Pakistan School, Kingdom of Bahrain

**E- Support and Learning Material / Session 2020-2021**

**Subject: General science Grade: 9**

**Book: Text book of General Science for class9th. Page 1—13**

**Chapter 2: Our Life and Chemistry First Term**

Lesson 1, Online

Short Questions: -

Q1- Name the three basic element which make up the living organisms. Give the percentages of these elements in human body

Ans: the three basic which make up the major part of the body of living organisms are: Carbon, Oxygen and Hydrogen. The average percentage of basic elements present in the human body is as follows: -

Oxygen 65%

Carbon 18%

Hydrogen 10 %

Q2Define Respiration.

Ans: It is a process by which living organisms produce energy by oxidizing their digested food with the help of oxygen. Carbon dioxide is produced as a byproduct. Breathing is the process which helps respiration by bringing in oxygen and giving out carbon dioxide. The energy is used by our bodies to do all activities and to keep us warm. The carbon dioxide released is used by plants for photosynthesis



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Lesson3. First Term

**CONT:**

Q 3. Define and explain Photosynthesis

Ans: It is a process by which green plants make their own food in the form of glucose by using carbon dioxide and water, in the presence of sunlight, with the help of the green colored compound called Chlorophyll. So this process occurs in green leaves of plants and the solar energy is converted into chemical energy of food. The food and oxygen are then also used by nimals.

Q4n Q4. Q4, Q4. Define Allotropy.

 Ans: The existence of an element in different physical forms due to different arrangement of atoms in space is called allotropy. These different crystalline forms are called allotropes. Their physical properties are different but chemical properties are the same. For example, carbon exists in two different forms: diamond and graphite.

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Lesson3. First Term

**CONT:**

Q 5 What are Organic compounds. Give some examples of organic compounds.

Ans: These are compounds based on carbon, as carbon atoms can combine with each other and with atoms of other elements to form a huge variety of compounds. Some examples of organic compound are: -

* All living organisms
* Food
* Clothing
* Drugs and medicines
* Fuel
* Wood etc.

 Q6 Water is the universal solvent? why is it important?

Ans: Water is known as the universal solvent because it can dissolve the largest number of compounds. This property of water is very important for living organisms and their life depends on water.

Q7Give some examples to show the importance of water.

Ans: Water is important for life because it is the universal solvent, so all reactions in living organisms depend on it. Some examples to show the importance of water are: -

* We can live without food for two weeks but we cannot live without water for three days.
* Water dissolves oxygen and carbon dioxide for air. This property of water lets the aquatic plants and animals to survive.
* All cooking of food depends on water
* All plants need water from the soil to survive. This water also dissolves important minerals from soil so the plants can use it.

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**Lesson3. First Term**

Q8 State the composition of air.

Ans :Air is a mixture of different gases. The major parts of air are nitrogen and oxygen. Percentage composition of air by volume is given below:

|  |  |  |
| --- | --- | --- |
|  | Component gas | %age volume |
| 1 | Nitrogen | 78.03 |
| 2 | Oxygen | 20.99 |
| 3 | Argon and other rare gases | 0.94 |
| 4 | Carbon dioxide | 0.03 |
| 5 | Water vapours | Amount varies |

 Q9 Describe the role and use of carbon dioxide in air.

 Ans Although the percentage of CO2 in air is very small but its role is very important:

i ). It is used by plants to prepare food by photosynthesis.

Ii). It helps to maintain temperature of earth by absorbing heat coming from the sun and keeps it in the atmosphere.

 Q10 Briefly state the use of Ozone present in atmosphere.

Ans: It lies in form of a thin layer 30 kms. above surface of Earth. It stops the dangerous radiations coming from sun and space, reaching the surface of earth. This protects life against dangerous radiations.

 Q11 Write a short note on importance of Calcium for human health.

Ans: It is necessary for formation and growth of bones and teeth. It is also needed for working of muscles and nerves. Its deficiency can cause weakening of bones and teeth, and pain in muscles.

 Q12 Write a short note on importance of Iodine for human health.

Ans: It is essential for proper working of Thyroid gland. So iodine is important for proper growth and working of human body. Deficiency of iodine hinders mental and physical growth. It can also cause Goiter. The body dries up and skin thickens.

 Q13 Briefly describe importance of Magnesium for Plants.

Ans: It is an essential part of chlorophyll on which photosynthesis depends. Thus, without Magnesium the plants will not be able to make their food or grow properly.

 Q14 Write a short note on importance of calcium compounds in daily life.

Ans: Some important calcium compounds and their uses in daily life are: -

i). Calcium oxide is used for manufacture of bleaching powder. is also used It for making cement, glass and purifying sugar.

ii). Calcium Carbonate is used for making cement, glass and washing soda.

iii). Calcium sulphate (gypsum) is used to prepare plaster of Paris and fertilizer.

 Q15 Give some uses of sodium in the human life.

Ans: Molten sodium is used as a coolant in some type of reactors.

Sodium vapor lamps are used in street lighting.

It is also used to prepare different chemicals such as sodium cyanide and iodamide.

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Lesson3. First Term

Detailed Questions

1. Name and differentiate between the allotropic forms of carbon.

Ans: Diamond and Graphite are the two allotropic forms of Carbon

Diamond: It is the purest form of Carbon and the hardest naturally occurring substance. Its melting point is 3500 0C.it is used in jeweler, cutting glass and grinding hard substances.

Graphite: It is a soft black solid with metallic luster. It is used as lubricant and is the lead within pencils.

A comparison of the two is given as below: -

 **DIAMOND GRAPHITE**

It is colorless in pure state. It is greyish black

It is transparent and shiny It is opaque

It is the hardest substance known It is soft and slippery

Nonconductor It is good conductor of electricity

At high temperature changes to At high temperature

Graphite remains unchanged