

Measures of Central Tendency – Beacon Lesson Plan Library

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Description

Students compute the measures of central tendency (mean, median, and mode) and range and determine how outliers affect the measures.

Materials

- 4 x 6 Index Cards
- Calculators (4-function)

Preparations

Prepare two or more sets of numbered 4 x 6 index cards before class

Procedures

Complete a lesson that gives students a working knowledge of mean, median, mode, range, and outlier prior to this activity.

1. Before class put nine whole numbers on nine different 4 x 6 index cards with one of the numbers as an outlier. Two or more sets of 9-cards should be created. This activity can also be used when teaching fractions, decimals, and integers.
2. Give nine different students a card and have them come to the front of the room and hold their card facing the rest of the class.
3. Give the remaining seated students a calculator.
4. Discuss with students whether or not it is important to put the students (numbers) in order.
5. Ask students to figure out which of the students standing are the mean, median, mode, range, and outlier.
6. Discuss the various measures.
7. Have the outlier student sit down.
8. Have students recompute the mean, median, mode, and range for the remaining eight students (numbers).
9. If students have never been exposed to the measures, figuring out the median for eight numbers (any even amount of numbers) may present some difficulty. Students should be led to discover that the two middle numbers must be averaged in order to compute the median.
10. Discussion should follow about how the outlier affects the measures of central tendency.
11. Choose nine different students to come to the front of the room and give each of them a number from a different set of numbers.

12. Repeat steps 4 through 11 above.

Assessments

Students complete a journal entry that explains the mean, median, mode, range, and outlier and gives a numeric example of each. There are 10 points possible for the journal entry (1 point for each explanation and 1 point for each example).

Note: All math textbooks at the middle school level include the measures of central tendency in various lessons. One example is the Scott Foresman - Addison Wesley Middle School Math (Course 3), Section 1-2. Choices for practice and assessment in this section include the following:

- a. Practice 1-2
- b. Reteaching 1-2
- c. Guided Problem Solving 1-2 (particularly suited to the above activity)
- d. Quiz 1A
- e. Chapter 1 Test

The journal entry, worksheets, quiz, and test are graded using standard percentages based on number correct to total possible.

Circulate and formatively assess students as they use the technology tools. Provide assistance for students who are experiencing difficulty and monitor accordingly.