	(4.21)	77.3	(8.23)
Private projected																
2019–20 to 2020–21	80.8	(†)	73.2	(†)	72.1	(†)	78.8	(†)	84.6	(†)	87.4	(†)	83.0	(†)	67.6	(†)
2020–21 to 2021–22	81.0	(†)	73.2	(†)	72.1	(†)	79.0	(†)	85.3	(†)	87.3	(†)	83.0	(†)	66.4	(†)
2021–22 to 2022–23	81.1	(†)	73.3	(†)	71.6	(†)	78.9	(†)	85.2	(†)	87.4	(†)	82.8	(†)	66.0	(†)
2022–23 to 2023–24	81.0	(†)	73.2	(†)	71.7	(†)	78.8	(†)	84.9	(†)	87.1	(†)	83.0	(†)	66.7	(†)
2023–24 to 2024–25	81.1	(†)	73.3	(†)	71.8	(†)	78.9	(†)	84.8	(†)	87.3	(†)	83.3	(†)	65.6	(†)
2024–25 to 2025–26	81.2	(†)	73.2	(†)	71.7	(†)	78.9	(†)	84.9	(†)	87.4	(†)	83.1	(†)	67.9	(†)
2025–26 to 2026–27	81.2	(†)	73.2	(†)	71.8	(†)	78.9	(†)	85.0	(†)	87.2	(†)	83.1	(†)	68.5	(†)
2026–27 to 2027–28	81.2	(†)	73.2	(†)	71.7	(†)	79.0	(†)	85.0	(†)	87.4	(†)	83.0	(†)	67.3	(†)
2027–28 to 2028–29	81.2	(†)	73.3	(†)	71.8	(†)	78.9	(†)	85.0	(†)	87.3	(†)	82.8	(†)	67.8	(†)
2028–29 to 2029–30	81.1	(†)	73.2	(†)	71.7	(†)	78.9	(†)	85.0	(†)	87.3	(†)	83.0	(†)	67.2	(†)
2029–30 to 2030–31	81.2	(†)	73.2	(†)	71.7	(†)	78.9	(†)	85.0	(†)	87.3	(†)	83.0	(†)	67.5	(†)

† Not applicable.
! Interpret with caution. The coefficient of variation (CV) for this estimate is 30 percent or greater.
‡ Reporting standards not met. The coefficient of variation (CV) for this estimate is 50 percent or greater.
NOTE: The continuation rate for teachers for each control of school (public schools and private schools) is the percentage of teachers in that control who continued teaching in the same control from one year to the next. Standard errors appear in parentheses. The 2012–13 data are the most recent data available for public school teachers and the 2008-09 data are the most recent data available for private school teachers. Some data have been revised from previously published figures.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Teacher Follow up Survey (TFS), "Public School Teacher Questionnaire," 1994–95 through 2008–09 and "Private School Teacher Questionnaire," 1994–95 through 2012–13; and unpublished tabulations. (This tables was prepared May 2022.)

A.3. HIGH SCHOOL GRADUATES

Projections in this edition

This edition of *Projections of Education Statistics* presents projected trends in the number of high school graduates from 2013-14 to 2030-31. These projections were made using three models:

- The *National High School Graduates Projection Model* was used to project the number of public high school graduates, the number of private high school graduates, and the total number of high school graduates for the nation.
- The *State Public High School Graduates Projection Model* was used to project the number of public high school graduates for individual states and regions.
- The *National Public High School Graduates by Race/Ethnicity Projection Model* was used to project the number of public high school graduates for the nation by race/ethnicity.

Overview of approach

All the high school graduates models first calculated the number of high school graduates as a percentage of grade 12 enrollment based on historical data. Single exponential smoothing was used to project this percentage. The projected percentage was then applied to projections of grade 12 enrollment.

Assumptions underlying this approach

The percentage of 12th-graders who graduate was assumed to remain constant at levels consistent with the most recent rates. This methodology assumes that past trends in factors affecting graduation rates, such as dropouts, migration, and public or private transfers, will continue over the forecast period. No specific assumptions were made regarding the dropout rate, retention rate, or the rate at which alternative credentials are awarded. The combined effect of these proportions is reflected implicitly in the graduate proportion. In addition to student behaviors, the projected number of graduates could be affected by changes in graduation requirements, but this is not considered in the projections in this report.

Procedures used in all three high school graduates projection models

The following steps were used to project the numbers of high school graduates:

Step 1. *For each year in the historic period, express the number of high school graduates as a percentage of grade 12 enrollment.* This value represents the approximate percentage of 12th graders who graduate. For information about the specific historical data and analysis periods used for the National High School Graduates Model, the State Public High School Graduates Model, and the National Public High School Graduates by Race/Ethnicity Model, see the description of the appropriate model, later in this section of appendix A.

Step 2. *Project the percentage of 12th-graders who graduate from step 1.* This percentage was projected using single exponential smoothing with a smoothing constant chosen to minimize the sum of squared forecast errors. Because single exponential smoothing produces a single forecast for all years in the forecast period, the same projected percentage of grade 12 enrollment was used for each year in the forecast period.

Step 3. *Calculate projections of the numbers of high school graduates.* For each year in the forecast period, the projected percentage from step 2 was applied to projections of grade 12 enrollment to yield projections of high school graduates.

National High School Graduates Projection Model

This model was used to project the number of public high school graduates, the number of private high school graduates, and the total number of high school graduates for the nation. Public and private high school graduates were projected separately. The public and private projections were then summed to yield projections of the total number of high school graduates for the nation.

For details of the procedures used to develop the projections, see "Procedures used in all three high school graduates projection models," above.

Data used in the National High School Graduates Projection Model

Public school data on graduates and grade 12 enrollment. Data on public school high school graduates and 12th-grade enrollments from the NCES *Statistics of Public Elementary and Secondary School Systems* for 1972-73 to 1980-81 and the NCES Common Core of Data (CCD) for 1981-82 through 2005-06 were used to develop national projections of public high school. Also, for 2006-07 through 2012-13 data on high school graduates from the "State Dropout and Completion Data File" were used. Finally, for 2006-07 through 2020-21, data on public school 12th-grade enrollments from the CCD were also used.

Private school data on graduates and grade 12 enrollment. Data on private school 12th-grade enrollments for 1989-90 through 2019-20 and high school graduates for 1988-89 through 2018-19 were used to develop national projections of private high school graduates. The data were from the biennial NCES Private School Universe Survey (PSS) from 1989-90 to 2019-20 with data for 12th grade enrollment the same as the year of the survey and the data for high school graduates for the preceding year (i.e., the 2019-20 PSS presents high school graduates for 2018-19). Since the PSS is collected in the fall of odd-numbered years, data for missing years were estimated using data from the PSS. For 12th grade enrollment, estimates for missing years were linear interpolations of the prior year's and succeeding year's actual values. For high school graduates, estimates for the missing years were the interpolations of the high school graduates to estimated 12th grade enrollment percentages for the prior and succeeding years multiplied by the estimated enrollments for the current year.

Public and private school enrollment projections for grade 12. Projections of grade 12 enrollment in public schools and in private schools were used to develop projections of public high school graduates and private high school graduates, respectively. The grade 12 enrollment projections were made using the grade progression method. For more information, see Section A.1. Elementary and Secondary Enrollment, earlier in this appendix.

Accuracy of national high school graduates projections

Mean absolute percentage errors (MAPEs) for projections of graduates from public high schools were calculated using the last 29 editions of *Projections of Education Statistics*, while MAPEs for projections of graduates from private high schools were calculated using the last 18 editions. Table D, below, shows MAPEs for both public and private school graduation projections.

Table D. Mean absolute percentage errors (MAPEs) of projections of high school graduates, by lead time and control of school: MAPEs constructed using projections from *Projections of Education Statistics to 2000* through *Projections of Education Statistics to 2028*

	Lead time (years)									
Statistic	1	2	3	4	5	6	7	8	9	10
Public high school graduates	1.0	1.1	1.8	2.2	2.5	2.9	3.5	4.2	4.8	5.1
Private high school graduates	3.0	2.2	5.9	5.5	10.4	9.9	12.5	12.5	11.0	12.8

NOTE: Mean absolute percentage error is the average value over past projections of the absolute values of errors expressed in percentage terms. MAPEs for public high school graduates were calculated from the past 29 editions of *Projections of Education Statistics*, from *Projections of Education Statistics to 2000* through *Projections of Education Statistics to 2028*. MAPEs for private high school graduates were calculated from the past 18 editions of *Projections of Education Statistics*, from *Projections of Education Statistics to 2011* through *Projections of Education Statistics to 2028*. Calculations were made using unrounded numbers. Some data have been revised from previously published figures.
SOURCE: U.S. Department of Education, National Center for Education Statistics, *Projections of Education Statistics*, various issues. (This table was prepared March 2022.)

State Public High School Graduates Projection Model

This edition of *Projections of Education Statistics* contains projections of public high school graduates from 2013-14 to 2030-31 for each of the 50 states and the District of Columbia, as well as for each region of the country. The state projections of high school graduates were produced in two stages:

- first, an initial set of projections for each state was produced; and
- second, these initial projections were adjusted to sum to the national public school totals produced by the National High School Graduates Projection Model.

For each region, the high school graduate projections equaled the sum of high school graduate projections for the states within that region.

Initial set of state projections

The same steps used to produce the national projections of high school graduates were used to produce an initial set of projections for each state and the District of Columbia. A separate smoothing constant, chosen to minimize the sum of squared forecast errors, was used to calculate the projected percentage of 12th grade enrollment for each jurisdiction.

For details on the steps used to develop the initial sets of projections, see "Procedures used in all three high school graduate projection models," earlier in this section of appendix A.

Adjustments to the state projections

The initial projections of state public high school graduates were adjusted to sum to the national projections of public high school graduates shown in *Digest 2021* table 219.10. This was done through the use of ratio adjustments in which all the states' high school graduate projections were multiplied by the ratio of the national public high school graduate projection to the sum of the state public high school graduate projections.

Data used in the State Public High School Graduates Projection Model

Public school data on graduates and grade 12 enrollment at the state level. State-level data on public school high school graduates from the NCES *Statistics of Public Elementary and Secondary School Systems* for 1972-73 to 1980-81, the NCES Common Core of Data (CCD) for 1981-82 through 2004-05, and the "State Dropout and Completion Data File" for 2005-06 through 2012-13 were used to develop state-level projections of public high school graduates. State-level data on public school 12th-grade enrollments from the NCES Statistics of Public Elementary and Secondary School Systems for 1972-73 to 1980-81 and the NCES Common Core of Data (CCD) for 1981-82 through 2020-21 were also used.

Public school projections for grade 12 enrollment at the state level. State-level projections of grade 12 enrollment in public schools were used to develop the state-level projections of public high school graduates. The grade 12 enrollment projections were made using the grade progression method. For more information, see Section A.1. Elementary and Secondary Enrollment, earlier in this appendix.

Accuracy of state public high school graduate projections

Mean absolute percentage errors (MAPEs) for projections of the number of public high school graduates by state were calculated using the last 24 editions of *Projections of Education Statistics*. Table A-14 on page 92 shows MAPEs for the number of high school graduates by state.

National Public High School Graduates by Race/Ethnicity Projection Model

The projections of public high school graduates by race/ethnicity were produced in two stages:

- first, an initial set of projections for each racial/ethnic group was produced; and
- second, these initial projections were adjusted to sum to the national public school totals produced by the National High School Graduates Projection Model.

Initial set of projections by race/ethnicity

The same steps used to produce the national projections of high school graduates were used to produce an initial set of projections for each of the following five racial/ethnic groups: American Indian/Alaska Native, Asian, Black, Hispanic, Pacific Islander, White, and Two or more races. For example, the number of White public high school graduates was projected as a percentage of White grade 12 enrollment in public schools. A separate smoothing constant, chosen to minimize the sum of squared forecast errors, was used to calculate the projected percentage of 12th-grade enrollment for each racial/ethnic group. As noted above, data for Pacific Islander students and students of Two or more races was consistently reported beginning in 2010. Because of the short time series of historical data available for these groups, exponential smoothing was not used to project high school graduates. To produce an initial set of projections for these racial/ethnic groups, the 2012-13 ratio of 12th-grade enrollment to high school graduates of the group were multiplied by the 12th-grade enrollment projections of the group from the data file used to produce *Digest 2021* table 203.50.

Adjustments to the projections by race/ethnicity

The projections of public high school graduates by race/ethnicity were adjusted to sum to the national projections of public high school graduates shown in *Digest 2021* table 219.10. This was done through the use of ratio adjustments in which all high school graduate projections by race/ethnicity were multiplied by the ratio of the national high school graduate projection to the sum of the high school projections by race/ethnicity.

Data and imputations used in the Public High School Graduates by Race/Ethnicity Projection Model

Public school data on graduates and grade 12 enrollment by race/ethnicity. Data on public school high school graduates by race/ethnicity from the NCES Common Core of Data (CCD) for 1994–95 through 2004–05, and the "State Dropout and Completion Data File" for 2005–06 through 2012–13 were used to develop projections of public high school graduates by race/ethnicity. Data on public school 12th-grade enrollments by race/ethnicity from the NCES *Statistics of Public Elementary and Secondary School Systems* for 1972–73 to 1980–81 and the NCES Common Core of Data (CCD) for 1981–82 through 2020–21 were also used. In those instances where states did not report their high school graduate data by race/ethnicity, the state-level data had to be examined and some imputations made. For example, in 1994, Arizona did not report high school graduate data by race/ethnicity. It did, however, report grade 12 enrollment numbers by race/ethnicity for that year. So, to impute the high school graduate numbers by race/ethnicity for that year, Arizona's total number of high school graduates for 1994 was multiplied by the state's 1994 racial/ethnic distribution for grade 12 enrollment.

Public enrollment projections for grade 12 by race/ethnicity. Projections of grade 12 enrollment in public schools by race/ethnicity were used to develop the projections of public high school graduates by race/ethnicity. The grade 12 enrollment projections were made using the grade progression method. For more information, see Section A.1. Elementary and Secondary Enrollment, earlier in this appendix.

Accuracy of public high school graduate projections by race/ethnicity

Mean absolute percentage errors (MAPEs) for projections of the number of public high school graduates by race/ethnicity were calculated using the last 10 editions of *Projections of Education Statistic*. Table E, below, shows MAPEs for public high school graduates by race/ethnicity projections.

Table E. Mean absolute percentage errors (MAPEs) of projections of public high school graduates, by lead time and race/ethnicity: MAPEs constructed using projections from *Projections of Education Statistics to 2000* through *Projections of Education Statistics to 2028*

	Lead time (years)									
Statistic	1	2	3	4	5	6	7	8	9	10
Total high school graduates	**1.0**	**1.1**	**1.8**	**2.2**	**2.5**	**2.9**	**3.5**	**4.2**	**4.8**	**5.1**
American Indian/Alaska Native	1.9	1.8	3.7	6.9	8.8	7.8	—	—	—	—
Asian/Pacific Islander	1.5	2.6	2.7	1.6	2.2	0.3	—	—	—	—
Black	2.3	3.0	3.5	5.8	7.1	9.3	—	—	—	—
Hispanic	3.6	4.5	6.6	13.2	16.9	16.2	—	—	—	—
White	1.0	0.5	0.8	1.3	2.5	3.5	—	—	—	—

—Not available.
NOTE: Mean absolute percentage error is the average value over past projections of the absolute values of errors expressed in percentage terms. MAPEs for public high school graduates were calculated from the past 29 editions of *Projections of Education Statistics*, from *Projections of Education Statistics to 2000* through *Projections of Education Statistics to 2028*. MAPEs for public high school graduates by race/ethnicity were calculated using the last ten editions of *Projections of Education Statistics*, from *Projections of Education Statistics to 2019* through *Projections of Education Statistics to 2028*. Calculations were made using unrounded numbers. Some data have been revised from previously published figures.
SOURCE: U.S. Department of Education, National Center for Education Statistics, *Projections of Education Statistics*, various issues. (This table was prepared March 2022.)

Table A-14. Mean absolute percentage errors (MAPEs) for the projected number of high school graduates in public schools, by lead time, region, and state: MAPEs constructed using projections from *Projections of Education Statistics to 2000* through *Projections of Education Statistics to 2028*

Region and state	Lead time (years)									
	1 year	2 years	3 years	4 years	5 years	6 years	7 years	8 years	9 years	10 years
1	2	3	4	5	6	7	8	9	10	11
United States	**1.0**	**1.1**	**1.8**	**2.2**	**2.5**	**2.9**	**3.5**	**4.2**	**4.8**	**5.1**
Region										
Northeast	1.1	1.6	1.7	2.3	3.0	3.6	3.7	4.4	5.2	5.6
Midwest	1.1	0.9	1.5	1.8	2.4	2.8	2.8	3.0	3.3	3.3
South	1.1	1.5	2.5	3.1	3.7	4.5	5.0	6.0	6.9	7.9
West	1.7	2.0	2.6	3.7	3.5	3.5	3.0	2.7	3.4	3.4
State										
Alabama	3.1	3.1	2.8	5.1	6.1	7.3	8.2	8.5	9.5	10.3
Alaska	2.5	2.1	3.0	4.6	5.2	6.6	7.5	7.8	7.8	7.6
Arizona	7.6	8.0	10.0	12.6	11.4	11.6	13.8	11.6	10.5	12.5
Arkansas	1.3	1.6	2.0	2.5	2.9	2.4	2.3	2.8	3.1	3.9
California	2.4	2.5	3.3	4.6	5.0	5.2	5.2	4.4	5.1	5.0
Colorado	1.6	2.2	2.6	2.2	2.8	2.9	3.1	3.9	4.6	4.7
Connecticut	2.6	2.3	2.5	3.3	3.6	4.0	4.6	4.4	5.6	5.0
Delaware	1.9	2.5	3.2	4.6	3.9	4.9	5.0	6.0	6.7	7.6
District of Columbia	6.7	7.4	11.6	14.0	14.1	14.8	15.9	17.2	17.9	20.5
Florida	1.9	3.9	5.2	4.6	5.1	5.0	6.0	6.6	8.1	7.2
Georgia	1.9	2.7	3.5	5.5	7.4	8.4	9.1	9.4	10.2	10.1
Hawaii	3.3	3.8	4.4	5.4	8.2	8.9	10.9	11.8	13.4	14.5
Idaho	1.0	1.3	1.4	1.9	2.2	2.7	3.0	3.8	4.9	5.4
Illinois	2.5	2.1	2.9	3.6	3.8	3.7	5.4	4.4	5.1	6.5
Indiana	1.4	1.8	1.8	2.3	2.7	3.2	3.9	4.3	4.7	5.0
Iowa	1.4	1.2	1.9	2.0	2.7	2.7	2.5	2.5	2.5	2.7
Kansas	1.2	1.6	2.4	3.0	4.3	5.4	6.0	6.5	7.0	7.0
Kentucky	2.2	3.3	3.4	4.7	5.4	6.4	7.4	7.9	7.9	9.9
Louisiana	1.8	2.7	4.5	6.2	7.3	6.6	6.3	6.4	3.8	5.3
Maine	2.5	3.8	3.7	4.8	5.6	6.7	8.6	9.3	11.0	11.7
Maryland	1.2	1.2	1.8	1.7	2.4	2.8	3.3	3.3	3.5	4.6
Massachusetts	1.0	1.4	2.4	3.1	3.6	4.0	4.4	4.2	4.2	4.3
Michigan	2.9	3.8	4.5	5.6	5.5	5.5	7.1	8.0	8.7	9.5
Minnesota	2.1	1.2	1.5	1.8	2.2	2.4	2.9	3.6	4.0	4.7
Mississippi	1.4	1.6	2.2	2.5	3.5	4.3	4.4	5.1	5.5	5.7
Missouri	0.9	1.4	2.3	2.8	3.5	4.4	4.9	5.4	6.4	6.7
Montana	0.8	0.9	1.4	1.6	2.5	3.5	4.4	5.9	7.1	8.3
Nebraska	2.0	2.5	2.6	2.7	3.1	3.2	2.7	2.7	2.6	3.1
Nevada	4.7	7.1	8.8	9.8	8.8	9.3	8.6	9.5	11.1	12.8
New Hampshire	1.1	2.0	2.3	3.0	3.8	4.8	5.5	6.6	7.2	7.4
New Jersey	2.0	3.5	4.2	4.1	4.3	5.4	6.4	7.3	8.0	8.8
New Mexico	3.1	2.7	4.3	4.5	6.6	6.9	7.3	8.1	9.7	10.0
New York	1.8	2.9	3.3	5.0	6.1	7.4	8.2	9.2	9.8	10.5
North Carolina	1.9	2.4	3.6	4.1	4.9	5.6	5.9	6.8	7.8	10.2
North Dakota	1.2	1.7	2.1	2.8	3.4	3.6	4.0	4.5	5.3	7.1
Ohio	2.6	2.5	3.9	3.8	3.7	3.7	3.3	3.9	4.4	5.7
Oklahoma	1.2	1.4	1.7	1.6	2.2	2.9	3.3	3.5	3.7	4.4
Oregon	1.8	2.1	2.6	4.0	4.3	5.0	5.7	6.8	7.2	6.9
Pennsylvania	1.6	2.6	3.2	3.3	3.3	3.0	2.8	3.3	3.9	4.1
Rhode Island	1.3	1.2	2.1	1.9	2.5	3.0	4.2	5.1	5.4	5.1
South Carolina	1.7	3.2	3.1	5.3	6.7	8.2	8.6	9.0	9.0	9.5
South Dakota	2.2	2.9	3.2	5.0	7.7	8.4	9.7	10.9	12.5	13.8
Tennessee	4.2	6.1	7.9	11.1	13.5	15.5	15.8	16.4	16.2	15.4
Texas	2.4	3.5	4.7	6.0	6.5	7.4	8.3	9.7	11.3	13.0
Utah	4.6	5.6	5.3	6.2	6.1	4.9	4.8	4.9	4.3	2.3
Vermont	1.9	2.2	3.2	4.7	6.6	6.9	7.5	8.3	9.5	9.8
Virginia	1.4	2.1	2.7	4.0	4.8	4.8	4.3	3.6	3.9	4.4
Washington	1.8	1.9	2.7	2.6	3.0	3.8	4.1	4.2	5.5	5.4
West Virginia	0.6	1.0	1.8	1.9	2.4	3.5	3.8	5.0	5.4	6.0
Wisconsin	1.2	1.4	2.4	2.7	3.1	3.9	4.3	5.1	5.8	5.3
Wyoming	1.5	1.9	2.4	3.1	4.5	5.8	7.6	8.9	10.4	11.3

NOTE: Mean absolute percentage error (MAPE) is the average value over past projections of the absolute values of errors expressed in percentage terms. National MAPEs for public high school graduates were calculated using the last 29 editions of *Projections of Education Statistics*, from *Projections of Education Statistics to 2000* through *Projections of Education Statistics to 2028*. State MAPEs were calculated using the last 24 editions of *Projections of Education Statistics*, from *Projections of Education Statistics to 2005* through *Projections of Education Statistics to 2028*. Calculations were made using unrounded numbers. Some data have been revised from previously published figures.
SOURCE: U.S. Department of Education, National Center for Education Statistics, *Projections of Education Statistics*, various issues. (This table was prepared March 2022.)

