**Geol 106 - Dinosaurs:** **Reading and Lecture Guide**

**History of Life and the Rise of the Dinosaurs (Chapters 2 and 4)**

What is the approximate date of:

The Formation of the Earth:

The oldest known fossil (and what kind of life form is the oldest know fossil?)

The start of the Cambrian Age a.k.a. "Cambrian Explosion" (and what geologic evidence mark the Cambrian Explosion?)

Each taxonomic group of organisms has features that are diagnostic and evolutionarily unique.

What are the diagnostic characteristics of the **Vertebrata** (aka the vertebrates) (= step 3 on Figure 4.3)

What are the diagnostic characteristics of the **Tertrapoda** (= step 3 on Figure 4.3)

For each bone listed below, determine whether it belongs to the hind limb ("leg", forelimb ("arm"), or hip:

Humerus Femur Fibula Ischium Ilium

Pubis Radius Tibia Ulna

What are the Synapsida and Diapsida and how do these groups differ?

Which group (Synapsida or Diapsida) do each of the following animals belong to?

Brides Crocodiles Dinosaurs

Mammals Snakes and Lizards

When did the earliest dinosaurs evolve and what diagnostic characteristics do they share?

Dinosaurs are divided into 2 groups the Saurischia and the Ornithischia

What does the name "Saurischia" mean and what is the diagnostic feature of this group?

What does the name "Ornithischia" mean and what is the diagnostic feature of this group?