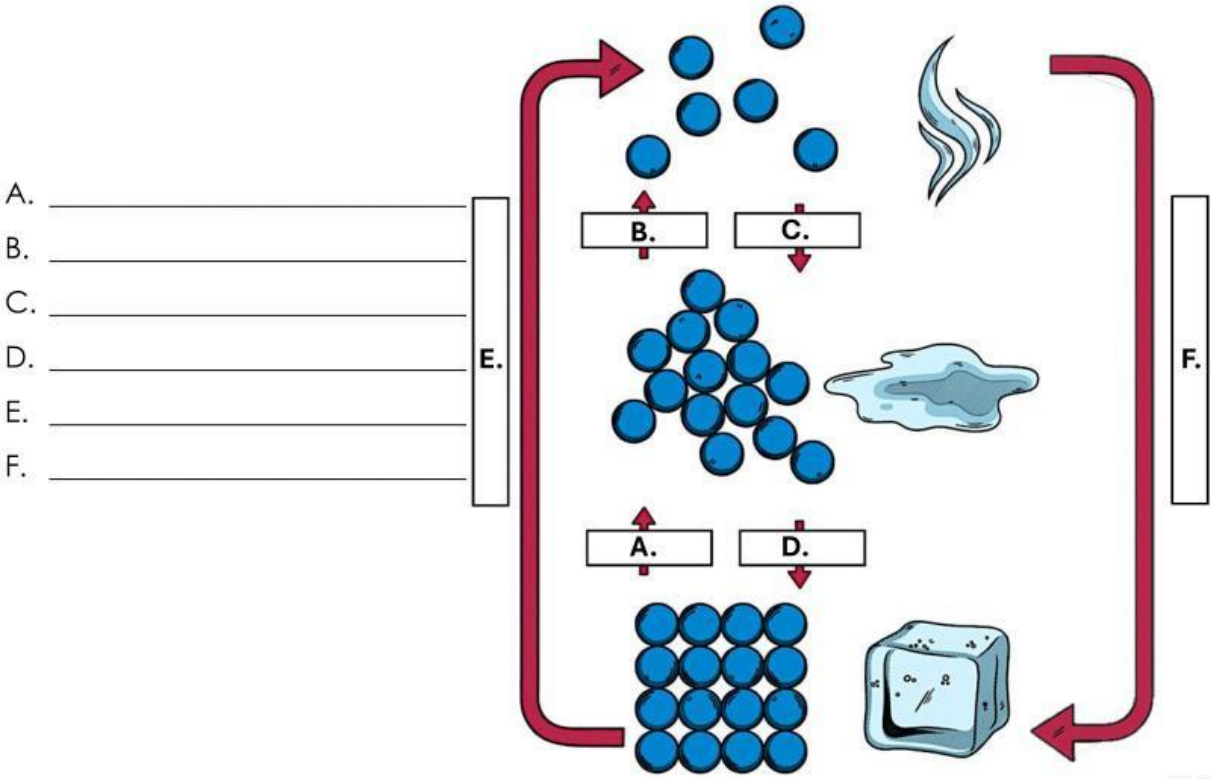
…../20

PROPERTIES OF MATERIALS

Phase Changes, Boiling and Melting Point of Substances

1. Complete the flow diagram using the following words.

condensation	deposition	evaporation
freezing	melting	sublimation



[3]

2. What happens to the particles in the liquid when it boils and what happens to its state?

_____

_____

_____

[2]

3. Study the table below to answer the following questions.

Melting and Boiling Point of Unknown Substances

Substance	Melting Point (°C)	Boiling Point (°C)
L	-114.1	78.37
O	0	100
V	1,538	2,862
E	-101.5	-34.04

Note: Room temperature = 22°C

a. Which substance is a gas at room temperature? _____ **[1]**

b. Which substance/s is/are liquid at room temperature?_____ **[1]**

c. Which substance is a solid at room temperature?_____ **[1]**

d. Which substance is pure water? _____ **[1]**

e. Explain how you identified which substance is pure water.

_____

_____ **[2]**

4. Seawater contains salt dissolved in water.

(a) Complete the sentences about sea water.

Choose words from the list.

gas higher liquid lower solid

The freezing point of sea water is -7 °C.

The freezing point of pure water is ..... than the freezing point of sea water.

When sea water freezes it changes from a ..... to a

..... **[3]**

The boiling point of sea water is 106 °C.

The boiling point of pure water is ..... than the boiling point of sea water.

When sea water boils it changes from a ..... to a .....

[3]

(b) Feng leaves a dish of salt water in the hot sun.

He returns after five hours, to see that there is a white solid left in the dish.

What process has happened to the water during the five hours?

.....

[1]

5. Which of these statements about water are correct?
Tick (✓) the **two** correct boxes.

At sea level water boils at 90 °C.	☐
Steam condenses to make water vapour.	☐
The boiling of water is an irreversible process.	☐
The freezing point of water is the same as the melting point of ice.	☐
The melting point of ice is 0 °C.	☐
Water evaporates to make ice.	☐

[2]