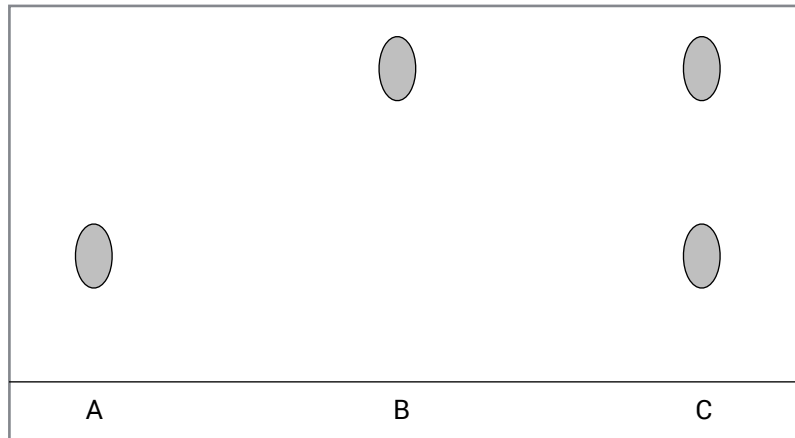


0 1

Colours are used to coat some chocolate sweets.

Chromatography was used to compare three of the colours used to coat the chocolate sweets.



What do these results tell you about these three colours?

[3 marks]

- colours A and B are made up of only one colour / dye / are pure **[1]**
- colour C is made up of two colours / dyes / is a mixture **[1]**
- colour C is a mixture of colours A and B **[1]**

0 2

Rock salt is a mixture of sand and salt.

Salt dissolves in water. Sand does **not** dissolve in water.

Some students separated rock salt.

This is the method used.

1. Place the rock salt in a beaker.
2. Add 100 cm³ of cold water.
3. Allow the sand to settle to the bottom of the beaker.
4. Carefully pour the salty water into an evaporating dish.
5. Heat the contents of the evaporating dish with a Bunsen burner until salt crystals start to form.

0 2

1

Suggest **one** improvement to step 2 to make sure all the salt is dissolved in the water. **[1 mark]**

any one from:

- heat
- stir

[1]

0 2

2

The salty water in step 4 contains a few small grains of sand.

Suggest **one** improvement to step 4 to remove all the sand.

[1 mark]

filter [1]

0 2

3

Suggest **one** safety precaution the students should take in step 5.

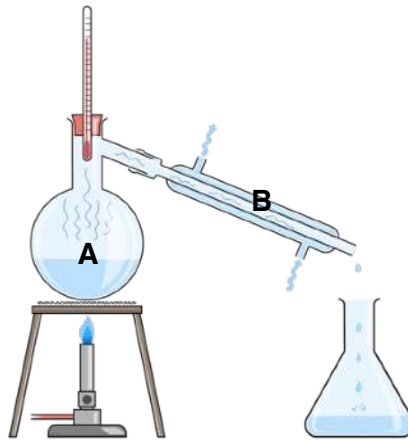
[1 mark]

any one from:

- wear safety specs / goggles
- wear an apron

[1]

Another student removed water from salty water using the apparatus in the figure below.



0 2

4

Describe how this technique works by referring to the processes at A and B.

[2 marks]

A - evaporation

[1]

B - condensation

[1]

(Total 8 marks)

End