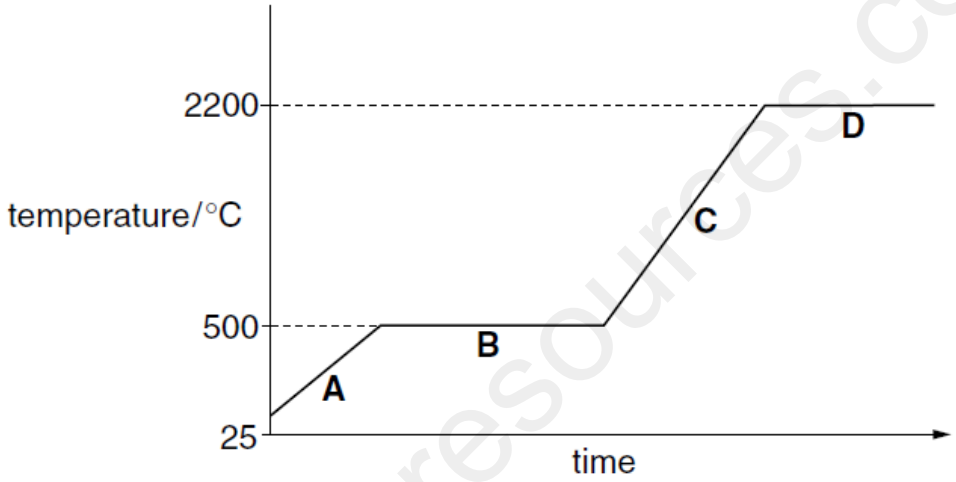
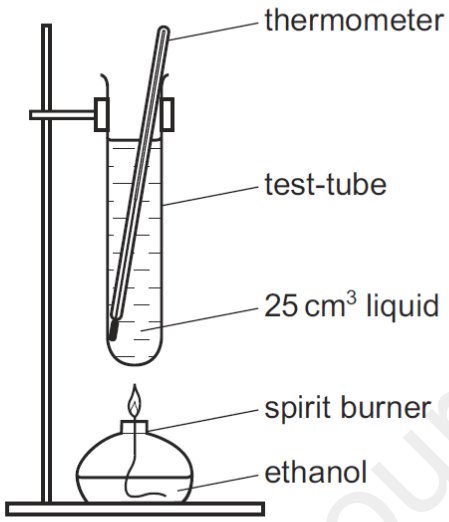
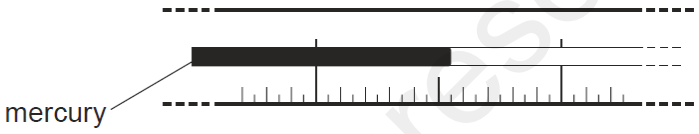
S	STATE CHANGES-SET-2
1	A solid metal is heated until it turns to vapour. The graph shows the temperature of the metal during this process. Which part of the graph shows the melting of the metal? 
Ms-1	B
2	Measurements are made on some pure water. its boiling point, b.p. its freezing point, f.p. its pH Sodium chloride is now dissolved in the water and the measurements repeated. Which measured values change?
Ms-2	B

	b.p.	f.p.	pH
A	✓	✓	✓
B	✓	✓	✗
C	✗	✗	✓
D	✗	✗	✗

3	A liquid is heated until it boils.  Which result shows that the liquid in the test-tube is pure water? **A** Condensation forms at the top of the test-tube. **B** Steam is produced. **C** The thermometer reads 100 °C. **D** There is nothing left behind in the test-tube.
Ms-3	C

4	The changes that occur when a substance changes state are shown below. $\text{solid} \underset{Z}{\overset{W}{\rightleftharpoons}} \text{liquid} \underset{Y}{\overset{X}{\rightleftharpoons}} \text{gas}$ Which process, W, X, Y or Z, is occurring in the following four situations? 1 Butter melts on a warm day. 2 Water condenses on a cold surface. 3 The volume of liquid ethanol in an open beaker reduces. 4 Ice forms inside a freezer. **A** W X Y Z **B** W Y X Z **C** X Y Z W **D** X Z Y W
Ms-4	B
5	The results of some tests on a colourless liquid X are shown. • Boiling point = 102 °C • Universal Indicator turns green What is X? **A** ethanol **B** hydrochloric acid **C** pure water **D** sodium chloride (salt) solution
Ms-5	D

6	The particles of a substance gain energy and change from a regular ordered structure to a disordered structure with large distances between the particles. Which change of state is described? **A** boiling **B** evaporation **C** melting **D** sublimation
Ms-6	D
7	Pure water has a boiling point of 100 °C and a freezing point of 0 °C. What is the boiling point and freezing point of a sample of aqueous sodium chloride? **A**: boiling point / °C = 98, freezing point / °C = –2 **B**: boiling point / °C = 98, freezing point / °C = 2 **C**: boiling point / °C = 102, freezing point / °C = –2 **D**: boiling point / °C = 102, freezing point / °C = 2
Ms-7	C
8	A compound, X, has a melting point of 71 °C and a boiling point of 375 °C. Which statement about X is correct? **A** It is a liquid at 52 °C and a gas at 175 °C. **B** It is a liquid at 69 °C and a gas at 380 °C. **C** It is a liquid at 75 °C and a gas at 350 °C. **D** It is a liquid at 80 °C and a gas at 400 °C.
Ms-8	D

9	What could be the melting point and boiling point of water containing a dissolved impurity? | | melting point / °C | boiling point / °C | |---|---|---| | **A** | +3 | 96 | | **B** | +3 | 104 | | **C** | –3 | 96 | | **D** | –3 | 104 |
Ms-9	D
10	The boiling point of liquid X is lower than that of water. To test a student, a teacher covers up the numbers on a thermometer. The student places the thermometer in boiling liquid X. The diagram represents part of the stem of this thermometer.  What could the temperature on the thermometer be? **A** 75.5 °C **B** 84.5 °C **C** 104.5 °C **D** 105.5 °C
Ms-10	A