Section 2.2

Bar Graphs

Lesson 6:

Interpreting a Bar Graph

What is a bar graph ?

A graph that uses the height or length of rectangular bars to display data.

A bar graph is used to plot discrete data, which is data for which there can not be any intermediate values.

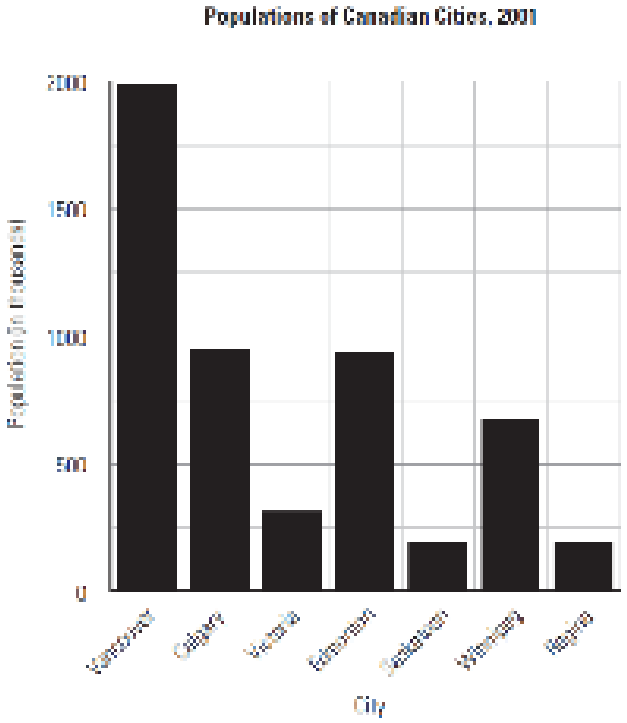
(pg. 80)

Interpreting graphs:

Just like with broken line graphs, the title and the labels on the axes will help us interpret what data the graph is displaying.

We need to pay attention to the units as well as the numbers.

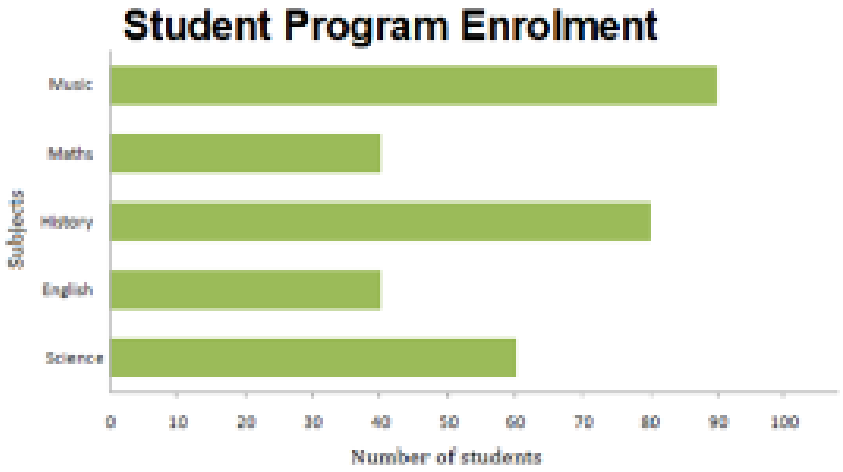
Vertical bar graphs:



The variable on the horizontal axis is the independent variable.

The variable on the vertical axis is the dependent variable.

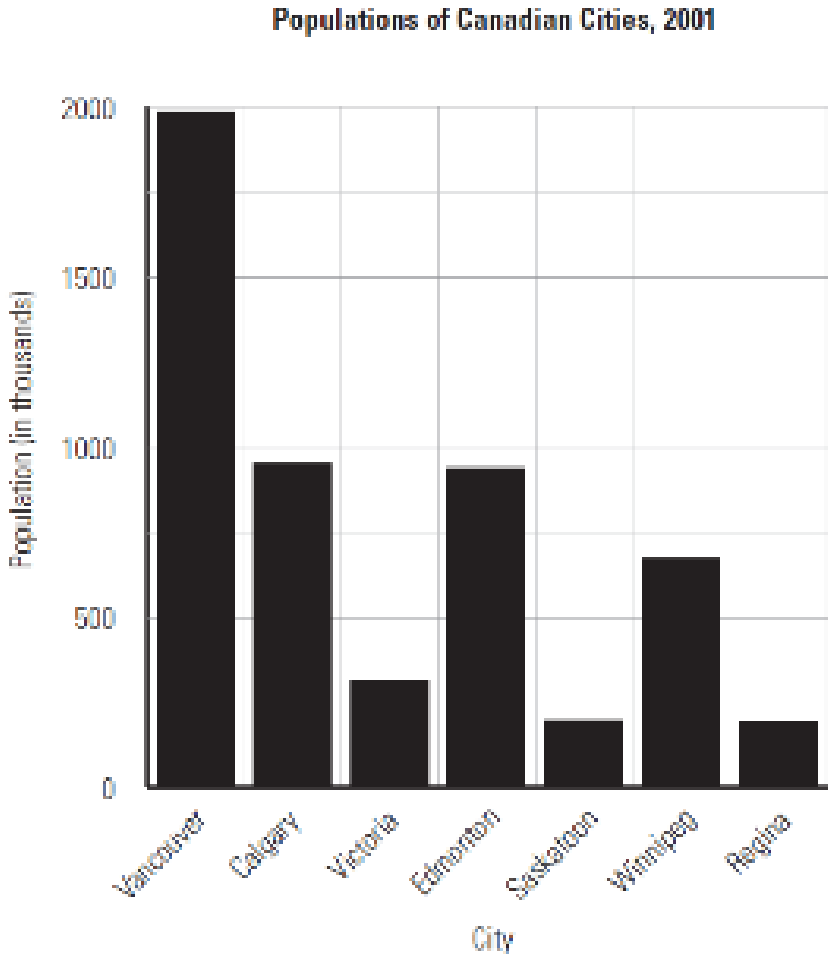
Horizontal bar graphs:



