



Hour 7

Beginning to Use Charts

In the beginning, there were titles and bullets. And soon thereafter, someone said, “Let there be charts.”

As long as presentations have been given on overheads, slides, or with PowerPoint, pie charts and bar graphs have been a staple of many a slideshow.

In this hour, we cover the following important aspects of creating a chart:

- The Microsoft Graph add-in program
- Using a datasheet to enter labels and information
- Using chart types to change the chart design
- Using chart options to alter chart elements
- Using Microsoft Excel to add totals

Using a Chart Layout

You’ll probably want to create a new slide for your chart alone, so let’s click the Insert New Slide icon or press Ctrl+M. The Slide Layout task pane pops up.

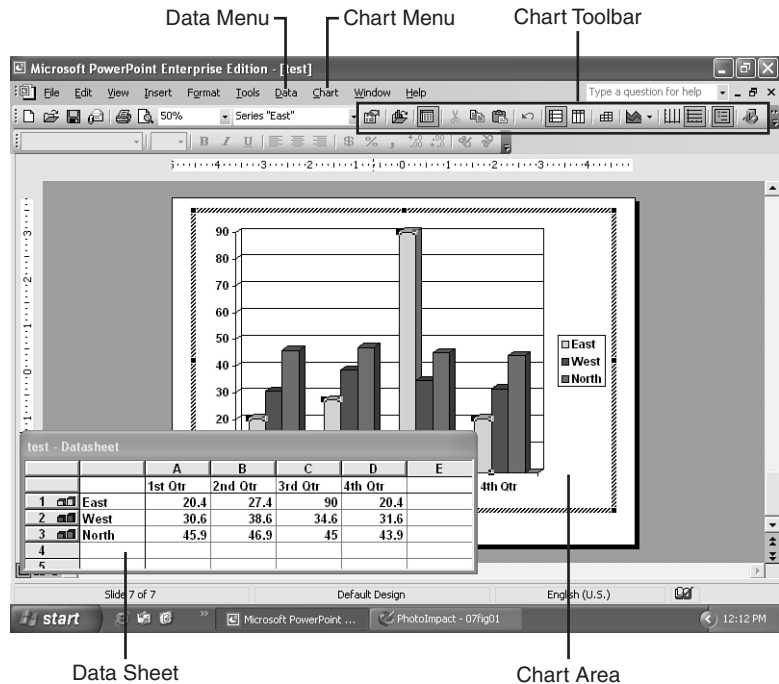
From the Slide Layout task pane, you can select a Content Layout to begin a new chart or scroll to the bottom of the task pane and select the Chart and Title layout (the last layout).

Within the Content Layout panel, click the second icon (the bar graph); within the Chart and Title Layout, double-click the chart icon.

Understanding Microsoft Graph

In either case, the Microsoft Graph program opens up inside PowerPoint, as shown in Figure 7.1.

FIGURE 7.1
The Microsoft Graph program contains all the elements you need to create a chart in PowerPoint.



Here's an important concept: Microsoft Graph is a secondary program that "visits" inside PowerPoint.

To leave the program and put the version of the chart you created with Microsoft Graph into the slide, click outside the chart.

This puts you back in PowerPoint, and the Chart object is selected within your slide. Also, the Data and Chart entries on your main menu, along with the Chart toolbar—which were present when Microsoft Graph was active—are now gone.

To return to Microsoft Graph and continue to add or edit the chart, you simply double-click on the selected Chart object in the slide. This brings you back to the Microsoft Graph program, as shown in Figure 7.1.

The two key components of Microsoft Graph are the datasheet and the chart area.



