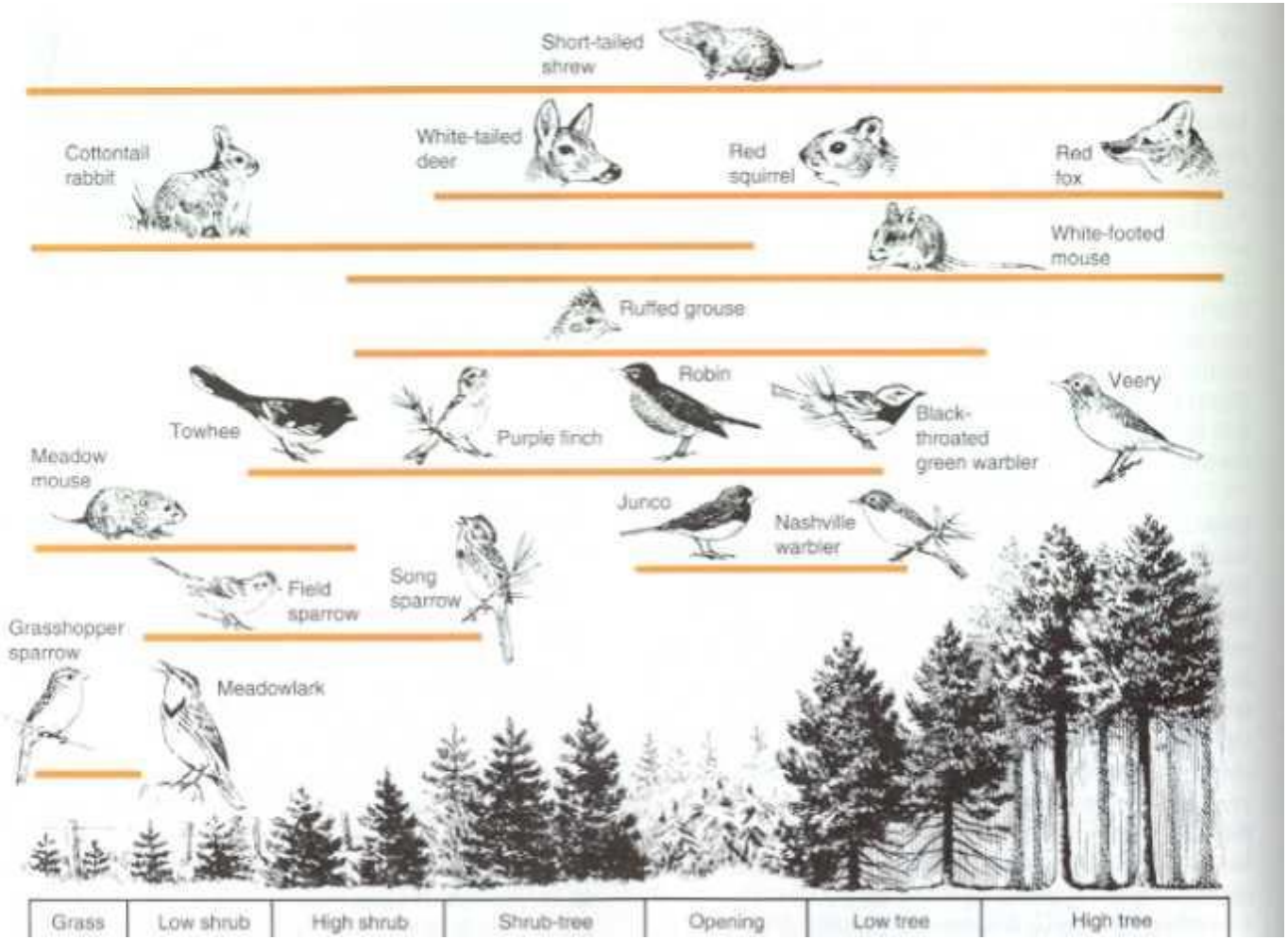
Ecological Succession

An ongoing process of change in an ecosystem

http://www.texasgateway.org/resource/ecological-succession

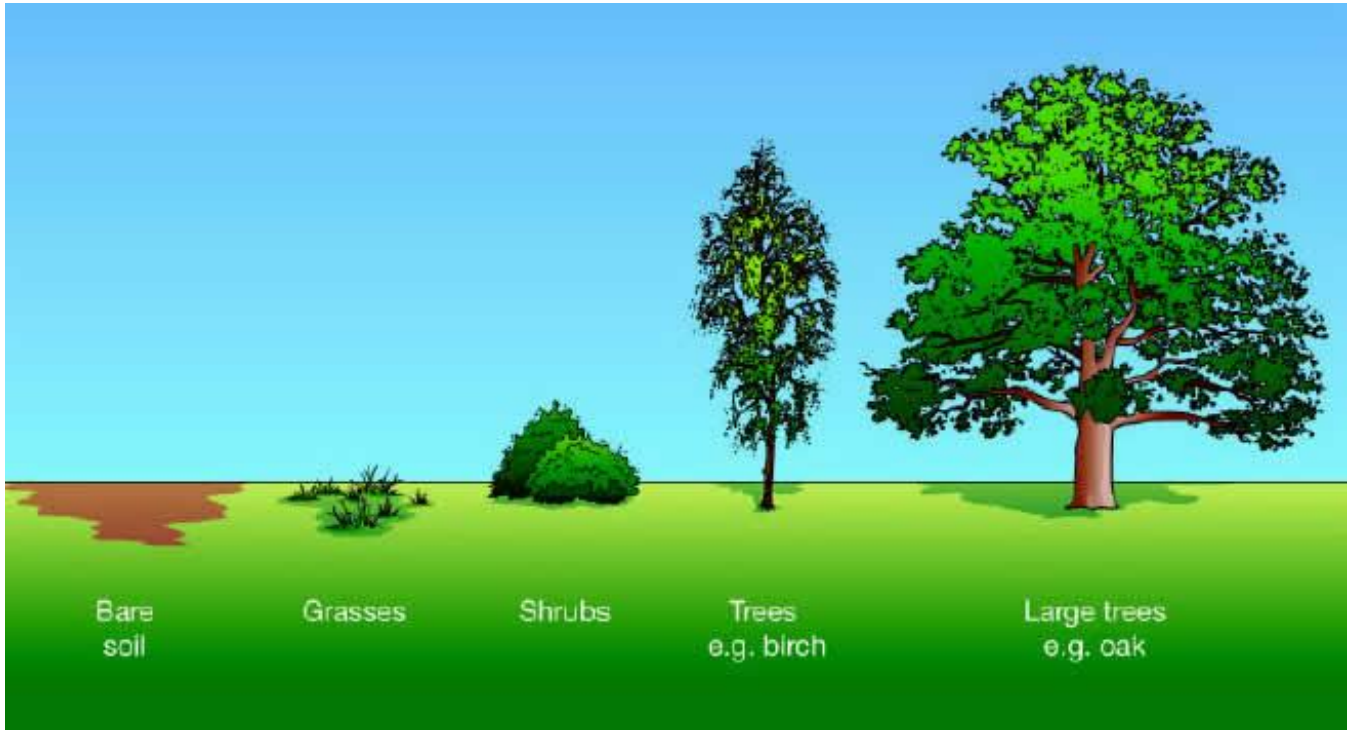
Succession in an Ecosystem

The gradual growth and replacement of plant species (animal species will change as plant species change).



