LESSON | UNDERSTANDING BIOMES

Help students explore biodiversity and plant science via engaging classroom stations.

Objective

Students will describe and defend why some plants thrive and others can't survive in different biomes.

Standards

NGSS

3-LS4-3 Construct an argument about organism survival in particular habitats

C3

D2.Geo.2.3-5 Use maps to gather data about environments and habitats

D2.Geo.10.3-5 Explain why different world regions support different plant life

Time

60 minutes including three group work sessions and a whole group share

Materials

- Their Perfect Homes reading passage
- What Helps Plants Grow? activity sheet
- 2 pieces white 8 x 11 paper per student to make mini-book
- Short video summarizing Earth's biomes: **bit.ly/studyjambiomes**
- How Do They Grow? digital tool: **scholastic.com/growing strong/howdotheygrow**

CHANCE TO WIN $50!

Tell us what you think of the materials with our five-minute survey at **scholastic.com /growingstrong /survey**.

1 Display photos of a few biomes (such as desert, tundra, and taiga) or even photos of your local ecosystem. Ask students what differences they observe and what types of plants they see.

2 Direct students to turn, talk, and share about what plants grow in their community. Why do they think those plants grow there? What conditions impact plant success in an area?

3 Explain that scientists call large areas of a similar climate and plants a **biome**. (Alternately: If you'd like to connect this lesson to an existing ecosystem or plant cycle lesson, skip to step 6). Tell the class that today they are going to explore their biome and others to see which plants can survive and thrive in different conditions. Explain that there are six biomes: grasslands, deciduous forest, taiga, tundra, rainforest, and desert.

4 Create biome books by folding two pieces of paper in half to make 8 pages. Have students:

- label the cover: Biomes
- label each of the six inside pages with a different biome

To increase the challenge: Have students use the back cover (page 8) to compare and contrast biomes.

5 Watch the biomes video together.

a. Before watching: Ask students to look especially for what kinds of plants can grow in each biome, as well as features such as amount of rain, temperature, etc. Use avocados as an example: Avocados need warm temperatures year-round, plenty of rain, and rich soil.

b. Watch video. Pause after each biome to allow students to write down new learning.

6 Hand out Their Perfect Homes reading passage and What Helps Plants Grow? activity sheet. Have students read the nonfiction text about fruits and plants that grow in North America, then answer reading comprehension questions and make inferences. Review answers as a class.

7 Wrap up by circling back to the plants students identified in their communities in step 2. Ask: *Is there anything else you want to add to your observations and inferences about the connections between local plants and local biome conditions?*

Their **Perfect** Homes

Plants need specific conditions to survive well. Read about North American fruits and learn what makes them grow successfully.

All plants need sunshine, water, soil, and certain temperatures to grow. But different plants need different combinations of these things. For example, watermelons need lots of water—but too much water can make the fruit split open! Blueberry bushes thrive in climates with cold winters and mild summers, like in Michigan. Apple trees need to live where there are seasons, like in New York, so the tree can grow new fruit each year.

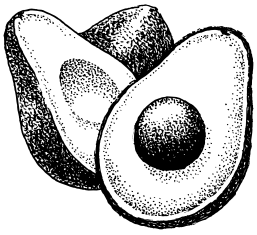
Avocado trees also have unique needs. Each tree starts out as a round, brown seed. The seeds love the rich volcanic soil of Mexico. This soil is rich in **nutrients** that help avocado trees grow. Avocados need bees to help them **pollinate** their flowers. If the flowers are pollinated, they grow into avocados. If there is too much rain, bees will stay away. If there is too little rain, the trees can't grow. With just the right amount of rain and warm temperatures, avocados grow in Mexico all year long.

Parts of North America are desert, like in Arizona. Plants like the cactus have traits to help it **thrive** without much water. In fact, if a cactus gets too much water, its root will rot and it will die.

Nutrients
Something that is needed by people, animals, and plants to stay strong and healthy. Proteins, minerals, and vitamins are all nutrients.

Pollinate
To carry or transfer pollen (tiny grains produced in flowers), either within a flower or to another flower, in order to produce seeds.

Thrive
Survive well.



Find out more about avocados, watermelons, blueberries, and strawberries—and help them grow!

scholastic.com/howdotheygrow

Name _____

What Helps **Plants Grow?**

Read the article "Their Perfect Homes." Then answer the questions using facts and complete sentences.

1. What do all plants need to grow?

2. Why do avocados grow well in Mexico?

3. Why are bees important?

4. Why is the right amount of rain important to plants? Give two examples of too much rain hurting plants.

5. If you planted a cactus where an avocado was growing well, what would probably happen to the cactus? Why?

6. A farmer planted avocado and watermelon near each other and found they are growing well. Why do you think that is? Be specific.