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Question 1:

Convert the following temperature to Celsius scale:

a) 300 K

b) 573 K

Answer 1:

a) 300 K = (300 − 273)°C = 27°C

b) 573 K = (573 − 273)°C = 300°C

Question 2:

What is the physical state of water at:

a) 250°C

b) 100°C

Answer 2:

a) Water at 250°C exists in gaseous state.

b) At 100°C, water can exist in both liquid and gaseous form. At this temperature, after getting the heat equal to the latent heat of vaporization, water starts changing from liquid state to gaseous state.

Question 3:

For any substance, why does the temperature remain constant during the change of state?

Answer 3:

During a change of state, the temperature remains constant. This is because all the heat supplied to increase the temperature is utilised (as latent heat) in changing the state by overcoming the forces of attraction between the particles. Therefore, this heat does not contribute in increasing the temperature of the substance.

Question 4:

Suggest a method to liquefy atmospheric gases.

Answer 4:

By *applying pressure* and *reducing the temperature*, atmospheric gases can be liquefied.