The variable on the vertical axis is the independent variable.

The variable on the horizontal axis is the dependent variable.

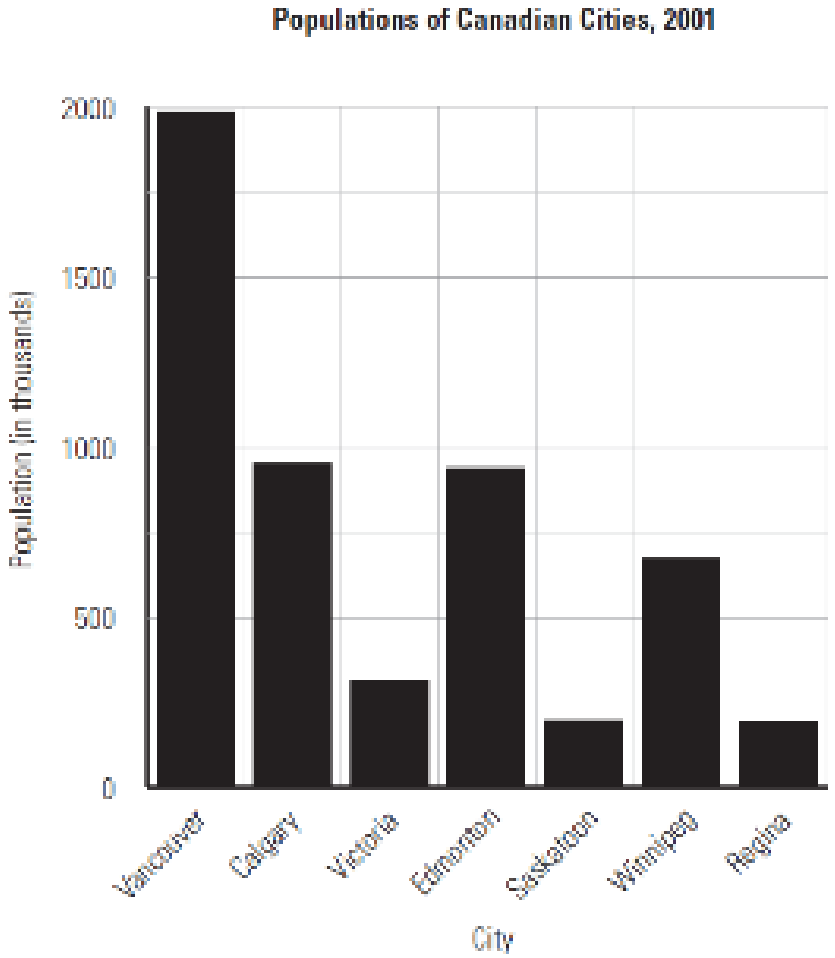
Example: vertical bar graph



What is this graph about?

The populations of 7 different Canadian cities in 2001.