A.4. EXPENDITURES FOR PUBLIC ELEMENTARY AND SECONDARY EDUCATION

Projections in this edition

This edition of *Projections of Education Statistics* presents projections of total current expenditures for public elementary and secondary education, current expenditures per pupil in fall enrollment, and current expenditures per pupil in average daily attendance for 2019-20 through 2030-31.

As the source of the elementary and secondary private school data, the NCES Private School Universe Survey, does not collect data for current expenditures, there are no projections for private school current expenditures.

Overview of approach

Theoretical and empirical background

The Public Elementary and Secondary Education Current Expenditure Projection Model used in this report is based on the theoretical and empirical literature on the demand for local public services such as education.[1] Specifically, it is based on a median voter model. A median voter model posits that spending for each public good in the community (in this case, spending for education) reflects the preferences of the "median voter" in the community. This individual is identified as the voter in the community with the median income and median property value. The amount of spending in the community reflects the price of education facing the voter with the median income, as well as their income and tastes. There are competing models in which the level of spending reflects the choices of others in the community, such as government officials.

In a median voter model, the demand for education expenditures is typically linked to four different types of independent variables: (1) measures of the income of the median voter; (2) measures of intergovernmental aid for education going indirectly to the median voter; (3) measures of the price to the median voter of providing one more dollar of education expenditures per pupil; and (4) any other variables that may affect one's tastes for education. The Public Elementary and Secondary Education Current Expenditure Projection Model contains independent variables of the first two types. It uses linear regression analysis to identify the relationships between these independent variables and current expenditures (the dependent variable).

Elementary and Secondary Education Current Expenditure Projection Model

Projections for current expenditures per pupil in fall enrollment were produced first. These projections were then used in calculating total expenditures and expenditures per pupil in average daily attendance.

Steps used to project current expenditures for public elementary and secondary education

Step 1. *Produce projections of education revenue from state sources.* The equation for education revenue included an error correction term to capture the long-term relationship between state education revenue and enrollment and the following independent variables:

- disposable income per capita in constant dollars; and
- a 1-year lag disposable income per capita in constant dollars.

Step 2. *Produce projections of current expenditures per pupil in fall enrollment.* The equation for current expenditures per pupil for fall enrollment included an error correction term to capture the long-term relationship between current expenditures and state education grants and the following independent variables:

- education revenue from state sources per capita in constant dollars. This variable was projected in step 1; and
- a 1-year lag of current expenditures per pupil.

For details on the equations used in steps 1 and 2, the data used to estimate these equations, and their results, see "Data and equations used for projections of current expenditures for public elementary and secondary education," below.

[1] For a discussion of the theory together with a review of some of the older literature, see Inman (1979). More recent empirical work includes Gamkhar and Oates (1996) and Mitias and Turnbull (2001).

Step 3. *Produce projections of total current expenditures.* Projections of total current expenditures were made by multiplying the projections for current expenditures per pupil in fall enrollment by projections for fall enrollment.

Step 4. *Produce projections of current expenditures per pupil in average daily attendance.* The projections for total current expenditures were divided by projections for average daily attendance to produce projections of current expenditures per pupil in average daily attendance.

All the projections were developed in 1982-84 dollars and then placed in 2020-21 dollars using the projections of the Consumer Price Index. Current-dollar projections were produced by multiplying the constant-dollar projections by projections for the Consumer Price Index. The Consumer Price Index and the other economic variables used in calculating the projections presented in this report were placed in school year terms rather than calendar year terms.

Data and equations used for projections of current expenditures for public elementary and secondary education

Data used to estimate the equations for revenue from state sources and current expenditures per pupil. The following data for the period from 1973-74 to 2018-19 were used to estimate the equations:

- Current expenditures and revenues from state sources—For 1973-74 and 1975-76, the current expenditures data came from *Statistics of State School Systems*, published by NCES. For 1974-75 and 1976-77, the current expenditures data came from *Revenues and Expenditures for Public Elementary and Secondary Education*, also published by NCES. For 1977-78 through 2018-19, these data came from the NCES Common Core of Data (CCD) and unpublished data. For most years, the sources for the past values of revenue from state sources were identical to the sources for current expenditures.
- Disposable personal income per capita—Disposable personal income data from the Bureau of Economic Analysis were divided by population data to convert to a per capita basis.

Estimated equations and model statistics for revenue from state sources and current expenditures per pupil. For the results of the equations, see table A-15 on page 95. In each equation, the independent variables affect the dependent variable in the expected way. In the revenues from state sources equation:

- All other things being equal, as disposable income per capita increases so does local governments' education revenue from state sources per capita; and
- As local governments' education revenue from state sources per capita increases, so does current expenditures per pupil.

Projections for economic variables. Projections for economic variables, including disposable income and the Consumer Price Index, were from the "U.S. Quarterly Macroeconomic Model: June 2021 Short-Term Baseline Projections" from the economic consulting firm, S&P Global Inc. (see supplemental table B-5). This set of projections was S&P Global Inc.'s most recent set at the time the education projections in this report were produced. The values of all the variables from S&P Global Inc. were placed in school-year terms. The school-year numbers were calculated by taking the average of the last two quarters of one year and the first two quarters of the next year.

Projections for fall enrollment. The projections for fall enrollment are those presented in section 1 of this publication. The methodology for these projections is presented in Section A.1. Elementary and Secondary Enrollment, earlier in this appendix.

Projections for population. Population estimates for 1973 to 2020 from the U.S. Census Bureau and population projections for 2021 to 2030 from S&P Global Inc. were used to develop the public school current expenditure projections. The set of population projections used in this year's *Projections of Education Statistics* are the S&P Global's May 2021 National Population Projections.

Historical data for average daily attendance. For 1973-74 and 1975-76, these data came from Statistics of State School Systems, published by NCES. For 1974-75 and 1976-77, the current expenditures data came from *Revenues and Expenditures for Public Elementary and Secondary Education*, also published by NCES. For 1977-78 through 2018-19, these data came from the CCD and unpublished NCES data.

Projections for average daily attendance. These projections were made by multiplying the projections for enrollment by the average value of the ratios of average daily attendance to enrollment from 1993-94 to 2018-19; this average value was approximately 0.93.

Accuracy of projections for current expenditures

Mean absolute percentage errors (MAPEs) for projections of current expenditures for public elementary and secondary education were calculated using the last 30 editions of *Projections of Education Statistics* that included projections of current expenditures. Table F, below, shows the MAPEs for projections of current expenditures. Please note that the independent variables used in the models have changed slightly since the last edition. For more information on the models used to project expenditures for public elementary and secondary education in prior editions, see page 92 of *Projections of Education Statistics to 2028*.

Table F. Mean absolute percentage errors (MAPEs) of projections for total and per pupil current expenditures for public elementary and secondary education, by lead time: MAPEs constructed using projections from *Projections of Education Statistics to 1997–98* through *Projections of Education Statistics to 2028*

	Lead time (years)									
Statistic	1	2	3	4	5	6	7	8	9	10
Total current expenditures	1.6	2.4	2.6	2.8	3.1	4.0	5.0	5.9	6.4	6.9
Current expenditures per pupil in fall enrollment	1.6	2.4	2.6	2.8	3.3	4.1	5.0	5.9	6.5	7.0

NOTE: Mean absolute percentage error is the average value over past projections of the absolute values of errors expressed in percentage terms. Expenditures were in constant dollars based on the Consumer Price Index for all urban consumers, Bureau of Labor Statistics, U.S. Department of Labor. MAPEs for current expenditures were calculated using projections from the last 29 editions of *Projections of Education Statistics*, from *Projections of Education Statistics to 1997–98* through *Projections of Education Statistics to 2028*, excluding *Projections of Education Statistics to 2012* which did not include projections of current expenditures. Calculations were made using unrounded numbers. Some data have been revised from previously published figures.
SOURCE: U.S. Department of Education, National Center for Education Statistics, *Projections of Education Statistics*, various issues. (This table was prepared April 2022.)

For more information about MAPEs, see Section A.0. Introduction to Projection Methodology, earlier in this appendix.

Table A-15. Estimated equations and model statistics for current expenditures per pupil in fall enrollment for public elementary and secondary schools, and education revenue from state sources per capita based on data from 1973–74 to 2018–19

Dependent variable	Equation[1]	R^2 Adjusted	Breusch-Godfrey Serial Correlation LM test statistic[2]	Time period
1	2	3	4	5
Current expenditures per pupil	D(LN(CUREXP)) = 0.23 (0.077) + 0.28 D(LN(CUREXP(-1))) (0.102) + 0.27 D(LN(SGRANT)) (0.053) – 0.09 CUREXP_ECT (0.031) + 0.01 @BEFORE (“1990”) (0.004)	0.77	2.38 (0.304)	1981–82 to 2018–19
Education revenue from state sources per capita	D(LN(SGRANT)) = 1.66 (0.655) + 0.75 D(LN(PCI(-1))) (0.241) + 0.54 D(LN(PCI)) (0.258) – 0.12 SGRANT_ECT (0.049) – 0.04 @DURING(“2008 2012”) (0.009)	0.67	0.03 (0.984)	1982–83 to 2018–19

[1] Standard errors in parentheses. D() refers to the first difference of a variable, or the difference between the variable at time *t* and time *t*-1. This transformation is used in models to make the data series “stationary,” meaning that it has the same statistical properties over time. LN() refers to the natural log of a variable. The (-1) term indicates that the variable is lagged by one year. CUREXP_ECT is included in the current expenditures model to capture the long-term relationship between current expenditures and state education grants. SGRANT_ECT is included in the education revenue model to capture the long-term relationship between state education revenue and enrollment.
[2] The number in parentheses is the probability of the Chi-Square associated with the Breusch-Godfrey Serial Correlation LM Test. A *p* value greater that 0.05 implies that we do not reject the null hypothesis of no autocorrelation at the 5 percent significance level for a two-tailed test and 10 percent significance level for a one-tailed test, (i.e., there is no autocorrelation present). For an explanation of the Breusch-Godfrey Serial Correlation LM test statistic, see Greene, W. (2000). *Econometric Analysis*. New Jersey: Prentice-Hall.
NOTE: Adjusted R^2 indicates the coefficient of determination adjusted for the number of explanatory variables.
CUREXP = Current expenditures of public elementary and secondary schools per pupil in fall enrollment in constant dollars (index 1982–1984 = 1.00).
SGRANT = Local governments’ education revenue from state sources, per capita, in constant dollars (index 1982–1984 = 1.00).
PCI = Disposable income per capita in 2012 chained dollars.
CUREXP_ECT (Current expenditures error correction term) = LN(CUREXP(-1)) - LN(SGRANT(-1)).
SGRANT_ECT (State education revenue error correction term) = LN(SGRANT(-1)) - 1.8*LN(ENROLL(-1)), where ENROLL = total elementary and secondary public school enrollment.
@BEFORE(“1990”) = Dummy variable to account for the shift in trend that occurred in historical data in 1990.
@DURING(“2008 2012”) = Dummy variable to account for a structure shift in historical data between 2008 and 2012.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Public Elementary and Secondary Education Current Expenditure Projection Model, through 2030–31. (This table was prepared April 2022.)

A.5. ENROLLMENT IN DEGREE-GRANTING POSTSECONDARY INSTITUTIONS

Projections in this edition

This edition of *Projections of Education Statistics* presents projections of enrollment in degree-granting postsecondary institutions for fall 2021 through fall 2030. Throughout the report, actual historical data are reported for fall 2020. However, at the time the models were run, historical data were only available through fall 2019. Three different models were used to produce these enrollment projections:

- The *Enrollment in Degree-Granting Institutions Projection Model* produced projections of enrollments by attendance status, level of student, level of institution, control of institution, sex, and age. It also produced projections of full-time-equivalent enrollments by level of student, level of institution, and control of institution.
- The *Enrollment in Degree-Granting Institutions by Race/Ethnicity Projection Model* produced projections of enrollments by race/ethnicity.
- The *First-Time Freshmen Projection Model* produced projections of enrollments of first-time freshmen by sex.

Overview of approach

Basic features of the three degree-granting enrollment projection models

The Enrollment in Degree-Granting Institutions Projection Model is the primary model for projecting enrollment in degree-granting postsecondary institutions. Beginning with Projections of Education Statistics to 2030 (this edition), enrollment rates by attendance status are projected for various age categories using 2-stage panel models. The first stage equation estimates the long-term trend and is driven by economic measures—the overall unemployment rate (interacted with enrollment status, because employment may have a different impact on the decision to enroll full- vs. part-time), and real disposable income per capita (lagged by 1 year). The result of this first equation generates an enrollment rate trend variable that represents the long-term relationship between the enrollment rate and the economic measures. The second stage equation estimates the short-term (year-to-year) dynamics through an error-correction, auto-regressive process where year-to-year changes in the rate of enrollment are explained by the previous changes in the enrollment rate, changes in the long-term path for enrollment (estimated in the first stage), and any deviations in the rate of enrollment from its long-term path. Predicted values from the first equation are used as an explanatory variable in the second equation to capture the short-term trend-reversion in enrollment. These rates are applied to projections of populations of the same sex and age to produce projections of enrollment by attendance status, sex, and age. This set of projections are referred to as "model-driven projections." Final projections were estimated by calculating a weighted average of the model-driven projections and population-driven projections, where the weight for the model-driven projections is equal to the adjusted of the second stage model and the weight for the population-driven projections is $1 - adj.\ R^2$). To project enrollments by level of student, level of institution, and control of institution, rates for these characteristics are projected using single exponential smoothing and applied to overall enrollment projections produced by the model. For information on the models used to project enrollment in degree-granting institutions in prior editions, see page 95 of *Projections of Education Statistics to 2028*.

The Enrollment in Degree-Granting Institutions by Race/Ethnicity Projection Model is also driven by economic measures and student age. As in earlier editions, enrollment rates by attendance status, sex, and race/ethnicity are projected for the age categories using the pooled seemingly unrelated regression method. The resulting rates are iteratively corrected to ensure consistency with those projected by the Enrollment in Degree-Granting Institutions Projection Model. The adjusted rates are then applied to projections of populations of the same sex, age, and race/ethnicity.

The First-Time Freshmen Enrollment in Degree-Granting Institutions Projection Model uses single exponential smoothing to project the ratio of freshmen enrollment to undergraduate enrollment separately for males and for females. It then applies the projected ratios to the projections of undergraduate enrollment by sex that were produced by the Enrollment in Degree-Granting Institutions Projection Model.

The Enrollment in Degree-Granting Institutions Projection Model

The Enrollment in Degree-Granting Institutions Projection Model produces projections of enrollment counts by six levels of detail, as well as projections of full-time-equivalent enrollments by level of student, level of institution, and control of institution.

Steps used in the Enrollment in Degree-Granting Institutions Projection Model

Step 1. *Adjust age-specific enrollment counts.* The Enrollment in Degree-Granting Institutions Projection Model projects enrollments by six levels of detail: attendance status, level of student, level of institution, control of institution, sex, and age. NCES produces enrollment counts by the first five levels of detail, annually. However, it produces data by the sixth level of detail, age, biannually. In previous editions of the *Projections*, data from the U.S. Census Bureau was used for annual age-specific enrollment counts. For the *Projections of Education Statistics to 2030* (this edition), the biannual data from NCES are used. The latest data for all six levels of detail at the time the models were run were from fall 2019.

Step 2. *Calculate historical enrollment rates by attendance status, sex, and age category.* The enrollment data were broken up into 7 age categories: under 18, 18 to 19, 20 to 21, 22 to 24, 25 to 29, 30 to 34, and 35 and older. For each of the 7 age categories, 4 enrollment rates were calculated—part-time male, full-time male, part-time female, and full-time female—resulting in a total of 28 enrollment rates. Each of the 28 enrollment rates was calculated by dividing the enrollment count for that combination of attendance status, sex, and age category by the total population for the corresponding combination of sex and age category. For each combination of attendance and sex, the enrollment rate for the youngest age category was calculated by dividing the enrollment count for those under 18 by the total population for those ages 16 and 17, and the enrollment rate for the oldest age category was calculated by dividing the enrollment count for those 35 and over by the total population for those 35 to 44.

Step 3. *Produce projections of enrollment rates by attendance status, sex, and age category.* Enrollment rates by attendance status and sex were produced for the following 7 age categories: under 18, 18 to 19, 20 to 21, 22 to 24, 25 to 29, 30 to 34, and 35 and older. In the 2027 and 2028 editions, these enrollment rates were set to their most recent historic values. This was a change from earlier econometric approaches, based on increases in the forecast's errors when enrollment projections were compared to their actual values. The current edition combines the two approaches by producing both model-driven projections and population-driven projections and weighting them together based on the econometric model performance. In other words, for age groups whose enrollment behaviors are not as well predicted by unemployment and income (younger age groups), a smaller weight is given to the econometric model-driven projections and more weight is given to the population-driven projections, which use the most recent known historical enrollment rates, and vice versa. Because enrollment in degree-granting postsecondary institutions is rare for those under 18, enrollment rates for this group were estimated exclusively using exponential smoothing.

For the projected enrollment rates and the actual 2019 values, see table A-17 on page 102.

Step 4. *Produce projections of enrollments by attendance status, sex, and age category.* For each combination of attendance status, sex, and age category, enrollment projections were produced by multiplying the projected enrollment rate for that combination by projections of the total population with the corresponding combination of sex and age category.

Step 5. *Add three additional levels of detail—level of student, control of institution, and level of institution—to the projected enrollments by attendance status and sex.* In this step, the data on enrollment by age category were not used. Step 5 can be broken into two parts:

First, data for 2019 were used to calculate the percentage distribution of enrollment by level of student, control of institution, and level of institution for each combination of attendance status and sex. Because it was assumed that there was no enrollment in 2-year institutions at the postbaccalaureate level, six combinations of student level and institution type were used: undergraduates at public 2-year institutions, undergraduates at public 4-year institutions, postbaccalaureate students at public 4-year institutions, undergraduates at private 2-year institutions, undergraduates at private 4-year institutions, and postbaccalaureate students at private 4-year institutions.

For the projected percentage distributions from step 5 and the actual 2019 distributions, see table A-18 on page 103.

Second, the 2018 distributions by level of student, control of institution, and type of institution were applied to the projected enrollments by attendance status and sex from step 4 to obtain the enrollment projections by attendance status, sex, level of student, control of institution, and level of institution.

This is the first edition of *Projections of Education Statistics* to use this methodology to produce enrollments by level of student, control of institution, and level of institution.

Step 6. *Produce projections of full-time-equivalent enrollment by level of student, level of institution, and control of institution.* Full-time-equivalent enrollment represents total full-time and part-time enrollment as if it were enrollment on a full-time basis. It equals the sum of full-time enrollment plus the full-time-equivalent of part-time enrollment. Full-time-equivalent enrollment projections were produced in the following manner:

First, for each combination of level of student, level of institution, and control of institution, the historic data were used to calculate the full-time-equivalent of part-time enrollment as a percentage of part-time enrollment.

Second, for each combination of level of student, level of institution, and control of institution, the full-time equivalent of part-time enrollment as a percentage of part-time enrollment was projected using single exponential smoothing. A separate smoothing constant, chosen to minimize the sum of squared forecast errors, was used for each percentage.

Third, for each combination of level of student, level of institution, and control of institution, the projected percentages were applied to the projections of part-time enrollment to project the full-time equivalent of the part-time enrollment.

Fourth, the projections of full-time equivalents of part-time enrollment were added to projections of full-time enrollment to obtain projections of full-time-equivalent enrollment.

Data for the Enrollment in Degree-Granting Institutions Projection Model

Enrollment data for degree-granting postsecondary institutions. Enrollment data for 2000 to 2018 by attendance status, level of student, level of institution, control of institution, and sex came from the NCES Integrated Postsecondary Education Data System (IPEDS). These are universe counts. The U.S. Census Bureau was the source for enrollment estimates for 1981 to 2018 by the characteristics listed above, as well as age of student.

Population data and projections. Population counts for 2000 to 2019 came from the U.S. Census Bureau. Population projections for 2020 to 2029 are the Census Bureau's 2017 National Population Projections of the population by sex and age (September 2018), ratio-adjusted to line up with the most recent historical estimates. For more information, see Section A.0. Introduction to Projection Methodology, earlier in this appendix.

Data and results for the model. The following details for the model are shown on pages 101-104:

- Tables A-16a and A-16b shows the results of the econometric equations.
- Table A-17 shows enrollment rates by sex, attendance status, and age for fall 2019 and projected enrollment rates for fall 2025 and fall 2030.
- Table A-18 shows actual and projected percentage distributions of full-time students.
- Table A-19 shows actual and projected percentage distributions of part-time students.
- Table A-20 shows actual and projected data for enrollment in public degree-granting institutions as a percentage of total (public and private) enrollment by sex, attendance status, student level, and level of institution.

Accuracy of projections for the Enrollment in Degree-Granting Institutions Projection Model

No mean absolute percentage errors (MAPEs) were calculated for enrollments in degree-granting postsecondary institutions as this is the first edition of *Projections of Education Statistics* to use the new model Enrollment in Degree-Granting Institutions Model. For information concerning the accuracy of the previous models used to produce projections of enrollment in degree-granting postsecondary institutions, see page 104 of *Projections of Education Statistics to 2026*.

