Lesson 6.1 Skill Practice

25 minutes

Draw Conclusions: How does Earth's tilted rotation axis affect the seasons?

The seasons change as Earth revolves around the Sun. How does Earth's tilted rotation axis change how sunlight spreads out over different parts of Earth's surface?

Materials

large foam ball	wooden skewer	foam cup
masking tape	flashlight	



Learn It

Using a flashlight as the Sun and a foam ball as Earth, you can model how solar energy spreads out over Earth's surface at different times during the year. This will help you **draw conclusions** about Earth's seasons.

Try It

- 1. Read and complete a lab safety form.
- **2.** Insert a wooden skewer through the center of a foam ball. Draw a line on the ball to represent Earth's equator. Insert one end of the skewer into an upside-down foam cup so the skewer tilts.
- **3.** Prop a flashlight on a stack of books about 0.5 m from the ball. Turn on the flashlight and position the ball so the skewer points toward the flashlight, representing the June solstice. Rotate the ball to represent day and night.
- **4.** In the space below, draw how the ball's surface is tilted relative to the light beam. Label day and night appropriately.
- **5.** Under your diagram, state whether the upper (northern) or lower (southern) hemisphere receives more light energy. Explain what causes day and night.

Lesson 6.1 Skill Practice Continued

6. With the skewer always pointing in the same direction, move the ball around the flashlight. Turn the flashlight to keep the light on the ball. At the three positions corresponding to the equinoxes and other solstice, make drawings like those in step 4 and statements like those in step 5.

Apply It

- 7. How did the tilt of the surfaces change relative to the light beam as the ball circled the flashlight?
- **8.** How did the amount of light energy on each hemisphere change as the ball moved around the flashlight?
- **9.** Summarize Draw conclusions about how Earth's tilt affects the seasons.