

Biology Introduction: Living

I. What is Biology? (what are we going to study this year?)

Bio logy – the study of life or the study of living organism

II. Topics in Biology

Biochemistry, Genetics, Taxonomy, Molecular biology, Zoology, Botany, Human physiology, Ecology, Microbiology

I. Why study Biology?

Future of our planet's health (new disease, virus)

New Agricultural Technique, genetics

10minutes Discover Channel clip on venom

IV. Characteristics of living

Four creatures Demonstration

Student will determine the characteristics of living before observing four creatures then streamline the definition after the demonstration.

Flame Demonstration

Is flame alive or not? Does it grow, does it move, does it reproduce?

Reproduction

For life to continue, organisms must reproduce. Reproduction is essential for the continuation of an organism's species (a group of organism that can interbreed)

Question: what is a mule? Is it a species? Note that a mule is the offspring of a male donkey and a female horse (mare) and it is sterile.

Organization

All living organism show an orderly structure. All living organism are made of cells (small unit in living organism). Some are unicellular like bacteria, some are multicellular like human.

Adaptation

Living things adjust to their surroundings or environment.

Example: camel's fatty hump

Stimulus-any condition in the environment that requires an organisms to adjust

Response- a reaction to a stimulus

Example: Hot-sweat, Cold-shiver

Homeostasis- the regulation and maintenance of the internal environment of organisms.

Example: After exercising, you breath more rapidly and heart beats faster

Development

With time organisms grow in an increase in the amount of living material and the formation of new structures.

Example: human – sperm/egg make a cell which divides, tadpole to a full grown frog, chick to chicken, caterpillar to butterfly,