CLASS - 4

SUBJECT – G.SC

LESSON – 7

AIR

1. Tick (√) the correct answer.

a. Air contains

Ans.iii. 78% Nitrogen

b. The gas essential for burning is

Ans.i. Oxygen

c. Air gets polluted when we

Ans.iii. Burn leaves

d. The gas produced as a result of respiration is

Ans.iii. Carbon-dioxide

2. Fill in the blanks.

a. Asthma and Bronchitis are diseases caused by breathing polluted air.

b. The air contains 21% oxygen gas.

c. Oxygen gas is essential for burning.

d. Air fills up all spaces.

e. Plants use carbon-dioxide gas present in air for photosynthesis.

3. Write True or False.

a. Smog is common in summer. False

b. Humidity is the same in all spaces. False

c. Air has weight. True

d. There can be no fire without carbon-dioxide. False

e. When air is pushed into a smaller space, we says it compressed. True

4. Answer the following questions.

a. Define (i) Humidity (ii) Atmosphere (iii) Air pressure (iv) Air pollution

Ans. Humidity:- The amount of water-vapour present in the air at a given time and place.

b. Atmosphere:- The blanket of air that surrounds the earth.

c. Air pressure:- The pressure exerted by air on everything around it.

d. Air pollution:- The unwanted and undesirable things present in air.

b. Write any three properties of air.

Ans. Properties of air are:

(i) Air has weight.

(ii) Air takes up space.

(iii) Air exerts pressure.

c. List three causes of air pollution.

Ans. Dust from streets, smoke from factories and burning garbage causes air pollution.

d. What does air contain?

Ans. Air contains 78% nitrogen, 21% oxygen and 1% other gases like carbon-dioxide, argon etc.

e. Explain the terms breathing and respiration?

Ans. Breathing:- The process of inhalation and exhalation.

Respiration:- The process by which inhaled oxygen burns digested food to produce energy and carbon-dioxide.

LESSON 8

MATERIALS AND SOLUTIONS

1. Tick (√) the correct answers.

a. Soluble impurities present in water cannot be removed by

Ans (ii) Sedimentation

b. In a salt solution, the solute is

Ans (i) Salt

c. Which of the following is a solvent?

Ans (iii) Water

d. When a soluble solute is added to a solvent the

Ans (iii) Volume of the solution remains the same.

e. A solid changes to a liquid on

Ans (i) Heating

2. Write True or False.

a. Air is not matter. **False**

b. The intermolecular force is the least in gases. **True**

c. Oil is insoluble in water. **True**

3. Fill in the blanks.

a. Oil is **insoluble** in water.

b. **Hydrogen** gas is insoluble in water.

c. The process of decantation follows the process of **Sedimentation**.

d. All matter is made up of tiny particles called **molecules**.

e. In a salt solution, salt is called a **solute**.

f. A change in state can be brought about by **cooling** or **heating**.

4. Answer the following questions briefly.

a. Distinguish between soluble and insoluble substances.

Ans. Soluble substances dissolve in water while insoluble substances do not dissolve in water.

b. How can soluble impurities present in water be removed?

Ans. By boiling,adding chemicals like chlorine or potassium permanganate or by filtering.

c. How can insoluble impurities, present in water be removed?

Ans. By sedimentation,decantation and filtration.

d. Explain what is a solution. Give an example.

Ans. The liquid obtained when a solute dissolves in a solvent is called solution. For example:

Solute + Solvent → Solution

(salt) + (water) → (salty water)

e. What is filtration?

Ans. Filtration is the process of removing insoluble impurities present in water using a filter.

f. Define the terms:

Ans. i. Melting :- The process of changing a solid into a liquid on heating.

ii. Freezing :- The process by which a liquid turns to solid.

iii. Matter :- Anything that occupies space and has weight.

iv. Molecules :- Tiny particles that make up matter.

g. How can you get salt from a salt solution?

Ans. By boiling salt water, till all the water evaporates. What is left, is salt.

Lesson- 9

Light

1. Tick (√) the correct answer.

a. The colour of a shadow is always

Ans.i. Black

b. For a shadow to be formed, we need a/an

Ans.iv. All of these

c. Light travels in

Ans.iii. Straight line

d. An example of a non luminous object is

Ans.i. Moon

e. Light cannot pass through a

Ans.ii. Opaque object

2. Give two examples of each.

a. Natural sources of light Sun Star

b. Artificial sources of light Torch Tubelight

c. Luminous object Sun Electric bulb

d. Non- luminous object Chair Tree

e. Translucent object Honey Butter paper

3. Write True or False.

a. A shadow gives us all details of an object. False

b. We can see clearly through transparent objects. True

c. A shadow can be formed by a transparent object. False

d. An electric bulb is a natural source of light. False

e. We can see an opaque object when light from a luminous object falls on it. True

4. Answer the following questions briefly.

a. How can we see an opaque object?

Ans. When light falls on an opaque object, it reflects that light and the reflected light reaches our eyes and we see the object.

b. Define (i) Reflection (ii) Shadow.

Ans. (i) Reflection: The bouncing back of light on striking an opaque object.

(ii) Shadow: A darkness that an opaque object causes, when it blocks the path of light.

c. What are the three things essential for a shadow to be formed?

Ans. The three things essential for a shadow to be formed are:-

(i) Screen

(ii) Source of light

(iii) Opaque object

d. Explain how a shadow is formed.

Ans. A shadow is formed only when light is blocked by an opaque object.

e. What do you understand by rectilinear propagation of light?

Ans. The property of light to travel in a straight line is called rectilinear propagation of light.

f. Distinguish between transparent, translucent and opaque objects.

Ans. Opaque objects: Those objects which do not allow any light to pass through them. For ex. – Rubber, book etc.

Translucent objects: Those objects which allow some light to pass through them. For ex. – Honey, butter paper etc.

Transparent objects: Those objects which allow light to pass through them totally. For ex. – Water, air etc.