

**AQA, OCR, Edexcel**

**GCSE Science**

# **GCSE Chemistry**

The three states of matter  
Answers

**M M E**

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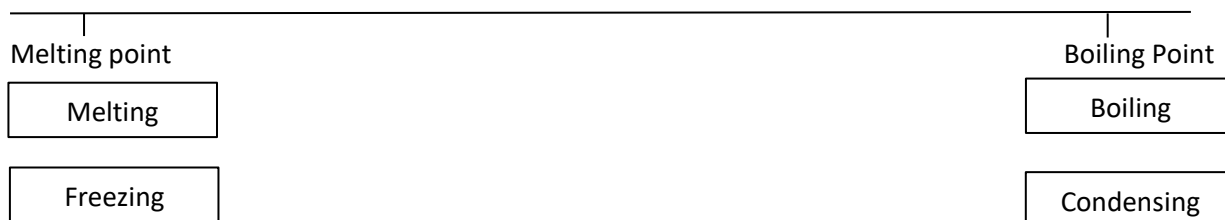
Total Marks: /16

Q1) What are the three states of matter (include their state symbols)?

- 1) A= Solid (s)
- 2) A= Liquid (l)
- 3) A= Gas (g)

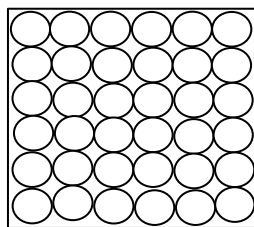
(3 marks)

Q2) Complete the diagram to show where condensing and freezing occur.

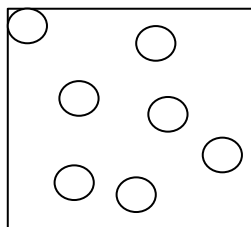


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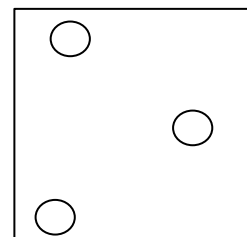
Q3) The three states of matter can be represented by a simple model. In this model, particles are represented by small circles or spheres. Complete the model diagram.



Solid



Liquid



Gas

(2 marks)

Q4) What is the limitation of this model?

A= In this model there are no forces.

(1 mark)

Q5) Different substances require different amounts of energy to change state. Why is it different amounts of energy for different substances?

A= Substances have different bonds between atoms, some bonds are stronger than others (1 mark) therefore it requires more energy for them to break apart (1 mark).

(2 marks)

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Q6) Sodium chloride's melting point is  $801^{\circ}\text{C}$ , its boiling point is  $1413^{\circ}\text{C}$ . On the basis of this, complete the table.

Temperature	Solid, liquid or gas
$1800^{\circ}\text{C}$	Gas
$400^{\circ}\text{C}$	Solid
$805^{\circ}\text{C}$	Liquid

(3 marks)

Q7) Order the substances, from highest boiling to lowest boiling point according to their type of bonds.

Highest boiling point  $\longrightarrow$  Sodium chloride (ionic bonding)



Iron (metallic bonding)

Lowest boiling point  $\longrightarrow$  Water (covalent)

(3 marks)