Nova’s Science Lab: Investigating Mixtures

Learning objective: To describe and explain how mixtures can be separated, using scientific terminology such as filtration, sieving, and evaporation.

Use this scaffold to write a scientific report on how to separate a mixture of sand, salt, and water. Use the word bank to help you link your ideas together.

Nova the owl has been experimenting in her laboratory to find out how to separate a tricky mixture of salt, sand, and water.

Word bank: subsequently · dissolved · filtrate · residue · evaporation · mixture · components · furthermore · consequently · insoluble

1. Introduction: What is a mixture and why is it important to understand how to separate the components? Start by saying: 'A mixture is defined as...' (2 marks)

2. The First Stage: Describe the process of using a sieve or filter paper to remove the sand. You could start with: 'To begin the separation, I used a filter because...' (3 marks)

3. The Second Stage: How can we recover the salt from the remaining saltwater solution? Explain the process of evaporation by writing: 'Once the sand was removed, the next step was...' (3 marks)

4. Conclusion: Summarise what you have learned about the properties of the materials. Try starting with: 'In conclusion, this experiment demonstrates that...' (2 marks)

Extension challenge: Imagine you are helping Kit the fox separate a mixture of iron filings and sawdust. How would your method change? Write a short paragraph explaining why using a magnet would be the most efficient first step.