

Nova's Night-Time Light Investigation

Learning objective: To understand how light travels and how we see objects.

Read the text carefully and answer the questions below using full sentences where required.

Nova the barn owl is an expert in nocturnal science. She knows that light is essential for vision, but she often wonders how it behaves. Light travels from a source, such as the Sun or a torch, in perfectly straight lines. When these rays hit an object, they bounce off, or reflect, into our eyes, which is how we perceive the world around us.

Nova observes that not all materials behave the same way. If an object is opaque, light cannot pass through it at all, creating a dark shadow behind the object. Some materials are translucent, allowing only some light to pass through, while transparent materials let light travel straight through them. Nova finds it fascinating that when she looks into a still pond at night, the water acts like a mirror because of the way light reflects off the surface. By understanding these properties, Nova can navigate the woods even on the darkest nights. Whether it is a glowing moon or a flickering firefly, light is the key to Nova's brilliant adventures in the night sky.

Word bank: transparent · translucent · opaque · reflection · straight lines · luminous

1. According to the text, in what way does light travel from a source? (1 mark)

2. What happens when light hits an opaque object? (1 mark)

3. Why does the surface of a still pond appear to act like a mirror to Nova? (2 marks)

4. Why is it important for a nocturnal animal like Nova to understand how light behaves? (2 marks)

5. Do you think it would be easier for Nova to hunt on a night with a full moon or a night with no moon? Justify your answer using the text. (3 marks)

Draw: Draw a diagram showing a torch shining a beam of light towards a mirror, including arrows to show the path of the light rays reflecting off the surface.



Extension challenge: Research and write a short paragraph explaining how a periscope uses mirrors and the reflection of light to help people see around corners.