

Y5 Separating Mixtures

KS2 Y5 Science · Follows the national curriculum

Name _____ Class _____ Date _____

1. Worked example

How do you choose a separation method?

Step 1 · Are the parts solids of different sizes?

Sieve

Step 2 · Is an insoluble solid mixed with a liquid?

Filter

Step 3 · Is a solid dissolved in a liquid?

Evaporate the liquid

Step 4 · Is one part magnetic?

Use a magnet

Answer: Look at what each part is like — size, solubility, magnetism — and pick the method that uses that difference.

Check: Every separation works because the two materials have a different property.

2. Now try one with the steps

Why can't you filter salt out of salty water?

Step 1 · What size are the pieces of dissolved salt?

Step 2 · What does filter paper do?

Step 3 · So...

Answer:

3. Practice

Have a go at each one. There is space underneath to work it out.

1. Which method separates solids of different sizes?

2. Which method separates an insoluble solid from a liquid?

3. Which method gets a dissolved solid back from a solution?

4. How would you separate iron filings from sand?

5. How would you separate rice from flour?

6. How would you separate chalk dust from water?

7. What is left in the dish when salty water evaporates?

8. What is left on the filter paper when sandy water is filtered?

9. Why can't filtering separate sugar from sugary water?

10. Put these steps in order to separate sand and salt: filter, evaporate, add water and stir.

11. A colander is used to drain pasta. Is this sieving or filtering? Explain.

12. A mixture contains 40 g of sand and 25 g of salt. What is the total mass in grams?

13. After separating 80 g of a mixture, Leo recovers 74 g. How many grams were lost?

14. A mixture contains steel paper clips, marbles, sand and salt. Name the FOUR steps to separate everything.

4. Before you hand it in

You can filter salt out of salt water.

Evaporate the water to get the salt back.

Sieving and filtering are the same.

Sieve sand from pebbles; filter sand from water.

Filtered water is clean enough to drink.

Filtered water looks clearer but is not safe to drink.

When the water evaporates, the salt goes too.

Evaporating leaves the dissolved solid behind.