Nova’s Magnetic Mystery Challenge

Learning objective: To identify magnetic materials, understand magnetic poles, and describe how magnets interact with each other.

Join Nova the owl on her night-time adventure! Answer these 10 questions to prove you are a master of magnetism. Write your answers clearly in the space provided.

Answer Key: 1. A (Iron), 2. False, 3. Attract, 4. B (Magnetic field), 5. True, 6. Repel, 7. Iron, 8. True, 9. North and South, 10. False. (Note: Only opposite poles attract; like poles repel.)

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

1. 1. Which of these materials is magnetic? A) Plastic, B) Iron*, C) Wood, D) Aluminium (1 mark)

2. 2. True or False: All metals are magnetic. (1 mark)

3. 3. What happens when you bring the North pole of one magnet close to the South pole of another? (1 word) (1 mark)

4. 4. What is the area of invisible force around a magnet called? A) Gravity, B) Magnetic field*, C) Orbit, D) Current (1 mark)

5. 5. True or False: Magnets can exert force without touching an object. (1 mark)

6. 6. What happens if you try to push the North pole of two magnets together? (1 word) (1 mark)

7. 7. If you have a mixture of sand and iron filings, what material could you use to separate them? (1 word) (1 mark)

8. 8. True or False: The Earth acts like a giant magnet. (1 mark)

9. 9. What are the names of the two ends of a bar magnet? (1 mark)

10. 10. True or False: A magnet will attract a copper coin. (1 mark)

Draw: Draw a diagram of two bar magnets side-by-side with their North and South poles labelled, showing the invisible magnetic field lines curving between them.

Extension challenge: Nova wants to know: If you were lost in a forest, how could you use a magnet to help you find your way? Write a short paragraph explaining how a compass works.