

## Working with Charts, Part 1

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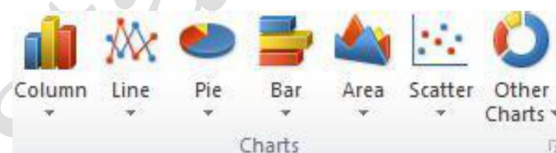
We have certainly come a long way in our exploration of Excel! In the final two lessons of this section, we will explore the last major component to help you complete your workbook – how to create and modify charts. After completing these two lessons, you are well on your way to being able to create functional and attractive worksheets worthy of any quarterly report or boardroom meeting!

If you look at a large table of figures, it can be very hard to figure out what is happening with the data. Conditional formatting will help, but sometimes a picture really is worth a thousand words. Excel features powerful charting tools to help you create a more meaningful representation of your data. In this lesson, we will learn how to create, format, and manipulate a chart.

### Creating a Chart

Office 2007 featured a number of interface improvements that were designed to help you get more things done quickly. Office 2010 continues with this new style of interface. The ribbon interface with bright, colorful icons was a step away from traditional menus and submenus. The interface changes weren't necessarily loved by all, but they did make a lot of Office's features more accessible to new users.

One of the major changes in Excel 2007 was the way that charts were created and handled. Excel 2010 uses these same changes. Instead of going through a chart wizard (a series of dialogs that let you choose options), a professional-looking chart can be created in just a few clicks. The main charting tools are found on the Insert tab:

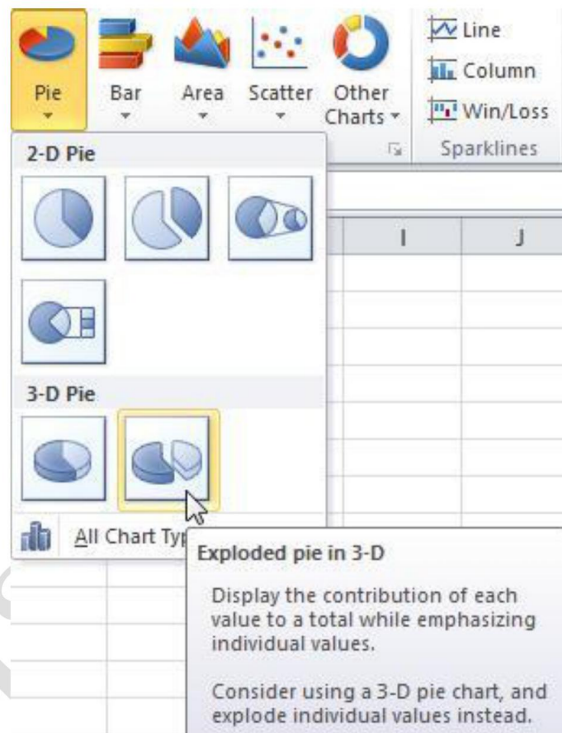


Before you create a chart, consider the type of chart that you require. Pie charts and bar charts are good for showing comparisons. Line graphs can be useful for showing trends and plotting relationships between variables. Excel can produce three dimensional charts as well which may not be best for an internal report, but would be great for a Web site or promotional literature.

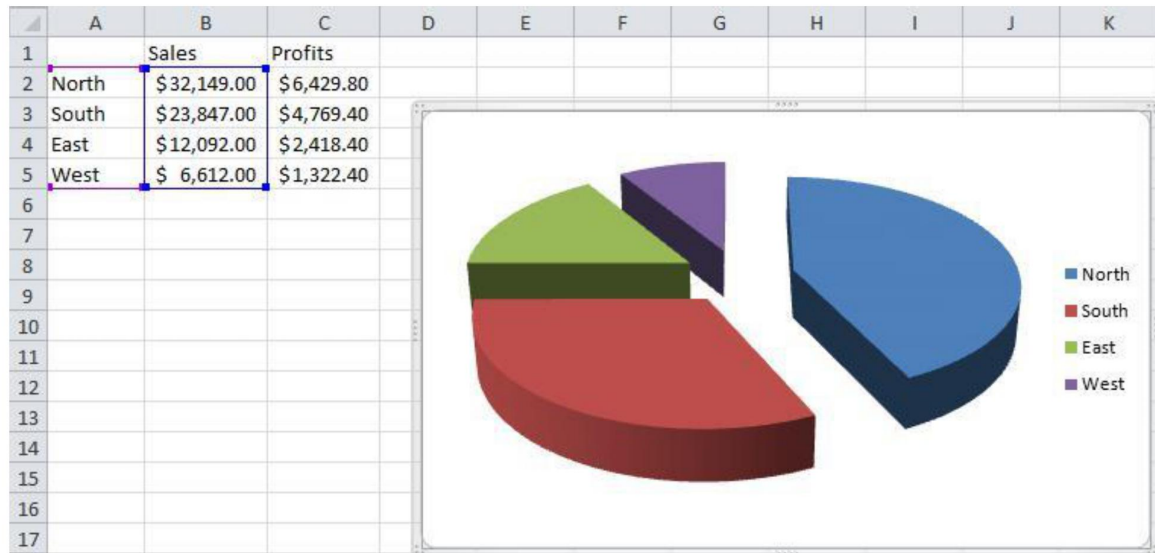
To create a chart, select the data that you want to use in the chart. This data should include some identifiers such as the row headings shown here. This is so Excel knows how to identify the data.

