Standard: Benchmark Number:MA.912.S.3.4, MA.912.S.3.2

Subject Area: Mathematics,

Body of Knowledge: Statistics

Grade: 9-12

Standard: Objectives:

[Summarizing Data (Descriptive Statistics)](http://www.floridastandards.org/Standards/PublicPreviewIdea141.aspx) - Learn to work with summary measures of sets of data, including measures of the center, spread, and strength of relationship between variables. Learn to distinguish between different types of data and to select the appropriate visual form to present different types of data.

Materials:

* Computer
* Some source for collecting data
* Large group of subjects

Objectives:

* Calculate the variance, expected value, and standard deviation of a particular distribution function
* Gather and analyze data
* Formulate appropriate graphs to display data

Planning:

Pre lesson activity:

Students will have learned the concepts of:

* Mean and averages
* Graphing and plotting data into a visual format
* Expected values

Lecture activity:

This will be an extended activity. I will give a lecture defining what variance and standard deviation is and their relevance to interpreting statistics. I will have a PowerPoint presentation relating to this.

Demonstration:

With my presentation, I will have graphs and problems relating to variance and standard deviation. I will show students how to find these factors by both observing a graph and computationally.

Practice activity.

Students will be conducting their own research project. This project will revolve around the question, “What should the City of Gainesville focus on improving?” This project will require students to define what they feel Gainesville needs to improve (education, roads, parks, alternative energy recourses, public transportation, environmental issues, etc.). Students will need to collect data supporting their arguments, analyze the results, and use an appropriate graph(s) to display their results in a way to support their arguments. Students will also need to compute the expected value, variance, and standard deviation of the data.

Assessment:

Students will need to create a Voice Thread on their project, and upload it to the class Wiki. They will be graded on completion, and appropriate analysis of the data. The voice thread must be at least 8 minutes long.