Nova’s Light and Optics Experiment Record

Learning objective: To observe and explain how light travels in straight lines and how we see objects.

Help Nova the barn owl investigate how light behaves! Use this record sheet to document your findings after conducting a practical experiment with a torch, mirrors, or opaque objects. Fill in the boxes below to explain your scientific observations.

Word bank: straight lines · reflection · light source · opaque · transparent · shadow · incident ray · reflected ray

1. The Light Source: Identify the light source used in your experiment and describe how it produces light. (2 marks)

2. Light Travel: Using your observations, explain why light is described as travelling in straight lines. (3 marks)

3. Shadow Formation: Describe what happened when you placed an opaque object in the path of the light. Why was the shadow formed? (3 marks)

4. Mirror Reflection: If you used a mirror, draw and describe the path of the light as it bounced off the surface. (3 marks)

5. Conclusion: How do we see objects? Summarise the journey of light from the source to your eyes. (4 marks)

Extension challenge: Nova wants to challenge you: If you were in a completely dark room with no light sources, would you be able to see an object? Explain your reasoning using your knowledge of how light enters the eye.