

Learning Target	Categorize Learning	EALRs addressed in Learning Target	Assessment Instrument Type, Categorize Assessment	Criteria for assessment of Learning Target
1. Students will formulate a question and decide what data to collect.	Skill	4.1 Develop and follow a plan for collecting information.	Personal Communication Formative	Student proposal includes a clearly stated, precise, unambiguous and appropriate question which can generate categorical or numerical data.
2. Students will create and administer a survey to collect data about their question.	Skill	1.4 Collect a random sample of data that represents a described population.	Performance Assessment Formative	The question is posed correctly for the type of data. At least 15 students are surveyed.
3. Students will represent data with line plots, bar graphs, and stem-and-leaf plots.	Skill	1.4 Organize and display data in appropriate forms such as frequency tables, circle graphs, and stem-and-leaf plots.	Performance Assessment Summative	At least 2 different displays are used. Graphs are appropriate for data. Graphs are constructed correctly and data is represented accurately. (see rubric for more detail)
4. Students will analyze data to find median, mode, range, and mean.	Concept/Skill	1.4 Calculate and appropriately use range and measures of center to describe data.	Performance Assessment Summative	Students' calculations of median, mean, mode, and range are correct. Explanations

5. Students will draw conclusions based on the data.	Skill	1.4 Identify how statistics can be used to support different points of view.	Performance Assessment Summative	of process are thorough and reveal student thinking.  At least 3 conclusions are included. Conclusions are accurate, complete, and coherent. Data is synthesized in a meaningful way.
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**Preassessment:**

1. Have you ever conducted a survey? In what grade and what was it about?
2. What kinds of graphs do you know how to make? Draw a simple example for each one.
3. Here is some data about how many students attend 6 middle schools in Seattle.  
234, 765, 987, 553, 376, 812

Organize this data in a useful way.

4. What are some statements you could have about this data?

## Student Self-Assessment

1. What did you learn about conducting surveys and collecting data?
2. What was the most difficult part of your data collection?
3. What mathematical ideas do you feel like you understand better?
4. What ideas are you still struggling to fully understand?
5. Why do you think these ideas are difficult for you?
6. What did you learn about your peers as a result of your survey and statistical investigation?
7. How do you feel about your final project?
8. How did you contribute to the classroom discussions?
9. What are you most proud of?

## Formative Assessments:

- Students will formulate a question and decide what data to collect.
- The first draft of the question is peer reviewed.
- Students will create and administer a survey to collect data about their question.
- Students will submit their question(s) to me for final approval and most importantly, photocopying.
- After conducting the surveys, they must show me 15 completed surveys.
- I will be leading class discussions to develop conceptual understanding each day. This will allow me to informally assess student understanding. The independent practice that the students engage in at the end of each lesson will be turned into me. I will use this work as an ongoing formative assessment. Due to the relatively short length of this unit, daily monitoring of student learning is even more critical.

## Summative Assessment: Presentation Poster Scoring Rubric

Students will represent data with line plots, bar graphs, and stem-and-leaf plots.

Students will analyze data to find median, mode, range, and mean.

Students will draw conclusions based on the data.

	Exceeds Expectations	Meets Expectations	Not Quite There
Data	More than 15 surveys conducted.	At least 15 surveys were conducted.	Less than 15 surveys were conducted.
Graphs	2 or more graphs included. Excel or another graphing program used to create spreadsheets and graphs. All information is correct.	At least 2 different kinds of graphs are used. Graphs are appropriate for the type of data. Graphs are neat, attractive and accurately display the data. All information is labeled. Graph is titled.	Less than 2 graphs included. Graphs difficult to read. Data represented incorrectly. Labels are missing.
Analysis		Mean, median, mode, and range are all calculated correctly and displayed on the poster. Explanations of the calculation process are clear, detailed and show understanding of statistical procedures.	Mean, median mode, and range miscalculated or missing
Interpretation	More than 3 conclusions are drawn from the data. Statements and explanations are complete, clear and coherent. Data is synthesized to answer original question in a powerful way.	At least 3 conclusions are drawn from the data. Conclusions relate back to the original question. Each conclusion is supported by statements about the data.	Less than 3 conclusions drawn. Conclusions not grounded in the data.
Presentation	Poster is beautiful! It shows lots of effort. It begs to be hung on the wall as an example to all who do this project in the future!	Poster is colorful, neat, and carefully constructed.	Poster seems incomplete. Shows lack of effort.

