Mean and Median

<---Sketch Title

PRISM-NEO
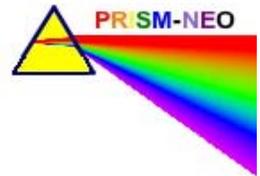
Sketch Filename: Mean_Median.gsp

Movie Filename: MeanMed.mov

Math Concept(s)

Central Tendency

Suggested Grades

☒ 7
☒ 8
☐ 9 Applied

Sketchpad Level

Easy
- drag points and click buttons

Beginner
Intermediate
Experienced

Learning Goals:

- to determine the effect of changing a data value by observing the mean and median measures of central tendency
- to visualize measures of central tendency
- to practice calculating the mean

"Sketchy" Description:

This sketchbook contains two activities for the exploration of mean and median as well as a practice page for building proficiency in calculating the mean and determining the median. The activities are set in the contexts of points at basketball games, and snowfall measurements. This sketch provides opportunities for students to explore an infinite number of combinations of 5 data values and see how changes to the values effect the measures of central tendency.

Lesson Plan Suggestions

- description of how the sketch might be used in each of the three lesson parts - Minds On, Action!, Consolidate.
- includes student groupings, instructional strategies, and connections to manipulatives or other technologies.

Minds On
- Use the Dr. Math web-link or the Harcourt glossary web-link as a an activity to discuss measures of central tendency. Ensure students understand that these are numbers which describe what is average or typical for the data set.

Action
- With a partner or individually have students complete activity 1 to explore the mean and median for 5 numbers. In small groups have student use activity 2 to determine the impact outliers can have on the mean or median.

Consolidation
Student can use the pair practice to determine the mean and median of 5 data points. Alternately students can complete the webquest which determines the measures of central tendency for sports statistics.

Extensions:

The extension activity determines the median for 4 data points. The concept is further extended to define the median for both and odd and even number of data points.

Students can use the "Other measures of central tendency" link or be encouraged to use a web search to find other measures of central tendency.

Questions or activities for students/parents to explore together:

1. Describe situations in which each measure of central tendency would be the most appropriate to use.
2. Investigate to determine which measures are used most often.
3. Which measure would you use to compare yourself to the average test score of your class mates?