

Grade 9 Math
Unit 9: Probability and Statistics
Statistics Project



Name: _____

Due: _____

Designing and Conducting a Statistics Project

Part 1: Preparing a Question to Investigate (6 points)

Statistics is an important tool in daily life. It can help you learn about things you find interesting. Choose a question that is of interest to you and appropriate for grade 9; a question of which you would like to know the answer.

Note: Ensure that the wording of your questions avoids any possible bias and is culturally sensitive. Refer to your handout for chapter 9 section 2. There are several factors that may lead to problems with your question. Review such concepts as **bias, use of language, timing, privacy, cultural sensitivity, ethics, cost and time.**

My topic: _____

My survey question: _____ (2 points)

Define population: _____ (1 point)

My population: _____ (1 point)

What is your **hypothesis**? In other words, make an educated guess on the results before you conduct your survey . (2 points)

Teacher Approved: _____ **Date Submitted:** _____

Part 2 – Selecting a Census or Sample (7 points)

Define Census: _____
_____ (1 point)

Define sample: _____
_____ (1 point)

Will you use the census or a sample? _____ (1 point)

Complete 1 of the following:

Either: If you chose a census: (4 points)

a). **Explain** why you chose a census.

b) State two problems that can arise when collecting data from the entire population?

Or: If you chose a sample: (4 points)

a). Which **type** of sample will you use? Give the definition. (refer to Section 9.4 in your notes)

b). State two problems that can arise when collecting data from a sample?

Part 3 – Collecting Data (12 points)

Depending on your research question, choose a way to collect your data:

- Survey
- Observation
- Collect and analyze existing data
- Another method to be approved by your teacher

Use a minimum of 25 subjects. (ex. People, cars, etc.)

1. Describe how you collected your data. (3 points)

a) What was the date when you asked your question?

b) Explain **how** you asked each participant your question.

c) What time of day did you ask your question? Why is this important to know?

2. **Where** was the data collected? Why is this important to know? (2 points)

3. Explain two things you did when collecting your data that ensured the privacy of your participants? (2 points)

1. _____

2. _____

Include your data collection (tally) sheet and all raw data sheets (questionnaires). Be sure to label your data collection sheet. (5 points)

Part 4 – Analyze and Display the Data (16 points)

You must create **at least one graph** to appropriately display your data, such as a line graph, bar graph, or circle graph. **Be sure to label your graph.** (10 points)

The type of graph I used is _____

1. List 2 reasons why you chose this type of graph. (2 points)

1) _____

2) _____

2. State two conclusions based on your results. (2 points)

1) _____

2) _____

3. Was your original hypothesis correct? With reference to **your data**, explain how you know. (2 points)

Part 5: Assess Your Work (4 points)

1. State 1 problem you encountered with your data collection. How would you avoid this if you were to do the survey again? (2 point)

2. Why was the sample/census used appropriate for your population? (1 point)

3. How do statisticians decide if their conclusions are valid? (1 point)

Evaluation:

Part	Worth	Grade
1	6	
2	7	
3	12	
4	16	
5	4	
Total	45	