Name:_____   **Period:**_____
Project Due Date:_____

Unit 1: Introduction to Statistics
Summative Assessment

Directions: Your task is to create a survey question and randomly poll 30 people outside of your math class (can be peers, family members, staff, etc). You will be responsible for recording and keeping track of all responses. You will then have to calculate the mean, median, mode, and range of your data set and visually represent your data in 2 different ways (graph, chart, table, etc).

Your project must contain the following:

Requirement	Check Off When Completed
Written conjecture (what response do you expect to see the most?)	
Data set with at least 30 data values	
Mean calculations (show your work!)	
Median calculations (show your work!)	
Mode calculations (show your work!)	
Range calculations (show your work!)	
2 visual representations of data set	
Written analysis (What did you find? Was it surprising? What are your thoughts on your results?)	
Reflection (What did you learn? What would you change? What are the benefits and consequences of your sampling method?)	

Learning Target	4	3	2
LT A/B: I can calculate the mean, median, mode, and range of a sample of data.	**I correctly calculated the mean, median, mode, and range of my data. I showed all my calculations and labeled my final answers. My work was easy to follow.**	**My calculations were mostly correct. I made a few errors but I was consistent in my showing all my work and labeled my final answers. My work was mostly easy to follow.**	**I made several errors and showed most of my work. It was challenging to follow my work and I did not label my final answers.**
LT C/D: I can make inferences about the Wood community based on my data set.	**I can discuss my results and reflect on my findings using several specific examples from my data set. I can make inferences about how my findings may apply to the entire Wood community.**	**I discuss and reflect on my findings but use only one specific example from my dataset. I might make a few inferences but they do not directly relate to my data.**	**I discuss and reflect on my findings but I do not use specific examples. I may or may not make any inferences about the Wood community.**
LT E: I can discuss the benefits and consequences of random sampling.	**I discuss the benefits and consequences of random sampling by using several pieces of evidence from my data. I make inferences about how my sampling methods influenced my final outcomes and discuss how I would improve my sampling methods in future studies.**	**I discuss the benefits and consequences of random sampling but only use one specific example from my data set. I might make inferences about how my sampling methods influenced my final outcomes but do not suggest changes to my method.**	**I discuss the benefits and consequences of random sampling but use no specific examples from my data set. I make no inferences about how my sampling methods influences my results.**
F. I can create, interpret, and analyze multiple representations of data.	**Graph is accurate and appropriately labeled, with a descriptive title. Layout of graph enhances interpretation of data by highlighting processed data.**	**Graph is numerically accurate and appropriately labeled, including title, axis labels and correct units. Choice of graph facilitates interpretation of data**	**Graph is numerically accurate but is missing labels such as title, axis labels or units, or the labels are incorrect. Choice of graph limits interpretation of data.**

Name:_____   **Period:**_____
Project Due Date:_____

PART 1: Setting up the Project

My Survey Question:

1. Why did you pick your survey question? What interests you about the question and the possible responses you may get?

2. Write a *conjecture* **about your question. What responses do you expect? Which response do you expect to hear the most and why?**

A possible sentence frame for this process is the following:

My conjecture is that the most common response will be _____ because _____.

Name:_____   **Period:_____**
Project Due Date:_____

PART 2: The Data

3. Record your data below in whatever way you think is best. Remember that you will later have to work with the responses you received so try and be organized!

Name:_____   **Period:**_____
Project Due Date:_____

PART 3: The Results

4. Calculate the following for your data set:

Mean:_____

Median:_____

Mode:_____

Range:_____

PART 4: The Analysis

5. Choose two different methods to visually display your data. Make sure to label your results and explain your thinking as to why you chose the visual that you did. You will use graph paper and attach it to the back of the packet.

6. How do your results relate to your initial conjecture? What did you find?

7. Were there any surprises in your data? If so, what were they and why did you find them surprising?

8. What inferences about the Wood community could you make based on your data? How could you apply your findings of this sample to the entire school population?

Name:_____   **Period:**_____
Project Due Date:_____

PART 5: Reflection

9. **How do you think your sampling methods influenced your findings? What are the benefits of your sampling method? What are the consequences or problems with it?**

10. **How would you change your question and methods if you were to do this project again?**