Chapter 6
Taxonomy

A. Hierarchy

Domain
Kingdom
Phylum
Class
Order
Family
Genus
species

scientific name:
binomial, Latin

commom name

B. Taxonomic Theory
- different groups (taxa)
- cladistics
- anatomical / molecular /evolutionary relationships

C. Different Cell types
- Prokaryotic
- Eukaryotic
  - Animal
  - Plant
- Table of comparison (pg 171)

D. Different nutritions
- Autotrophic vs. heterotrophic
- Ingestive vs. absorptive
- Cellular respiration vs. photosynthesis

$$\text{Glucose} + O_2 \longrightarrow CO_2 + H_2O + \text{ATP (energy)}$$

$$\text{Sunlight energy} + CO_2 + H_2O \longrightarrow \text{Glucose} + O_2$$

Chapter 6
Taxonomy (cont.)

E. Three domains: Six Kingdoms

Archaea	Archaea
Eubacteria	Eubacteria
Eukarya	Protista
	Plantae
	Mycota
	Animalia

F. Archaea
Bacteria that live in unusual environments

G, Eubacteria
common bacteria
different shapes/arrangements/cell walls
symbiosis (example
benefit/ harm

H. Protista
Single cell eukaryotic
Protozoa grouped by locomotion
Amoeba. Paramecium, Tetrahymena, Euglena
anatomy from lab
(red tides, diatoms, seaweeds)

I. Plantae
Eukaryotic cells with cell walls and chloroplasts
Aquatic (seaweeds and algae)
Non-vascular Bryophytes (mosses)
Vascular
Non-seeded Pterophyta (ferns)
Seeded
Uncovered seeds gymnosperms
Covered seeds angiosperms
Seed dispersal

Chapter 6
Taxonomy (cont.)

J. Mycota
- Eukaryotic cells, hyphae
- Absorptive heterotrophs (the “decomposers”)
- Uses/harms

K. Animalia
- Eucaryotic cells
- Ingestive heterotrophs
- Some basic characteristics:
  - Symmetry (3 types)
  - Digestive system (2 types)
  - Layers (none, 2 or 3)
  - Cavity (none false, real)
  - Organizational level (cells, tissues, organs)
  - Cephalization
  - Segmentation
  - Embryo organization
- Nine Phyla
  - Basic characteristics and examples from each
    - Porifera
    - Cnidaria
    - Flatworms (Platyhelminthes)
    - Roundworms (Nematoda)
    - Mollusca
    - Annelida
    - Arthropoda
    - Echinodermata
    - Chordata (5 classes too)