



BUILDING BLOCKS OF PHYSICAL SCIENCE

Light

What is light, and how do we see? Follow cartoon character "Light" through raindrops, eyeballs, and telescopes to find out!

What did you learn?

QUESTIONS

- Light can travel through which of the following?
 - Air
 - Water
 - Space
 - All of the above
- When light hits an object, the object can what?
 - Absorb the light
 - Reflect the light
 - Let the light pass through it
 - All of the above
- Near-sighted people need which type of lens?
 - Concave
 - Convex
 - Flat
 - None of the above
- Bees and other insects use which type of light to see where a flower has nectar?
 - Infrared
 - Ultraviolet
 - X-ray
 - Radio
- Can you describe what happens when light passes between air and water?
- Can you describe the process of your eyes seeing an object?

TRUE OR FALSE?

- | | |
|---|---|
| _____ 1. Artificial light comes from the sun. | _____ 4. Shadows form when a transparent object blocks the path of light. |
| _____ 2. Light moves so quickly that it could circle Earth seven times in one second. | _____ 5. Visible light with longer wavelengths is more violet. |
| _____ 3. Black objects capture most of the light that strikes them. | _____ 6. White light is made of all the colors of the visible spectrum. |

ANSWERS

- 1. d. All of the above.** According to page 8, we know that, "Light can travel through air, water, and space." So, the correct answer is D.
- 2. d. All of the above.** According to page 10, we know that, "When light hits an object, several things can happen. The object can absorb me ... reflect me ... or let me pass right through it." So, the correct answer is D.
- 3. a. Concave.** According to page 25, we know that, "Near-sighted people need a concave lens." So, the correct answer is A.
- 4. b. Ultraviolet.** According to page 27, we know that, "Bees and other insects use ultraviolet light to see where a flower has nectar." So, the correct answer is B.
- 5.** According to page 14, we know that Light says, "I move slower through water than through air. My speed changes. This can cause me to refract, or bend."
- 6.** According to pages 22 and 23, we know that, "The light is refracted slightly as it goes into the outside coat of the eyeball. The cornea! Then the light passes through the small opening called the pupil. The pupil controls how much light enters the eye. The light then travels through the lens. The lens refracts the light so that it strikes the retina as a clear image. The image that the lens focuses onto the retina is upside down. The retina changes the image into signals that your brain can understand. The brain then uses the signal to make a picture. It also flips the image around."

TRUE OR FALSE? ANSWERS

- 1. False.** According to page 6, we know that, "Natural light comes from the sun." So, the correct answer is False.
- 2. True.** According to page 9, we know that, "I move so fast I could circle Earth seven times in one second!" So, the correct answer is True.
- 3. True.** According to page 11, we know that, "Black objects capture most of the light that strikes them." So, the correct answer is True.
- 4. False.** According to page 12, we know that, "Shadows form when an opaque object blocks the path of light." So, the correct answer is False.
- 5. False.** According to page 17, we know that, "Light with longer wavelengths is red." So, the correct answer is False.
- 6. True.** According to page 20, we know that, "... white light is made of all the colors of the visible spectrum. So, the correct answer is True.