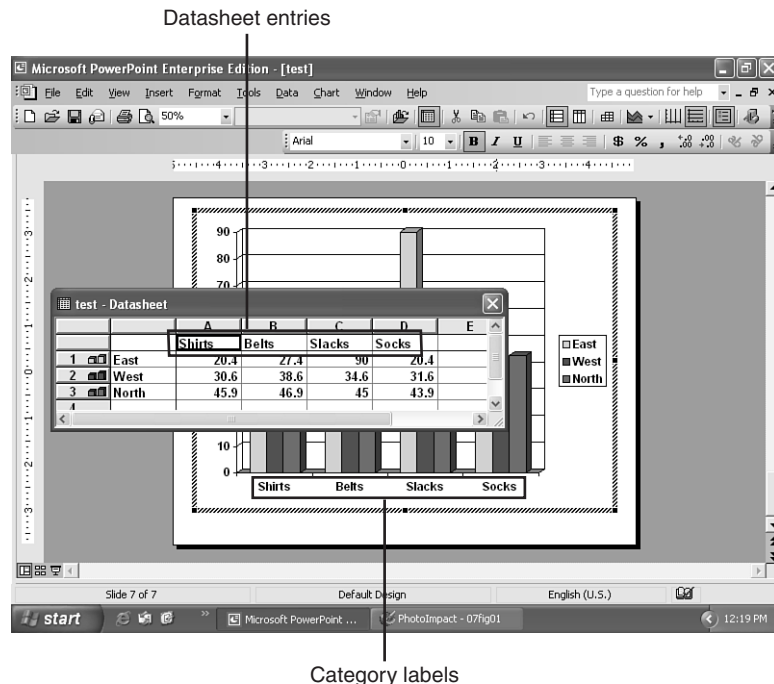
Opening Microsoft Graph once again combines your Standard and Formatting toolbars, obscuring the Chart toolbar that should be available. To make the Chart toolbar accessible, drag its handle (the upright line on its left edge) down and give it a space of its own. This will reveal the full Chart toolbar.

Creating Your Chart

Microsoft Graph gives you a generic bar graph to revise, as shown in Figure 7.1. The basis of the graph is the datasheet—whatever is entered in the datasheet is reflected in the chart.

Just like the table that we just completed in Hour 6, “Introducing Content Layouts with Tables,” the datasheet has columns, rows, and cells, as shown in Figure 7.2.

FIGURE 7.2
Changing the contents of the datasheet directly affects the labels and plotting of the graph.



Along the top headings are the category labels. *Category labels* are the reference points for the values that the graph will plot. The default entries are four quarters of a fiscal year.

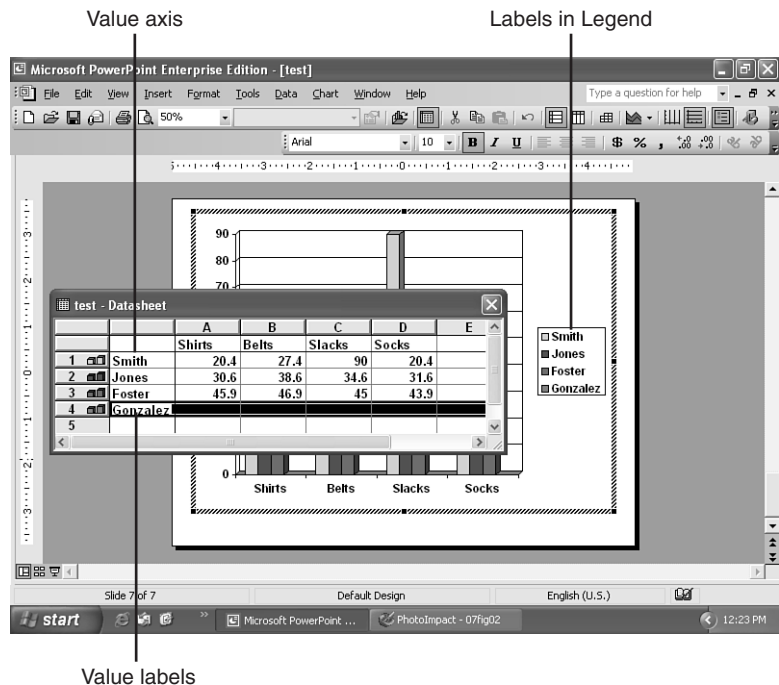
Let's change the entries to reflect the products sold: shirts, slacks, belts, and socks. Just click in the cells, type these entries, and drag your datasheet away so that you can see the bottom of the chart area. You can see that just as the outline references the text in a slide's title and bullets, the datasheet enables you change the contents of the chart area.

Let's continue to change the labels for what is called the value axis. These represent the actual numbers or data that will be plotted. Let's pretend these are salespeople, and enter four names, as shown in Figure 7.3.

The datasheet has only three generic entries to change, so we'll click in the first column of the next row to activate that column of the datasheet and add another name.

FIGURE 7.3

Notice that when a row is activated, another entry for that label is added to the chart legend.



Adding the Data

Now it's just a matter of entering the actual values for our salespeople according to the items they've sold (categories).

