

Nova's Starlight Science: Understanding Light

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

Nova the barn owl is stargazing! To understand how she sees the stars, you must help her complete the sequence of how light travels. Read the statements below and put them in the correct order (1-5) to show how light allows us to see a non-luminous object, like a book on a dark night.

Word bank: straight line · reflection · light source · pupil · travels · surface · eye

1. Light travels from a light source (like a torch) in a straight line towards the object. 2. The light hits the surface of the object. 3. The light bounces off the object. This is called _____. 4. The light enters the _____ of the eye. 5. The brain processes the information so we can see the object. Sequence the logic: Why does light need to travel in a straight line for us to see? (2 marks)

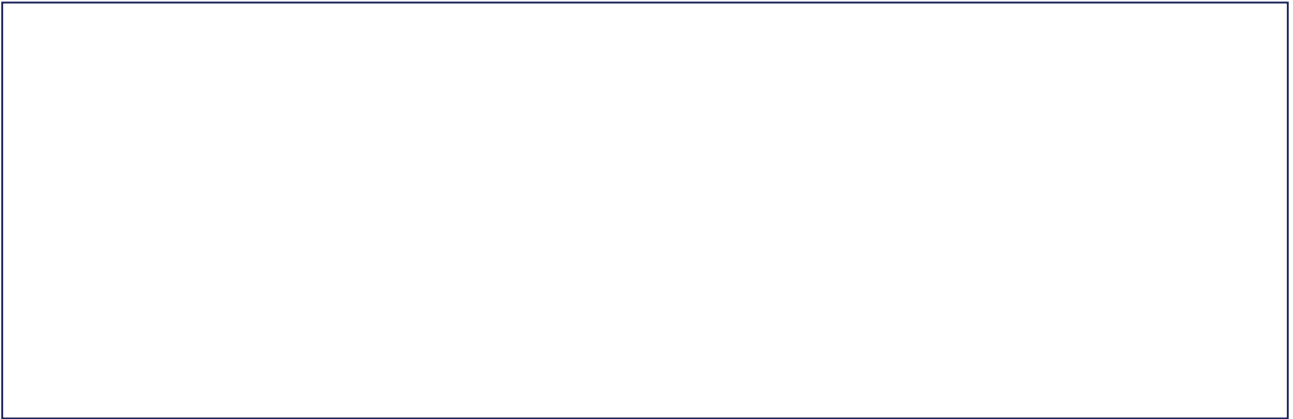
2. If you hold a piece of card between your eyes and a light source, why can you no longer see the light? (2 marks)

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

4. Is the moon a light source? Explain your reasoning using the word 'reflection'. (2 marks)

5. Max the monkey is playing with a mirror. If he shines a torch at a mirror, the light changes direction. What is the scientific name for this process? (1 mark)

Draw: Draw a diagram showing a torch shining light onto a ball, and use an arrow to show the light bouncing off the ball towards an eye. Remember to draw the light as a straight line!



Extension challenge: Nova wants to know: If light travels at 299,792 kilometres per second, why do we see shadows? Research how shadows are formed when an opaque object blocks a light source and write a short explanation for Nova.