

Nova's Magnetic Mission

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

Read each question carefully and use your knowledge of magnetic forces to answer. Remember to look at the word bank if you need help with scientific terms.

Nova the barn owl is exploring the forest using a compass and a powerful bar magnet to investigate materials hidden under the fall leaves.

Word bank: attract · repel · magnetic · poles · force · iron · steel · north · south

1. Nova finds a pile of objects: a plastic button, an iron nail, a wooden twig, and a steel paperclip. Which two items will the magnet attract? Explain why. (2 marks)

2. If Nova holds the North pole of one magnet close to the North pole of another magnet, what will happen? Use the correct scientific term in your answer. (1 mark)

3. Why is a compass useful for explorers like Nova? Think about how the Earth acts like a giant magnet. (2 marks)

4. Define the word 'force' in the context of how a magnet works when it is not touching an object. (2 marks)

5. If you have two magnets and they pull towards each other, what does this tell you about the poles that are facing each other? (1 mark)

Draw: Draw two bar magnets side-by-side showing what happens when the South pole of one is placed near the North pole of the other. Use arrows to show the direction of the magnetic force.



Extension challenge: Design a simple experiment to test which household items are magnetic. Write down your prediction, the equipment you would need, and how you would ensure it is a fair test.