Unit 11: Classification

Why do biologists classify organisms, and how do they do it?

- Life is classified according to similarities in characteristics
- Binomial Nomenclature provides each species with a unique name
- Classification systems become progressively more inclusive
- The atmosphere of early earth was made up of water, methane, ammonia, and carbon dioxide
- The first life arose from simple chemicals

Key Vocabulary	Assignments
Autotroph Binomial Nomenclature Class Domain Family Genus Heterotroph Kingdom Order Phylogeny Phylum Species Taxa Taxonomy	**1. Read 280-284** Due: a. What evidence do we have that many species evolved from a few ancestral species? b. Compare environmental conditions on the earth during its early history with conditions today. c. How do scientist think primitive cells might have formed? d. Why do scientists think that the first cells were heterotrophs and not autotrophs? **Evolution and Classification Test: _____**

Modern Systems of Classification

The 3 Domain System
modern classification system based upon evolution

1.
2.
3.
4.
5.
6.
7.
8.

The highest taxon is

_____

Common bacteria are part of the domain

_____

Other microbes are part of the domain

_____

All other life is placed in the domain

_____

The 5 Kingdom System
Older system where all life was placed in one of five kingdoms.

1.
2.
3.
4.
5.

Plants	Animals	Fungi
Protists	Archaea	Eubacteria

In all modern systems of classification names of species are written in a two part notation called _____ _____. The first part of this two-part name is derived from the _____ and the second is the species individual name. The first letter of the genus is capitalized and the rest of the name is lowercase. When writing names by hand you must _____ them. When typing they are to be in _____. Names are given in _____ because it is a universal language. The goal of scientific names is to avoid the confusion that _____ _____ can cause. Every discovered living and once living organism on the planet has only one scientific name that is universally accepted by all scientists everywhere. Modern classification is based on evolutionary relationships and tries to place all life onto branches of a _____ _____. At the root of this tree will be the common ancestor of all life on Earth.