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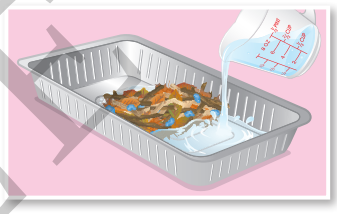

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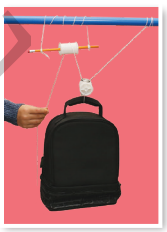

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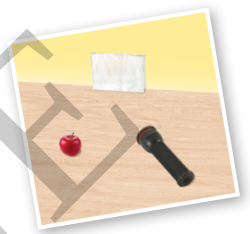

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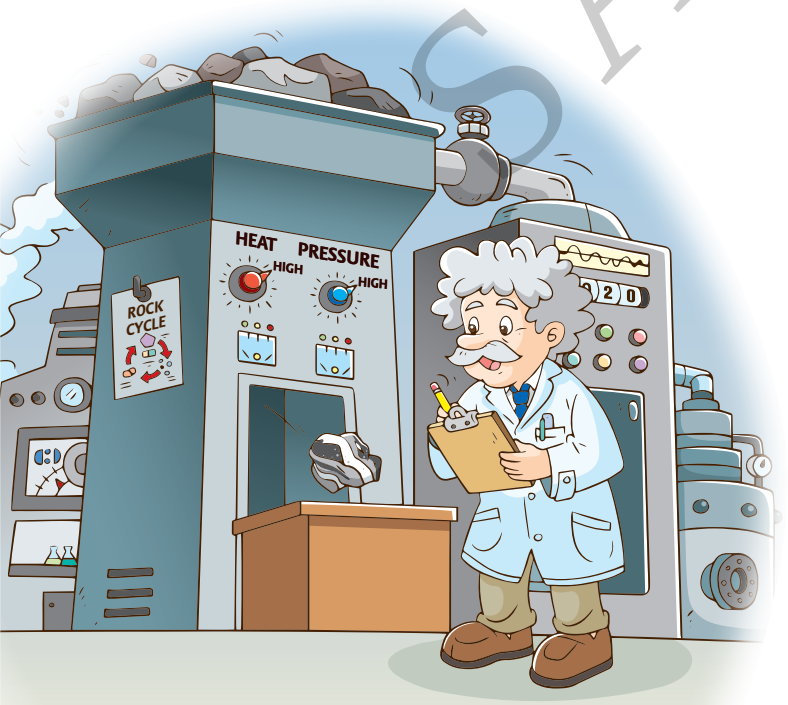

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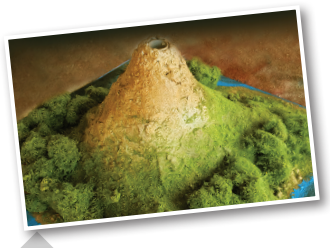


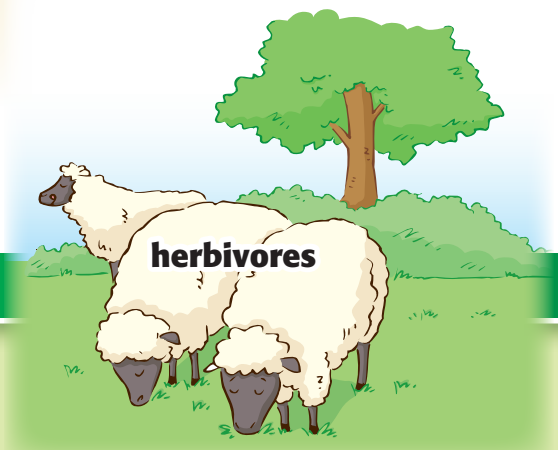
6 What Animals Eat

Have you seen a cow eat meat or a lion eat grass? Probably not! Different animals have different diets. In this unit, you will learn about how animals can be classified by what they eat – as herbivores, carnivores, or omnivores.

After completing this unit, you will

- know that animals have different diets and that they are classified into three groups accordingly.
- understand that organisms get energy from other organisms through the food chain.

Since you are an omnivore, you should eat some vegetables with your meal to keep yourself healthy.



We love grass.

