# Chapter 1: Exploring Data AP Statistics

**Outline Ms. Haralampopoulos**

*Essential Questions:*

1. What does a statistician do when confronted with a set of data?
2. What happens to numerical measures when data changes?

*Knowledge: You should be able to define, illustrate, or calculate the following:*

* Individuals
* Variable
* Categorical/Quantitative
* Distribution
* Frequency Table
* Relative Frequency Table
* Roundoff error
* Marginal distribution
* Two-way Table
* Conditional Distribution
* Association
* Shape
* Outliers
* Center
* Spread
* Symmetric
* Skewed right/left
* Mode
* Mean *x*
* Five number summary:

Minimum, Q1, Median, Q3, Maximum

* Interquartile Range (IQR)
* Standard Deviation *s*
* Variance
* Resistant Measures

*Skills: You should be able to construct, interpret, and compare the following:*

* Construct, interpret, and compare:
  + Bar graph
  + Pie Chart
  + Dotplot
* Find patterns in data
* Identify deviations from the pattern
* Stemplot
* Histogram
* Boxplot
* Describe distributions using SOCS: (Shape, Outliers, Center, Spread)
* Decide when to use mean/standard deviation or median/IQR
* Explain why some measures are more resistant than others
* Describe what happens to *s* as spread increases or decreases
* Explain what *s* = 0 show
* Calculate and display the marginal distribution and conditional distribution of a categorical variable in a two-way table
* Describe the association between two categorical variables

Monday Tuesday Wednesday Thursday Friday

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| 2  *Labor Day* | 3  *First Day of School*  Introductions/Getting to Know you | 4  Class Expectations & Syllabus | 5  *Can you smell Parkinson’s? Activity*  Image result for clip art smiley face | 6  Introduction: Data Analysis - Making Sense of Data  H.W.: Introduction W.S |
| 9  Analyzing Categorical Variables (1.1)  H.W.: Section 1.1 W.S. | 10  Displaying Quantitative Data (1.2)  H.W.: Guided Notes Examples (3 Problems) | 11  Stem & Leaf Plots (1.2)  H.W.: Who’s Taller Example | 12  Histograms (1.2)  H.W.: W.S. 1.2 Displaying Quantitative Data with Graphs | 13  Choosing Measures of Center and Spread (1.3)  Five-Number Summary & Boxplots (1.3)  **\*\*Gas Station Assignment – Due Wednesday!!!** |
| 16  Measuring Center and Spread, Five-Number Summary, & Box Plots (1.3)  H.W. Section 1.3 H.W. | 17  Choosing Measures of Center and Spread (1.3) | 18  Review Chapter 1  Ch. 1 FRAPPY | 19  **Test 1: Chapter 1 Exploring Data** | 20 |