

Lesson 5:

Charts and Graphs in Excel

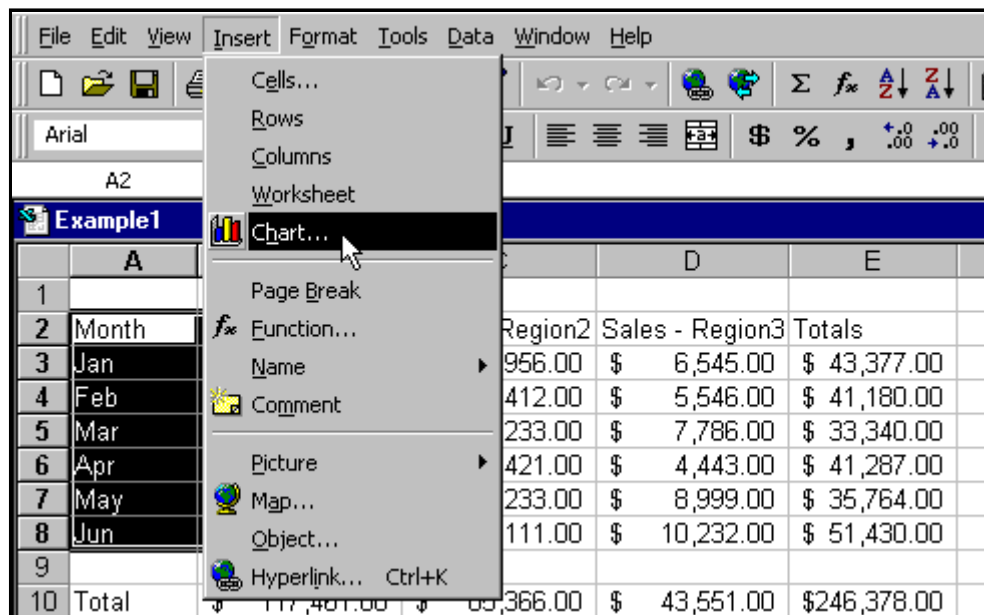
The following activity shows you how to use Excel's charting capabilities to enhance and interpret your calculations. If you have access to the program, you should do the activities as you read. This will enhance your understanding of each step.

These exercises build on the *Example1* worksheet created in Lessons 1, 2, 3 and 4.

1. Selecting worksheet data for a chart.

Let's suppose we'd like to chart the sales figures for each month for Sales Region 1. We begin by selecting the data appropriate for such a chart. Technically this data resides in column B, rows 3-8. However, we'd like to include the labeling already present in our worksheet, so we add column A (where the various months are identified) and row 2 where the sales region is identified. Hence we select (by dragging) the range A2 through B8.

Now with this range selected, we choose the **Chart** command from the **Insert** menu. The situation is illustrated in the following figure.



2. Using the Chart Wizard to construct the chart.

Excel has a chart wizard function to help in the construction of charts. The first chart wizard dialog box appears when you select the Insert/Chart command. This box is shown below. In this dialog box, we select the type of chart we wish to create (we'll be able to easily change our minds later, as you'll see). We've selected a column chart in the figure.

	A	B	
1			
2	Month	Sales - Region1	\$
3	Jan	\$ 22,876.00	\$
4	Feb	\$ 32,222.00	\$
5	Mar	\$ 14,321.00	\$
6	Apr	\$ 13,423.00	\$
7	May	\$ 15,532.00	\$
8	Jun	\$ 19,087.00	\$
9			
10	Total	\$ 117,461.00	\$
11			
12	Average	\$ 19,576.83	\$
13	St. Dev.	\$ 7,111.66	\$
14			
15	Adjusted	\$ 111,587.95	\$
16	Sales		
17			
18	Current Commission Rate		
19			
20			
21			
22			

Once we select the chart type and press the *Next* button, we get a second chart wizard dialog box, illustrated below for our example. In this box we can specify the range for our data. We also get a preview of the chart we're creating. Since we already preselected our data range, which is shown in this dialog box, we can just press the *Next* button here.

Chart Wizard - Step 2 of 4 - Chart Source Data

Data Range: Series: Rows Columns

Buttons:

	A	B
1		
2	Month	Sales - Region1
3	Jan	\$ 22,876.00
4	Feb	\$ 32,222.00
5	Mar	\$ 14,321.00
6	Apr	\$ 13,423.00
7	May	\$ 15,532.00
8	Jun	\$ 19,087.00
9		
10	Total	\$ 117,461.00
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14		
15	Adjusted	\$ 111,587.95
16	Sales	
17		
18	Current Commission Rate	
19		
20		
21		
22		

In the next dialog box, we can change the preselected chart title if we choose and add our own X-axis and Y-axis labels. Notice that we have entered a label for each axis. These changes are reflected in the preview chart to the right of the dialog box. Once we enter these labels, we press *Next* once again.

