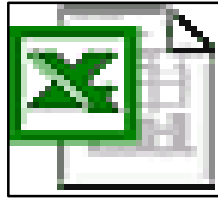


Mathematics LBS 5

Spreadsheet Mathematics: Lab 7

Interpreting Bar or Column Graphs



Microsoft Excel Logo and all screens captured by permission of Microsoft

Goal To interpret bar and column

Learning Outcomes After completing this section, the student should be able to

- use the Internet to look up information on bar or column graphs
- answer questions based on data illustrated by bar or column graphs

Prior Learning Before attempting this lab, it is expected that the student has

- completed **Spreadsheet Mathematics Lab 1: Entering, Formatting and Saving Data in an Excel Spreadsheet**
- completed **Spreadsheet Mathematics Lab 6: Constructing Bar or Column Graphs**

Contents

- analysis/interpretation of bar and column graphs
- preparation of a Time Journal and Time Tally Sheet
- construction of Excel spreadsheet and graph based on Time Tally Sheet
- two practice assignments
- one hand-in assignment

Spreadsheet Math

Lab 7: Interpreting Bar and Column Graphs

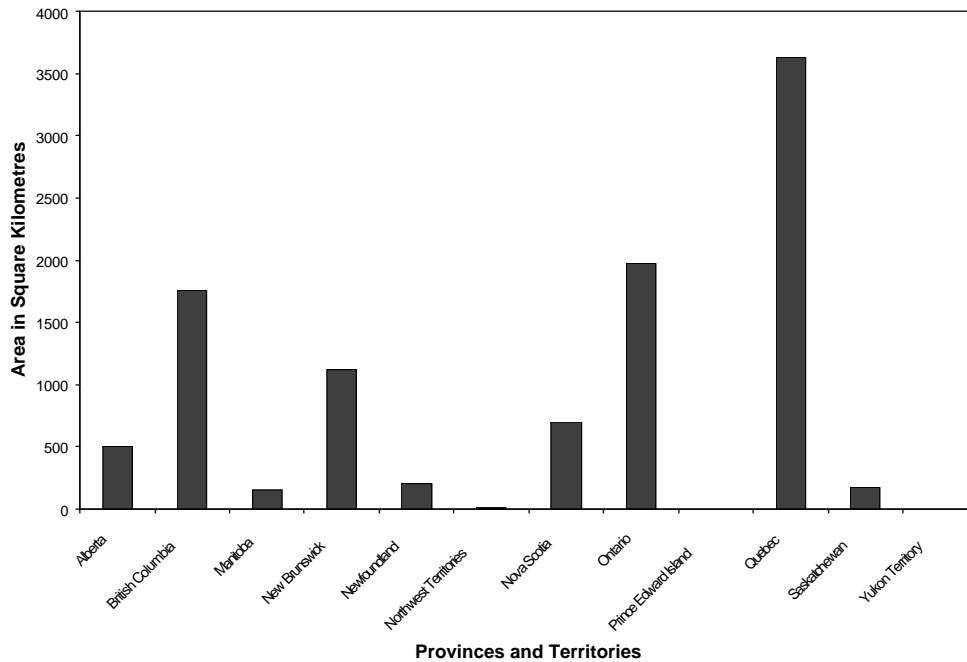
Practice Assignment 1: Interpreting a Bar or Column Graph

This assignment is adapted from: Statistics Canada's Internet Site:

<http://www.statcan.ca/english/Estat/guide/scatter.htm>

September 5,

Total Area of Trees Harvested in Canadian Provinces and Territories in 1997



Note: In British Columbia, the volume of trees per square kilometre is much higher than in the rest of Canada. In other words, trees in BC are planted more closely together and there are more trees in a square kilometre there.

1. Carefully study the graph and list the five provinces that harvested the largest area of trees in 1997. List the provinces from highest to lowest.

- _____
- _____
- _____
- _____
- _____

2. Why do you think that there appears to be no tree harvesting in Prince Edward Island ?

3. What additional information do you need to compare the **number** of trees harvested in British Columbia with the **number** of trees harvested in Ontario ?

4. Estimate the total area of trees harvested in Canada in 1997. (Show your work).

5. What percent of the total area of trees harvested in Canada is:
(Show your work for the percent calculation)
 - a. Ontario ? _____
 - b. Quebec ? _____
 - b. British Columbia ? _____

6. Which province or territory has the smallest area of trees harvested in Canada in 1997 ? (Do not consider the provinces and territories that show zero area on the graph)

Which provinces or territories are hard to distinguish between on the graph ?

What could be done to make it easier to distinguish between those three provinces ?

