

Nova's Magnetic Investigation Lab

Learning objective: To investigate, record, and justify findings about magnetic forces and materials in the environment.

Join Nova the Barn Owl in her laboratory. Your task is to test a variety of objects to see if they are magnetic. Follow the scientific method: make a prediction, conduct your experiment, and use your observations to draw a conclusion. Remember to use precise scientific vocabulary when explaining your results.

Word bank: magnetic · non-magnetic · attract · repel · force · material · ferrous · investigation · prediction · conclusion

1. Prediction: Which materials do you hypothesise will be attracted to the magnet, and why? Justify your thinking. (2 marks)

2. Methodology: Briefly describe the steps you took to ensure your test was fair. What variable did you keep the same? (3 marks)

3. Observations: Create a list of the objects you tested. Categorise them into 'magnetic' and 'non-magnetic'. (4 marks)

4. Analysis: Compare and contrast the properties of the objects that were attracted to the magnet. What do they have in common? (3 marks)

5. Evaluation: Explain why some metal objects were attracted to the magnet while others remained unaffected. (3 marks)

6. Prediction: What might happen if you attempted to use a magnet through a thick barrier, such as a wooden desk or a pane of glass? Explain your reasoning. (3 marks)

Extension challenge: Design a creative invention that uses magnets to solve a daily problem at home or school. Write a short paragraph explaining how the magnetic force enables your invention to function effectively.