

Charting in Microsoft Excel



Charts are visually appealing and make it easy for users to see comparisons, patterns, and trends in data. For instance, rather than having to analyze several columns of worksheet numbers, you can see at a glance whether sales are falling or rising over quarterly periods, or how the actual sales compare to the projected sales. A chart is linked to the worksheet data it's created from and is updated automatically when you change the worksheet data.

How worksheet data is represented in a chart

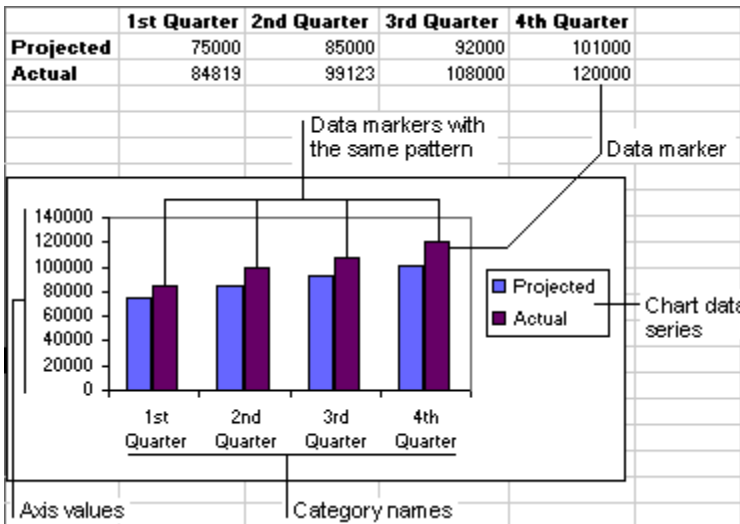
Axis values Microsoft Excel creates the axis values from the worksheet data. Note that the axis values in the example above range from 0 to 140000, which encompasses the range of values on the worksheet. Unless you specify differently, Excel uses the format of the upper-left cell in the value range as the number format for the axis.

Category names Excel uses column or row headings in the worksheet data for category axis names. In the example above, the worksheet row headings 1st Quarter, 2nd Quarter, and so on appear as category axis names. You can change whether Excel uses column or row headings for category axis names or create different names.

Chart data series names Excel also uses column or row headings in the worksheet data for series names. Series names appear in the chart legend. In the example above, the row headings Projected and Actual appear as series names. You can change whether Excel uses column or row headings for series names or create different names.


Data markers Data markers with the same pattern represent one data series. Each data marker represents one number from the worksheet. In the example above, the rightmost data marker represents the Actual 4th Quarter value of 120000.

Tips A chart tip that tells you the name of a chart item appears when you rest the pointer over the chart item. For example, when you rest the pointer over the legend, the chart tip Legend appears.



Create a chart

You can create either an embedded chart or a chart sheet.

1. Select the cells that contain the data that you want to appear in the chart.
2. If you want the column and row labels to appear in the chart, include the cells that contain them in the selection.
3. Click **Chart Wizard**. 
4. Follow the instructions in the Chart Wizard.


Create a chart in one step

To create a chart sheet that uses the default chart type, select the data you want to plot, and then press F11.

Ways to select chart items

To select a chart item by using the mouse, do one of two things:

1. Click the chart item you want. [Data series](#), [data labels](#), and the [legend](#) have individual elements that can be selected after you select the group. For example, to select a single [data marker](#) in a data series, click the data series, and then click the data marker. Microsoft Excel displays the name of a chart item in a tip when you rest the pointer over the item if you have the **Show names** check box selected (**Tools** menu, **Options** command, **Chart** tab).
2. Click the chart, click the arrow next to the **Chart Objects** box on the **Chart** toolbar, and then click the item you want.



To select a chart item by using the keyboard, use the arrow keys. To cancel a selection, press ESC.

Change category axis labels

1. To change category axis labels on the worksheet, click the cell that contains the label name you want to change, type the new name, and then press ENTER.
2. To change category axis labels on the chart, click the chart, and then click **Source Data** on the **Chart** menu. In the **Category axis labels** box on the **Series** tab, specify the worksheet range you want to use as category axis labels. You can also type the labels you want to use, separated by commas, for example:
3. **Division A, Division B, Division C**
4. If you type the label text in the **Category axis labels** box, the category axis text is no longer linked to a worksheet cell.

Change data series names or legend text

- To change legend text or data series names on the worksheet, click the cell that contains the data series name you want to change, type the new name, and then press ENTER.
- To change legend text or data series names on the chart, click the chart, and then click **Source Data** on the **Chart** menu. On the **Series** tab, click the data series names you want to change. In the **Name** box, specify the worksheet cell you want to use as the legend text or data series name. You can also type the name you want to use.
- If you type a name in the **Name** box, the legend text or data series name is no longer linked to a worksheet cell.

