Measures of Central Tendency

Making meaning of data

Measures of Central Tendency.

- Mean, Median and mode are measures of central tendency.
- Measures of central tendency all have to do with the MIDDLE

Scenario

- A group of students counted how many apple products they have in their household (iPhone, iPad, iPod, Mac). The following is their data.

- Data set = 4, 2, 6, 8, 4, 9, 2, 4, 6

Mean (Average)

- **Mean** – sum of the items in a set of data then divided by the number of items in the set. Also called *average*.

- Find the mean of the following:
- Data set = 4, 2, 6, 8, 4, 9, 2, 4, 6
- Add all items and divide by number of items

Mean (Average)

- Find the mean of the following:
- Data set = 4, 2, 6, 8, 4, 9, 2, 4, 6

- 1) sum = 45
- 2) mean = sum/#items = 45 ÷ 9 = 5

Median

- **Median** – the *middle* number of an ordered set of data; or the mean of the two middle numbers
- Data set = 4, 2, 6, 8, 4, 9, 2, 4, 6
- Order the numbers *least to greatest*
- Ordered -> 2, 2, 4, 4, 4, 6, 6, 8, 9

Median

- **Median** – the *middle* number of an ordered set of data; or the mean of the two middle numbers
- Data set = 4, 2, 6, 8, 4, 9, 2, 4, 6
- Order the numbers *least to greatest*
- Ordered -> 2, 2, 4, 4, 4, 6, 6, 8, 9
- 1) middle number = 4

Median – even number of items in data set

- Order the numbers *least to greatest*

- Data set = 4, 2, 6, 8, 4, 9, 2, 4, 6, 8
- Ordered -> 2, 2, 4, 4, 4, 6, 6, 8, 8, 9

Median – even number of items in data set

- Order the numbers *least to greatest*

- Data set = 4, 2, 6, 8, 4, 9, 2, 4, 6, 8
- Ordered -> 2, 2, 4, 4, 4, 6, 6, 8, 8, 9

- 1) middle numbers = 4 AND 6
- 2) the median is the *mean of two middle numbers*
- 3) (4+6) ÷ 2 = 5

Mode

- **Mode** – the number that occurs most frequently; there can be NO modes or more than one
- Data set = 4, 2, 6, 8, 4, 9, 2, 4, 6
- The number that occurs *most* often
- Ordered -> 2, 2, 4, 4, 4, 6, 6, 8, 9

Mode

- **Mode** – the number that occurs most frequently; there can be NO modes or more than one
- Data set = 4, 2, 6, 8, 4, 9, 2, 4, 6
- The number that occurs *most* often
- Ordered -> 2, 2, 4, 4, 4, 6, 6, 8, 9
- 1) most often number = 4

Range(Spread)

- The difference between the highest number and the lowest number

- Data set = 4, 2, 6, 8, 4, 9, 2, 4, 6
- Ordered -> 2, 2, 4, 4, 4, 6, 6, 8, 9

Range(Spread)

- The difference between the highest number and the lowest number

- Data set = 4, 2, 6, 8, 4, 9, 2, 4, 6
- Ordered -> 2, 2, 4, 4, 4, 6, 6, 8, 9

- The difference of 2 and 9. 9 – 2 = 7

Outlier(s)

- The number (s) that are farther away from the rest of the data

- Data set = 4, 2, 6, 8, 19, 4, 9, 2, 4, 6
- Ordered -> 2, 2, 4, 4, 4, 6, 6, 8, 9, 19

- 19 is the outlier

Follow the 3 steps:

- 1. Turn to your partner
- 2. Give them a high 5
- Say aloud “Have a happy day!!!!!!!”