

Light Bounces!

by ReadWorks



Take a look around. What do you see? All of the objects that surround you—a book, a plant, a pen, a door and even your own body—can only be seen thanks to light. Light is a type of energy that helps us see the world we live in. When it's completely dark, it is impossible to see anything. Light comes from different places. The sun, stars, lightning and fire all give off light. So do light bulbs, flashlights and candles. Most living things need light in order to survive.

Some objects produce their own light, but most do not. The walls in the room you are in do not give off their own light. The light coming down from the ceiling lights above your head bounces right off the walls. If it didn't, we would not be able to see the walls at all. How do we see things? When light from any source bounces off an object and into our eyes, we are able to see that object. Take a look at your pencil. You can see the pencil because light is bouncing off it and entering your eyes. This "bouncing off" is called "reflection."

Transparent, or see-through, objects let the light pass right through them. Light can shine

through glass and clear plastic. It can also move through water and air. When light travels, it travels in a straight line.

Some objects block the light, like trees, buildings, and even you! When an object blocks the light, light cannot pass through to the other side. This is how shadows are made. When the sun shines on a tree, it cannot shine right through the tree. The tree blocks the light beams. On the other side of the tree, you will see a dark spot that is shaped like the tree. That is its shadow, the place where the sun cannot reach.

Try standing in front of a wall that is all lit up by a flashlight. Your body does not allow light to pass through it, so it will create a shadow on the wall. You can use all kinds of objects to block the light and make shadows. Try forks and spoons from your kitchen, your shoes or a stuffed animal. Try moving your body or one of these objects around to change the shape of the shadow! The closer the object moves to the flashlight, the bigger and fuzzier its shadow will be. The further the object moves away from the flashlight, the smaller and sharper its shadow will be.

Using a mirror, you can take light from one place and make it travel to another. Point your flashlight at the mirror. Now tilt the mirror. By moving the mirror around, you can make the light beam bounce off its shiny surface and fall on different objects in the room. Have you ever wondered why you can see your own face in a mirror? Light shines on your face, then bounces off it and hits the mirror you are looking into. Then, the light bounces, or reflects, off the mirror and right into your eyes.

Light bounces around! If it didn't, we'd be left in the dark.

Name: _____ Date: _____

1. What important kind of energy helps us to see the world that we live in?

- A. chemical energy
- B. light energy
- C. heat energy
- D. potential energy

2. What does the author mainly describe in the passage?

- A. how electricity helps to power our light bulbs
- B. how the movement of light helps us to view objects
- C. how some objects produce their own light
- D. how the energy of light helps plants to grow

3. Read the following sentences: "When the sun shines on a tree, it cannot shine right through the tree. The tree blocks the light beams. On the other side of the tree, you will see a dark spot that is shaped like the tree. That is its shadow, the place where the sun cannot reach."

Based on this evidence, what conclusion can be made?

- A. When an object blocks the light, light can pass through to the other side.
- B. When an object blocks the light, light cannot pass through to the other side.
- C. Sunlight has the ability to pass directly through trees.
- D. The dark spots behind the trees are places where other trees can't grow.

4. Read the following sentences: "Try standing in front of a wall that is all lit up by a flashlight. Your body does not allow light to pass through it, so it will create a shadow on the wall. You can use all kinds of objects to block the light and make shadows. The closer the object moves to the flashlight, the bigger and fuzzier its shadow will be. The further the object moves away from the flashlight, the smaller and sharper its shadow will be."

Based on this evidence, what will you see if you shine a flashlight on a wall, then place a fork very close to the flashlight?

- A. a big and fuzzy shadow shaped like a fork
- B. a small and sharp shadow shaped like a fork
- C. a big and fuzzy shadow shaped like a flashlight
- D. a small and sharp shadow shaped like a flashlight

5. What is this passage *mostly* about?

- A. the way flashlights work
- B. the way our eyes work
- C. the way light moves
- D. the way trees grow

6. Read the following sentences: "**Transparent**, or see-through, objects let the light pass right through them. Light can shine through glass and clear plastic."

As used in the passage, "**transparent**" can be understood to have the same meaning as what word?

- A. objects
- B. pass
- C. shine
- D. clear

7. Choose the answer that best completes the sentence below.

We are able to see objects _____ when light moves, it bounces off of the objects and into our eyes.

- A. until
- B. because
- C. thus
- D. even

8. What is created when the movement of light is blocked by an object and cannot pass through to the other side?

9. Why can you see your own face in a mirror?

10. At the end of the passage, the author writes, "Light bounces around! If it didn't, we'd be left in the dark." What does the author mean by this?

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A shadow is created when the movement of light is blocked by an object and cannot pass through to the other side.

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Light shines on your face, then bounces off it and hits the mirror you are looking into. Then, the light bounces, or reflects, off the mirror and right into your eyes.

10. At the end of the passage, the author writes, "Light bounces around! If it didn't, we'd be left in the dark." What does the author mean by this?

The author means that if light didn't bounce around, it wouldn't bounce off of objects and into our eyes, allowing us to see. We would only see darkness.