When you do this, watch the bars in the graph change to reflect those relative values. The value axis automatically adjusts its range for the high and low values, as shown in Figure 7.4.

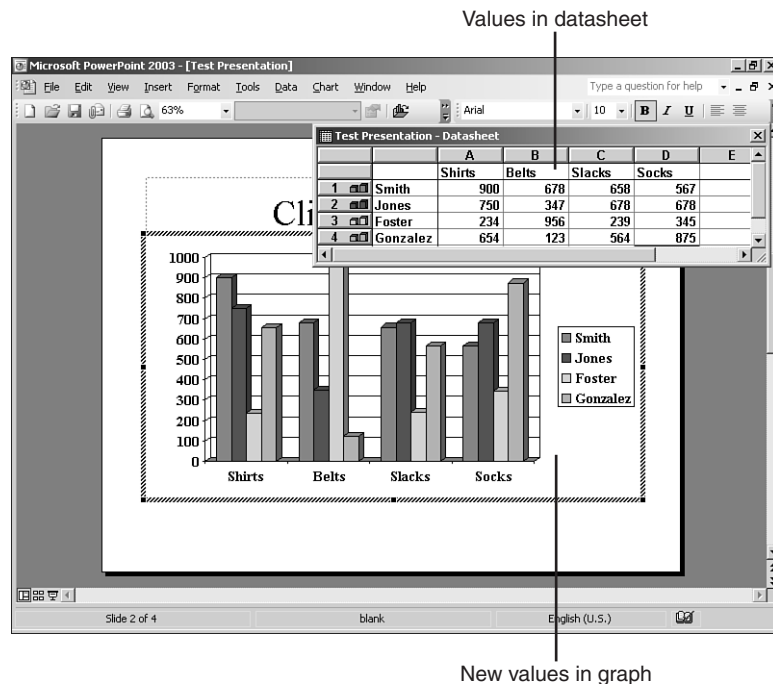


To get the dollar sign (\$) for the axis, enter it in the first value cell of the datasheet. To get dollar signs in the entire datasheet, drag to select all the cells, right-click, click Number, and format the number for Currency.

Other possible numerical symbols are available, including multiple decimal places and percentage (%).

FIGURE 7.4

If you drag the datasheet away from the graph, you'll see how the values are reflected in the length of the respective bars.



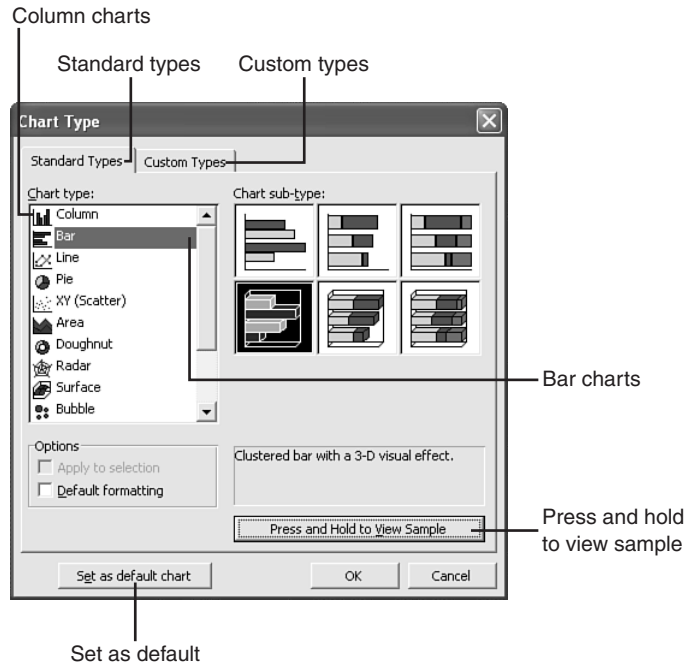
Changing the Chart Type

The default chart type is technically called a *column chart*. If you click Chart on the main menu (which is active only in Microsoft Graph), you can select Chart Type.

This opens the Chart Type options, providing many other choices for the way in which your data will be displayed, as shown in Figure 7.5.

FIGURE 7.5

Although the Standard Types tab (shown here) enables you to select from the most commonly used chart types, there are more charts to select from in the Custom Types tab.



When a general chart type like the 3D bar chart is selected, the right panel (Chart Sub-type), gives you additional choices for this chart type.