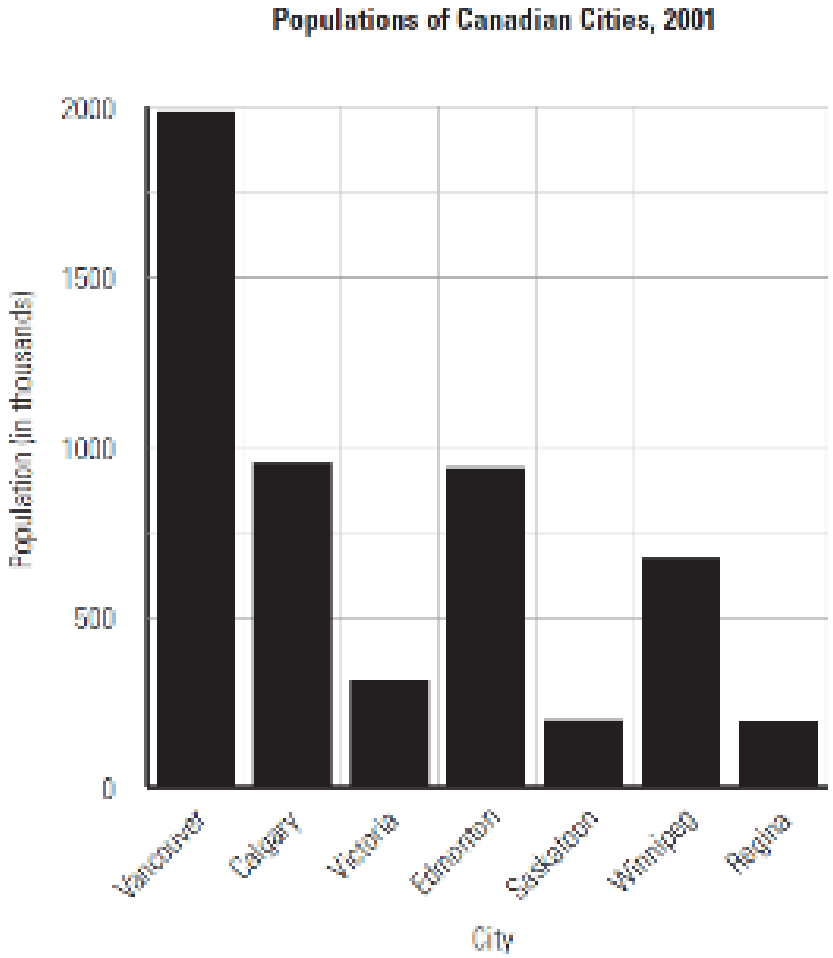
Example: vertical bar graph



What is the independent variable?

the city

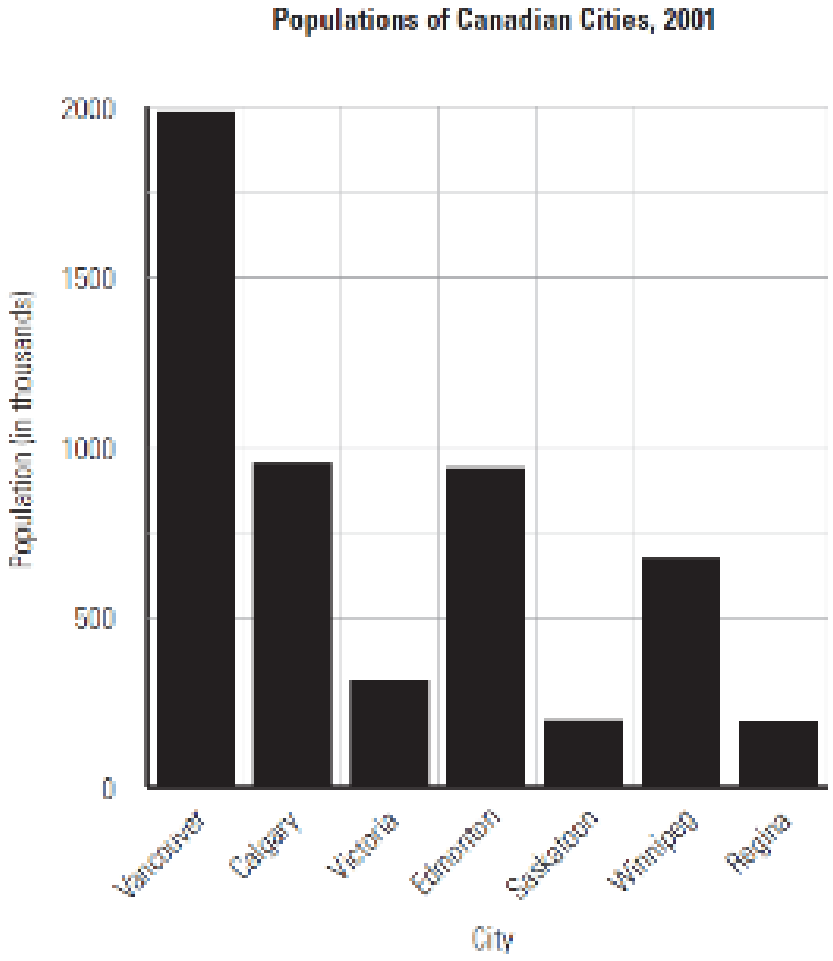
Example: vertical bar graph



What is the dependent variable?

population (in thousands)

