

States of Matter

Question Paper

Level	GCSE
Subject	Chemistry
Exam Board	Edexcel IGCSE
Module	Double Award (Paper 1C)
Topic	Principles of Chemistry
Sub-Topic	States of Matter
Booklet	Question Paper

Time Allowed: 18 minutes

Score: /15

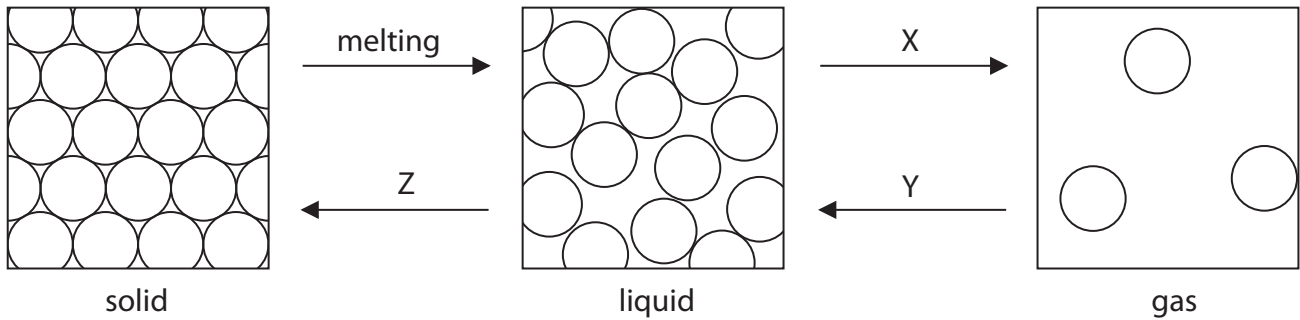
Percentage: /100

Grade Boundaries:

A*	A	B	C	D	E	U
>85%	75%	70%	60%	55%	50%	<50%

1. The three states of matter are solid, liquid and gas.

The diagram shows how the particles are arranged in each of these states.



(a) Use words from the box to show the changes of state labelled X, Y and Z.

You may use each word once, more than once or not at all.

(3)

boiling condensing crystallisation diffusion freezing

X.....

Y.....

Z.....

(b) Which statement best describes the movement of the particles in a gas?

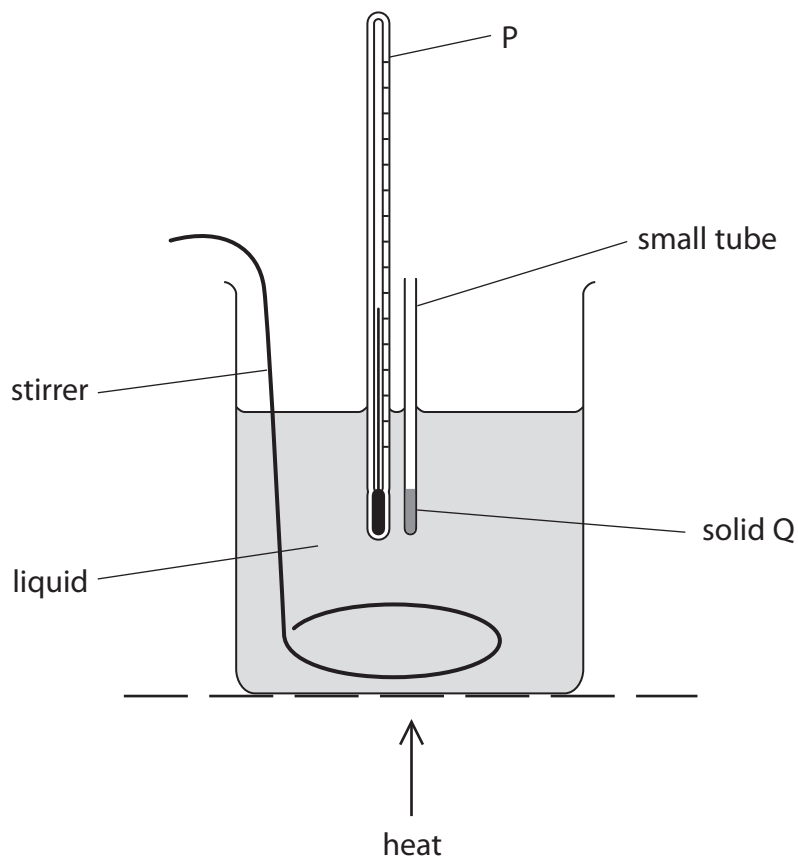
(1)

- A** The particles vibrate about fixed positions.
- B** The particles slide past one another.
- C** The particles move freely.
- D** The particles do not move at all.

(c) The diagram shows apparatus that can be used to measure the melting point of a solid.

The solid is placed in a small tube. The small tube is then put into a liquid contained in a beaker.

The liquid is gently heated and the temperature at which solid Q melts is recorded.



(i) Give the name of the apparatus labelled P.

(1)

(ii) Solid Q melts at 140°C .

Explain why water is not a suitable liquid to use in this experiment.

(1)

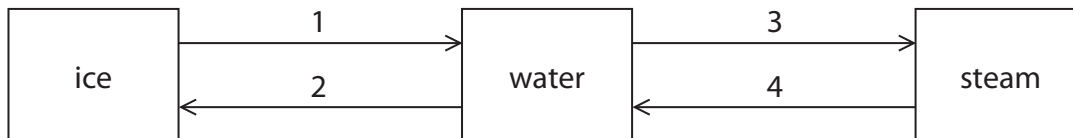
(iii) Suggest why the liquid in the beaker needs to be stirred constantly.

(1)

(Total for Question 1 = 7 marks)

2. The compound with the formula H_2O can exist in three states of matter. The names of these three states are shown in the boxes.

The numbers 1, 2, 3 and 4 represent changes of state.



- (a) The particles of H_2O are arranged differently in each state.

(i) In which state are the particles furthest apart?

(1)

(ii) In which state do the particles have the least energy?

(1)

(iii) In which state are the particles arranged in a regular pattern?

(1)

- (b) (i) Change of state 1 is called

(1)

- A boiling
- B condensing
- C freezing
- D melting

- (ii) Change of state 4 is called

(1)

- A boiling
- B condensing
- C freezing
- D melting

(c) The term sublimation is also used for a change of state.

Sublimation is the change of state from

(1)

- A** solid to liquid
- B** liquid to gas
- C** gas to liquid
- D** solid to gas

(d) Heat energy is released when steam changes to water.

(i) What term is used to describe this type of energy change?

(1)

(ii) Write an equation, including state symbols, for the change of state from steam to water.

(1)

(Total for Question 2 = 8 marks)
