**Questions to answer:**

1. With a ruler, draw a line that is 20 cm long.  Divide the line into five, 4-cm segments.  On a scale of each segment representing one billion years, label the following events in the history of earth:
   1. formation of the earth
   2. origin of life
   3. evolution of photosynthesis
   4. evolution of eukaryotes
   5. evolution of multi-cellular life
   6. the Cambrian explosion
   7. first vertebrate land animals
   8. evolution of dinosaurs
   9. evolution of human beings
2. Explain the hypothesis, procedure and results of the Miller-Urey experiment.
3. Why is it hypothesized that the evolution of RNA preceded the evolution of DNA?
4. Explain the concept of “adaptive radiation”.  Why have adaptive radiations proceeded mass extinction events?
5. What do Homeobox genes do in animals?

**Things you should make sure you understand:**

**(feel free to ask questions about them in class)**

* How science can be used to investigate events that no one was around to witness.
* Why some folks feel we are currently living through the sixth “Great Extinction”, and the cause of this extinction event.
* How relatively minor changes in an organism’s genome can lead to major changes in that organism’s development.