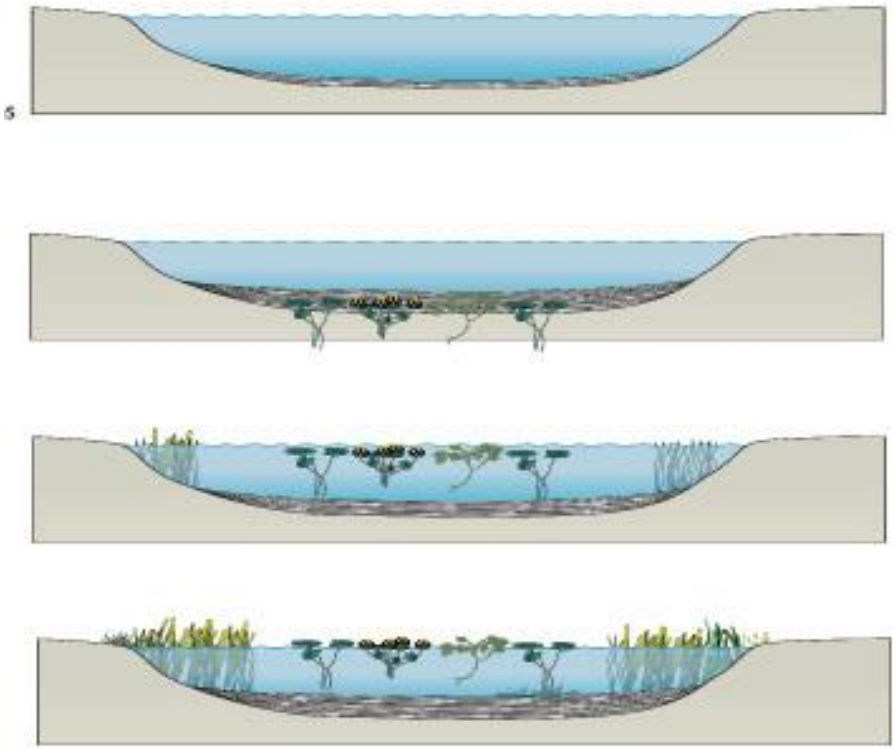
Order of succession on land:

- **1. Moss, lichen, and microorganisms begin to grow.**
- **2. Brown soil forms along with the moss & lichens.**
- **3. Grasses start to invade.**
- **4. Shrubs, weeds, and larger plants start to invade.**
- **5. Large trees gradually become dominant.**



Order of succession in water:

1. **Algae and phytoplankton begin to grow on surface.**
2. **Rooting, submerged and floating aquatic plants invade.**
3. **Reeds and grasses start to invade around edges.**
4. **Organisms die, soil builds up**
5. **Shrubs, weeds and larger plants start to invade.**



Primary Succession

The FIRST time succession has occurred in an area. Newly exposed earth (bare rock) begins the succession process.

This can take anywhere from 1000 to 2000 years

Primary succession happens on sand dunes, rock outcrops, glacial till, lava flows, a new island formed from an underwater volcano erupting

