

Katie Smith  
Mean, Median, and Mode

**HEADING:**

Sixth Grade  
Math

**PURPOSE:** The purpose of this lesson is to give the students a better understanding of the finding the mean, median, and mode of a set of numbers.

**OBJECTIVES:** Upon completion of this lesson, students will be able to...

- Find the mean of a set of at least 7 numbers
- Find the median of a set of at least 7 numbers
- Find the mode of a set of at least 7 numbers
- Give the definitions of mean, median, and mode
- Explain how they find mean, median, and mode

**STANDARDS:**

-6.SP.3 Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number.

-S.1 Calculate mean, median, mode, and range

**SET INDUCTION:** To get the class motivated, they will be taking out their math journals and writing down their own definitions of what they think the mean of a set of numbers is. They will do the same for median then again for mode. We will discuss a couple students' definitions then come to an ultimate definition for each of the three that will be written on the board. We have talked about it before, so they will have an idea.

**DO NOW:** Please write down five of your favorite numbers and find the mean, median, and mode of those numbers.

**VOCABULARY STRATEGY:** Pass out three flashcards to each student. Have them write down the definitions of mean, median, and mode on each flashcard as well as an example of each. This will be for their own reference if they forget the definitions.

**PROCEDURE:**

- 1.) First, we will read and review our definitions of mean, median, and mode as a class.
- 2.) Next, the teacher will hand out a pack of cards to each group of students. Students will be in groups of about 4 or 5.
- 3.) The class will begin the mean, median, and mode card game in their small groups.
- 4.) *MEAN ROUND*- Each student in their groups will pick 7 cards from the deck of cards. They will add up and find the average of their set of cards.

The mean of their set of numbers will be their number of points for round one.

- 5.) After finding the mean, students will put their cards back in the deck.
- 6.) *MEDIAN ROUND*- Each student in their groups will pick 7 more cards from the deck. They will put their cards in numerical order and find the median of their set. Whatever the number value of their median card is will be their points for round two.
- 7.) After finding the median, students will put their cards back in the deck.
- 8.) *MODE ROUND*- Each student will again pick 7 cards from the deck. They will find the mode by seeing which card they have picked the most of. They may or may not have a mode. If they do not have a mode, they will get zero points for this round. Otherwise, they will take the number value of their mode and that will be the number of points they receive for round three.
- 9.) Round four will start back at the mean round and the process will be repeated until someone in the group gets to 21 points. At this point everyone will record their final score, even if they haven't won.
- 10.) Teacher will record every student's number of point on the board. Students will also record class points in their math journals.
- 11.) The decks of cards will be collected and the students will leave their small groups.

**CLOSURE:** To conclude the lesson, the teacher will ask the students to refer back to their answers to the first worksheet asking how they found the mean, median, and mode for the worksheet. The students will be asked to volunteers their answers and how this helped them find the mean, median, and mode during the card game.

**MATERIALS:**

- About four decks of cards
- Math journals
- Pencils
- Attached worksheet
- Chalkboard
- Chalk

**ASSESSMENT:** To further assess the students' understanding of mean, median, and mode they will be given a list of temperatures for the current month and will be asked to find the mean, median, and mode of the monthly temperatures.

**FOLLOW UP ACTIVITY:** To follow this lesson, students will take the points from all the students in their class home. They will have to find the mean, median, and mode of the list of points received by the entire class during the card game for homework.

## **DIFFERENTIATION:**

### **I: Intervention Group**

The lower level group will be given the attached worksheet. This group will move to a separate table and work on this worksheet with the teacher. Together, they will work through each word problem. The teacher will work with the small group on each word problem. The problems all use 7 numbers, just like the card game; since this is the amount of numbers they should be able to find mean, median, and mode for at the point in time. After each answer is found, the students are asked to EXPLAIN how they found these answers. They will do this part alone and then the teacher will read it over. If the students are able to explain, step by step, how they came to find their answer it will be easier for them to find the mean, median, and mode independently in the future. If the student can answer each question on the worksheet with minimal help from the teacher, they will be moved back to work with the on-level learners.

### **II. On-Level Group**

The on level group will work on the lesson plan above with their small desk groups with no modifications.

### **III. Advanced Group**

The advanced group will be given the same worksheet as the intervention group but WITHOUT the questions asking them to explain how they found their answers. Instead, the advanced group will find the answers to each word problem and will be given space to create bar or line graphs corresponding to the word problems. This will be giving them practice in graphing numbers and averages. They will choose ONE problem from the worksheet to create a bar or line graph of the numbers in the problem. The graph will need a title and labeled X and Y axes. This will be done while the intervention and on-level groups complete the activity.

**All 3 tiers will have the same follow up activity/homework assignment as stated in the lesson plan.**