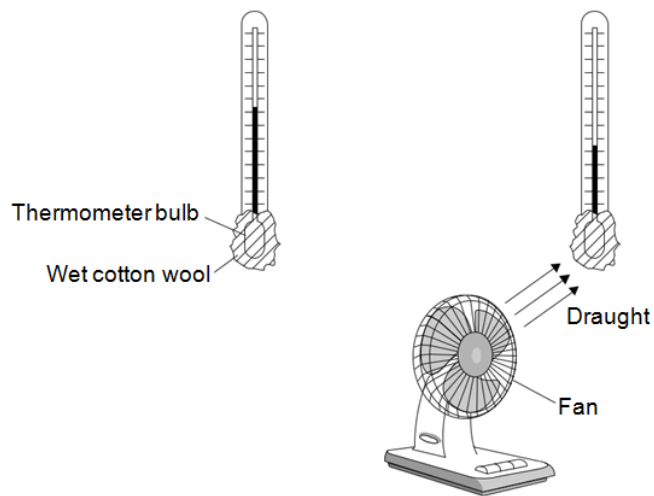
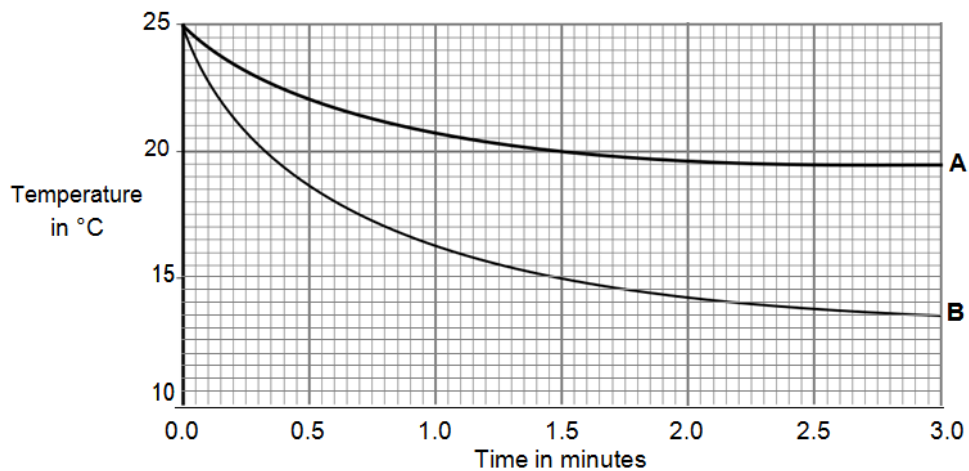


Internal Energy and Changes in State of Matter 1

Q:1 The diagram shows two thermometers. The bulb of each thermometer is covered with a piece of wet cotton wool. One of the thermometers is placed in the draught from a fan.



The graph shows how the temperature of each thermometer changes with time.



(a) Which of the graph lines, A or B, shows the temperature of the thermometer placed in the draught?

Write the correct answer in the box.

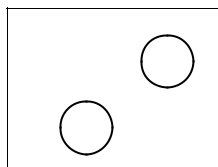
Explain, in terms of evaporation, the reason for your answer.

(3 marks)

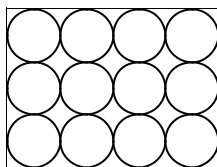
(b) A wet towel spread out and hung outside on a day without wind dries faster than an identical wet towel left rolled up in a plastic bag. Explain why.

(2 marks)

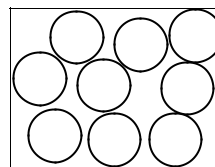
Q:2 (a) The diagrams, X, Y and Z, show how the particles are arranged in the three states of matter.



X



Y



Z

(a) (i) Which one of the diagrams, X, Y or Z, shows the arrangement of particles in a liquid? Write the correct answer in the box.

(1 mark)

(a) (ii) Which one of the diagrams, X, Y or Z, shows the arrangement of particles in a gas?

Write the correct answer in the box.

(1 mark)

(b) Draw a ring around the correct answer in each box to complete each sentence.

(b) (i) In a gas, the particles are

- vibrating in fixed positions.
- moving randomly.
- not moving.

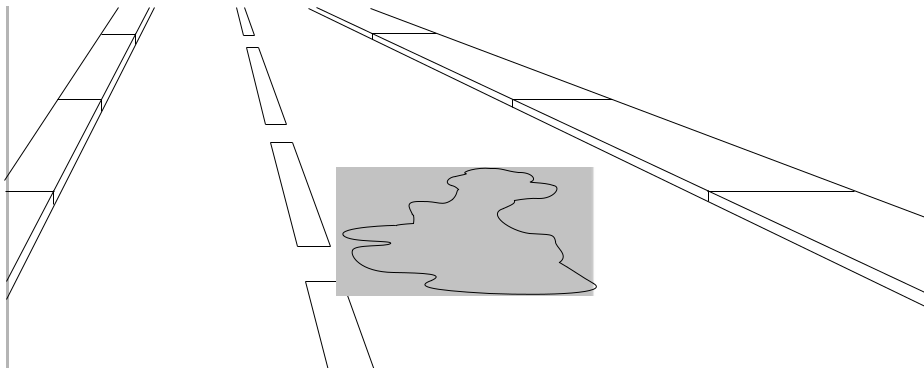
(1 mark)

(b) (ii) In a solid, the forces between the particles are equal to the forces between the particles in a liquid.

- stronger than
- weaker than

(1 mark)

(c) The picture shows a puddle of water in a road, after a rain shower.



(c) (i) During the day, the puddle of water dries up and disappears. This happens because the water particles move from the puddle into the air.

What process causes water particles to move from the puddle into the air?

Draw a ring around the correct answer.

condensation evaporation radiation

(1 mark)

(c) (ii) Describe one change in the weather which would cause the puddle of water to dry up faster.

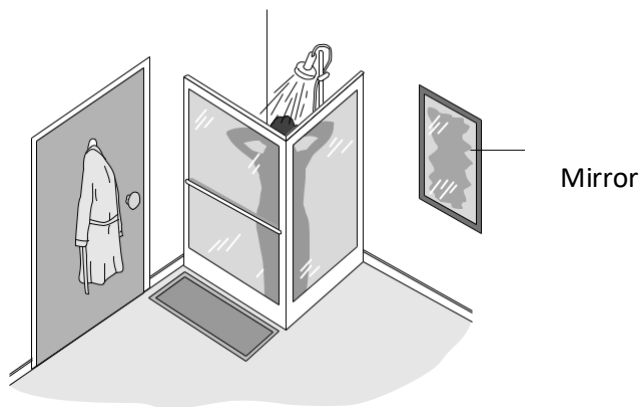
(1 mark)

Q:3 Warm air inside a house contains water in the form of a gas. The water condenses onto cold surfaces such as windows. This leaves liquid water on the inside of the glass.

(a) Explain what happens to the particles when water changes from a gas to a liquid.

(2 marks)

Q:4 The picture shows a person taking a hot shower.



(a) When a person uses the shower the mirror gets misty.

Why?

(3 marks)

(b) The homeowner installs an electrically heated mirror into the shower room.

When a person has a shower, the heated mirror does not become misty but stays clear.

Why does the mirror stay clear?

(2 marks)

