

**Aim: What are the properties of the major subdivisions of the Earth?**

## 1. Lithosphere

solid outer part of Earth  
(Earth's crust and upper mantle)

thickness = 40-280 km

most abundant elements: silicon and oxygen

location of fossil fuels and mineral resources

## 2. Hydrosphere

water part of Earth (71% of Earth's surface)  
(surface and groundwater, ice, and water vapor)

(97% salt, 3% freshwater)

2% ice      1% liquid

average ocean depth = 3.6km

## 3. Atmosphere

shell of gases surrounding Earth that extends up from Earth's surface approximately 480km

### d. THERMOSPHERE

### c. MESOSPHERE

### b. STRATOSPHERE

**OZONE LAYER** ( $O_3(g)$ ) (lower part of stratosphere) – absorbs harmful UV rays

### a. TROPOSPHERE

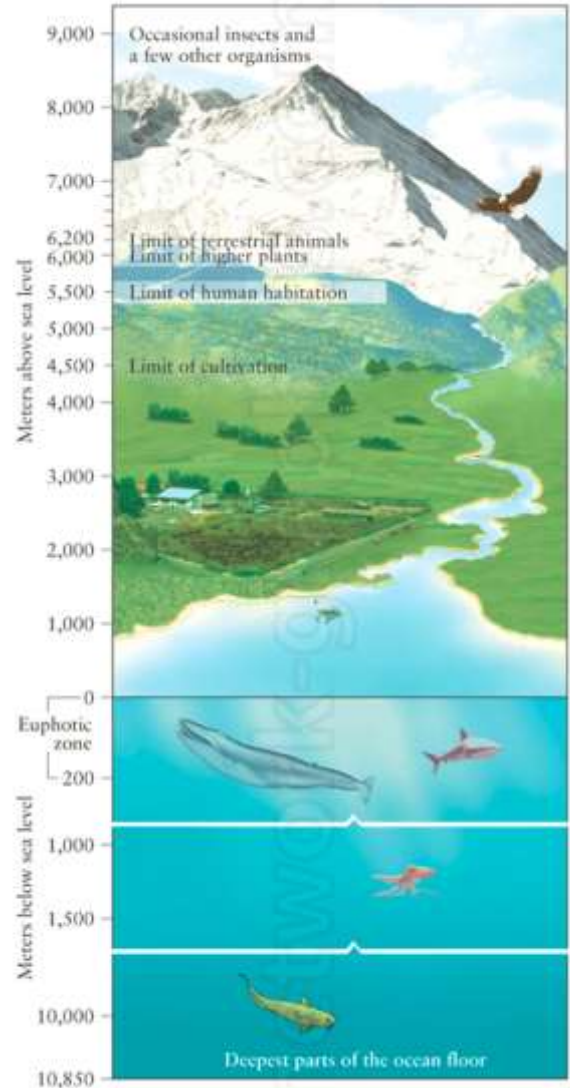
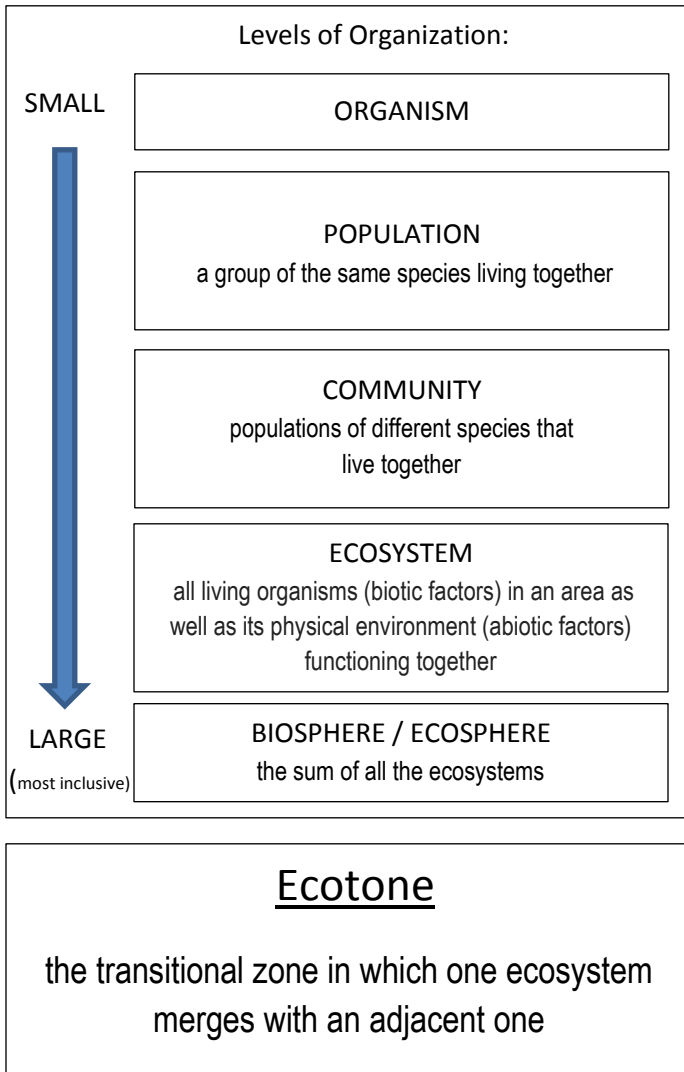
78% nitrogen  
21% oxygen  
1% other  
(water vapor, argon, carbon dioxide)

location of life, weather, pollutants



## 4. BIOSPHERE / ECOSPHERE

the portion of Earth where living organisms exist and interact with each other and with their nonliving environment



### TO SUSTAIN LIFE ON EARTH:

1. The Sun –  
\*\*since energy can't be recycled\*\* → it is just degraded and dispersed
2. Nutrient Cycling (a.k.a. biogeochemical cycles)
3. Gravity