



Excel Help Bedford

Excel 2010: Charts

2010

Visualise your data in engaging and revealing ways

Excel Guides

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1. Introduction

One of the most popular ways to use data is to visualise it in a graph, Excel's terminology for these being *charts*. This guide takes you through the *Excel 2010: Charts*, but there are numerous possibilities available that allow you intricate control.

This guide focuses on methods that act as fundamental chart building blocks. Footnotes contain extra information, but choices are as wide as your imagination.

2. A complete example

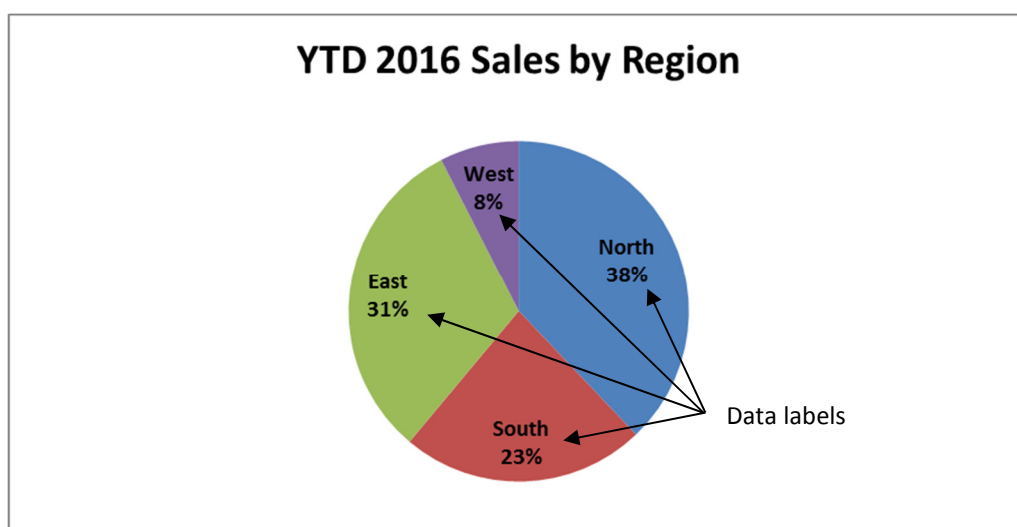
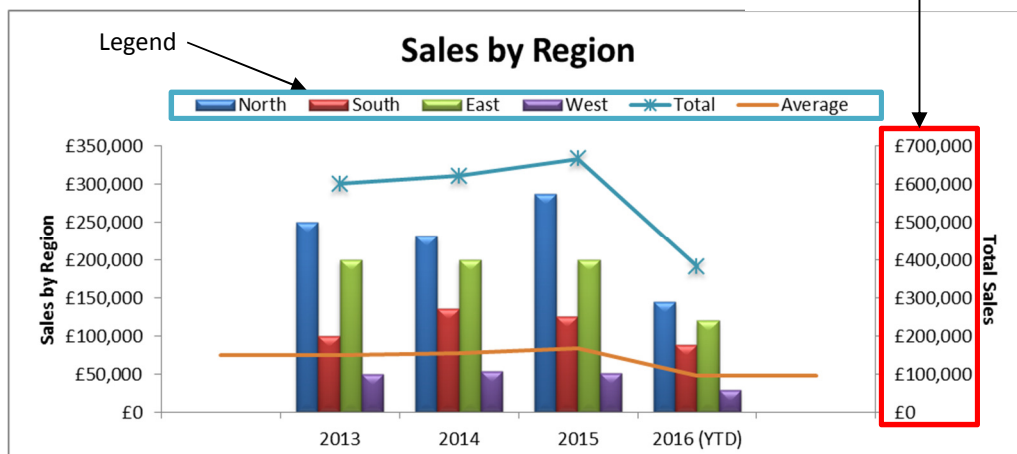
Below is a pasted picture of four examples of charts. These visualise the same dataset, or parts thereof, in varying ways:

