

Change of State

Question Paper

Level	GCSE
Subject	Physics
Exam Board	Edexcel IGCSE
Module	Single Award (Paper 2P)
Topic	Solids, Liquids and Gases
Sub-Topic	Change of State
Booklet	Question Paper

Time Allowed: 28 minutes

Score: /23

Percentage: /100

Grade Boundaries:

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

1. The picture shows a runner.



(a) As he runs, the runner gets hot.

To avoid overheating, his body sweats.

As the sweat evaporates, it cools his body.

Use ideas about particles to explain why evaporation leads to cooling.

(3)

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(b) At the end of a long race, runners are given a shiny foil sheet to wear.

This stops them cooling down too quickly.



(i) Suggest why a runner might cool down too quickly if he does not wear a foil sheet.

(2)

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(ii) Explain how the foil sheet reduces heat loss.

(2)

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(Total for Question 1 = 7 marks)

2. The properties of materials can be explained using particle theory.

Brownian motion provides evidence to support particle theory.

(a) (i) Give an example of Brownian motion.

(1)

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(ii) Explain how Brownian motion supports the idea that matter is made from tiny particles in continuous motion.

(2)

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(b) These are some observations about samples of ice, water and steam.

	Shape	Size
ice	keeps a fixed shape	keeps a fixed size
water	takes the shape of the container	keeps a fixed size
steam	takes the shape of the container	fills the container

Explain each of the observations in terms of the arrangement and motion of the particles.

You may use diagrams to help your answer.

(6)

particles in ice

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particles in water

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particles in steam

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(Total for Question 2 = 9 marks)

3. A student investigates ice, water and steam.

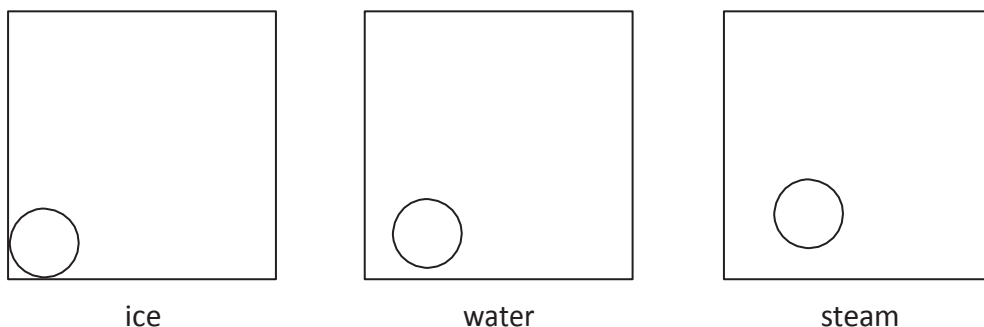
She heats up a sample of ice.

When it has all melted, she carries on heating until the water has all boiled to steam.

(a) Complete the diagram to show how the particles are arranged in ice, water and steam.

One particle in each box has been drawn for you.

(4)



(b) Complete the table by describing how the particles move in ice, water and steam.

(3)

Substance	How the particles move
ice	
water	
steam	

(Total for Question 3 = 7 marks)