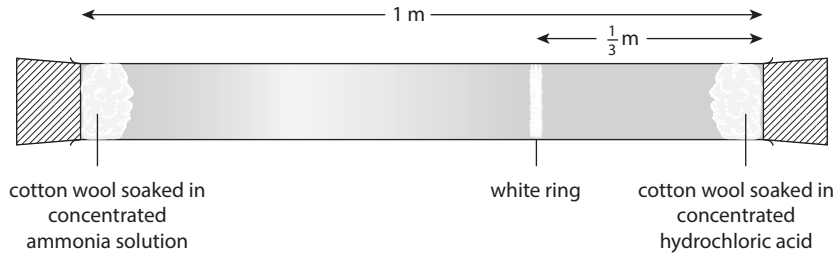


- 1 a) Kristina wanted to provide evidence that matter is made of particles, so she set up a glass tube as shown below. A white ring formed in the position indicated.



- i) Name the compound that makes up the white ring.

\_\_\_\_\_ [1]

- ii) Name the process occurring in the apparatus and give its definition.

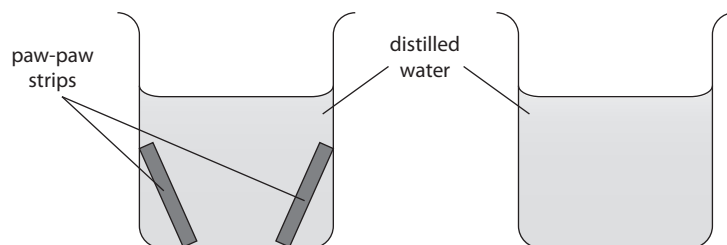
Name: \_\_\_\_\_ Definition: \_\_\_\_\_

\_\_\_\_\_  
 \_\_\_\_\_ [2]

- iii) By referring to particles, explain why the white ring formed.

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_ [3]

- b) Paul measured the lengths of two strips of paw-paw and then placed them in a beaker of water as shown in the diagram below.



i) In the second beaker, draw how the paw-paw strips would have appeared after Paul had left them in the water for 30 minutes.

[1]

ii) Explain the reason for the change Paul observed in the strips of paw-paw.

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[3]

iii) Name the process occurring in the strips. \_\_\_\_\_

[1]

c) You decide to preserve some fish using sodium chloride. Explain how the sodium chloride works as a preservative.

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[2]

**2** a) Complete the table on information about the three states of matter.

Property	Solid	Liquid	Gas
Volume	definite		
Arrangement of particles		randomly arranged with small spaces between	
Energy of particles			have large amounts of kinetic energy

[6]

b) By referring to the particulate theory of matter, explain EACH of the following statements.

i) Oxygen gas is very easy to compress when pressure is applied.

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[1]

ii) A solid lump of iron has a high density.

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[1]

iii) Nitrogen gas readily takes the shape of the container that it is in.

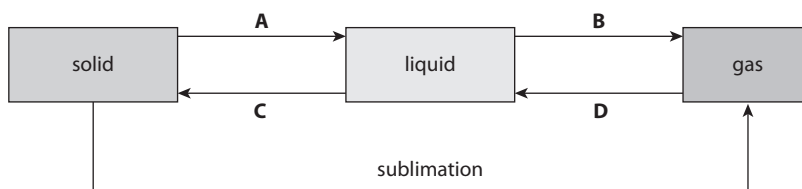
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[2]

c) The diagram below shows how the three states of matter can be changed from one form to another. The letters A, B, C and D represent the processes that bring about the changes.



i) Identify the process taking place at:

A: \_\_\_\_\_ B: \_\_\_\_\_

C: \_\_\_\_\_ D: \_\_\_\_\_

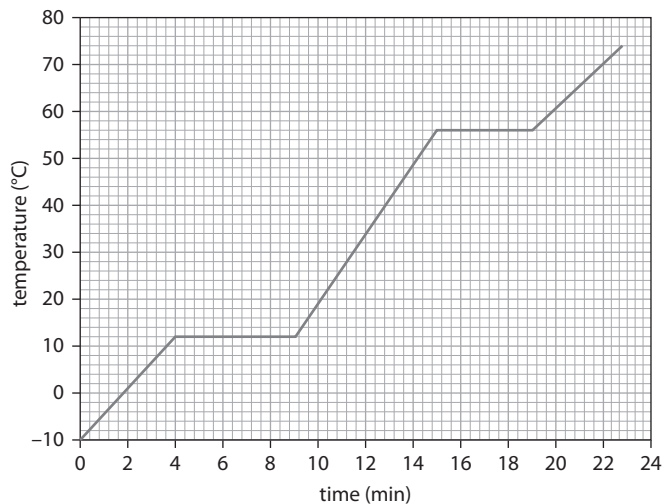
[4]

ii) Name ONE substance that sublimes.

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[1]

d) The heating curve for substance **X** is given below. Use this curve to answer the following questions.



i) In what state does **X** exist at 40 °C?

\_\_\_\_\_ [1]

ii) What is the boiling point of **X**?

\_\_\_\_\_ [1]

iii) Using a circle to represent a particle of substance **X**, in the space below, draw nine of these particles to show how they would be arranged in **X** at 5 °C.

[1]

Total Marks ..... / 31