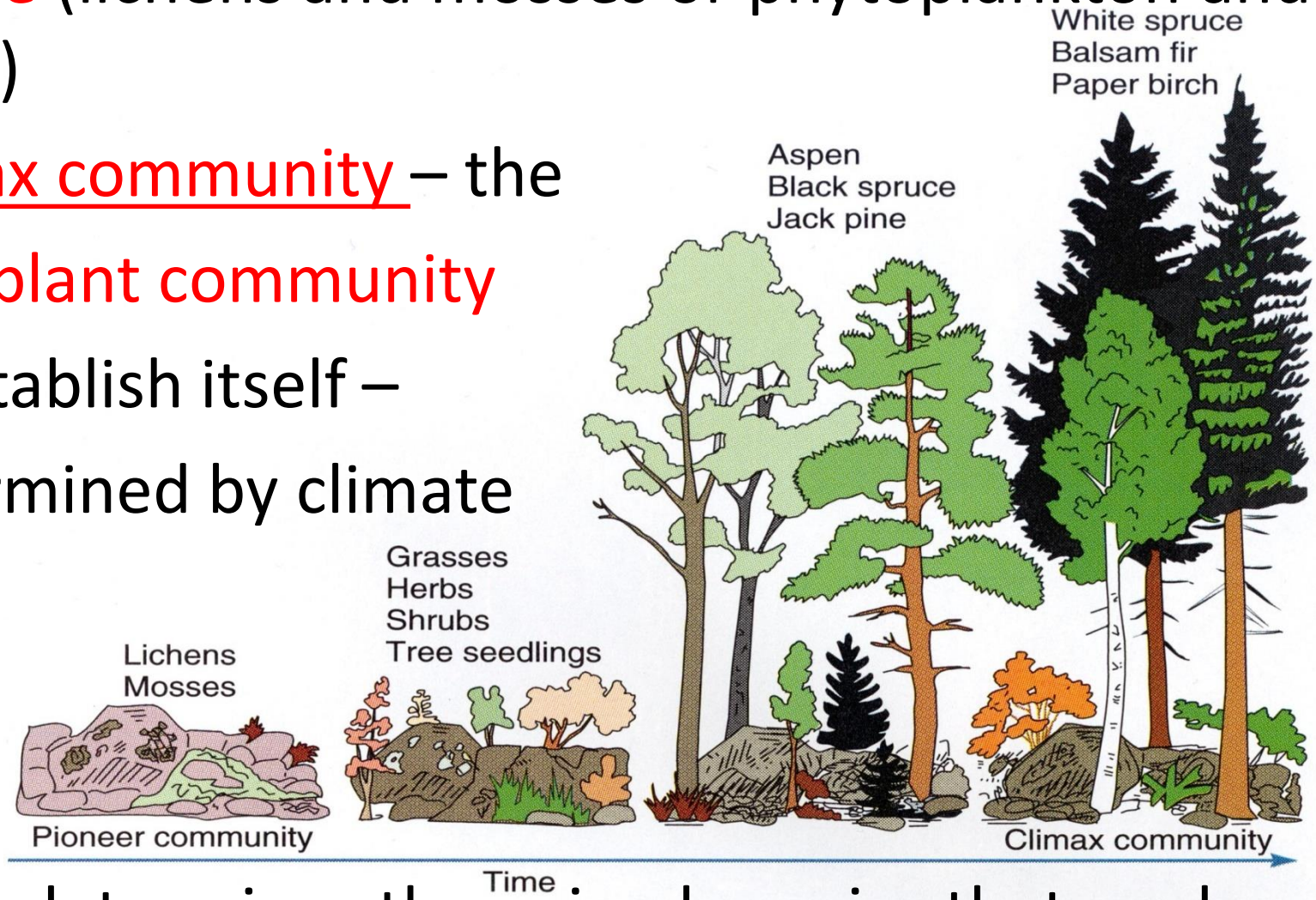
Secondary Succession

Secondary happens in area that once had growth but has since lost it. So, it's the "second" time the area has succession. Soil is present.

Secondary succession occurs in burned out forests, cut-over land, abandoned farms, dried up ponds