Vocabulary

herbivore: an animal that eats plants only

carnivore: an animal that eats animals only

omnivore: an animal that eats both plants and animals

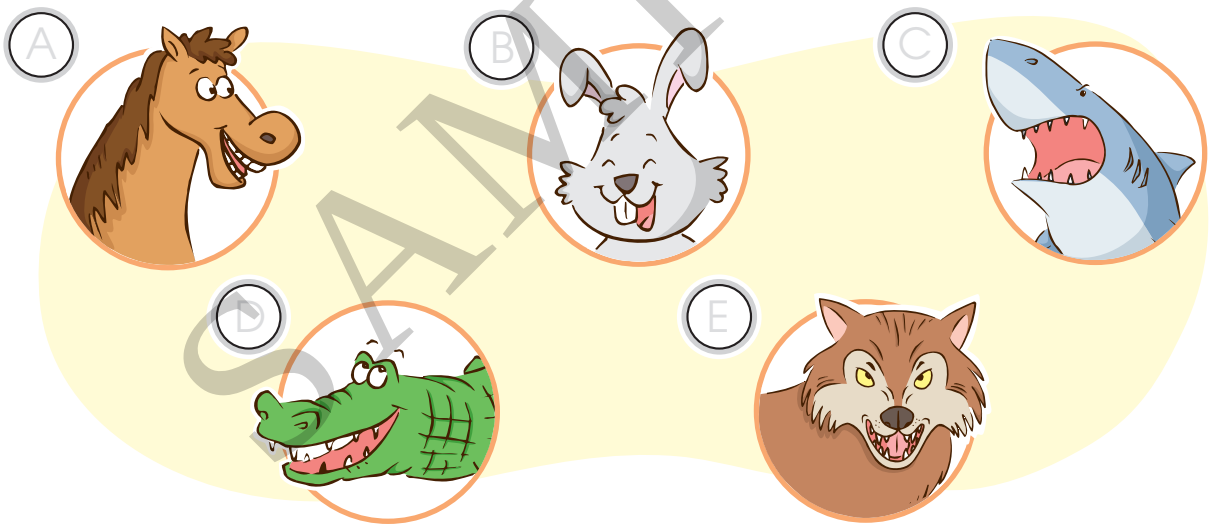
Extension

Animals have specialized teeth to help them eat. Take a closer look at the teeth of a lion and a giraffe. You can see that lions have sharp and long teeth, called fangs, for tearing meat. These sharp teeth are like knives, which are perfect for lions because they are meat eaters. How about the teeth of a giraffe? Giraffes have big, flat teeth which are perfect for grinding their favorite food – leaves. Giraffes are plant eaters.

Look in a mirror and check your teeth to see what kind you have. Are you a meat eater or plant eater?

A. Check the animals that are meat eaters. Then answer the questions.

1.



2. Name one feature the meat eaters have in common.

_____

3. Look at the animals that you did not check. What do they eat?

_____

B. Fill in the blanks with the given words to complete the paragraph. Then classify the animals.

herbivores	omnivores	consumers
carnivores	producers	decomposers

1. _____ , mostly plants, are always at the beginning of a food chain. Next are the 2. _____, which are animals. Based on their eating habits, animals are classified as one of three types of consumers: animals that eat plants are 3. _____ ; animals that eat other animals are 4. _____ ; and animals that eat both plants and animals are 5. _____ . 6. _____ are always directly linked to the producer in a food chain.

7. **Types of Animals**

A _____

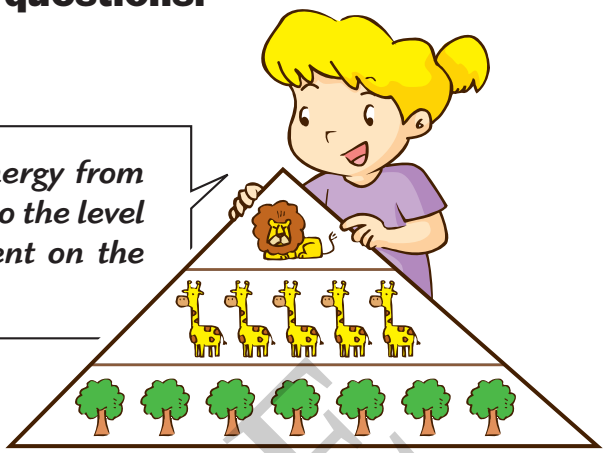
B _____

C _____

D _____

E _____

C. Read what the girl says. Complete the food chain with the given animals and label each of them as an omnivore, a herbivore, or a carnivore. Then answer the questions.