Chart Wizard - Step 3 of 4 - Chart Options

Titles | Axes | Gridlines | Legend | Data Labels | Data Table

Chart title:

Category (X) axis:

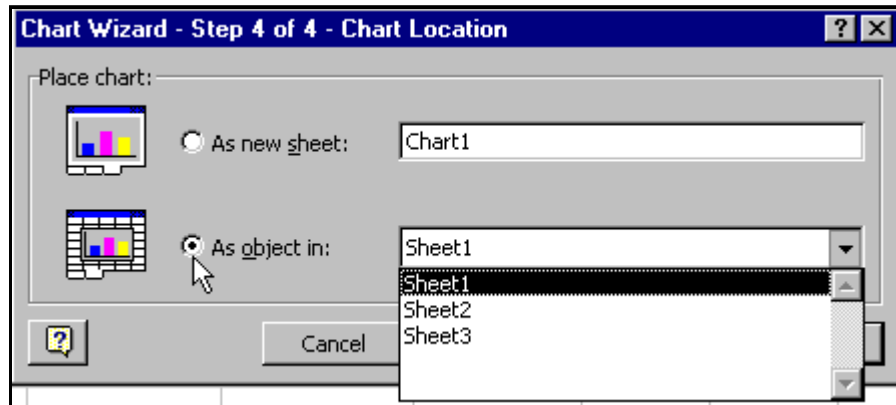
Value (Y) axis:

Second category (X) axis:

Second value (Y) axis:

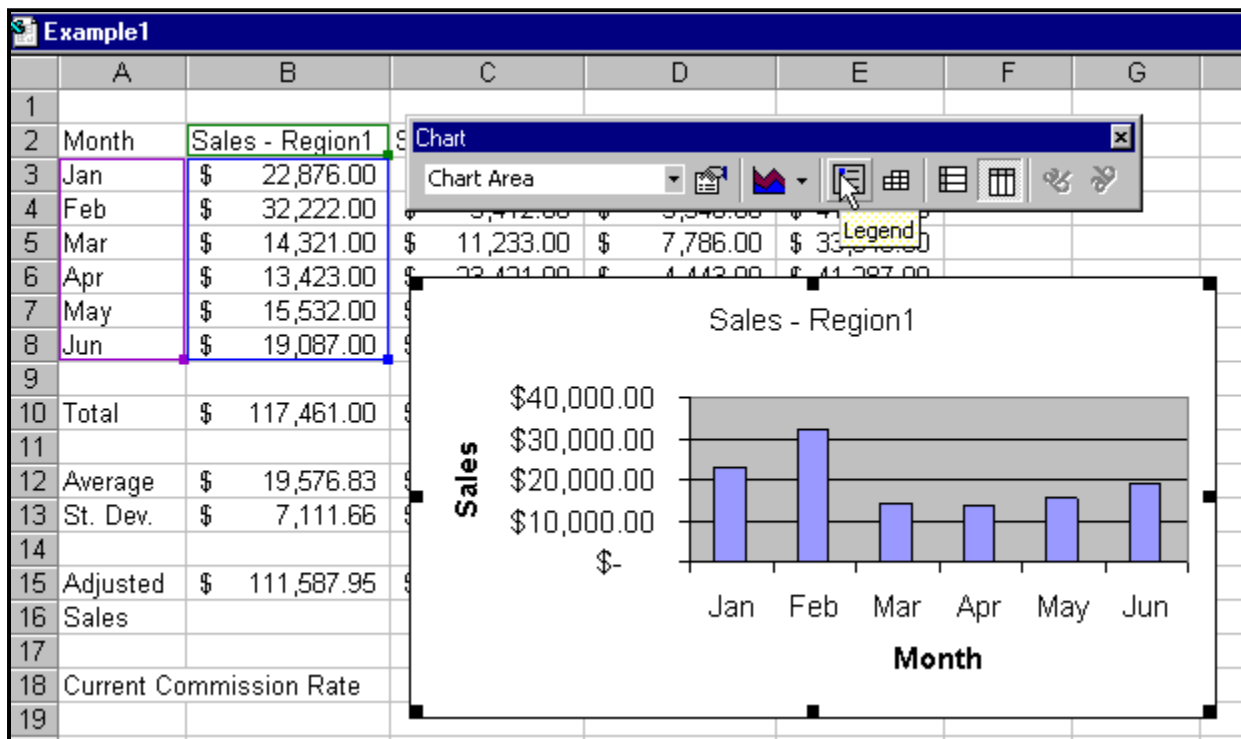
Buttons:

The final chart wizard dialog box asks us whether we wish to display the chart as an object (which we can resize and move around) in our current worksheet or whether we'd prefer the chart to have its own worksheet. In either case, the chart is "live-wired to the data, meaning that when the data changes, the chart is automatically updated. We choose to display the chart as an object in our current worksheet.



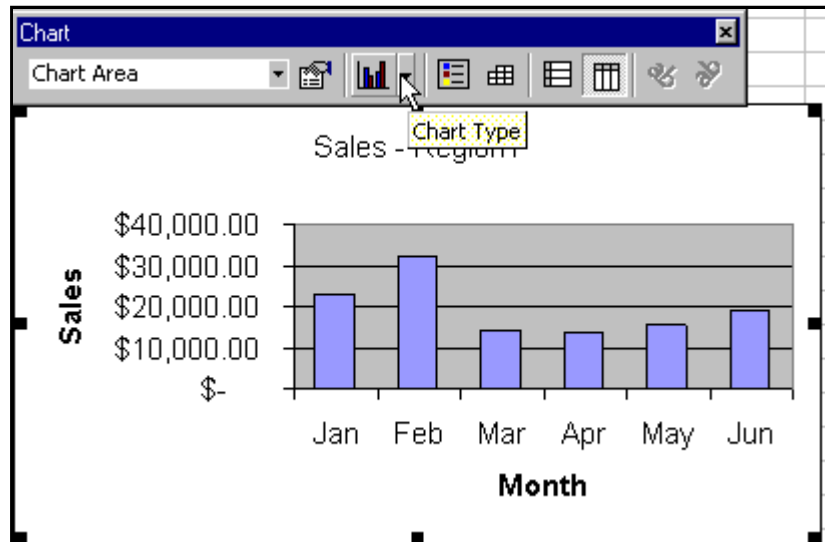
3. Viewing and adjusting the chart.

Once we click *Finish*, our chart is displayed. Of course it may not be in exactly the position we would like it in. By clicking inside and holding the mouse button down, we can drag it to another position. Or it may not be the size we'd prefer, in which case we can adjust the size by dragging the appropriate object handle. In addition, a **Chart** tool bar is displayed which allows us to adjust various features of the chart. A useful choice is the *Legend* tool which you should experiment with. Try out some of the tools to test their functionality. You can click again to undo any of the actions you take. Try to make your chart look similar to the one shown in the figure below.