Change data labels

- To change data labels on the worksheet, click the cell that contains the information you want to change, type the new text or value, and then press ENTER.
- To change data labels on the chart, click once on the data label you want to change to select the data labels for the entire series, and then click again to select the individual data label. Type the new text or value, and then press ENTER.
If you change the data label text on the chart, it is no longer linked to a worksheet cell.

Edit chart and axis titles

1. Click the title you want to change.
2. Type the new text you want.
3. Press ENTER.

Add data labels to a chart

The chart type associated with the selected data series or data point determines the type of data label you can add.

1. To add data labels to a data series, click the data series.
2. To add a data label to a single data point, click the data series that contains the data marker you want to label, and then click the data marker for the data point you want to label.
3. On the **Format** menu, click **Selected Data Series** or **Data Point**.
4. On the **Data Labels** tab, select the options you want.

Tip You can quickly label all data points. Click the chart, click **Chart Options** on the **Chart** menu, and then select the options you want on the **Data Labels** tab.

Add a title to a chart or axis

1. Click the chart to which you want to add a title.
2. On the **Chart** menu, click **Chart Options**, and then click the **Titles** tab.
3. To add a chart title, click in the **Chart title** box, and then type the text you want.
4. To add one or more axis titles, click in the appropriate box for each title, and then type the text you want.

Tip To insert a line break in a chart title or axis title, click the text on the chart, click where you want to insert the line break, and then press ENTER.

Add a legend to a chart

1. Click the chart to which you want to add a legend.
2. On the **Chart** menu, click **Chart Options**, and then click the **Legend** tab.
3. Select the **Show legend** check box.
4. Under **Placement**, click the option you want.

Change the display unit on the value axis

If your chart values consist of large numbers, you can make the axis text shorter and more readable by changing the display unit of the axis. For example, if the chart values range from 1,000,000 to 50,000,000, you can display the numbers as 1 to 50 on the axis and show a label that indicates that the units express millions.

1. Click the value axis you want to change.
2. On the **Format** menu, click **Selected Axis**, and then click the **Scale** tab.
3. In the **Display units** list, click the units you want or type a numeric value.
4. To show a label that describes the units expressed, select the **Show display units label on chart** check box.

Display or hide gridlines in a chart

Pie and doughnut charts do not have gridlines.

1. Click the chart to which you want to add gridlines.
2. On the **Chart** menu, click **Chart Options**, and then click the **Gridlines** tab.
3. Select the check boxes for the gridlines you want to display.

Delete data labels, titles, or legends in a chart

1. Click the item you want to delete.
2. Press DELETE.

For immediate answers or to request
service contact
Computer Helpline x7971

To request training or one-on-one
assistance **X5449**

<http://edtech.montclair.edu>

Change colors, patterns, lines, fills, and borders in charts

Use this procedure to change colors, apply a texture or pattern, or change the line width or border style for data markers, the chart area, the plot area, gridlines, axes, and tick marks in 2-D and 3-D charts, trendlines and error bars in 2-D charts, and the walls and floor in 3-D charts.

1. Double-click the chart item you want to change.
2. If necessary, click the **Patterns** tab, and then select the options you want.
3. To specify a fill effect, click **Fill Effects**, and then select the options you want on the **Gradient**, **Texture**, or **Pattern** tabs.

Select a different chart type

For most 2-D charts, you can change the chart type of either a data series or the entire chart. For bubble charts, you can change only the type of the entire chart. For most 3-D charts, changing the chart type affects the entire chart. For 3-D bar and column charts, you can change a data series to the cone, cylinder, or pyramid chart type.

Do one of the following:

1. To change the chart type of the entire chart, click the chart.
2. To change the chart type of a data series, click the data series.
3. On the **Chart** menu, click **Chart Type**.
4. On the **Standard Types** or **Custom Types** tab, click the chart type you want.
5. To apply the cone, cylinder, or pyramid chart type to a 3-D bar or column data series, click **Cylinder**, **Cone**, or **Pyramid** in the **Chart type** box on the **Standard Types** tab, and then select the **Apply to selection** check box.

Add a text box to a chart

1. Click the chart to which you want to add a text box.
2. On the **Drawing** toolbar, click **Text Box**.
3. Click where you want one corner of the text box, and then drag until the box is the size you want.
4. Type the text you want in the box. The text will wrap inside the box.
5. To start a new line inside the box, press ENTER.
6. When you finish typing, press ESC or click outside of the text box.