**Lesson Title: Reaction Time (Lesson 2)**

**Unit Title: Box Plots**

**Teacher Candidate: Allie Hernandez**

**Subject, Grade Level, and Date: Algebra, High School, 3/17/15**

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| **Placement of Lesson in Sequence** |

This is the second lesson in the unit. The students will complete an activity where they will record each person’s reaction time to catch a meter stick and create a box plot out of the data collected. At the end of the activity the students will present their data in the form of a graph and provide the five number summary. After the activity there will be a quiz to see where the students are at with mastering the standards for this lesson as well as the previous lesson.

**Central Focus and Essential Questions**

The objective of the activity if to measure how long it takes a person to stop a meter stick that starts falling between the thumb and forefinger. The students will work in groups of 3 or 4. One student will hold the meter stick vertically at the 100cm end. Another student, whose reaction time is being measured, rests their elbow on the desk or table and places a hand at the bottom of the stick with thumb and forefinger around the 0 cm mark without touching it. The student will have to catch the meter stick as quickly as possible and read the result in millimeters, measured right below the thumb. Each student will drop 3 to 4 times. With this data collected, the students will determine the mean, mode, median, quartiles, range, minimum, and maximum. They will create a frequency histogram and create a box-and-whisker plot. This box-and-whisker plot will be drawn out on larger graph paper and compare it to another groups. They will present their data along with their comparisons to another group. This will meet the standard mentioned below.

**Content Standards**

[ID.A.2](http://www.corestandards.org/Math/Content/HSS/ID/A/2/): Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.

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| **Learning Outcomes (Objectives)** | **Assessment** |
| Students will be able to create box-and-whisker plots and compare them to other data sets. | The worksheet, presentations of graphs and comparisons, and clicker quiz will be their assessment. |

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| **Learning Targets** | **Student Voice** |
| I can make a box-and whisker plot with data we have created. Also, I can compare our data to other data. | At the beginning of class I will ask what each term is in the five number summary to ensure they know what they are figuring out. |

**Prior Content Knowledge and Pre-Assessment**

I have seen the students work with graphing before where it was a little bit difficult for them but I hope with them collecting their own data it will help them be more interested.

**Lesson Rationale**

The lesson has a connection with the previous lesson where they were working with five number summary and creating box and whisker plots.

**Differentiation, Cultural Responsiveness and/or Accommodation for Individual Differences**

The students will be split up into groups to provide more data. This will be a fun interactive way for the students to work with their own data that they collected from their reaction times.

**Materials**

The materials needed are as follows: meter stick.



