



Lesson 2: ECOSYSTEMS

Learning Objectives:

- Understand the concept of ecosystem.
- Determine the different components of an ecosystem.

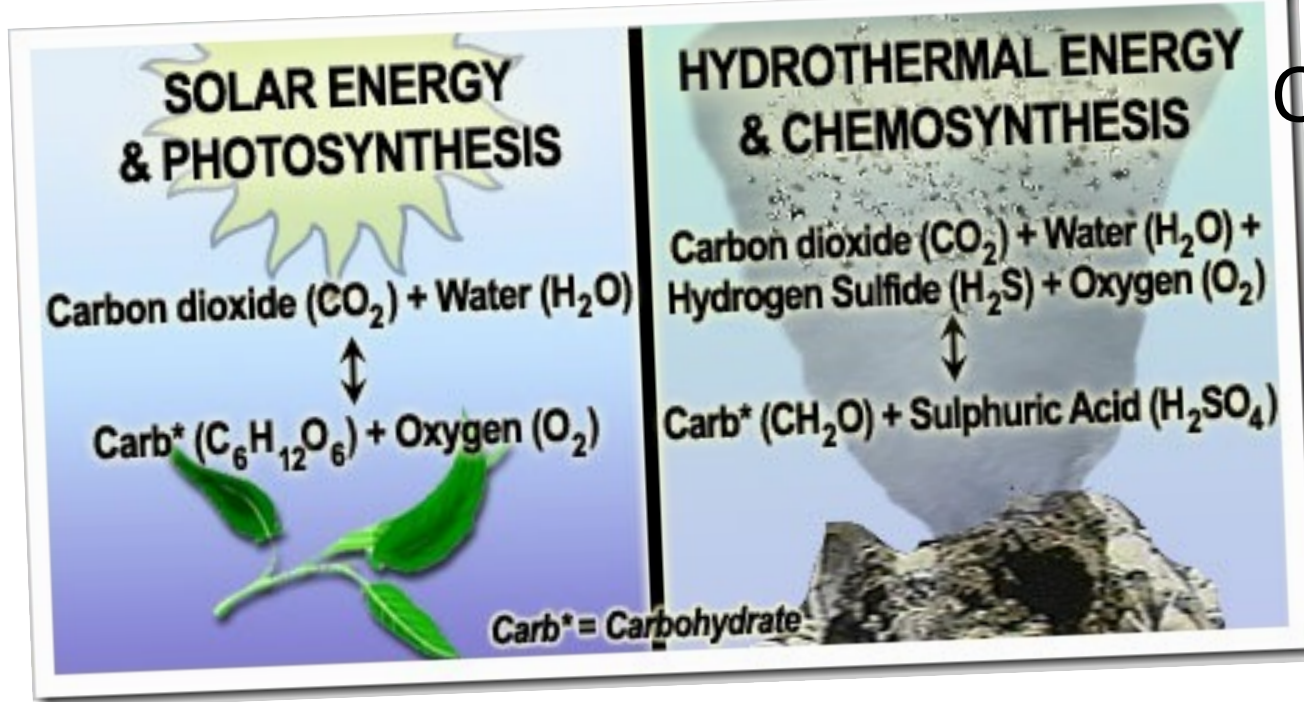
Ecosystems

- an **interacting group** of natural elements and the organisms in the environment
- a unit of interrelationships between and among **living (biotic)** and non-living **components (abiotic)**
- the biotic components respond and adapt to the abiotic components in their environment to maintain their homeostasis, or their steady state condition





