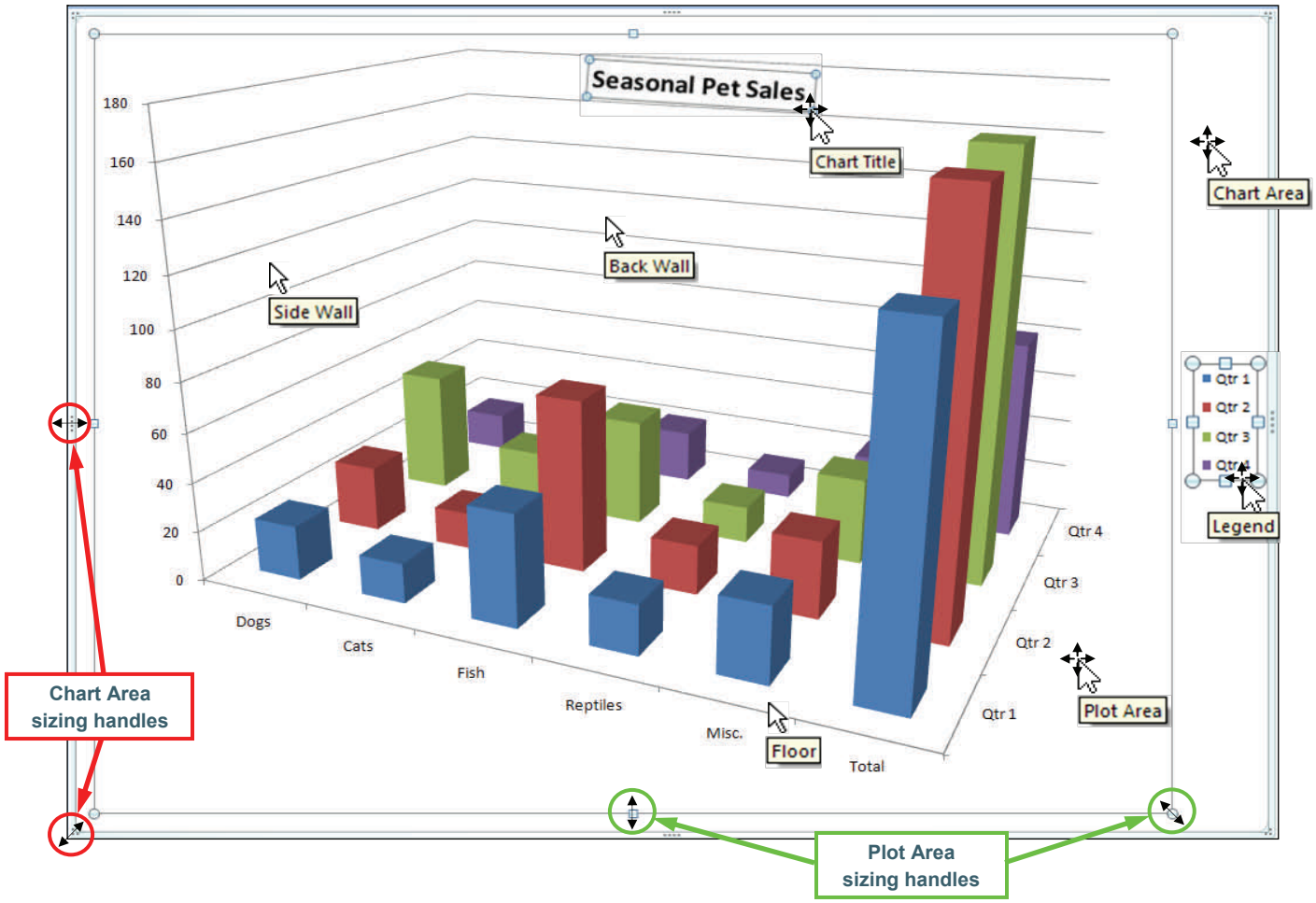
Excel Charts, Part 2: Parts and Views

In a previous Quick Guide, ***Charts in Excel, Part 1***, we looked at the basic steps needed to generate a chart from an Excel data table. In ***Part 2***, we'll see that such a chart, once created, consists of a number of distinct elements, most of which can be moved, rotated, configured, textured, colored, etc., to make the entire chart clearer and more effective... or just to add "pizzazz!" In this guide, we'll cover some of these variables, and how they are manipulated. To start, though, we'll need to know the names of the various components we're dealing with.

