

Nova's Magnetic Mystery Hunt

Learning objective: To identify magnetic and non-magnetic materials and understand that magnets have two poles that can attract or repel.

Nova the barn owl is tidying her laboratory. She has mixed up a box of items and needs your help to sort them. Look at the list of objects below and decide if they are magnetic (attracted to a magnet) or non-magnetic. Then, answer the questions about how magnets behave.

Word bank: Magnetic · Non-magnetic · Attract · Repel · North Pole · South Pole · Iron · Steel

1. Sort these items into two groups: Paperclip, Plastic ruler, Iron nail, Wooden pencil, Steel key, Glass marble. Which group are they in? (3 marks)

2. Nova brings two magnets together. If she puts the North Pole of one magnet near the North Pole of another, what will happen? (2 marks)

3. Explain why a wooden table is not magnetic. (2 marks)

4. If you wanted to test if a mystery metal object was made of iron, what would you use and what result would you look for? (2 marks)

5. Max the monkey wants to use a magnet to pick up some coins. He finds a £1 coin and a 5p coin. Will they be attracted to his magnet? (Hint: Research what UK coins are made of). (2 marks)

Draw: Draw a diagram of two bar magnets placed end-to-end. Label the poles 'N' and 'S' and draw arrows to show whether the magnets are moving towards each other (attracting) or pushing away from each other (repelling).



Extension challenge: Design a simple investigation to find out if the strength of a magnet changes depending on its distance from an object. Write down one variable you would keep the same to make it a fair test.