WORKSHEET 2

CHAPTER 1 – MATTER IN OUR SURROUNDINGS

A. Tick (✓) the correct option.

1. In liquids, the spaces between constituent particles are
   a. largest.
   b. smallest.
   c. greater than those in solids but smaller than those in gases.
   d. greater than those in gases but smaller than those in solids.
2. Arrange sodium chloride, kerosene oil and air in the increasing order of forces of attraction between their constituent particles.
   a. sodium chloride, kerosene oil, air
   b. air, kerosene oil, sodium chloride
   c. kerosene oil, sodium chloride, air
   d. sodium chloride, air, kerosene oil
3. With increase in temperature, the kinetic energy of constituent particles
   a. increases.
   b. decreases.
   c. first increases then decreases.
   d. first decreases then increases.
4. 50 °C on Fahrenheit scale is equal to
   a. 106 °F
   b. 122 °F
   c. 59.7 °F
   d. 58 °F
5. Which of the following is known as the fifth state of matter?
   a. Plasma
   b. Higgs Boson
   c. Bose-Einstein Condesate
   d. Fermionic condesate

B. Fill in the blanks.

1. _____ have definite volume but no definite shape.
2. Intermixing of particles of matter with each other on their own is known as _____
3. In sublimation, a substance changes from the solid state to the _____ state.
4. The amount of heat energy required to change 1 kg of a solid into liquid at atmospheric pressure at its melting point is known as _____
5. Rate of evaporation _____ with increase in humidity.

C. State whether the given statements are true or false.

1. Particles of matter are in a state of rest.
2. Rate of diffusion increases with heating.
3. Particles in solids are packed very closely.
4. Water at 100 °C has more energy than steam at the same temperature.
5. Water kept in an earthen pot becomes cool due to the phenomenon of transpiration.

Name: ..... Teacher's signature: .....

Class: IX Date: .....

D. Match the following:

1. pascal	unit of density
2. kelvin	SI unit of temperature
3. Neon sign bulb	Gases
4. Weakest interparticle attractive forces	Plasma
5. g/cm^3	SI unit of pressure

E. Answer the following questions.

Very Short Answer Questions

1. How can a gas be liquefied?
2. Define latent heat of vaporisation.

Short Answer Questions

1. Convert 42 °C to Kelvin scale and Fahrenheit scale.
2. What are the factors that affect evaporation?

Long Answer Questions

1. Define matter. What are the characteristics of particles of matter?
2. What is humidity? Describe an activity to show the effect of humidity on evaporation.

ANSWERS

WORKSHEET 2

A. Tick (✓) the correct option.

1. c 2. b 3. a 4. b 5. c

B. Fill in the blanks.

1. Liquids 2. diffusion 3. gaseous 4. latent heat of fusion 5. decreases

C. State whether the given statements are true or false.

1. F 2. T 3. T 4. F 5. F

D. Match the following:

1. pascal	SI unit of pressure
2. kelvin	SI unit of temperature
3. Neon sign bulb	Plasma
4. Weakest interparticle attractive forces	Gases
5. g/cm^3	unit of density

E. Answer the following questions.

Very Short Answer Questions

1. Gases can be liquefied by lowering the temperature and increasing the pressure.
2. The amount of energy required to change 1 kg of liquid into gas at atmospheric pressure at its boiling point is known as latent heat of vaporisation.

Short Answer Questions

1. The relation between Kelvin scale and Celsius scale is as follows:

   K = °C + 273

   = 42 + 273

   = 315 K

   The relation between Fahrenheit scale and Celsius scale is as follows:

   $°F = \frac{9}{5}$ (°C) + 32

   $= \frac{9}{5}$ (42) + 32

   = 75.6 + 32 = 107.6 °F

2. The factors that affect evaporation are:

   a. Surface area b. Temperature c. Humidity d. Wind speed

Long Answer Questions

1. Anything that occupies space and has mass is called matter. The characteristics of particles of matter are as follows:

a. Particles of matter are very small.

b. Particles of matter have space between them.

c. Particles of matter are continuously moving.

d. Particles of matter attract each other.

2. The amount of water vapour present in air is known as humidity. The rate of evaporation decreases with increase in humidity. This is because the air around us cannot hold more than a definite amount of water vapour at a given temperature. So, if the amount of water vapour present in air is already high, the rate of evaporation would decrease. This is why wet clothes dry easily on hot sunny days but not on days when the humidity is high.