

# 11.2 Collecting Data

*MathLinks 9, pages 422–429*

## Key Ideas Review

1. Identify the difference between a population and a sample. Give an example of each.

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Connect each statement in column A with the related type of sample in column B.

A	B
2. All of the people leaving a concert are handed a card and asked to mail in their response.	a) convenience sample
3. A food services company surveys 10% of the students at each of four high schools in the district.	b) random sample
4. Every tenth person on a voters' list is polled about whom they will vote for in the next election.	c) stratified sample
5. Franco surveyed all of his friends about their favourite pastime.	d) systematic sample
6. At the mall, a marketing representative asks customers chosen at random about which grocery store they prefer.	e) voluntary response sample

## Check Your Understanding

7. Identify the population for each survey question. Indicate whether the population or a sample should be used for the survey. Justify your choice.

a)

Who will be next year's student council president?

Population:

Survey  the population  a sample

Justify:

b)

What colour do you prefer for the lacrosse team shirt?

Population:

Survey  the population  a sample

Justify:

8. For each context, identify and describe the sample you would select for a survey.

a) The mayor of a city wants to know what people think about the recreational programs offered to residents.

b) A school librarian wants to know which fiction books to order for the library.

9. For each context, would you recommend surveying the population or a sample? Justify your choice.

a) You want to determine the water quality in Shuswap Lake, BC.

b) You want to test the quality of jet engines.

10. A member of the city council plans to ask every person visiting a local park the following questions.

Do the park rules need better signs? YES NO Should the city allow concerts in the park? YES NO
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a) Identify the sample.

b) Identify the population.

c) Will the results of the survey accurately represent the population? Explain.

d) Should the same sample be used for both questions? Explain your thinking.

11. a) Anya, Dhara, and Ian plan to ask students the following question: "What mascot would best represent our new school?" How might you improve the survey question? Explain your reasoning.

b) There are 1400 students enrolled at the school. Anya suggests using a random sample of 30 students. Dhara suggests using a stratified sample to get input from each grade. Ian wants to survey the whole student population. Whose sampling method is better? Explain your reasoning.