

1. A survey was given that included data on each student.

	David	Becca	Paige	...
Field of interest	computer science	journalism	chemistry	...
Age (years)	13	15	14	...
Languages spoken	2	1	1	...
Handed	right	left	right	...

- Is "field of interest" qualitative or quantitative?
- Is "age (years)" qualitative or quantitative?

2. Billie and Tyler got jobs in a cupcake factory as quality control. They were tasked with checking a batch of 385 for the number of frosting loops on each cupcake. They randomly checked 10 cupcakes. Identify the variable, sample, and population. Is the variable qualitative (categorical) or quantitative?

Variable: _____ Categorical or Quantitative?

Population: _____

Sample: _____

3. Mimi wants to conduct a survey of her 300 classmates to determine which candidate for class president, Napoleon Dynamite or Blair Waldorf, is in the lead on the upcoming election. Which of the following methods of surveying her classmates will allow Mimi to make a valid conclusion about which candidate is in the lead? For each, determine the type of sampling method.

- Ask all the students at Blair's lunch table.
- Put the names of all the students in a hat. Draw 50 names. Ask the selected students.
- Ask all the members of Napoleon's soccer team.
- Ask every student in the class.

4. Jillian wants to know what percent of students at her school watch sports on TV. Which strategy for sampling will be more likely to produce a representative sample?

- At the next school football game, ask every third student who enters whether or not they watch sports on TV.
- At the next school assembly, ask every third student who enters whether or not they watch sports on TV.

Explain your answer.

5. Theo wants to know what percent of students at his school have a computer. Which strategy for sampling will be more likely to produce a representative sample?

- a. Get an alphabetized list of the names of all students in the school, and pick every tenth student on the list to survey.
- b. Send an email to every student asking them if they have a computer, and count the first 50 surveys that get returned.

Explain your answer.

6. David hosts a podcast and he is curious how much his listeners like his show. He decides to poll the next 100 listeners that send him fan emails. They don't all respond, but 94 of the 97 listeners polled said they "loved" his show. What is the most concerning source of bias in this scenario? Is this an overestimate or underestimate? Explain.

7. A senator wanted to know about how the people in her state felt about internet privacy issues. She conducted a poll by calling 100 people whose names were randomly sampled from the phone book. The senator's office called those numbers until they got a response from all 100 people chosen. The poll showed that 42% of respondents were "very concerned" about internet privacy. What is the most concerning source of bias in this scenario? Is this an overestimate or underestimate? Explain.

8. A principal orders t-shirts and wants to check some of them to make sure they were printed properly. She randomly selects 2 of the 10 boxes of shirts and checks every shirt in those 2 boxes. What type of sampling is this?

FHS Administration wants to determine why students do or do not attend class. They create a survey and give it to 6 randomly selected classes during 6th period. What type of sample is this? Is it likely to give them useful information? Why or why not? Is any type of bias a concern?

How would you suggest admin choose a sample for this survey?