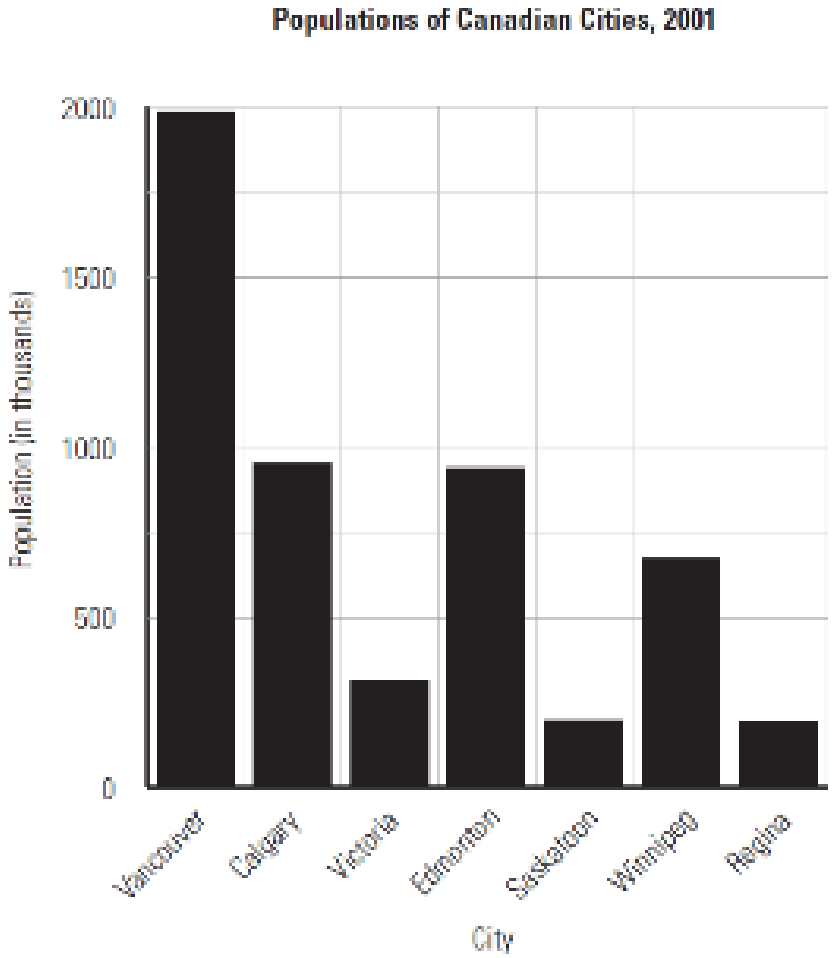
Example: vertical bar graph



What do the heights of each rectangular bar represent?

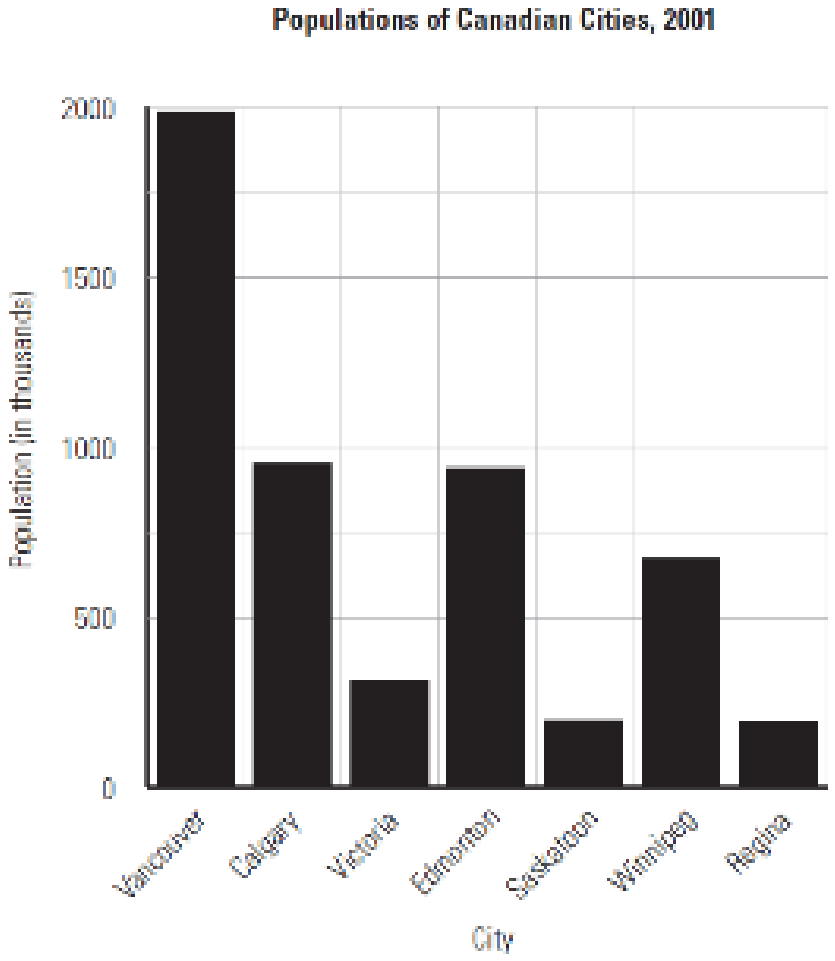
the population of each city (in thousands)

Example: vertical bar graph



Since the "city" associated with each population represents discrete data, there are small gaps or spaces between the bars.

