

Excel Date-Based Charts: Line versus Scatter (XY)

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Excel's line and scatter (XY) charts can create identical date-based graphs. They differ in how they measure time.



These two charts are different types. The left is a Line chart; the right is a scatter (XY) chart. Both use the same data (center below). They differ in how they measure time.

Compare their Format Axis windows.

The 'Format Axis' window for a Line Chart shows the 'AXIS OPTIONS' tab. Under 'Axis Type', the 'Date axis' option is selected. The 'Bounds' section shows 'Minimum' set to 1/1/1962 and 'Maximum' set to 9/1/2018, both with 'Auto' buttons. The 'Units' section shows 'Major' units set to 5, with a dropdown menu set to 'Years' and a 'Reset' button.

Frequency: Monthly	DGS10
1962-01-01	4.08
1962-02-01	4.04
1962-03-01	3.93
1962-04-01	3.84
1962-05-01	3.87
1962-06-01	3.91
1962-07-01	4.01
1962-08-01	3.98
1962-09-01	3.98
1962-10-01	3.93
1962-11-01	3.92
1962-12-01	3.86

The 'Format Axis' window for an XY Plot shows the 'AXIS OPTIONS' tab. Under 'Axis Type', the 'Date axis' option is selected. The 'Bounds' section shows 'Minimum' set to 22647.0 and 'Maximum' set to 43500.0. The 'Units' section shows 'Major' units set to 1850.0.

These two charts measure date-times in different units.

- The Line chart (left) uses month/day/year units.
- The scatter (XY) chart (right) uses Excel units: days since Jan 1, 1900.

Moral: Use the line chart, not the scatter (XY) chart, when plotting data versus date-based time.

Source: Excel 2013.

Copy at www.StatLit.org/pdf/2018-Schild-Excel-Date-Based-Charts.pdf