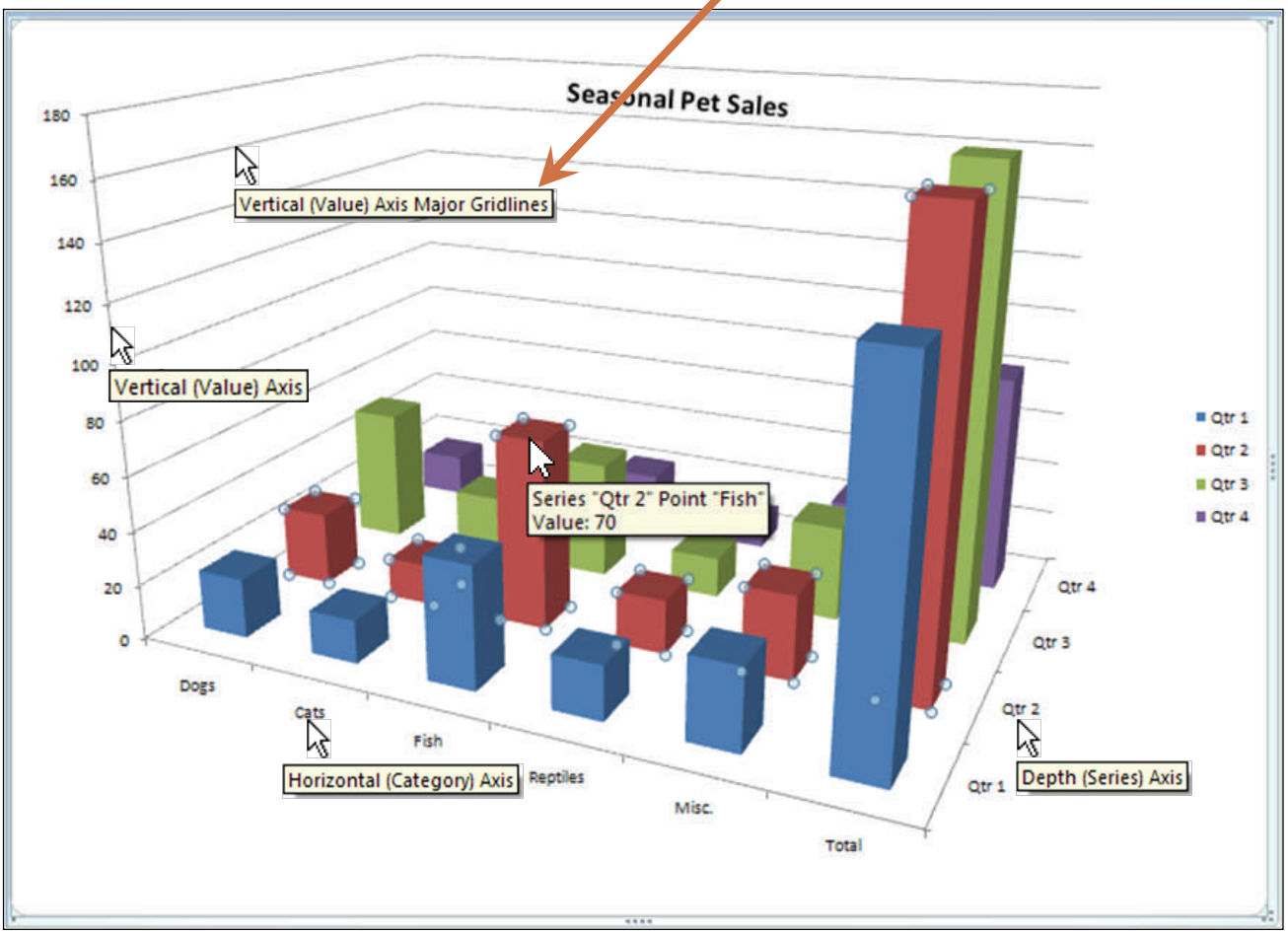
1.) The illustration below shows some of the different components of a "3-D" chart, the names of which appear in text label boxes as I move my cursor into various areas. The cursor also changes, to indicate — by the symbol — which areas can be shifted with a left-click-and-drag action.



