

Year 4 Science Assessment: Light and Shadows

Learning objective: To demonstrate understanding of how we see, how shadows are formed, and the properties of light reflection.

Read each question carefully. Use the word bank to help you with your answers. Ensure your explanations are clear and use scientific vocabulary where appropriate.

Nova the owl is preparing for her nightly observation of the stars. She knows that to see objects, light must enter her eyes. She also understands that light travels in straight lines and can be affected by the materials it hits.

Word bank: reflection · transparent · opaque · translucent · shadow · source · mirror · surface · blocked

1. Name two natural sources of light and two man-made sources of light. (2 marks)

2. Explain why we cannot see anything in a room that is completely dark. (2 marks)

3. Define the difference between an opaque object and a transparent object. Give one example of each. (4 marks)

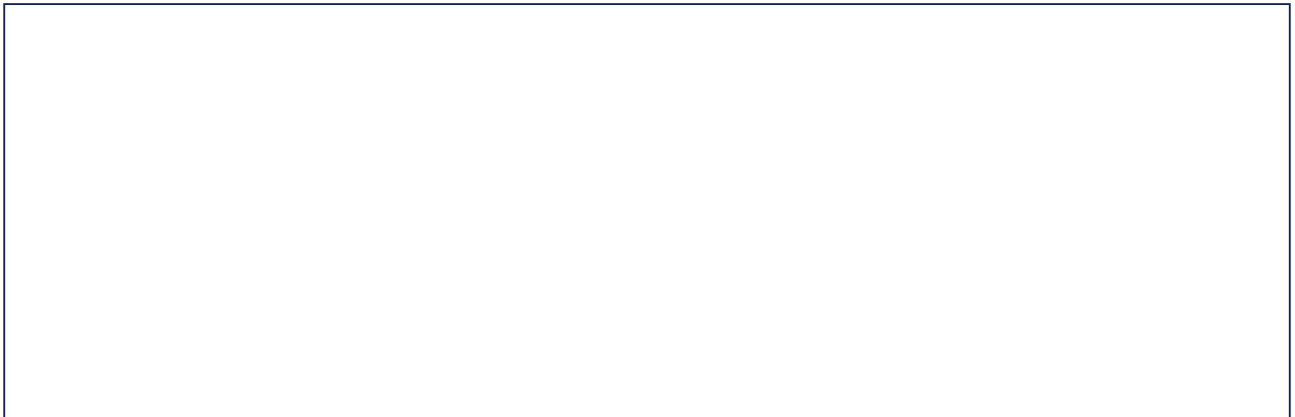
4. Max the monkey is playing with a torch and a piece of card. How is a shadow created when the light hits the card? (4 marks)

5. If you are looking at your reflection in a mirror, describe what is happening to the light rays. (4 marks)

6. Nova notices that shadows change size throughout the day. Write a short paragraph explaining why a shadow might look longer at sunrise than it does at midday. (5 marks)

7. Why is it dangerous to look directly at the Sun, even with sunglasses on? (4 marks)

Draw: Draw a diagram showing a light source (a torch), an opaque object (a ball), and the shadow it creates on a wall. Use an arrow to show the path of the light.



Extension challenge: Total: /25