St. Andrews Scots Sr. Sec. School

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Session: 2022-2023

Subject: Science

Class: VI **L-7: Things Around Us** **Topic:- Back Exercises**

Check Point-1 (Pg- 70)

1. **What is a cell ?**

Ans- A cell is the smallest living part of an animal or a plant that is able to function Independently.

2. **What does lifespan mean ?**

Ans- The time taken to complete a life cycle is called lifespan.

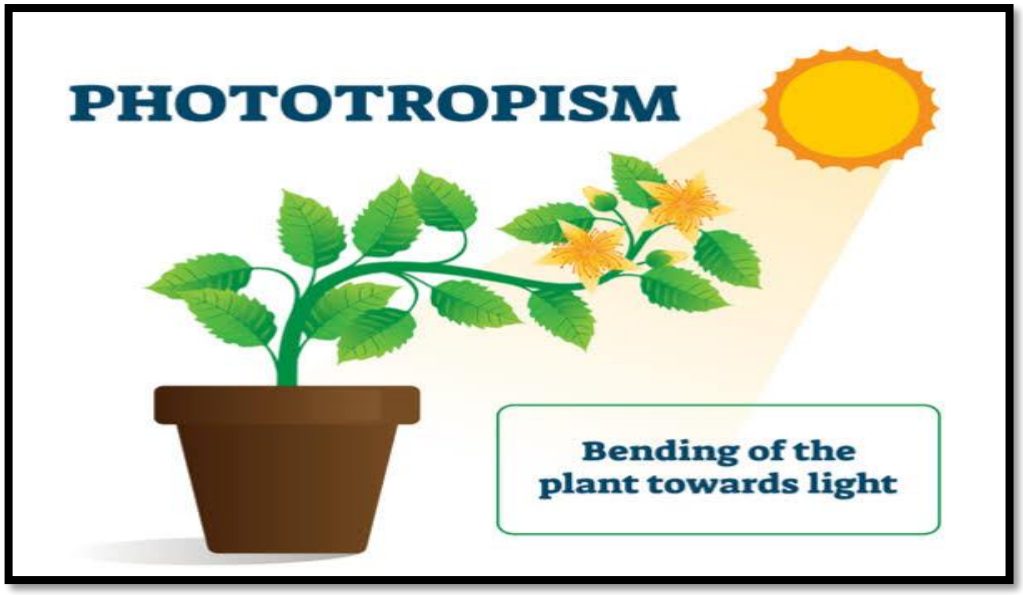
3. **Describe any three characteristic features of living things.**

Ans- Three characteristic features of living things are described below.

a. **Living things respond to stimuli:** Living things react to change around them. Responses to environmental changes or stimuli are seen in living things. Examples are given below.

• If we touch a hot iron by mistake, we pull back our hand instantly.

• A plant automatically grows towards sunlight.



Plants showing respond to stimulus: Sunlight through Phototropism

b. Living things grow: As living things grow, they add on new cells and tissues. They become larger and complex as they grow. Examples are given below.

• A seed develops into a sapling.

• A child develops into an adult.

c. Living things reproduce: All the living things have an ability to reproduce. Examples are given below.

• Human beings give birth to babies.

• Most plants produce seeds which can germinate and grow into new plants.

Some plants also reproduce through other parts of the plant.

• Pigeons lay eggs to reproduce.

4. **Look at each object given below. Place a tick mark below each characteristic that applies to the object. If the object has all the boxes ticked, then it is considered to be living. Once you have determined if the object is living or non-living, write your response in the final column.**

Characteristics of Living Things

	Needs food and water	**Needs air**	**Can reproduce**	**Can move by itself**	**Grows**	**Living/ Non-Living**
Pillow						Non- Living
Rose	√	√	√	√	√	Living
Clock						Non- Living
Ocean				√		Non- Living
Beetle	√	√	√	√	√	Living
Tea Cup						Non- Living
Flag						Non- Living
Puddle of Water						Non- Living
Snake	√	√	√	√	√	Living
Panda Bear	√	√	√	√	√	Living
Mountain						Non- Living
Grasshopper	√	√	√	√	√	Living

5. **Choose the correct option for each.**
   a. **Silk**
      - Living
      - Non- Living, once the part of a living thing. **(✓)**
      - Non- Living, never the part of a living thing.

