

Paper 3

Questions are applicable for both core and extended candidates

- 1 Fig. 3.1 shows a coloured crystal of cobalt(II) chloride is placed at the bottom of a beaker containing water.

After two days, the colour has spread throughout the water.

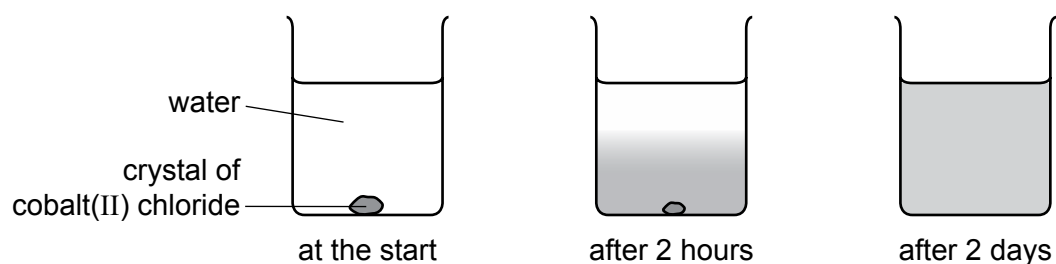


Fig. 3.1

- (a) Explain these observations.

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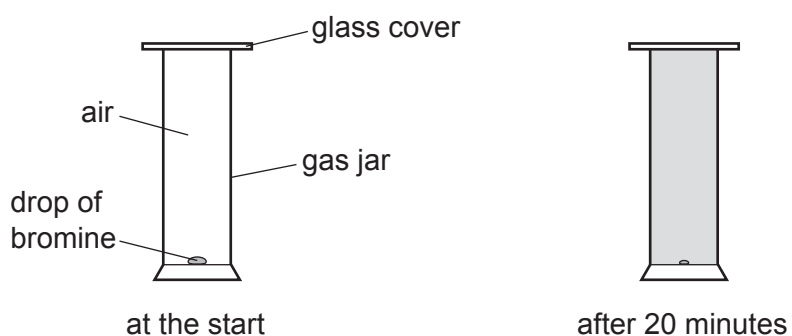
..... [3]

2 This question is about halogens.

(c) Bromine is a red-brown liquid.

A drop of liquid bromine is placed in a gas jar.

After 20 minutes the red-brown colour has spread throughout the gas jar.



Explain these observations using the kinetic particle model.

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..... [3]

Paper 4

Questions are applicable for both core and extended candidates
unless indicated in the question

- 3 This question is about the first 30 elements in the Periodic Table.

Name the element which:

- (e) is the gas with the slowest rate of diffusion at room temperature (extended only)

..... [1]

- 4 The names of the elements of Period 2 of the Periodic Table are shown.

lithium beryllium boron carbon nitrogen oxygen fluorine neon

Answer the following questions about these elements.

Each element may be used once, more than once or not at all.

Identify the element which:

- (e) has the highest rate of diffusion at room temperature (extended only)

..... [1]

- 5 This question is about gases found in clean, dry air and gases found in polluted air.

- (e) All gases diffuse.

- (i) Choose from the list of formulae the gas which diffuses most quickly. (extended only)

Draw a circle around your answer.

CO CO₂ CH₄ NO₂ SO₂

[1]

- (ii) Explain your answer to (i). (extended only)

..... [1]