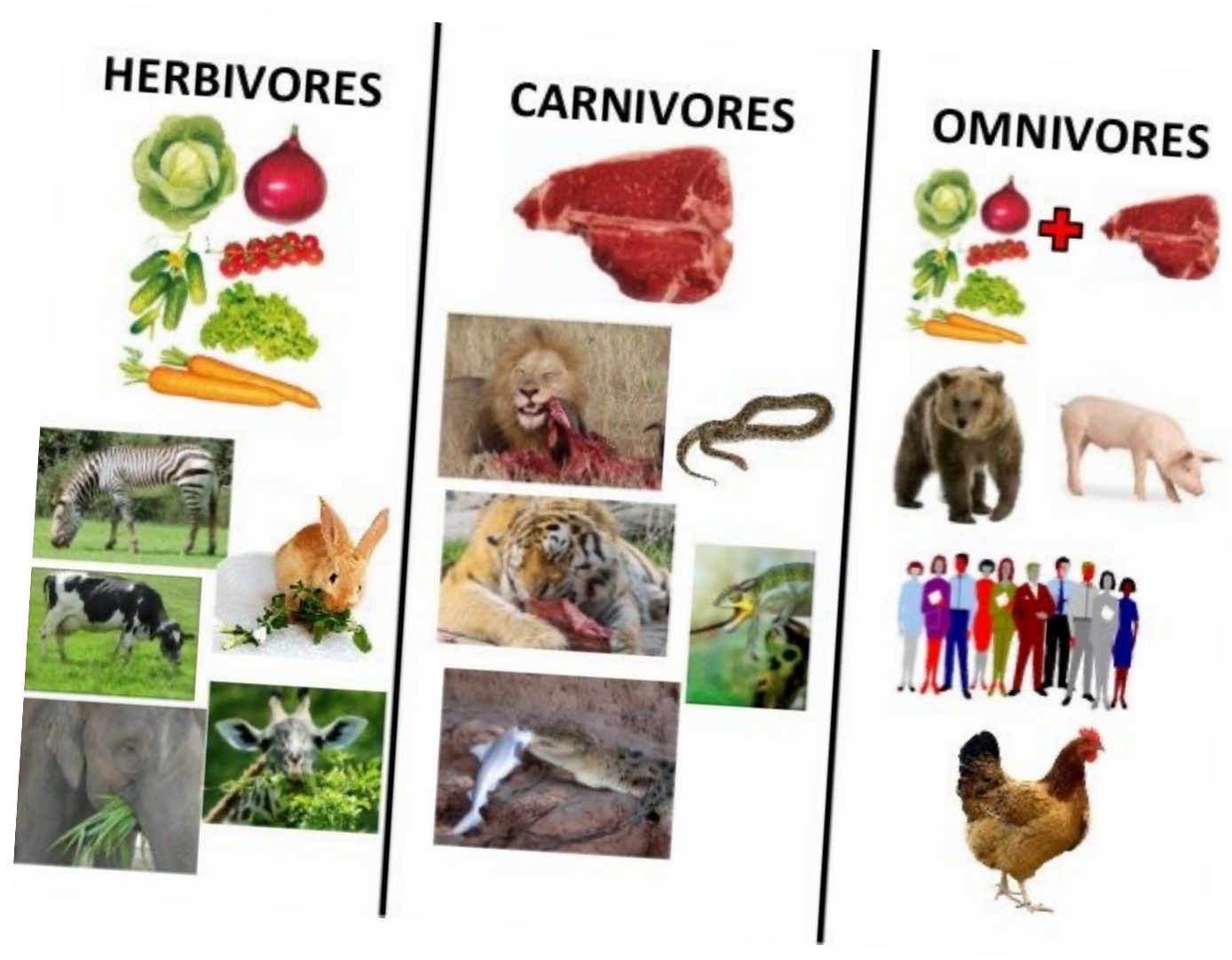
Biotic Components of an Ecosystem



- **Autotrophs** – are **organisms** which **produce organic nutrients** for their own use and indirectly for all other members of the ecosystem with the use of **inorganic nutrients and an outside energy source**
 - includes **bacteria, protists, algae, fungi, plants, and even animals**
 - maybe **photosynthetic** and **chemosynthetic**

Biotic Components of an Ecosystem

- **Heterotrophs** – organisms that need a preformed source of organic nutrients and are called **consumers**
 - maybe **herbivores, carnivores, or omnivore**



