**Chapter 2 Section 2 Notes**

**Statistics** are the collection and classification of data that are in the form of numbers.

- Used by scientists to:
  - Summarize data
  - Characterize data
  - Analyze data
  - Compare data

**Statistics Works with Populations**

- The number of objects or events being sampled (sample population size) must be large enough to give an accurate estimate for the whole population.

A **mean** is another word for average.

Examples of mean *(pay attention to these)*

- Average rainfall in Arizona
- Average height of a giraffe in captivity.
- Average weight of a snapping turtle in Texas.

**Probability** is the chance of something happening.

Ex) the probability that I will ride a spaceship to the moon is low but the probability that I will ride an airplane is high.

**Risk** is the probability of an unwanted outcome. *(aka. the chance that something bad will happen)*

**Models** show the structure or workings of an object, system or concept.

- 4 main types *(You need to know this)*
  - **Physical model** – 3D, you can touch it. ex) model of an airplane or model of DNA
  - **Graphical model** – maps and charts
  - **Mathematical model** - equation that represent the way system or process works; especially useful in cases with many variables
  - **Conceptual model** - verbal or graphical explanations for how a system works or is organized. ex) flow chart