Notice that, technically, a bar chart displays the data you've plotted horizontally (so that the Category axis is vertical). Click the bar chart (second from top) and select the 3D bar chart in the second row.



In the Chart Type dialog box (refer to Figure 7.5), you can get a quick preview of what your data will look like by clicking the Press and Hold to View Sample button.

Don't let the preview scare you—we'll use the Chart Options dialog box to make it look presentable.

To apply the chart you selected and its specific type (3D or stacked), click those choices and select OK.

Selecting Your Chart Type

You'll learn from experience and trial and error which type of chart best represents your data. In fact, if you have a favorite, you can set it as the default type in the Chart Type dialog box, as shown in Figure 7.5.

For example, for plotting the results of antibiotics or other drugs over time, you might want a scattered line chart. If you do this frequently, you can make it a favorite or default chart type.



In Microsoft Graph, your Undo options are much more limited—just one level of Undo. Before you begin experimenting with chart types, it's a good idea to note which ones look good so that you can get back to them easily.

You can see that experimentation and trial and error are the best ways to select chart types.



For a detailed description of the chart types and how they're used, see the table in this hour's "Summary" section.

By viewing two charts side by side (see Figure 7.6), we can see at a glance that the stacked column chart (left) might look cleaner than the clustered column chart for our data.

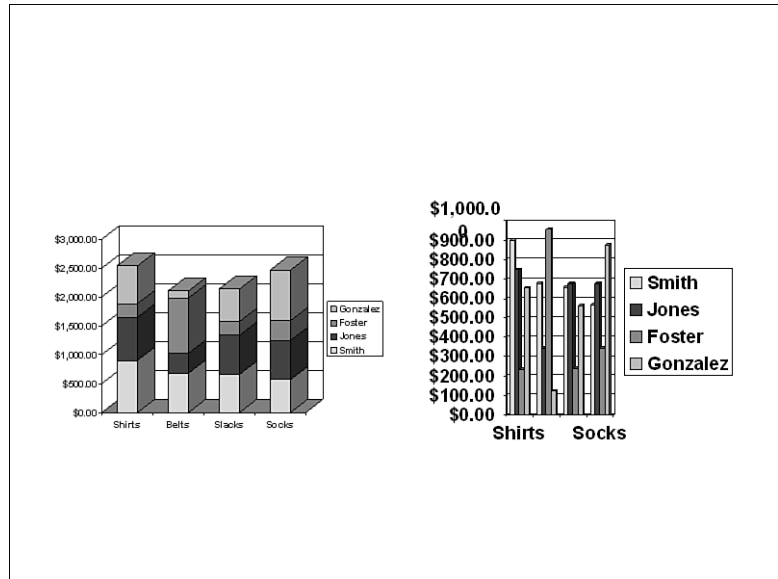
Suppose you wanted the different sales results side by side (clustered, not stacked). To get the look we want, you'll have to double-click the chart to reopen Microsoft Graph, and return to the Chart Type dialog box.



To find out how to work with two charts, and also to return to one chart on a slide, check the first answer in the "Q&A" section later in this hour.

We'll reapply the clustered column with 3D effect, and see what we can do to adjust it for a better visual effect.

FIGURE 7.6
The stacked column on the left looks cleaner.



Using Chart Options

With Microsoft Graph open, the chart column on the main menu is available. Click Chart, Chart Options to open the Chart Options dialog box.

The first tab, Titles, enables us to label the chart itself and the two main axes. We just enter our titles into the form, as shown in Figure 7.7.

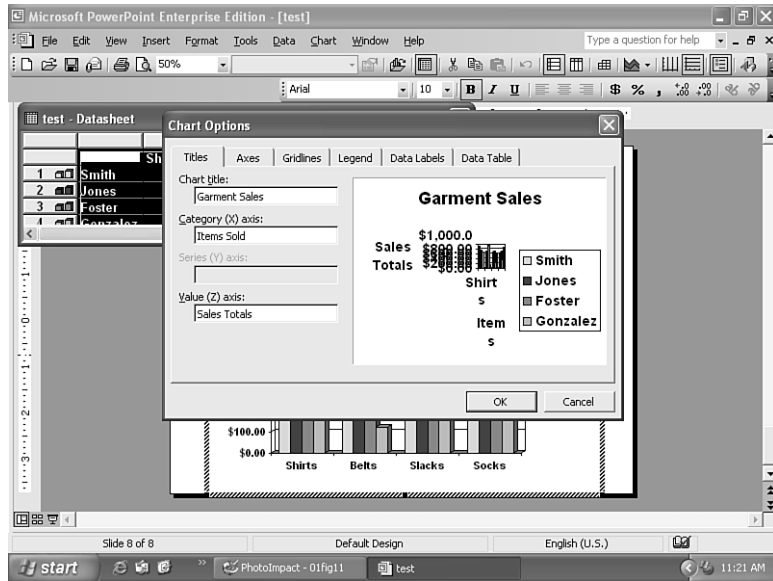
Click the Axes tab to look at it, but leave the defaults for now. You generally want to show the data markers for your graph or chart—why else would you create it? We can try to fine-tune them later on by changing the scale.



