

Unit Organizer
5th Grade Science
CLASSIFYING LIVING THINGS

Colorado State Standards:

Standard 1: Students understand the process of scientific investigation and design as well as conduct, communicate about and evaluate such investigations.

Science Standard 3.1: Students know and understand the characteristics of living things, the diversity of life, and how living things interact with each other and with their environment.

Science Standard 3.4: Students know and understand how organisms change over time in terms of biological evolution and genetics.

Science Standard 5: Students will know and understand interrelationships among science, technology and human activity and how they can affect the world.

Science Standard 6: Students understand that science involves a particular way of knowing and understand common connections among scientific disciplines.

Core Knowledge Unit:

I. Classifying Living Things

- Scientists have divided living things into five large groups called kingdoms, as follows:
 - Plant
 - Animal
 - Fungus (mushrooms, yeast, mold, mildew)
 - Protist (algae, protozoans, amoeba, euglena)
 - Moneran (bacteria, blue-green algae)
- Each kingdom is divided into smaller groupings as follows:
 - Kingdom
 - Phylum
 - Class
 - Order
 - Family
 - Genus
 - Species
 - (Variety)
- When classifying living things, scientists use special names made up of Latin words (or words made to sound like Latin words), which help scientists around the world understand each other and ensure that they are using the same names for the same living things.
 - Homo sapiens*: the scientific name for the species to which human beings belong (genus *Homo*, species *sapiens*)
 - Taxonomists: biologists who specialize in classification
- Different classes of vertebrates and major characteristics: fish, amphibians, reptiles, birds, mammals (review from grade 3)

- Introduce an example of how an animal is classified, in order for students to become familiar with the system of classification, not to memorize specific names. For example, a collie dog is classified as follows:
 - Kingdom: Animalia
 - Phylum: Chordata (Subphylum: Vertebrata)
 - Class: Mammalia (mammal)
 - Order: Carnivora (eats meat)
 - Family: Canidae (a group with doglike characteristics)
 - Genus: Canis (a coyote, wolf, or dog)
 - Species: familiaris (a domestic dog)
 - Variety: Collie

Previous Unit: Cells: Structure and Processes

Next Unit: Non-Vascular vs. Vascular Plants

Standards for Achievement and Performance:

Can you...

- Define classification and identify the reasons why scientists classify living things?
- Name the five kingdoms of living things?
- List the characteristics of each kingdom?
- List, in order, the smaller groups inside of a kingdom?
- Identify the two most common types of monerans?
- Give three examples of protists?
- Identify the language that scientists use to classify living things and why it is useful?
- Define *taxonomist* and *biology*?
- Name the five classes of vertebrates?
- Give the scientific name for humans?
- Identify three of the seven characteristics of living things?
- Identify and label a paramecium, a euglena, and an amoeba?
- Describe the contributions to science that Carl Linnaeus made?

Character Education:

Cooperation as demonstrated by Carl Linnaeus through his invention of a system of classification so all scientists could communicate effectively.

Vocabulary

classify
trait
characteristic
taxonomy
biology
organism

vertebrate
invertebrate
protist
amoeba
moneran
bacteria
fungus/fungi