Example: vertical bar graph

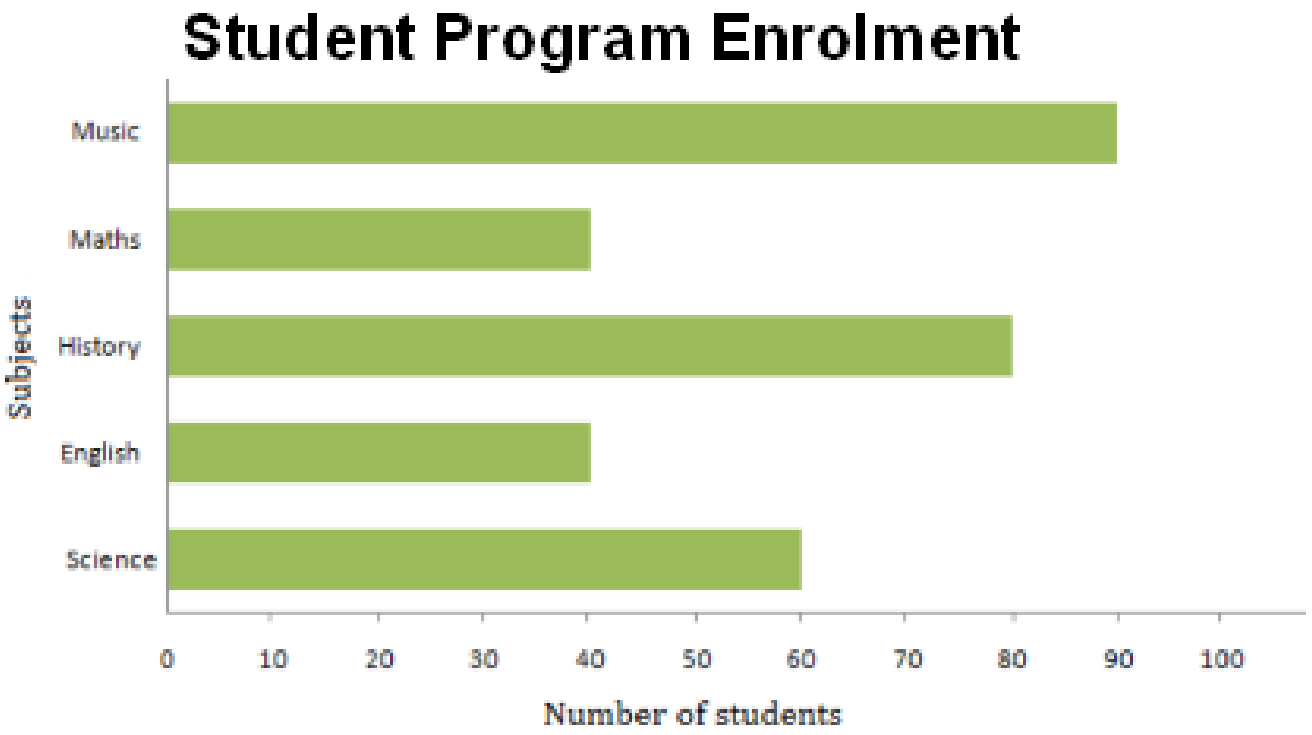


The order in which the names of the cities are written appears to be random.

Suggest a different way that might add clarity to the graph.