	A	B	C
1		Sales	Profits
2	North	\$32,149.00	\$6,429.80
3	South	\$23,847.00	\$4,769.40
4	East	\$12,092.00	\$2,418.40
5	West	\$ 6,612.00	\$1,322.40

Now click Insert → Pie to view a list of possible pie charts. For this example, we will choose the exploded 3D pie chart:

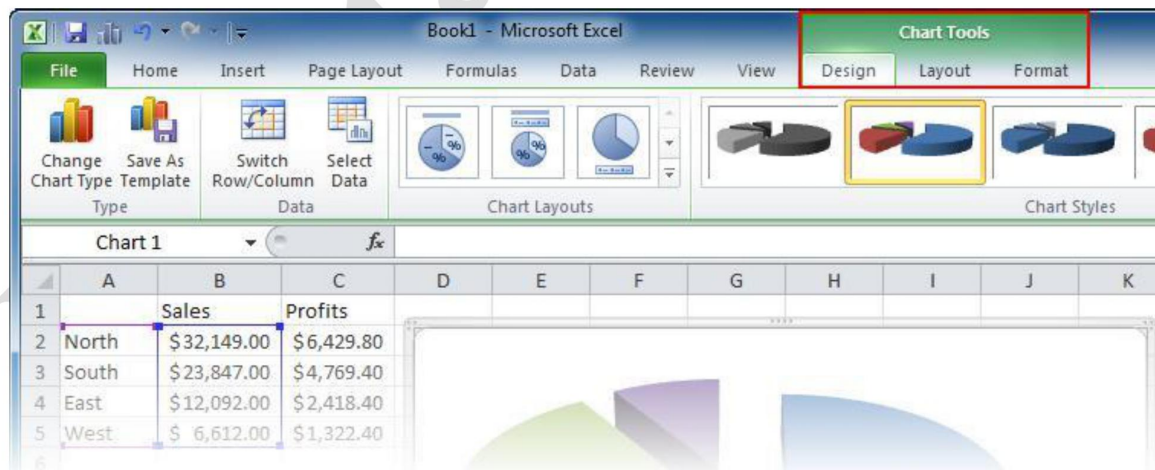


This action creates an exploded 3-D chart in the spreadsheet, showing comparative slices for the sales per region. Note that the data that was used to create the chart has been highlighted in the worksheet:



### Styling Charts with the Design Tab

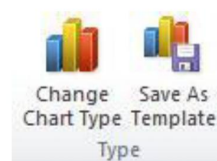
Once a chart has been created, it's not set in stone – you can modify everything related to the chart, including size, color, layout, visual effects, 3D effects, chart type, and even the data that was used to make the chart in the first place. In order to work with a chart, click the border surrounding the chart. Doing so will open a feature of Excel we haven't explored in detail yet called **contextual tabs**:



Contextual tabs appear when you are working with certain objects (i.e., you are working in context with them). There are three Chart Tools tabs: Design, Layout, and Format. These three tabs are only available when you are working with a chart. If you were to click elsewhere in the worksheet (deselect the chart), these tabs would disappear. Click anywhere in the chart again to bring them back.

Let's go over the groups in the Design tab:

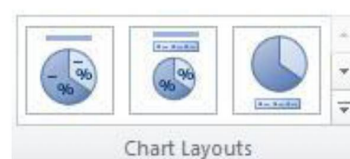
**Type** Use these commands to change the type of chart or save the current chart design as a template for future charts:



**Data** Use the commands in the Data group to reverse the items on the X and Y axes. (Note that this command might make the chart nonsensical.) You can also redefine the cell range that provides source data for the chart:

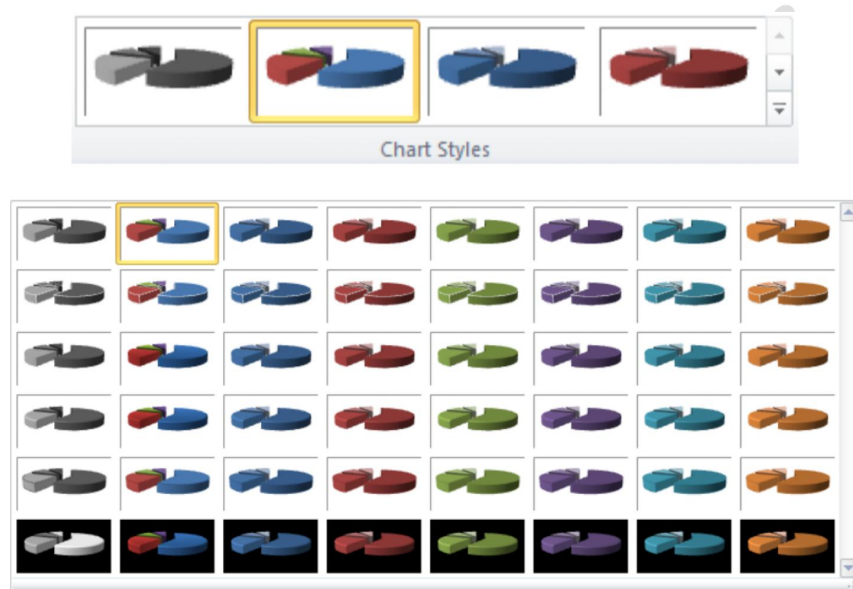


**Chart Layouts** To quickly add a new layout style to your chart, including the addition/removal of titles, a legend, or other features, use these commands. Click the pull-down arrow in the lower right-hand corner to select a layout:



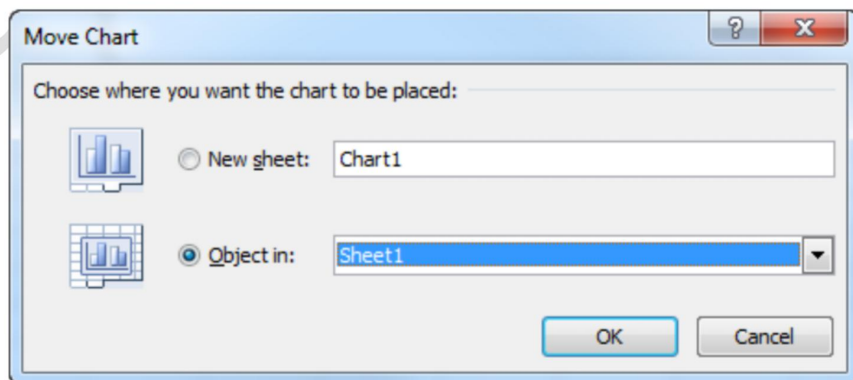
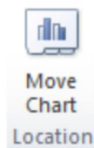
**Chart Styles**

Excel features a number of colorful, pre-formatted chart styles. Pick one from the list to add an instant splash of color to the chart. Click the pull-down arrow in the lower right-hand corner to choose from a number of chart styles:



**Location**

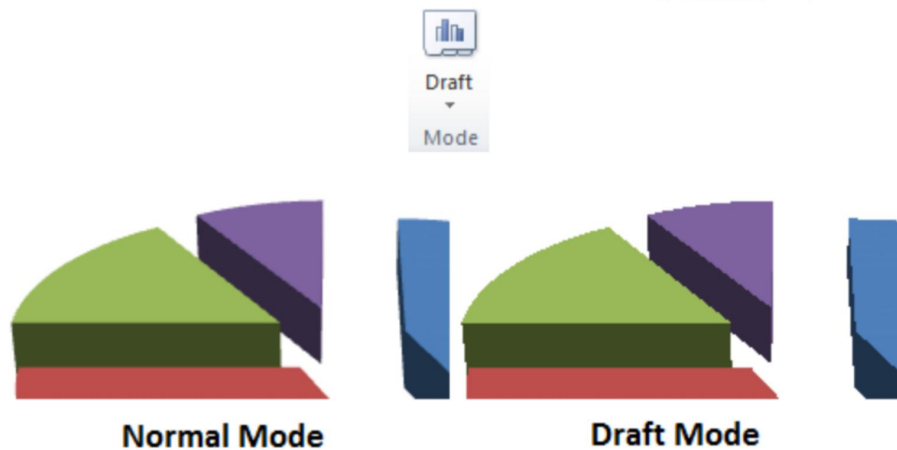
Click this command to open the Move Chart dialog box. Here, you can move the chart to either a new worksheet in the workbook, or move the chart as an embedded object:



**Mode**

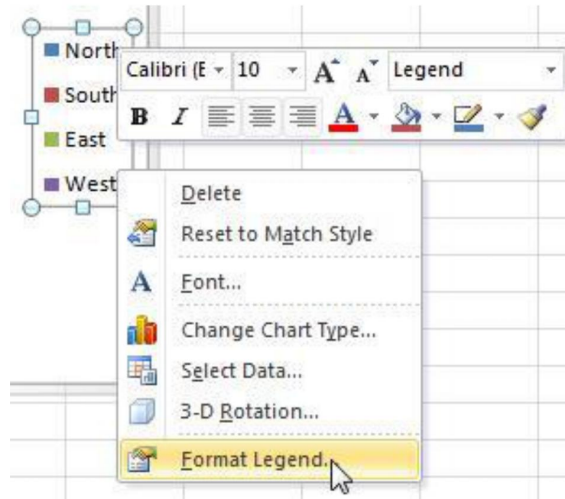
This command allows you to switch a chart/all charts between Draft Mode and Normal Mode. By default, every chart is displayed in **Normal Mode**. This means that special effects in the chart (shading, antialiasing, some 3D effects) are turned on. **Draft Mode** turns these effects off, which makes complex charts and graphs easier to render on slower computers.

It is unlikely you will ever have a problem with rendering performance in Excel. But if you do notice significant computer slowdown (meaning performance seems sluggish due to a very large worksheet), it could be due to Excel rendering a very complex chart or graph. Turn on Draft Mode to gain some performance, and turn Normal Mode on when printing.

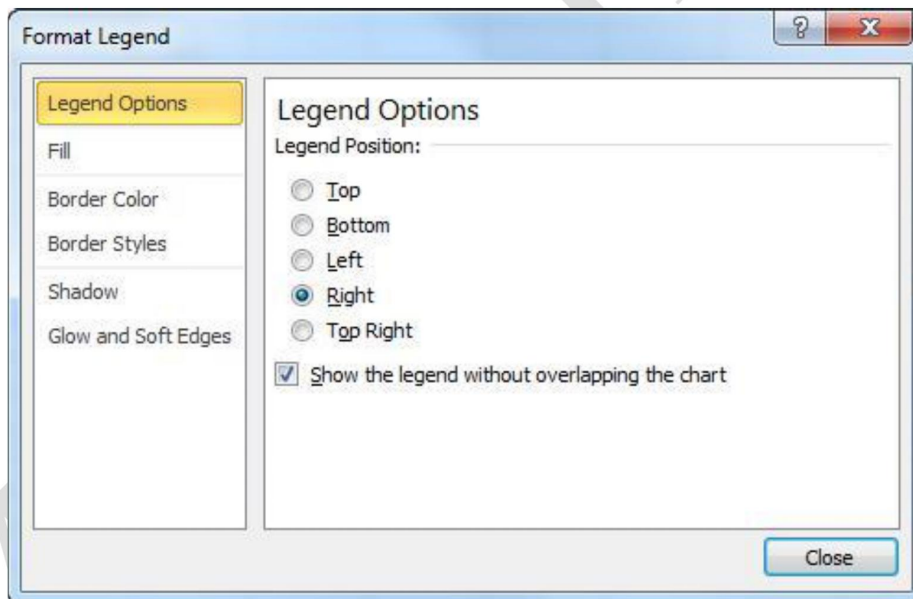


By now you will have noticed that you can customize just about anything to make it look the way you want, and charts are no different. Over the next few pages, we'll look at how to customize the different chart elements.