(The image above is a composite — normally only one label would appear at a time.)

2.) The chart below is another composite image, showing cursor rollover labels which appear for the three axes of a 3-D chart**:**

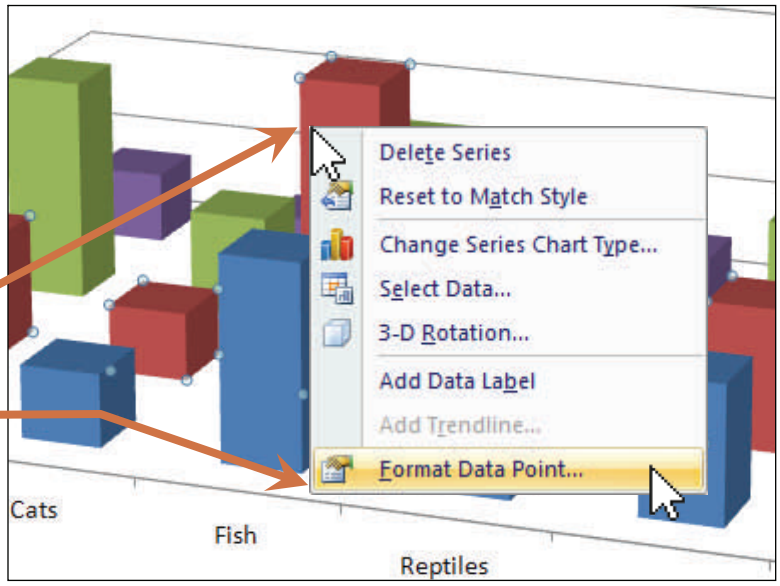
- The **Category** axis, corresponding to the labeled rows of an Excel spreadsheet;
- The **Series** axis, corresponding to the labeled columns of the same spreadsheet; and
- The **Value** axis, corresponding to numerical values in each cell of the spreadsheet. The lines found on the side and back walls of the chart indicate selected interval values on the third axis, as indicated by this label:



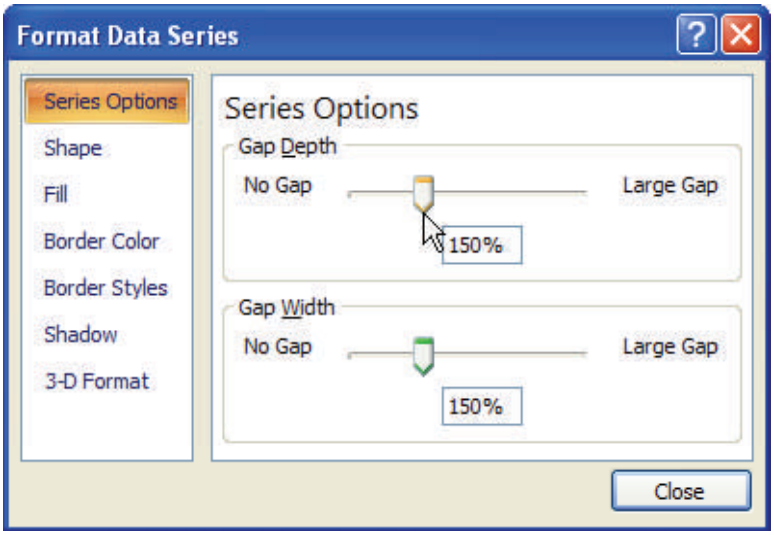
For 3-D bar graphs, these three axes correspond, respectively, to the X, Y and Z axes of a regular three-dimensional coordinate system.

3.) Clicking on any bar in this graph will select all members of the corresponding series (e.g., the **red** bars shown above), while double-clicking will select only the individual bar. In either case, leaving the cursor in place will bring up the specifics for that bar, including its designation according to all three axes, as shown in the center of the illustration above.

