Constructing Double-Bar Graphs

You will need
- 1 cm grid paper
- pencil crayons
- a ruler

GOAL

Construct and interpret double-bar graphs.

Lauren is volunteering at a community centre. To plan some after-school activities, she asked students from two schools which racquet sport they prefer to play. The chart shows her results.

Favourite Racquet Sport

| School	Tennis	Badminton	Squash	None/other
Maple School	69	56	10	8
Pine School	95	45	17	10

How can you create and interpret a double-bar graph to describe students' racquet-sport preferences?

Lauren's Graph

I'll use a double-bar graph because I want to compare the preferences of students in two schools, using the same categories. I'll put racquet sports on the horizontal axis and the number of students on the vertical axis. I'll use a scale of 10 because the greatest number of students is close to 100. Counting by 10 will not make the vertical **axis** too crowded. My graph will have a title, and I'll label the categories and axes. My graph also needs a legend.

Favourite Racquet Sport
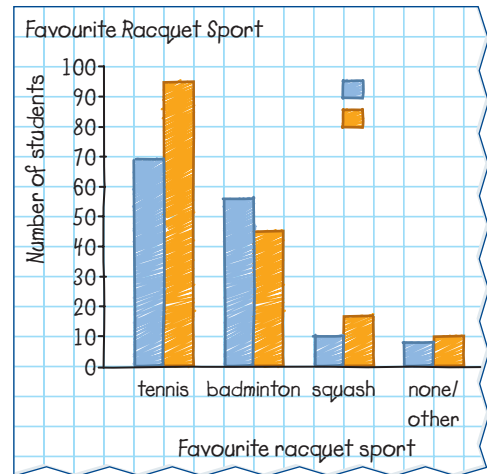
A. Describe a legend for Lauren's graph.

B. Ask two groups of classmates which racquet sport they prefer. Record your results in a tally chart.

C. Display your results in a double-bar graph.

D. What does the graph tell about your classmates' racquet-sport preferences?

Reflecting

E. What scale did you use for your graph? Why?

F. Why is it important for a graph to have a clear title?

Checking

1. The following chart shows the hours of sunlight in six northern locations on the longest day (summer solstice) and the shortest day (winter solstice) of the year.

Hours of Sunlight in Six Northern Locations

Location	Hours of sunlight on summer solstice	Hours of sunlight on winter solstice
Ketchikan	17.5	7.0
Anchorage	19.5	5.5
Fort Smith	18.0	9.0
Yellowknife	20.0	6.5
Norman Wells	22.0	4.0
Arctic Circle	24.0	0.0

a) Display the data in a double-bar graph.
b) What scale did you use? Why?
c) How many bars did you draw for hours of sunlight at the Arctic Circle? Why?

Practising

2. Mahrie made up a game in which you roll two dice and multiply the two numbers. If the product is even, Player 1 gets a point. If the product is odd, Player 2 gets a point.
a) Roll two dice 30 times, and record the number of odd products and even products. Repeat the game five times.
b) Construct a double-bar graph to show the results for the five games.
c) Would you like to be Player 2, the player who gets a point whenever the product is odd? Explain your thinking.

3. A travel company surveyed its customers about the types of holiday they would take if they could travel once in the summer and once in the winter.

Favourite Holiday in Summer and Winter

Season	Visiting another country	Camping, hiking, or skiing	Visiting family or friends/ attending festivals	Seeing Canada by car
summer	34	26	22	18
winter	53	18	26	3

a) Display the second-hand data in a double-bar graph.
b) Survey your classmates to find out which of these holiday trips they would like to take. Display your first-hand data in a double-bar graph with no more than four categories.
c) Is there a difference between the second-hand data and your first-hand data? If so, explain why you think there is a difference.

4. Look at the following chart about pop drinking.

Amount of Pop* Consumed by Typical North American

Type of pop	1971	1981	1991	2001
sugared pop	162	204	303	339
diet pop	12	21	72	315

* measured in cans

a) Display the data in a double-bar graph.
b) What scale did you use? Why?
c) Compare the amount of sugared pop with the amount of diet pop. Describe two things you notice.
d) Why would the information in this chart be important to the companies who make pop?

5. Is the order of the coloured bars in a double-bar graph important? Explain your thinking.