

Name: _____ Date: _____

Answer Key: Bending Beams and Shiny Surfaces: 5th Grade Optics Quiz

Imagine catching a beam of light with a hand mirror or watching a pool noodle 'snap' in the water as students identify reflection and refraction in action.

1. When you look into a shiny metal spoon and see your face, what is the light doing?

Answer: B) Bouncing off the surface

Reflection happens when light hits a smooth, shiny surface and bounces back toward our eyes.

2. A pair of eyeglasses uses a ____ to help a person see more clearly by focusing light.

Answer: C) Lens

Lenses are curved pieces of clear material that bend light to help focus images on the back of the eye.

3. True or False: Light travels in a straight line until it hits an object or enters a new material.

Answer: A) True

In a single medium like air, light rays move in straight paths until they interact with something else.

4. Which of these objects is designed to reflect as much light as possible?

Answer: C) A silver bathroom mirror

Mirrors are coated with reflective materials to bounce light back predictably so we can see an image.

5. The process of light bending as it moves from air into a swimming pool is called ____.

Answer: B) Refraction

Refraction occurs because light changes speed when it moves from one material (air) into another (water).

6. Why does a magnifying glass make a tiny ant look much larger?

Answer: C) It bends light rays inward toward your eye

The curved lens of a magnifying glass refracts (bends) light rays so they spread out, making the object appear bigger.

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7. True or False: A shadow is created when an object reflects all the light hitting it.

Answer: B) False

Shadows are formed when an object blocks light, not when it reflects it.

8. An object that lets some light through but scatters it so you cannot see clearly, like a frosted shower door, is ____.

Answer: C) Translucent

Translucent materials allow some light to pass through but blur the details of what is on the other side.

9. Which tool would a scientist use to see stars that are very far away in space?

Answer: B) Telescope

Telescopes use large lenses or mirrors to gather and focus light from distant objects in space.

10. True or False: Smooth water can act like a mirror.

Answer: A) True

When water is calm and smooth, it provides a surface that reflects light rays evenly, creating a clear image.