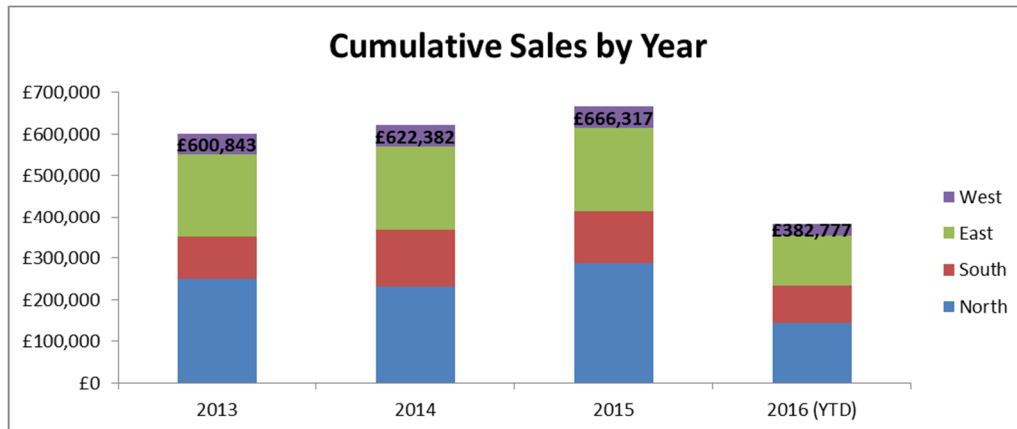
Sales by Region	2013	2014	2015	2016 (YTD)	
North	£250,000	£232,035	£288,200	£145,057	
South	£100,000	£136,308	£125,542	£88,799	
East	£200,843	£200,696	£200,800	£120,121	
West	£50,000	£53,343	£51,775	£28,801	
Total	£600,843	£622,382	£666,317	£382,777	
Average	£150,211	£155,596	£166,579	£95,694	£95,694

Filters

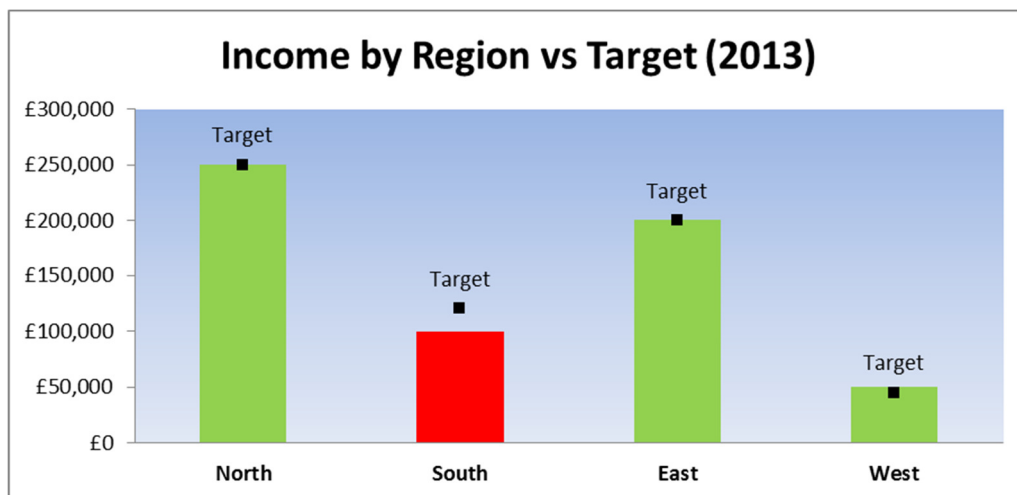
Helper columns

Secondary axis





Income by Region vs Target (2013)				Target	2013	Green	Red	2014	Green	Red	2015	Green	Red	2016 (YTD)	Green	Red
North				£250,000	£250,000	£250,000	£0	£232,035	£0	£232,035	£288,200	£288,200	£0	£145,057	£0	£145,057
South				£120,000	£100,000	£0	£100,000	£136,308	£136,308	£0	£125,542	£125,542	£0	£88,799	£0	£88,799
East				£200,000	£200,843	£200,843	£0	£200,696	£200,696	£0	£200,800	£200,800	£0	£120,121	£0	£120,121
West				£45,000	£50,000	£50,000	£0	£53,343	£53,343	£0	£51,775	£51,775	£0	£28,801	£0	£28,801



We'll zoom in on the detail in the following sections, but these exemplify various possibilities – for example, different **chart types** (column, stacked column, pie and line).

