**Questions to answer:**

1. Explain what the “modern synthesis” is.  How is it different from Darwin’s original theory of evolution?
2. Why does evolution have to involve the change of the genetic makeup of a population over time?
3. Explain each of the following modes of evolution in a population.  For each one, describe the cause of change in the genetic makeup of a population and how the population evolves as a result of that change, and provide 1 “real world” examples of the process in action:
   1. Natural Selection
   2. Genetic Drift
   3. Gene Flow
   4. Sexual Selection
4. Why is evolution an emergent property of populations of organisms?  Why are individuals unable to evolve?
5. Compare the effects of disruptive, directional and stabilizing selection on the genetic makeup of a population.
6. Why do traits have to be heritable for evolution to affect them?

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

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

* How to identify a particular mode of evolution in a population if given details of how the environment and genetic makeup of the population are changing over time.
* How the different modes of evolution affect a population of organisms in similar, and different ways.