

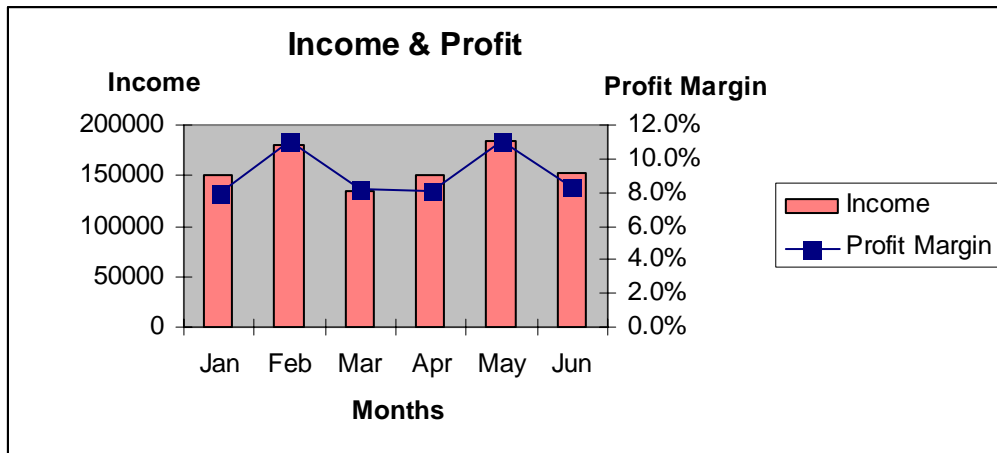
Making Charts with Excel 2003

A chart is a visual representation of data. Excel displays charts in two different ways. They can be either embedded in the worksheet or displayed as a separate item. If you plan on printing the chart by itself, it is best to create the chart in a separate sheet. The embedded chart floats over the worksheet and it can be moved around and resized. If you plan on printing the chart along with the data it uses, then embedding the chart in the worksheet is the best option. When a chart or a chart sheet is active in the Excel workbook, the Chart menu replaces the Data menu in Excel.

Parts of a chart:

A chart has a horizontal axis, the category axis. This axis represents the category for each data point.

The vertical axis is the value axis. It displays the values in major unit increments. In some cases data points with different value scales need to be plotted. In this case, one can create a chart with two value axes, one on the left and one on the right. Example:

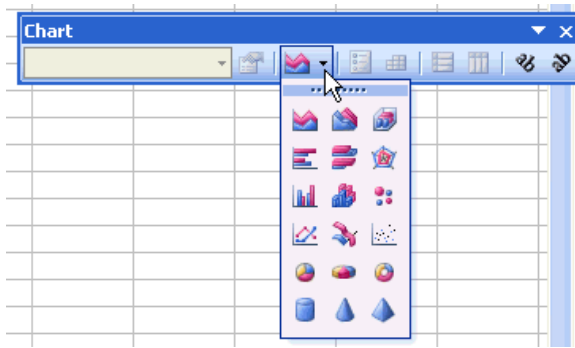


Creating a chart:

Enter the following data to your worksheet to create a chart:

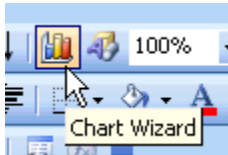
	Region1	Region2
Jan	1,843	983
Feb	2,283	1,092
Mar	2,184	1,143

- To create a chart with one key stroke, select the data range and press F11. Excel creates a chart and places it in a chart sheet.
- To create a chart with a mouse click, first activate the chart tool bar by selecting View>Toolbars>Chart from the menu bar (the Chart menu can float anywhere in the menu bar.)

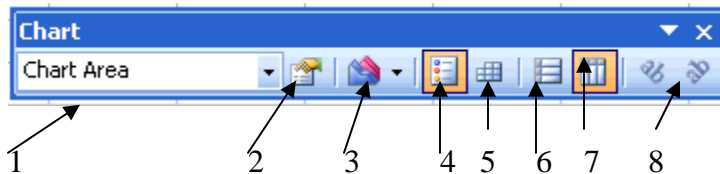


Then select the data range and click on the chart icon in the tool bar. Excel inserts the chart in the current worksheet.