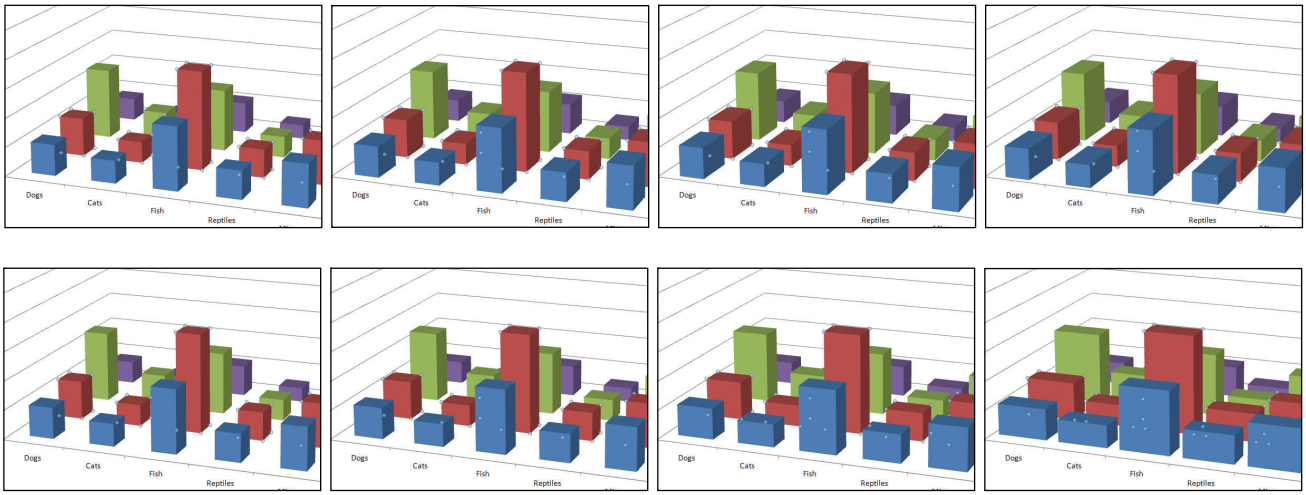
4.) The width and relative spacing (gap) of elements in bar graphs are adjustable. In 3-D graphs, this applies along both the category and the series dimensions, and is adjusted by my right-clicking on a bar, then selecting the **Format Data Point** choice in the dialog box which comes up.



5.) The default values in the **Format Data Series** box are 150%. This means that the gaps between bars are 1.5 times the bar size in both dimensions (Gap Depth along the Series axis; Gap Width along the Category axis — see previous illustration).