   b. **Steel Knife**
      - Living
      - Non- living, once the part of a living thing.
      - Non- Living, never the part of a living thing.(**✓)**

   c. **Cotton**
      - Living
      - Non- Living, once the part of a living thing.(**✓)**
      - Non- Living, never the part of a living thing.

   d. **Water**
      - Living
      - Non- living, once the part of a living thing.
      - Non- living, never the part of a living thing.(**✓)**

   e. **Milk**
      - Living
      - Non- Living, once the part of a living thing.(**✓)**
      - Non- Living, never the part of a living thing.

   f. **Fossil**
      - Living
      - Non- Living, once the part of a living thing.(**✓)**
      - Non- Living, never the part of a living thing.

   g. **Paper**
      - Living
      - Non- Living, once the part of a living thing.(**✓)**
      - Non- Living, never the part of a living thing.

h. Leather

- Living
- Non- Living, once the part of a living thing.(✓)
- Non- Living, never the part of a living thing.

i. Rubber

- Living
- Non- Living, once the part of a living thing.(✓)
- Non- Living, never the part of a living thing.

j. Plastic

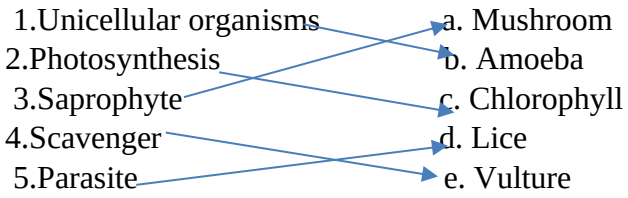
- Living
- Non- Living, once the part of a living thing.
- Non- Living, never the part of a living thing.(✓)

Exercises (Pg- 75)

1. **Fill in the blanks.**

1.The biotic world comprises the **living things**.
2.A **cell** is the smallest living part of an organism which functions independently.
3.When a group of cells work together to perform a specific function, they form a **tissue**.
4.Living things become more **complex** as they grow.
5.All living organisms have **internal** movement.

2. **Match the correct answer:**



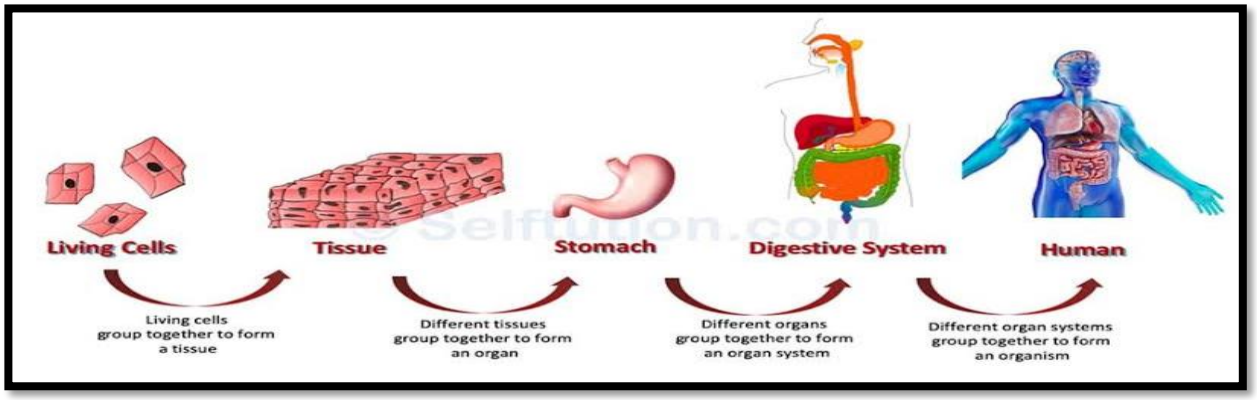
C. Name the following.

1. The animals that depend on plants and animals for food.
Ans. Omnivores
2.The process of removal of wastes in animals.
Ans. Excretion
3.The smallest living part of an animal or a plant.
Ans. Cell
4.The layer of gases around the earth.
Ans. Atmosphere
5.The living component of the world.
Ans. Biotic
6.The rock that forms the outer layer of the Earth.
Ans. Lithosphere
7.The process by which green plants make their own food in the presence of sunlight.
Ans. Photosynthesis
8. The area where a particular organism lives.
Ans. Habitat

D. Short Answer Questions.

1. What do you mean by cellular structure?

Ans- A structure of a living organism is known as cellular structure. All living things are made of cells.