→ geographically
→ alphabetically
→ highest → lowest in population

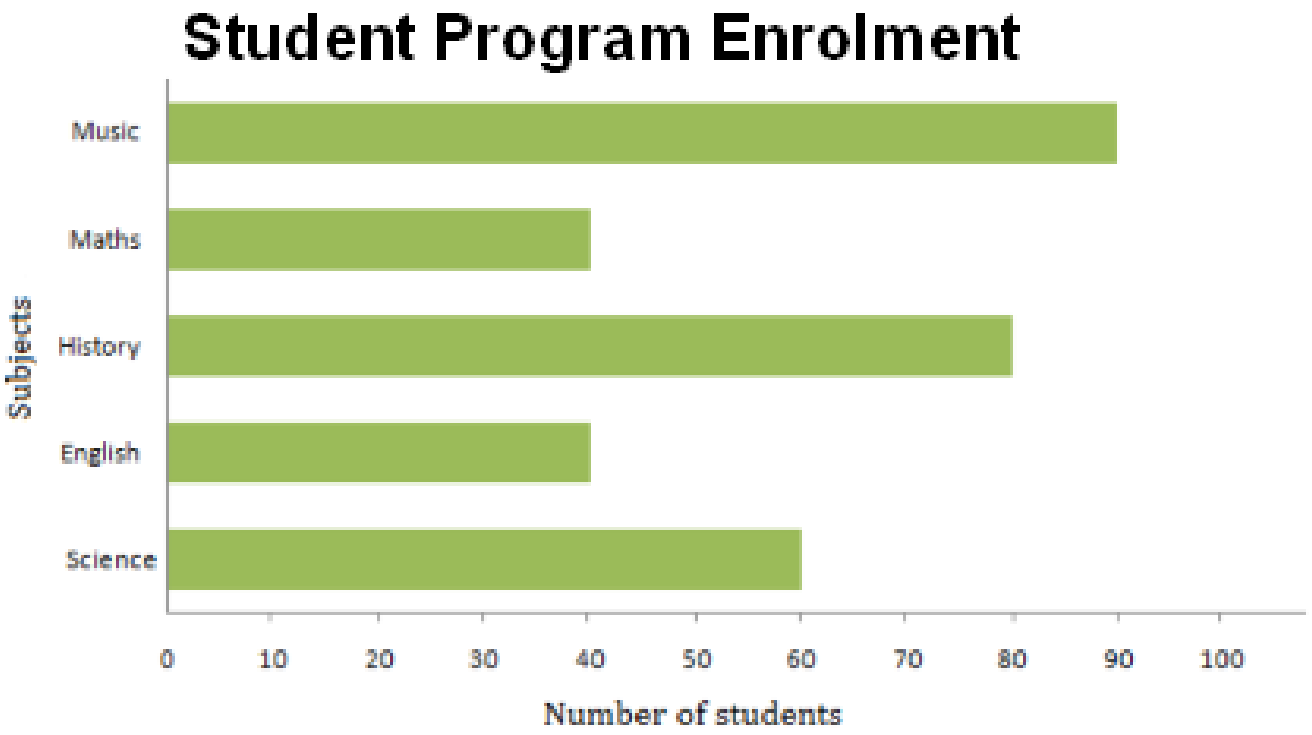
Example: horizontal bar graph



What is this graph about?

Enrolment of students in 5 different academic programs.

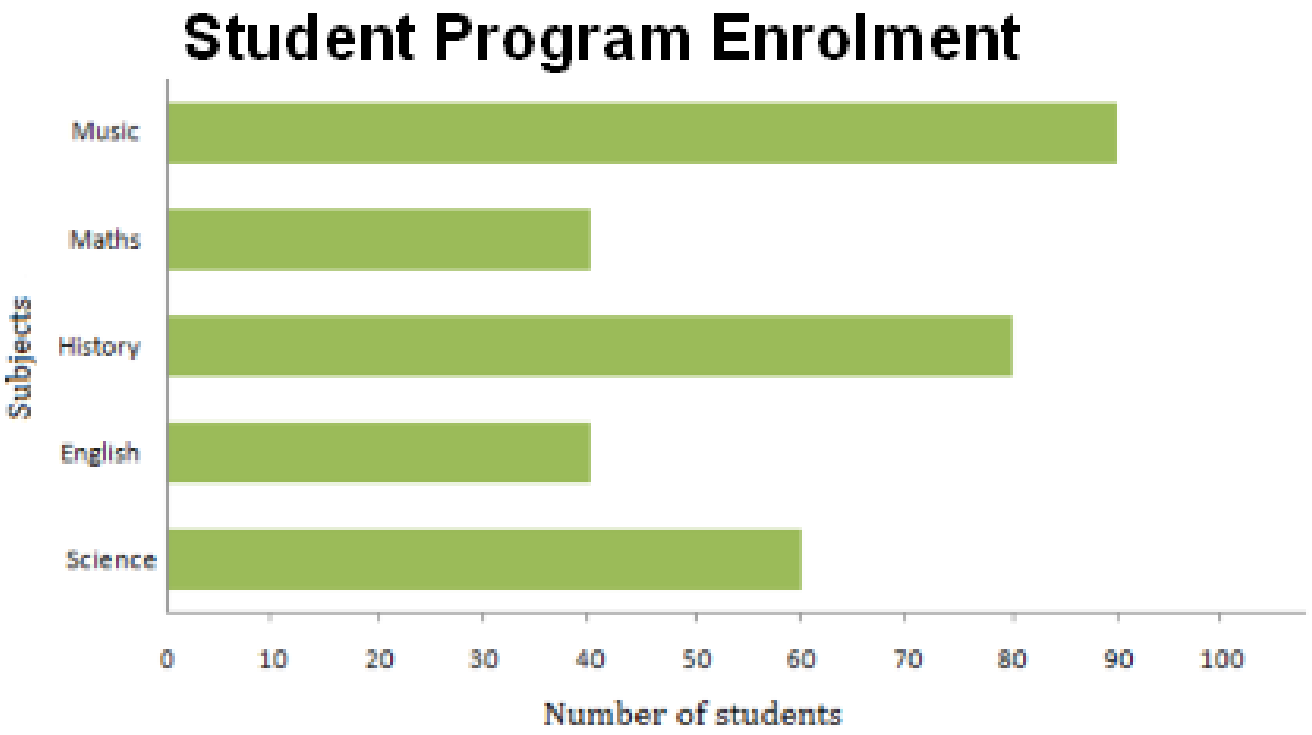
Example: horizontal bar graph



What is the independent variable?

the subjects (or programs)

