

MP4a-Measurement and Data

Content Area: **Math**
Course(s): **Math 6 ACC**
Time Period: **Marking Period 4**
Length: **Weeks 1-2 Go Math! Advanced Unit 7**
Status: **Published**

Essential Questions

- How can you solve real-world problems by displaying, analyzing, and summarizing data?

Big Ideas

- Measures of center, box plots and measures of spread can be used to describe a data set.
- Determine and use the mean absolute deviation of a set of data points.

Technology Integration

8.1.8.DA.1: Organize and transform data collected using computational tools to make it usable for a specific purpose.

8.1.8.NI.3: Explain how network security depends on a combination of hardware, software, and practices that control access to data and systems.

8.1.8.AP.2: Create clearly named variables that represent different data types and perform operations on their values.

Activity:

1) Brainiaccamp.com for box-and-whisker plots. Teacher sets up as a flipped classroom model. Students watch and work through the video lesson while taking notes. They then practice with the online manipulative by creating box-and-whisker plots and manipulating them to see how the box-and-whisker plot is affected. Students will then move on to the questions part. Here students will test their own understanding of box-and-whisker plots and their characteristics. After they feel comfortable, they move on to the problem set where they actually calculate and create the box-and-whisker plots. This score can be used for the exit ticket or a

check for understanding.

2)Google forms for data collection. Students in the grade level will answer a survey question and the math students will find the central measures of tendency and measures of variation. They will also create histograms, frequency tables, line plots, and a box-and-whisker plot. This would serve as a project for the chapter.

Diversity Integration

Objective: Students will research the use of cell phones by teens in other countries to create histograms and box plots to compare the results.

Description of Activity

Students will research statistics for cellphone use by teens in other various countries and enter the information into a Google Sheet. They will use the data to create histograms and box plots in order to compare the data.

Career Education Integration

9.1.8.CR.1: Compare and contrast the role of philanthropy, volunteer service, and charities in community development and the quality of life in a variety of cultures.

9.1.8.CR.3: Relate the importance of consumer, business, and government responsibility to the economy and personal finance.

9.1.8.CR.4: Examine the implications of legal and ethical behaviors when making financial decisions.

Connection:

An end-of-the-year culminating benchmark assessment is assigned. A compilation of the NJSLs are used throughout the project and are based on the career the student chooses. Students are required to choose a career and they utilize their research skills to investigate how the career uses mathematics on a daily basis. Two full essays are required which pertain to how their chosen career uses math as well as how their career benefits society as a whole.

Enduring Understandings

Statistics and Probability

6.SP.4 Display numerical data in plots on a number line, including dot plots, histograms, and box plots.

6.SP.5 Summarize numerical data sets in relations to their context, such as by: Reporting the number of observations.

6.SP.5c Summarize numerical data sets in relations to their context, such as by: Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data was collected.

Mathematical Practices Focus

1. Make sense of problems and persevere in solving them. Lesson 16.5
2. Reason abstractly and quantitatively. Lesson 16.3, 16.4, 16.5
3. Construct viable arguments and critique the reasoning of others. Lesson 16.1, 16.2, 16.3, 16.4, 16.5
4. Model with mathematics. Lesson 16.1, 16.2, 16.4,
5. Use appropriate tools strategically. Lesson 16.2, 16.4, 16.5
6. Attend to precision. Lesson 16.2, 16.3, 16.4, 16.5
7. Look for and make use of structure. Lesson 16.1, 16.2, 16.3, 16.4, 16.5
8. Look for and express regularity in repeated reasoning. Lesson 16.5