Biotic Components of an Ecosystem

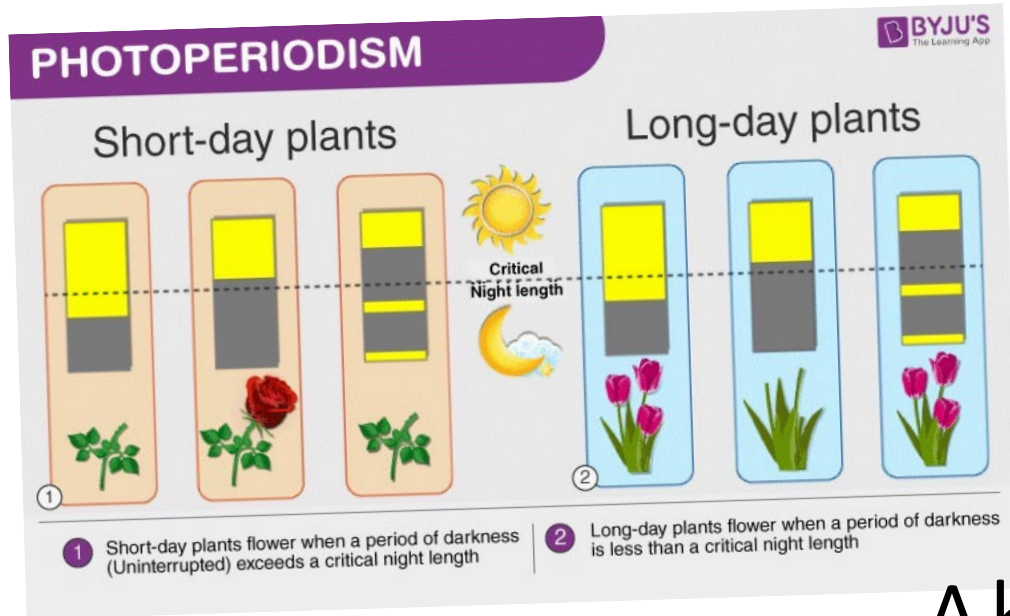


- **Decomposers** – use their enzymatic secretions to chemically **break down dead organic matter** and produce detritus

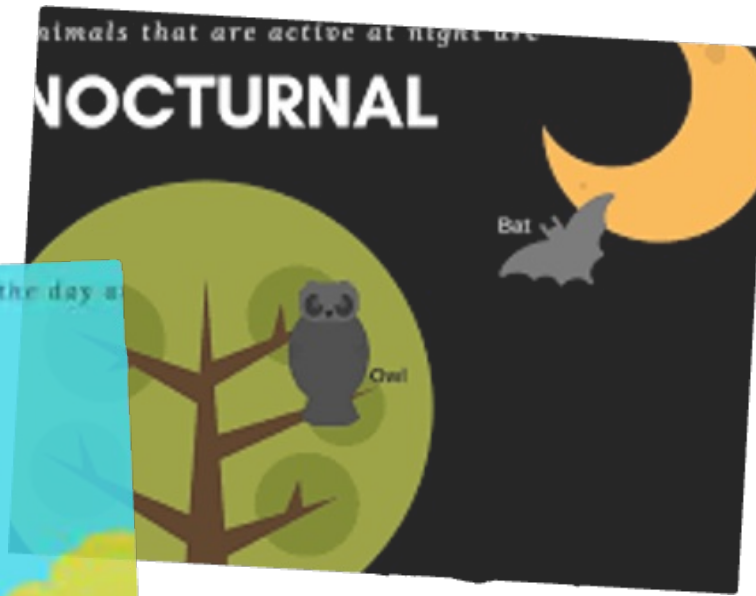
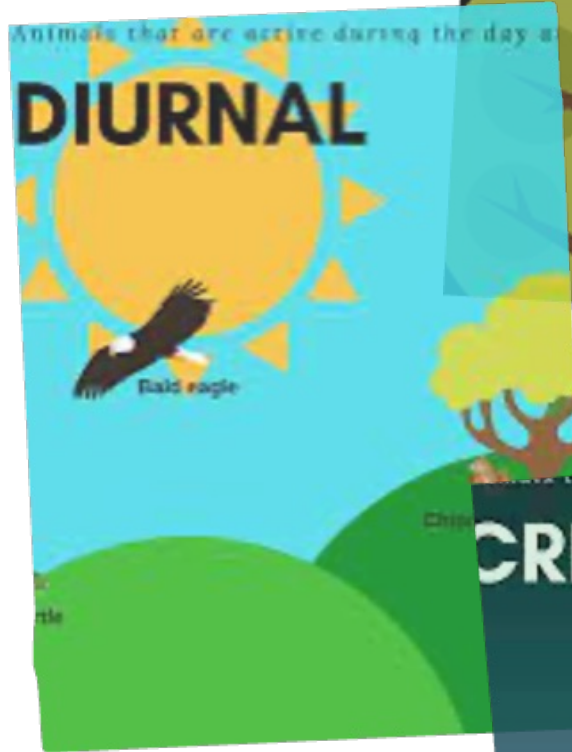