Pioneer community – the first plant organisms to invade (lichens and mosses or phytoplankton and algae)

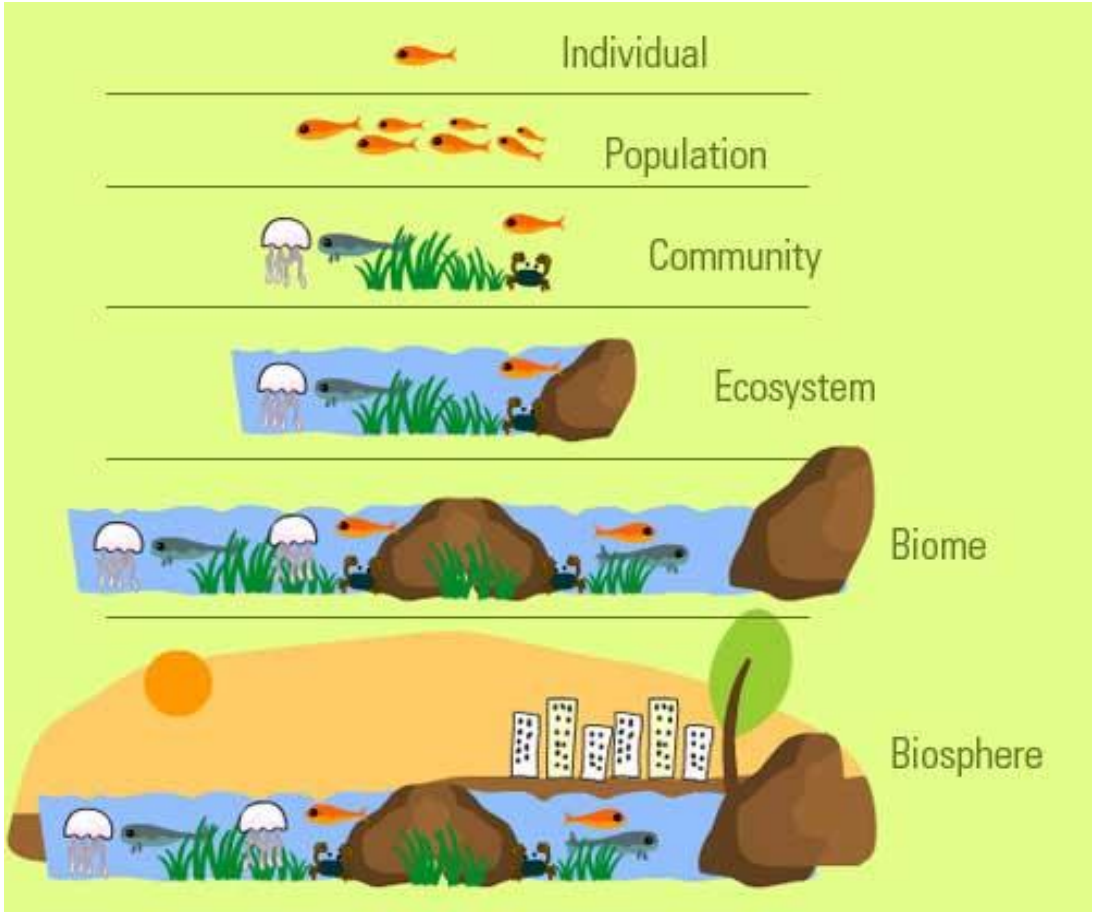
Climax community – the final plant community to establish itself – determined by climate



