

Biology: Study of life

Biotic: Living things: humans, spiders, trees

Abiotic: Non-living thing: water, dirt, rocks

Organism: Living thing!

All living things share 7 basic properties:

① Organization

- Structurally composed of one or more cells
- Cells are the basic unit of life

② Reproduction

- Ability to produce new individual organisms
- Sexually
  - Two parents
  - Increased genetic diversity
- Asexually
  - One parent
  - Single-celled organisms
  - Some plants and fungi
  - Fission, budding, parthenogenesis

③ Metabolism (energy processing)

- Sum of all the chemical reactions carried out in an organism
- Organisms require energy to maintain homeostasis
- Two major ways:
  - Catabolism - breaking down organic material
  - Anabolism - building cellular components from smaller things

#### ✓ (4) Growth and development

- Increases in size of all its parts, rather than simply accumulating it

#### (5) Response to stimuli

- External stimuli

- phototropism - plants turn to sun
- phototaxis - movement b/c of light
- chemotaxis - movement b/c of chemical
- Touch, sound, vision, taste, equilibrium



- Internal stimuli

- Blood pressure
- \* Homeostasis

#### (6) Adaptation

- The ability to change over time in response to the environment

- Evolution

- changes in inherited characteristics over generations

- Based on organisms heredity, diet, and external environment

#### ✓ (7) Homeostasis

- Regulation of the internal environment to maintain a constant state

- Ex

- sweating to reduce temperature

- ↑HR to ↑ blood flow to limbs

- Blood buffering system to regulate pH