Chapter 1 Section 2: Classifying organisms

Topics	Notes, Diagrams, Drawings
Classifying living things Aristotle	a Greek philosopher, was one of the first people to classify living things (300 B.C.) •Plants: structure, size; whether plant was tree, shrub, or an herb •Animals: presence of "red blood", shape, animal's environment
Determining kingdoms Carolus Linnaeus	Swedish physician and botanist, placed organisms into **kingdoms** based on similar structures (1700s). •*Over the next 200 years, people learned more about living things and discovered new organisms.*
Robert Whittaker	an American biologist, proposed a **five-kingdom system (1969).**
Determining domains	Classification system of living things is still changing •Current method: systematics, which uses all evidence known about an organism to classify it •Cell type •Habitat •Structure/function •How it obtains its food and energy •Looking at DNA •Kingdom Monera has two groups •Bacteria •Archaea •This led to development of domains •Bacteria •Archaea •Eukarya

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Scientific names	Suppose you didn't have a name….what would people call you? •All organisms have a two-part scientific name •Formed by Carolus Linnaeus •Naming system, called **binomial nomenclature** •First part of name: organisms **genus: group of similar species** •Second part of name: organism's **species: group of organisms that can produce fertile offspring**
Use of scientific names	When you talk about organisms, you might use names such as tree, bird, or mushroom. These are common names for a number of different species •Several common names for one organism: •Brown bear/grizzly bear •One scientific name: *Ursus arctos* •Pine tree: different species: different scientific names Scientific name are the same worldwide •Communication about organisms is more effective because everyone uses the same name for the same species
Dichotomous keys	Suppose you go fishing and catch a fish you don't recognize. How do you figure out what type of fish you have caught. •**Dichotomous key:** series of descriptions arranged in pairs that leads the user to the identification of an unknown organism
Cladogram	**Cladogram:** branched diagram that shows the relationship among organisms, including common ancestors •Like a family tree that shows the relationships between family members •Each branch on a cladogram follows a **new characteristic, which is observed in all species to the right**