Practice Assignment 2: Looking up Information on Bar and Column Graphs on the Web

1. Go to the website: <http://cstl.syr.edu/fipse/TabBar/CONTENTS.HTM>
2. **Click** on the heading **Review of Bar Graphs** (the actual website follows) <http://cstl.syr.edu/fipse/TabBar/RevBar/REVBAR.HTM>
3. Read the information on Bar Graphs on this webpage, paying special attention to the terms: **Graph Title, axis, scale, frequency.**
4. Quiz yourself by answering the questions based on the bar graph with the title: **Enrollment in Introductory Courses at Union University**
The answers for each question are given.
5. If you would like to quiz yourself more on bar graph, then **Click** on **Practice** and **Additional Practice** at the bottom of the webpage you have just been reading. The answers to each practice question are given.

Now that you have worked through two practice assignments, complete the following Hand-In Assignment .

You may want to discuss some of your time management concerns or questions with your teacher or student advisor.

Hand-In Assignment : Interpreting Information on a Bar or Column Graph

For this assignment, you will keep a **Time Journal** for one week and then make a bar or column graph from the information gathered. Finally, you will make some comments on how you spend your time and how you might use the time available to you more efficiently or usefully.

Time Journal: **Time Journals Sheets** have been provided for you with this Lab. You will need a sheet for each day of one week. Keep track of how you spend each day.

Time Tally Sheet: Add up the total time per week that you spend on the following activities:

Attending Classes
Doing Homework
Working Outside Home
Preparing / Eating Meals
Family/ Household Chores
Relaxing
Sleeping
Other Activities

Use the **Time Tally Sheet** provided to add up the totals. Your totals should be in hours to 2 decimal places. If you have a total in hours and minutes, change the minutes to a fraction of an hour by dividing minutes by 60.

Example:

If a student spends 5 hours and 45 minutes doing homework in one week, how many hours is this (to 2 decimal places)?

$$5 + \frac{45}{60} = 5 + 0.75 = 5.75 \text{ hours}$$

Get your teacher to help you do the time calculation if you are not sure how to convert minutes to hours.

Spreadsheet: Set up an Excel Spreadsheet and enter the headings from the **Time Tally Sheet** and the time in hours that you spent on each activity.

Chart Wizard: Use the Chart Wizard in Excel to make a bar or column graph from the spreadsheet.

Analysis of Time Bar or Column Graph

Answer the following questions in **complete sentences** after you have carefully studied your own personal time management graph:

1. Are you surprised by the total amount of time you spend on any activities in a week ?
2. Are there any activities that you think require more time or less time ?
3. Are there any strategies that you can use to cut back time spent on some activities to gain more time to spend on other more important activities?
4. Are there places where you could use your time more efficiently ? How could you be more efficient ?
5. Are there any activities that you have had to give up since you started back to school ? If these activities are important to you, is there any way that you can make changes in your schedule so that you can enjoy these activities again ?
6. If there was more time in your week, what new activities might you want to participate in ? Are there ways that you could reorganize your weekly schedule so that you could work in one of these new activities ?

Hand In:

1. Time Tally Sheet
2. Excel Spreadsheet
3. Bar or Column Graph

Discuss with your teacher or student advisor:

1. The answers to the time analysis questions.
2. Any questions or concerns you might have about your own time management.

Credits

- <http://cstl.syr.edu/fipse/TabBar/CONTENTS.HTM>
- *Statistics Canada information is used with the permission of Statistics Canada. Users are forbidden to copy the data and disseminate them, in an original or modified form, for commercial purposes, without the expressed permission of Statistics Canada. Information on the availability of the wide range of data from Statistics Canada can be obtained from Statistics Canada's Regional Offices, its World Wide Web site at <http://www.statcan.ca>, and its toll-free access number 1-800-263-1136*

Time Journal

Time	Mon.	Tue.	Wed.	Thur.	Fri.	Sat.	Sun.
12:00 - 1:00 AM							
1:00 - 2:00 AM							
2:00 - 3:00 AM							
3:00 - 4:00 AM							
4:00 - 5:00 AM							
5:00 - 6:00 AM							
6:00 - 7:00 AM							

7:00 - 8:00 AM							
8:00 - 9:00 AM							
9:00 - 10:00 AM							
10:00 - 11:00 AM							
11:00 - 12:00 AM							
12:00 - 1:00 PM							
1:00 - 2:00 PM							

2:00 - 3:00 PM							
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4:00 - 5:00 PM							
5:00 - 6:00 PM							
6:00 - 7:00 PM							
7:00 - 8:00 PM							
8:00 - 9:00 PM							

9:00 - 10:00 PM							
10:00 - 11:00 PM							
11:00 - 12:00 PM							

Time Journal Tally Sheet

Activity	Time in Hours
Attending Classes	
Doing Homework	
Working Outside Home	
Preparing / Eating Meals	
Family/Household Chores	
Relaxing	
Sleeping	
Other Activities	