

Changes of Heat, Specific Latent Heat

Mark Scheme

Level	GCSE (9-1)
Subject	Combined Science: Trilogy - Physics
Exam Board	AQA
Topic	6.3 Particle Model of Matter
Sub-Topic	Changes of Heat, Specific Latent heat
Difficulty Level	Bronze Level
Booklet	Mark Scheme

Time Allowed: 12 minutes

Score: /11

Percentage: /100

Grade Boundaries:

M1.(a) Level 3 (5–6 marks):

A clear, logical explanation containing accurate ideas presented in the correct order with links between ideas.

Level 2 (3–4 marks):

Key ideas presented with some linked together to form a partial explanation.

Level 1 (1–2 marks):

Fragmented ideas, some may be relevant, insufficient links to form an explanation.

0 marks:

No relevant content.

Indicative content

- current in the wire causes heating
- increases temperature of the metal wires / ice

Solid

- arrangement of particles is regular
- particles vibrate about a fixed position

Melting

- internal energy of the ice increases, increasing the temperature to melting point
- so (as the temperature increases) particles vibrate faster
- eventually particles vibrate fast enough to break free from the (strong) bonds
- therefore the arrangement of particles becomes irregular

Liquid

- arrangement of particles is irregular
- particles movement (translational) is random

6

(b) The current in the heating element

1

The mass of ice

1

(c) latent heat of fusion

1

$$45 / 120 = 0.375$$

1

0.38

allow 0.38 with no working shown for 2 marks

allow 0.375 with no working shown for 1 mark

1

[11]