

Characteristics of Life



What characteristics do all living things share?



Where do living things come from?



Slime mold: Is it living or nonliving?



All Living Things...

Organized - (cell organization)

Grow and Develop

Reproduce

Respond to stimuli

Maintain stable internal conditions
(homeostasis)

Use Energy



Organism

Living things that have all the characteristics of life.

Examples: human, cat, dog, insect, plant



How did living things differ from non-living things?



Cellular Organization

cell

the basic unit of structure and function in an organism.

to see most cells you need a microscope ★



Unicellular

Single-celled organisms; organisms made up of only one cell.

Example: Bacteria



Multicellular

Organisms composed of many cells.

In multicellular organisms, the cells are specialized to do certain tasks.



Example: muscle cells
and nerve cells
in the human body



Growth and Development

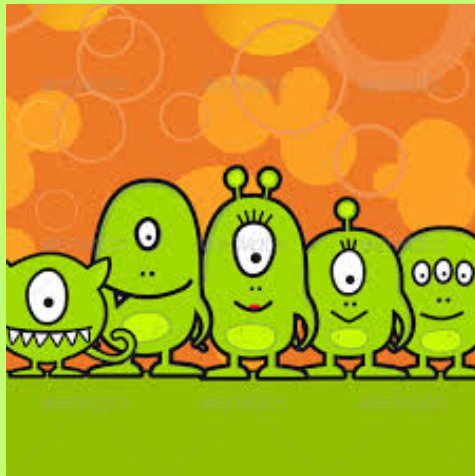
Growth is the process of becoming larger.

Development is the process of change that occurs during an organism's life to produce a more complex organism.



Reproduction

The ability to reproduce, or produce offspring that are similar to the parents.



Life Comes From Life

Living things arise from living things through reproduction.

Spontaneous generation - the mistaken idea that living things can arise from nonliving sources.

Francisco Redi helped disprove spontaneous generation by designing a controlled experiment.



Controlled Experiment - two tests that are identical in every respect except for one factor.

Response

An action or change in behavior.



stimulus



response

Response to surroundings

Stimulus

A change in an organism's surroundings that causes the organism to react.



Examples: Changes in temperature, light, and sound

Internal stimuli

Example:

Stimulus: Your stomach growls

Response: You get food and eat it

External stimuli

Example:

Stimulus: Light is turned on

Response: You shield your eyes/squint
from the light change

Stable Internal Conditions

Homeostasis

The maintenance of stable internal conditions.

Example: sweating helps our bodies maintain a steady body temperature



Energy

The cells of living organisms use energy to perform activities such as to grow and repair injured parts.

autotrophs

(auto- means "self" and -troph means "feeder")

Organisms that use the food they make to carry out their own life functions.

example: plants



heterotrophs

(hetero- means "other" and -troph means "feeder")

Organisms that obtain their energy by feeding on others

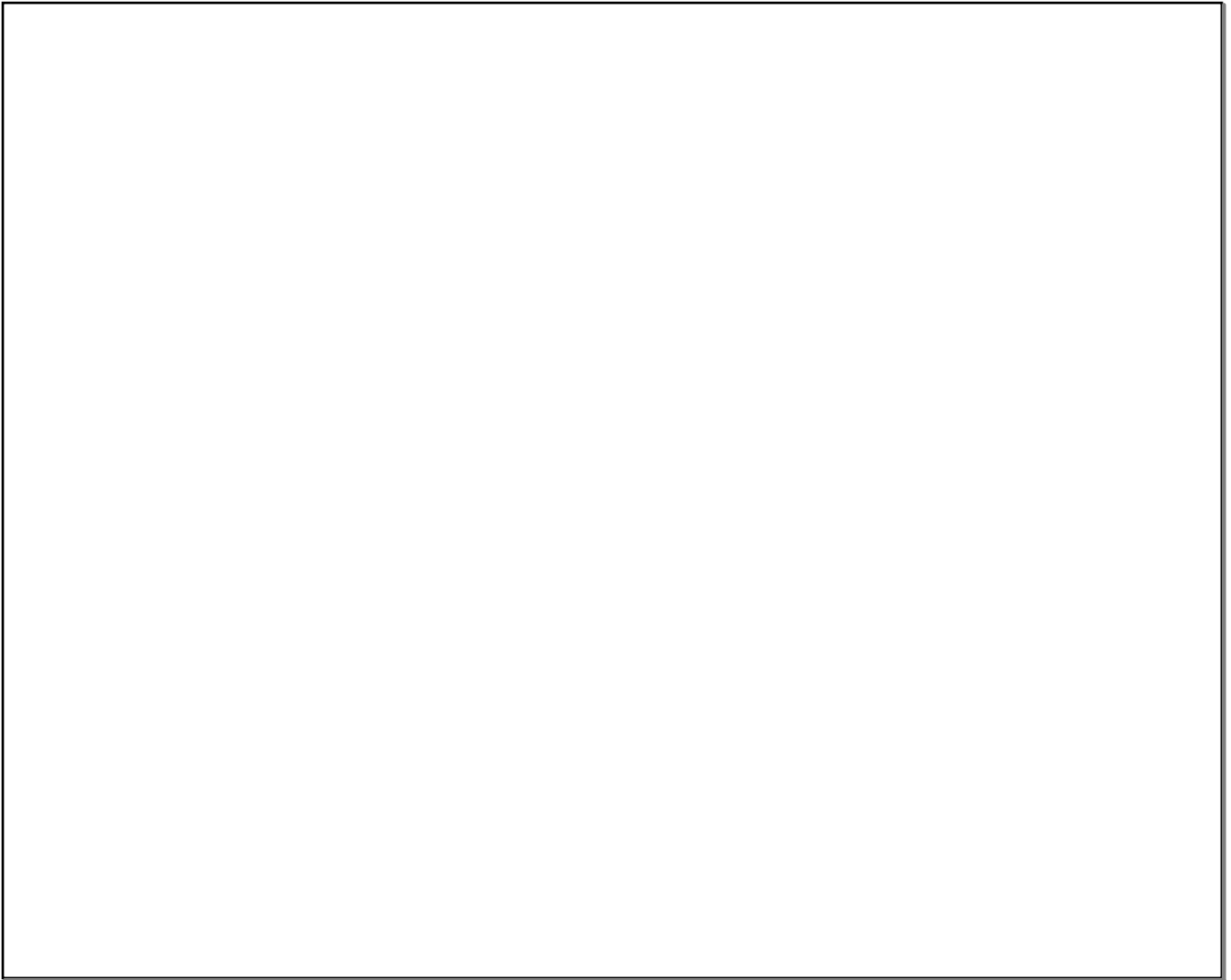


Quiz Making Competition

Task: Create a quiz AND answer key.

Requirements

- 10 questions (must include ALL vocab in all 10 questions)
 - 2 multiple choice questions
 - 2 open response questions
- other questions can include fill in the blank, matching, and fix the vocabulary error (TRUE/FALSE)



Review

1.) How do growth and development differ?

2.) What is homeostasis?