Each element of the chart can be formatted using the contextual tabs or by using the right-click menu. For example, right-click the chart legend and choose Format Legend.



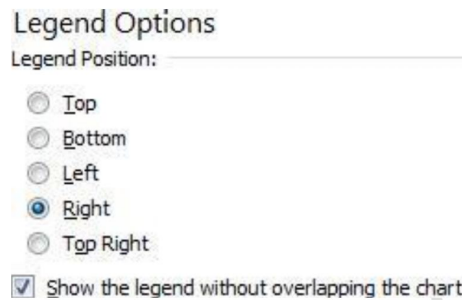
A box will appear around the legend and the Format Legend dialog box will appear:



There are lots of options available to modify just the legend. In fact, each element you can right-click in a chart has formatting options that are very similar to the ones shown here, so let's go over the main categories:

### Legend Options

Choose the legend position relative to the outside chart border:



### Fill

Select from a number of coloring options for the legend. These options would help separate the legend from the rest of the chart:



### Border Color

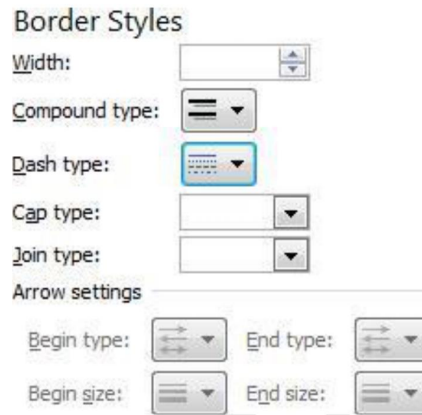
Help visually separate the legend from the rest of the chart with these options:





**Border Styles**

Give the legend a border with these options. If your organization uses a consistent border style with letterheads, business cards, etc., you could duplicate the same look here:



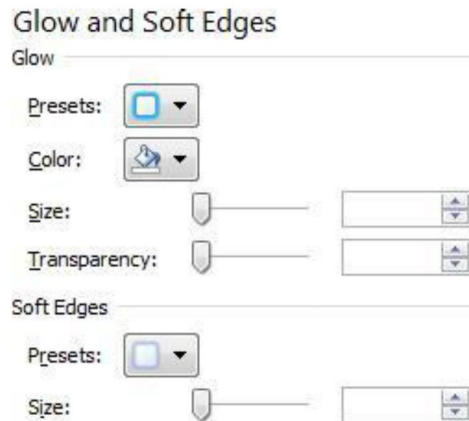
**Shadow**

Apply 3D shading effects with these options. This might help make a 3D chart look even more vibrant:



**Glow and Soft Edges**

Further enhance the look of your legend by giving it a glowing border. This would be useful if your chart had a dark background:



Try right-clicking the different objects in the chart. For example, if you right-click one of the exploded pie slices, you can modify how this and the other slices will look. You can also right-click the area just beside the visual chart components (this is the plot area) and change a number of settings, including 3D formats and rotation.

Finally, if you right-click the blank white area of the chart (around the sales heading and legend) and then select Format Chart Area from the pop-up menu, you will display the Format Chart Area dialog box. This box offers the same sort of formatting commands available by right-clicking other objects.

**Modifying Charts with the Layout Tab**

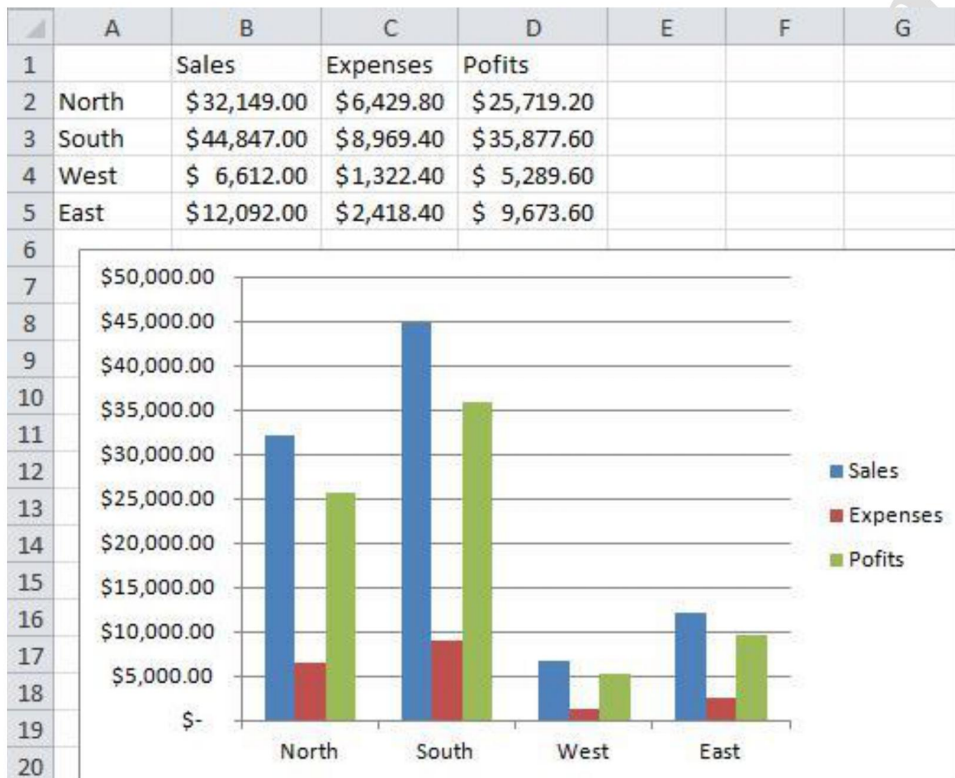
We know that when a chart is created in Excel, three contextual tabs will appear. The Design Tab is useful for quickly changing the look of the chart. Let's move on to look at the Layout tab. This tab lets you control the items that are included in the chart, including labels, axes, and backgrounds.