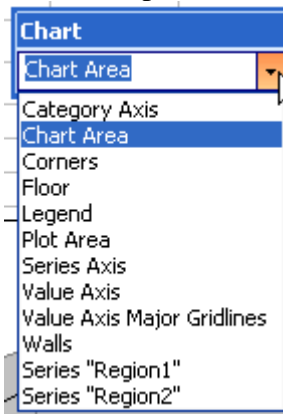
c. to create a chart by using the chart wizard, click on the chart icon in the toolbar:



The chart toolbar:



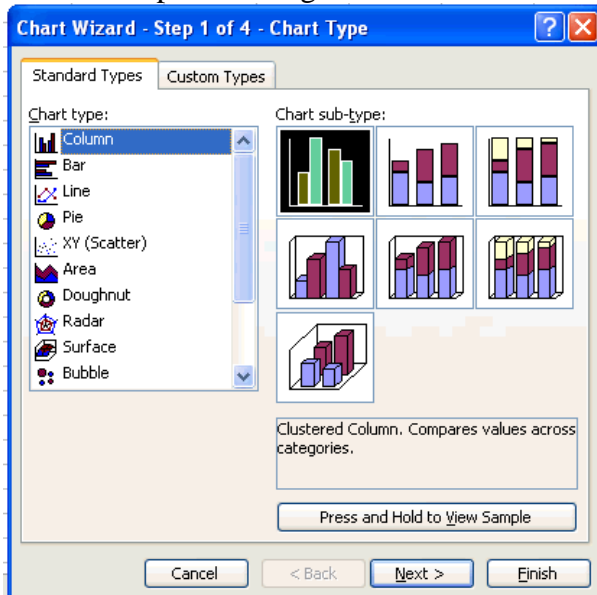
1. Chart objects: When a chart is activated, chart elements are displayed in the dropdown box:



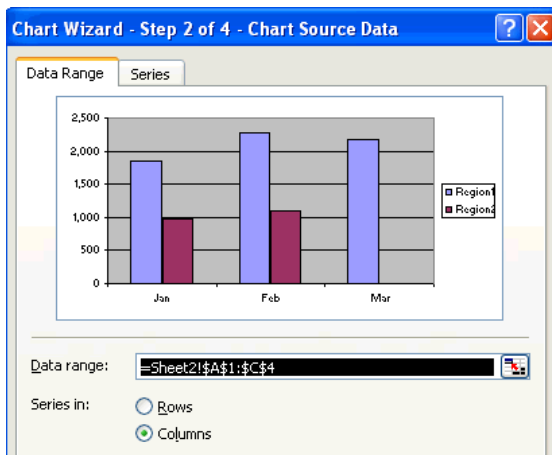
2. Format selected object
3. Select chart type
4. Legend (toggles legend display)
5. Data table (toggles data table display)
6. By row (displays data by rows)
7. By column (displays data by columns)
8. Angles selected text clockwise or counterclockwise

Chart Wizard:

The chart wizard prompts you for various settings in creating your charts. The first step in creating a chart with the chart wizard is to select the chart type.



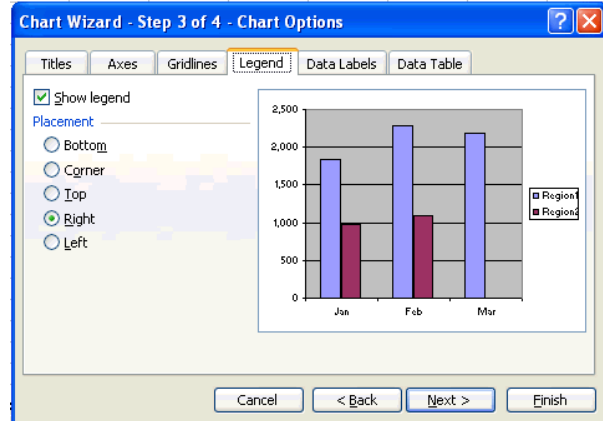
Excel provides a wide range of chart types from which to choose. These types are both in the Standard and the Custom tabs.



