Unit Map 2012-2013

Monroe #2 - Orleans BOCES (Regional Collaboration)

Collaboration / Math 6* / Grade 6 (Math Regional Curriculum)

Wednesday, October 31, 2012, 12:15PM

Standard/Module: Proficiency with Statistical Reasoning 6.SP.5 (Week 32, 8 Weeks)

Stage 1: Desired Results

Standards Focus

- Additional (10%) 6.NS.3, 6.NS.7

6th Grade CCS Map.pdf

Standards

NYS: CCLS:Mathematics, NYS: 6th Grade , Statistics & Probability

6.SP Summarize and describe distributions.

- 5. Summarize numerical data sets in relation to their context, such as by:
- 5a. Reporting the number of observations.
- 5b. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement.
- 5c. 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 were gathered.
- 5d. Relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered.

Enduring Understandings	Essential Questions
1. Understand what an observation is when looking at statistical data. 2. Understand that graphs give you a visual representation of the data. 3. Draw conclusions based on the visual representation of the data and measures of center and variability.	1. What is an observation? 2. How can variability of data be described by one number? 3. Why is it important to justify your conclusions about data? 4. How does the shape of data determine the appropriate measure of center? 5. How does the shape of data determine the appropriate measure of variability?

Critical Content

1. Ask a statistical question

2. Collecting data

3. Displaying data in an appropriate graph

4. Interpreting data

a) by finding measures of center

b) by finding measures of variation

c) by describing patterns

d) by describing deviations, both inter-quartile range and mean absolute deviation

5. Draw conclusions from the data and justify conclusions based on reasonableness

Skills	**Vocabulary**
1. Summarize data sets using a) number of observations b) how it was measured c) what units of measurement were used 2. Determine quantitative measures of center a) mean b) median 3. Determine quantitative measures of variability a) interquartile range b) mean absolute deviation **c) Connects to 6.NS.7** 4. Describe any overall pattern and striking deviations from the overall pattern 5. Determine the best measure of center in relation to the shape of the data distribution and the context in which the data were gathered. 6. Determine the best measure of variability in relation to the shape of the data distribution and the context in which the data were gathered.	Tier 2: scale deviation interval gap median mean (average) range attribute characteristic observation data quantitative pattern distribution Tier 3:

	inter-quartile range absolute deviation mean absolute deviation absolute value box plot dot plot histogram frequency table upper quartile lower quartile measure of center measure of variability

Stage 2: Assessment Evidence

Assessments

Formative: Performance: Skill Demonstration

Given a set of data students will do the following:

a.) Report the number of observations.

b.) Give quantitative measures of center (median and/or mean).

c.) Give quantitative measures of variability (interquartile range and/or mean absolute deviation).

d.) Describe any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data was gathered.

Stage 3: Learning Plan

Learning Activities	Resources
What Does It Say? This activity will give your student practice in reading data from graphs. Collect dot plots, bar graphs, box plots, and histograms from newspapers, magazines, almanacs, the Internet, and other sources. Ask these questions as you show each of the graphs to your student. •What is one fact that the graph shows? •Make a statement about the graph that is true or false. Then ask your child to decide which it is, based on the graph. What Conclusions Can We Draw? Challenge your student to think about the ways in which data are presented in graphs. Ask some of these questions to get him or her thinking about the data. •What does the shape of the data shown in a bar graph tell us about the data? •Based on that data, what conclusions can we draw based on its shape?	http://engageny.org/common-core/ http://illustrativemathematics.org/ www.livebinders.com/play/play/52180 http://illuminations.nctm.org/ http://www.mathsisfun.com/geometry/polyhedron.html http://www.korthalsaltes.com/

Differentiation Opportunities
Differentiate by interest and ability level. The use of mean absolute deviation in 6th grade is mainly exploratory. The intent is to build a deeper understanding of variability. Students would understand the mean distance between the pieces of data and the mean of the data set expresses the spread of the data set. Students can see that the larger the mean distance, the greater the variability. Comparisons can be made between different data sets.

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