What determines the animal species that are here?

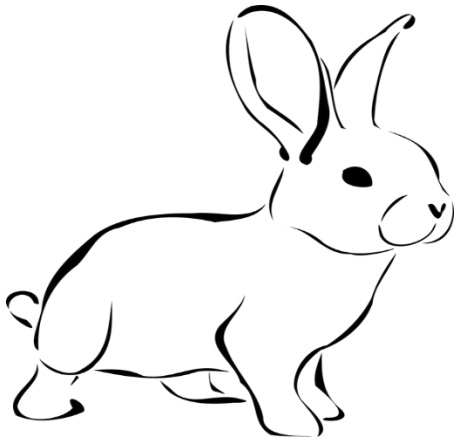
Levels of Organization

- **Atom → Molecule → Organelle → Cell → Tissue → Organ → System → Organism → . . .**



Organism

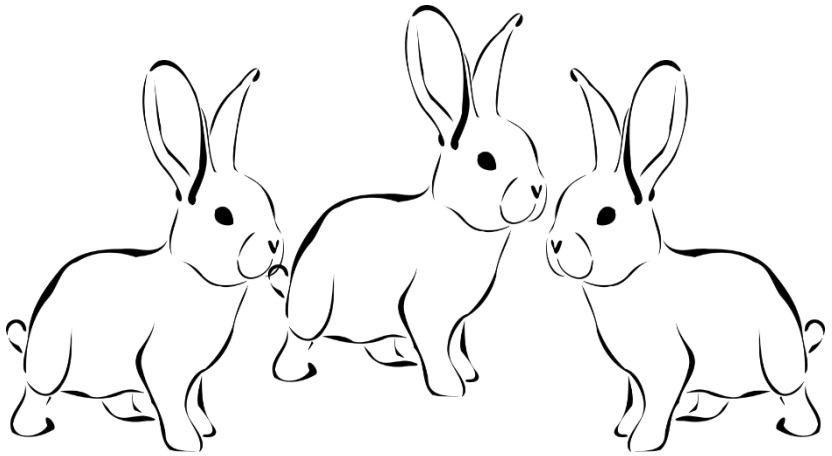
Organism: <u>one</u> individual <u>species</u> (Biotic ONLY)



- **<u>Species</u>** – able to reproduce and produce fertile offspring.

