

Nova's Starlit Science: The Mystery of Light

Learning objective: To understand that light travels from a source, forms shadows when blocked, and reflects off surfaces.

Read the passage carefully and answer the questions below. Think deeply about how light behaves in the world around us.

Nova the barn owl loves the night sky, but she knows that without light, we would see nothing at all. Light travels in straight lines from a source, such as the Sun, a torch, or a glowing star. When light strikes an object, it can pass through, reflect, or be absorbed. If an object is opaque, light cannot pass through it, which results in the formation of a dark shadow. Nova often watches how light behaves on her adventures. She notices that when she flies near a still pond, the surface acts like a mirror, creating a clear reflection of the moon. This happens because the light rays hit the smooth water and bounce back to her eyes. However, when the water is rippled by a breeze, the light scatters, and the reflection becomes blurry. Understanding these properties of light helps Nova navigate the forest safely. Whether it is the bright glare of the midday sun or the faint twinkle of distant constellations, light is the key to our ability to observe and interpret the magnificent world around us.

Word bank: luminous · reflection · opaque · transparent · shadow · source · beam

1. Identify two examples of light sources mentioned in the passage. (2 marks)

2. What happens to light when it strikes an opaque object? (2 marks)

3. Why does a reflection look different in a still pond compared to a rippled one? (2 marks)

4. Based on the text, explain why Nova says that light is the 'key' to observing the world. (2 marks)

5. Do you agree that light is more important than sound when exploring the forest at night? Justify your answer. (3 marks)

Draw: Draw a diagram showing a light source (like a torch) shining on a toy, and draw the resulting shadow on the wall. Label the light source, the opaque object, and the shadow.



Extension challenge: Compare and contrast how light behaves when hitting a mirror versus a piece of black fabric. Justify why one creates a reflection and the other does not. What might happen if all objects in the world were transparent?