

# BIOMES AND ADAPTATIONS

SUGGESTED AGE RANGE: 2ND–5TH GRADE



Take a walk through the Earl and Donnalee Holton Arid Garden and compare differences between a desert biome and Michigan's temperate forest biome. Ponder why cacti have spines and how plants in the desert have adapted to survive in their environment.

## MATERIALS

[Desert Biomes Video](#)

Pencil and paper for answering questions and sketching

## VOCABULARY

**Precipitation:** water that falls to the ground as rain, snow, etc.

## DIRECTIONS

**Watch and Learn:** compare a desert biome to Michigan's temperate forest biome by [watching this video](#).

**Answer these questions as you follow along with the video. You can pause the video to write down your answers or to make notes.**

Follow along closely and fill in the blanks:

1. Scientists are very good \_\_\_\_\_. They might draw or record what they see in a \_\_\_\_\_.
2. What is the definition of a **biome**?
3. A desert biome receives about \_\_\_\_\_ inches of rain each year.
4. Michigan receives about \_\_\_\_\_ inches of precipitation each year.
5. What is the definition of an **adaptation**?
6. What are three different adaptations you observed that plants in a desert biome might have to help them survive in an environment with extreme temperatures and little water?

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

7. Look out your window or, if you can, go out into your yard or a nearby park with an adult. How are the plants you see different than the plants you observed in the video?



8. Make a **sketch** of a plant you see outside. Label any interesting features or adaptations you observe.

## EXTENSION ACTIVITIES

### Write About It (Language Arts, 3rd–5th)

Imagine that you are a scientist exploring a desert that has never been explored before. You have been hiking across the dry, cracked earth all morning, kicking up a trail of dust, observing closely and recording what you see in your handy field journal. The noon sun is beating down on your back. You are hot, thirsty, and tired from walking. You are about to stop your work for the day when something catches your eye up ahead. It looks like an unusual plant, but you can't be sure exactly which species it might be. As you get closer, you realize that you have discovered something entirely new!

**Sketch** the plant that you've discovered. Decide what you would name it. Label the adaptations this plant has that would help it to survive in the desert.

After sketching the newly discovered plant, you return to your camp on the edge of the desert. You can't wait to share the news of your thrilling discovery! Unfortunately, there is no cell phone service and no internet at your camp. Tomorrow, a mail carrier will deliver your mail on horseback and take your outgoing mail to the post office many miles away. **Write** a letter to your fellow scientists explaining your experience of exploring this desert and discovering a new species of plant.



### **Research It: Animal Adaptations (Science, 2nd–4th)**

Like plants, animal species also develop adaptations that allow them to survive in the environment where they live. The animals listed below all live in a desert biome. Choose three to **research** online. Write a sentence about each of the three explaining an adaptation this animal has and how that adaptation helps the animal to survive.

Thorny Devil • Javelina • Fennec Fox • Meerkat • Scorpion • Roadrunner

Recommended sites for research:

<https://kids.nationalgeographic.com/animals/>

<https://www.sciencekids.co.nz/animals.html>

<https://www.kiddle.co/>

<https://pbskids.org/wildkratts/creaturepedia/> (login required)

<https://rangerrick.org/animals/> (login required)

## Make Connections: Tropical Forest Biome (Science, 4th–5th)



At Meijer Gardens, we have several different types of indoor gardens. You saw the Arid Garden in the video you just watched. As you learned, desert biomes like our Arid Garden receive only about 10 inches of precipitation each year. In fact, the word arid means very dry.

The Lena Meijer Tropical Conservatory is a garden that contains plants from tropical forests around the world. Tropical forests receive an average of 100 inches of precipitation each year! Thick plant growth means that plants must compete with one another for sunlight and nutrients from the soil. The plants that live in this biome have different needs than plants that live in arid areas like deserts.

Below are images of several plants in the Tropical Conservatory at Meijer Gardens.



Giant split leaf anthurium  
*Anthurium obovatum*



Dark star elephant ear  
*Alocasia* 'Dark Star'



Giant white bird of paradise  
*Strelitzia nicolai*



Skyflower vine  
*Thumbergia grandifolia*

What are some things you notice about these plants?

What can you observe about their height and the size of their leaves?

How do you think these features, or adaptations, might allow the plants to survive in a tropical environment?



Here are two more plants in the Tropical Conservatory.



Swiss cheese plant  
*Monstera deliciosa*



Elephant ear/taro  
*Colocasia esculenta*

What features can you observe that make the leaves of these plants well adapted for life in an environment with so much precipitation?

References:

Definitions for vocabulary sourced from:  
<https://learnersdictionary.com/>



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