Cellular structure of a living Organisms.

When a group of cells work together to perform a function, they form a tissue. Several tissues performing a specific function form an organ.

2.What are abiotic components?

Ans - Non-living things are the abiotic components. They consist of three distinct parts: atmosphere, hydrosphere and lithosphere.

3.Why do animals need food? How do they get food?

Ans- All living things need to consume food from their environment to obtain energy, to grow and to stay healthy. Animals are consumers and depend on plants and other living organisms to derive nutrition.

4.Define excretion.

Ans- The body gets rid of some of the food as waste. The body also produces waste when it carries out various life processes. The process of removal of waste from the body is known as excretion.

5.Define photosynthesis.

Ans. Plants make their own food using carbon dioxide and water in the presence of sunlight and chlorophyll. This process is called photosynthesis.

6.Clouds and rain move yet they are non- living. Why?

Ans- The clouds and rain are considered non-living as they do not need food for growth and development, they do not reproduce, and they do not respire or excrete. So they are considered the abiotic component.

7. What are autotrophs?

Ans- Autotrophs are living organisms that can produce their own food. For example, green plants.

8.What are heterotrophs? What are their different types? Give examples.

Ans. Organisms which depend upon other plants and animals for food and nutrition are called heterotrophs. Heterotrophs are further classified as herbivores, carnivores and omnivores.

9.What is stimulus? Give an example of a reaction to stimulus in plants and animals.

Ans. Stimulus is a thing or event that evokes a specific functional reaction in an organ or tissue. Response is the reaction of the living organisms towards it. If we touch a hot iron by mistake, we pull back our hand instantly. A plant automatically grows towards the sunlight.

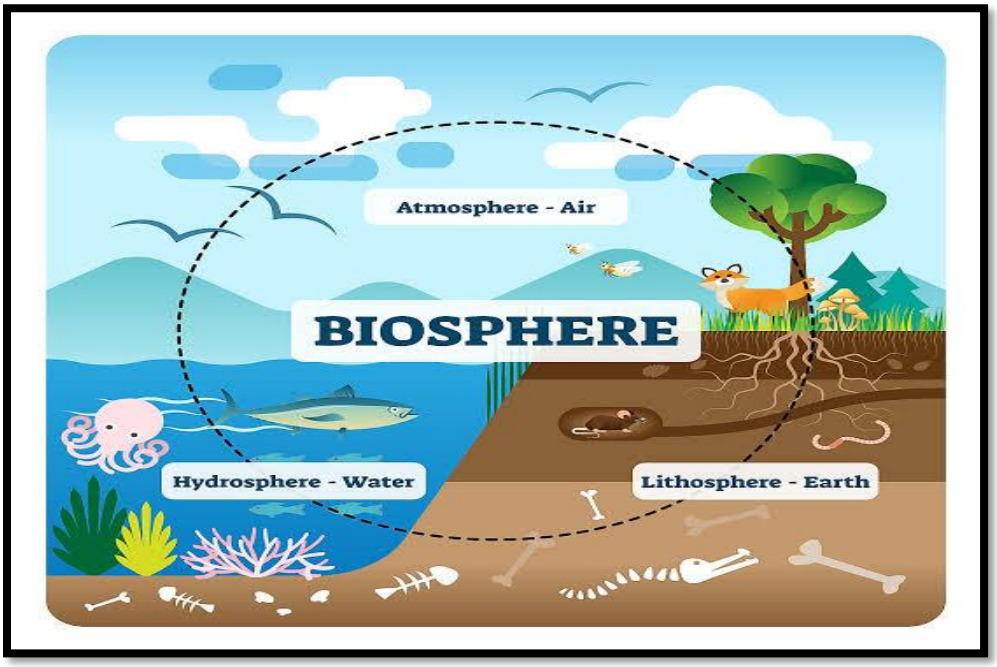
10.Why is it necessary to remove waste materials from the body?

Ans. Toxic chemicals such as urea (which is excreted in urine) would build up in the blood, leading to several complications, if they are not removed from the body.

11.What do you understand by the lifespan of a living thing? Give examples in lifespan.
Ans. All living organisms follow a cycle having different stages from their birth. They grow, attain maturity, reproduce and finally die. The time taken to complete a life cycle is called a lifespan. For example, the lifespan of an elephant is 57 years whereas the lifespan of a mouse is 3 years.

