

Animal Classification

Concept

This lesson introduces the students to the classification of animals which is part of the science of taxonomy, where all living things are classified into groups based on their characteristics and anatomical differences.

We tend to group similar things together into classifications, such as "houses," "stadiums" or "factories." The same occurs with living things. Informal classifications are often superficial and can be misleading. For example, the term 'fish' is common to many living things, such as 'shellfish', 'crayfish' and 'starfish' but a careful examination will reveal there are many anatomical differences (characteristics) between them.

Biologists attempt to classify or group living things by a natural system based on anatomical differences. As more and more knowledge about living things becomes available, classifications are constantly updated to more accurately reflect the new discoveries.

The Biological Classification System

All living things are first divided into very large, very general classifications. They, in turn, are divided into increasingly more specific classifications. The basic Biological Hierarchy of Ranks is:

- ✎ Kingdom
- ✎ Phylum
- ✎ Class
- ✎ Order
- ✎ Family
- ✎ Genus
- ✎ Species

The following chart shows the classification of human beings and a white pine tree.

Classification	Human Being	White Pine Tree
Kingdom	Animalia	Plantae
Phylum	Chordata	Tracheophyta
Class	Mammalia	Pteropsida
Order	Primates	Coniferales
Family	Hominidae	Pinaceae
Genus	<i>Homo</i>	<i>Pinus</i>
Species	<i>Homo sapiens</i>	<i>Pinus strobus</i>

Animal Classification

Activity

This activity allows students to explore the anatomy and characteristics of animals and based on their observations, classify them into the first three groups:

- ✎ Kingdom
- ✎ Phylum
- ✎ Class

Materials and Equipment

- ✎ Handout of examples of the main Kingdoms, Phylum and Classes to assist the students with their classification.
- ✎ Pictures or models of various animals to be identified set up at stations around the room. Each animal should fit into the classifications in the handout.

Kingdom	Contains
Animalia	The higher animals and vertebrates (animals with backbones). Also includes sponges, coral, worms, mollusks, arthropods.
Plantae	Plants – including true algae, mosses, ferns, conifers and the flowering plants.
Procaryota	Virus, bacteria, and blue-green algae.
Protista	Microscopic creatures including protophyta, unicellular algae, protozoa and fungi.
Phylum	Contains
Arthropods	Animals with external skeletons, such as crustaceans (lobster, crab, etc.) spiders and the true insects
Mollusks	Animals with external shells, such as snails. The sea snails are know for their beautiful seashells.
Chordata	Animals that generally have a spinal cord. They include birds, fish, reptiles and mammals.
Class	Contains
Chondrichtyes	Sharks, rays and skates
Osteichthyes	Bony fish
Amphibia	Amphibians
Reptilia	Reptiles
Aves	Birds
Mammalia	Mammals

Animal Classification

Procedure

Students to begin by creating a scientific report to record their:

- ✎ Aim
- ✎ Materials
- ✎ Method
- ✎ Observations
- ✎ Results

Students to visit each station and investigate the animal - discuss with friends and teachers and consult resources if they need to.

As part of their observations, they should be encouraged to record:

- ✎ What the animal is - its common name
- ✎ The animal's characteristics:
 - ✎ What they eat – herbivore, carnivore or omnivore
 - ✎ Body covering – skin, hair, shell etc
 - ✎ Their possible habitat – land, air, sea
 - ✎ No. of appendages
 - ✎ Any other characteristics

Based on the examples in the handout, students should attempt to classify the animals into:

- ✎ Kingdom
- ✎ Phylum
- ✎ Class

Explanation

By using the resources and animal pictures and models, students should be able to get an understanding of how living things are classified based on common characteristics.

From what they have learned, a follow on task would be to have the students list the characteristics of the more well known Kingdom, Phylum and Class as well as investigate the characteristics and examples of Order, Family, Genus and Species.