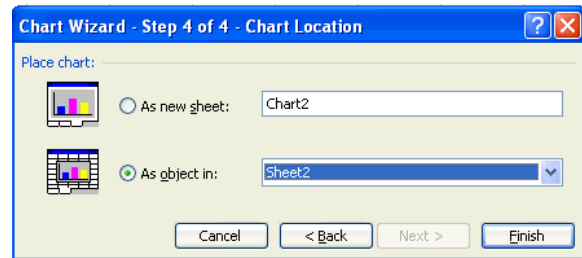
Second step in the chart wizard is the verification of data, changing data orientation (rows or columns) and specifying category and series data (Series tab.)

Step three of the chart wizard helps you specify:

- Titles
- Axes
- Gridlines
- Legend
- Labels
- Table



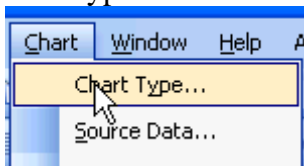
The fourth and final step in the chart wizard helps you with chart placement, either embedded or as a separate chart sheet.



Modifying a chart:

Moving & resizing: if your chart is embedded, you can move and resize it as if it is any image by dragging it or by pulling on the handles.

Changing the chart type: choose Chart>Chart type from the menu bar to select a new chart type:



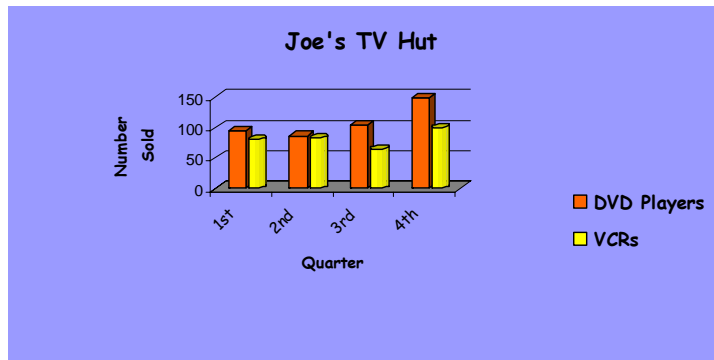
Deleting a chart: Activate an embedded chart by clicking on it and push the delete key. To delete a chart sheet, right click on its sheet tab and choose delete from the menu.

Printing charts: To print an embedded chart, simply choose File>Print from the menu bar and print as you would the worksheet. (Be sure to preview the print before actually printing it.) To print a chart sheet, select File>Page Setup and select the options you need and preview before printing.

Practice with data:

1. Create a column chart with the data points below
 - a. Practice with different chart types to decide which type best suits the data
 - b. Practice with editing parts of the chart area:
 - i. Chart border and chart area background
 - ii. Chart background
 - iii. Column colors
 - iv. Legend placement
 - v. Titles, placement and fonts

	A	B	C
1	Joe's TV Hut Sales for 2002		
2		DVD Players	VCRs
3	1st Quarter	95	80
4	2nd Quarter	87	83
5	3rd Quarter	105	65
6	4th Quarter	150	100



Advanced Topics:

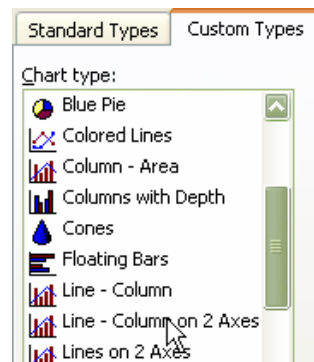
Adding a Secondary Axis

In the example on page 1, the Income & Profit chart includes two value axes. The one on the left contains the Income values and ranges from 0 to 200,000 whereas the one on the right contains the profit margin values and ranges from 0-12%. To create a chart with data with different value ranges, a secondary value axis is necessary.

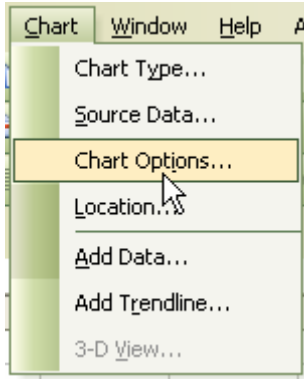
Select custom chart type in the chart wizard

(or through the chart toolbar)