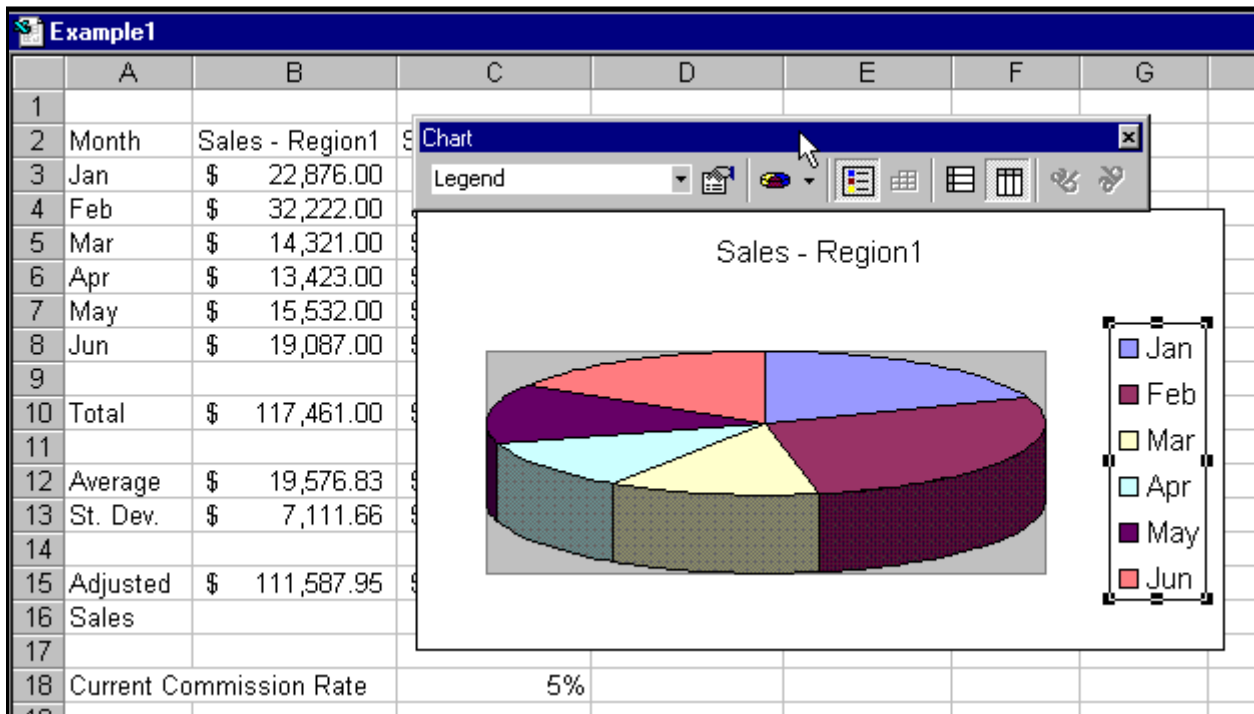


4. Changing the chart type.

One of the most useful tools in the **Chart** tool bar is the *Chart Type* tool. The figure below shows it about to be accessed. It provides a pull-down menu of a variety of different chart types. Selecting one of these types changes your chart immediately to that chart type.



The figure below shows the effect of choosing a pie chart type. Experiment with some other chart types for this data. Some won't be very appropriate, but remember, you can switch to another chart type by selecting another choice from the pull-down *Chart Type* menu. We used the *Legends* choice to display the legend at the right in the figure shown below.



5. An Exercise -- Comparing Sales per Month for Various Regions.

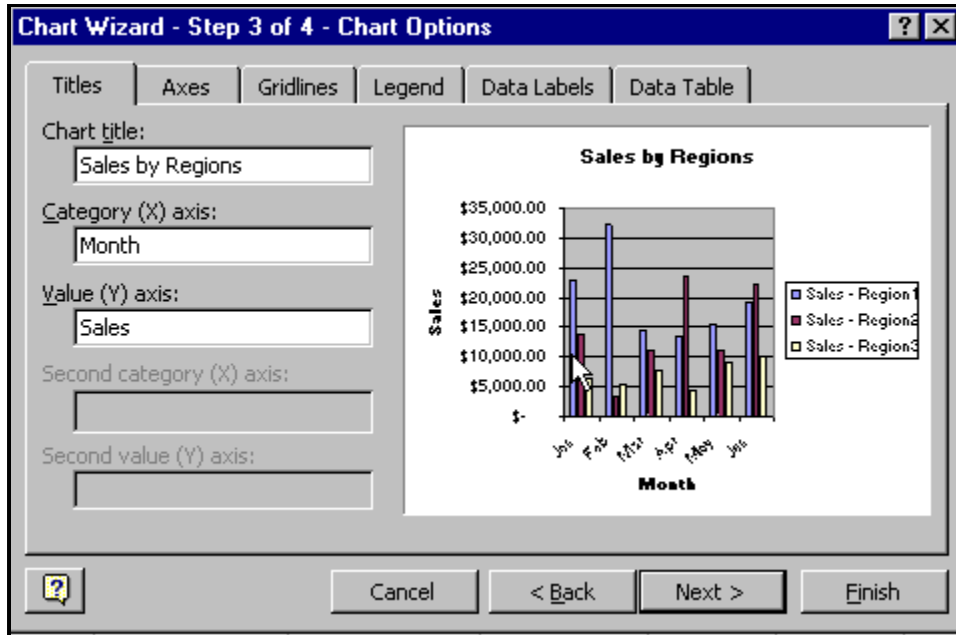
There are a great many possibilities for charting and graphing in Excel. We have barely touched the surface with the example above. The best way to learn about many of these is to experiment for yourself. In this exercise you will create a chart that allows sales for the different regions to be easily compared month by month.

To get started, select the range of cells A2 through D8 to include sales data for all six months from all three regions. Then choose **Chart** from the **Insert** menu as we did before. This activates the chart wizard and gives you the first chart wizard dialog box, as shown below. Choose the column type chart we've selected there.