If your chart is too cramped, you can put the chart title in the Slide Title placeholder. The labels on the axes might be self-explanatory and unnecessary. If they distort the display of your chart, leave the labels blank.

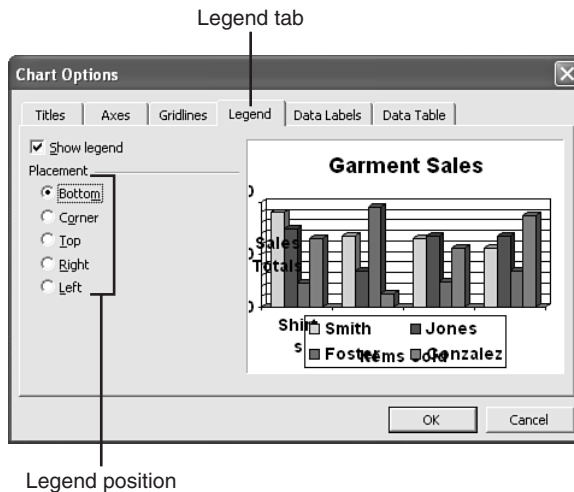
The Gridlines tab enables you to put more precise line markers within the chart, which probably isn't necessary here. Leaving the default major gridlines will give it a cleaner appearance.

FIGURE 7.7
 Enter your caption text into the Chart Options, Chart Title area.



Let's go to a very important panel: the Legend tab, shown in Figure 7.8. We'll place the legend at the bottom of the chart to create more horizontal space. You'll notice right away that even our ugly preview window is beginning to look friendlier with the legend at the bottom.

FIGURE 7.8
 Properly placing a legend can help you get the display for your chart.





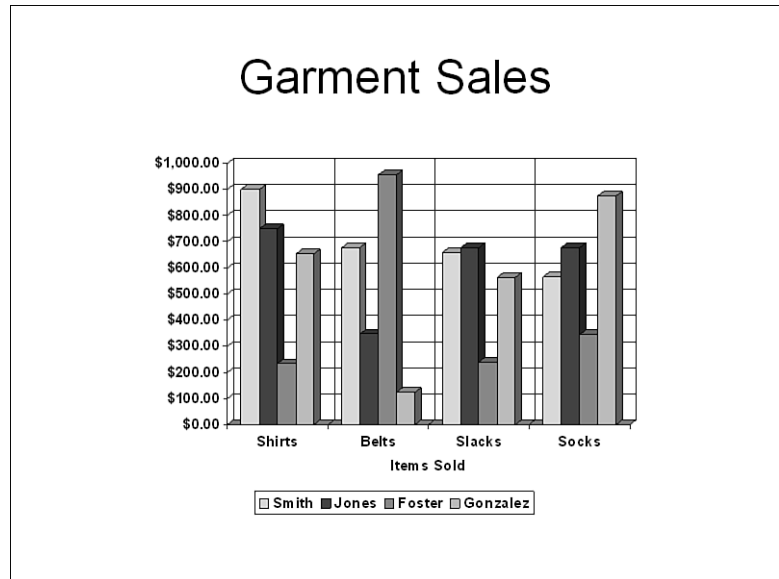
Don't let the preview windows in the Chart Type or Chart Options dialog boxes scare you. The best way to see the results of your formatting decisions is to close Microsoft Graph to see the finished slide and display the results full screen.

The final two tabs of the Chart Options dialog box enable you to put in data labels and show the datasheet along with the graph.

Either of these options generally makes the chart too busy. Figure 7.9 shows our chart with the Z Axis label removed, and the title taken out and put into the Slide Title placeholder.