12. How are saprophytes and scavengers different from each other?
Ans. Some living organisms derive their nutrition from dead and decaying matter. They are called saprophytes like mushrooms and fungi. They are also called decomposers. Some animals like vultures feed on dead bodies of the other animals. They are called scavengers.

E. Long Answer Questions.
1. Describe the abiotic world.
Ans. The non-living world is termed as the abiotic world. It consists of three distinct parts described as follows.
• **Atmosphere**: The air blanket around the Earth, made up of several gases like oxygen, carbon dioxide, nitrogen hydrogen, neon, argon and water vapour, forms the atmosphere
• **Hydrosphere**: All the water on the Earth's surface forms the hydrosphere. Water bodies such as seas, rivers, ponds, lakes and glaciers are the major forms in which water is present on the Earth.
• **Lithosphere**: The lithosphere is the rock that forms the outer layer of the Earth. It extends to a depth of about 100 km.



Three Major parts of the Abiotic World

2.What is the difference between growth of living and non- living things?
Ans. The table given below shows the difference in growth of living and non-living things.

Growth Among Living Thing	Growth Among Non-Living Things
a. Living things grow.	a. Non-living things do not grow
b. As living things grow, they add on cells and tissues.	b. Non-living things are not composed of cells and tissues, thus no cells or tissues increase in number
c. Living things become larger and complex as they grow.	c. Non-living things remain the same.
d. Living things gain energy from their food to grow.	d. Non-living things do not get energy as they do not eat food.

3. **Explain the important characteristics of living things which differentiate them from non- living things.**

Ans. The important characteristics of living things which differentiate them from non-living things are given below.

• **Living things respond to stimuli**: Living things react to change around them. We react to touch, heat, cold and sound. A plant automatically grows towards sunlight. These responses to environmental changes or stimuli are seen in living things. Non-living things do not respond to any stimulus.

• **Living things grow**: This is the other most important characteristic feature of living things. As they grow, they add on new cells and tissues and become larger and complex. On the other hand, non-living things and dead organisms do not grow.

• **Living things need food**: All living things need to consume substances from their environment to obtain energy, to grow and to stay healthy whereas non-living things and dead organisms do not need food.

• **Living things respire**: All living things exchange gases with their environment. Plants use carbon dioxide and give out oxygen during photosynthesis. Animals and human beings breathe in oxygen and breathe out carbon dioxide during
respiration. In comparison, non-living things do not respire.

• **Living things excrete**: All living things have an ability to remove wastes from their bodies. On the other hand, non-living things and dead organisms do not excrete.

• **Living things move**: All living organisms show movement of one kind or another. All living organisms show internal movement, which means that they have the ability of moving substances from one part of their body to another. Many living organisms show external movement as well. For instance, they can move from place to place by walking, flying or swimming. Non-living things do not show such movements.

• **Living things reproduce:** All living things have an ability to reproduce. On the contrary, non-living things cannot produce more of their own kind.

• **Living things have a lifespan**: Each type of living thing has its own life cycle. All the living organisms follow a cycle that comprises different stages. It begins with their birth, continues till they attain maturity and ends at their death. Non-living things undergo no such changes.

