Algebra/Geometry Institute Summer 2005

Estimate and Compare Data

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School: Moorhead Middle School
Grade Level: 7th

1 Teaching objective(s)

Mississippi Framework – Grade 7
4e. The student will be able to estimate and compare data including mean, median, mode and range of a set of data.

2 Instructional Activities

- The teacher will define the terms mean, median, mode, and range. The teacher will tell the students that the mean is the arithmetic average. The median is the middle number in a set of data when the data is arranged in numerical order. The mode is the number or items that appear the most often. The range is found by subtracting the smallest data from the largest one. The teacher will stress to the students that it is also known as the two numbers fartherest apart. The students will write the definitions in their math notebooks.

- The teacher will give the students an example of mean, median, range, and mode. **Data: 3 6 8 3 5 9 4 3**
  Mean is $\frac{41}{9}$ = 4.6 or 4.5 **Median** is 4 + 5 = 9 and $\frac{9}{2}$ = 4.5
  Mode is 3 **Range** is 9 – 3 = 6

- The teacher will ask the students to visualize watching "The Bachelor" on ABC network. The teacher will ask the students to tell how often the show was interrupted with a commercial during the two-hour series. The students will give their answers to teacher in minutes.

  Data: 5 10 5 15 8 15 30 20 25 5

- The teacher will ask the students to add all of the data together and divide the sum by the number of data to arrive at the mean. The teacher will ask the students questions and the students will respond. The teacher will write the responses on the dry erase board.

- The teacher will ask the students to find the mode of the listed data. The students will respond. The teacher will write the mode on the dry erase board.

The teacher will answer questions and show other examples. (Note: All data do not have a mode.)

- The teacher will ask the students to find the median of the set of data. The students will line the numbers up in order from least to greatest. The students will select the middle number. If it is two numbers the students will add the two numbers and divide the sum by two to get the median. The teacher will ask the students questions for their understanding. The teacher will write the answers on the dry erase board.

- The teacher will ask the students to find the range from the given data. The students will respond by giving the data results. The teacher will write the results on the dry erase board.

Create examples to display mean, median, mode, and range.

- ✓ Ask the each student to count the number of pencils in their pockets and purses.

- ✓ Ask each student to tell how many pencils that they have.

- ✓ Make a data chart after combining all of the students' data.

- ✓ Ask a student to record the data onto the transparency on the overhead projector.

- ✓ Ask the students to find the mean, median, mode, and range from the pencil data.

- ✓ Give students at least 25 minutes to complete the assignment on their paper and on the transparency together.

3 Materials and Resources

Textbook: Glencoe Division of Macmillan / McGraw-Hill Publishing Company; Mathematics Application and Connection; Copyright 1995.

Overhead Projector
Markers
Transparencies
Pencils

4 Assessment

- The teacher will walk around to observe each student completing the assignment.
- The teacher will randomly call on different students for answers.
- The teacher will give the student a data sheet to complete for homework and receive a grade. (See Attachment.)

Homework Assignment

Sam attended a horserace and timed the horses as they crossed the finish line according to their miles per hour.

Data: 50 52 55 50 45 50 41 51 52

1. Find the Mean from the given data.

2. Find the Mode from the given data.

3. Find the Median from the given data.

4. Find the Range from the given data.