FIGURE 7.9

Changing the location of the legend and removing the vertical axis label gives our chart a cleaner look. Adding minor gridlines, data labels, and the data table generally make it look cluttered.



Here's a quick reference guide to Chart Options by the tabs available in the dialog box:

- **Titles**—Add captions to the chart itself and the major axes. You can use the slide title to make the chart cleaner, and avoid titles for the axes to maximize the chart display area.
- **Axes**—Checking the boxes for your axes ensures that the markers for the data are shown. Unchecking hides them.
- **Gridlines**—Add or remove guides that set off your data.

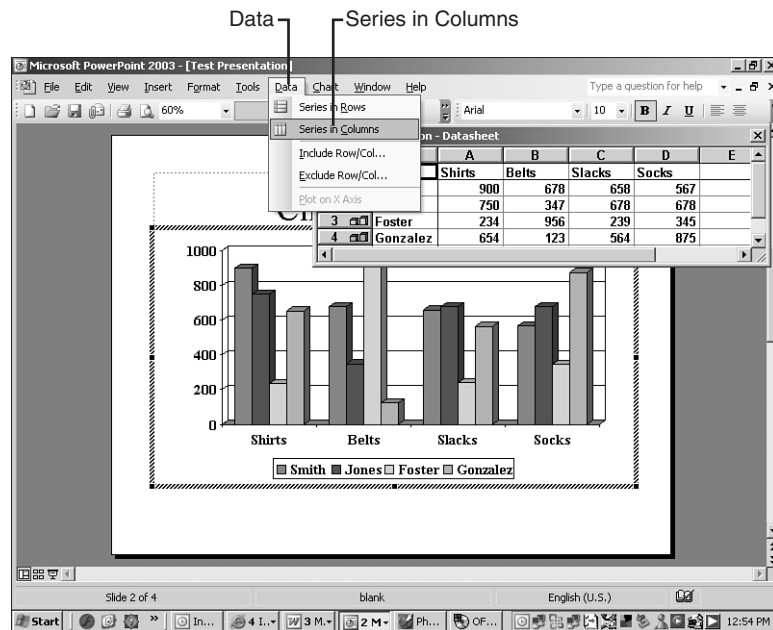
- Legend—Place your legend in the best location for full-screen display.
- Data labels—Add or remove labels inside the plot area (you can manually move them later on). Data might be important to include; other info will probably be redundant and clutter your chart.

Changing the Chart Focus

It's still not the best representation of sales results you might want—unless you want to know which garments are selling the best.

However, suppose that you wanted to show which salesperson's performance was the best? With Microsoft Graph open, select Data from the main menu, and change the plotted information from Series in Rows to Series in Columns (see Figure 7.10).

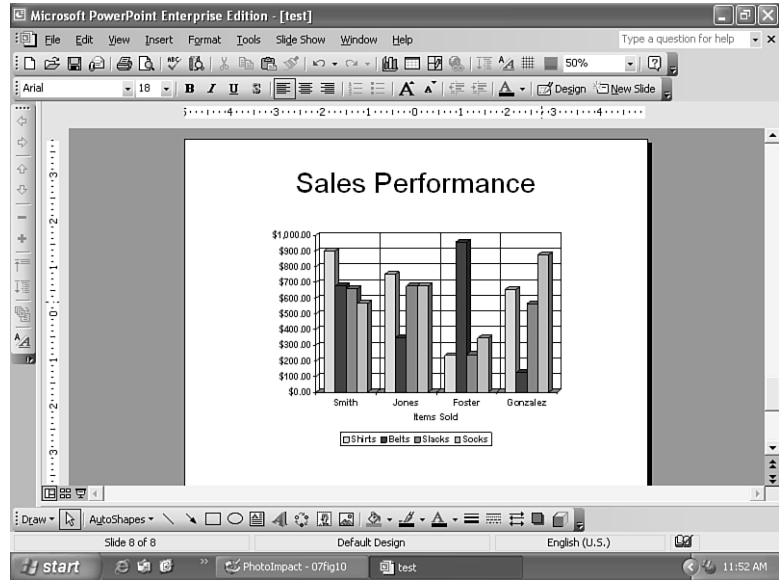
FIGURE 7.10
Changing the data being plotted from rows to columns might provide a better representation of what you're trying to show.



Now you're getting the results for the series in rows (the salespeople) as opposed to the series set off by columns (the garments). The legend adjusts accordingly and the new result is shown in Figure 7.11.

