



New Document 1

Name: _____

Class: _____

Date: _____

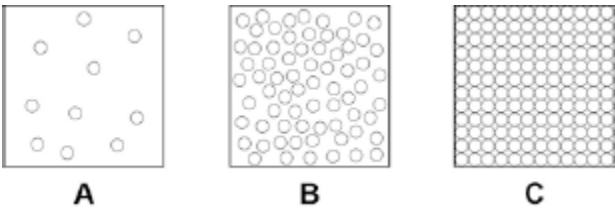
Time: **13 minutes**

Marks: **13 marks**

Comments:

1

The figure below shows a simple model of the three states of matter.



(a) What is the correct equation to work out the density of a material?

.....

(1)

(b) A student explains density to his teacher using the particle model in the figure above. His teacher says there are limitations to the model.

Give **two** limitations of the particle model in the figure above.

1

.....

2

.....

(2)

(c) When the gas in a container with a fixed volume is heated, the pressure increases as the temperature increases.

Explain why the pressure increases.

Use the model in the figure above to help you.

.....

.....

.....

.....

.....

.....

.....

.....

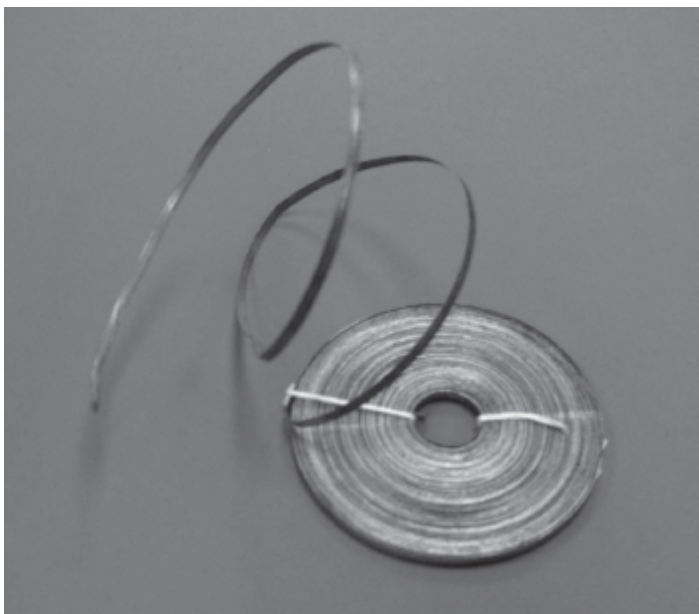
.....

.....

(4)
(Total 7 marks)

2

(a) Magnesium metal is shaped to make magnesium ribbon.



Explain why metals can be shaped.

.....

.....

.....

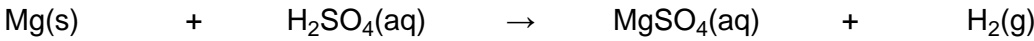
.....

.....

(2)

(b) Magnesium sulfate is a salt of magnesium.

It can be prepared by the reaction of magnesium metal with an acid. The equation for the reaction of magnesium with this acid is:



(i) Name the acid used to make magnesium sulfate.

..... acid

(1)

- (ii) Use the equation to help you to describe what you would **observe** when magnesium reacts with the acid.

.....
.....
.....
.....
.....

(2)

- (iii) The magnesium sulfate is in solution.

How could you obtain solid magnesium sulfate from this solution?

.....
.....

(1)

(Total 6 marks)