The most important sections of the Layout tab (in terms of charts) are the Labels group, the Axes group, the Background group, and the Analysis group.

First, let's take a look at the commands available here:



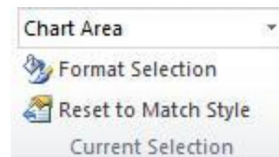
To see how these tools work, take the following Excel chart as an example.



Click the chart to select it, and then click the Chart Tools - Layout tab. Let's go over the groups in this tab:

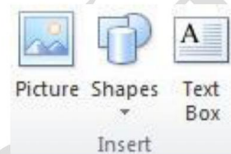
**Current Selection**

We saw earlier that you can click the various elements in a chart to select them. If you click the combo box in this group, you can be specific and pick from all the various chart elements. You can then click Format Selection to open the appropriate dialog box for the selection, or click Reset to Match Style in order to keep all chart elements consistent:



**Insert**

Use these commands to insert a picture (like a company logo), select from a wide range of shapes (to highlight important data), or add a text box (for extra chart information):



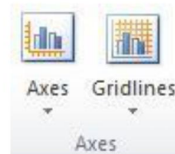
**Labels**

These commands let you label each element of your chart. Click a command and pick a type of label for that category:



**Axes**

With these commands, you can label the axes of your chart and add gridlines to better define your data:



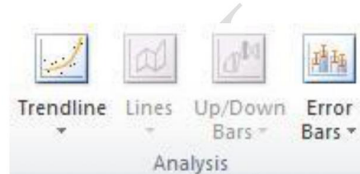
**Background**

You can add different markings to the background of your chart, depending on the type of chart. These markings would make it easier for someone to read the chart data, particularly on a large chart:



**Analysis**

These commands are very useful for calculating trends and patterns in your data and providing statistical data. **Trendlines** show things like averages from the data. **Lines** show items such as Drop Lines or High/Low lines. **Up/Down Bars** show the growth/shrink of a series of data. **Error Bars** show items such as standard error and standard deviation.

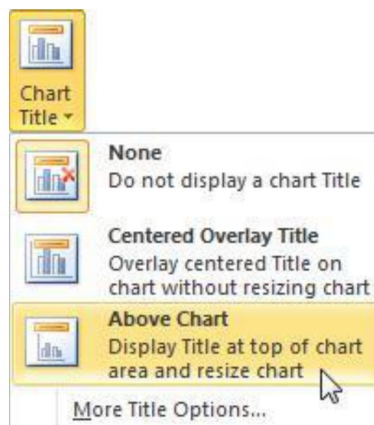


**Properties**

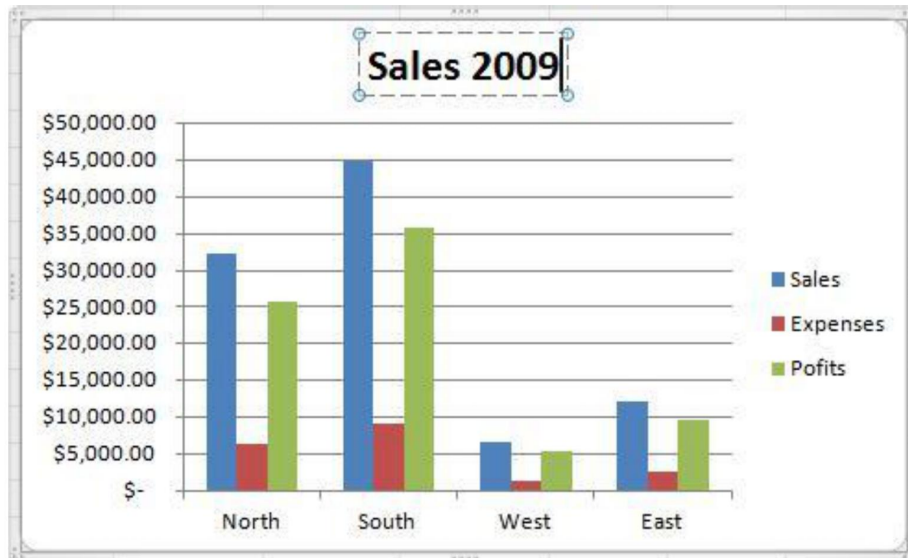
Give the chart a name. This is useful if you are dealing with multiple charts in a single workbook:



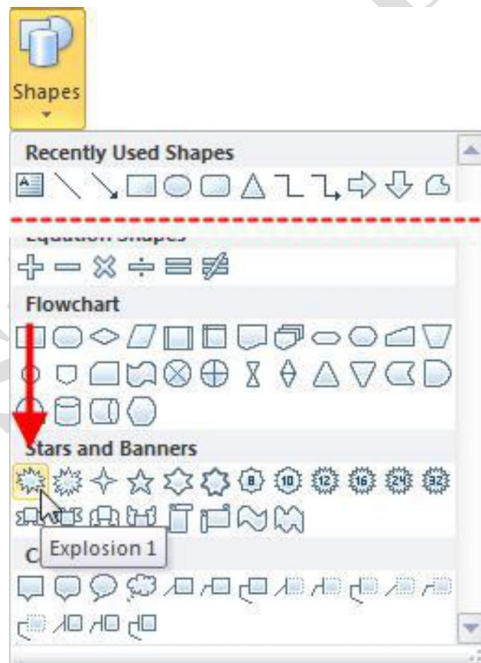
Let's add some items to the sample chart, starting with a title:



The title will appear above the data. Click in the title and give the chart a meaningful name:



Now let's add a shape to highlight the record sales in the South:



Once the shape is selected, click and drag in the chart to place the shape:

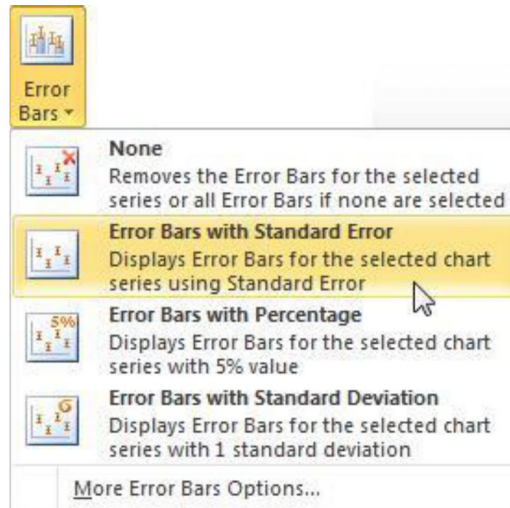


The new shape opens another contextual tab, Drawing Tools → Format. This tab appears whenever you have inserted a shape or drawing. Click the Text Box command, click and drag an area inside the shape, and type “Record!” to celebrate the sales:

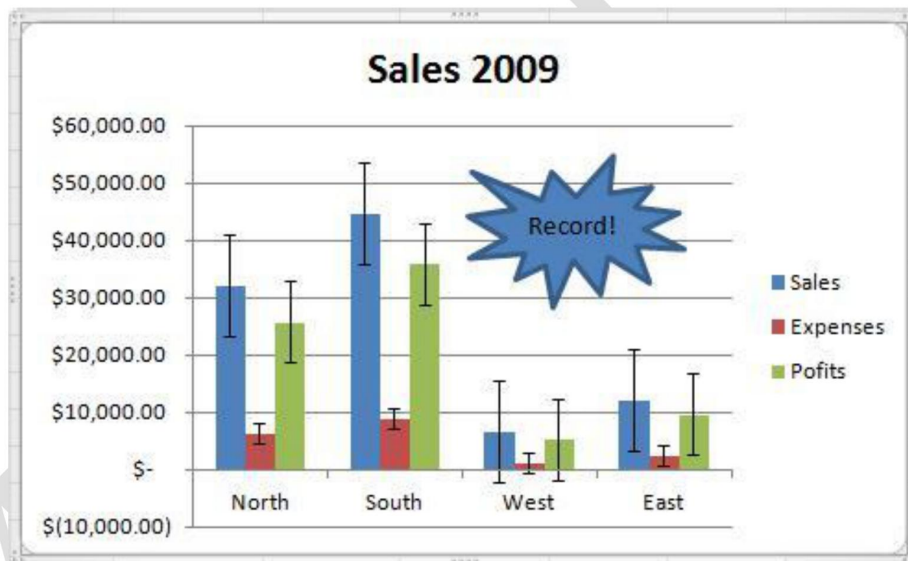
	A	B	C	D	E	F	G	H
2	North	\$32,149.00	\$6,429.80	\$25,719.20				
3	South	\$44,847.00	\$8,969.40	\$35,877.60				
4	West	\$6,612.00	\$1,322.40	\$5,289.60				
5	East	\$12,092.00	\$2,418.40	\$9,673.60				

Click on a chart item again to bring back the Chart Tools contextual tabs.

Finally, let's add some error bars to see the standard error for this chart:



Depending on the element you add from the Layout tab, the chart will automatically adjust itself in order to make everything fit within the boundaries of the chart:



As you can see, it is very easy to add additional information and labeling to your charts. However, there is such a thing as too much information! Don't load up your chart with so much detail that people won't be able to read it. If you do need to add a lot of extra detail, we suggest you make additional charts based on the same data, and then add groups of like chart enhancements together. **Lastly, don't forget about the Undo command!** If the chart element you have added is wrong or doesn't make sense, just undo the action and try something else.

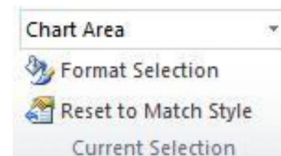


## Additional Styling with the Format Tab

There are a few more styling commands available in the Chart Tools – Format tab:

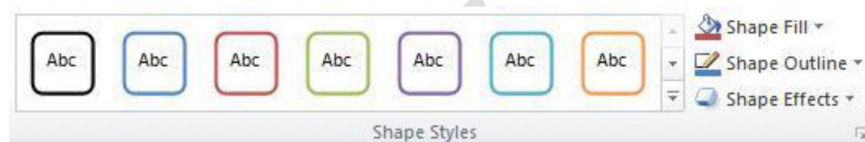
### Current Selection

Use this group to select individual elements of your chart and perform actions on them:



### Shape Styles

Depending on the object that is selected, you can modify the border color and style, the fill (background) color, and add 3D/special effects to the element. Click the pull-down arrow to see a number of different styles:



Click the option button to open the **Format Chart Area** dialog box. This gives you finer control over the chart area fill color, border color and style, 3D and special effects, size, etc.