The first is known as a **combination chart** as different series types (column and line) are plotted in a single chart. It makes use of a **secondary vertical axis** (on the right) and **helper columns** in the dataset to enable the orange 'average' line to extend beyond the columns. **Filters** also allow you to look at a limited selection of charted data.

Labels can be linked to spreadsheet cell contents to make them dynamic, and further formatting alters their display (e.g. pie slices show values as a percentage of the whole).

The fourth chart uses extra helper columns (see above) to augment the same dataset, and you can vary data being charted, e.g. only the data surrounded by the red box. Using functions, the data is structured in such a way that it allows us to **apparently conditionally format** columns (green: above / equal to target, red: below target).¹

¹ You cannot conditionally format charts in the way that you can spreadsheet data, but a careful combination of data layout and spreadsheet functions, together with formatting series in particular ways, allow us to pull off this trick.)

3. Charting selected data

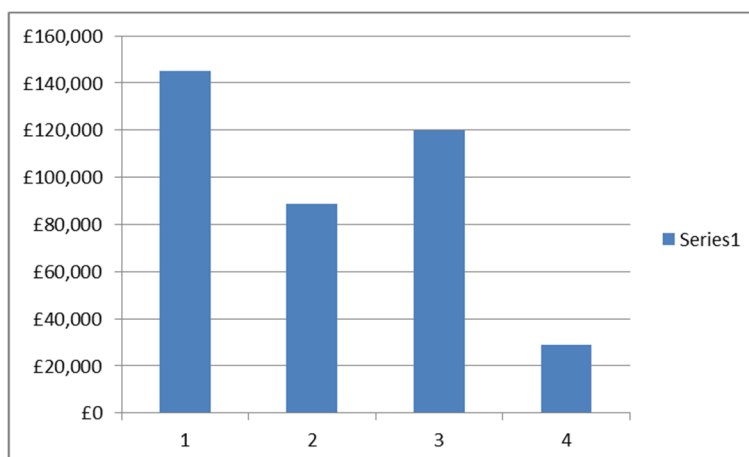
Imagine we have a simple dataset, with no calculated cells – just hard-entered numbers:

Sales by Region	2013-14	2014-15	2015-16	2016-17 (YTD)
North	£250,000	£232,035	£288,200	£145,057
South	£100,000	£136,308	£125,542	£88,799
East	£200,843	£200,696	£200,800	£120,121
West	£50,000	£53,343	£51,775	£28,801

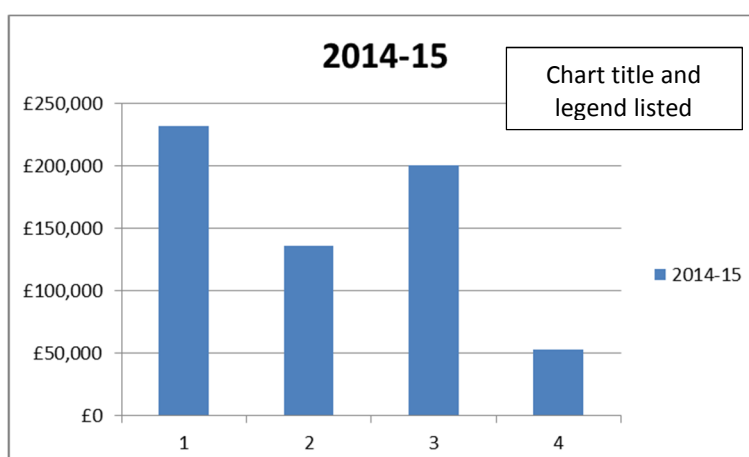
The basic principle of charting data is to select the data to be charted, and then go to **Insert > Chart**,² selecting the desired chart type.

What will be displayed depends on what data you have selected, and particularly whether it includes column and / or row header information.

