Mid-Chapter Review

Frequently Asked Questions

Q: **How do you decide which type of graph you should use to represent data?**

A: The type of graph depends on what you want the graph to show.

Type of graph	What graph shows
line graph	trends
circle graph	how a whole is divided
scatter plot	relationships
bar graph/pictograph	frequency in different categories

Q: **What is the relationship between the size of a sample and how confident you can be in the results?**

A: As you increase the size of a sample, the size of the sample gets closer to the size of the population. Therefore, the results you get should be more representative of the entire population.

For example, a sample consisting of students from four classes is more representative of the entire school than a sample consisting of students from only one class.

Q: **How can you use technology to compare data?**

A: You can use the Internet to find a database with data that will help you answer the question. Then you can transfer the data to a spreadsheet program or a statistics program. Use this software to graph the data, to see if there are any trends that will help you answer the question.

For example, this database shows information about the new housing price index for major cities across Canada.

Definitions and notes	2000	2001	2002	2003	2004
	1997 = 100				
Canada	104.1	107.0	111.3	116.7	123.2
St. John's (NL)	101.2	103.2	107.7	112.5	118.6
Halifax (NS)	107.4	110.5	114.4	119.1	121.6
Vancouver (BC)	90.2	90.9	93.2	96.2	101.0

Source: Statistics Canada

To compare the changes in the housing price index in 2004 for major Canadian cities, download the data into a spreadsheet program. Copy the data for 2003 and 2004 to a new spreadsheet. Then use the spreadsheet to make a comparative bar graph that shows how the housing price index in 2003 and 2004 changed for each city.

Practice Questions

1. The data below show the percent of Canada's adult population with various levels of schooling.

Location	No higher than secondary	Post-secondary non-university	University without a degree	University with a degree
Canada	41.8	34.3	11.3	19.5
NL	48.7	34.4	10.9	12.4
PE	45.2	34.8	12.3	15.1
NS	41.5	35.3	13.3	18
NB	49.1	31.7	11.7	14.4
QC	46.9	32.8	6.8	18.6
ON	39.9	33.9	12	21.4
MB	45.8	31.7	14	16.7
SK	46	32.5	15.2	15.4
AB	37.7	38.3	12.5	18.8
BC	36.6	36.7	15	20.9
YT	29	45.7	2.4	26.7
NT	38.3	40.6	10.1	17
NU	48.5	39.7	4.8	10

Source: Statistics Canada

a) Construct a graph to compare the data for Ontario with the data for New Brunswick.

b) Construct a graph to compare the percent of the population with no higher than secondary education in all the provinces and territories.

c) Which province or territory is most representative of Canada, in terms of level of schooling?

d) Which provinces or territories are above the Canadian percentage for population with a university degree?

e) Suppose that you were promoting post-secondary education to students in Canada. What two provinces or territories would you target? Give reasons for your choices.

f) What type of graph would be effective for promoting post-secondary education to students in Canada?

2. Describe three situations in which you might use each type of graph.

a) a bar graph   **b)** a scatter plot

3. Magda and Trevor want to know what is the most popular spectator sport at their school. Instead of asking every student, Magda asks 25 students in her school and Trevor asks 15 students in his class. Whose results would you have more confidence in? Explain why.

4. This database gives the gross income, in thousands of U.S. dollars, for five of the highest-grossing films.

Film	North America	Overseas
Titanic	600 800	1 234 200
The Lord of the Rings: The Return of the King	377 000	752 200
Harry Potter and the Philosopher's Stone	317 600	651 100
Stars Wars: Episode I— The Phantom Menace	431 100	494 400
The Lord of the Rings: The Two Towers	340 500	580 000

a) Create a spreadsheet for the data.

b) Construct a bar graph that compares the gross income for each movie in North America and overseas.

c) Use your graph to determine which movie had the least gross income in North America and overseas.

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