FIGURE 7.11

Now we can compare who sold more, rather than which items were sold in greater quantity. This is probably a better way to present the data in a meeting of salespeople.



If you're not exactly sure about the names of the items you're plotting or the formatting options in the graph area, just continue trying different options until the results are the way you like. Don't forget to save the version that works.

To play with different versions and not lose the original, select the Insert, Duplicate Slide command from the main menu.



Remember that within Microsoft Graph, you only get one level of Undo (Ctrl+Z) .

“Excellerating” Your Chart: What About Totals?

Many of you have used Excel (we'll deal with linking and embedding Excel charts in Hour 8, “Advanced Chart Techniques”), and you expect to create totals or use more sophisticated datasheets.

Let's end this hour by playing with copying and pasting this datasheet to and from Excel. Work through the following steps and refer to Figure 7.12:

1. Select the entire datasheet by dragging through all the filled cells and pressing Ctrl+C or selecting Edit, Copy on the main menu.

2. Open Excel and press Ctrl+V to paste your datasheet into an Excel worksheet.
3. Select each separate row of data.
4. Click the AutoSum icon to add up each set of rows.
5. Widen the column sufficiently to accommodate the figures and label the column **Totals**.

With the totals created, reverse the process:

1. Drag through your new Excel worksheet area to select it.
2. Press Ctrl+C to copy it.
3. Return to PowerPoint and position your cursor in the first cell of the datasheet as shown in Figure 7.13.
4. Press Ctrl+V to paste the new Excel data (with the totals).

Your chart in PowerPoint now has a new column for totals, and those totals are reflected in the plot area *and* the legend, showing which salesperson sold the most total garments (see Figure 7.13).

FIGURE 7.12
Copying the chart to Excel enables you to take advantage of additional features, such as adding totals.

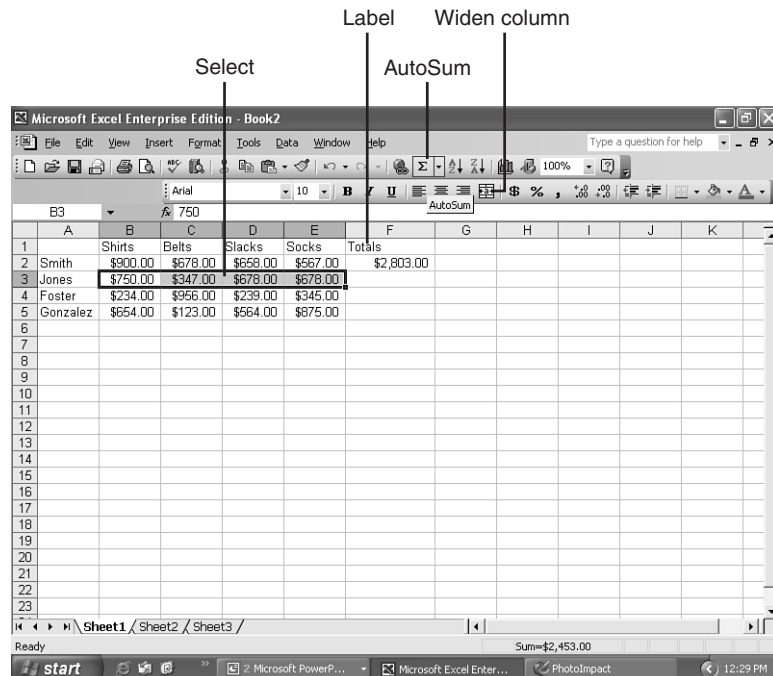
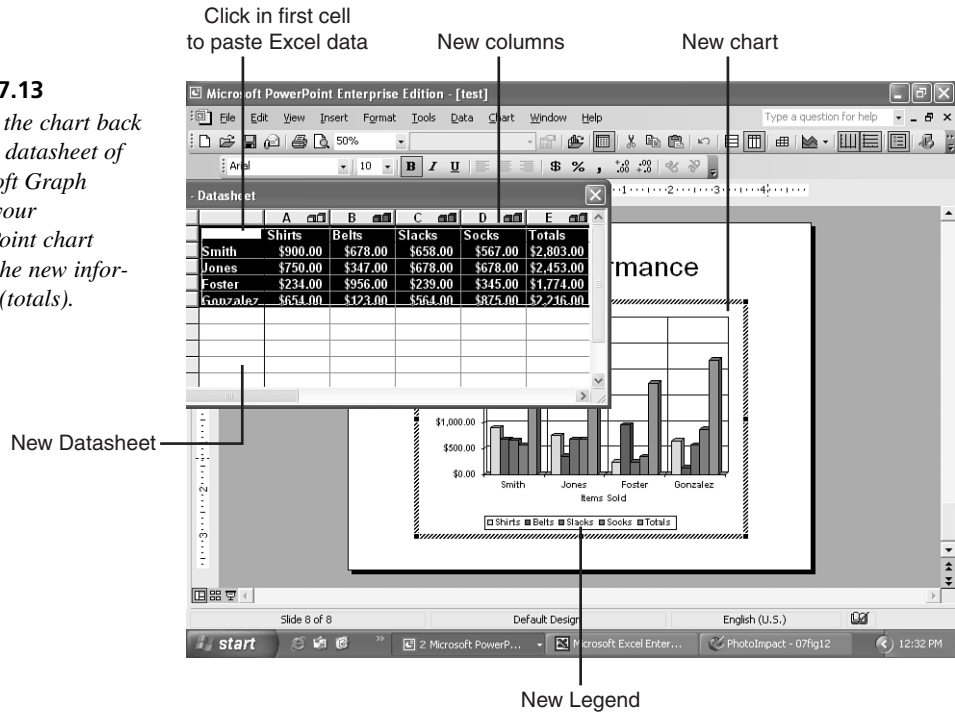