The Enrollment in Degree-Granting Institutions by Race/Ethnicity Projection Model

The Enrollment in Degree-Granting Institutions by Race/Ethnicity Projection Model projects enrollments in degree-granting institutions by attendance status, sex, age, and race/ethnicity. Race categories exclude persons of Hispanic ethnicity. The following groups are projected in this model:

- American Indian/Alaska Native;
- Asian/Pacific Islander;
- Black;
- Hispanic;
- White;
- Two or more races; and
- U.S. nonresident.

See the glossary for definitions of the six racial/ethnic categories and the U.S. nonresident category. (The race/ethnicity of U.S. nonresident is unknown, but they are considered a separate group for purposes of this analysis.)

Steps used in the Degree-Granting Institutions by Race/Ethnicity Projection Model

Step 1. *Adjust age-specific enrollment counts*. As mentioned above, NCES produced enrollment data by all necessary levels of detail, but only includes age detail biannually. In alternating years, adjustments will be required to produce the required age detail. The latest data for all six levels of detail at the time the models were run were from fall 2019, so no adjustments were needed for this edition.

Step 2. *Calculate enrollment rates by attendance status, sex, age category, and race/ethnicity*. The enrollment data were broken up into 7 age categories: under 18, 18 to 19, 20 to 21, 22 to 24, 25 to 29, 30 to 34, and 35 and over. For each of the 7 age categories, enrollment rates were calculated for each combination of attendance status, sex, and the six racial/ethnic groups, resulting in a total of 168 enrollment rates (enrollment for Two or more races was projected to increase at the same rate as enrollment as total degree-granting postsecondary enrollment each year). Each of the 168 enrollment rates was calculated by dividing the enrollment count for that combination of attendance status, sex, age category, and race/ethnicity by the total population for the corresponding combination of sex, age category, and race/ethnicity. For each combination of attendance status, sex and racial/ethnic group, the enrollment rate for the youngest age category was calculated by dividing the enrollment count for those under 18 by the total population for those ages 14 to 17, and the enrollment rate for the oldest age category was calculated by dividing the enrollment count for those 35 and over by the total population for those 35 to 44.

Step 3. *Produce projections of enrollment rates by attendance status, sex, age category, and race/ethnicity*. Enrollment rates for most of the age groups and racial/ethnic groups were projected using multiple linear regression. However, there were several exceptions:

- Due to the relatively large fluctuations in the historical enrollment rates resulting from small sample sizes, American Indian/Alaska Native enrollments were projected using single exponential smoothing.
- Since there were no applicable population counts to compute enrollment rates for U.S. nonresident, their enrollments were projected using patterns in recent historical growth.

Four racial/ethnic groups were modeled: Asian/Pacific Islander, Black, Hispanic, and White. Enrollment rates by attendance status, sex, and race/ethnicity were produced using 16 pooled seemingly unrelated regression models—one for each combination of attendance status, sex, and the four racial/ethnic groups—with fixed effects for age. Each equation included variables measuring

- recent trends; and
- socioeconomic conditions (such as disposable income).

For more information on the equations used to project enrollment rates for the combinations of attendance status, sex, and race/ethnicity, see tables A-21 through A-28, under "Data and equations used for the Enrollment in Degree-Granting Institutions by Race/Ethnicity Projection Model," below.

The final set of projected rates by attendance status, sex, age, and race/ethnicity were controlled to enrollment rates by attendance status, sex, and age produced by the Enrollment in Degree-Granting Institutions Projection Model to ensure consistency across models.

Step 4. *Produce projections of enrollments by attendance status, sex, age category, and race/ethnicity*. For each combination of attendance status, sex, age category, and race/ethnicity, enrollment projections were produced by multiplying the projected enrollment rate for that combination by projections of the total population with the corresponding combination of sex, age category, and race/ethnicity.

Data and equations used for the Enrollment in Degree-Granting Institutions by Race/Ethnicity Projection Model

Enrollment data for degree-granting institutions by race/ethnicity. Enrollment data for 1981 to 2019 by attendance status, sex, and race/ethnicity came from the NCES Integrated Postsecondary Education Data System (IPEDS). These are universe counts.

Population data and projections by race/ethnicity. Population counts for 1981 to 2019 came from the U.S. Census Bureau, Population Estimates series. Population projections for 2020 to 2030 are S&P Global's May 2021 National Population Projections of the population by sex, age and race/ethnicity. For more details on the underlying population utilized in the enrollment projections by race/ethnicity, see the earlier section, Demographic assumptions.

Projections for economic variables. The economic variables used in developing these projections were from the "U.S. Quarterly Macroeconomic Model: June 2021 Short-Term Baseline Projections" from the economic consulting firm, S&P Global Inc. This set of projections was S&P Global Inc.'s most recent set at the time the education projections in this report were produced.

Estimated equations and model statistics. Tables A-21 through A-28 show the estimated equations and model statistics used to project enrollment rates for the various combinations of attendance status, sex, and race/ethnicity.

Accuracy of projections for the Degree-Granting Institutions by Race/Ethnicity Projection Model

No mean absolute percentage errors (MAPEs) were calculated for enrollments in degree-granting postsecondary institutions by race/ethnicity, as projections from the new Enrollment in Degree-Granting Institutions Model were used in the calculating the enrollment by race/ethnicity projections. For information concerning the accuracy of the previous models used to produce projections of enrollment in degree-granting postsecondary institutions, see page 107 of *Projections of Education Statistics to 2026*.

The First-Time Freshmen Enrollment in Degree-Granting Institutions Projection Model

The First-Time Freshmen Enrollment in Degree-Granting Institutions Projection Model produced projections of first-time freshmen enrollment in degree-granting institutions by sex.

Steps used in the First-Time Freshmen Enrollment in Degree-Granting Institutions Projection Model

The projections were produced in the following manner:

Step 1. *Calculate the ratio of first-time freshmen enrollment to undergraduate enrollment.* For 1975 to 2019, the ratio of first-time freshmen enrollment to undergraduate enrollment was calculated for males and females.

Step 2. *Project the ratio of first-time freshmen enrollment to undergraduate enrollment.* The percentages of undergraduate enrollment for both males and females were projected using single exponential smoothing. A separate smoothing constant, chosen to minimize the sum of squared forecast errors, was used for each percentage.

Step 3. *Apply the projected ratio to projected undergraduate enrollment.* The projected ratios were applied to projections of undergraduate enrollment by sex from the Enrollment in Degree-Granting Institutions Model to yield projections of first-time freshmen enrollment.

Assumptions underlying this method

This method assumes that the future pattern in the trend of first-time freshmen enrollment will be the same as that for undergraduate enrollment.

Data used in the First-Time Freshmen Enrollment in Degree-Granting Institutions Projection Model

Undergraduate and freshmen enrollment data for degree-granting institutions. Undergraduate and freshmen enrollment data by sex for 1975 to 2019 came from the NCES Integrated Postsecondary Education Data System (IPEDS).

Projections of undergraduate enrollment. Projections of undergraduate enrollment by sex came from the Enrollment in Degree-Granting Institutions Model, discussed earlier in this section of appendix A.

Accuracy of projections for the First-Time Freshmen Enrollment Projection Model

No mean absolute percentage errors (MAPEs) were calculated for first-time freshmen enrollments in degree-granting postsecondary institutions, as projections from the new Enrollment in Degree-Granting Institutions Model were used in the calculating the first-time freshmen enrollment projections. For information concerning the accuracy of the previous models used to produce projections of enrollment in degree-granting postsecondary institutions, see page 109 of *Projections of Education Statistics to 2026*.

Table A-16a. Estimated equations and model statistics for full-time and part-time enrollment rates at degree-granting postsecondary institutions based on data from 1995 to 2019

Dependent variable	Equation[1]	Adjusted R^2	DW statistic	Time period
1	2	3	4	5
First stage: long-term enrollment rate trend				1995 to 2019
18- to 19-year-olds	RENRC = C + 0.003 RUC(-1)*(FULLTIME) + 0.001 RUC(-1)*(PARTTIME) + 0.173 LN(YPDRPC(-1)) (0.0011) (0.0011) (0.0106)	0.99	0.13	
20- to 21-year-olds	RENRC = C + 0.005 RUC(-1)*(FULLTIME) + 0.001 RUC(-1)*(PARTTIME) + 0.138 LN(YPDRPC(-1)) (0.0010) (0.0010) (0.0099)	0.99	0.14	
22- to 24-year-olds	RENRC = C + 0.005 RUC(-1)*(FULLTIME) + 0.002 RUC(-1)*(PARTTIME) + 0.032 LN(YPDRPC(-1)) (0.0004) (0.0004) (0.0042)	0.98	0.20	
25- to 29-year-olds	RENRC = C + 0.004 RUC(-1)*(FULLTIME) + 0.002 RUC(-1)*(PARTTIME) + 0.016 LN(YPDRPC(-1)) (0.0004) (0.0004) (0.0035)	0.85	0.15	
30- to 34-year-olds	RENRC = C + 0.003 RUC(-1)*(FULLTIME) + 0.002 RUC(-1)*(PARTTIME) + 0.015 LN(YPDRPC(-1)) (0.0003) (0.0003) (0.0024)	0.92	0.21	
35- to 44-year-olds	RENRC = C + 0.003 RUC(-1)*(FULLTIME) + 0.002 RUC(-1)*(PARTTIME) + 0.011 LN(YPDRPC(-1)) (0.0002) (0.0002) (0.0023)	0.98	0.22	
Second stage: short-term likelihood of enrollment				1997 to 2019
18- to 19-year-olds	D(RENRC) = C – 0.028 D(RENRC(-1)) + 0.286 D(RENRC_TREND) – 0.074 RENRC_ECT (0.1040) (0.1788) (0.0356)	0.14	2.01	
20- to 21-year-olds	D(RENRC) = C + 0.310 D(RENRC(-1)) + 0.439 D(RENRC_TREND) – 0.102 RENRC_ECT (0.1035) (0.1582) (0.0382)	0.29	1.50	
22- to 24-year-olds	D(RENRC) = C + 0.260 D(RENRC(-1)) + 0.624 D(RENRC_TREND) – 0.072 RENRC_ECT (0.0766) (0.0802) (0.0479)	0.68	0.97	
25- to 29-year-olds	D(RENRC) = C + 0.340 D(RENRC(-1)) + 0.503 D(RENRC_TREND) – 0.021 RENRC_ECT (0.0735) (0.0634) (0.0351)	0.75	1.17	
30- to 34-year-olds	D(RENRC) = C + 0.531 D(RENRC(-1)) + 0.314 D(RENRC_TREND) – 0.018 RENRC_ECT (0.0838) (0.0709) (0.0388)	0.69	1.29	
35- to 44-year-olds	D(RENRC) = C + 0.477 D(RENRC(-1)) + 0.360 D(RENRC_TREND) – 0.010 RENRC_ECT (0.0798) (0.0659) (0.0383)	0.70	1.36	

[1]D() refers to the first difference of a variable, or the difference between the variable at time *t* and time *t*-1. This transformation is used in models to make the data series "stationary," meaning that it has the same statistical properties over time. LN() refers to the natural log of a variable. The (-1) term indicates that the variable is lagged by one year. RENRC_TREND is included in the second stage models to capture the long-term relationship between enrollment rates by age and real disposable income per capita. RENRC_ECT is included in the second stage model to "correct" the short-term estimates towards the fitted values. Final projections were estimated by calculating a weighted average of the second-stage estimates and a population-driven (i.e., exponentially smoothed) model, where the weight for the second stage estimate is equal to the adjusted R^2.

NOTE: Adjusted R^2 indicates the coefficient of determination adjusted for the number of explanatory variables. D.W. statistic = Durbin-Watson statistic, a test for autocorrelation among regression residuals. For more details see Johnston, J., and Dinardo, J. (1996).

RENRC = College enrollment rate, by age.

C = The constant term. The equations include fixed effects by sex and enrollment status, so each equation has four different constant terms, which are shown in table A-16b.

RUC = Unemployment rate.

FULLTIME = Full-time enrollment, by age.

PARTTIME = Part-time enrollment, by age.

YPDRPC = Real disposable income per capita in 2012 chained dollars.

RENRC_TREND = Fitted values from first-stage equations, by age. This variable represents the enrollment rate expected based only on the economic variables..

RENRC_ECT (college enrollment rate error correction term) = (RENRC-RENRC_TREND)(-1). This term is the difference between the actual and fitted value of a separate equation (first regression) where RENRC level was regressed on the level of income per capita. The fitted value, RENRC_TREND, contains forecasts and since it enters the second equation with a lag, it continues to capture the deviation of the forecasted RENRC from its trend during the forecast period and that deviation is not constant.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Enrollment in Degree-Granting Institutions Projection Model, through 2030. (This table was prepared April 2022.)

Table A-16b. Estimated fixed effects for model estimates of enrollment rates at degree-granting postsecondary institutions, by sex and enrollment status

Dependent variable	Average constant	Constant term with fixed effects by sex and attendance status			
		Full-time female	Full-time male	Part-time female	Part-time male
1	2	3	4	5	6
First stage: long-term enrollment rate trend					
18- to 19-year-olds	-1.602	-1.401	-1.505	-1.744	-1.758
	(0.1110)	(0.1111)	(0.1111)	(0.1111)	(0.1111)
20- to 21-year-olds	-1.254	-1.096	-1.177	-1.361	-1.383
	(0.1032)	(0.1033)	(0.1033)	(0.1033)	(0.1033)
22- to 24-year-olds	-0.233	-0.198	-0.216	-0.247	-0.273
	(0.0439)	(0.0440)	(0.0440)	(0.0440)	(0.0440)
25- to 29-year-olds	-0.125	-0.127	-0.136	-0.108	-0.130
	(0.0368)	(0.0368)	(0.0368)	(0.0368)	(0.0368)
30- to 34-year-olds	-0.134	-0.140	-0.147	-0.116	-0.132
	(0.0251)	(0.0251)	(0.0251)	(0.0251)	(0.0251)
35- to 44-year-olds	-0.088	-0.100	-0.110	-0.059	-0.086
	(0.0237)	(0.0237)	(0.0237)	(0.0237)	(0.0237)
Second stage: short-term likelihood of enrollment					
18- to 19-year-olds	0.002	0.004	0.003	0.001	0.000
	(0.0007)	(0.0011)	(0.0010)	(0.0010)	(0.0010)
20- to 21-year-olds	0.000	0.002	0.001	0.000	-0.001
	(0.0005)	(0.0009)	(0.0009)	(0.0009)	(0.0009)
22- to 24-year-olds	0.000	0.001	0.000	0.000	0.000
	(0.0002)	(0.0004)	(0.0004)	(0.0004)	(0.0004)
25- to 29-year-olds	0.000	0.000	0.000	0.000	0.000
	(0.0001)	(0.0002)	(0.0002)	(0.0002)	(0.0002)
30- to 34-year-olds	0.000	0.004	0.003	0.001	0.000
	(0.0001)	(0.0002)	(0.0002)	(0.0002)	(0.0002)
35- to 44-year-olds	0.000	0.000	0.000	0.000	0.000
	(0.0001)	(0.0002)	(0.0002)	(0.0002)	(0.0002)

NOTE: This table accompanies table A-16a as part of the stimated equations for full-time and part-time enrollment rates at degree-granting postsecondary institutions based on data from 1995 to 2019.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Enrollment in Degree-Granting Postsecondary Institutions Projection Model, through 2030. (This table was prepared September 2022.)

Table A-17. Actual and projected numbers for enrollment rates of all students at degree-granting postsecondary institutions, by sex, attendance status, and age: Fall 2019, fall 2025, and fall 2030

Sex, attendance status, and age	Actual 2019	Projected	
		2025	2030
1	2	3	4
Males			
Full-time			
Under 18[1]	2.3	2.3	2.3
18 and 19	37.2	37.4	37.6
20 and 21	32.7	33.1	33.5
22 to 24	13.5	13.7	14.1
25 to 29	4.8	4.9	5.1
30 to 34	2.2	2.3	2.4
35 to 44[2]	1.5	1.5	1.6
Part-time			
Under 18[1]	11.5	11.5	11.5
18 and 19	7.8	8.0	8.2
20 and 21	8.1	8.6	9.1
22 to 24	6.7	6.9	7.1
25 to 29	4.1	4.0	4.1
30 to 34	2.8	2.8	2.8
35 to 44[2]	3.0	2.9	2.9
Females			
Full-time			
Under 18[1]	3.8	3.8	3.8
18 and 19	49.3	49.6	49.8
20 and 21	42.3	42.6	43.0
22 to 24	16.3	16.6	17.0
25 to 29	6.2	6.5	6.9
30 to 34	3.0	3.2	3.4
35 to 44[2]	2.5	2.6	2.8
Part-time			
Under 18[1]	17.2	17.2	17.2
18 and 19	9.6	9.9	10.1
20 and 21	10.7	11.2	11.7
22 to 24	9.5	9.8	10.1
25 to 29	6.6	6.7	6.9
30 to 34	4.5	4.6	4.7
35 to 44[2]	5.3	5.3	5.3

[1] Enrollment rates for the under 18 age group includes all enrollments for students under 18 but use the population of 16- and 17-year-olds as the denominator.
[2] Enrollment rates for the 35- to 44-year old age group includes all enrollments for students 35 and over, but use the population of 35- to 44-year-olds as the denominator.
NOTE: Enrollments can include students who are concurrently enrolled in postsecondary courses while in high school. Although fall 2020 postsecondary enrollments are included in figures throughout the report, fall 2019 was the latest historical year available at the time the Enrollment in Degree-Granting Institutions Projections Model was run.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Spring 2021, Fall Enrollment component; Enrollment in Degree-Granting Institutions Projection Model, through 2030; and S&P Global Inc. Population service, May 2021 release (history through 2020 and forecasts through 2030). (This table was prepared March 2022.)

Table A-18. Actual and projected percentage distributions of full-time students at degree-granting postsecondary institutions, by sex, age group, student level, and level of institution: Fall 2019, and fall 2021 through fall 2030

Age group, student level, and level of institution	Males		Females	
	Actual 2019	Projected 2021 through 2030	Actual 2019	Projected 2021 through 2030
1	2	3	4	5
Under 18 years old				
Undergraduate, 4-year institutions	60.6	60.6	60.7	60.7
Undergraduate, 2-year institutions	39.3	39.3	39.3	39.3
Postbaccalaureate, 4-year institutions	#	#	#	#
18 and 19 years old				
Undergraduate, 4-year institutions	75.9	75.9	79.1	79.1
Undergraduate, 2-year institutions	24.1	24.1	20.9	20.9
Postbaccalaureate, 4-year institutions	#	#	#	#
20 and 21 years old				
Undergraduate, 4-year institutions	85.6	85.6	87.1	87.1
Undergraduate, 2-year institutions	13.5	13.5	11.6	11.6
Postbaccalaureate, 4-year institutions	0.9	0.9	1.3	1.3
22 to 24 years old				
Undergraduate, 4-year institutions	65.6	65.6	56.1	56.1
Undergraduate, 2-year institutions	10.9	10.9	12.1	12.1
Postbaccalaureate, 4-year institutions	23.5	23.5	31.7	31.7
25 to 29 years old				
Undergraduate, 4-year institutions	39.3	39.3	36.5	36.5
Undergraduate, 2-year institutions	14.0	14.0	17.1	17.1
Postbaccalaureate, 4-year institutions	46.7	46.7	46.4	46.4
30 to 34 years old				
Undergraduate, 4-year institutions	39.9	39.9	41.6	41.6
Undergraduate, 2-year institutions	16.7	16.7	20.6	20.6
Postbaccalaureate, 4-year institutions	43.4	43.4	37.8	37.8
35 years old and over				
Undergraduate, 4-year institutions	41.3	41.3	42.9	42.9
Undergraduate, 2-year institutions	19.6	19.6	20.5	20.5
Postbaccalaureate, 4-year institutions	39.1	39.1	36.7	36.7

Rounds to zero.

NOTE: Detail may not sum to totals because of rounding. At the time the models were run, the last historical data available were from Fall 2019. However, projected data are only reported for 2021 onward, as fall 2020 became available while the *Digest of Education Statistics 2021* was being produced, in which *Projections of Education Statistics to 2030* were originally published.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, Spring 2020, Fall Enrollment component; Enrollment in Degree-Granting Institutions Projection Model, through 2030. (This table was prepared March 2022.)

Table A-19. Actual and projected percentage distributions of part-time students at degree-granting postsecondary institutions, by sex, age group, student level, and level of institution: Fall 2019, and fall 2021 through fall 2030

Age group, student level, and level of institution	Males		Females	
	Actual 2019	Projected 2021 through 2030	Actual 2019	Projected 2021 through 2030
1	2	3	4	5
Under 18 years old				
Undergraduate, 4-year institutions	36.5	36.5	37.8	37.8
Undergraduate, 2-year institutions	63.5	63.5	62.2	62.2
Postbaccalaureate, 4-year institutions	#	#	#	#
18 and 19 years old				
Undergraduate, 4-year institutions	32.7	32.7	33.9	33.9
Undergraduate, 2-year institutions	67.3	67.3	66.1	66.1
Postbaccalaureate, 4-year institutions	#	#	#	#
20 and 21 years old				
Undergraduate, 4-year institutions	38.4	38.4	39.5	39.5
Undergraduate, 2-year institutions	61.2	61.2	59.8	59.8
Postbaccalaureate, 4-year institutions	0.4	0.4	0.8	0.8
22 to 24 years old				
Undergraduate, 4-year institutions	46.2	46.2	41.3	41.3
Undergraduate, 2-year institutions	43.2	43.2	44.2	44.2
Postbaccalaureate, 4-year institutions	10.7	10.7	14.5	14.5
25 to 29 years old				
Undergraduate, 4-year institutions	37.5	37.5	33.9	33.9
Undergraduate, 2-year institutions	36.2	36.2	37.5	37.5
Postbaccalaureate, 4-year institutions	26.3	26.3	28.6	28.6
30 to 34 years old				
Undergraduate, 4-year institutions	35.9	35.9	34.3	34.3
Undergraduate, 2-year institutions	32.9	32.9	35.3	35.3
Postbaccalaureate, 4-year institutions	31.2	31.2	30.3	30.3
35 years old and over				
Undergraduate, 4-year institutions	33.9	33.9	33.4	33.4
Undergraduate, 2-year institutions	33.5	33.5	32.8	32.8
Postbaccalaureate, 4-year institutions	32.6	32.6	33.7	33.7

Rounds to zero.
NOTE: Detail may not sum to totals because of rounding. At the time the models were run, the last historical data available were from Fall 2019. However, projected data are only reported for 2021 onward, as fall 2020 became available while the *Digest of Education Statistics 2021* was being produced, in which *Projections of Education Statistics to 2030* were originally published.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, Spring 2020, Fall Enrollment component; Enrollment in Degree-Granting Institutions Projection Model, through 2030. (This table was prepared March 2022.)

