

Nova's Guide to Light and Shadows

Learning objective: To explain how we see light and how shadows are formed.

Use the prompts below to help you write a scientific explanation. Remember to use your best handwriting and include scientific vocabulary from the word bank.

Nova the owl loves to watch the stars at night, but she knows that without a light source, we would not be able to see anything at all.

Word bank: light source · reflection · shadow · opaque · transparent · translucent · blocked · travels · because · however

1. What is a light source? Start your sentence with: A light source is something that... (2 marks)

2. How does light travel? Describe the path light takes by starting with: Light travels in a straight line until it... (2 marks)

3. What happens when an opaque object gets in the way of light? Start your sentence with: When an opaque object blocks the light, a shadow is formed because... (2 marks)

4. How do shadows change size? Explain this by starting with: Shadows can change size if the object moves closer to or further away from the... (2 marks)

5. Why is it important to protect our eyes? Start your sentence with: We must never look directly at the Sun because... (2 marks)

Extension challenge: Imagine you are a scientist like Nova. Can you draw a diagram showing how a torch creates a shadow when it shines on a toy? Label your diagram using the words 'light source', 'opaque object', and 'shadow'.