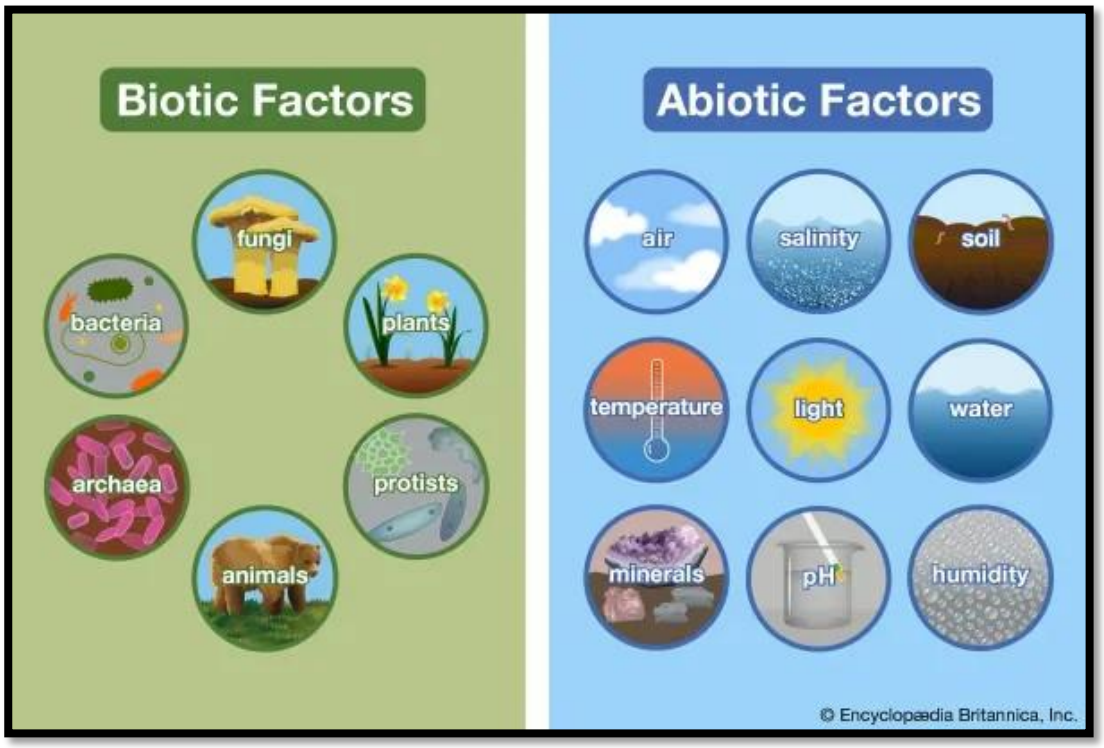
4. **What is environment? What are its components? Explain the function of each component.**

Ans. The environment is the surrounding in which a living organism lives. It is also called the habitat of a living organism. The environment consists of two major components described below:-

a. Biotic component: Biotic means '**living'**. The living world is the biotic component. It comprises all living organisms. Plants, microbes and animals are the major components of the biotic world**.**

b. Abiotic component: The non-living world is the abiotic component. It consists of three distinct parts: lithosphere, hydrosphere and atmosphere. These parts constitute components like air, water, soil and some factors like light and temperature.

Biotic and Abiotic Components



The functions of different biotic components are given below.

• **Plants:** Many green plants have chlorophyll which helps them to convert solar energy into usable energy. This usable energy is used to make food using carbon dioxide and water as raw materials in the presence of sunlight and chlorophyll.

Hence, plants play an important role for making food in the ecosystem.

• **Animals:** Animals play an important role in maintaining the food chain in the ecosystem**.**

◆ **Heterotrophs** (herbivores, carnivores and omnivores) depend on other animals and plants for their nutrition.

◆ **Parasites** like lice and leech live on or inside other living organisms for food.

◆ **Saprophytes** like mushrooms and fungi derive nutrition from dead and decayed matter**.**

◆ **Scavengers** like vultures feed on dead bodies of other animals.

The functions of different abiotic components are given below.

• **Air:** Oxygen, carbon dioxide and nitrogen are very important components of air that are required for the survival of the biotic world. The importance of air is given below.

◆ Oxygen is required by all living organisms for respiration.

◆ Plants need carbon dioxide to make food through photosynthesis.

◆ Many other gases are required by living organisms for different purposes.

• **Water:** Water is an important component required for the survival of living organisms. The importance of water is given below.

◆ Existence of life on this planet is possible due to the presence of water.

◆ 70 per cent of the Earth's surface consists of water.

◆ Water is the major component of all living cells.

◆ Plants absorb water from the soil through their roots.

Soil: The important functions of soil are given below.

◆ Soil constitutes the uppermost layer of the Earth's crust on which we live.

◆ Soil is a major source of all minerals like iron, calcium, magnesium, aluminium, copper and potassium. These minerals dissolve in water and are absorbed by plants for their growth. Animals eat plants and get minerals from them. Animals then utilize minerals for their growth.

5. **Plants are called purifiers of atmosphere despite the fact that they release carbon dioxide during respiration. Why?**

Ans. Plants purify air. During the process of photosynthesis, they take in carbon dioxide and release oxygen in air. When they respire during the night time, they take in oxygen and release carbon dioxide. In order to balance the level of carbon dioxide in air, they take much more carbon dioxide during photosynthesis than they release during respiration.