

Name: _____ Date: _____

Answer Key: Super Shiny Science: Second Grade Optics Quiz

Students investigate how light behaves when hitting shiny spoons or passing through a glass of water during this hands-on science station review.

1. If you are standing in a dark room with no windows and the lights are off, why can't you see your favorite toy?

Answer: B) There is no light to bounce off the toy and enter your eyes.

To see an object, light must hit it and then travel to our eyes. Without a light source, we cannot see anything.

2. When you look into the back of a shiny metal spoon, your face looks upside down because the light _____ off the curved surface.

Answer: C) reflects

Reflection is when light bounces off a surface. Curved surfaces like spoons can bounce light in ways that make images look silly or upside down.

3. Light always travels in a perfectly straight line, even when it moves from air into a pool of water.

Answer: B) False

Light travels in straight lines through one material, but it bends (refracts) when it moves from air into water.

4. Which of these objects is designed specifically to bend light so that tiny words look much bigger?

Answer: C) A magnifying glass

A magnifying glass uses a curved lens to bend light rays inward, which makes the object you are looking at appear larger.

5. A _____ surface, like a calm pond or a window, allows you to see a clear reflection of yourself.

Answer: A) smooth

Light bounces off smooth surfaces in a very organized way, which creates a clear image or reflection.

6. Eyeglasses help people see better because the glass lenses bend light to help it focus on the back of the eye.

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Answer: A) True

Glasses use the science of refraction to change the direction of light so it hits the eye correctly for a clear picture.

7. If you shine a flashlight at a brick wall, why don't you see your reflection?

Answer: C) The wall is bumpy and scatters the light in many directions.

Rough or bumpy surfaces scatter light everywhere. Only very smooth surfaces reflect light back perfectly enough to see an image.

8. When you put a pencil in a half-full glass of water, it looks like the pencil is _____ at the edge of the water.

Answer: B) broken

This is a trick of refraction! Because light bends as it enters the water, the part of the pencil in the water looks like it isn't lined up with the top.

9. A dark, black t-shirt reflects more light than a bright, white t-shirt.

Answer: B) False

White objects reflect most of the light that hits them, while dark objects absorb (soak up) most of the light.

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

Answer: B) A colorful rainbow in the sky

Rainbows happen when sunlight bends (refracts) as it enters raindrops and splits into different colors.