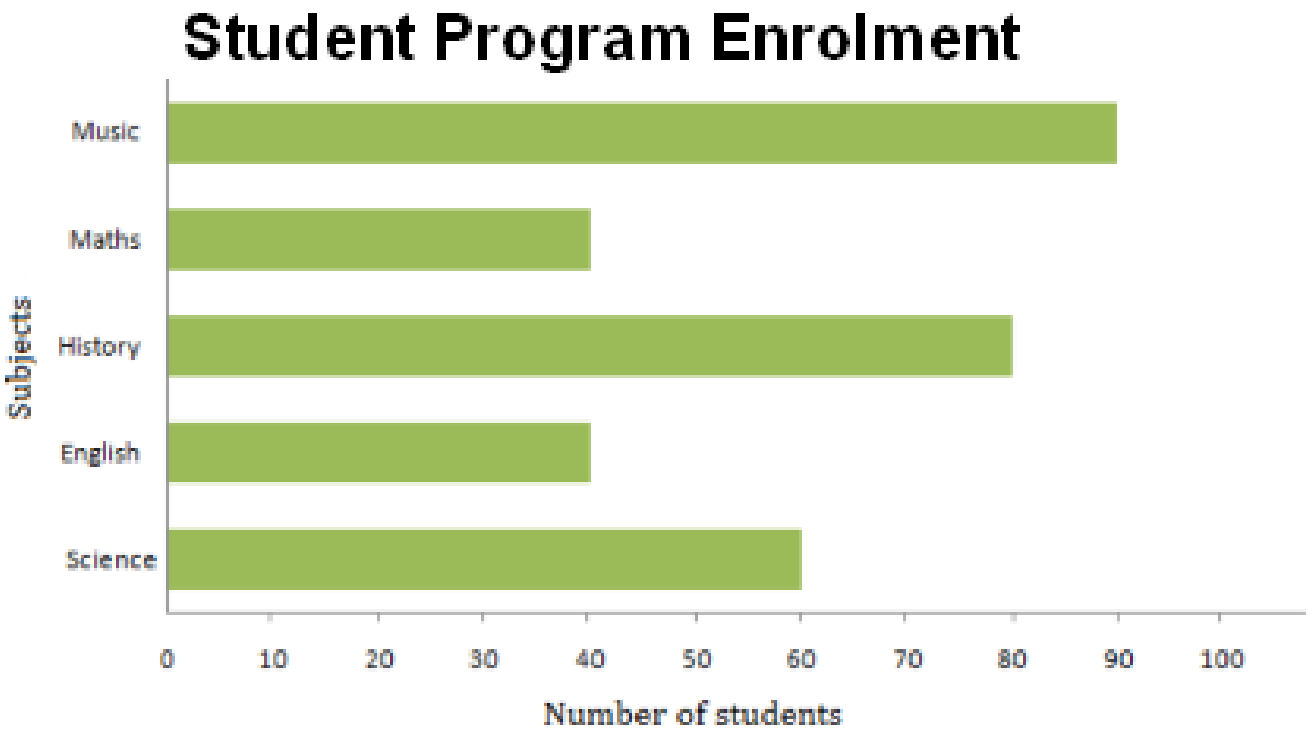
Example: horizontal bar graph



What is the dependent variable?