FIGURE 7.13

Pasting the chart back into the datasheet of Microsoft Graph makes your PowerPoint chart reflect the new information (totals).



Don't confuse showing the datasheet in Microsoft Graph to modify your information with showing the datasheet within the chart itself (selected in Chart Options). The latter generally clutters up the chart unless specific figures are important to highlight.

Summary

This hour took us through the steps of launching Microsoft Graph and creating and modifying a simple column clustered chart—the simplest type of chart.

Table 7.1 summarizes the other types of charts you can create with different data series. For more information, go online to Assistance at office.microsoft.com.

TABLE 7.1 Charts

<i>Chart Type</i>	<i>What It Does</i>	<i>Example</i>
Column	Shows relative values over time. Stacked shows relative values of subparts (vertical).	Sales performance among team members.
Bar	Shows relative values over time. Stacked shows relative values of subparts (horizontal).	Sales performance among team members.
Cone, Cylinder, Pyramid	More dramatic than Column or Bar type.	Sales performance among team members.
Line	Shows data trends over time.	Viewers of TV programs over weeks or months.
XY (Scatter)	Shows the relationships among several data series, or plots two groups of numbers as one series of X,Y coordinates.	Predicted and actual temperatures for a series of dates.
Area	Dramatizes the amount of change over time.	Increased rainfall in set of states over time.
Pie	Proportional size of items within one data series.	Percentage of one team member's sales by product or region.
Doughnut	Like a pie chart, but can show multiple data series.	Percentage of several team members' sales by product or region.
Radar	Compares total values; the area size shows relative values.	Nutritional analysis—relative daily percentage of vitamins.
Surface	Compares relative combinations and their resulting effects.	Chemical or construction; shows strength of different combinations.
Bubble	Similar to XY (Scatter); size of the data marker indicates the value of a third variable.	Industry market share by companies over dates.
Stock	Shows high and low values over a range of time for financial instruments.	Financial data for market analysis.

In Hour 8, we'll see how to format charts more precisely, work with pie charts, and link and embed Excel charts.

Q&A

Q How did you get those two charts on a slide to show both a stacked and clustered column chart?

A That's the beauty of the Content layout. Choosing two content layouts next to each other did the trick. After that, all we had to do was copy and paste the data from one datasheet into the other to see the identical plotted values.

To return to one chart, we delete the second one and the Content placeholder, select the remaining chart, and stretch it out to a larger size.

Q Why does my pie chart look really weird?

A We'll cover the specifics of pie charts in the next hour, but if you did not specify a single row for your pie chart data, Microsoft Graph will be confused by multiple sets of percentages.

Q I tried to reformat and modify my chart and got all confused. Because Undo is limited in Microsoft Graph, what are my options?

A We'll reformat our chart more specifically in the next hour, but generally, creating a new datasheet or copying and pasting your data into a new datasheet and starting from scratch is better than trying to reconstruct a chart after it's hopelessly damaged.