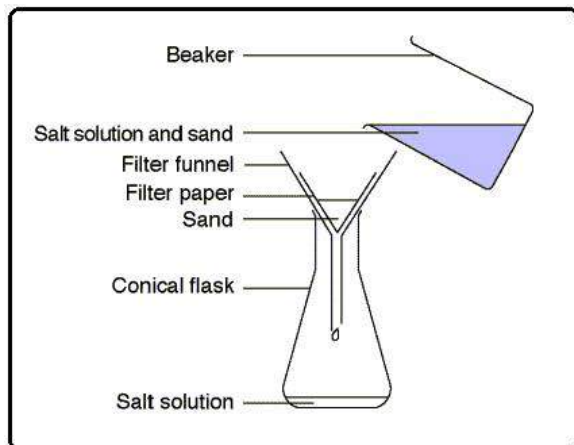


# Filtration



- **Solute:** A solution contains a solid dissolved in a solvent.
- **Solute:** The dissolved solid is called as the solute.
- **Solvent:** The liquid that dissolves the solid is the solvent.
- **Filtration:** Filtration is a method for separating an insoluble solid from a liquid.
- **Residue:** The solid that stays on the filter paper is the residue.
- If a substance does not dissolve in a solvent, we say that it is insoluble. For example, sand does not dissolve in water - it

is insoluble.

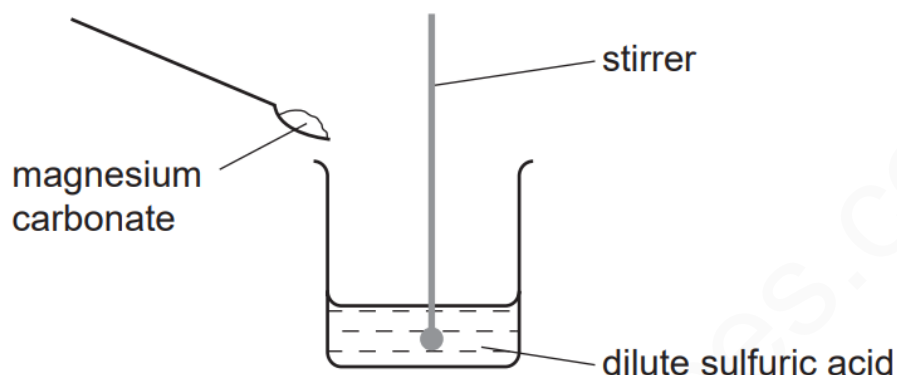
When a mixture of sand and water is filtered:

- the sand stays behind in the filter paper (it becomes the residue)
  - the water passes through the filter paper (it becomes the filtrate)
- 
-

### APPLICATION BASED QUESTIONS

A student carries out an experiment to prepare pure magnesium sulfate crystals.

The diagram shows the first stage of the preparation.



He adds magnesium carbonate until no more reacts.

Which process should he use for the next stage?

- A** crystallisation
- B** evaporation
- C** filtration
- D** neutralisation

ANSWER:C

A student separates salt from a mixture of salt and sand.

What is the correct order of steps for the student to take?

- A** filter → evaporate → shake with water
- B** filter → shake with water → evaporate
- C** shake with water → evaporate → filter
- D** shake with water → filter → evaporate

ANSWER:D

Mixture 1 contains sand and water.

Mixture 2 contains salt and water.

Which method of separation could be used to obtain each of the required products from each mixture?

	mixture 1		mixture 2	
	to obtain sand	to obtain water	to obtain salt	to obtain water
<b>A</b>	crystallisation	distillation	filtration	filtration
<b>B</b>	crystallisation	filtration	filtration	distillation
<b>C</b>	filtration	distillation	crystallisation	filtration
<b>D</b>	filtration	filtration	crystallisation	distillation

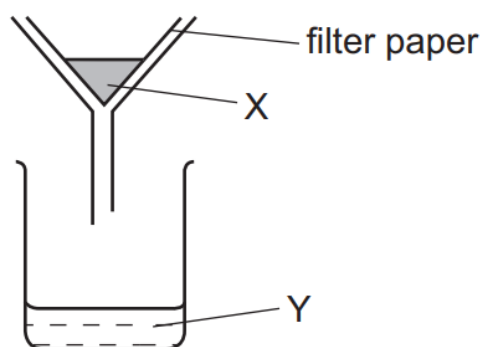
ANSWER:D

Which method is most suitable to obtain zinc carbonate from a suspension of zinc carbonate in water?

- A crystallisation
- B distillation
- C evaporation
- D filtration

ANSWER:D

The diagram shows a method for separating a substance that contains X and Y.

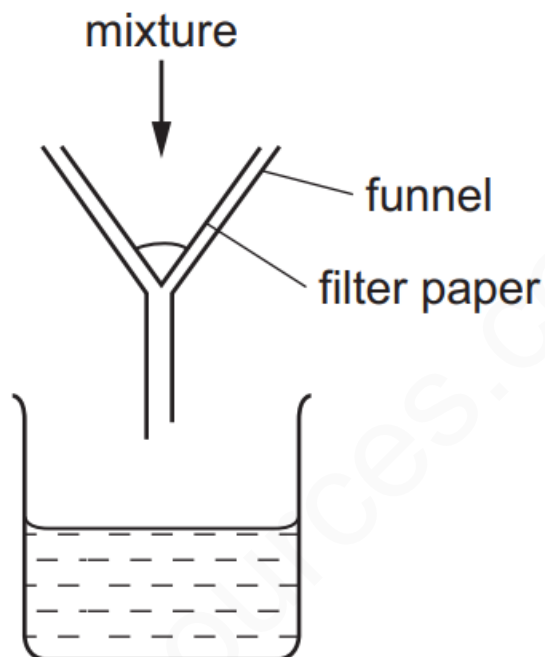


Which types of substance can be separated as shown?

- A** compounds
- B** elements
- C** mixtures
- D** molecules

**ANSWER:C**

A mixture is separated using the apparatus shown.

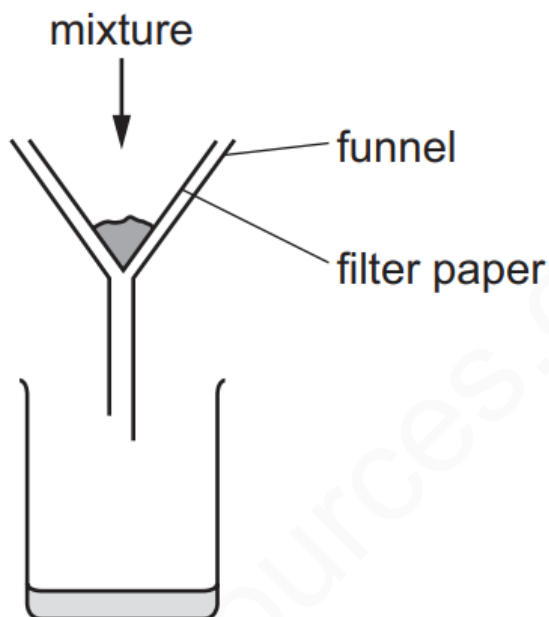


What is the mixture?

- A** aqueous copper chloride and copper
- B** aqueous copper chloride and sodium chloride
- C** ethane and methane
- D** ethanol and water

ANSWER:A

The apparatus used to separate a mixture is shown.



What is the mixture?

- A** aqueous calcium chloride and aqueous calcium nitrate
- B** calcium carbonate and aqueous calcium chloride
- C** ethanol and water
- D** sand and calcium carbonate

ANSWER:B