

<b>Provincial Department of Education- Sabaragamuwa- Week School</b>	
<b>Subject: Geography</b>	<b>Week: 10 Week- 27<sup>th</sup> Dec,2020- 2<sup>nd</sup> Jan, 2021</b>
<b>Grade: 10</b>	<b>Prepared by: Mr. M.A.L. Kumara Kg/ Dehi Rajasinghe Central College</b>

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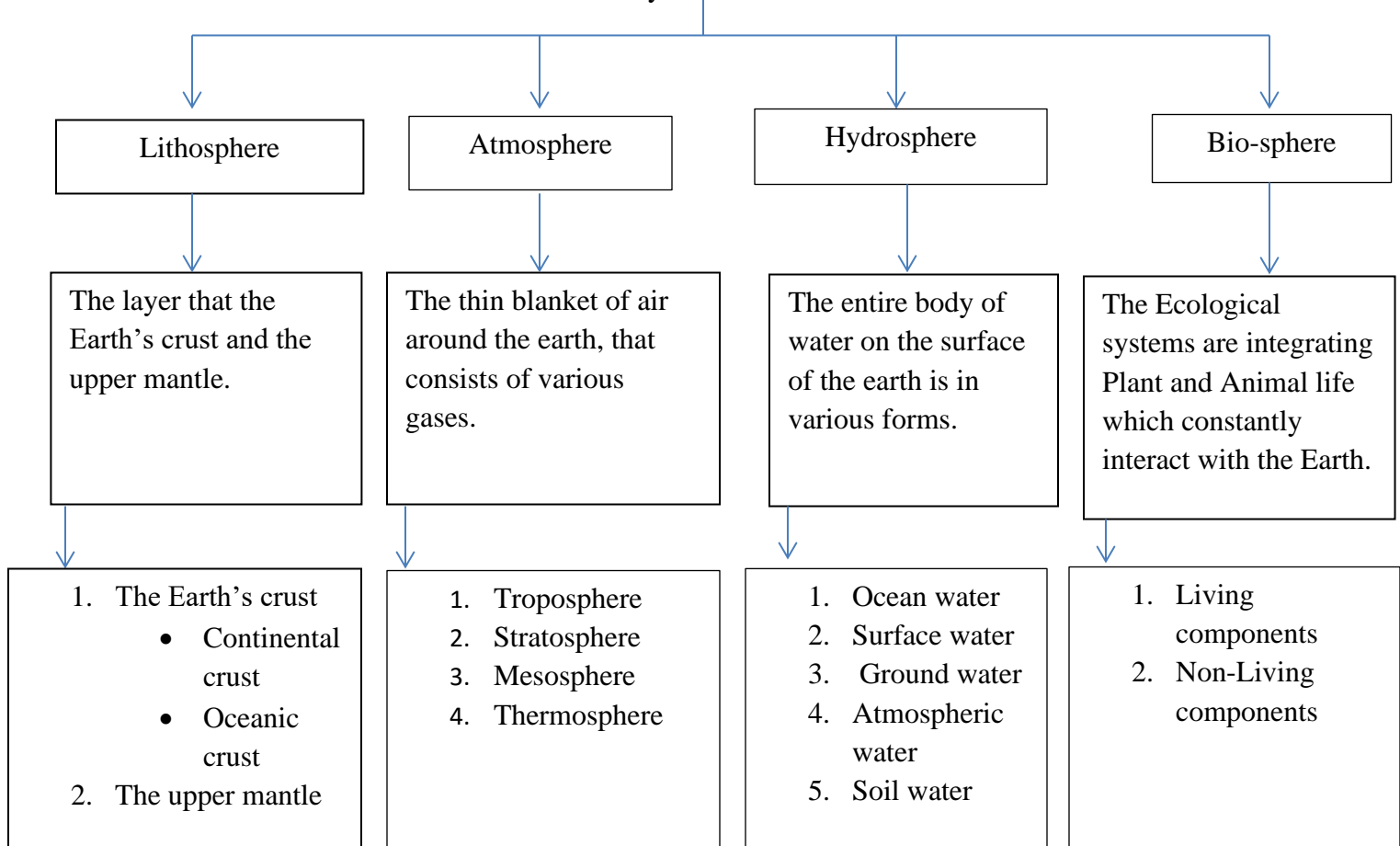
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## 1. The Composition of the Earth

## Sub Systems of the Earth



## **The interaction among four sub-systems**

These subsystems are constantly interacting, For example,

- The water in the hydrosphere is added to the atmosphere through evaporation.
- That water falls again to the earth as precipitation.
- The bio-environment in the biosphere is composed of soil, air and water.
- The components of the bio-environment, has impacts on the hydrosphere, atmosphere and lithosphere.

### **1. Lithosphere**

- The lithosphere is the home for living beings.
- Most of the human activities occur here.
- When the resources found in the lithosphere are utilized by man, the lithosphere is affected in various ways.

Examples of such effects are shown below.

- The occurrence of land degradation due to excavation of land to obtain mineral resources.
- Intensification of soil erosion as a result of exposure of land due to clearing of forests.
- Changes seen in the surface landscape.
- Changes in the ground water level.
- Damage to certain layers of the lithosphere as a result of disposal of domestic and industrial waste.

## 2. Atmosphere

- It provides oxygen for respiration of living beings and the necessary carbon dioxide for the process of photosynthesis.
  - There are human activities as well as natural phenomena that affect the change in atmospheric composition.

### Human activities

- Deforestation
- Burning of various wastes
- Exhaustion of poisonous gases from factories

### Natural phenomena

- Exhaustion of gases during volcano eruption.
- Release of Methane from Marshes.

## 3. Hydrosphere

Water is utilized for,

- For Drinking
- For domestic purposes
- For agricultural
- For industrial
- For transportation activities

At present, the quality of water is deteriorating due to the impact of various human activities.

Some of the examples are,

- Addition and release of various chemicals and carbonic matter into the water used and released by industries.
- The mixing of fertilizers and chemicals added to soil in agricultural activities with the water.
- Addition of bacteria to ground water and surface water on the land as a result of the irregular disposal of waste matter and sewage.

- **Out of the total volume of global water only 1% or a very limited amount of fresh water found on the surface of 1% and, can be utilized by man.**

#### **4. Biosphere**

- The process of Photosynthesis
- **The boundaries of the biosphere**
  - In the lithosphere - The layer in which the root system of plants spreads and where soil organisms live (2.5 m within the soil approximately).
  - In the hydrosphere - The ocean bed in which sufficient amount of sunlight penetrates for the process of photosynthesis.
  - In the atmosphere - The limits where birds fly (Approximately about 5000 m in the upper sky).

#### **Activity:**

1. Name the four main sub-systems that the earth is composed of and explain the inter-relationship that exists among the sub-systems with examples.
2. Write three unfavorable effects caused to the environment through human activities and explain one of it.
3. Table the characteristics of each layer of the Earth's atmosphere.
4. Name the three benefits of the atmosphere to man and write four adverse effects of humans on the atmosphere.
5. Write and explain three ways in which water pollution can be prevented.
6. Draw and name the Water Cycle.
7. Name the limits of the Bio-sphere.
8. Explains 'How human activities seriously threat to the biosphere at present'.