**Characteristics of Life- Notes**

**III. Reproduction:**

\*The process by which one organism makes one or more new organisms.

**Organisms can reproduce:**

1. **asexually** ( no gender or sex cell)

**Processes:**

A. ***binary fission-*** cell division that forms two identical cells (bi- meaning two)

B. ***budding-*** the process during which a new organism grows by mitosis and cell division on the body of its parent.

Example: yeast

2. **sexually** - male/female cell that must combine to create new offspring

Example:

female (egg) + male (sperm)= new organism

**II. Growth and Development:**

**(Grow & Develop)**

**Growth:**

***Unicellular organism***- size of cell (amoeba)

***Multi-cellular organism***-an increase in the # of cells

**Development:**

Changes that occur at different times in the life cycle of an organism

Example: tadpole frog

IV: Response to Stimuli:

* Responds or reacts to the environment and surroundings.
* Anything that causes a response is called a stimulus. The response helps the organism to survive.
* Stimuli can be internal or external:
  + Internal example: hunger (your body is letting you know you need to eat)
  + External example: light response (plants move toward the light or energy source)

**I. Organization:**

- Unicellular Organisms

- Multi-cellular Organisms

**Cell Levels: Organized**

1. Cells

2. Tissue

3. Organs

4. Organ systems

5. Organism

**Prokaryotes:** one-celled organisms with NO nucleus (bacteria)

**Eukaryotes:** unicellular or multi-cellular organisms that have a nucleus