So selecting just the **black**-bordered data will give you the following:

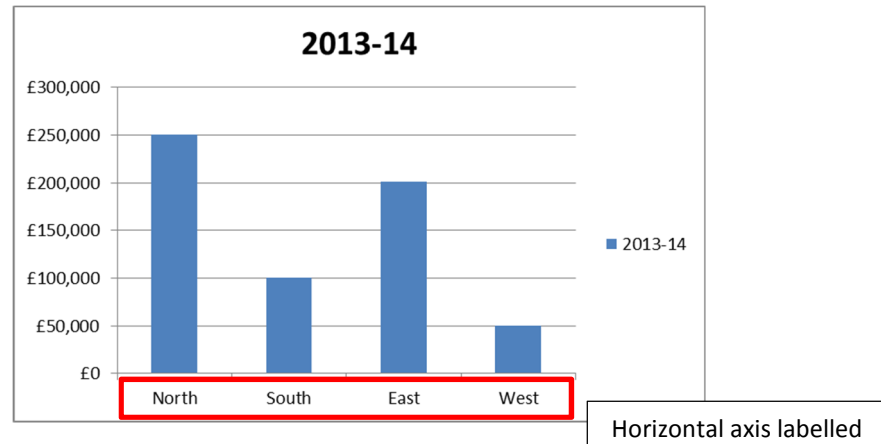


Charting the **red**-bordered data appears like so:

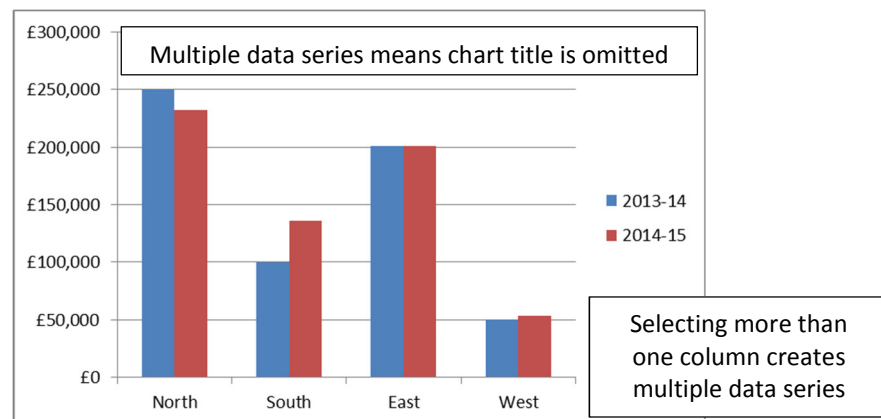


² The shortcut for inserting a chart is Alt + F1. This will put the selected data into a column chart (Excel's default option). You can also insert a blank chart using this shortcut and use the **Select Data** option to add series to the chart (see [Adding a series, section 5](#)).

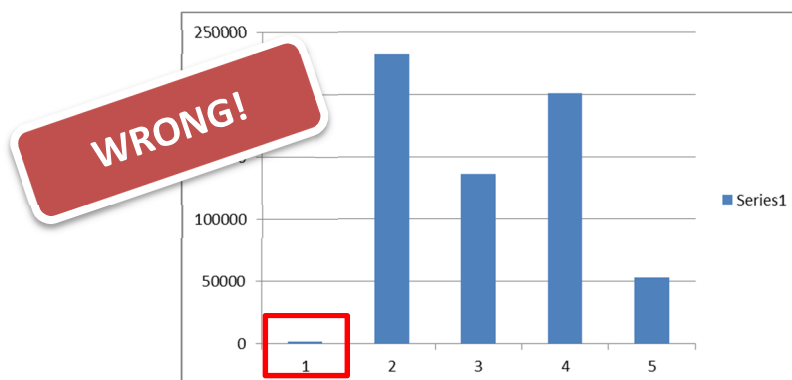
Charting the **green**-shaded area results in this:



And if you selected the **green**-shaded area *and* **red**-bordered data, you end up with this:



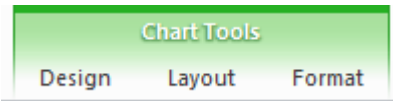
One important note is that you must be careful when dealing with years or other values that *look* like numbers. For example, if our headers were **2013**, **2014**, **2015**, and **2016** and we charted the **red**-bordered data (headed **2014**), we would end up (incorrectly) with this:



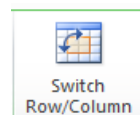
4. Changing chart visualisation

Inserting a chart is a good starting point. However, the same data can have a very different appearance if its structure is changed or elements are added, and this may tell a more useful and informative story.