Every level of a food chain gets energy from the level below it and gives energy to the level above it, so every level is dependent on the level below for survival.

1. **bobcat** **caterpillar** **bird**

leaf → _____ → _____ → _____
(herbivore) ( ) ( )

2. **lizard** **grasshopper** **snake**

grass → _____ → _____ → _____
( ) ( ) ( )

3. What would happen to the food chains if the producers disappeared?

_____

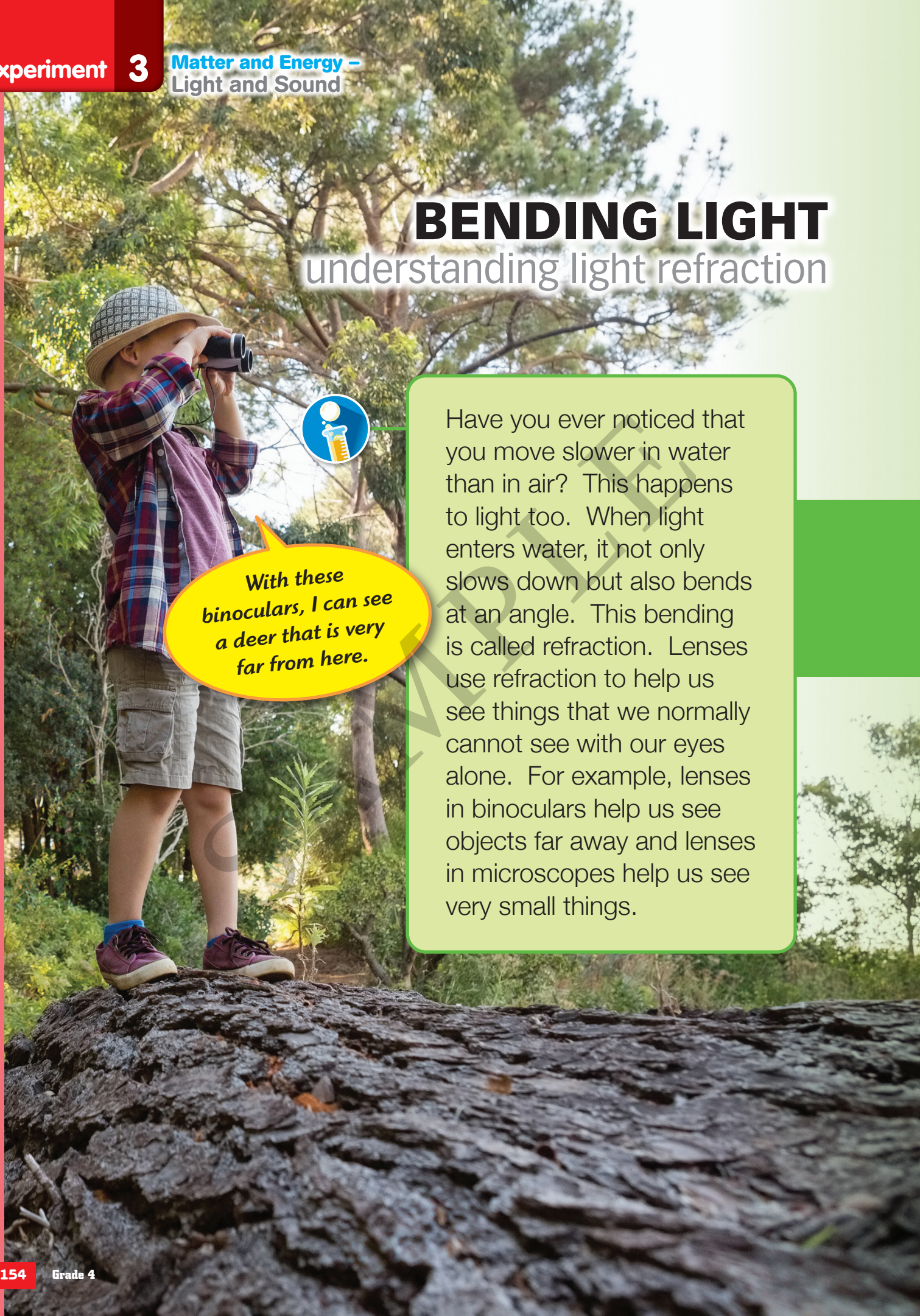
4. Look at the food chain in Question 2. What would happen if the lizard was not there? Explain.