- Sunlight

- Long day plants – produce flowers only when the lengthening days reach a critical point, after the summer solstice
- Short day plants - produce flowers after the winter solstice



Abiotic Components of the Ecosystem

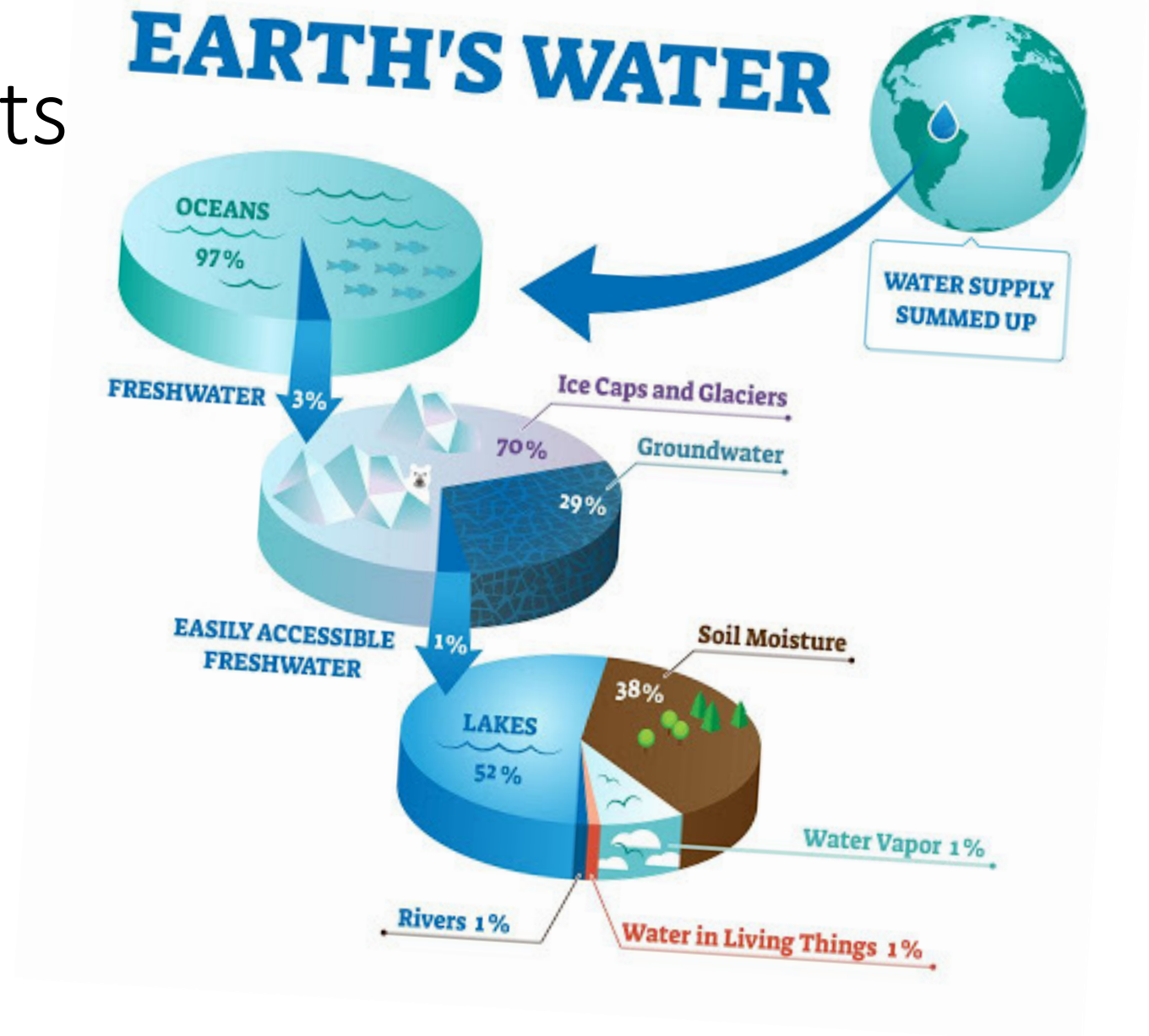


- Sunlight
 - Crepuscular
 - Diurnal
 - nocturnal

Abiotic Components of the Ecosystem

