

# Collecting Data & Measures of Center

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Name: \_\_\_\_\_ Date: \_\_\_\_\_

## LEARNING OBJECTIVE

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The student will collect a real data set and calculate the mean, median, mode, and range to describe it.

## MATERIALS NEEDED

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- Paper
- pencil
- a data source (e.g., ages of family members, shoe sizes of household members, minutes spent on 10 daily tasks, or a die for generating 10 rolls)
- calculator (optional)

## HANDS-ON ACTIVITY

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1. Collect a real data set of at least 10 numeric values (e.g., ask 10 people their age, measure the length of 10 household objects in cm, or time how many seconds it takes to do 10 jumping jacks on 10 separate tries).
2. List all 10+ data values in order from least to greatest on your paper.
3. Calculate the mean (add all values and divide by the count), and show your work.
4. Calculate the median (middle value of the ordered list) and the mode (most frequent value, or note if there is none), and identify the range (highest minus lowest).
5. Create a simple visual (a hand-drawn line plot or dot plot) showing where each data value falls on a number line.

## QUESTIONS

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1. **What data did you collect, and what were the mean, median, mode, and range of your data set?**
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2. **Which measure of center (mean, median, or mode) do you think best represents your data, and why?**
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3. **How does one very high or very low outlier value affect the mean compared to the median?**

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4. Looking at your dot plot, where do most of your data values cluster, and does that match your calculated mode?
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