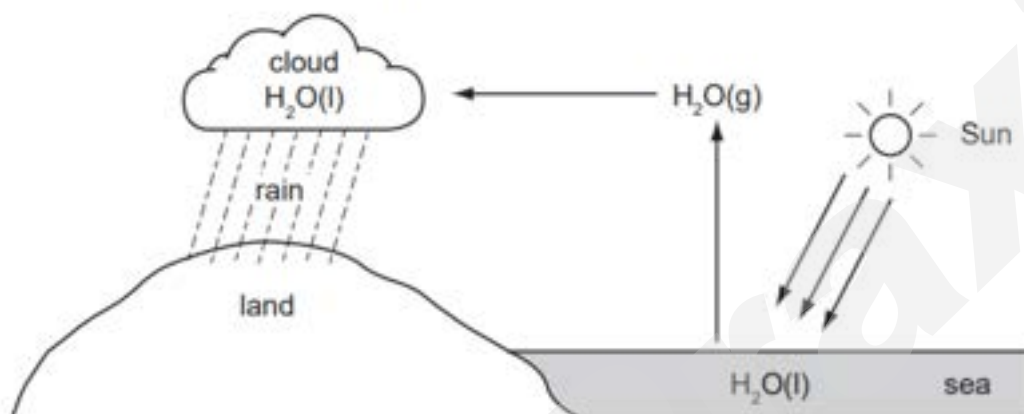


States Of Matter

(Past Year Topical Questions 2010-2015)

May/June 2012 (31)

- 1 The diagram below shows part of the Water Cycle.



- (a) (i) State the name of each of the following changes of state.



name

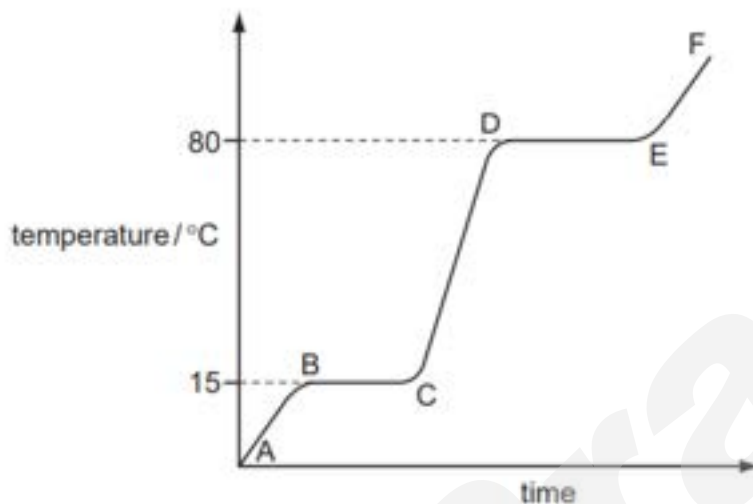


name

[2]

Oct/Nov 2012 (32)

2 The diagram shows a heating curve for a sample of compound X.



(a) Is X a solid, a liquid or a gas at room temperature, 20 °C?

..... [1]

(b) Write an equation for the equilibrium which exists in region BC.

..... [2]

(c) Name the change of state which occurs in region DE.

..... [1]

(d) Explain how the curve shows that a pure sample of compound X was used.

.....
 [2]

[Total: 6]

May/June 2014 (31)

3 (a) Different gases diffuse at different speeds.

(i) What is meant by the term *diffusion*?

.....
..... [1]

(ii) What property of a gas molecule affects the speed at which it diffuses?

..... [1]

May/June 2014 (33)

2 Explain each of the following in terms of the kinetic particle theory.

(a) The rate of most reactions increases at higher temperatures.

.....
.....
.....
..... [3]

- (b) A liquid has a fixed volume but takes up the shape of the container. A gas takes up the shape of the container but it does not have a fixed volume.



.....

.....

.....

.....

..... [3]

[Total: 6]

May/June 2015 (31) /Q6

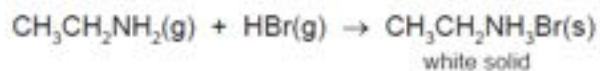
- (c) Gases diffuse, which means that they move to occupy the total available volume.
- (i) Explain, using kinetic particle theory, why gases diffuse.

.....

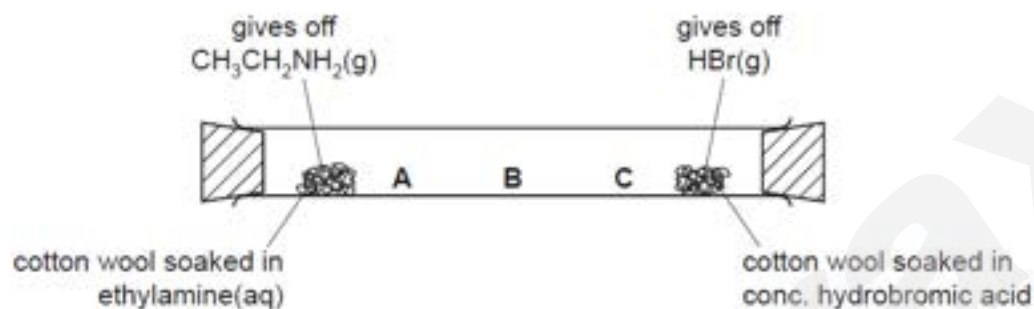
.....

..... [2]

- (ii) When the colourless gases hydrogen bromide and ethylamine come into contact, a white solid is formed.



The following apparatus can be used to compare the rates of diffusion of the two gases ethylamine and hydrogen bromide.



Predict at which position, **A**, **B** or **C**, the white solid will form. Explain your choice.

.....

.....

..... [3]