Abiotic Components of the Ecosystem

- Water – an agent of weathering
 - Hydrophytes
 - Mesophytes
 - Epiphytes
 - Xerophytes
 - Halophytes

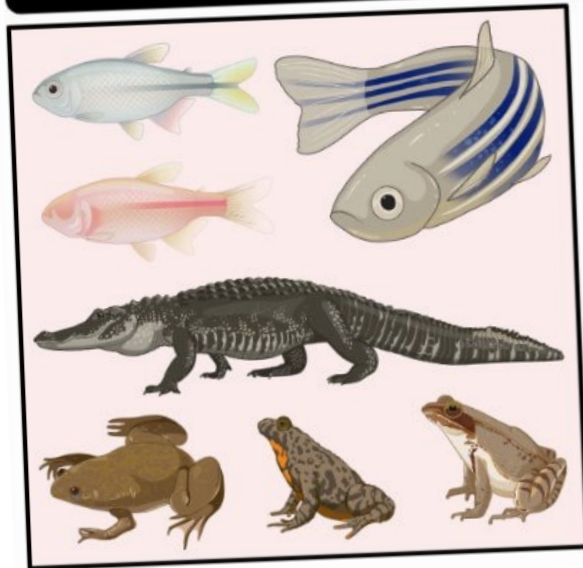




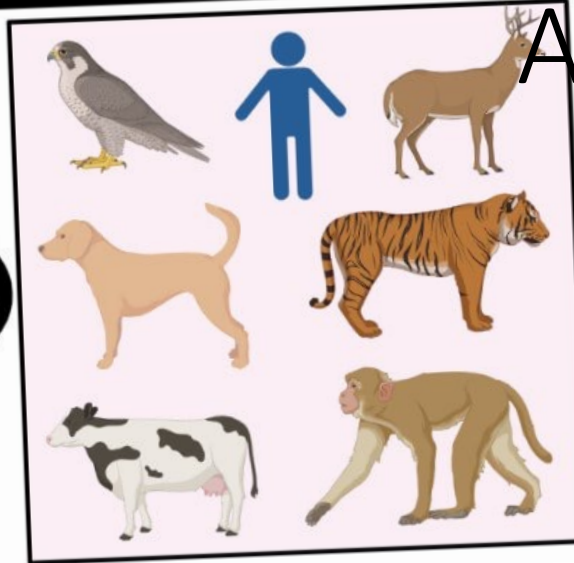
Abiotic Components of the Ecosystem

- Water – an agent of weathering
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Cold-blooded and Warm-blooded animals

