Chapter 6 – Lesson 4: Classifying Organisms

Historic Classification Systems, textbook pages 262

1. Greek philosopher Aristotle – 1st person to classify organisms
    a. Animals, plants, or minerals
    b. Also grouped by where they lived
    c. Air, land, or sea

2. Swedish botanist and explorer Carolus Linnaeus – New system in mid-18th Century
    a. Many related levels – grouped by similar physical structures
    b. Largest group – Kingdom
    c. Smallest group - Species
    d. Species – greatest number of traits in common
    e. Species – can inter-breed, produce fertile offspring

Naming and Grouping Species, textbook pages 262-263

1. Linnaeus developed system for naming species
    a. Two-word scientific name of organism
    b. Example: California Black Oak – Quercus kelloggii
    c. First word in the scientific name id's the genus to which a species belongs
2. Organisms are classified into levels
    a. Order of classification levels – kingdom, phylum, class, order, family, genus, species
    b. Six different kingdoms
    c. Basic features, whether an organism is single-celled or multi-celled defines kingdom

Systematics, textbook pages 264-265

1. The modern study of classification
    a. Uses DNA and molecular biology to id related organisms
    b. More shared DNA the more recent the ancestor
    c. Haplotype is a sequence of a sample of 1,000 base pairs of DNA
    d. DNA hybridization measures differences in overall DNA between organisms
    e. New level, DOMAIN, now highest level above Kingdom