

Project

Name _____ Date _____ Period _____

Statistics Final Project

This project will take the place of a final unit test. For this project you will design a statistical study, carry it out, and report the results. You will present a brief summary of your results to the class. The day you present your project, you will turn in all of your work and conclusions. The project is divided into three sections: Design of the Study, Carrying out the Study, and Reporting Results.

Design of the Study:

Before gathering data, answer the following questions about your study.

1. What is the population?
2. What is the parameter of interest?
3. What is the sample?
 - a. What sampling method will you use? Explain.
 - b. Do you consider this sampling method representative of your population? Why or why not?
4. Why type of study is this? (sample survey, observational study, or experiment)
 - a. Why is this type of study appropriate?
5. Why should anyone care about this study?

Carrying out the Study:

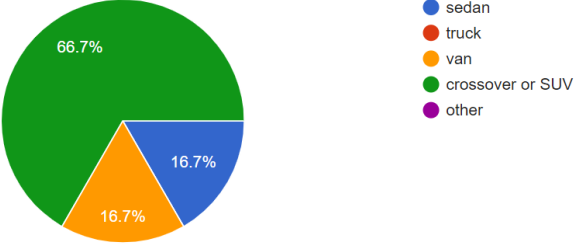
Gather the data for your study. You should gather a minimum of 20 data points.

Reporting Results:

Find an appropriate way to report on your results. The type of data you gathered will affect the way you can report your results. You should provide an organized table or list of your data as well as a paragraph explaining your results and any of their implications. You may also use graphics such as bar graphs, Venn diagrams, tables, scatter plots, pie graphs, etc.

Below is an example of a project. The right column of the table shows the thought process I would go through as I grade the project.

Example	Grading Comments
<p><u>Design of the Study:</u></p> <ol style="list-style-type: none">1. Population: teachers at Bingham High School2. Parameter of Interest: What kind of car do teachers drive?3. Sample: the teachers in the math department<ol style="list-style-type: none">a. Sampling Method: This is a cluster sample because I divided all the teachers into groups based on their department. Then I interviewed everyone from one group.b. I don't consider this sampling method to be representative because I interviewed a small portion of the population. My sample my also reflect specific preferences that the math department has. For example, since math teachers are the coolest teachers, it means they likely drive the coolest cars.4. Type of Study: Sample Survey<ol style="list-style-type: none">a. This type of study is appropriate because I want to know something about my population that can be easily learned by simply asking.5. Anyone who is selling cars to teachers would be interested to know what type of car is preferred by teachers. The engineers who design parking lots would also benefit from knowing how many small, medium, and large cars will be parked in a lot so they can design stall sizes accordingly.	<p>Full points awarded. Even though the sample isn't representative, it is still well thought out. The fact that the student recognized the flaws of the study is important.</p>

<p><u>Carrying out the Study</u> I sent a google form to all the math teachers asking them what type of car they drive. Only 6 teachers responded to my survey. My cluster sample was also a convenience sample because people only responded if it was convenient for them.</p>	<p>Student would lose points because they did not collect at least 20 data points.</p>												
<p><u>Reporting Results</u> Based on my study, most teachers at Bingham High School drive a crossover/SUV. The results of my data can be seen in the pie chart below. Based on my study, we can assume that most teachers in the math department drive cars that are bigger than sedans. This means that if we plan a department party, we should probably make sure there is plenty of parking!</p> <p>What type of car do you drive? 6 responses</p>  <table border="1" data-bbox="852 667 1006 787"> <thead> <tr> <th>Car Type</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>sedan</td> <td>16.7%</td> </tr> <tr> <td>truck</td> <td>0%</td> </tr> <tr> <td>van</td> <td>16.7%</td> </tr> <tr> <td>crossover or SUV</td> <td>66.7%</td> </tr> <tr> <td>other</td> <td>0%</td> </tr> </tbody> </table>	Car Type	Percentage	sedan	16.7%	truck	0%	van	16.7%	crossover or SUV	66.7%	other	0%	<p>Full points awarded. Student concisely reported the results and commented on implications of the study.</p>
Car Type	Percentage												
sedan	16.7%												
truck	0%												
van	16.7%												
crossover or SUV	66.7%												
other	0%												
<p>Other Comments: - The project is organized and easy to read - The project was presented during class</p>	<p>Final Score: 48/50</p>												