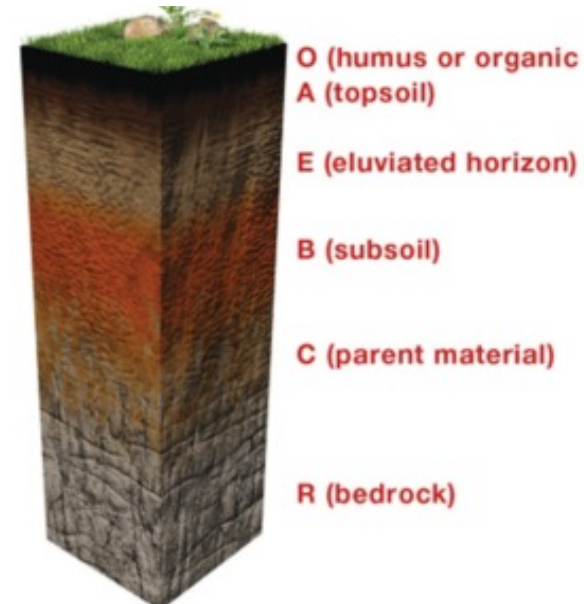
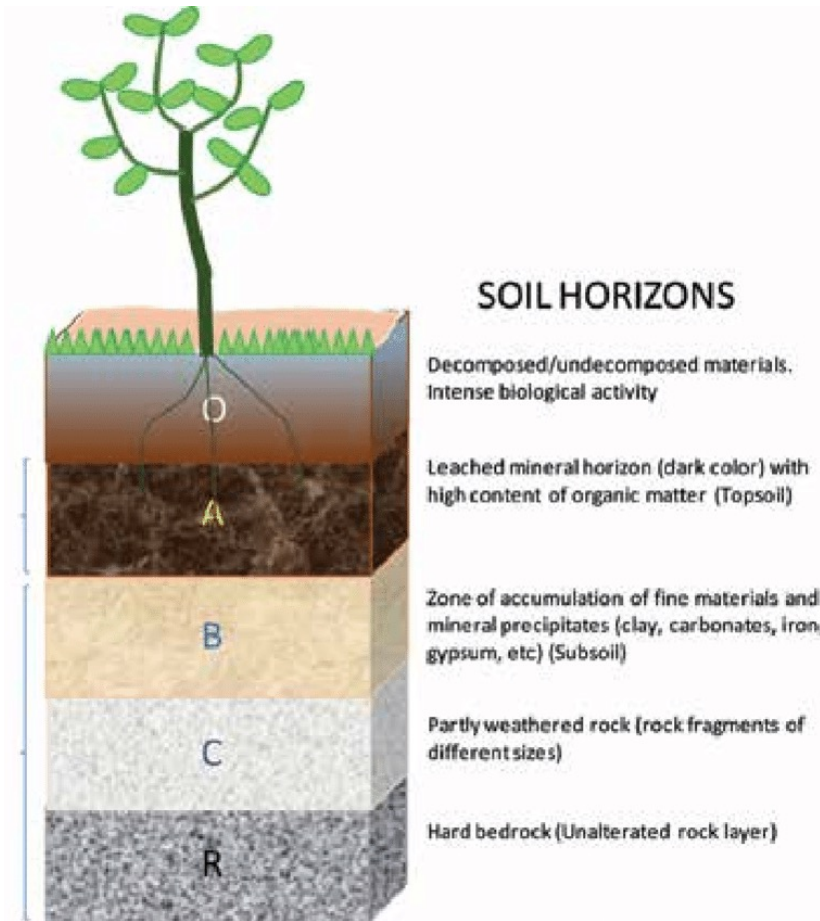


VS



Abiotic Components

- Temperature
 - Poikilotherms
 - Homeotherms



SOIL AND THE SOIL HORIZONS