

Census or Sample???

A. What is the best way to collect the data, census or sample?

1. The number of Canadian families with internet access?

Sample

2. To determine the average height of a grade 9 student in your class

Census

3. Reaction to new cell phone ban while driving

Sample

B. Which students in your school would you survey to get their opinion on: quality of cafeteria service

3. In each case, describe the population.

- a) The management team of a shopping mall in Comox wants to know how to attract more people between the ages of 13 and 25 to the mall.
- b) A juice company wants to determine the average volume of juice in a 1-L carton.
- c) A board of education wants to find out which schools need renovations.
- d) The government wants to determine the average age of First Nations people in Nunavut.

4. In each case, are the data collected from a census or a sample?

- a) To determine the favourite TV show of grade 9 students in a school, all grade 9 students in the school are surveyed.
- b) To find out if customers of a chain of coffee shops are happy with the service, some customers in every shop were surveyed.

census

Sample

Homework/classwork

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Section 9.4 Selecting a Sample

- **Representative sample:** the chosen sample represents the population.

We are going to look at 6 sampling methods:

1. **Simple Random Sampling**-- each member of the population has an equal chance of being picked [Example: drawing a name from a hat]
2. **Systematic or interval sampling**--Every "nth" person of the population is selected
[Examples: testing products like chocolate, appliances]
3. **Cluster sampling**-- every member of each randomly selected group from a population is selected
[Example: favorite ice cream in school choose one grade and ask all students in that grade]
4. **Self-selected sampling**-- members of the population volunteer
[Example: choose to participate in a survey on line]
5. **Convenience sampling**-- members of the population who are convenient to include
[Example: For a survey about how many hours are spent at the rink during winter months, ask people who are at the rink]
6. **Stratified random sampling**--some members from each group of the population are randomly selected.
[Example: 5 students from each grade selected to answer a survey.]

The student leadership team wants to find out if students would like the cafeteria to have longer hours. Several sampling methods were suggested. Explain whether each sample is appropriate.

- a) Every student's name is put into a box, and 100 names are selected randomly to be surveyed.
- b) Every 5th person entering the school is selected.
- c) Each person on the leadership team asks her or his friends.
- d) An announcement is made asking anyone who wishes to participate to fill in a ballot.

A company packages boxes of granola bars. The quality-control manager inspects the first 5 boxes each morning to ensure that each has the same number and types of granola bars.

- a) Is this a good way of ensuring quality control? Explain.
- b) Suggest 2 other methods of sampling that would be appropriate.
Explain why each is appropriate.