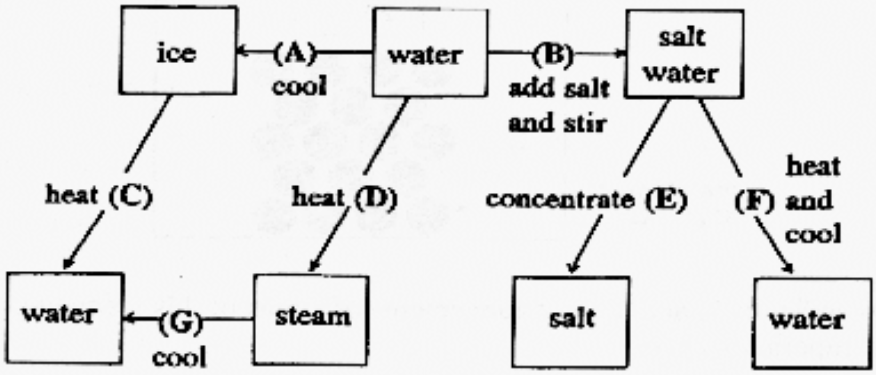
SCIENCE (Chemistry)

Worksheet – Kinetic Theory

Name:_____( ) Class: _____ Date:_____

1. The following diagram represents changes that can take place to a sample of water. Each change is given a letter.



Write a word to describe the following changes.

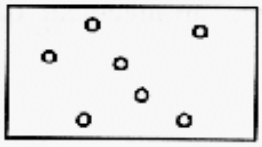
(a) **A** _____ (b) **B** _____

(c) **C** _____ (d) **D** _____

(e) **E** _____ (f) **F** _____

(g) **G** _____

2. (a) The diagram below represents the particles in a gas.

a gas 

Draw diagrams to represent the particles in (i) a liquid, (ii) a solid.

(b) How does the movement of the particles in a solid differ from the movement of the particles in a liquid?

(c) When the stopper is taken out of a bottle of perfume, the smell can soon be noticed. Explain from your knowledge of particles why this happens.

3. Oxygen is an element. Water is a compound. Air is a mixture.

Use these substances to illustrate

(a) **one** difference between the composition of an element and the composition of a compound.

(b) **one** difference between the composition of a mixture and the composition of a compound.

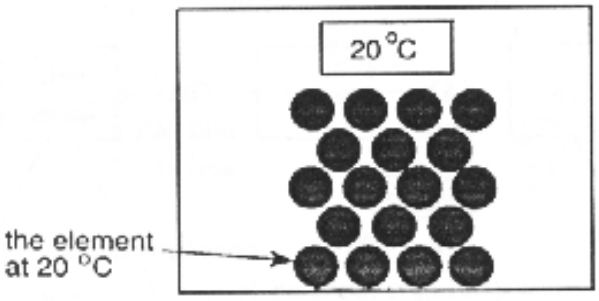
(c) **one** difference between the formation of a mixture and the formation of a compound.

4. In terms of the kinetic theory, explain what happens when (Q10/P2/J94)

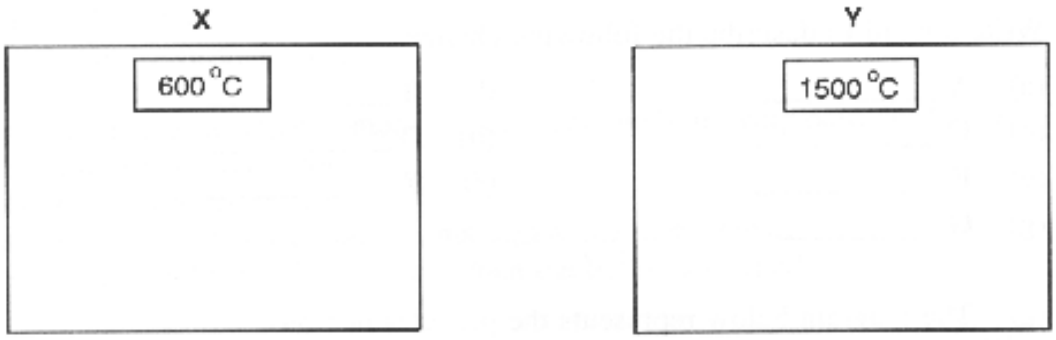
(a) a gas is cooled to become first a liquid and then a solid,

(b) the rate of reaction between two gases increases as the temperature rises.

5. The diagram shows the arrangement of atoms within a certain element at 20°C. The element melts at 530°C and boils at 1490°C. (Q2/P2/D95)



(a) Draw in boxes **X** and **Y** the arrangements of atoms of this element you would expect at the temperatures given.



(b) At what temperature would the arrangement of atoms in box **X** change into the arrangement in box **Y**?