Nova’s Magnetic Discovery

Learning objective: To understand how magnets work, identify magnetic materials, and explore magnetic poles.

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

Nova the barn owl was busy exploring her workshop. She picked up a shiny horseshoe magnet and held it near a pile of objects on her desk. She noticed that the magnet pulled towards the metal paperclips and a small iron key. These objects are magnetic. Nova tried to touch the magnet to a plastic button and a wooden pencil, but nothing happened. She remembered that magnets only attract certain metals, like iron and steel.

Nova then picked up two bar magnets. She pushed the ends together. When she tried to push the two north poles together, she felt a strange, invisible force pushing them apart. This is called repelling. When she turned one magnet around so that a north pole faced a south pole, they clicked together instantly. Nova realised that opposite poles attract, while same poles repel. She carefully labelled her magnets so she would not mix them up during her next science experiment. She loved how these invisible forces could make things move without even touching them!

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

1. Which two materials does the text mention that are magnetic? (2 marks)

2. What happens when you try to push two north poles of a magnet together? (1 mark)

3. Why did nothing happen when Nova touched the magnet to the plastic button? (2 marks)

4. How can you tell that the force between the magnets is 'invisible'? (2 marks)

5. Do you think it is helpful to label magnets? Explain why using evidence from the text. (3 marks)

Draw: Draw a diagram showing two bar magnets repelling each other. Label the north (N) and south (S) poles and draw arrows to show the direction of the invisible force.

Extension challenge: Go on a 'magnet hunt' around your home. Create a table to record five items you find, predicting whether each one is magnetic or non-magnetic before testing it with a magnet.