Table A-20. Actual and projected enrollment in public degree-granting postsecondary institutions as a percent of total postsecondary enrollment, by sex, attendance status, student level, and level of institution: Fall 2019, and fall 2021 through fall 2030

Attendance status, student level, and level of institution	Males		Females	
	Actual 2019	Projected 2021 through 2030	Actual 2019	Projected 2021 through 2030
1	2	3	4	5
Full-time, undergraduate, 4-year institutions	69.5	69.5	66.3	66.3
Part-time, undergraduate, 4-year institutions	76.9	76.9	72.0	72.0
Full-time, undergraduate, 2-year institutions	93.1	93.1	89.2	89.3
Part-time, undergraduate, 2-year institutions	99.7	99.6	99.5	99.4
Full-time, postbaccalaureate, 4-year institutions	48.7	48.7	45.8	45.8
Part-time, postbaccalaureate, 4-year institutions	53.9	53.9	49.5	49.5

NOTE: At the time the models were run, the last historical data available were from Fall 2019. However, projected data are only reported for 2021 onward, as fall 2020 became available while the *Digest of Education Statistics 2021* was being produced, in which *Projections of Education Statistics to 2030* were originally published.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, Spring 2020, Fall Enrollment component; and Enrollment in Degree-Granting Institutions Projection Model, through 2030. (This table was prepared March 2022.)

Table A-21. Estimated equations and model statistics for full-time and part-time enrollment rates of Asian/Pacific Islander males at degree-granting postsecondary institutions based on data from 1995 to 2019

Independent variable	Coefficient	Standard error	*t*-statistic	*Adjusted* R^2	D.W. statistic
1	2	3	4	5	6
Full-time				0.967	1.816
Age fixed effects:					
Under 18-year-olds	-4.00	0.085	-46.931		
18- to 19-year-olds	0.04	0.067	0.619		
20- to 21-year-olds	-0.03	0.078	-0.433		
22- to 24-year-olds	-0.79	0.082	-9.578		
25- to 29-year-olds	-1.73	0.107	-16.062		
30- to 34-year-olds	-2.76	0.116	-23.796		
35- to 44-year-olds	-3.67	0.138	-26.567		
Log of unemployment rate for Asian/Pacific Islander males	0.12	0.031	3.763		
Part-time				0.800	1.663
Age fixed effects:					
Under 18-year-olds	0.61	0.649	0.937		
18- to 19-year-olds	1.90	0.653	2.916		
20- to 21-year-olds	1.92	0.649	2.952		
22- to 24-year-olds	1.70	0.647	2.625		
25- to 29-year-olds	1.13	0.643	1.761		
30- to 34-year-olds	0.49	0.651	0.750		
35- to 44-year-olds	0.31	0.642	0.480		
Log of educational attainment per Asian/Pacific Islander household	0.23	0.040	5.733		

NOTE: "Log" refers the natural log. R^2 = Coefficient of determination. D.W. statistic = Durbin-Watson statistic, a test for autocorrelation among regression residuals. For more details see Johnston, J., and Dinardo, J. (1996). *Econometric Methods*. New York: McGraw-Hill. The regression method used to estimate the full-time and part-time equations was the pooled estimated generalized least squares regression method. The time period used to estimate the equations is from 1995 to 2019. The number of observations is 175. Race categories exclude persons of Hispanic ethnicity.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Enrollment in Degree-Granting Institutions by Race/Ethnicity Projection Model, through 2030. (This table was prepared April 2022.)

Table A-22. Estimated equations and model statistics for full-time and part-time enrollment rates of Asian/Pacific Islander females at degree-granting postsecondary institutions based on data from 1995 to 2019

Independent variable	Coefficient	Standard error	*t*-statistic	*Adjusted* R^2	D.W. statistic
1	2	3	4	5	6
Full-time				0.984	1.899
Age fixed effects:					
Under 18-year-olds	-3.35	0.386	-8.672		
18- to 19-year-olds	0.54	0.380	1.427		
20- to 21-year-olds	0.43	0.381	1.143		
22- to 24-year-olds	-0.62	0.380	-1.638		
25- to 29-year-olds	-1.82	0.380	-4.791		
30- to 34-year-olds	-3.02	0.386	-7.826		
35- to 44-year-olds	-3.61	0.382	-9.440		
Log of disposable income per Asian/Pacific Islander 18- to 22-year-olds in current dollars	-0.03	0.030	-0.954		
Part-time				0.781	1.627
Age fixed effects:					
Under 18-year-olds	1.87	1.399	1.337		
18- to 19-year-olds	2.14	1.402	1.527		
20- to 21-year-olds	2.39	1.400	1.706		
22- to 24-year-olds	2.03	1.397	1.455		
25- to 29-year-olds	1.36	1.405	0.967		
30- to 34-year-olds	0.83	1.406	0.590		
35- to 44-year-olds	0.80	1.405	0.570		
Log of educational attainment per Asian/Pacific Islander household	0.23	0.085	2.701		
Log of unemployment rate for Asian/Pacific Islander females	0.09	0.055	1.668		

NOTE: "Log" refers the natural log. R^2 = Coefficient of determination. D.W. statistic = Durbin-Watson statistic, a test for autocorrelation among regression residuals. For more details see Johnston, J., and Dinardo, J. (1996). *Econometric Methods*. New York: McGraw-Hill. The regression method used to estimate the full-time and part-time equations was the pooled estimated generalized least squares regression method. The time period used to estimate the equations is from 1995 to 2019. The number of observations is 175. Race categories exclude persons of Hispanic ethnicity.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Enrollment in Degree-Granting Institutions by Race/Ethnicity Projection Model, through 2030. (This table was prepared April 2022.)

Table A-23. Estimated equations and model statistics for full-time and part-time enrollment rates of Black males at degree-granting postsecondary institutions based on data from 1995 to 2019

Independent variable	Coefficient	Standard error	*t*-statistic	*Adjusted* R^2	D.W. statistic
1	2	3	4	5	6
Full-time				0.986	1.843
Age fixed effects:					
Under 18-year-olds	-10.84	0.908	-11.938		
18- to 19-year-olds	-7.27	0.908	-8.012		
20- to 21-year-olds	-7.34	0.908	-8.086		
22- to 24-year-olds	-8.09	0.909	-8.904		
25- to 29-year-olds	-9.08	0.909	-9.996		
30- to 34-year-olds	-9.72	0.910	-10.680		
35- to 44-year-olds	-9.96	0.911	-10.939		
Log of disposable income per Black					
18- to 22-year-olds in current dollars	0.49	0.074	6.674		
Part-time				0.892	1.426
Age fixed effects:					
Under 18-year-olds	-10.70	1.119	-9.564		
18- to 19-year-olds	-8.86	1.119	-7.913		
20- to 21-year-olds	-8.65	1.118	-7.737		
22- to 24-year-olds	-8.77	1.118	-7.848		
25- to 29-year-olds	-9.10	1.118	-8.141		
30- to 34-year-olds	-9.46	1.119	-8.459		
35- to 44-year-olds	-9.29	1.117	-8.320		
Log of disposable income per Black					
18- to 22-year-olds in current dollars	0.49	0.091	5.424		

NOTE: "Log" refers the natural log. R^2 = Coefficient of determination. D.W. statistic = Durbin-Watson statistic, a test for autocorrelation among regression residuals. For more details see Johnston, J., and Dinardo, J. (1996). *Econometric Methods*. New York: McGraw-Hill. The regression method used to estimate the full-time and part-time equations was the pooled estimated generalized least squares regression method. The time period used to estimate the equations is from 1995 to 2019. The number of observations is 175. Race categories exclude persons of Hispanic ethnicity.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Enrollment in Degree-Granting Institutions by Race/Ethnicity Projection Model, through 2030. (This table was prepared April 2022.)

Table A-24. Estimated equations and model statistics for full-time and part-time enrollment rates of Black females at degree-granting postsecondary institutions based on data from 1995 to 2019

Independent variable	Coefficient	Standard error	*t*-statistic	*Adjusted* R^2	D.W. statistic
1	2	3	4	5	6
Full-time				0.989	1.789
Age fixed effects:					
Under 18-year-olds	-10.14	0.911	-11.133		
18- to 19-year-olds	-6.46	0.911	-7.089		
20- to 21-year-olds	-6.72	0.911	-7.373		
22- to 24-year-olds	-7.53	0.911	-8.262		
25- to 29-year-olds	-8.37	0.912	-9.173		
30- to 34-year-olds	-9.00	0.914	-9.854		
35- to 44-year-olds	-9.17	0.915	-10.024		
Log of disposable income per Black					
18- to 22-year-olds in current dollars	0.49	0.074	6.542		
Part-time				0.544	1.651
Age fixed effects:					
Under 18-year-olds	-9.10	1.442	-6.309		
18- to 19-year-olds	-8.95	1.441	-6.214		
20- to 21-year-olds	-8.72	1.440	-6.055		
22- to 24-year-olds	-8.77	1.438	-6.099		
25- to 29-year-olds	-9.07	1.438	-6.308		
30- to 34-year-olds	-9.28	1.438	-6.457		
35- to 44-year-olds	-9.12	1.438	-6.339		
Log of disposable income per Black					
18- to 22-year-olds in current dollars	0.54	0.117	4.568		

NOTE: "Log" refers the natural log. R^2 = Coefficient of determination. D.W. statistic = Durbin-Watson statistic, a test for autocorrelation among regression residuals. For more details see Johnston, J., and Dinardo, J. (1996). *Econometric Methods*. New York: McGraw-Hill. The regression method used to estimate the full-time and part-time equations was the pooled estimated generalized least squares regression method. The time period used to estimate the equations is from 1995 to 2019. The number of observations is 175. Race categories exclude persons of Hispanic ethnicity.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Enrollment in Degree-Granting Institutions by Race/Ethnicity Projection Model, through 2030. (This table was prepared April 2022.)

Table A-25. Estimated equations and model statistics for full-time and part-time enrollment rates of Hispanic males at degree-granting postsecondary institutions based on data from 1995 to 2019

Independent variable	Coefficient	Standard error	*t*-statistic	*Adjusted* R^2	D.W. statistic
1	2	3	4	5	6
Full-time				0.936	1.734
Age fixed effects:					
Under 18-year-olds	-11.72	0.793	-14.770		
18- to 19-year-olds	-8.27	0.793	-10.433		
20- to 21-year-olds	-8.56	0.793	-10.791		
22- to 24-year-olds	-9.38	0.792	-11.846		
25- to 29-year-olds	-10.38	0.792	-13.106		
30- to 34-year-olds	-11.30	0.795	-14.225		
35- to 44-year-olds	-11.56	0.793	-14.583		
Log of disposable income per Hispanic					
18- to 22-year-olds in current dollars	0.58	0.066	8.693		
Part-time				0.892	1.768
Age fixed effects:					
Under 18-year-olds	-10.92	0.652	-16.738		
18- to 19-year-olds	-8.96	0.654	-13.702		
20- to 21-year-olds	-9.01	0.654	-13.773		
22- to 24-year-olds	-9.34	0.650	-14.364		
25- to 29-year-olds	-9.99	0.650	-15.370		
30- to 34-year-olds	-10.55	0.654	-16.145		
35- to 44-year-olds	-10.51	0.652	-16.125		
Log of disposable income per Hispanic					
18- to 22-year-olds in current dollars	0.56	0.054	10.361		

NOTE: "Log" refers the natural log. R^2 = Coefficient of determination. D.W. statistic = Durbin-Watson statistic, a test for autocorrelation among regression residuals. For more details see Johnston, J., and Dinardo, J. (1996). *Econometric Methods*. New York: McGraw-Hill. The regression method used to estimate the full-time and part-time equations was the pooled estimated generalized least squares regression method. The time period used to estimate the equations is from 1995 to 2019. The number of observations is 175. Race categories exclude persons of Hispanic ethnicity.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Enrollment in Degree-Granting Institutions by Race/Ethnicity Projection Model, through 2030. (This table was prepared April 2022.)

Table A-26. Estimated equations and model statistics for full-time and part-time enrollment rates of Hispanic females at degree-granting postsecondary institutions based on data from 1995 to 2019

Independent variable	Coefficient	Standard error	*t*-statistic	*Adjusted* R^2	D.W. statistic
1	2	3	4	5	6
Full-time				0.966	1.808
Age fixed effects:					
Under 18-year-olds	-14.17	0.645	-21.972		
18- to 19-year-olds	-10.19	0.642	-15.867		
20- to 21-year-olds	-10.49	0.642	-16.339		
22- to 24-year-olds	-11.48	0.641	-17.907		
25- to 29-year-olds	-12.55	0.641	-19.567		
30- to 34-year-olds	-13.34	0.642	-20.764		
35- to 44-year-olds	-13.66	0.643	-21.248		
Log of disposable income per Hispanic					
18- to 22-year-olds in current dollars	0.79	0.054	14.735		
Part-time				0.786	1.679
Age fixed effects:					
Under 18-year-olds	-10.08	0.589	-17.104		
18- to 19-year-olds	-8.99	0.593	-15.176		
20- to 21-year-olds	-8.93	0.593	-15.068		
22- to 24-year-olds	-9.21	0.589	-15.639		
25- to 29-year-olds	-9.88	0.589	-16.768		
30- to 34-year-olds	-10.35	0.590	-17.548		
35- to 44-year-olds	-10.36	0.590	-17.550		
Log of disposable income per Hispanic					
18- to 22-year-olds in current dollars	0.59	0.049	12.041		

NOTE: "Log" refers the natural log. R^2 = Coefficient of determination. D.W. statistic = Durbin-Watson statistic, a test for autocorrelation among regression residuals. For more details see Johnston, J., and Dinardo, J. (1996). *Econometric Methods*. New York: McGraw-Hill. The regression method used to estimate the full-time and part-time equations was the pooled estimated generalized least squares regression method. The time period used to estimate the equations is from 1995 to 2019. The number of observations is 175. Race categories exclude persons of Hispanic ethnicity.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Enrollment in Degree-Granting Institutions by Race/Ethnicity Projection Model, through 2030. (This table was prepared April 2022.)

Table A-27. Estimated equations and model statistics for full-time and part-time enrollment rates of White males at degree-granting postsecondary institutions based on data from 1995 to 2019

Independent variable	Coefficient	Standard error	*t*-statistic	*Adjusted* R^2	D.W. statistic
1	2	3	4	5	6
Full-time				0.996	1.190
Age fixed effects:					
Under 18-year-olds	-8.81	0.612	-14.410		
18- to 19-year-olds	-4.25	0.610	-6.974		
20- to 21-year-olds	-4.37	0.610	-7.162		
22- to 24-year-olds	-5.43	0.611	-8.894		
25- to 29-year-olds	-6.56	0.611	-10.731		
30- to 34-year-olds	-7.53	0.612	-12.306		
35- to 44-year-olds	-8.05	0.612	-13.165		
Log of disposable income per White					
18- to 22-year-olds in current dollars	0.29	0.047	6.296		
Part-time				0.962	1.514
Age fixed effects:					
Under 18-year-olds	-2.23	0.242	-9.204		
18- to 19-year-olds	-1.04	0.222	-4.663		
20- to 21-year-olds	-0.86	0.220	-3.911		
22- to 24-year-olds	-1.14	0.221	-5.176		
25- to 29-year-olds	-1.56	0.222	-7.004		
30- to 34-year-olds	-2.00	0.220	-9.109		
35- to 44-year-olds	-1.99	0.220	-9.037		
Log of real total private compensation employment cost index	1.87	0.318	5.884		

NOTE: "Log" refers the natural log. R^2 = Coefficient of determination. D.W. statistic = Durbin-Watson statistic, a test for autocorrelation among regression residuals. For more details see Johnston, J., and Dinardo, J. (1996). *Econometric Methods*. New York: McGraw-Hill. The regression method used to estimate the full-time and part-time equations was the pooled estimated generalized least squares regression method. The time period used to estimate the equations is from 1995 to 2019. The number of observations is 175. Race categories exclude persons of Hispanic ethnicity.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Enrollment in Degree-Granting Institutions by Race/Ethnicity Projection Model, through 2030. (This table was prepared April 2022.)

Table A-28. Estimated equations and model statistics for full-time and part-time enrollment rates of White females at degree-granting postsecondary institutions based on data from 1995 to 2019

Independent variable	Coefficient	Standard error	*t*-statistic	*Adjusted* R^2	D.W. statistic
1	2	3	4	5	6
Full-time				0.996	1.467
Age fixed effects:					
Under 18-year-olds	-9.22	0.564	-16.349		
18- to 19-year-olds	-4.74	0.563	-8.407		
20- to 21-year-olds	-4.94	0.563	-8.762		
22- to 24-year-olds	-6.30	0.564	-11.174		
25- to 29-year-olds	-7.44	0.564	-13.187		
30- to 34-year-olds	-8.27	0.565	-14.649		
35- to 44-year-olds	-8.45	0.565	-14.945		
Log of disposable income per White					
18- to 22-year-olds in current dollars	0.37	0.043	8.554		
Part-time				0.970	1.491
Age fixed effects:					
Under 18-year-olds	-8.91	0.599	-14.861		
18- to 19-year-olds	-6.60	0.593	-11.130		
20- to 21-year-olds	-6.47	0.593	-10.918		
22- to 24-year-olds	-6.87	0.593	-11.584		
25- to 29-year-olds	-7.23	0.593	-12.196		
30- to 34-year-olds	-7.74	0.593	-13.059		
35- to 44-year-olds	-7.44	0.593	-12.551		
Log of disposable income per White					
18- to 22-year-olds in current dollars	0.37	0.045	8.163		

NOTE: "Log" refers the natural log. R^2 = Coefficient of determination. D.W. statistic = Durbin-Watson statistic, a test for autocorrelation among regression residuals. For more details see Johnston, J., and Dinardo, J. (1996). *Econometric Methods*. New York: McGraw-Hill. The regression method used to estimate the full-time and part-time equations was the pooled estimated generalized least squares regression method. The time period used to estimate the equations is from 1995 to 2019. The number of observations is 175. Race categories exclude persons of Hispanic ethnicity.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Enrollment in Degree-Granting Institutions by Race/Ethnicity Projection Model, through 2030. (This table was prepared April 2022.)

A.6. POSTSECONDARY DEGREES CONFERRED

Projections in this edition

This edition of *Projections of Education Statistics* presents projections of postsecondary degrees conferred by level of degree and sex of recipient for 2019-20 through 2030-31. Throughout the report, actual historical data are reported for 2019-20. However, at the time the models were run, historical data were only available through 2019-20.

Overview of approach

Basic approach

Projections of associate's, bachelor's, master's, and doctor's degrees for males and females were produced using forecasting equations that relate degrees conferred to full-time enrollment in degree-granting institutions by sex, student level (undergraduate or postbaccalaureate), and institution level (2-year or 4-year). For associate's degrees, the relevant enrollment is undergraduate enrollment in 2-year institutions; for bachelor's degrees, it is undergraduate enrollment in 4-year institutions; and for both master's and doctor's degrees, it is postbaccalaureate enrollment in 4-year institutions.

Degrees Conferred Projection Model

Procedures used to project degrees

For all degree levels, projections of degrees conferred were made separately for males and for females. The projections for males and females were then summed to get projections of the total number of degrees.

Autoregressive-moving-average with exogenous inputs (ARMAX) models were used to project associate's, bachelor's, master's, and doctor's degrees based on enrollment variables for males and females. The enrollment variables used for the different levels of degrees are briefly described below. The equations included an AR(1) term for correcting autocorrelation. Dummy variables were introduced in the models for particular years to capture any large shifts in the underlying data that would not be captured by other explanatory variables.

For details and results of the regression analyses used to project associate's, bachelor's, master's, and doctor's degrees, see table A-29, under "Data and equations used to project degrees," later in this section.

Associate's degrees. *Projections were based on full-time undergraduate enrollment in 2-year institutions by sex*. For males and females, projections of associate's degrees were based on relevant enrollment lagged 1 year.

Bachelor's degrees. *Projections were based on full-time undergraduate enrollment in 4-year institutions by sex*. For males and for females, projections of bachelor's degree were based on relevant enrollment lagged 1 year.

Master's degrees. *Projections were based on full-time postbaccalaureate enrollment by sex*. For males and females, projections of master's degrees were based on relevant current enrollment and enrollment lagged 1 year.

Doctor's degrees. *Projections were based on full-time and part-time postbaccalaureate enrollment by sex*. For males and females, projections of doctor's degrees were based on relevant enrollment lagged 2, 3 and 4 years.

Data and equations used to project degrees

Enrollment data and projections for degree-granting institutions. Historical enrollment data by sex, level of student, and level of institution came from the NCES Integrated Postsecondary Education Data System (IPEDS). The enrollment projections used are those produced for this edition of *Projections of Education Statistics*. For more information about the enrollment projections, see Section A.5. Enrollment in Degree-granting postsecondary Institutions, earlier in this appendix.

Data on degrees awarded at all levels. Historical data by level of degree and sex of recipient came from the NCES Integrated Postsecondary Education Data System (IPEDS). Associate's, bachelor's, and master's degrees were projected using data from 1997-98 to 2018-19 and doctor's degrees were projected using data from 2000-01 to 2018-19.

Accuracy of projections for degrees conferred

No mean absolute percentage errors (MAPEs) were calculated for first-time freshmen enrollments in degree-granting postsecondary institutions, as projections from the new Enrollment in Degree-Granting Institutions Model were used in the calculating the first-time freshmen enrollment projections. For information concerning the accuracy of the previous models used to produce projections of degrees conferred, see page 125 of *Projections of Education Statistics to 2026*.

