# **Chapter 1 - Overview & Descriptive Statistics**

## 1.1 Populations, Samples, and Processes.

### \*Why Statistics?

- Variability! There is variability (uncertainty) and randomness everywhere.
- Allows us to Draw Conclusions despite the uncertainty.\*

#### \*What is Statistics?

 Statistics is a field that is dedicated to drawing conclusions about <u>Populations</u> or <u>Processes</u> based on <u>Samples</u> drawn from them\*

#### • Populations

- A well-defined set of items from a collection of objects
  - Ex: All students in a Class
- A **Process** that produces random outcomes.
  - Ex:Flipping a Coin

#### • Samples

- A subset drawn from a fixed Population used to represent the Data
- A sample is used to collect observations from that Process
  - Ex: Top 10 Students from that Class