Nova’s Guide to the Science of Light

Learning objective: To explain how light travels and how we see objects through scientific observation.

Use the prompts below to structure your explanation of light. Remember to use scientific vocabulary and clear, logical steps to describe how light interacts with the world around us.

Nova the owl observed the night sky and noticed that light behaves in fascinating and predictable ways.

Word bank: straight lines · reflection · transparent · translucent · opaque · refraction · visual cortex · therefore · consequently · furthermore · in contrast

1. How does light travel? Start your paragraph by explaining the direction of light rays: (2 marks)

2. Explain the difference between transparent, translucent, and opaque materials. Give an example for each: (3 marks)

3. How does reflection occur? Describe what happens when a light ray hits a smooth, shiny surface: (2 marks)

4. Describe the process of how we see an object. Remember to mention the eye and how light enters it: (3 marks)

5. Think of a time you have seen a shadow. Explain why shadows are formed using the concept of light travelling in straight lines: (2 marks)

Extension challenge: Nova wants to know about refraction! Research how light bends when it passes through water and write a short paragraph explaining why a straw looks 'broken' in a glass of water.