

Nova's Night-Time Light Investigation

Learning objective: To understand that light from light sources is needed to see objects, and to recognise that light is reflected from surfaces.

Read each question carefully and use your scientific knowledge about light to write your answers. Think about what Nova the owl sees when she is exploring at night!

Nova the owl is out stargazing. She knows that to see the world around her, she needs light. Whether it is a natural light source like the moon or stars, or an artificial light source like a torch, light allows us to see things clearly. When light hits an object, it bounces off and travels to our eyes. Some surfaces are very good at bouncing light back, while others block the light completely.

Word bank: light source · reflection · darkness · shadow · mirror · surface · transparent · opaque

1. Nova has a list of items: a glowing torch, a bright star, a wooden chair, and a candle. Which two of these are light sources? Explain why they are light sources. (2 marks)

2. Why is it impossible to see anything in a room that is completely dark? Use the word 'light' in your answer. (2 marks)

3. Max the monkey is playing with a mirror. When he shines his torch at the mirror, the light bounces off it. What is the scientific name for this process? (1 mark)

4. Look at these objects: a clear glass window and a thick metal tray. Which object would create a shadow if you shone a torch at it? Why? (2 marks)

5. If you are standing in a sunny garden, why can you see your own shadow on the grass? (2 marks)

Draw: Draw a diagram showing a torch shining light onto a mirror, and use an arrow to show the path of the light bouncing off the mirror.



Extension challenge: Nova wants to know which materials in your house are the best at reflecting light. Choose three different objects, shine a torch at them, and record which one reflects the most light back to your eyes.