**Name:** _____ **Date:** _____

# Answer Key: Bouncing and Bending: A 3rd Grade Quest into Light Optics

Foundational practice identifying how sunlight interacts with everyday objects like spoons, puddles, and glass to help young scientists predict light behavior.

---

**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 your eyes.

**2. Light travels in a straight line until it hits an object.**

**Answer:** A) True

Light rays always move in straight paths unless they are reflected or refracted by something in their way.

**3. A pool of water can act like a _____ because it reflects an image of the trees above it.**

**Answer:** C) Mirror

Any smooth surface that bounces light back to show an image is acting like a mirror.

**4. Why does a pencil look 'broken' when you put it in a glass of water?**

**Answer:** B) The light bends as it enters the water

This is called refraction. Light changes speed and bends when it moves from air into water.

**5. Dark-colored clothes reflect more light than white-colored clothes.**

**Answer:** B) False

Dark colors absorb light, while lighter colors like white reflect most of the light that hits them.

**6. Objects that let 'all' light pass through them so you can see clearly are _____.**

**Answer:** B) Transparent

Transparent materials, like clear glass windows, allow light to pass straight through without scattering.

**Name:** _____ **Date:** _____

**7. What optical tool do people use to see tiny details on a butterfly wing?**

**Answer:** B) A magnifying glass

A magnifying glass uses a curved lens to bend light, making small objects look much larger.

**8. A prism works by bending light to show all the colors of the rainbow.**

**Answer:** A) True

Prisms use refraction to separate white light into different colors like red, orange, and blue.

**9. If you want to block light to make a shadow on the wall, you should use an _____ object.**

**Answer:** A) Opaque

Opaque objects, like your hand or a book, do not let light pass through, which creates a shadow.

**10. Which of these is the best example of refraction in nature?**

**Answer:** C) A rainbow in the sky after rain

Rainbows are created when sunlight bends (refracts) as it passes through tiny drops of water in the air.