

What Causes Reflections?

Cross-Curricular Focus: Physical Science



Light from the sun or a light bulb moves in straight waves. When the light waves hit an object, they bounce off of it. This action is called **reflection**. For most objects, the light bounces in many directions at the same time. When this happens, it allows us to see the object. A picture of the object is sent to the brain from the eye. The brain helps us understand what we see.

Light waves also bounce when they hit a smooth, shiny surface. Hitting a surface like a **mirror** makes the light waves bounce directly back to your eyes. This movement allows you to see yourself. It creates a reflection. You see the objects around it instead of the mirror itself. Anything shiny may act like a mirror when the light hits it. Have you ever seen your face reflected in the rounded side of a pot or pan? You can even see reflections on the surface of water if it is smooth and still. You have probably seen beautiful pictures of mountain scenes. Often the mountains and sky are reflected on the smooth surface of the lake.

Water and glass have a special ability. They can refract, or bend, light. That's why a spoon in a clear glass of water will look bent when it really is not. The ability of glass to refract light has given us some useful products. Eyeglasses help us see clearly. Magnifying glasses enlarge our view of an object.

Name: _____

Answer the following questions based on the reading passage. Don't forget to go back to the passage whenever necessary to find or confirm your answers.

1) How does light travel?

2) Why can we see objects?

3) How do light waves act when they hit a smooth or shiny surface?

4) Will a lake filled with people boating and swimming act like a mirror? Why, or why not?

5) What ability of glass allows us to magnify, or make things larger?

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Answer the following questions based on the reading passage. Don't forget to go back to the passage whenever necessary to find or confirm your answers.

Actual wording of answers may vary.

1) How does light travel?

in straight waves

2) Why can we see objects?

Because light bounces off objects in many directions at the same time.

3) How do light waves act when they hit a smooth or shiny surface?

They bounce directly back to our eyes.

4) Will a lake filled with people boating and swimming act like a mirror? Why, or why not?

No, because the surface must be smooth and still to create a reflection.

5) What ability of glass allows us to magnify, or make things larger?

the ability to refract, or bend, light
