

Bio = Life

Logy = the study of

What distinguishes something that's living from something that isn't?

In order to be an organism:

- Be composed of cells
- Maintain Homeostasis
- Respond to stimuli
- Use and convert materials and energy
- grow
- reproduce
- evolve

Living organisms maintain homeostasis

Homeostasis- "to stay the same"

Enables organisms to cope with changes in their environment.

Living organisms respond to stimuli

-Internal and External

Ex. plants grow towards the source of light

Ex. your body can detect low blood sugar

- External Stimuli*- Light, sound, touch, chemicals, etc
- Internal stimuli*- temperature, pain, chemicals, etc.

Living organisms acquire and use materials and energy.

-Photosynthetic organisms capture energy.

- Energy comes from the sun, then photosynthetic energy uses the sun's energy, then organisms eat the photosynthetic energy, then organisms eat the other organisms. Energy is also lost through heat. Nutrients are never lost.

Living organisms reproduce

- -Reproductive process differs between organisms
- -end result is the same
- -Parent's genes are passed on in the new organism

Living organisms evolve

- Process of natural Selection
- -The process by which organisms with specific adaptations reproduce more successfully than others

Three major categories or domains

-Bacteria

-Archaea

-Eukarya

Kingdom

Phylum

Class

Order

Family

Genus

Species

Homo sapiens - Binomial Nomenclature

Made up of genus and species

Prokaryotic-

Bacteria and Archea

NO ENCLOSED NUCLEUS

Smaller in size

NO MEMBRANE BOUND ORGANELLES

Eukaryotic-

Only Eukarya

Membrane enclosed nucleus

larger in size

Membrane bound organelles

Unicellular

-composed of single cells

-All domains have unicellular organisms

Multicellular

-Composed of many cells

-only eukaryotic organisms are multicellular, no prokaryotic organisms

Autotrophic-