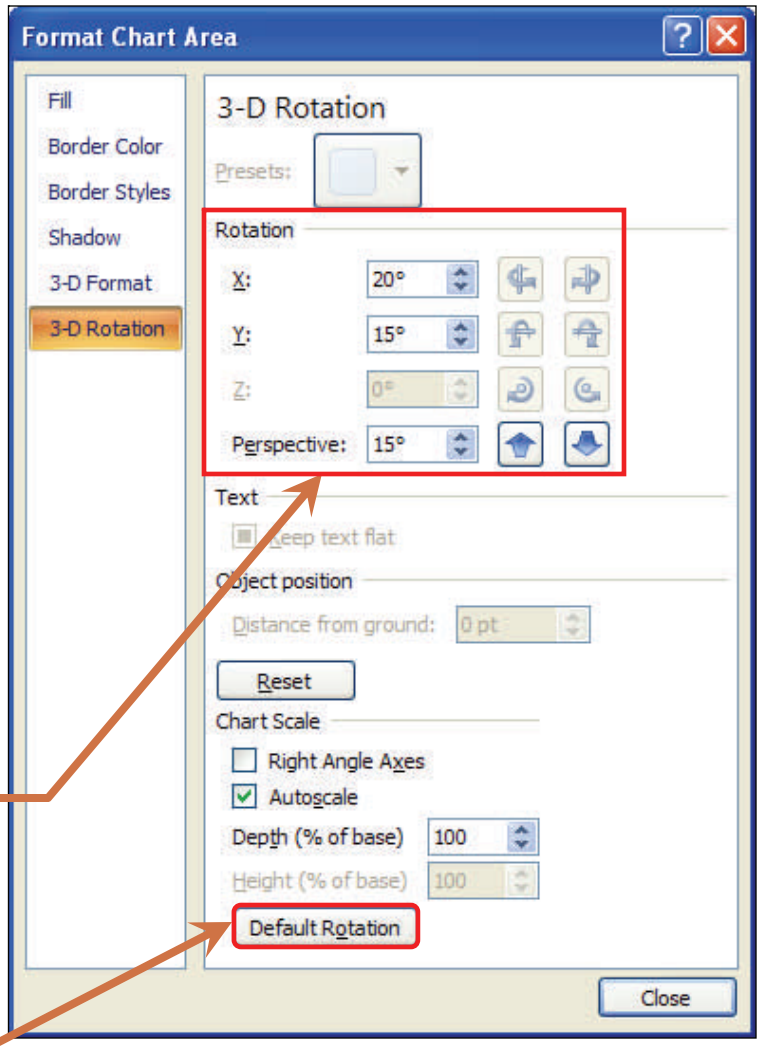


The two series of images below show how the graph's appearance will change, as first the gaps' *depth* and then their *width* each independently change ratios from 150% to 110% to 70% to 25% of that of the bars themselves:

