

Nova's Magnetic Discovery

Learning objective: To understand the properties of magnets, including attraction, repulsion, and the identification of magnetic materials.

Read the passage carefully and answer the questions below using full sentences.

Nova the barn owl was busy tidying her library when she discovered a collection of mysterious metallic objects. She held a bar magnet near a paperclip, and with a satisfying 'click', it jumped towards the magnet. Nova recorded this in her science journal, noting that the magnet exerted an invisible force. She tested various items: a wooden ruler, a plastic spoon, and a steel coin. Only the steel coin was attracted to the magnet. Nova then tried to push two magnets together. When she placed the North pole of one magnet near the North pole of another, they pushed away from each other; this is called repulsion. However, when she turned one around so the North pole faced the South pole, they pulled together instantly. Nova realised that magnets have two ends, called poles, and they behave differently depending on which sides are facing. She concluded that iron and steel are magnetic materials, while non-metals like wood and plastic are not affected by magnetic forces at all. It was the most fascinating discovery of her afternoon.

Word bank: attract · repel · magnetic · pole · force · iron · steel

1. Which two materials mentioned in the passage are magnetic? (2 marks)

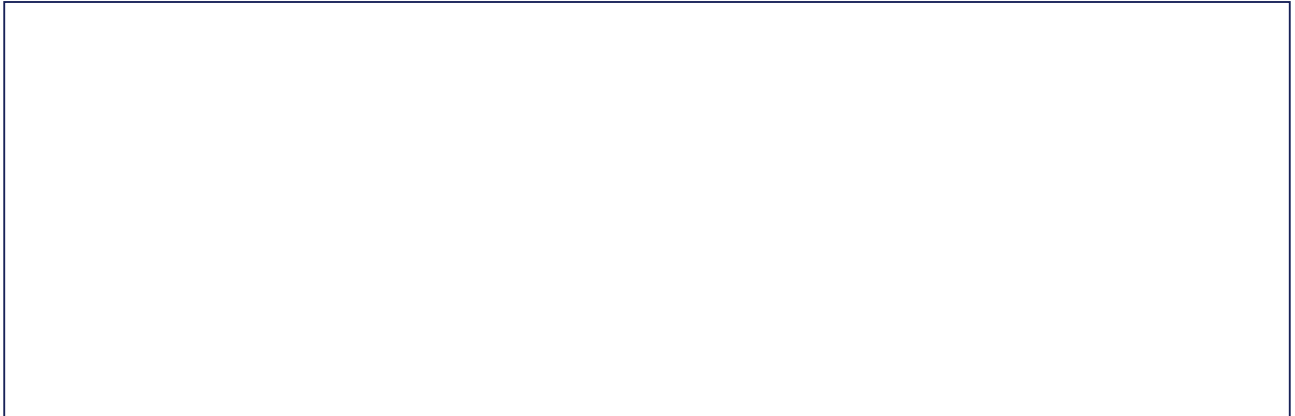
2. What happens when two identical poles (e.g., North and North) are placed near each other? (2 marks)

3. Why do you think the paperclip 'jumped' towards the magnet? (2 marks)

4. Based on the text, how would you describe the difference between how a magnet reacts to a plastic spoon compared to a steel coin? (2 marks)

5. Nova says that magnets have invisible forces. Do you agree that science can be found in everyday objects? Justify your answer. (2 marks)

Draw: Draw a diagram showing two magnets repelling each other. Label the North and South poles and draw arrows to show the direction of the pushing force.



Extension challenge: Research how a compass works. Write a short paragraph explaining how the Earth acts like a giant magnet to help explorers find their way.