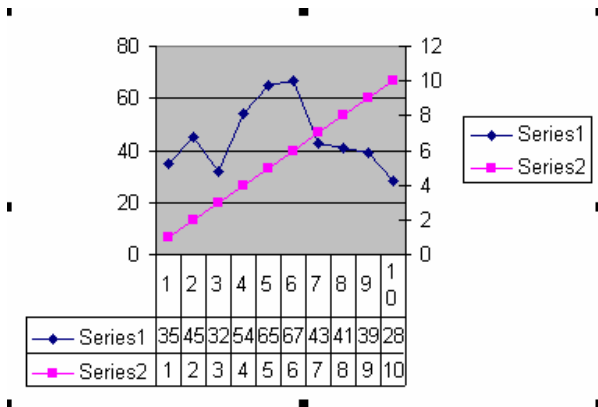
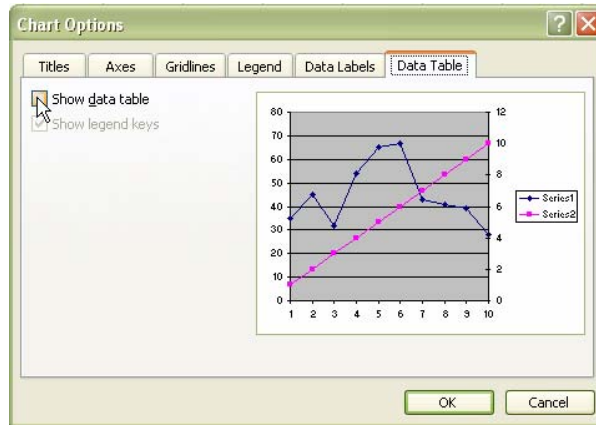
Month	Income	Profit Margin
Jan	150000	8.0%
Feb	180000	11.0%
Mar	135000	8.2%
Apr	151000	8.1%
May	185000	11.0%
Jun	152000	8.3%



Displaying a data table in the chart



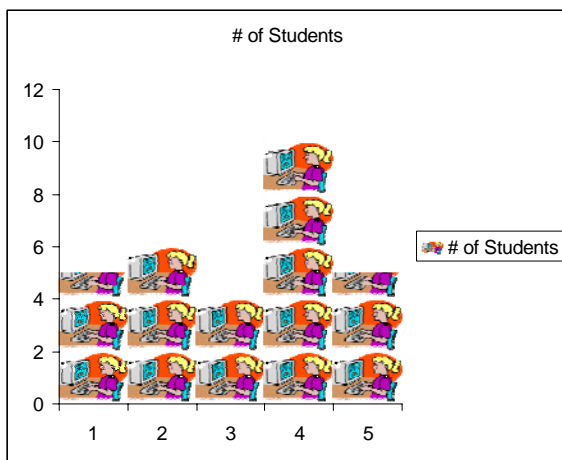
Sometimes, you may want to display your data inside your chart. To activate the chart menu, click on your chart then select Chart>Chart Options. Then Select the Data Table Tab.



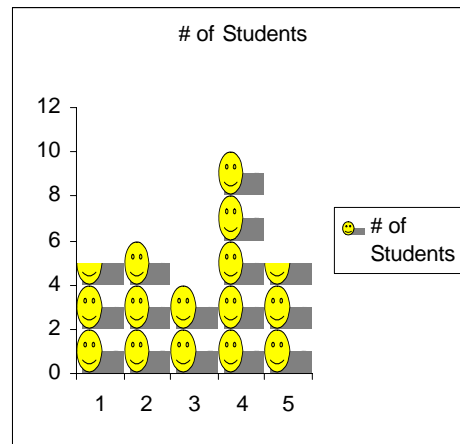
Creating Picture Charts:

Consider the data:
Student Training
Attendance

Week	# of Students
1	5
2	6
3	4
4	10
5	5



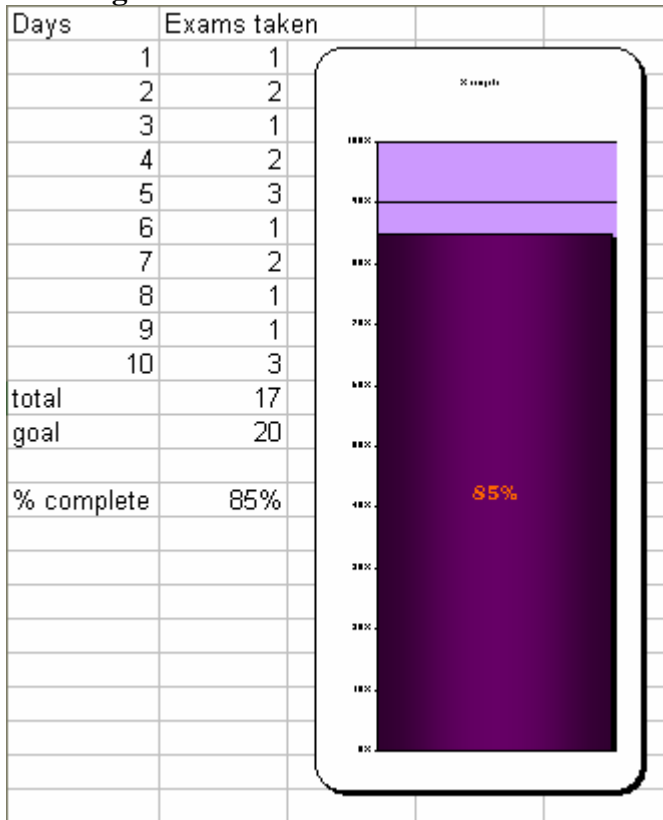
or



As the saying goes “a picture is worth a thousand words”. Sometimes charts look better if graphics are incorporated into the chart rather than plain bars. Think USA Today way of presenting statistical information. The charts above were produced by inserting a clipart into the chart on the left and formatting an autoshape for the chart on the right.

Select the data series by double clicking in your chart (data series) then choose Format>Selected data series to access the Format Data Series dialog box. Select fill effects; click the Picture tab to insert a picture. You can also copy a graphic image to the Clipboard. Then, select the chart column and choose Edit>Paste.

Creating a Thermometer chart:

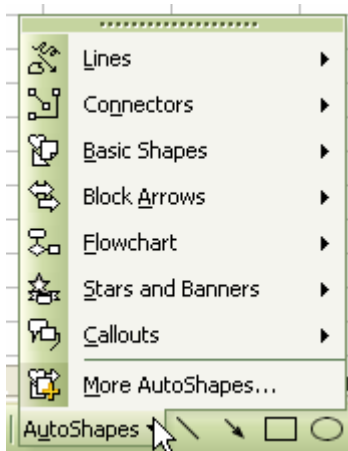


A thermometer chart uses only one data point.

1. Make sure there is a blank row before your data point
2. Select your data point and click on the chart wizard
3. Create a column chart
4. Select the X axis by clicking on it and press delete
5. Remove the legend
6. Add data labels (value option)
7. Set the gap width to 0 by right clicking on the column to choose: Format Data Series>Options>Gap Width
8. Double click the value (Y) axis and in the resulting dialog box select Scale. Set Minimum to 0 and Maximum to 1.
9. Make additional formatting changes as you see fit.

Adding Pictures and Drawings to your Worksheets

Autoshapes:



Autoshapes can add color and drama to your worksheets as well as highlighting an important point. To add an autoshape to your worksheet simply click on the autoshape tool bar:

Month	Income	Profit Margin
Jan	150000	8.0%
Feb	180000	11.0%
Mar	135000	8.9%
Apr	151000	9.5%
May	185000	10.0%
Jun	152000	9.5%

Call out box with text

what went wrong in January?

Month	Income	Profit Margin
Jan	150000	8.0%
Feb	180000	11.0%
Mar	135000	8.9%
Apr	151000	9.5%
May	185000	10.0%
Jun	152000	9.5%

Block arrow with fill color and overlapping textbox



180000	11.0%
135000	8.9%
151000	9.5%
185000	10.0%
152000	9.5%

Stars & Banners autoshape with 3D effect



Other graphical Elements:

To insert a clipart, Word Art or any other graphical element into your worksheet choose Insert>Picture in the menu bar. Examples include:

Month	Income	Profit Margin
Jan	150000	8.0%
Feb	180000	11.0%
Mar	135000	8.9%
Apr	151000	9.5%
May	185000	10.0%
Jun	152000	9.5%

ABC Company

Word Art



Clipart

The Wedding Cake Business

Month	Income	Profit Marg
Jan	150000	8.0%
Feb	180000	11.0%
Mar	135000	8.9%