

Taxonomy - is the science of grouping or organizing things into groups based on common characteristics.

Difference between living things and non-living things. They ask themselves a set of questions:

Can it grow and develop?

Can it reproduce to make more of its own kind?

Can it make or get food?

Can it use food?

Can it sense and react to living and non-living things in its surroundings, and react to them?

Is it made up of cells?

If they all are yes, then classify as living.

Ecology is the study of how living things interact with each other

Biotic are living factors include:

- Plants
- Animals
 - Dead organisms & Waste Products
(came from living at one time)

Abiotic are nonliving factors that affect other living things:

- Air, Water, Soil, Rocks, Light, Temperature , Climate

Biologist group living things Hierarchy of classifying living things



We classify things into groups to make things easier to understand.

- * All living things share a set of characteristics in order to survive.
- * All living things are grouped into the first level of classification known as a "kingdom".

There are 5 Kingdoms

- 1) Animals (Are vertebrates or invertebrates)
- 2) Plants (2 classifications of plants are makes seeds & Don't make seeds)
- 3) Fungi
- 4) Monera (Bacteria)
- 5) Protists (Single cell)

Exoskeleton is a hard supporting structure on the outside of the body. Example) lobster's shell.

Endoskeleton is a hard supporting structure on the inside of the body. Example) bones

Primitive - was around at the beginning of time

Terrestrial - Lives on land

Aquatic - Lives in water

Species - Are living things that can breed together to produce offspring that can also breed together.

Ex) Cats can breed with other cats

(Cats cannot breed with a dog)

Vertebrates- is any animal that has a backbone

Invertebrates - any animal that does not have a backbone.

Habitat -The place where an organism lives.

Warm-blooded creatures, like mammals and birds, try to keep the inside of their bodies at a constant temperature. (Humans 37°C)

Cold-blooded creatures, like reptiles often like to stay in the sun to warm up and increase their metabolism (Temperature changes depending on outside temps)

Herbivores, such as cows, eat only plants.

Carnivores, such as snakes and owls, eat only animals.

Omnivores, such as humans and bears, eat both plants and animals.

Detritivores, such as earthworms, feed on dead matter.

Decomposers, such as fungi, break down organic matter.

Scavengers, such as vultures, eat dead animals.

Invertebrates Examples

1) **Sponges** - are the most primitive

-They live in water.

-They do not move from place to place.

2) **coelenterates** - They live in water.

-They may or may not move from place to place. They have stinging tentacles

3) **Echinoderms** - live in sea water

- Have internal skeletons

- Have suction pads to hold them in place

Ex) Star Fish, Sea Urchins, Sea Cucumbers

4) **Worms** - - Have soft long bodies

5) **Arthropods** - Have jointed legs or foot

- Have a hard outer shell (exoskeleton)

-molt their skin/shell as they grow

ex) Ants, spiders, lobsters, crabs

Vertebrates examples are below

1) **Amphibians** - are aquatic in early life cycle, but terrestrial as adults

2) **Fish** - all are aquatic

- paired fins

- cold-blooded (ectothermal)

3) **Reptiles** - terrestrial, but many species spend time in the water

- scale-covered skin

4) **Birds** - Terrestrial

- hollow boned skeleton

- 5) **Mammals** - Give birth to live young
- drink milk as babies
 - born with hair or fur and warm blooded

Why are Frogs disappearing?

- 1) Loss of Habitat
- 2) Air and water quality is getting worse
- 3) Increases UV radiation exposures to frogs skin dries them up(due to hole in ozone)
- 4) Climate change

Physical Adaptations- are body structures that allow an animal to find and consume food, defend itself, and reproduce its species. Helps an animal to survive in its environment. Below are some examples

- 1) Camouflage- use of color to blend in with its surroundings (Ex. Green snake in grass)
- 2) Mimicry- looking or sounding like another living organism (Ex. Viceroy looks like the poison Monarch butterfly) Ex) Parrot mimics people
- 3) Chemical defenses – like venom or skunk spray
- 4) Body Armor- Hard outer shell used to protect (Ex Turtle shell)

Behavioral Adaptations- allows animals to respond to life needs. They can be learned or instinct.

- 1) Learned Behavioral Adaptation – are taught (Teach a dog to give paw)
- 2) Instinct- happen naturally Ex) Migrating, Hibernating, crying , raising young