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Lesson Overview: Classification of Plants and Animals

Grades 2-5

Big Idea/Learning Goal

Biologists have developed systems of taxonomy to classify the millions of named species on earth.

Essential Questions

- How can we use physical characteristics to **classify and differentiate between** organisms?
- How can we **practice** the classification of organisms?
- How do we **investigate** the classification of animals in our schoolyard?

Objectives

- Students will **classify and differentiate** flowering and nonflowering plants into groups based on adaptations and traits
- Students will **classify and differentiate** animals into groups based on adaptations and traits
- Students will **compare, contrast, and discuss** the traits of different plants and animals
- Students will **apply** their understanding of classification in the field
- Students will **identify** and **sort** invertebrates into groups based on characteristics
- Students will **contribute** to the ongoing effort to discover and document biodiversity in Okaloosa County

Assessments

- Classification Worksheets/Discussions
- Animal Classification presentations
- Animal Charades

Activities

1. What is Classification?
2. Animal Classification
3. Plant Classification
4. Fun with Species Cards: "That's Classified!"

Vocabulary

Annelid: an invertebrate characterized as a worm with segmented parts; includes earthworms

Arthropod: an invertebrate phyla characterized by jointed body and exoskeleton; includes insects, spiders, and crustaceans

Biological Classification: Biologists organize living things according to taxonomic rank in hierarchy

Classify: To arrange a group of organisms into categories according to shared characteristics (physical or genetic)

Hierarchy: The system or model for organizing living things in biological classification
Mollusk: An invertebrate phyla characterized by soft bodies and ability to grow a hard shell
Species: Most diverse ranking of organisms in which individuals can produce fertile offspring
Taxon: In biology, a group of one or more populations of an organism or organisms that forms a unit (falcons, birds, vertebrates, animals)
Taxonomy: The branch of biology associated with classification of organisms
Tree: In taxonomy, the model used to show hierarchical relationships among organisms, with a common ancestor at top and branches where characteristics of organisms diverge

Recommended Reading + Resources

Organisms are organized into different groups based on shared characteristics - both physical (e.g., shape, size) and those not visible to the naked eye (e.g., genetic barcodes). We are able to classify organisms into a hierarchical system called taxonomy based on these characteristics. Worms have a certain set of shared characteristics, while sponges have another, as do all other groups of organisms. Visit the following EOL pages to learn more about animal diversity and taxonomy:

- *Biodiversity Articles*
- *What is an Animal?*
- *What is Biological Classification?*
- *What is Biodiversity?*
- *What is a Species?*
- *Biodiversity Educational Resources*
- *EOL Flowering Plants article*
- *EOL Plants article*
- *EOL Trees article*
- *National Wildlife Federation Plants*

Next Generation Science Standards

2-PS1-1. Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties.
2-LS4-1. Make observations of plants and animals to compare the diversity of life in different habitats.
3-LS3-1. Analyze and interpret data to provide evidence that plants and animals have traits inherited from parents and that variation of these traits exists in a group of similar organisms.
3-LS3-2. Use evidence to support the explanation that traits can be influenced by the environment.
4-LS1-1. Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.

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