### WordArt Styles

WordArt is a type of stylized text that is great for titles or headings. Choose from a number of stylish and textured text effects using the pull-down arrow beside the styles. You can also select the font and outline color and add additional text effects:

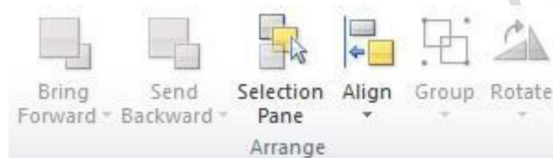


Click the option button to open the **Format Text Effects** dialog box. As you might have guessed, this dialog gives you finer control over the color, fill, style, etc. relating to the WordArt.

## Arrange

The Arrange group lets you work with the physical objects in the chart area. Use these commands to decide how objects in the chart will be positioned.

If objects overlap, you can decide which is on top of the other using the **Bring Forward/Send Backward** commands. The **Selection Pane** lets you select which object to work with in a worksheet (like multiple charts). Line items in the chart up with the **Align** command. You can **Group** several objects together as one, making them easier to work. Finally, you can **Rotate** objects in the chart if you need to.



## Size

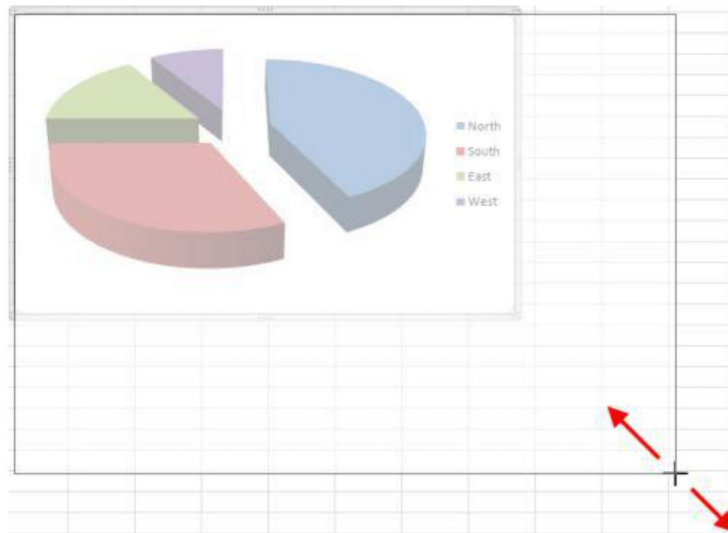
Adjust the width/height of the current chart or chart object using these commands:



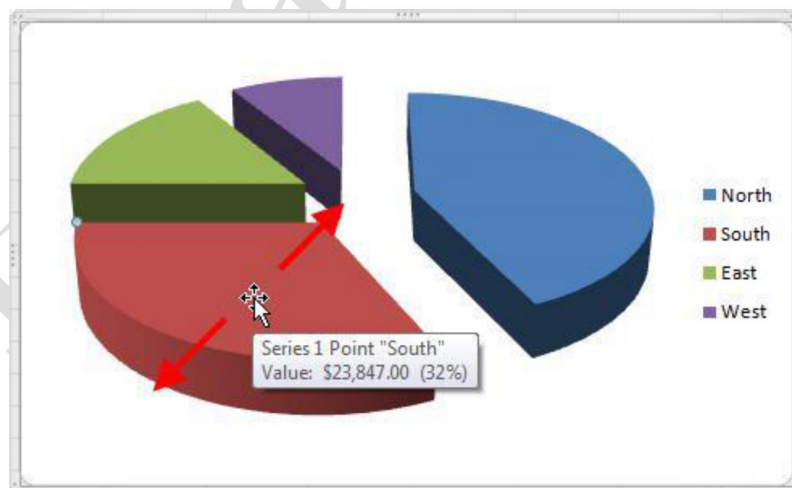
Click the option button to open the Format Chart Area dialog box to the Size tab. As you have probably guessed, there are more detailed size commands available here including scaling and reset tools.

## Manipulating a Chart

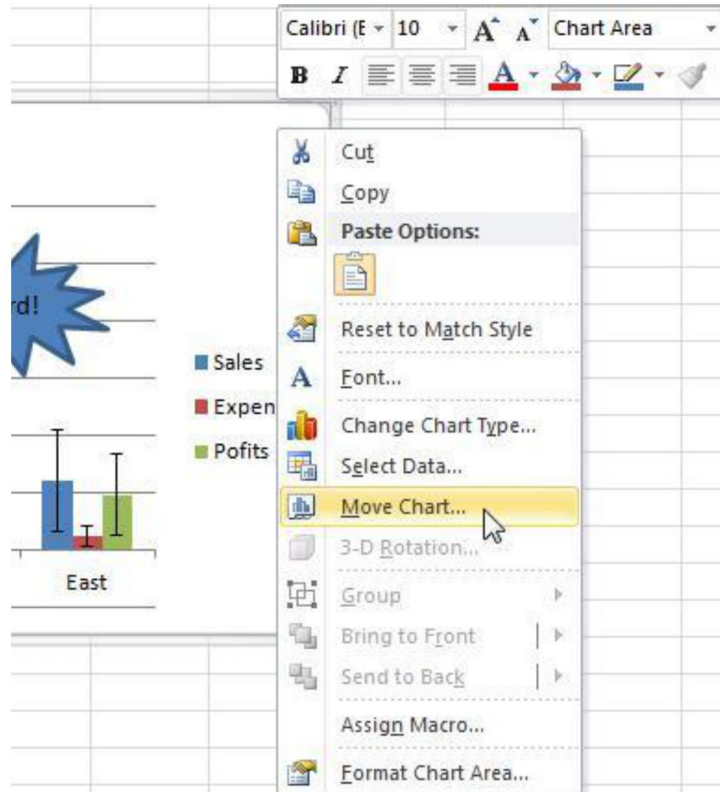
The chart is surrounded by a border. If you move to the edge of a chart border, your cursor will turn into a four-headed arrow. Click and drag an **edge** to physically move the chart around the worksheet. Click and drag a **corner** to make the chart larger or smaller:



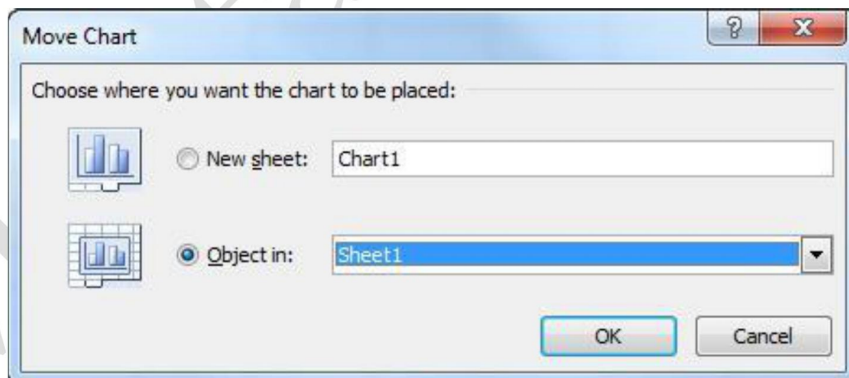
You can also click on individual elements within the chart, such as individual elements of the chart itself or the legend. For example, you can click and drag individual elements of an exploded pie chart and drag them towards or away from the collective center of the chart:



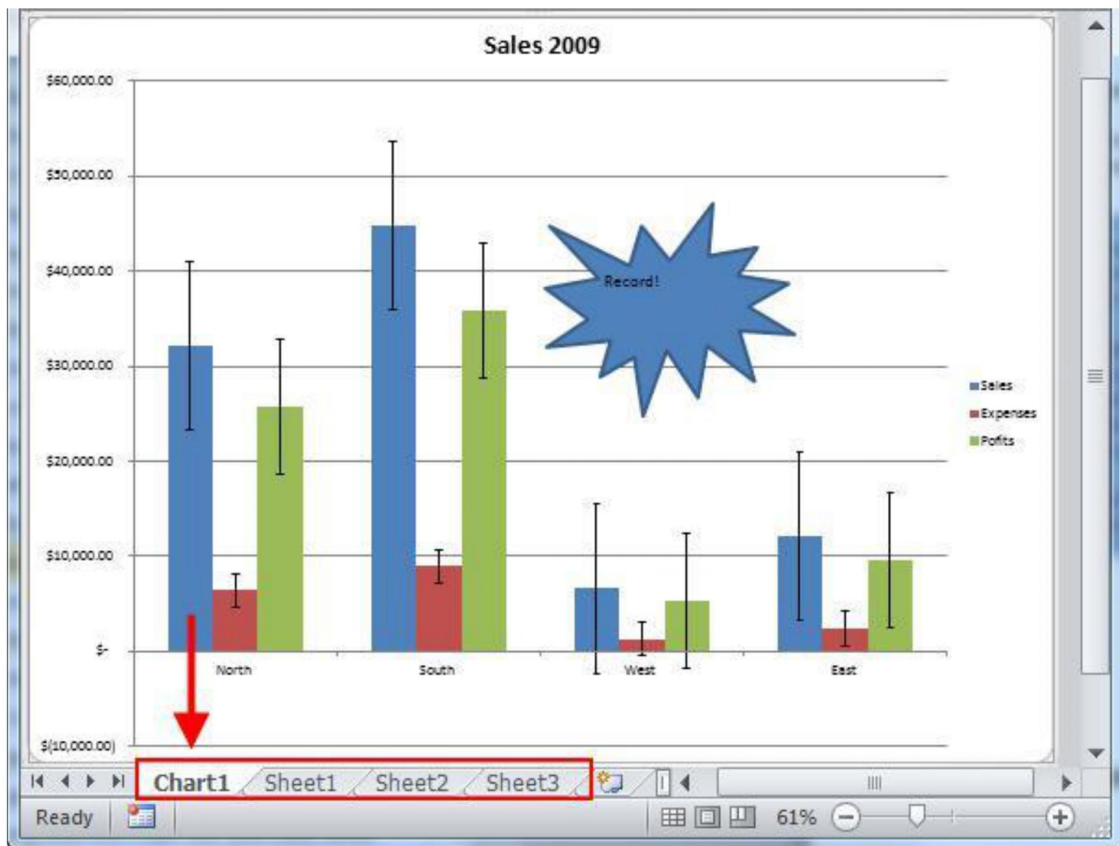
If you want to make a chart an object in another worksheet or move the chart to a sheet of its own, click Chart Tools - Design → Move Chart. You can also right-click the chart → Move Chart:



This will display the Move Chart dialog box.



If you click **New sheet**, give the chart another name if you like and click OK. This will move the chart to a sheet all by itself, identified by the worksheet tabs:



If you click **Object in**, select a worksheet and click OK. A copy of the chart will be embedded as an object into the worksheet.

Finally, to remove a chart from your worksheet, click in the chart area, and press the Backspace or Delete key on your keyboard.