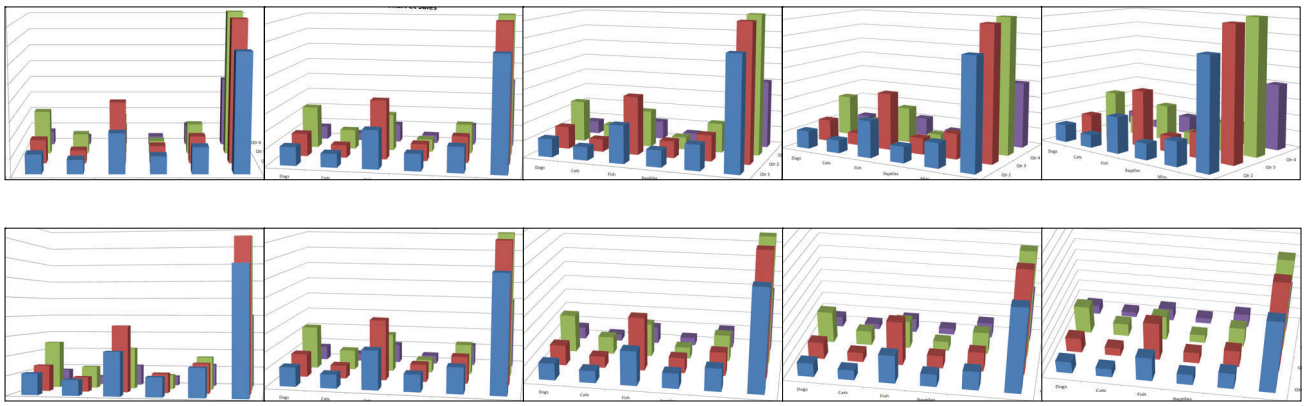
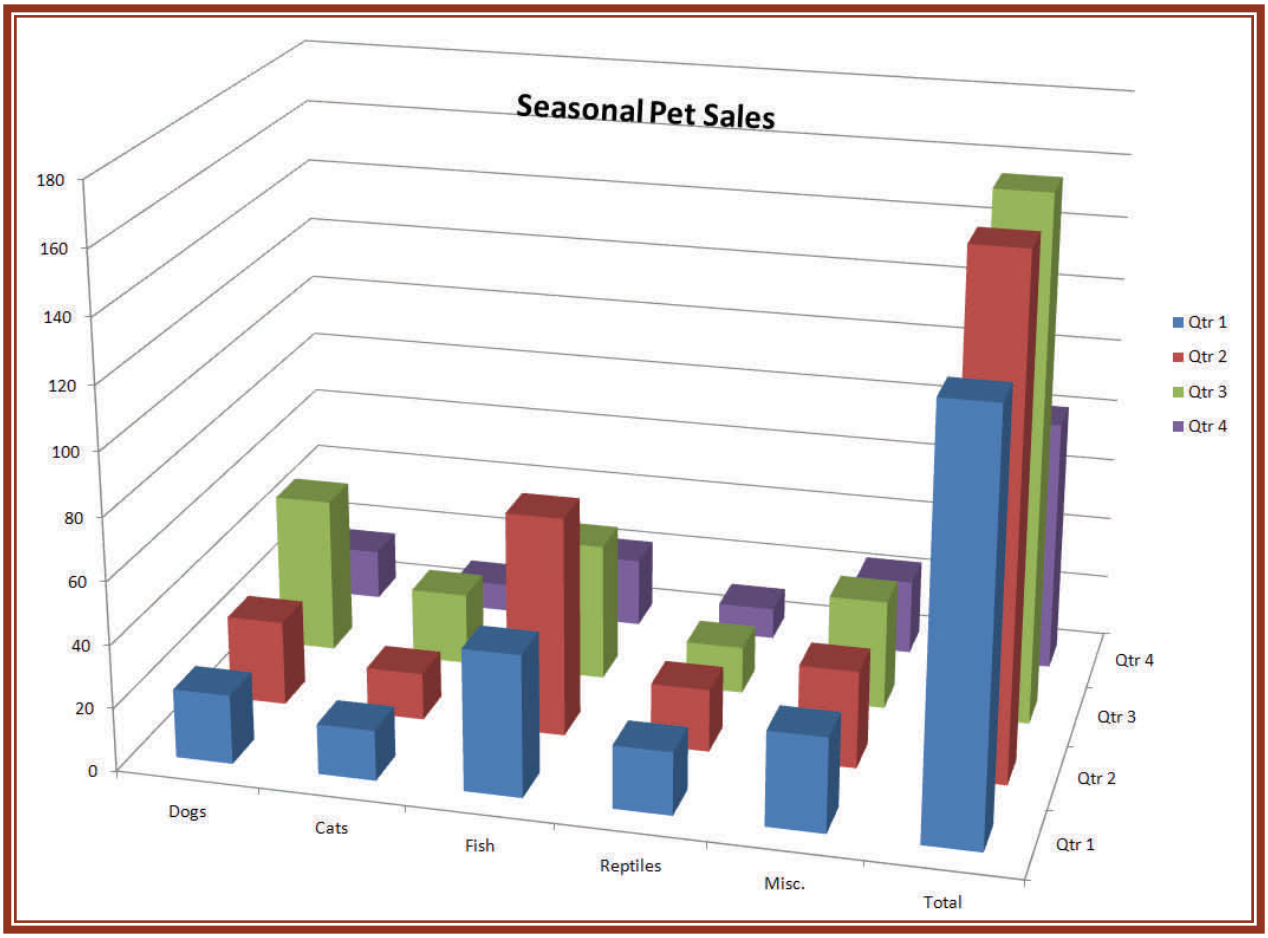


6.) A 3-D chart can often mask some values, hiding them behind others. For example, in the first illustration in this Guide, notice that the bar representing 4th quarter cat sales is obscured by others in front of it. One way I can solve this problem — and vary my view of Excel charts in general — is to rotate my viewpoint around one or more of the three axes in the chart.

I start by right-clicking anywhere on the chart, and choosing **3-D Rotation…** from the resulting menu, which then gives me the dialog box at right.
The **X** and **Y** axis values shown are the default ones, and can be changed with the up/down arrows, or by typing in selected values, then clicking on **Close**. I can always return the chart to the default settings by clicking here:



7.) For illustration: in the first series of images below, the **Y** axis is held constant at 10° and the **X** axis is set consecutively at 0°, 10°, 20°, 30° and 40°. In the second series, it is the **X** axis which is held constant, also at 10°, and the **Y** axis which is then rotated from 0° through 40°.



8.) With this chart, a little experimentation helps me find an acceptable combination of axis rotations which makes all the value bars visible. The final chart shown below uses an **X** axis rotation of +15° and a **Y** axis rotation of +20°.