Practice Question Set For GCSE
Subject : Physics
Paper-1 Topic: GCSE Triple Science_Particle Model Of Matter (High Demand Questions)

Name of the Student:_____
Max. Marks : 26 Marks **Time : 26 Minutes**

Mark Schemes

Q1.

(a) balance / scales

1

(b) $\text{density} = \frac{\text{mass}}{\text{volume}}$

or

$\rho = \frac{m}{V}$

1

(c) $0.68 = \frac{85}{V}$

1

$V = \frac{85}{0.68}$

1

$V = 125\ (\text{cm}^3)$

1

(d) repeat readings (of volume) need taking (of each fruit) to show that the readings are close together

allow 'the same' for 'close together'

1

[6]

Q2.

(a) 0(.0) to 12(.0)

allow 2(.0) to 12(.0) (N)

1

(b) mass of gas (in the syringe)
or
temperature (of the gas)

1

(c) constant = 60 × 45
or
constant = 2700

1

2700 = p × 40

1

$$p = \frac{2700}{40}$$

1

p = 67.5 (kPa)

allow 68 (kPa)

1

(d) there is more time between collisions of particles and the walls of the syringe
or
there are less frequent collisions between the particles and the walls of the syringe

1

(causing) a lower (average) force on the walls of the syringe

1

(and) pressure is the total force per unit area

1

[9]

Q3.

(a) the gradient for ice is steeper than the gradient for water (liquid)

allow the temperature of the ice increased faster than the temperature of the water

1

which means that less energy is needed to increase the temperature by a fixed amount

1

(b) water took more time to vaporise than the ice took to melt

1

which means that less energy is needed to change the state from solid to liquid (than from liquid to vapour)

1

(c) any **two** from:

- ice/water would take more time to increase in temperature
  allow gradients would be less steep
- ice/water would take more time to change state
- the change in temperature with time would not be linear
  allow horizontal lines would be longer

2

(d) E = 69 000 (J)

1

69 000 = 0.030 × L

allow a correct substitution of an incorrectly/not converted value of E

1

$$L = \frac{69\,000}{0.030}$$

allow a correct rearrangement using an incorrectly/not

converted value of E

1

L = 2 300 000
or
L = 2.3×10^6

allow a correct calculation using an incorrectly/not converted value of E

1

J/kg

allow a unit consistent with their numerical answer
eg 2300 kJ/kg

1

[11]