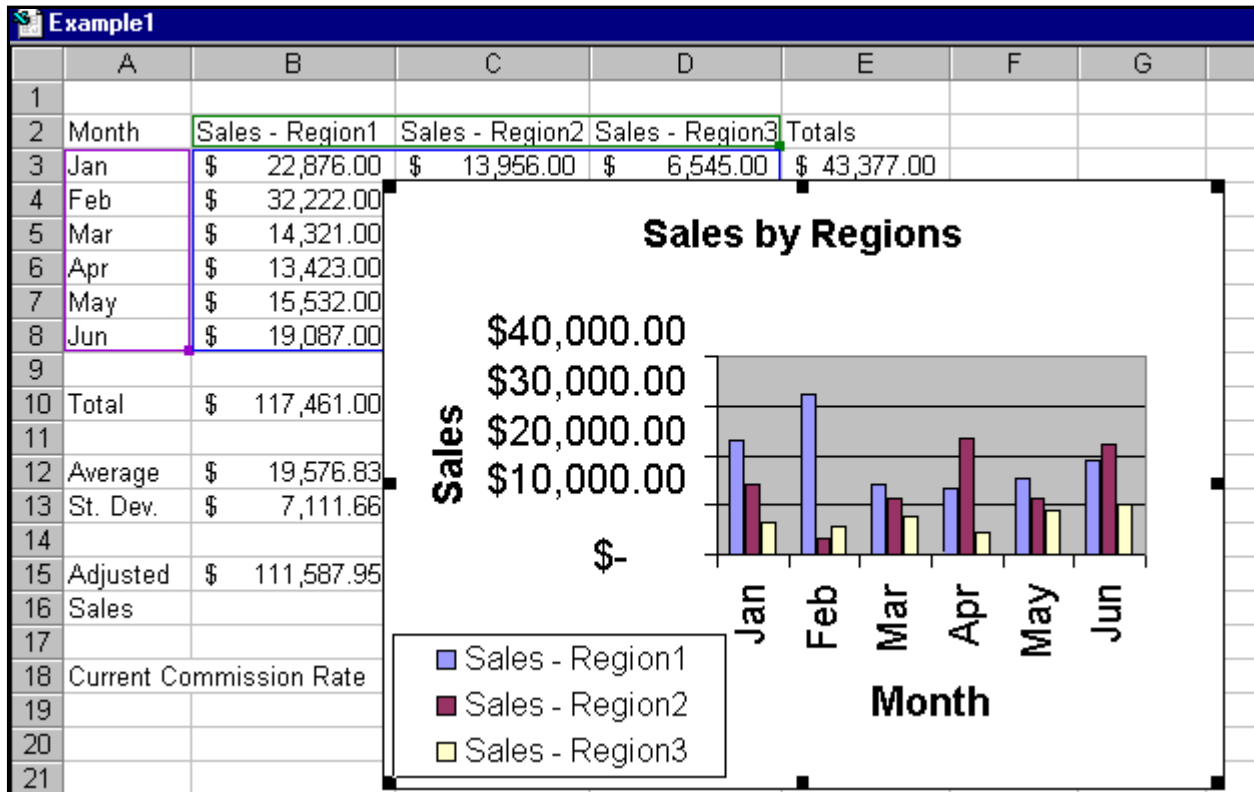
The screenshot shows the 'Chart Wizard - Step 1 of 4 - Chart Type' dialog box. The 'Standard Types' tab is active, and 'Column' is selected in the 'Chart type' list. Under 'Chart sub-type', 'Clustered Column' is selected. The dialog box includes a 'Press and hold to view sample' button and navigation buttons: 'Cancel', '< Back', 'Next >', and 'Finish'. The background spreadsheet shows the following data:

	A	B	
1			
2	Month	Sales - Region1	Sal
3	Jan	\$ 22,876.00	\$
4	Feb	\$ 32,222.00	\$
5	Mar	\$ 14,321.00	\$
6	Apr	\$ 13,423.00	\$
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16	Sales		
17			
18	Current Commission Rate		
19			

Continue with the chart wizard, supplying names for the chart title, X-axis, and Y-axis as shown in the third dialog box pictured below.



Work to construct a chart similar to the one shown in the figure below. Remember that you can go *Back* in the chart wizard sequence if you forget to include a feature. You can also modify a chart once it is displayed in your worksheet as we saw earlier. Experiment to get the features shown and add some additional ones of your own if you like.



Experiment with changing the chart type to see if you find a more compelling way to display the above data.