Table A-29. Estimated equations and model statistics for degrees conferred, by degree type and sex based on data from 1997 to 2018–19

Dependent variable	Equation[1]	Adjusted R^2	DW statistic	Time period
1	2	3	4	5
Associate's degrees, males	D(LN(ASSOCM)) = 0.02 + 0.33 D(LN(UGFT2M(-1))) – 0.02 @DURING("2012") + 0.78 AR(1) (0.015) (0.112) (0.018) (0.116)	0.62		2018
Associate's degrees, females	D(LN(ASSOCW)) = 0.01 + 0.41 D(LN(UGFT2W(-1))) – 0.01 @DURING("2012") + 0.91 AR(1) (0.022) (0.083) (0.010) (0.093)	0.82	2.23	1997 to 2018
Bachelor's degrees, males	D(LN(BACHM)) = 0.01 + 0.53 D(LN(UGFT4M(-1))) – 0.01 @DURING("2000") + 0.55 AR(1) (0.004) (0.188) (0.006) (0.150)	0.71	1.74	1997 to 2018
Bachelor's degrees, females	D(LN(BACHW)) = 0.02 + 0.44 DL(LN(UGFT4W(-1))) – 0.01 @DURING("2000") + 0.41 AR(1) (0.005) (0.174) (0.006) (0.319)	0.67	1.98	1997 to 2018
Master's degrees, males	D(LN(MASTM)) = 0.00 + 0.48 D(LN(PBFTM)) + 0.20 D(LN(PBFTM(-1))) + 0.05 @DURING("1999") – 0.01 AR(1) (0.004) (0.147) (0.200) (0.813) (0.376)	0.72	1.97	1997 to 2018
Master's degrees, females	D(LN(MASTW)) = 0.01 + 0.45 D(LN(PBFTW)) + 0.22 D(LN(PBFTW(-1))) + 0.02 @DURING("1999") – 0.01 AR(1) (0.003) (0.287) (0.222) (1.035) (0.242)	0.67	1.91	1997 to 2018
Doctor's degrees, males	D(LN(DOCM)) = 0.00 + 0.73 D(LN(PBM(-2))) + 0.36 D(LN(PBM(-3))) + 0.36 D(LN(PBM(-4))) + 0.38 AR(1) (0.005) (0.322) (0.362) (0.280) (0.321)	0.64	1.87	2000 to 2018
Doctor's degrees, females	D(LN(DOCW)) = 0.01 + 0.87 D(LN(PBW(-2))) – 0.51 D(LN(PBW(-3))) + 0.43 D(LN(PBW(-4))) – 0.15 AR(1) (0.005) (0.294) (0.507) (0.344) (0.605)	0.65	1.93	2000 to 2018

[1] D() refers to the first difference of a variable, or the difference between the variable at time *t* and time *t*-1. This transformation is used in models to make the data series "stationary," meaning that it has the same statistical properties over time. LN() refers to the natural log of a variable. The (-X) term indicates that the variable is lagged by the given number of years, where X ranges from 1 to 4. AR(1) indicates that the model was estimated to account for first-order autocorrelation. To estimate the model, it was first transformed into a nonlinear model and then the coefficients were estimated simultaneously by applying a Marquardt nonlinear least squares algorithm to the transformed equation. For a general discussion of the problem of autocorrelation, and the method used to forecast in the presence of autocorrelation, see Judge, G., Hill, W., Griffiths, R., Lutkepohl, H., and Lee, T. (1985). *The Theory and Practice of Econometrics*. New York: John Wiley and Sons, pp. 315–318. Numbers in parentheses are *t*-statistics. Standard errors are in parentheses.
NOTE: Adjusted R^2 indicates the coefficient of determination adjusted for the number of explanatory variables. D.W. statistic = Durbin-Watson statistic, a test for autocorrelation among regression residuals. For more details see Johnston, J., and Dinardo, J. (1996).
ASSOCM = associate's degrees awarded to males.
ASSOCW = associate's degrees awarded to females.
BACHM = bachelor's degrees awarded to males.
BACHW = bachelor's degrees awarded to females.
MASTM = master's degrees awarded to males.
MASTW = master's degrees awarded to females.
DOCM = doctor's degrees awarded to males.
DOCW = doctor's degrees awarded to females.
UGFT2M = full-time male undergraduate enrollment in 2-year institutions.
UGFT2W = full-time female undergraduate enrollment in 2-year institutions.
UGFT4M = full-time male undergraduate enrollment in 4-year institutions.
UGFT4W = full-time female undergraduate enrollment in 4-year institutions.
PBFTM = full-time male postbaccalaureate enrollment.
PBFTW = full-time female postbaccalaureate enrollment.
PBM = total male postbaccalaureate enrollment (full-time and part-time).
PBW = total female postbaccalaureate enrollment (full-time and part-time).
@DURING("2012") = Dummy variable to account for a structural shift in historical data in 2012.
@DURING("2000") = Dummy variable to account for a structural shift in historical data in 2000.
@DURING("1999") = Dummy variable to account for a structural shift in historical data in 1999.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Degrees Conferred Projection Model, through 2030–31. (This table was prepared June 2022.)

Appendix B
Supplementary Tables

Table B-1. Actual and projected prekindergarten- and kindergarten-age populations, by age: 2010 through 2030

[In thousands]

Year (July)	3- to 5-year-olds	3-year-olds	4-year-olds	4-year-olds
1	2	3	4	5
Actual				
2010	12,254	4,112	4,078	4,065
2011	12,319	4,105	4,124	4,090
2012	12,242	3,988	4,117	4,137
2013	12,132	4,000	4,001	4,130
2014	12,050	4,018	4,016	4,016
2015	12,057	3,990	4,035	4,032
2016	12,061	4,002	4,007	4,052
2017	12,070	4,029	4,018	4,024
2018	12,129	4,057	4,041	4,031
2019	12,151	4,032	4,067	4,052
2020	12,062	3,946	4,040	4,075
Projected				
2021	11,876	3,885	3,949	4,042
2022	11,660	3,816	3,890	3,954
2023	11,518	3,796	3,824	3,898
2024	11,120	3,482	3,805	3,833
2025	10,778	3,471	3,493	3,815
2026	10,625	3,641	3,481	3,502
2027	10,812	3,669	3,652	3,491
2028	11,075	3,733	3,680	3,663
2029	11,208	3,774	3,744	3,690
2030	11,344	3,804	3,786	3,755

NOTE: Some data have been revised from previously published figures. Detail may not sum to totals because of rounding. Historical population data are from the U.S. Census Bureau and are estimates of the population on July 1 of the given year. National population projections are S&P Global forecasts produced in May 2021 with a cohort component model like that used by the Census Bureau. The model incorporates assumptions about fertility rates, survival rates, and net international migration from the 2017 Census Bureau projections, which were modified to take into account the demographic shocks of the previous three years.

SOURCE: U.S. Department of Commerce, Census Bureau, resident population by single year of age and sex retrieved from National Population by Characteristics: 2010-2020 (census.gov) and U.S. resident population retrieved from 2020 Census Apportionment Results; and S&P Global Inc. Population service, May 2021 release (complete history through 2019 and forecasts through 2030). (This table was prepared April 2022.)

Table B-2. Actual and projected school-age populations, by selected ages: 2010 through 2030

[In thousands]

Year (July)	5-year-olds	6-year-olds	5- to 13-year-olds	14- to 17-year-olds
1	2	3	4	6
Actual				
2010	17,066	4,065	4,073	36,867
2011	16,885	4,090	4,077	36,939
2012	16,750	4,137	4,102	37,052
2013	16,696	4,130	4,149	37,145
2014	16,807	4,016	4,145	37,052
2015	16,886	4,032	4,032	37,032
2016	16,873	4,052	4,049	37,125
2017	16,865	4,024	4,069	37,148
2018	16,801	4,031	4,038	37,113
2019	16,780	4,052	4,042	37,068
2020	16,861	4,075	4,061	37,011
Projected				
2021	16,906	4,042	4,078	36,832
2022	16,934	3,954	4,047	36,605
2023	16,867	3,898	3,962	36,463
2024	16,801	3,833	3,907	36,256
2025	16,709	3,815	3,842	36,023
2026	16,590	3,502	3,825	35,515
2027	16,592	3,491	3,512	34,994
2028	16,603	3,663	3,502	34,628
2029	16,624	3,690	3,673	34,267
2030	16,654	3,755	3,701	33,998

NOTE: Some data have been revised from previously published figures. Detail may not sum to totals because of rounding. Historical population data are from the U.S. Census Bureau and are estimates of the population on July 1 of the given year. National population projections are S&P Global forecasts produced in May 2021 with a cohort component model like that used by the Census Bureau. The model incorporates assumptions about fertility rates, survival rates, and net international migration from the 2017 Census Bureau projections, which were modified to take into account the demographic shocks of the previous three years.

SOURCE: U.S. Department of Commerce, Census Bureau, resident population by single year of age and sex retrieved from National Population by Characteristics: 2010–2020 (census.gov) and U.S. resident population retrieved from 2020 Census Apportionment Results; and S&P Global Inc. Population service, May 2021 release (complete history through 2019 and forecasts through 2030). (This table was prepared April 2022.)

Table B-3. Actual and projected college-age populations, by selected ages: 2010 through 2030

[In thousands]

Year (July)	18-year-olds	18- to 24-year-olds	25- to 29-year-olds	30- to 34-year-olds	35- to 44-year-olds
1	2	3	4	5	6
Actual					
2010	4,491	30,764	21,144	20,068	40,981
2011	4,408	31,136	21,319	20,539	40,658
2012	4,371	31,488	21,464	20,958	40,561
2013	4,311	31,663	21,690	21,344	40,521
2014	4,248	31,654	22,116	21,607	40,507
2015	4,245	31,439	22,624	21,772	40,575
2016	4,261	31,179	23,178	21,996	40,630
2017	4,283	30,953	23,639	22,147	40,962
2018	4,368	30,850	23,856	22,341	41,448
2019	4,315	30,725	23,872	22,689	41,907
2020	4,221	30,547	23,584	23,077	42,383
Projected					
2021	4,221	30,373	23,147	23,496	42,949
2022	4,247	30,326	22,804	23,881	43,441
2023	4,244	30,332	22,603	24,096	44,012
2024	4,267	30,373	22,485	24,149	44,643
2025	4,316	30,394	22,536	23,937	45,224
2026	4,311	30,458	22,618	23,622	45,915
2027	4,198	30,501	22,629	23,359	46,489
2028	4,214	30,539	22,659	23,205	46,957
2029	4,232	30,558	22,715	23,121	47,431
2030	4,202	30,544	22,690	23,194	47,694

NOTE: Some data have been revised from previously published figures. Detail may not sum to totals because of rounding. Historical population data are from the U.S. Census Bureau and are estimates of the population on July 1 of the given year. National population projections are S&P Global forecasts produced in May 2021 with a cohort component model like that used by the Census Bureau. The model incorporates assumptions about fertility rates, survival rates, and net international migration from the 2017 Census Bureau projections, which were modified to take into account the demographic shocks of the previous three years

SOURCE: U.S. Department of Commerce, Census Bureau, resident population by single year of age and sex retrieved from National Population by Characteristics: 2010–2020 (census.gov) and U.S. resident population retrieved from 2020 Census Apportionment Results; and S&P Global Inc. Population service, May 2021 release (complete history through 2019 and forecasts through 2030). (This table was prepared April 2022.)

Table B-4. Actual and projected fall enrollment in public elementary and secondary schools, change in fall enrollment from previous year, resident population, and fall enrollment as a ratio of the population: 2010 through 2030

Year	Fall enrollment (in thousands)	Change in fall enrollment from previous year (in thousands)	Resident population (in millions)	Fall enrollment as a ratio of the population
1	2	3	4	5
Actual				
2010	49,484	123	309.3	0.160
2011	49,522	37	312.0	0.159
2012	49,771	249	314.3	0.158
2013	50,045	273	316.7	0.158
2014	50,313	268	319.2	0.158
2015	50,438	125	321.8	0.157
2016	50,615	177	324.4	0.156
2017	50,686	70	326.7	0.155
2018	50,694	8	328.6	0.154
2019	50,796	102	330.3	0.154
2020	49,375	-1421	331.5	0.149
Projected				
2021	50,072	697	331.9	0.151
2022	49,935	-138	333.0	0.150
2023	49,734	-201	334.5	0.149
2024	49,485	-249	336.1	0.147
2025	49,120	-365	337.9	0.145
2026	48,368	-752	339.7	0.142
2027	47,821	-547	341.5	0.140
2028	47,589	-232	343.4	0.139
2029	47,357	-232	345.2	0.137
2030	47,253	-105	347.1	0.136

NOTE: Resident population includes civilian population and armed forces personnel residing with the United States: it excludes armed forces personnel overseas. Calculations were made using unrounded numbers. Some data have been revised from previously published figures. Detail may not sum to totals because of rounding. Historical population data are from the U.S. Census Bureau and are estimates of the population on July 1 of the given year. National population projections are S&P Global forecasts produced in May 2021 with a cohort component model like that used by the Census Bureau. The model incorporates assumptions about fertility rates, survival rates, and net international migration from the 2017 Census Bureau projections, which were modified to take into account the demographic shocks of the previous three years.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 2010–11 through 2020–21; U.S. Department of Commerce, Census Bureau, resident population by single year of age and sex retrieved from National Population by Characteristics: 2010–2020 (census.gov) and U.S. resident population retrieved from 2020 Census Apportionment Results; and S&P Global Inc. Population service, May 2021 release (complete history through 2019 and forecasts through 2030); and National Elementary and Secondary Enrollment Projection Model, through 2030. (This table was prepared April 2022.)

Table B-5. Actual and projected macroeconomic measures of the economy: School years 2010–11 through 2030–31

School year	Disposable income per capita in constant 2200–21 dollars[1]	Education revenue receipts from state sources per capita in billions of constant 2020–21 dollars[2]	Consumer Price Index[3]
1	2	3	4
Actual			
2010–11	$43,387	$1,025	0.841
2011–12	44,052	997	0.866
2012–13	44,212	987	0.880
2013–14	44,297	1,019	0.894
2014–15	46,083	1,049	0.900
2015–16	46,987	1,089	0.906
2016–17	47,656	1,106	0.923
2017–18	48,980	1,115	0.944
2018–19	50,233	1,127	0.964
2019–20[4]	52,111	1,167	0.979
2020–21[4]	54,921	1,224	1.000
Projected			
2021–22	53,404	1,229	1.029
2022–23	54,321	1,193	1.049
2023–24	55,172	1,201	1.071
2024–25	56,305	1,209	1.094
2025–26	57,536	1,219	1.118
2026–27	58,774	1,227	1.143
2027–28	60,116	1,231	1.169
2028–29	61,477	1,232	1.196
2029–30	62,794	1,231	1.224
2030–31	64,082	1,227	1.253

[1] Based on the price deflator for personal consumption expenditures, Bureau of Labor Statistics, U.S. Department of Labor.
[2] Based on the Consumer Price Index for all urban consumers, Bureau of Labor Statistics, U.S. Department of Labor.
[3] Consumer Price Index adjusted to a school-year basis (July through June), indexed to 2020–21.
[4] Education revenue receipts from state sources per capita is a projection.
NOTE: Calculations were made using unrounded numbers. Some data have been revised from previously published figures.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "National Public Education Financial Survey," 2010–11 through 2018–19; S&P Global Inc. Macroeconomic service, June 2021 release (history through 2020 and forecasts through 2030); S&P Global Inc. Costs and Prices service (history through 2020 and forecasts though 2030); and Revenue Receipts From State Sources Projections Model, through 2030–31. (This table was prepared April 2022.)

Appendix C
Data Sources

SOURCES AND COMPARABILITY OF DATA

The information in this report was obtained from many sources, including federal and state agencies, private research organizations, and professional associations. The data were collected by many methods, including surveys of a universe (such as all colleges) or of a sample, and compilations of administrative records. Care should be used when comparing data from different sources. Differences in procedures, such as timing, phrasing of questions, and interviewer training, mean that the results from the different sources are not strictly comparable. More extensive documentation of one survey's procedures than of another's does not imply more problems with the data, only that more information is available on the survey.

ACCURACY OF DATA

The accuracy of any statistic is determined by the joint effects of "sampling" and "nonsampling" errors. Estimates based on a sample will differ from the figures that would have been obtained if a complete census had been taken using the same survey instruments, instructions, and procedures. Besides sampling errors, both of the survey types, universe and sample, are subject to errors of design, reporting, and processing, and errors due to nonresponse. To the extent possible, these nonsampling errors are kept to a minimum by methods built into the survey procedures. In general, however, the effects of nonsampling errors are more difficult to gauge than those produced by sampling variability.

SAMPLING ERRORS

The standard error is the primary measure of the sampling variability of an estimate. Standard errors can be used to produce confidence intervals. A confidence interval is a range of values that we expect to contain the true value of an estimate. For example, from table A-11, an estimated 94.0 percent of public school teachers reported that they worked full time in 2017–18. This figure has an estimated standard error of 0.14 percent. Therefore, the estimated 95 percent confidence interval for this statistic is approximately 93.72 to 94.28 percent (94.0 ± 1.96 [0.14]). That is, if the processes of selecting a sample, collecting the data, and constructing the confidence interval were repeated, it would be expected that in 95 out of 100 samples from the same population, the confidence interval would contain the true full-time working rate.

Analysis of standard errors can help assess how valid a comparison between two estimates might be. The standard error of a difference between two independent sample estimates is equal to the square root of the sum of the squared standard errors of the estimates. The standard error (se) of the difference between independent sample estimates *a* and *b* is

$$se_{a\text{-}b} = \sqrt{(se_a^2 + se_b^2)}$$

Note that some of the standard errors in the original documents are approximations. That is, to derive estimates of standard errors that would be applicable to a wide variety of items and could be prepared at a moderate cost, a number of approximations were required. As a result, most of the standard errors presented provide a general order of magnitude rather than the exact standard error for any specific item.

NONSAMPLING ERRORS

Both universe and sample surveys are subject to nonsampling errors. Nonsampling errors are of two kinds: random and nonrandom. Random nonsampling errors may arise when respondents or interviewers interpret questions differently, when respondents must estimate values, or when coders, keyers, and other processors handle answers differently. Nonrandom nonsampling errors result from total nonresponse (no usable data obtained for a sampled unit), partial or item nonresponse (only a portion of a response may be usable), inability or unwillingness on the part of respondents to provide information,

difficulty interpreting questions, mistakes in recording or keying data, errors of collection or processing, and overcoverage or undercoverage of the target universe. Random nonresponse errors usually, but not always, result in an understatement of sampling errors and thus an overstatement of the precision of survey estimates. Because estimating the magnitude of nonsampling errors would require special experiments or access to independent data, these magnitudes are seldom available.

To compensate for suspected nonrandom errors, adjustments of the sample estimates are often made. For example, adjustments are frequently made for nonresponse, both total and partial. Imputations are usually made separately within various groups of sample members that have similar survey characteristics. Imputation for item nonresponse is usually made by substituting for a missing item the response to that item of a respondent having characteristics similar to those of the respondent.

Although the magnitude of nonsampling errors in the data used in *Projections of Education Statistics* is frequently unknown, idiosyncrasies that have been identified are noted on the appropriate tables.

FEDERAL AGENCY SOURCES

National Center for Education Statistics (NCES)

Common Core of Data

The Common Core of Data (CCD) is NCES's primary database on public elementary and secondary education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts containing data designed to be comparable across all states. This database can be used to select samples for other NCES surveys and provide basic information and descriptive statistics on public elementary and secondary schools and schooling in general.

The CCD collects statistical information annually from approximately 100,000 public elementary and secondary schools and approximately 19,000 public school districts (including supervisory unions and regional education service agencies) in the 50 states, the District of Columbia, the Department of Defense Education Activity (DoDEA), the Bureau of Indian Education (BIE), Puerto Rico, American Samoa, Guam, the Northern Mariana Islands, and the U.S. Virgin Islands. Three categories of information are collected in the CCD survey: general descriptive information on schools and school districts; data on students and staff; and fiscal data. The general school and district descriptive information includes name, address, and phone number; the data on students and staff include selected demographic characteristics; and the fiscal data pertain to revenues and current expenditures.

The ED*Facts* data collection system is the primary collection tool for the CCD. NCES works collaboratively with the U.S. Department of Education's Performance Information Management Service to develop the CCD collection procedures and data definitions. Coordinators from state education agencies (SEAs) submit the CCD data at different levels (school, agency, and state) to the ED*Facts* collection system. Prior to submitting CCD files to ED*Facts*, SEAs must collect and compile information from their respective local education agencies (LEAs) through established administrative records systems within their state or jurisdiction.

Once SEAs have completed their submissions, the CCD survey staff analyzes and verifies the data for quality assurance. Even though the CCD is a universe collection and thus not subject to sampling errors, nonsampling errors can occur. The two potential sources of nonsampling errors are nonresponse and inaccurate reporting. NCES attempts to minimize nonsampling errors through the use of annual training of SEA coordinators, extensive quality reviews, and survey editing procedures. In addition, each year, SEAs are given the opportunity to revise their state-level aggregates from the previous survey cycle.

The CCD survey consists of five components: The Public Elementary/Secondary School Universe Survey, the Local Education Agency (School District) Universe Survey, the State Nonfiscal Survey of Public Elementary/Secondary Education, the National Public Education Financial Survey (NPEFS), and the School District Finance Survey (F-33).

State Nonfiscal Survey of Public Elementary/Secondary Education

The State Nonfiscal Survey of Public Elementary/Secondary Education provides state-level, aggregate information about students and staff in public elementary and secondary education. This survey covers public school student membership by grade, race/ethnicity, and state or jurisdiction and covers number of staff in public schools by category and state or jurisdiction. Beginning with the 2006–07 school year, the number of diploma recipients and other high school completers were no longer included in the State Nonfiscal Survey of Public Elementary/Secondary Education File.

National Public Education Financial Survey

The purpose of the National Public Education Financial Survey (NPEFS) is to provide district, state, and federal policymakers, researchers, and other interested users with descriptive information about revenues and expenditures for public elementary and secondary education. The data collected are useful to (1) chief officers of state education agencies; (2) policymakers in the executive and legislative branches of federal and state governments; (3) education policy and public policy researchers; and (4) the public, journalists, and others.

Data for NPEFS are collected from SEAs in the 50 states, the District of Columbia, Puerto Rico, American Samoa, Guam, the Northern Mariana Islands, and the U.S. Virgin Islands. The data file is organized by state or jurisdiction and contains revenue data by funding source; expenditure data by function (the activity being supported by the expenditure) and object (the category of expenditure); average daily attendance data; and total student membership data from the CCD State Nonfiscal Survey of Public Elementary/Secondary Education.