_____

_____

BENDING LIGHT

understanding light refraction



Have you ever noticed that you move slower in water than in air? This happens to light too. When light enters water, it not only slows down but also bends at an angle. This bending is called refraction. Lenses use refraction to help us see things that we normally cannot see with our eyes alone. For example, lenses in binoculars help us see objects far away and lenses in microscopes help us see very small things.

What you need:

2 identical glass jars

water

2 paper clips

2 pencils

Difficulty:

●○○○○

Time needed:
15 minutes

In these experiments, you will explore the refraction of light.

What to do:

Experiment 1

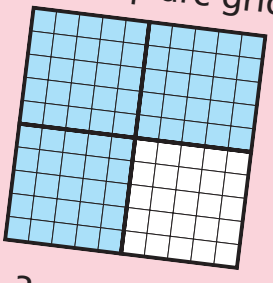
1. Place a pencil in each jar.
2. Fill one jar about three-quarters full with water.
3. Look at the pencil in each jar from the side. What did you see?

Experiment 2

1. Place a paper clip under each jar.
2. Fill one jar with water.
3. Look at the paper clip from the side of each jar at different angles. Did you notice that the paper clip under the jar with water could not be seen at certain angles?

STEM Note

100-square grid



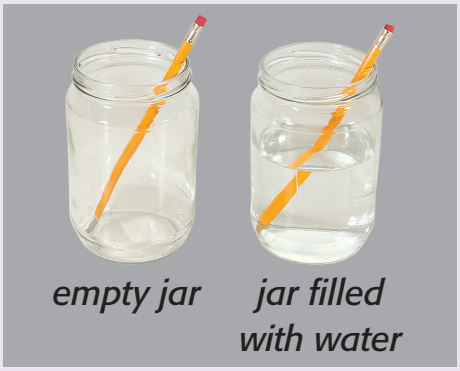
$1 = 100\%$

$\frac{1}{100} = 1\%$

- $\frac{3}{4}$ of the grid filled
- 75 of 100 small squares filled

$\frac{3}{4} = \frac{75}{100} = 75\%$

In the experiments, it might seem that optical illusion was at work. In fact, what the pencil and paper clip demonstrated was a phenomenon called light refraction – that is, when light travels from one medium to another, such as from air to water, it changes its speed and direction.



In Experiment 1, the pencil in the empty jar looked straight. However, in the jar filled with water, the pencil appeared to be broken. In this case, when the pencil was in the water, the light from the pencil reached our eyes after passing through the water, the glass, and the air. As it crossed different media at different speeds, it changed directions. Because of this change in direction, our eyes perceived the pencil as being bent, making it appear to be broken.

In Experiment 2, the paper clip under the jar filled with water seemed to disappear at certain angles also due to light refraction. Just like Experiment 1, as the light traveled through the glass, water, and air to reach our eyes, it got refracted. The light from the paper clip under the jar got bent in such a way that our eyes could not see the paper clip at certain angles.

STEM INQUIRY

- What is the difference between light reflection and light refraction?
- Refraction can sometimes put us at risk. When you look down to the bottom of a swimming pool from the edge and find it look shallow, does it mean it is safe to enter the water?

- Eyeglasses use light refraction to help people with vision problems see clearly. Do you know how they work? Research online with the permission from an adult to find out.

- In Experiment 2, you made the paper clip disappear to some extent. Can you design a decorative toy that shows different images when you look at it at different angles using the properties of light?

- In Experiment 1, hold the pencil in water such that it is perpendicular to the water surface and observe. Did the pencil look bent?

Fun to know

Electricity-free Light Bulbs

Have you ever heard of light bulbs that do not use electricity? In some countries where electricity is not readily available, people make light bulbs by using bottles filled with water and a bit of bleach (to prevent the growth of algae). When sunlight passes through the bottles of water attached to the roof, it gets refracted in all directions to light up dark rooms. This innovation helps people light up their rooms (with small or no windows) during the daytime without the use of electricity.