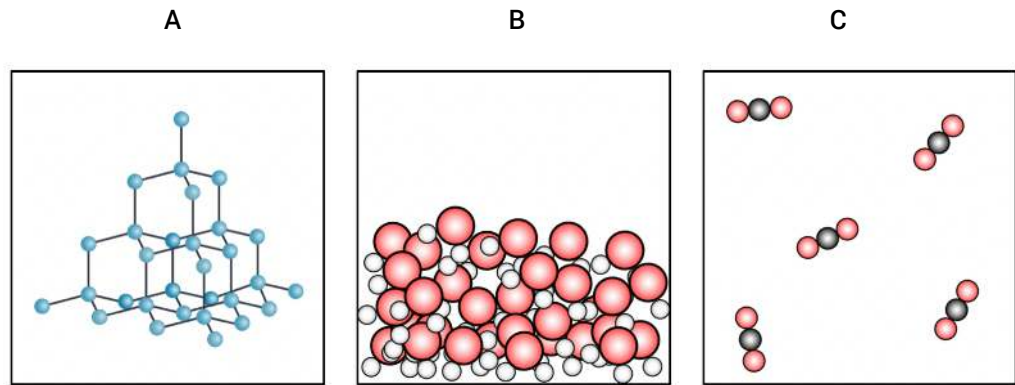


0	1
---	---

The structures of three substances, A, B, and C are represented in Figure 1.



0	1
---	---

1

Name the state of matter in each diagram:

A Solid [1]

B Liquid [1]

C Gas [1]

0	2
---	---

1

Use the particle model to describe the movement of particles in a gas

 Particles move around randomly in all directions

 Particles are spread very far apart [2]

0	2
---	---

2

Use the particle model to explain why a substance has a fixed shape when it is a solid, but not when it is a liquid

 In a solid, particles cannot move around, they only vibrate

 In a liquid, particles are quite close together but are able to move / slide past each other

..... [2]

0	3
---	---

A student wants to turn a solid substance into a liquid.

0	3
---	---

1

What is this change of state called?

 melting [1]

0	3
---	---

2

What type of energy is needed to change a solid into a liquid?

 heat / thermal [1]

0	3
---	---

 .

3

 Explain, in terms of particles, what is happening when a solid changes into a liquid?

..... *solid particles are fixed in place/cannot move* [1]

..... *liquid particles can move freely*

..... [1]

..... **OR (or words to the same effect)**

..... [2]

..... *solid particles gain energy/move more* [1]

..... *until they can move past each other* [1]

[1]

0	4
---	---

A substance turns from a gas to a liquid at 78°C.

0	4
---	---

 .

1

What is the name given to this temperature?

..... *boiling point (accept condensation point)*

[1]

0	5
---	---

A substance melts at -36°C and boils at 12°C.

0	5
---	---

 .

1

What state is this substance at room temperature (20°C)

..... *gas*

[1]

0	6
---	---

Balance and add state symbols to the following chemical equation.

0	6
---	---

 .

1



Balanced correctly

[1]

Correct state symbols

[1]

(Total 15 marks)

End