

Name:

Date:

Class:

Jupyter Notebook: Exploring “Typical” Values Using Data

In this activity, you will explore what a “typical” value means by analyzing a real dataset using statistics and graphs. You will use a Jupyter Notebook to calculate measures such as the mean, median, range, and standard deviation, then interpret histograms and boxplots to better understand the distribution of the data. Through this investigation, you will compare different measures of center and explain which statistic best represents the data.

Part 1: Prediction

1. What does a “typical” value mean to you?
2. Do you think the mean and median of this dataset will be similar or different? Why?

Part 2: Data Exploration

3. After running the Jupyter Notebook, record your results:
 - Mean: _____
 - Median: _____
 - Range: _____
 - Standard Deviation: _____
4. Compare the mean and median. What do you notice?

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Part 3: Graph Interpretation

Look at the histogram and boxplot.

5. Describe the shape of the data (circle one):
Symmetric Skewed Left Skewed Right

6. Are there any outliers?
Yes / No
If yes, describe:

Part 4: Reasoning

Look at the histogram and boxplot.

7. Which measure (mean or median) better represents a “typical” value for this dataset? Explain.

Part 5: Reflection

8. How do graphs and statistics work together to help you understand data?

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