Further information on the nonfiscal CCD data may be obtained from

Chen-Su Chen
Elementary and Secondary Branch
Administrative Data Division
National Center for Education Statistics
550 12th Street SW
Washington, DC 20202
chen-su.chen@ed.gov
https://nces.ed.gov/ccd

Further information on the fiscal CCD data may be obtained from

Stephen Cornman
Elementary and Secondary Branch
Administrative Data Division
National Center for Education Statistics
550 12th Street SW
Washington, DC 20202
stephen.cornman@ed.gov
https://nces.ed.gov/ccd

Integrated Postsecondary Education Data System

The Integrated Postsecondary Education Data System (IPEDS) consists of 12 interrelated survey components that provide information on postsecondary institutions and academic libraries at these institutions, student enrollment, student financial aid, programs of study offered, retention and graduation rates, degrees and certificates conferred, and the human and financial resources involved in the provision of institutionally based postsecondary education. Prior to 2000, the IPEDS survey had the following subject-matter components: Institutional Characteristics; Total Institutional Activity (these data were moved to the Institutional Characteristics component in 1990–91, then to the Fall Enrollment component in 2000–01); Fall Enrollment; Fall Staff; Salaries, Tenure, and Fringe Benefits of Full-Time Faculty; Completions; Finance; Academic Libraries (in 2000, the Academic Libraries component separated from the IPEDS collection); and Graduation Rates. Since 2000, IPEDS survey components occurring in a particular collection year have been organized into three seasonal collection periods: fall, winter, and spring. The Institutional Characteristics and Completions components first took place during the fall 2000 collection. The Employees by Assigned Position (EAP); Salaries, Tenure, and Fringe Benefits of Full-Time Faculty; and Fall Staff components first took place during the winter 2001–02 collection. The Fall Enrollment, Student Financial Aid, Finance, and Graduation Rates components first took place during the spring 2001 collection. In the winter 2005–06 data collection, the EAP; Fall Staff; and Salaries, Tenure, and Fringe Benefits of Full-Time Faculty components were merged into the Human Resources component. During the 2007–08 collection year, the Fall Enrollment component was broken into two components: 12-month Enrollment (taking place in the fall collection) and Fall Enrollment (taking place in the spring collection). In the 2011–12 IPEDS data collection year, the Student Financial Aid component was moved to the winter data collection to aid in the timing of the net price of attendance calculations displayed on the College Navigator (https://nces.ed.gov/collegenavigator/). In the 2012–13 IPEDS data collection year, the Human Resources component was moved from the winter data collection to the spring data collection, and

in the 2013–14 data collection year, the Graduation Rates and Graduation Rates 200 Percent components were moved from the spring data collection to the winter data collection. In the 2014–15 data collection year, a new component (Admissions) was added to IPEDS and a former IPEDS component (Academic Libraries) was reintegrated into IPEDS. The Admissions component, created out of admissions data contained in the fall data collection's Institutional Characteristics component, was made a part of the winter data collection. The Academic Libraries component, after having been conducted as a survey independent of IPEDS between 2000 and 2012, was reintegrated into IPEDS as part of the spring data collection. Finally, in the 2015–16 data collection year, the Outcome Measures survey component was added to IPEDS.

Beginning in 2008–09, the first-professional degree category was combined with the doctor's degree category. However, some degrees formerly identified as first-professional that take more than 2 full-time-equivalent academic years to complete, such as those in Theology (M.Div., M.H.L./Rav), are included in the master's degree category. Doctor's degrees were broken out into three distinct categories: research/scholarship, professional practice, and other doctor's degrees.

The collection of race/ethnicity data also changed in 2008–09. IPEDS now collects a count of students who identify as Hispanic and counts of non-Hispanic students who identify with each race category. The "Asian" race category is now separate from the "Native Hawaiian or Other Pacific Islander" category, and a new category of "Two or more races" has been added.

The degree-granting institutions portion of IPEDS is a census of colleges that award associate's or higher degrees and are eligible to participate in Title IV financial aid programs. Prior to 1993, data from technical and vocational institutions were collected through a sample survey. Beginning in 1993, all data are gathered in a census of all postsecondary institutions. Beginning in 1996, the survey was restricted to institutions participating in Title IV programs.

The classification of institutions offering college and university education changed as of 1996. Prior to 1996, institutions that either had courses leading to an associate's or higher degree or that had courses accepted for credit toward those degrees were considered higher education institutions. Higher education institutions were accredited by an agency or association that was recognized by the U.S. Department of Education or were recognized directly by the Secretary of Education. The newer standard includes institutions that award associate's or higher degrees and that are eligible to participate in Title IV federal financial aid programs. Tables that contain any data according to this standard are titled "degree-granting" institutions. Time-series tables may contain data from both series, and they are noted accordingly. The impact of this change on data collected in 1996 was not large. For example, tables on faculty salaries and benefits were affected only to a small extent. Also, degrees awarded at the bachelor's level or higher were not heavily affected. The largest impact was on private 2-year college enrollment. In contrast, most of the data on public 4-year colleges were affected to a minimal extent. The impact on enrollment in public 2-year colleges was noticeable in certain states, such as Arizona, Arkansas, Georgia, Louisiana, and Washington, but was relatively small at the national level. Overall, total enrollment for all institutions was about one-half of 1 percent higher in 1996 for degree-granting institutions than for higher education institutions.

Prior to the establishment of IPEDS in 1986, the Higher Education General Information Survey (HEGIS) acquired and maintained statistical data on the characteristics and operations of higher education institutions. Implemented in 1966, HEGIS was an annual universe survey of institutions accredited at the college level by an agency recognized by the Secretary of the U.S. Department of Education. These institutions were listed in NCES's *Education Directory, Colleges and Universities*.

HEGIS surveys collected information on institutional characteristics, faculty salaries, finances, libraries, fall enrollment, student residence and migration, and earned degrees. Since these surveys, like IPEDS, were distributed to all higher education institutions, the data presented are not subject to sampling error. However, they are subject to nonsampling error, the sources of which varied with the survey instrument.

The NCES Taskforce for IPEDS Redesign recognized that there were issues related to the consistency of data definitions as well as the accuracy, reliability, and validity of other quality measures within and across surveys. The IPEDS redesign in 2000 provided institution-specific web-based data forms. While the new system shortened data processing time and provided better data consistency, it did not address the accuracy of the data provided by institutions.

Beginning in 2003–04 with the Prior Year Data Revision System, prior-year data have been available to institutions entering current data. This allows institutions to make changes to their prior-year entries either by adjusting the data or by providing missing data. These revisions allow the evaluation of the data's accuracy by looking at the changes made.

NCES conducted a study (NCES 2005-175) of the 2002–03 data that were revised in 2003–04 to determine the accuracy of the imputations, track the institutions that submitted revised data, and analyze the revised data they submitted. When institutions

made changes to their data, NCES accepted that the revised data were the most accurate, correct, and "true" data. The data were analyzed for the number and type of institutions making changes, the type of changes, the magnitude of the changes, and the impact on published data.

Because NCES imputes for missing data, imputation procedures were also addressed by the Redesign Taskforce. For the 2003–04 assessment, differences between revised values and values that were imputed in the original files were compared (i.e., revised value minus imputed value). These differences were then used to provide an assessment of the effectiveness of imputation procedures. The size of the differences also provides an indication of the accuracy of imputation procedures. To assess the overall impact of changes on aggregate IPEDS estimates, published tables for each component were reconstructed using the revised 2002–03 data. These reconstructed tables were then compared to the published tables to determine the magnitude of aggregate bias and the direction of this bias. The aggregate bias analysis revealed that, generally, differences between originally published estimates and revised estimates were small.

Since the 2000–01 data collection year, IPEDS data collections have been web based. Data have been provided by "keyholders," institutional representatives appointed by campus chief executives, who are responsible for ensuring that survey data submitted by the institution are correct and complete. Because Title IV institutions are the primary focus of IPEDS and because these institutions are required to respond to IPEDS, response rates for Title IV institutions have been high (data on specific components are cited below). More details on the accuracy and reliability of IPEDS data can be found in the *Integrated Postsecondary Education Data System Data Quality Study* (NCES 2005-175).

Further information on IPEDS may be obtained from

Samuel Barbett
Postsecondary Branch
Administrative Data Division
National Center for Education Statistics
550 12th Street SW
Washington, DC 20202
samuel.barbett@ed.gov
https://nces.ed.gov/ipeds

Fall (12-Month Enrollment)

The 12-month period during which data are collected is July 1 through June 30. Unduplicated headcount enrollment data are collected by gender, attendance status (full-time, part-time), race/ethnicity, first-time (entering), transfer-in (non-first-time entering), continuing/returning, and degree/certificate-seeking statuses for undergraduate students and by race/ethnicity and gender for graduate students. The 12-month Enrollment component also collects total enrollment in distance education courses. Instructional activity is collected as total credit and/or clock hours attempted at the undergraduate, graduate, and doctor's professional levels, and these data are used to calculate a full-time-equivalent (FTE) enrollment. FTE enrollment is useful for gauging the size of the educational enterprise at the institution. Prior to the 2007–08 IPEDS data collection, the data collected in the 12-month Enrollment component were part of the Fall Enrollment component, which is conducted during the spring data collection period. However, to improve the timeliness of the data, a separate 12-month Enrollment survey component was developed in 2007. These data are now collected in the fall for the previous academic year.

The response rate for the 12-month Enrollment component of the fall 2020 data collection was nearly 100 percent. Data from 6 of the 6,055 Title IV institutions that were expected to respond to this component were imputed due to unit nonresponse.

Further information on the IPEDS 12-Month Enrollment component may be obtained from

Tara Lawley
Postsecondary Branch
Administrative Data Division
National Center for Education Statistics
550 12th Street SW
Washington, DC 20202
tara.lawley@ed.gov
https://nces.ed.gov/ipeds

Fall (Completions)

The Completions component collects data on the number of students who complete a postsecondary education program (completers) and the number of postsecondary awards earned (completions). This component was part of the HEGIS series throughout its existence. However, the degree classification taxonomy was revised in 1970–71, 1982–83, 1986–87, 1991–92, 2002–03, 2009–10, and 2020–21. Collection of degree data has been maintained through IPEDS.

The nonresponse rate does not appear to be a significant source of nonsampling error for this component. The response rate over the years has been high; for the fall 2020 Completions component, the response rate rounded to 100 percent. Data from 5 of the 6,063 Title IV institutions that were expected to respond to this component were imputed due to unit nonresponse.

Further information on the IPEDS Completions component may be obtained from

Tara Lawley
Postsecondary Branch
Administrative Data Division
National Center for Education Statistics
550 12th Street SW
Washington, DC 20202
tara.lawley@ed.gov
https://nces.ed.gov/ipeds

Spring (Fall Enrollment)

This survey has been part of the HEGIS and IPEDS series since 1966. Response rates have been relatively high, generally exceeding 85 percent. Beginning in 2000, with web-based data collection, higher response rates were attained. In the spring 2021 data collection, in which the Fall Enrollment component covered student enrollment in fall 2020, the response rate was greater than 99 percent. Of the 6,059 institutions that were expected to respond, 6 institutions did not respond, and these data were imputed.

Beginning with the fall 1986 survey and the introduction of IPEDS (see above), a redesign of the survey resulted in the collection of data by race/ethnicity, gender, level of study (i.e., undergraduate and graduate), and attendance status (i.e., full-time and part-time). Other aspects of the survey include allowing (in alternating years) for the collection of age and residence data. The Fall Enrollment component also collects data on first-time retention rates, student-to-faculty ratios, and student enrollment in distance education courses. Finally, in even-numbered years, 4-year institutions provide enrollment data by level of study, race/ethnicity, and gender for nine selected fields of study or Classification of Instructional Programs (CIP) codes. (The CIP is a taxonomic coding scheme that contains titles and descriptions of primarily postsecondary instructional programs.)

Beginning in 2000, the survey collected instructional activity and unduplicated headcount data, which are needed to compute a standardized, full-time-equivalent (FTE) enrollment statistic for the entire academic year. As of 2007–08, the timeliness of the instructional activity data has been improved by collecting these data in the fall as part of the 12-month Enrollment component instead of in the spring as part of the Fall Enrollment component.

Information on the IPEDS Fall Enrollment component may be obtained from

Tara Lawley
Postsecondary Branch
Administrative Data Division
National Center for Education Statistics
550 12th Street SW
Washington, DC 20202
tara.lawley@ed.gov
https://nces.ed.gov/ipeds

National Teacher and Principal Survey

The National Teacher and Principal Survey is a set of related questionnaires that collect descriptive data on the context of elementary and secondary education. Data reported by schools, principals, and teachers provide a variety of statistics on the condition of education in the United States that may be used by policymakers and the general public. The NTPS system covers a wide range of topics, including teacher demand, teacher and principal characteristics, teachers' and principals' perceptions of school climate and problems in their schools, teacher and principal compensation, general conditions in schools, and basic characteristics of the student population.

The NTPS is a redesign of the Schools and Staffing Survey (SASS), which was conducted from the 1987–88 school year to the 2011–12 school year. Although the NTPS maintains the SASS survey's focus on schools, teachers, and administrators, the NTPS has a different structure and sample than SASS. In addition, whereas SASS operated on a 4-year survey cycle, the NTPS operates on a 2- or 3-year survey cycle. The NTPS universe of schools is confined to the 50 states plus the District of Columbia. It excludes the Department of Defense dependents schools overseas, schools in U.S. territories overseas, and CCD schools that do not offer teacher-provided classroom instruction in grades 1–12 or the ungraded equivalent. Bureau of Indian Education schools are included in the NTPS universe, but these schools were not oversampled and the data do not support separate BIE estimates.

The NTPS includes three key components: school questionnaires, principal questionnaires, and teacher questionnaires. NTPS data are collected by the U.S. Census Bureau through mail and online questionnaires with telephone and in-person field follow-up. The school and principal questionnaires were sent to sampled schools, and the teacher questionnaire was sent to a sample of teachers working at sampled schools.

The school questionnaire asks knowledgeable school staff members about grades offered, student attendance and enrollment, staffing patterns, teaching vacancies, programs and services offered, curriculum, and community service requirements. In addition, basic information is collected about the school year, including the beginning time of students' school days and the length of the school year.

The principal questionnaire collects information about principal/school head demographic characteristics, training, experience, salary, goals for the school, and judgments about schools' working conditions and climate. Information is also obtained on professional development opportunities for teachers and principals, teacher performance, barriers to dismissal of underperforming teachers, school climate and safety, parent/guardian participation in school events, and attitudes about educational goals and school governance.

The teacher questionnaire collects data from teachers about their current teaching assignment, workload, education history, and perceptions and attitudes about teaching. Questions are also asked about teacher preparation, induction, organization of classes, computers, and professional development.

The NTPS was first conducted during the 2015–16 school year. The school sample for the 2015–16 NTPS was based on an adjusted public school universe file from the 2013–14 Common Core of Data (CCD), a database of all the nation's public school districts and public schools. Schools outside of the United States, schools that teach only prekindergarten, kindergarten, or postsecondary students, and administrative units that do not offer teacher-provided classroom instruction were deleted from the CCD frame prior to sampling for NTPS. Public schools that closed in school year 2013–14 or were not yet opened were not included. Prior to stratification and sampling, CCD schools were collapsed to match the NTPS definition of a school. (The NTPS definition of a school is the same as the SASS definition of a school—an institution or part of an institution that provides classroom instruction to students, has one or more teachers to provide instruction, serves students in one or more of grades 1–12 or the ungraded equivalent, and is located in one or more buildings apart from a private home.)

In the 2015–16 NTPS, the school sample consisted of about 8,300 public schools; the principal sample consisted of about 8,300 public school principals; and the teacher sample consisted of about 50,000 public school teachers. Weighted unit response rates were 72.5 percent for the school survey, 71.8 percent for the principal survey, and 67.8 percent for the teacher survey.

Whereas the 2015–16 NTPS covered only schools, teachers, and principals in the public sector, the 2017–18 NTPS covered schools, teachers, and principals in both the public and private sectors. In the 2017–18 NTPS, all principals associated with sampled public and private schools were also included in the sample. Teachers associated with a selected school were sampled from a list of teachers that was provided by the school, collected from school websites, or purchased from a vendor. The

selected samples included about 10,600 traditional and charter public schools and their principals, 60,000 public school teachers, 4,000 private schools and their principals, and 9,600 private school teachers.

Weighted unit response rates for the 2017–18 NTPS were 72.5 percent for the public school survey and 64.5 percent for the private school survey, 70.2 percent for the public school principal survey and 62.6 percent for the private school principal survey, and 76.9 percent for the public school teacher survey and 75.9 percent for the private school teacher survey.

General information on NTPS and electronic copies of the questionnaires are available at the NTPS home page (https://nces.ed.gov/surveys/ntps).

For additional information about the NTPS program, please contact

Maura Spiegelman
Cross-Sectional Surveys Branch
Sample Surveys Division
National Center for Education Statistics
550 12th Street SW
Washington, DC 20202
maura.spiegelman@ed.gov
https://nces.ed.gov/surveys/ntps

Private School Universe Survey

The purposes of the Private School Universe Survey (PSS) data collection activities are (1) to build an accurate and complete list of private schools to serve as a sampling frame for NCES sample surveys of private schools and (2) to report data on the total number of private schools, teachers, and students in the survey universe. Since its inception in 1989, the survey has been conducted every 2 years. Selected findings from the 2019–20 PSS are presented in the First Look report *Characteristics of Private Schools in the United States: Results From the 2019–20 Private School Universe Survey* (NCES 2021-061).

The PSS produces data similar to that of the Common Core of Data for public schools, and can be used for public-private comparisons. The data are useful for a variety of policy- and research-relevant issues, such as the growth of religiously affiliated schools, the number of private high school graduates, the length of the school year for various private schools, and the number of private school students and teachers.

The target population for this universe survey is all private schools in the United States that meet the PSS criteria of a private school (i.e., the private school is an institution that provides instruction for any of grades K through 12, has one or more teachers to give instruction, is not administered by a public agency, and is not operated in a private home).

The survey universe is composed of schools identified from a variety of sources. The main source is a list frame initially developed for the 1989–90 PSS. The list is updated regularly by matching it with lists provided by nationwide private school associations, state departments of education, and other national guides and sources that list private schools. The other source is an area frame search in approximately 124 geographic areas, conducted by the U.S. Census Bureau. The frame may include schools that are eventually determined not to meet the PSS criteria of a private school, and are thus out-of-scope.

Of the 40,302 schools included in the 2009–10 sample, 10,229 were considered as out-of-scope (not eligible for the PSS). Those not responding numbered 1,856, and those responding numbered 28,217. The unweighted response rate for the 2009–10 PSS survey was 93.8 percent.

Of the 39,325 schools included in the 2011–12 sample, 10,030 were considered as out-of-scope (not eligible for the PSS). A total of 26,983 private schools completed a PSS interview (15.8 percent completed online), while 2,312 schools refused to participate, resulting in an unweighted response rate of 92.1 percent.

Of the 40,298 schools included in the 2013–14 sample, 10,659 were considered as out-of-scope (not eligible for the PSS). A total of 24,566 private schools completed a PSS interview (34.1 percent completed online), while 5,073 schools refused to participate, resulting in an unweighted response rate of 82.9 percent.

Of the 42,389 schools included in the 2015–16 sample, 12,754 were considered as out-of-scope (not eligible for the PSS). A total of 22,428 private schools completed a PSS interview and 7,207 schools failed to respond, which resulted in an unweighted response rate of 75.7 percent.

Of the 43,384 schools included in the 2017-18 sample, 15,272 were considered as out-of-scope (not eligible for the PSS). A total of 22,895 private schools completed a PSS interview, while 5,217 schools failed to respond, resulting in an unweighted response rate of 81.4 percent.

Of the 42,836 schools included in the 2019-20 sample, 13,895 were considered as out-of-scope (not eligible for the PSS). A total of 21,572 private schools completed a PSS interview, while 7,369 schools failed to respond, resulting in an unweighted response rate of 74.5 percent.

Further information on the PSS may be obtained from

Marie Diederich
Cross-Sectional Surveys Branch
Sample Surveys Division
National Center for Education Statistics
550 12th Street SW
Washington, DC 20202
Marie.Diederich@ed.gov
https://nces.ed.gov/surveys/pss

Schools and Staffing Survey

The Schools and Staffing Survey (SASS) was a set of related questionnaires that collected descriptive data on the context of public and private elementary and secondary education. Data reported by districts, schools, principals, and teachers provide a variety of statistics on the condition of education in the United States that may be used by policymakers and the general public.

The SASS system covered a wide range of topics, including teacher demand, teacher and principal characteristics, teachers' and principals' perceptions of school climate and problems in their schools, teacher and principal compensation, district hiring and retention practices, general conditions in schools, and basic characteristics of the student population.

SASS data were collected through a mail questionnaire with telephone and in-person field follow-up. SASS has been conducted by the Census Bureau for NCES since the first administration of the survey, which was conducted during the 1987-88 school year. Subsequent SASS administrations were conducted in 1990-91, 1993-94, 1999-2000, 2003-04, 2007-08, and 2011-12.

SASS was designed to produce national, regional, and state estimates for public elementary and secondary schools, school districts, principals, teachers, and school library media centers and national and regional estimates for public charter schools, as well as principals, teachers, and school library media centers within these schools. For private schools, the sample supports national, regional, and affiliation estimates for schools, principals, and teachers.

From its inception, SASS had four core components: school questionnaires, teacher questionnaires, principal questionnaires, and school district (prior to 1999-2000, "teacher demand and shortage") questionnaires. A fifth component, school library media center questionnaires, was introduced in the 1993-94 administration and was included in every subsequent administration of SASS. School library data were also collected in the 1990-91 administration of the survey through the school and principal questionnaires.

School questionnaires used in SASS include the Public and Private School Questionnaires, teacher questionnaires included the Public and Private School Teacher Questionnaires, principal questionnaires included the Public and Private School Principal (or School Administrator) Questionnaires, and school district questionnaires included the School District (or Teacher Demand and Shortage) Questionnaires.

Although the four core questionnaires and the school library media questionnaires remained relatively stable over the various administrations of SASS, the survey was changed to accommodate emerging issues in elementary and secondary education. Some questionnaire items were added, some were deleted, and some were reworded.