the number of students enrolled in each program

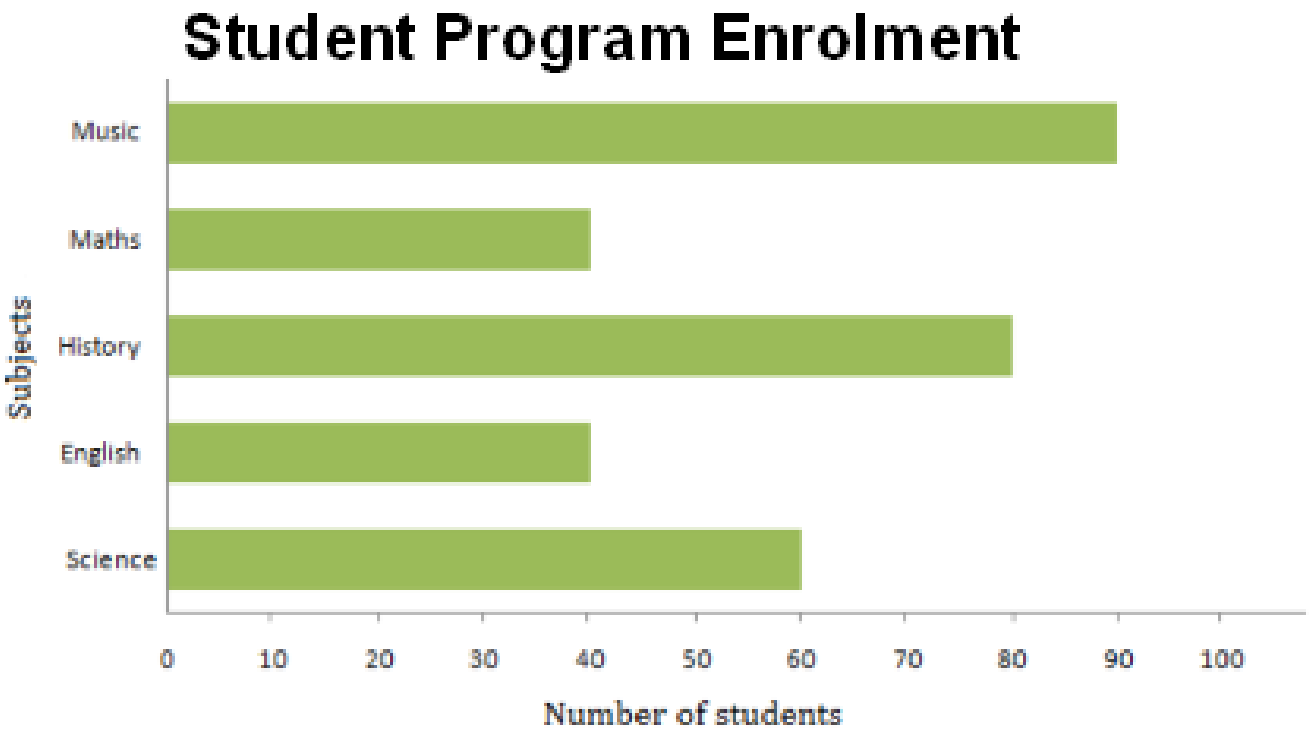
Example: horizontal bar graph



What do the lengths of each rectangular bar represent?

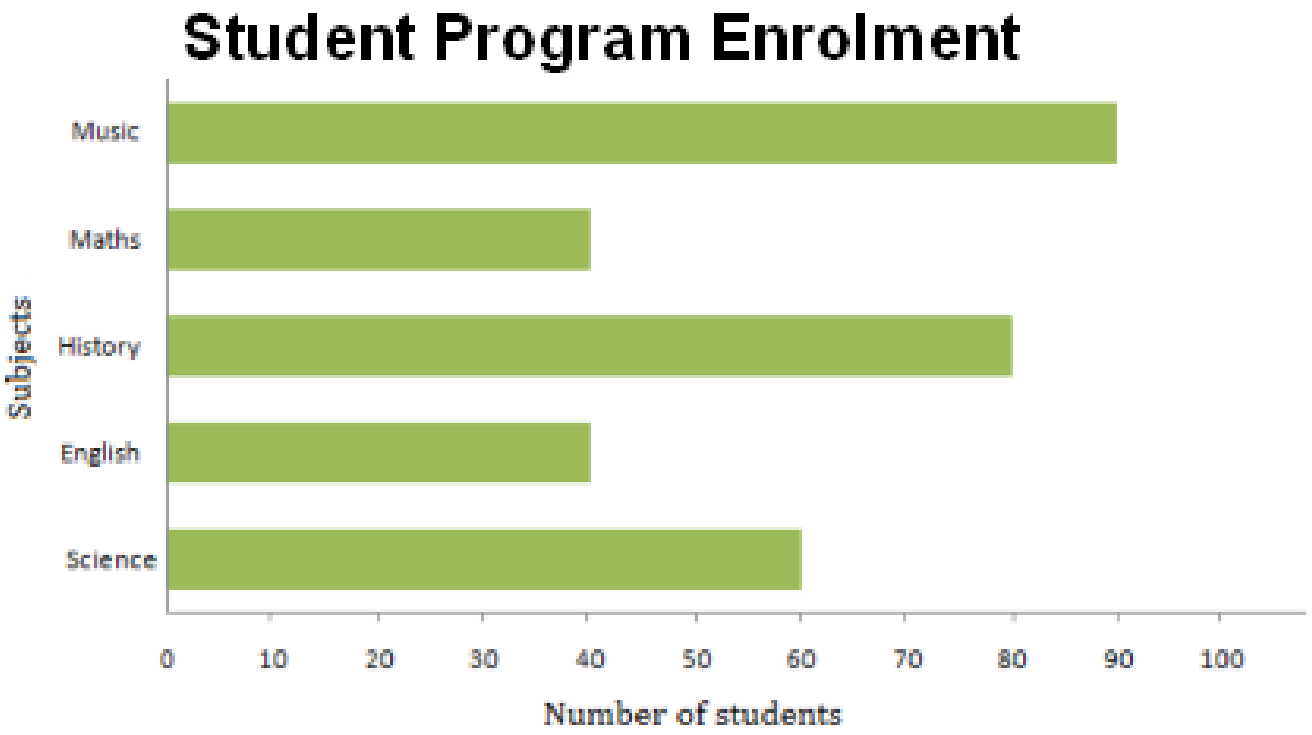
how many students are enrolled in each of the 5 subjects.

Example: horizontal bar graph



Since the "subject" associated with each enrolment represents discrete data, there are small gaps or spaces between the bars.

Example: horizontal bar graph



The order in which the names of the subjects are written appears to be random.

Suggest a different way that might add clarity to the graph. → smallest to largest enrolment

Check your understanding:

Handout: #1 - 8

Answer Key:

1. Labels on the axes are missing. We are unable to tell for sure what the numbers on the vertical axis are. Are they thousands? Millions?

2. the year

3. the number of electric cars

4. The number of electric cars worldwide has been increasing between 2012 and 2019. The increase was slow initially, then followed by a more rapid increase.

Answer Key:

5. A title is missing. We don't know "where" the visitors are visiting.

6. the month

7. the number of visitors

8. No, the number of visitors fluctuates up and dow so there is no real trend.