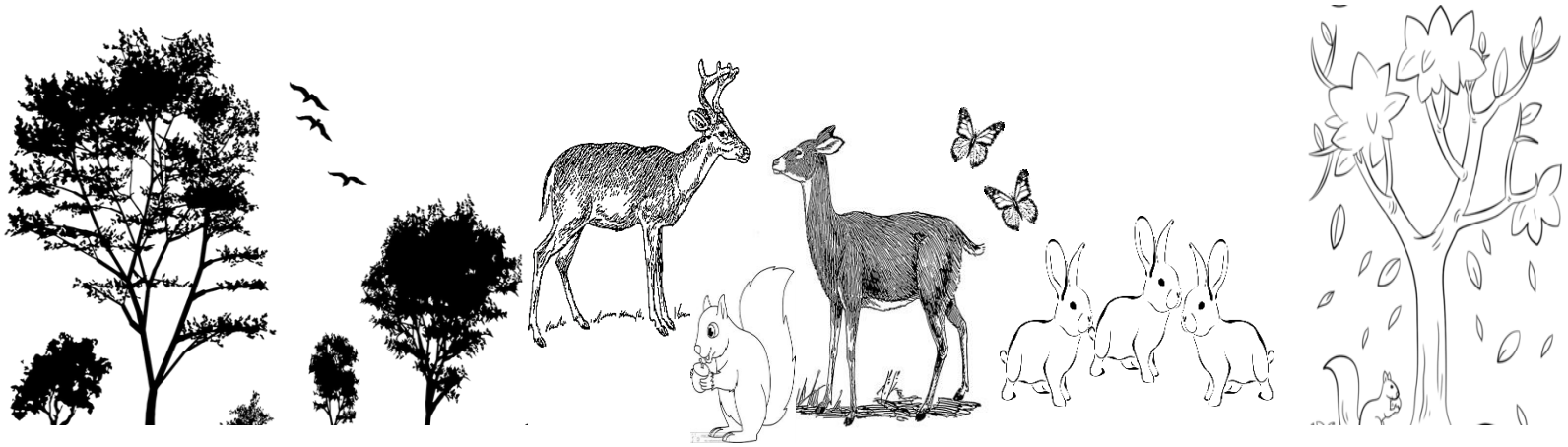
Population

- **Population:** a group of ONE species (Biotic ONLY)



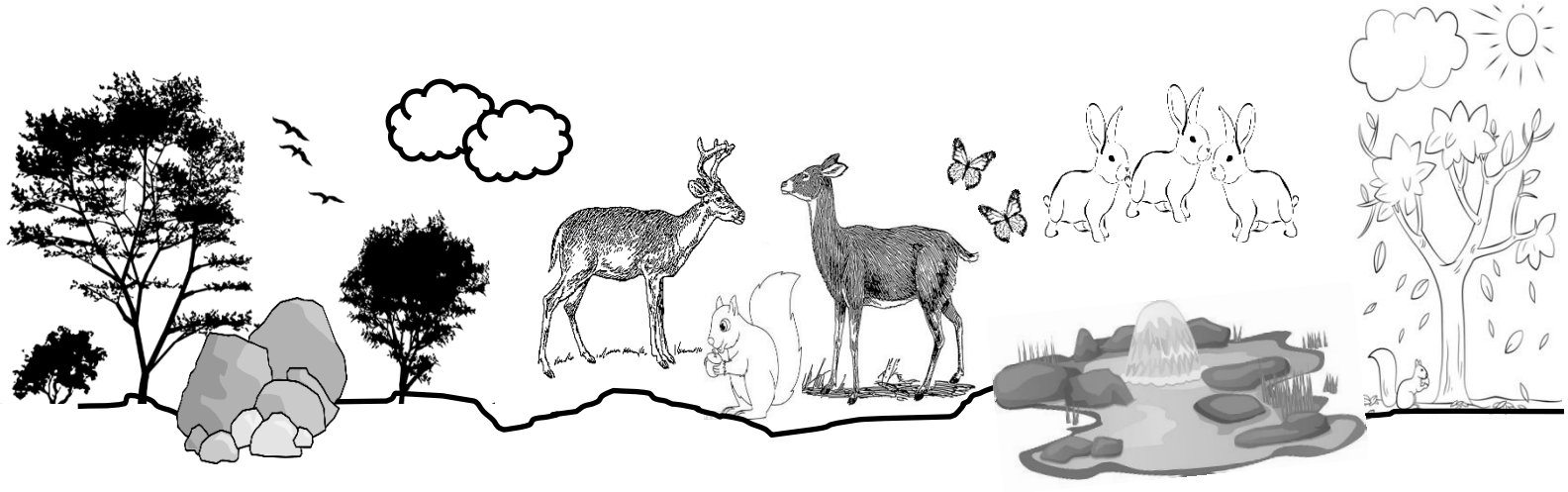
Community

- **Community:** <u>all</u> the different <u>populations</u> of species in an area (Biotic ONLY)



Ecosystem

- **Ecosystem:** the community along with the abiotic factors (Biotic AND Abiotic)



Biosphere

- **Biosphere:** All the ecosystems = EARTH

Levels of organization:

Atom → Molecule → Organelle → Cell → Tissue → Organ → System → Organism/Species → Population → Community → Ecosystem → Biosphere