During the 1990-91 SASS cycle, NCES worked with the Office of Indian Education to add an Indian School Questionnaire to SASS, and it remained a part of SASS through 2007-08. The Indian School Questionnaire explored the same school-level issues that the Public and Private School Questionnaires explore, allowing comparisons among the three types of schools. The 1990-91, 1993-94, 1999-2000, 2003-04, and 2007-08 administrations of SASS obtained data on Bureau of Indian Education (BIE) schools (schools funded or operated by the BIE), but the 2011-12 administration did not obtain BIE data. SASS estimates

for all survey years presented in this report exclude BIE schools, and as a result, estimates in this report may differ from those in previously published reports.

The SASS teacher surveys collected information on the characteristics of teachers, such as their age, race/ethnicity, years of teaching experience, average number of hours per week spent on teaching activities, base salary, average class size, and highest degree earned. These teacher-reported data may be combined with related information on their school's characteristics, such as school type (e.g., public traditional, public charter, Catholic, private other religious, and private nonsectarian), community type, and school enrollment size. The teacher questionnaires also asked for information on teacher opinions regarding the school and teaching environment. In 1993–94, about 53,000 public school teachers and 10,400 private school teachers were sampled. In 1999–2000, about 56,300 public school teachers, 4,400 public charter school teachers, and 10,800 private school teachers were sampled. In 2003–04, about 52,500 public school teachers and 10,000 private school teachers were sampled. In 2007–08, about 48,400 public school teachers and 8,200 private school teachers were sampled. In 2011–12, about 51,100 public school teachers and 7,100 private school teachers were sampled. Weighted overall response rates in 2011–12 were 61.8 percent for public school teachers and 50.1 percent for private school teachers.

The SASS 2011–12 sample of schools was confined to the 50 states and the District of Columbia and excludes the other jurisdictions, the Department of Defense overseas schools, the BIE schools, and schools that do not offer teacher-provided classroom instruction in grades 1–12 or the ungraded equivalent. The SASS 2011–12 sample included 10,250 traditional public schools, 750 public charter schools, and 3,000 private schools.

The public school sample for the 2011–12 SASS was based on an adjusted public school universe file from the 2009–10 Common Core of Data, a database of all the nation's public school districts and public schools. The private school sample for the 2011–12 SASS was selected from the 2009–10 Private School Universe Survey (PSS), as updated for the 2011–12 PSS. This update collected membership lists from private school associations and religious denominations, as well as private school lists from state education departments. The 2011–12 SASS private school frame was further augmented by the inclusion of additional schools that were identified through the 2009–10 PSS area frame data collection.

The NCES data product 2011–12 Schools and Staffing Survey (SASS) Restricted-Use Data Files (NCES 2014-356) contains eight files (Public School District, Public School Principal, Public School, Public School Teacher, Public School Library Media Center, Private School Principal, Private School, and Private School Teacher) in multiple formats. It also contains a six-volume User's Manual, which includes a codebook for each file. (Information on how to obtain a restricted-use data license is located at https://nces.ed.gov/pubsearch/licenses.asp.)

Further information on SASS may be obtained from

Maura Spiegelman
Cross-Sectional Surveys Branch
Sample Surveys Division
National Center for Education Statistics
550 12th Street SW
Washington, DC 20202
maura.spiegelman@ed.gov
https://nces.ed.gov/surveys/sass

Teacher Follow-Up Survey

The Teacher Follow-up Survey (TFS) is a follow-up survey of selected elementary and secondary school teachers who participate in the NCES Schools and Staffing Survey (SASS). Its purpose is to determine how many teachers remain at the same school, move to another school, or leave the profession in the year following a SASS administration. It is administered to elementary and secondary teachers in the 50 states and the District of Columbia. The TFS uses two questionnaires, one for teachers who left teaching since the previous SASS administration and another for those who are still teaching either in the same school as last year or in a different school. The objective of the TFS is to focus on the characteristics of each group in order to answer questions about teacher mobility and attrition.

The 2008–09 TFS is different from any previous TFS administration in that it also serves as the second wave of a longitudinal study of first-year teachers. Because of this, the 2008–09 TFS consists of four questionnaires. Two are for respondents who were first-year public school teachers in the 2007–08 SASS and two are for the remainder of the sample.

The 2012–13 TFS sample was made up of teachers who had taken the 2011–12 SASS survey. The 2012–13 TFS sample contained about 5,800 public school teachers and 1,200 private school teachers. The weighted overall response rate using the initial basic weight for private school teachers was notably low (39.7 percent), resulting in a decision to exclude private school teachers from the 2012–13 TFS data files. The weighted overall response rate for public school teachers was 49.9 percent (50.3 percent for current and 45.6 percent for former teachers). Additional information about the 2012–13 TFS, including the analysis of unit nonresponse bias, is available in the First Look report *Teacher Attrition and Mobility: Results From the 2012–13 Teacher Follow-up Survey* (NCES 2014-077).

Further information on the TFS may be obtained from

Julia Merlin
Cross-Sectional Surveys Branch
Sample Surveys Division
National Center for Education Statistics
550 12th Street SW
Washington, DC 20202
julia.merlin@ed.gov
https://nces.ed.gov/surveys/ntps

Bureau of Economic Analysis

National Income and Product Accounts

The National Income and Product Accounts (NIPAs), produced by the Bureau of Economic Analysis, are a set of economic accounts that provide information on the value and composition of output produced in the United States during a given period. NIPAs present measures of economic activity in the United States, including production, income distribution, and personal savings. NIPAs also include data on employee compensation and wages. These estimations were first calculated in the early 1930s to help the government design economic policies to combat the Great Depression. Most of the NIPA series are published quarterly, with annual reviews of estimates from the three most recent years conducted in the summer.

Revisions to the NIPAs have been made over the years to create a more comprehensive economic picture of the United States. For example, in 1976, consumption of fixed capital (CFC) estimates shifted to a current-cost basis. In 1991, NIPAs began to use gross domestic product (GDP) instead of gross national product (GNP) as the primary measure of U.S. production. (At that time, virtually all other countries were already using GDP as their primary measure of production.) In the 2003 comprehensive revision, a more complete and accurate measure of insurance services was adopted. The incorporation of a new classification system for personal consumption expenditures (PCE) was among the changes contained in the 2009 comprehensive revision. The comprehensive revision of 2013 included the treatment of research and development expenditures by business, government, and nonprofit institutions serving households as fixed investment. The 2017 NIPA annual update contained estimates that reflected the incorporation of newly available and revised source data and the adoption of improved estimating methods.

NIPAs are slowly being integrated with other federal account systems, such as the federal account system of the Bureau of Labor Statistics.

Further information on NIPAs may be obtained from

U.S. Department of Commerce
Bureau of Economic Analysis
www.bea.gov

Bureau of Labor Statistics

Consumer Price Indexes

The Consumer Price Index (CPI) represents changes in prices of all goods and services purchased for consumption by urban households. Indexes are available for two population groups: a CPI for All Urban Consumers (CPI-U) and a CPI for Urban Wage Earners and Clerical Workers (CPI-W). Unless otherwise specified, data in this report are adjusted for inflation using the CPI-U. These values are generally adjusted to a school-year basis by averaging the July through June figures. Price indexes

are available for the United States, the 4 Census regions, 9 Census divisions, 2 size of city classes, 8 cross-classifications of regions and size-classes, and 23 local areas. The major uses of the CPI include as an economic indicator, as a deflator of other economic series, and as a means of adjusting income.

Also available is the Consumer Price Index research series using current methods (CPI-U-RS), which presents an estimate of the CPI-U from 1978 to the present that incorporates most of the improvements that the Bureau of Labor Statistics has made over that time span into the entire series. The historical price index series of the CPI-U does not reflect these changes, though these changes do make the present and future CPI more accurate. The limitations of the CPI-U-RS include considerable uncertainty surrounding the magnitude of the adjustments and the several improvements in the CPI that have not been incorporated into the CPI-U-RS for various reasons. Nonetheless, the CPI-U-RS can serve as a valuable proxy for researchers needing a historical estimate of inflation using current methods. This series has not been used in NCES tables.

Further information on consumer price indexes may be obtained from

Bureau of Labor Statistics
U.S. Department of Labor
2 Massachusetts Avenue NE
Washington, DC 20212
https://www.bls.gov/cpi

Employment and Unemployment Surveys

Statistics on the employment and unemployment status of the population and related data are compiled by the Bureau of Labor Statistics (BLS) using data from the Current Population Survey (CPS) (see below) and other surveys. The CPS, a monthly household survey conducted by the U.S. Census Bureau for the Bureau of Labor Statistics, provides a comprehensive body of information on the employment and unemployment experience of the nation's population, classified by age, sex, race, and various other characteristics.

Further information on unemployment surveys may be obtained from

Bureau of Labor Statistics
U.S. Department of Labor
2 Massachusetts Avenue NE
Washington, DC 20212
cpsinfo@bls.gov
https://www.bls.gov/bls/employment.htm

Census Bureau

Current Population Survey

The Current Population Survey (CPS) is a monthly survey of about 50,000 households conducted by the U.S. Census Bureau for the Bureau of Labor Statistics. The CPS is the primary source of labor force statistics on the U.S. population. In addition, supplemental questionnaires are used to provide further information about the U.S. population. The March supplement (also known as the Annual Social and Economic [ASEC] supplement) contains detailed questions on topics such as income, employment, and educational attainment; additional questions, such as items on disabilities, have also been included. In the November supplement, items on computer and internet use are the principal focus. The October supplement also contains some questions about computer and internet use, but most of its questions relate to school enrollment and school characteristics.

CPS samples are initially selected based on results from the decennial census and are periodically updated to reflect new housing construction. The current sample design for the main CPS, last revised in July 2015, includes about 70,000 households. Each month, about 50,000 of the 70,000 households are interviewed. Information is obtained each month from those in the household who are 15 years of age and over, and demographic data are collected for children 0–14 years of age. In addition, supplemental questions regarding school enrollment are asked about eligible household members age 3 and over in the October CPS supplement.

In January 1992, the CPS educational attainment variable was changed. The "Highest grade attended" and "Year completed" questions were replaced by the question "What is the highest level of school … has completed or the highest degree … has

received?" Thus, for example, while the old questions elicited data for those who completed more than 4 years of high school, the new question elicited data for those who were high school completers, that is, those who graduated from high school with a diploma as well as those who completed high school through equivalency programs, such as a GED program.

A major redesign of the CPS was implemented in January 1994 to improve the quality of the data collected. Survey questions were revised, new questions were added, and computer-assisted interviewing methods were used for the survey data collection. Further information about the redesign is available in *Current Population Survey, October 1995: (School Enrollment Supplement) Technical Documentation* at https://www2.census.gov/programs-surveys/cps/techdocs/cpsoct95.pdf.

Caution should be used when comparing data from 2012 through 2020 (which reflect 2010 Census-based controls) with data from 2002 through 2011 (which reflect 2000 Census-based controls) and with data from 2001 and earlier (which reflect population controls based on the 1990 and earlier Censuses). Changes in population controls generally have relatively little impact on summary measures such as means, medians, and percentage distributions; they can, however, have a significant impact on population counts. For example, use of 2010 census-based population controls results in about a 0.2 percent increase from the 2000 Census-based controls in the civilian noninstitutionalized population and in the number of families and households. Thus, estimates of levels for data collected in 2012 and later years will differ from those for earlier years by more than what could be attributed to actual changes in the population. These differences could be disproportionately greater for certain subpopulation groups than for the total population.

Caution should also be exercised when comparing March CPS (ASEC) estimates from data collected in 2020 to those from previous years due to the effects that the coronavirus (COVID-19) had on interviewing and response rates. Interviewing for the March CPS began on March 15, 2020. In order to protect the health and safety of Census Bureau staff and respondents, the survey suspended in-person interviewing and closed the two CATI contact centers on March 20. For the rest of March and through April, the Census Bureau continued to attempt all interviews by phone. While the Census Bureau went to great lengths to complete interviews by telephone, the response rate for the CPS basic household survey in March 2020 was 73 percent, about 10 percentage points lower than in preceding months and in the same period in 2019.

Beginning in 2003, the race/ethnicity questions were expanded. Information on people of Two or more races were included, and the Asian and Pacific Islander race category was split into two categories—Asian and Native Hawaiian or Other Pacific Islander. In addition, questions were reworded to make it clear that self-reported data on race/ethnicity should reflect the race/ethnicity with which the responder identifies, rather than what may be written in official documentation.

The estimation procedure employed for monthly CPS data involves inflating weighted sample results to independent estimates of characteristics of the civilian noninstitutional population in the United States by age, sex, and race. These independent estimates are based on statistics from decennial censuses; statistics on births, deaths, immigration, and emigration; and statistics on the population in the armed services. Generalized standard error tables are provided in the Current Population Reports; methods for deriving standard errors can be found within the CPS technical documentation at https://www.census.gov/programs-surveys/cps/technical-documentation/complete.html. The CPS data are subject to both nonsampling and sampling errors.

Standard errors were estimated using the generalized variance function prior to 2005 for March CPS data and prior to 2010 for October CPS data. The generalized variance function is a simple model that expresses the variance as a function of the expected value of a survey estimate. Standard errors were estimated using replicate weight methodology beginning in 2005 for March CPS data and beginning in 2010 for October CPS data. Those interested in using CPS household-level supplement replicate weights to calculate variances may refer to Estimating Current Population Survey (CPS) Household-Level Supplement Variances Using Replicate Weights at https://www.nber.org/cps/HH-level_Use_of_the_Public_Use_Replicate_Weight_File.doc.

Further information on CPS may be obtained from

Associate Directorate for Demographic Programs—Survey Operations
Census Bureau
U.S. Department of Commerce
4600 Silver Hill Road
Washington, DC 20233
dsd.cps@census.gov
https://www.census.gov/programs-surveys/cps.html

School Enrollment

Each October, the Current Population Survey (CPS) includes supplemental questions on the enrollment status of the population ages 3 years and over. Currently, the October supplement consisted of approximately 50,000 interviewed households, the same households interviewed in the basic Current Population Survey. The main sources of nonsampling variability in the responses to the supplement are those inherent in the survey instrument. The question of current enrollment may not be answered accurately for various reasons. Some respondents may not know current grade information for every student in the household, a problem especially prevalent for households with members in college or in nursery school. Confusion over college credits or hours taken by a student may make it difficult to determine the year in which the student is enrolled. Problems may occur with the definition of nursery school (a group or class organized to provide educational experiences for children) where respondents' interpretations of "educational experiences" vary.

For the October 2018 basic CPS, the household-level nonresponse rate was 15.2 percent. The person-level nonresponse rate for the school enrollment supplement was an additional 8.0 percent. Since the basic CPS nonresponse rate is a household-level rate and the school enrollment supplement nonresponse rate is a person-level rate, these rates cannot be combined to derive an overall nonresponse rate. Nonresponding households may have fewer persons than interviewed ones, so combining these rates may lead to an overestimate of the true overall nonresponse rate for persons for the school enrollment supplement.

Further information on CPS methodology may be obtained from https://www.census.gov/programs-surveys/cps.html.

Further information on the CPS School Enrollment Supplement may be obtained from

Associate Directorate for Demographic Programs–Survey Operations
Census Bureau
U.S. Department of Commerce
4600 Silver Hill Road
Washington, DC 20233
(301) 763-3806
dsd.cps@census.gov
https://www.census.gov/topics/education/school-enrollment.html

Decennial Census, Population Estimates, and Population Projections

The Decennial Census is a universe survey mandated by the U.S. Constitution. It is a questionnaire sent to every household in the country, and it is composed of seven questions about the household and its members (name, sex, age, relationship, Hispanic origin, race, and whether the housing unit is owned or rented). The Census Bureau also produces annual estimates of the resident population by demographic characteristics (age, sex, race, and Hispanic origin) for the nation, states, and counties. The reference date for population estimates is July 1 of the given year. With each new issue of July 1 estimates, the Census Bureau revises estimates for each year back to the last census. Previously published estimates are superseded and archived.

Further information on the Decennial Census may be obtained from

Population Division
Census Bureau
U.S. Department of Commerce
Washington, DC 20233
https://www.census.gov

Other Sources

S&P Global Inc.

S&P Global Inc. provides an information system that includes databases of economic and financial information; simulation and planning models; regular publications and special studies; data retrieval and management systems; and access to experts on economic, financial, industrial, and market activities. One service is the S&P Global Inc. Model of the U.S. Economy, which contains annual projections of U.S. economic and financial conditions, including forecasts for the federal government, incomes, population, prices and wages, and state and local governments, over a long-term (10- to 25-year) forecast period.

National and state-level population estimates and projections are obtained from S&P Global's Economics and Country Risk Service. S&P Global's foundation for estimating historical population estimates are the Census Bureau's estimates by age, sex, and race/ethnicity. To generate population projections, S&P Global estimates a cohort component model (similar to the Census Bureau's methodology) by forecasting births, deaths, and net international migration. Forecasts of births are obtained from S&P Global's US Regional Economic Service. The most recent historical data on deaths by age, sex, and race/ethnicity are obtained from the U.S. Centers for Disease Control and Prevention in order to generate projections. Projections of net international migration are also sourced from the S&P Global US Regional Economic Service.

In its simplest form, the cohort component method is expressed as:

$$P_t = P_{t-1} + B_{t-1,t} - D_{t-1,t} + M_{t-1,t}$$

where:

P_t = population at time t;

P_{t-1} = population at time t–1;

$B_{t-1,t}$ = births in the interval from time t–1 to time t;

$D_{t-1,t}$ = deaths in the interval from time t–1 to time t; and

$M_{t-1,t}$ = net migration in the interval from time t–1 to time t

Additional information is available from

S&P Global Inc.
15 Inverness Way East
Englewood, CO 80112
https://www.spglobal.com/en/

Appendix D
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Appendix E
List of Abbreviations

ADA	Average daily attendance
CCD	Common Core of Data
CPI	Consumer Price Index
CPS	Current Population Survey
CV	Coefficient of Variation
D.W. statistic	Durbin-Watson statistic
FTE	Full-time-equivalent
HEGIS	Higher Education General Information Survey
IPEDS	Integrated Postsecondary Education Data System
IPEDS-C	Integrated Postsecondary Education Data System, Completions Survey
IPEDS-EF	Integrated Postsecondary Education Data System, Fall Enrollment Survey
MAPE	Mean absolute percentage error
NCES	National Center for Education Statistics
NTPS	National Teacher and Principal Survey
PreK	Prekindergarten
PreK–8	Prekindergarten through grade 8
PreK–12	Prekindergarten through grade 12
PSS	Private School Survey
SASS	Schools and Staffing Survey

Appendix F
Glossary

A

Associate's degree A degree granted for the successful completion of a sub-baccalaureate program of studies, usually requiring at least 2 years (or equivalent) of full-time college-level study. This includes degrees granted in a cooperative or work-study program.

Autocorrelation Correlation of the error terms from different observations of the same variable. Also called Serial correlation.

Average daily attendance (ADA) The aggregate attendance of a school during a reporting period (normally a school year) divided by the number of days school is in session during this period. Only days on which the pupils are under the guidance and direction of teachers should be considered days in session.

B

Bachelor's degree A degree granted for the successful completion of a baccalaureate program of studies, usually requiring at least 4 years (or equivalent) of full-time college-level study. This includes degrees granted in a cooperative or work-study program.

Breusch-Godfrey serial correlation LM test A statistic testing the independence of errors in least-squares regression against alternatives of first-order and higher degrees of serial correlation. The test belongs to a class of asymptotic tests known as the Lagrange multiplier (LM) tests.

C

Capital outlay Funds for the acquisition of land and buildings; building construction, remodeling, and additions; the initial installation or extension of service systems and other built-in equipment; and site improvement. The category also encompasses architectural and engineering services including the development of blueprints.

Certificate A formal award certifying the satisfactory completion of a postsecondary education program. Certificates can be awarded at any level of postsecondary education and include awards below the associate's degree level.

Classroom teacher A staff member assigned the professional activities of instructing pupils in self-contained classes or courses, or in classroom situations; usually expressed in full-time equivalents.

Coefficient of variation (CV) Represents the ratio of the standard error to the estimate. For example, a CV of 30 percent indicates that the standard error of the estimate is equal to 30 percent of the estimate's value. The CV is used to compare the amount of variation relative to the magnitude of the estimate. A CV of 30 percent or greater indicates that an estimate should be interpreted with caution. For a discussion of standard errors, see Appendix C: Data Sources.

Cohort A group of individuals that have a statistical factor in common, for example, year of birth.

Cohort-component method A method for estimating and projecting a population that is distinguished by its ability to preserve knowledge of an age distribution of a population (which may be of a single sex, race, and Hispanic origin) over time.

College A postsecondary school that offers general or liberal arts education, usually leading to an associate's, bachelor's, master's, or doctor's degree. Junior colleges and community colleges are included under this terminology.

Constant dollars Dollar amounts that have been adjusted by means of price and cost indexes to eliminate inflationary factors and allow direct comparison across years.

Consumer Price Index (CPI) This price index measures the average change in the cost of a fixed market basket of goods and services purchased by consumers. Indexes vary for specific areas or regions, periods of time, major groups of consumer expenditures, and population groups. The CPI reflects spending patterns for two population groups: (1) all urban consumers and urban wage earners and (2) clerical workers. CPIs are calculated for both the calendar year and the school year using the U.S. All Items CPI for All Urban Consumers (CPI-U). The calendar year CPI is the same as the annual CPI-U. The school year CPI is calculated by adding the monthly CPI-U figures, beginning with July of the first year and ending with June of the following year, and then dividing that figure by 12.

Control of institutions A classification of institutions of elementary/secondary or postsecondary education by whether the institution is operated by publicly elected or appointed officials and derives its primary support from public funds (public control) or is operated by privately elected or appointed officials and derives its major source of funds from private sources (private control).

Current dollars Dollar amounts that have not been adjusted to compensate for inflation.

Current expenditures (elementary/secondary) The expenditures for operating local public schools, excluding capital outlay and interest on school debt. These expenditures include such items as salaries for school personnel, benefits, student transportation, school books and materials, and energy costs. Beginning in 1980–81, expenditures for state administration are excluded.

