

# Separating mixtures

Chemistry - Key Stage 3

Particles - Lesson 9

Miss Mason



# Recap

1. What is the difference between a pure and an impure substance?

***A pure substance is made up of only...  
whereas an impure substance is made up of...***

2. Define the word 'mixture'.

***A mixture is a combination of s\_\_\_\_\_ that are not chemically b\_\_\_\_\_ together.***

3. What is the law of conservation of mass?

***The mass of the r\_\_\_\_\_ is always e\_\_\_\_\_ to the mass of the p\_\_\_\_\_.***

4. Why (as humans) do we not feel the pressure that the gases in the air around us exert?

***Because the pressure i\_\_\_\_\_ our bodies is e\_\_\_\_\_ to the pressure o\_\_\_\_\_ our bodies.***

5. Sketch a heating curve and label the areas where there is a change of state (but constant temperature) and the areas where there is a change in temperature (but no change of state).



# Copy and complete

To separate very large particles from a mixture, we could use a s\_\_\_\_\_.

To separate smaller, i\_\_\_\_\_ particles from a mixture, we would need to use the process of f\_\_\_\_\_.

This involves using f\_\_\_\_\_ p\_\_\_\_\_ and a f\_\_\_\_\_ to catch the i\_\_\_\_\_ solid and allow the l\_\_\_\_\_ in the mixture to pass through to the beaker underneath.

To separate s\_\_\_\_\_ solids (solutes) from a mixture, we would need to use the process of e\_\_\_\_\_.

This involves h\_\_\_\_\_ the mixture until the water e\_\_\_\_\_, leaving the s\_\_\_\_\_ solid behind.



# Spot the mistakes

1. Some mixtures need to have more than one separation technique applied. This is usually evaporating and boiling.
2. The first step involved taking filter paper and a cone to remove soluble solids from a solution.
3. These solids are caught by the filter paper and the rest of the mixture passes through.
4. The mixture then has to be cooled to evaporate off the remaining liquid. Equipment needed for this is a Bunsen burner, tripod, gauze and condensing basin.
5. Once the water has evaporated, the insoluble solids will be left behind in the basin.



**You have been given the task of separating a mixture of copper sulphate salt and water. Use your knowledge of separating techniques to describe how this could be done.**

**Words to use:** filtration, evaporation, heating, filter paper, funnel, evaporating basin, Bunsen burner, insoluble, soluble.

