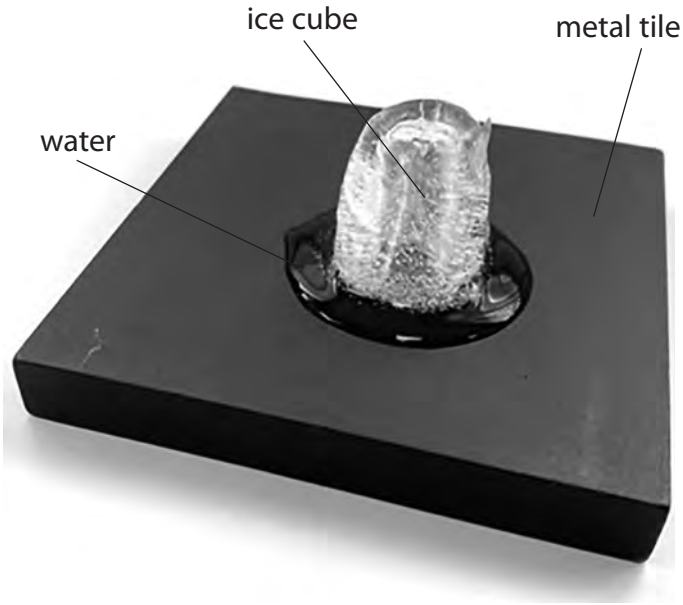
2 The photograph shows an ice cube placed on a metal tile.

The solid ice cube melts to become liquid water.



(a) Compare the arrangement of particles in a solid with the arrangement of particles in a liquid.

You may draw a diagram to help your answer.

(3)

(b) Describe the difference in the movement of particles in a solid compared with the movement of particles in a liquid.

(2)

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(c) After the ice cube has melted, the liquid water increases in temperature.

The water has a mass of 16 g and a specific heat capacity of 4200 J/kg °C.

Calculate the energy transferred to the liquid water as it increases in temperature from 3 °C to 21 °C.

(3)

energy transferred = ... J

(Total for Question 2 = 8 marks)