

Nova's Night-Time Light Experiment

Learning objective: To identify how light reflects from surfaces and understand that we need light to see objects.

Follow the steps to complete your diagram, ensuring you use a ruler for light rays. Use the word bank to label your finished drawing.

Draw: Create a clear, scientific diagram on A4 paper. Use a sharp pencil and a ruler for all light beams. The style should be clean and labelled like a textbook illustration. Include Nova the Owl, a torch, and a mirror. Ensure the light rays are represented by straight lines with arrows pointing in the direction the light is travelling.



Label words: Light source · Light ray · Reflective surface · Mirror · Nova the Owl · Reflection

Steps:

1. Step 1: Draw Nova the Owl standing on a branch at night. Near her, draw a torch shining a beam of light towards a flat mirror. Label the torch as the 'Light source'.
2. Step 2: Use a ruler to draw a straight line (a light ray) from the torch to the mirror. Then, draw a second line showing the light bouncing off the mirror. Why does the light change direction?
3. Step 3: Label the 'Light ray' and the 'Reflection' on your diagram.
4. Explain why Nova would not be able to see the mirror if she were in a completely dark room with no light

source.

5. Compare and contrast: What might happen if you replaced the smooth, shiny mirror with a piece of dark, rough fabric? Justify your answer.

6. If Nova wanted to use light to signal to her friend Leo the Lion across the forest, how could she use the mirror to help her?