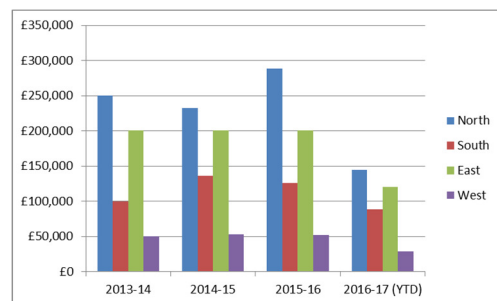
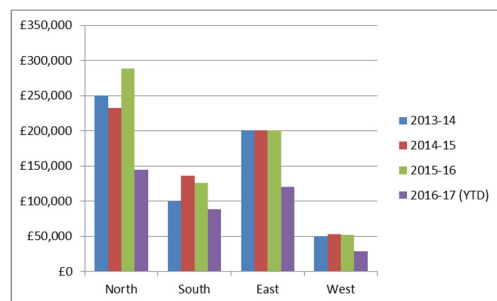
Switch row / column



When a chart is selected,⁴ a **contextual menu** appears at the top of the screen. The three tabs that become available provide multiple options for tweaking your charts.



One of these, under the **Design** tab, is **Switch Row / Column**. This transposes the chart data so that the series become the categories, and vice versa, the result of which (using our full dataset from before) is shown below:

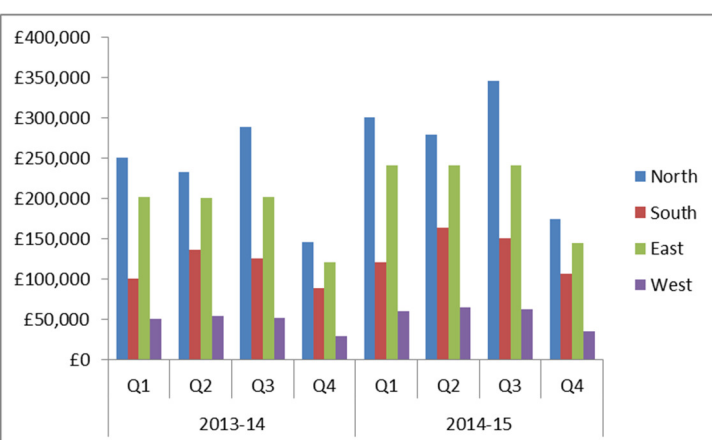


Multi-level category labels

If you want to split categories into multiple levels (e.g. charting *quarterly* data within each year), then you may need to reorientate your data's layout.

Sales by Region	Quarter	North	South	East	West
2013-14	Q1	£250,000	£100,000	£200,843	£50,000
	Q2	£232,035	£136,308	£200,696	£53,343
	Q3	£288,200	£125,542	£200,800	£51,775
	Q4	£145,057	£88,799	£120,121	£28,801
2014-15	Q1	£300,000	£120,000	£241,012	£60,000
	Q2	£278,442	£163,570	£240,835	£64,012
	Q3	£345,840	£150,650	£240,960	£62,130
	Q4	£174,068	£106,559	£144,145	£34,561

This data has been transposed (with example figures) so that multiple categories sit alongside each other (years and quarters). By selecting this entire range and inserting a chart, we get the chart below:



By structuring the data like this, the horizontal axis is split into levels. You can turn this option on and off by using the **Format Axis** option that is available when you right click the chart axis.

Add or remove chart elements

It's easy to overdo it when adding detail, but selecting some of the various options under the **Layout** tab of the Chart Tools menu can add clarity

⁴ You can usually tell that a chart is selected by the presence of a thick grey border.