Unit 3: Classification

S7L1 Students will investigate the diversity of living organisms and how they can be compared scientifically.

Element a) Demonstrate the process for the development of a dichotomous key.

Element b) Classify organisms based on physical characteristics using a dichotomous key of the six kingdom system (archaebacteria, eubacteria, protists, fungi, plants, and animals).

Students will know that: (THE FACTS)

1. A dichotomous key can be constructed based on physical characteristics to classify organisms.

2. An organism can be classified by its physical characteristics through the use of a dichotomous key.

3.Living things can be classified using the hierarchy in the classification system.

Students will be able to: (CAN YOU?)

1. Develop a dichotomous key

2. Use a dichotomous key to identify organisms.

3. Demonstrate an understanding of the hierarchy of the seven levels of classification.

Vocabulary

1. **taxonomy**- the study of the general principles of scientific classification.
2. **phylogeny**- evolutionary history of an organism; used by scientists to group organisms into kingdoms.
3. **binomial nomenclature**-two-word naming system for organisms; first word is the genus and second word is the species.
4. **kingdom**-first and largest category in the scientific classification of organisms.
5. **scientific name**-a two part name made up of the genus and species names.
6. **genus**-group of similar species.
7. **species**-group of organisms that share similar characteristics and can reproduce among themselves.
8. **prokaryote**-cells that do not have a nucleus or membrane covered organelles.
9. **eukaryote**-cells that have a nucleus and membrane covered organelles.
10. **protists**-single or multi-cellular organisms made of eukaryotic cells; found in moist or wet surroundings; some are animal like, some are plant like, and some are both animal and plant like.
11. **fungi**-single or multi-cellular organism with hyphae; feed on living or decaying organisms.
12. **plant**-multi-cellular organisms that make their own food.
13. **animal**-multi-cellular organisms that cannot make their own food.
14. **dichotomous key**-detailed list of characteristics used to identify organisms.
15. **autotroph** - an organism that makes its own food.
16. **heterotroph** - an organism that cannot make its own food.