**AP Statistics Semester One Review Guide**

Unit 1: Exploring Data

* Chapters 1 & 3: To summarize & interpret data, you should always draw a graph, interpret & summarize numerically
	+ Categorical data
		- Graph:
		- Interpret:
		- Numerical summary:
	+ Quantitative data (in general)
		- Graph:
		- Interpret:
		- Numerical summary:
	+ Paired quantitative data (chapter 3)
		- Graph:
		- Interpret:
		- Numerical summary:
		- Mathematical model:
		- Assess model:
* Chapter 2: When we have a distribution of data, we want to describe an individual’s or group’s location within that distribution.
	+ All distributions
		- Percentile/cumulative relative frequency (where does an individual stand in the sample population?)
		- z-score (how can I compare locations on a standardized scale?)
		- transformations (how does location change when data is systematically changed?)
		- density curve (compare mean & median of distribution)
	+ Normal distributions
		- Special features
			* Shape:
			* Center:
			* Spread:
		- Cumulative density function (akin to percentile/cumulative relative frequency)
		- Assessing normality

Unit 2: Designing Studies

* Chapter 4: When analyzing studies, we want to consider sampling/assignment method and look for potential errors.
	+ Surveys
* Sampling methods
* Errors
	+ Experiments
* Assignment methods
* Errors

Unit 3: Anticipating Patterns

* Chapters 5: When we want to determine the likelihood of an event, we use probability theory.
	+ Features of a chance process
	+ Simulation
	+ Probability rules
	+ Conditional probability
* Chapter 6: When we have a probability distribution of random variables, we want to describe location within that distribution.
	+ Shape
	+ Center
	+ Spread
	+ Transformations