

Name: \_\_\_\_\_ Date: \_\_\_\_\_

## Answer Key: Bending Light and Mirror Wonders Grade 5 Quiz

Ray tracing, medium density, and focal points — 10 questions analyzing how light interacts with translucent materials and curved surfaces.

---

**1. A periscope allows a submarine crew to see above the water. Which optical phenomenon makes this possible using two mirrors?**

**Answer:** C) Reflection

Reflection is when light bounces off a surface; a periscope uses mirrors to bounce light from the surface down to the observer's eye.

**2. When light travels from air into a thicker material like a block of gelatin, the light slows down and causes the beam to \_\_\_\_.**

**Answer:** B) Bend

Refraction occurs when light changes speed as it enters a different medium, causing the path of the light to bend.

**3. A magnifying glass is a type of converging lens that brings light rays together at a single point.**

**Answer:** A) True

Converging lenses are thicker in the middle and bend light inward toward a focal point, making objects appear larger.

**4. If you are standing in front of a flat mirror and raise your right hand, your 'reflection' appears to raise its \_\_\_\_ hand.**

**Answer:** B) Left

Plane mirrors produce images that are laterally inverted, meaning the left and right sides appear swapped.

**5. Some security mirrors in hallways curve outward. These are called convex mirrors. What is their main advantage?**

**Answer:** B) They provide a wider field of view

Convex mirrors curve outward, reflecting light from a wide area into your eye, allowing you to see more of the surroundings.

Name: \_\_\_\_\_ Date: \_\_\_\_\_

**6. Light travels at the exact same speed through air, water, and glass.**

**Answer:** B) False

Light slows down when it moves through denser materials like water or glass compared to its speed in air.

**7. Scientists use a 'prism' to demonstrate how white light is actually made of many colors. What process is happening inside the prism?**

**Answer:** B) Refraction

Prisms use refraction to bend different colors of light at different angles, separating them into a spectrum.

**8. A spoon is like a \_\_\_\_\_ mirror on the side that holds the food, because it curves inward like a cave.**

**Answer:** C) Concave

Concave surfaces curve inward. This shape can reflect light to a focal point or create an upside-down image.

**9. If you shine a flashlight at a mirror at a 45-degree angle, at what angle will the light bounce off?**

**Answer:** C) 45 degrees

The Law of Reflection states that the angle of incidence (incoming light) is equal to the angle of reflection (outgoing light).

**10. Lenses work by reflecting light off their front surface to create an image.**

**Answer:** B) False

Lenses work by refraction; light passes through the lens material and bends, rather than just bouncing off the surface like a mirror.