> ***Instruction expenditures*** Include expenditures for activities related to the interaction between teacher and students. Include salaries and benefits for teachers and instructional aides, textbooks, supplies, and purchased services such as instruction via television, webinars, and other online instruction. Also included are tuition expenditures to other local education agencies.
>
> ***Administration expenditures*** Includes expenditures for school administration (i.e., the office of the principal, full-time department chairpersons, and graduation expenses), general administration (the superintendent and board of education and their immediate staff), and other support services expenditures.
>
> ***Transportation*** Includes expenditures for vehicle operation, monitoring, and vehicle servicing and maintenance.
>
> ***Food services*** Includes all expenditures associated with providing food to students and staff in a school or school district. The services include preparing and serving regular and incidental meals or snacks in connection with school activities, as well as the delivery of food to schools.
>
> ***Enterprise operations*** Includes expenditures for activities that are financed, at least in part, by user charges, similar to a private business. These include operations funded by sales of products or services, together with amounts for direct program support made by state education agencies for local school districts.

Current expenditures per pupil in average daily attendance Current expenditures for the regular school term divided by the average daily attendance of full-time pupils (or full-time equivalency of pupils) during the term. See also Current expenditures and Average daily attendance.

D

Degree An award conferred by a college, university, or other postsecondary education institution as official recognition for the successful completion of a program of studies. Refers specifically to associate's or higher degrees conferred by degree-granting institutions. See also Associate's degree, Bachelor's degree, Master's degree, and Doctor's degree.

Degree/certificate-seeking student A student enrolled in courses for credit and recognized by the institution as seeking a degree, certificate, or other formal award. High school students also enrolled in postsecondary courses for credit are not considered degree/certificate-seeking. See also Degree and Certificate.

Degree-granting institutions Postsecondary institutions that are eligible for Title IV federal financial aid programs and grant an associate's or higher degree. For an institution to be eligible to participate in Title IV financial aid programs, it must be accredited by an agency or association that was recognized by the U.S. Department of Education or be recognized directly by the Secretary of Education.

Department of Defense (DoD) dependents schools Schools that are operated by the Department of Defense Education Activity (a civilian agency of the U.S. Department of Defense) and provide comprehensive prekindergarten through 12th-grade educational programs on military installations both within the United States and overseas.

Dependent variable A mathematical variable whose value is determined by that of one or more other variables in a function. In regression analysis, when a random variable, y, is expressed as a function of variables $x1, x2, \ldots xk$, plus a stochastic term, then y is known as the "dependent variable."

Disposable personal income Current income received by people less their contributions for social insurance, personal tax, and nontax payments. It is the income available to people for spending and saving. Nontax payments include passport fees, fines and penalties, donations, and tuitions and fees paid to schools and hospitals operated mainly by the government. See also Personal income.

Doctor's degree The highest award a student can earn for graduate study. Includes such degrees as the Doctor of Education (Ed.D.); the Doctor of Juridical Science (S.J.D.); the Doctor of Public Health (Dr.P.H.); and the Doctor of Philosophy (Ph.D.) in any field, such as agronomy, food technology, education, engineering, public administration, ophthalmology, or radiology. The doctor's degree classification encompasses three main subcategories–research/scholarship degrees, professional practice degrees, and other degrees–which are described below.

Doctor's degree—research/scholarship A Ph.D. or other doctor's degree that requires advanced work beyond the master's level, including the preparation and defense of a dissertation based on original research, or the planning and execution of an original project demonstrating substantial artistic or scholarly achievement. Examples of this type of degree may include the following and others, as designated by the awarding institution: the Ed.D. (in education), D.M.A. (in musical arts), D.B.A. (in business administration), D.Sc. (in science), D.A. (in arts), or D.M. (in medicine).

Doctor's degree—professional practice A doctor's degree that is conferred upon completion of a program providing the knowledge and skills for the recognition, credential, or license required for professional practice. The degree is typically awarded after a period of study such that the total time to the degree, including both preprofessional and professional preparation, equals at least 6 full-time-equivalent academic years. Some doctor's degrees of this type were formerly classified as first-professional degrees. Examples of this type of degree may include the following and others, as designated by the awarding institution: the D.C. or D.C.M. (in chiropractic); D.D.S. or D.M.D. (in dentistry); L.L.B. or J.D. (in law); M.D. (in medicine); O.D. (in optometry); D.O. (in osteopathic medicine); Pharm.D. (in pharmacy); D.P.M., Pod.D., or D.P. (in podiatry); or D.V.M. (in veterinary medicine).

Doctor's degree—other A doctor's degree that does not meet the definition of either a research/scholarship doctor's degree or a professional practice doctor's degree.

Dropout The term is used to describe both the event of leaving school before completing high school and the status of an individual who is not in school and who is not a high school completer. High school completers include both graduates of school programs as well as those completing high school through equivalency programs such as the GED program. Transferring from a public school to a private school, for example, is not regarded as a dropout event. A person who drops out of school may later return and graduate but is called a "dropout" at the time he or she leaves school. Measures to describe these behaviors include the event dropout rate (or the closely related school persistence rate), the status dropout rate, and the high school completion rate.

Durbin-Watson statistic A statistic testing the independence of errors in least squares regression against the alternative of first-order serial correlation. The statistic is a simple linear transformation of the first-order serial correlation of residuals and, although its distribution is unknown, it is tested by bounding statistics that follow R. L. Anderson's distribution.

E

Econometrics The quantitative examination of economic trends and relationships using statistical techniques, and the development, examination, and refinement of those techniques.

Elementary/secondary school Includes only schools that are part of state and local school systems, and also most nonprofit private elementary/secondary schools, both religiously affiliated and nonsectarian. Includes regular, alternative, vocational, and special education schools. U.S. totals exclude federal schools for American Indians, and federal schools on military posts and other federal installations. Data from the Common Core of data include all public school students in prekindergarten through grade 12. Data from the Private School Survey include all private school students attending schools that offer kindergarten or higher grades.

Enrollment The total number of students registered in a given school unit at a given time, generally in the fall of a year.

Estimate A numerical value obtained from a statistical sample and assigned to a population parameter. The particular value yielded by an estimator in a given set of circumstances or the rule by which such particular values are calculated.

Estimating equation An equation involving observed quantities and an unknown that serves to estimate the latter.

Estimation Estimation is concerned with inference about the numerical value of unknown population values from incomplete data, such as a sample. If a single figure is calculated for each unknown parameter, the process is called point estimation. If an interval is calculated within which the parameter is likely, in some sense, to lie, the process is called interval estimation.

Expenditures, total For elementary/secondary schools, these include all charges for current outlays plus capital outlays and interest on school debt. For degree-granting postsecondary institutions, these include current outlays plus capital outlays. For government, these include charges net of recoveries and other correcting transactions other than for retirement of debt, investment in securities, extension of credit, or as agency transactions. Government expenditures include only external transactions, such as the provision of perquisites or other payments in kind. Aggregates for groups of governments exclude intergovernmental transactions among the governments.

Expenditures per pupil Charges incurred for a particular period of time divided by a student unit of measure, such as average daily attendance or fall enrollment.

Exponential smoothing A method used in time series analysis to smooth or to predict a series. There are various forms, but all are based on the supposition that more remote history has less importance than more recent history.

F

Financial aid Grants, loans, assistantships, scholarships, fellowships, tuition waivers, tuition discounts, veteran's benefits, employer aid (tuition reimbursement), and other monies (other than from relatives or friends) provided to students to help them meet expenses. Except where designated, includes Title IV subsidized and unsubsidized loans made directly to students.

First-order serial correlation When errors in one time period are correlated directly with errors in the ensuing time period.

First-professional degree NCES no longer uses this classification. Most degrees formerly classified as first-professional (such as M.D., D.D.S., Pharm.D., D.V.M., and J.D.) are now classified as doctor's degrees–professional practice. However, master's of divinity degrees are now classified as master's degrees.

First-time student (undergraduate) A student who has no prior postsecondary experience (except as noted below) attending any institution for the first time at the undergraduate level. Includes students enrolled in the fall term who attended college for the first time in the prior summer term, and students who entered with advanced standing (college credits earned before graduation from high school).

Forecast An estimate of the future based on rational study and analysis of available pertinent data, as opposed to subjective prediction.

Forecasting Assessing the magnitude that a quantity will assume at some future point in time, as distinct from "estimation," which attempts to assess the magnitude of an already existent quantity.

Full-time enrollment The number of students enrolled in postsecondary education courses with total credit load equal to at least 75 percent of the normal full-time course load. At the undergraduate level, full-time enrollment typically includes students who have a credit load of 12 or more semester or quarter credits. At the postbaccalaureate level, full-time enrollment includes students who typically have a credit load of 9 or more semester or quarter credits, as well as other students who are considered full time by their institutions.

Full-time-equivalent (FTE) enrollment For postsecondary institutions, enrollment of full-time students, plus the full-time equivalent of part-time students. The full-time equivalent of the part-time students is estimated using different factors depending on the type and control of institution and level of student.

Full-time-equivalent (FTE) teachers Number of full-time teachers plus the full-time equivalent of part-time teachers.

Function A mathematical correspondence that assigns exactly one element of one set to each element of the same or another set. A variable that depends on and varies with another.

Functional form A mathematical statement of the relationship among the variables in a model.

G

Geographic region One of the four regions of the United States used by the U.S. Census Bureau, as follows:

Northeast
Connecticut (CT)
Maine (ME)
Massachusetts (MA)
New Hampshire (NH)
New Jersey (NJ)
New York (NY)
Pennsylvania (PA)
Rhode Island (RI)
Vermont (VT)

South
Alabama (AL)
Arkansas (AR)
Delaware (DE)
District of Columbia (DC)
Florida (FL)
Georgia (GA)
Kentucky (KY)
Louisiana (LA)
Maryland (MD)
Mississippi (MS)
North Carolina (NC)
Oklahoma (OK)
South Carolina (SC)
Tennessee (TN)
Texas (TX)
Virginia (VA)
West Virginia (WV)

Midwest
Illinois (IL)
Indiana (IN)
Iowa (IA)
Kansas (KS)
Michigan (MI)
Minnesota (MN)
Missouri (MO)
Nebraska (NE)
North Dakota (ND)
Ohio (OH)
South Dakota (SD)
Wisconsin (WI)

West
Alaska (AK)
Arizona (AZ)
California (CA)
Colorado (CO)
Hawaii (HI)
Idaho (ID)
Montana (MT)
Nevada (NV)
New Mexico (NM)
Oregon (OR)
Utah (UT)
Washington (WA)
Wyoming (WY)

Graduate An individual who has received formal recognition for the successful completion of a prescribe program of studies.

H

High school diploma A formal document regulated by the state certifying the successful completion of a prescribed secondary school program of studies. In some states or communities, high school diplomas are differentiated by type, such as an academic diploma, a general diploma, or a vocational diploma.

High school equivalency certificate A formal document certifying that an individual has met the state requirements for high school graduation equivalency by obtaining satisfactory scores on an approved examination and meeting other performance requirements (if any) set by a state education agency or other appropriate body. One particular version of this certificate is the GED test. The GED test is a comprehensive test used primarily to appraise the educational development of students who have not completed their formal high school education and who may earn a high school equivalency certificate by achieving satisfactory scores. GEDs are awarded by the states or other agencies, and the test is developed and distributed by the GED Testing Service (a joint venture of the American Council on Education and Pearson).

High school graduate An individual who has received formal recognition from school authorities, by the granting of a diploma, for completing a prescribed course of study. This definition does not include other high school completers or recipients of an equivalent credential, such as a GED certificate.

I

Independent variable In regression analysis, a random variable, *y,* is expressed as a function of variables *x1, x2, ... xk*, plus a stochastic term; the *x*'s are known as "independent variables.''

Inflation A rise in the general level of prices of goods and services in an economy over a period of time, which generally corresponds to a decline in the real value of money or a loss of purchasing power. See also Constant dollars and Purchasing Power Parity indexes.

Interpolation See Linear interpolation.

L

Lag An event occurring at time $t + k$ ($k > 0$) is said to lag behind an event occurring at time *t,* the extent of the lag being *k*. An event occurring *k* time periods before another may be regarded as having a negative lag.

Lead time When forecasting a statistic, the number of time periods since the last time period of actual data for that statistic used in producing the forecast.

Level of school A classification of elementary/secondary schools by instructional level. Includes elementary schools, middle schools, secondary schools, high schools, and other/ungraded schools. For the purposes of the Elementary and Secondary Teacher Projection Model, students and teachers were split dichotomously into elementary and secondary school levels based on data from the National Education Association (NE*A).*

Linear interpolation A method that allows the prediction of an unknown value if any two particular values on the same scale are known and the rate of change is assumed constant.

Local education agency (LEA) See School district.

M

Master's degree A degree awarded for successful completion of a program generally requiring 1 or 2 years of full-time college-level study beyond the bachelor's degree. One type of master's degree, including the Master of Arts degree, or M.A., and the Master of Science degree, or M.S., is awarded in the liberal arts and sciences for advanced scholarship in a subject field or discipline and demonstrated ability to perform scholarly research. A second type of master's degree is awarded for the completion of a professionally oriented program, for example, an M.Ed. in education, an M.B.A. in business administration, an M.F.A. in fine arts, an M.M. in music, an M.S.W. in social work, and an M.P.A. in public administration. Some master's degrees—such as divinity degrees (M.Div. or M.H.L./Rav), which were formerly classified as "first-professional"—may require more than 2 years of full-time study beyond the bachelor's degree.

Mean absolute percentage error (MAPE) The average value of the absolute value of errors expressed in percentage terms.

Migration Geographic mobility involving a change of usual residence between clearly defined geographic units, that is, between counties, states, or regions.

Model A system of postulates, data, and inferences presented as a mathematical description of a phenomenon, such as an actual system or process. The actual phenomenon is represented by the model in order to explain, predict, and control it.

N

Nursery school An instructional program for groups of children during the year or years preceding kindergarten, which provides educational experiences under the direction of teachers. See also Prekindergarten and Preschool.

O

Ordinary least squares (OLS) The estimator that minimizes the sum of squared residuals.

P

Parameter A quantity that describes a statistical population.

Part-time enrollment The number of students enrolled in postsecondary education courses with a total credit load less than 75 percent of the normal full-time credit load. At the undergraduate level, part-time enrollment typically includes students who have a credit load of less than 12 semester or quarter credits. At the postbaccalaureate level, part-time enrollment typically includes students who have a credit load of less than 9 semester or quarter credits.

Personal income Current income received by people from all sources, minus their personal contributions for social insurance. Classified as "people" are individuals (including owners of unincorporated firms), nonprofit institutions serving individuals, private trust funds, and private noninsured welfare funds. Personal income includes transfers (payments not resulting from current production) from government and business such as social security benefits and military pensions, but excludes transfers among people.

Postbaccalaureate enrollment The number of students working towards advanced degrees and of students enrolled in graduate-level classes but not enrolled in degree programs.

Postsecondary education The provision of formal instructional programs with a curriculum designed primarily for students who have completed the requirements for a high school diploma or equivalent. This includes programs of an academic, vocational, and continuing professional education purpose, and excludes avocational and adult basic education programs.

Postsecondary institutions (basic classification by level)

4-year institution An institution offering at least a 4-year program of college-level studies wholly or principally creditable toward a baccalaureate degree.

2-year institution An institution offering at least a 2-year program of college-level studies which terminates in an associate degree or is principally creditable toward a baccalaureate degree. Data prior to 1996 include some institutions that have a less-than-2-year program, but were designated as institutions of higher education in the Higher Education General Information Survey.

Less-than-2-year institution An institution that offers programs of less than 2 years' duration below the baccalaureate level. Includes occupational and vocational schools with programs that do not exceed 1,800 contact hours.

Prekindergarten Preprimary education for children typically ages 3–4 who have not yet entered kindergarten. It may offer a program of general education or special education and may be part of a collaborative effort with Head Start.

Preschool An instructional program enrolling children generally younger than 5 years of age and organized to provide children with educational experiences under professionally qualified teachers during the year or years immediately preceding kindergarten (or prior to entry into elementary school when there is no kindergarten). See also Nursery school and Prekindergarten.

Private institution An institution that is controlled by an individual or agency other than a state, a subdivision of a state, or the federal government, which is usually supported primarily by other than public funds, and the operation of whose program rests with other than publicly elected or appointed officials.

Private nonprofit institution An institution in which the individual(s) or agency in control receives no compensation other than wages, rent, or other expenses for the assumption of risk. These include both independent nonprofit institutions and those affiliated with a religious organization.

Private for-profit institution An institution in which the individual(s) or agency in control receives compensation other than wages, rent, or other expenses for the assumption of risk (e.g., proprietary schools).

Private school Private elementary/secondary schools surveyed by the Private School Universe Survey (PSS) are assigned to one of three major categories of religious orientation (Catholic, other religious, or nonsectarian) and, within each major category, one of three subcategories based on the school's religious affiliation provided by respondents.

Catholic Schools categorized according to governance, provided by Roman Catholic school respondents, into (i) parochial, (ii) diocesan, and (iii) private Catholic schools.

Other religious Schools that have a religious orientation or purpose but are not Catholic. Other religious schools are categorized according to religious association membership, provided by respondents,

into (i) Conservative Christian, (ii) other affiliated, and (iii) unaffiliated schools. Conservative Christian schools are those "Other religious" schools with membership in at least one of four associations: Accelerated Christian Education, American Association of Christian Schools, Association of Christian Schools International, and Oral Roberts University Education Fellowship. Affiliated schools are those "Other religious" schools not classified as Conservative Christian with membership in at least 1 of 11 associations—Association of Christian Teachers and Schools, Christian Schools International, Evangelical Lutheran Education Association, Friends Council on Education, General Conference of the Seventh-Day Adventist Church, Islamic School League of America, National Association of Episcopal Schools, National Christian School Association, National Society for Hebrew Day Schools, Solomon Schechter Day Schools, and Southern Baptist Association of Christian Schools—or indicating membership in "other religious school associations." Unaffiliated schools are those "Other religious" schools that have a religious orientation or purpose but are not classified as Conservative Christian or affiliated.

Nonsectarian Schools that do not have a religious orientation or purpose and are categorized according to program emphasis, provided by respondents, into (i) regular, (ii) special emphasis, and (iii) special education schools. Regular schools are those that have a regular elementary/secondary or early childhood program emphasis. Special emphasis schools are those that have a Montessori, vocational/technical, alternative, or special program emphasis. Special education schools are those that have a special education program emphasis.

Projection In relation to a time series, an estimate of future values based on a current trend.

Public school or institution A school or institution controlled and operated by publicly elected or appointed officials and deriving its primary support from public funds.

Pupil/teacher ratio The enrollment of pupils at a given period of time, divided by the full-time-equivalent number of classroom teachers serving these pupils during the same period.

R

R^2 The coefficient of determination; the square of the correlation coefficient between the dependent variable and its ordinary least squares (OLS) estimate.

Racial/ethnic group Classification indicating general racial or ethnic heritage. Race/ethnicity data are based on the *Hispanic* ethnic category and the race categories listed below (five single-race categories, plus the *Two or more races* category). Race categories exclude persons of Hispanic ethnicity unless otherwise noted.

American Indian or Alaska Native A person having origins in any of the original peoples of North and South America (including Central America), and who maintains tribal affiliation or community attachment.

Asian A person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent, including, for example, Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, and Vietnam. Prior to 2010–11, the Common Core of Data (CCD) combined Asian and Pacific Islander categories.

Black or African American A person having origins in any of the black racial groups of Africa. Used interchangeably with the shortened term *Black*.

Hispanic or Latino A person of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin, regardless of race. Used interchangeably with the shortened term *Hispanic*.

Native Hawaiian or Other Pacific Islander A person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands. Prior to 2010–11, the Common Core of Data (CCD) combined Asian and Pacific Islander categories. Used interchangeably with the shortened term *Pacific Islander*.

White A person having origins in any of the original peoples of Europe, the Middle East, or North Africa.

Two or more races A person identifying himself or herself as of two or more of the following race groups: White, Black, Asian, Native Hawaiian or Other Pacific Islander, or American Indian or Alaska Native. Some, but not all, reporting districts use this category. "Two or more races" was introduced in the 2000 Census and became a regular category for data collection in the Current Population Survey (CPS) in 2003. The category is sometimes excluded from a historical series of data with constant categories. It is sometimes included within the category "Other."

Region See Geographic region.

Regression analysis A statistical technique for investigating and modeling the relationship between variables.

Resident population Includes civilian population and armed forces personnel residing within the United States; excludes armed forces personnel residing overseas.

Revenue All funds received from external sources, net of refunds, and correcting transactions. Noncash transactions, such as receipt of services, commodities, or other receipts in kind are excluded, as are funds received from the issuance of debt, liquidation of investments, and nonroutine sale of property.

Revenue receipts Additions to assets that do not incur an obligation that must be met at some future date and do not represent exchanges of property for money. Assets must be available for expenditures.

S

Salary The total amount regularly paid or stipulated to be paid to an individual, before deductions, for personal services rendered while on the payroll of a business or organization.

School district An education agency at the local level that exists primarily to operate public schools or to contract for public school services. Synonyms are "local basic administrative unit" and "local education agency."

Secondary school See Elementary/secondary school

Serial correlation Correlation of the error terms from different observations of the same variable. Also called Autocorrelation.

Standard error of estimate An expression for the standard deviation of the observed values about a regression line. An estimate of the variation likely to be encountered in making predictions from the regression equation.

Student membership Student membership is an annual headcount of students enrolled in school on October 1 or the school day closest to that date. The Common Core of Data (CCD) allows a student to be reported for only a single school or agency. For example, a vocational school (identified as a "shared time" school) may provide classes for students from a number of districts and show no membership.

T

Time series A set of ordered observations on a quantitative characteristic of an individual or collective phenomenon taken at different points in time. Usually the observations are successive and equally spaced in time.

Time series analysis The branch of quantitative forecasting in which data for one variable are examined for patterns of trend, seasonality, and cycle.

U

Unadjusted dollars See Current dollars.

Undergraduate students Students registered at an institution of postsecondary education who are working in a baccalaureate degree program or other formal program below the baccalaureate, such as an associate's degree, vocational, or technical program.

Ungraded student (elementary/secondary) A student who has been assigned to a school or program that does not have standard grade designations.

U.S. nonresident A person who is not a citizen or national of the United States and who is in this country on a visa or temporary basis and does not have the right to remain indefinitely.

V

Variable A quantity that may assume any one of a set of values.

Y

Years out In forecasting by year, the number of years since the last year of actual data for that statistic used in producing the forecast.

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