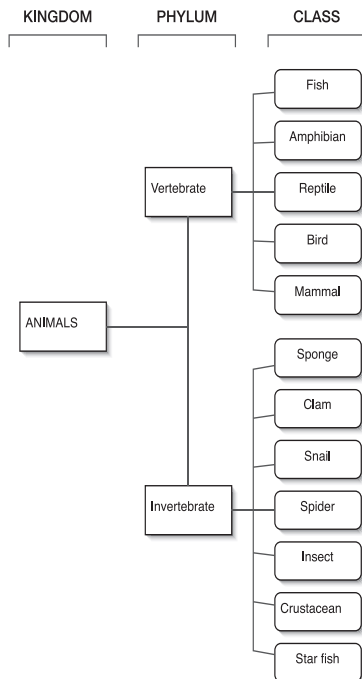


Great Ecosystem

Animal Classification

FOR THE TEACHER



It is estimated that there are between 10 million and 13 million different species on Earth—with this kind of immense diversity scientists needed a system for grouping all living things. Aristotle attempted to create a classification system, as did others. But it was a Swedish biologist, named Carl Linnaeus (1708-1778), who devised the most common method of classifying all living things. By and large, it is the same system used today. For his work, he became known as the father of taxonomy.

When classifying organisms scientists had to consider a number of factors: does it make food, eat food, have a skeleton, is it a single-celled or multi-celled organism, does it have internal organs, a digestive or reproductive system. These are just some of the criteria that help scientists to classify living things.

Classification of living things is a very complicated process, but simply put — all life is divided into five kingdoms. The two kingdoms most of us are familiar with are the plant and animal kingdom. For this activity we will only examine the animal kingdom. The animal kingdom is divided into phylum, which in turn are divided into class, then order, family, genus and finally species. All categories fit together like stacking Russian dolls.

The purpose of this Great Ecosystem activity is to introduce students to the concepts of classification. It will also give them the opportunity to appreciate the wide variety of animals that inhabit the Great Lakes. After students have viewed the Great Ecosystem part of the PowerPoint lead them in a discussion of how animals are grouped using the diagram on the left as a guide. Then provide them with a copy of the worksheet to complete. When students have completed this activity they can play the online game, **Lake Invaders**.

Discussion

This chart represents the animal kingdom. It is first divided into two large branches of animals (phylum): those that have no backbones (invertebrates), and those that do (vertebrates). Each Phylum is broken down again (class). The invertebrates include: Arthropods (e.g. spiders, insects), Cnidarians (e.g. anemones, corals), Echinoderms (e.g. sea urchin), Mollusks (e.g. snail, clam), Porifera (e.g. sponge), Flatworms, and Segmented Worms. The vertebrates are divided into: Fish, Amphibians, Reptiles, Birds, and Mammals.

Present the classification chart on next page for students to complete. This will help them to identify the unique characteristics of the five vertebrate types.