**What is Ecology?**

* “Ecology”
  + the study of the interactions of organisms w/ its environment.

**Population Growth**

* Populations grow when birth rate exceeds rate of mortality
  + DEATH

**Age Distribution**

* Age-Structure Diagram shows growth patterns of populations grouped into categories
  + 1.) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
    2.)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + 3.)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Draw the Age distribution table below**

|  |  |  |  |
| --- | --- | --- | --- |
| **Post Reproductive Ages** |  |  |  |
| **Reproductive Ages** |  |  |  |
| **Pre Reproductive Ages** |  |  |  |
|  | **Increasing Population** | **Stable**  **Population** | **Decreasing Population** |

* Humans are part of the Earth's ecosystem.   Human activities can either deliberately or inadvertently alter the balance of an ecosystem.

**Human impacts on the Environment**

* Global warming
  + Use of machinery by humans seems to be increasing CO2 levels in the air. CO2 prevents heat from escaping, causes slight worldwide temperature increases

**Human impacts on the environment**

* Deforestation
* Caused by demand for wood products, need for space, farmland, housing, roads
* Deforestation causes
* Habitat fragmentation
* Animals and plants are forced into confined areas

**Human impacts on the Environment**

* Ozone depletion
* Caused by aerosol chemicals called chlorofluorocarbons (CFCs)
* CFC’s
  + Escape into atmosphere, reacts breaking down the ozone (O3, a protective atmospheric layer)
  + UV rays penetrate the atmosphere and cause harm to many organism.
* Fishing activities
* Demand for fish and shellfish
* Commercial Fishing be harmful to environment in many ways
* Invasive species (EXOTIC SPECIES)
* introduced by people accidentally or intentionally
* Can cause problems if no natural enemies are present
* Exotic pet trade
* Capture and sell wild animals from exotic locations
* Wealthy buyers and collectors desire obscure animals
* Animals removed from their habitat causes an imbalance in the ecosystem

**Importance of the Environment**

**Biodiversity = Many different types of organisms**

* Organisms depend upon one another
* Interfering with one Organism can have a Ripple effect to many w/in the habitat

**Natural resources:**

* Non-renewable includes fossil fuels (petroleum, coal)
* Renewable includes animals, plants, water, wind, etc.
  + even renewable resources can run out
* Natural resources
  + Renewable energy sources include wind power, geothermal energy, ocean currents

**Pollution:**

* Agricultural
  + DDT
  + Fertilizers
  + Animal wastes (nitrogen)
* Homes
  + Strong cleaning agents
* Industry
  + Toxic gases and wastes
  + Acid rain