Practice Question Set For GCSE
Subject : Physics
Paper-2 Topic : 14_Particle Model

Name of the Student:_____
Max. Marks : 22 Marks **Time : 22 Minutes**

Q1.

A coil of copper wire has a mass of 14.1 g.
The density, ρ, of copper is 8.96 g/cm^3.
Calculate the volume of the copper wire.

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

(3)

volume ..... cm^3

(Total for question = 3 marks)

Q2.

The volume of 380 g of ice is 410 cm^3.
Calculate the density of the ice in g/cm^3.

(2)

density = ... g/cm^3

(Total for question = 2 marks)

Q3.

Another student decides to melt some ice.

The student melts 380 g of ice at 0 °C.

The specific latent heat of fusion of ice is 3.34×10^5 J/kg.

Calculate the thermal energy needed to melt the ice.

Select an equation from the list of equations at the end of this paper.

(2)

thermal energy needed = ... J

(Total for question = 2 marks)

Q4.

* Describe how a student should carry out an experiment to determine the specific heat capacity of water.

(6)

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(Total for question = 6 marks)

Q5.

A student investigates the density of a copper block and the density of a small stone, as shown in Figure 2.

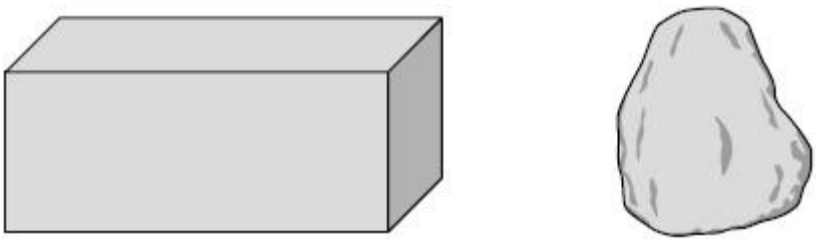

Figure 2

The student found the volume of the copper block by multiplying the area of its base by its height.

The small stone does not have straight sides.

Describe how the student could measure the volume of the small stone. You may use a diagram if it helps your answer.

(3)

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(Total for question = 3 marks)

Q6.

A student is investigating the melting of ice.

The student has some crushed ice in a beaker at a temperature of −20 °C.

The student heats the beaker and its contents for 20 minutes.

Figure 14 is a graph of the student's results.

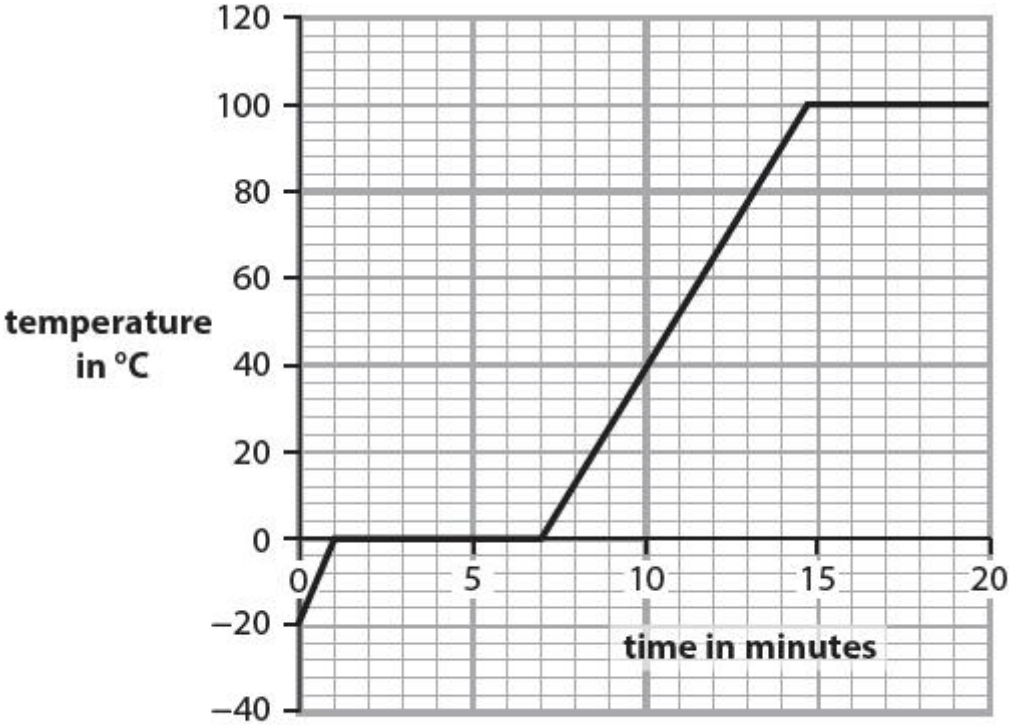

Figure 14

Using information from the graph, describe the changes that take place in the 20 minutes shown on the graph.

Your answer should refer to

- data from the graph
- the state (solid, liquid or gas) of the contents of the beaker.

(6)

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(Total for question = 6 marks)