

**Deviation**

Show the relationship between two or more variables. Be mindful that, unless you tell them otherwise, many readers will assume that the relationship between them is causal (i.e. one causes the other).

**Example FT uses**  
Inflation and unemployment, income and life expectancy

**Correlation**

Show the relationship between two or more variables. Be mindful that, unless you tell them otherwise, many readers will assume that the relationship between them is causal (i.e. one causes the other).

**Example FT uses**  
Trade surplus/deficit, climate change and life expectancy

**Ranking**

Use where an item's position in an ordered list is more important than its absolute or relative value. Don't be afraid to highlight the points of interest.

**Example FT uses**  
Money, league tables, constituency election results

**Distribution**

Show values in a dataset and how often they occur. The shape (or 'skew') of a distribution can be a memorable way of describing the nature of uniformity or equality in the data.

**Example FT uses**  
Income distribution, population (age/sex) distribution, revealing inequality

**Change over Time**

Give emphasis to changing trends. These can be short (intra-day) movements or extended series (inter-annual). Choosing the correct time period is important to provide suitable context for the reader.

**Example FT uses**  
Share price movements, economic time series, sectoral changes in a market

**Magnitude**

Show size comparisons. These can be relative (just being able to see larger/smaller) or absolute (need to see the actual values). The use of 'counted' number (for example, barrels, dollars or people) rather than a calculated rate or per cent.

**Example FT uses**  
Financial company structures, national election results

**Part-to-whole**

Show how a single entity can be broken down into its component elements. If the reader's interest is solely in the size of the whole, a pie chart or a magnitude-type chart instead.

**Example FT uses**  
Financial company structures, national election results

**Spatial**

Aside from locator maps only used when precise locations or geographical patterns in data are more important to the reader than anything else.

**Example FT uses**  
Population density, natural resource distribution, company catchment areas, variation in election results

**Flow**

Show the reader volumes or intensity of movement between two or more states or conditions. These might be logical sequences or geographical locations.

**Example FT uses**  
Movement of funds, trade, migrants, information, relationship graphs.

**Diverging bar**

A simple standard bar chart that can handle both negative and positive magnitude values.

**Diverging stacked bar**

Perfect for presenting survey results with two contrasting components (eg disagree/neutral/agree).

**Spine**

Splits a single value into two contrasting components (eg male/female).

**Surplus/deficit filled line**

The shaded area of these charts allows a balance to be shown – either against a variable or between two series.

**Scatterplot**

The standard way to show the relationship between two continuous variables, each of which has its own axis.

**Column + line timeline**

A good way of showing the change over time of a series with an amount (columns) and a rate (line).

**Connected scatterplot**

Usually used to show how the relationship between 2 variables changes over time.

**Bubble**

Like a scatterplot, but adds additional detail by sizing the circles either against a third variable or between two series.

**Ordered bar**

Standard bar charts to display the ranks of values much more easily when sorted into order.

**Ordered column**

See above.

**Ordered proportional symbol**

Use when there are big variations between values and/or seeing how the relationship between data is not so important.

**Dot strip plot**

Dots placed in order on a strip are a space-efficient method of laying out data, especially when many dots have the same value.

**Slope**

Perfect for showing the relationship between values changed over time or vary between categories.

**Lollipop**

Lollipops draw more attention to the data points than a standard bar/column and can also show rank and value effectively.

**Bump**

Effective for showing changing rankings across multiple dates. The lines are connected, so consider grouping lines using colour.

**Histogram**

The standard way to show a statistical distribution - keep the gaps between columns small to highlight the shape of the data.

**Dot plot**

A simple way of showing the change over time of a series with only one series of data across multiple categories.

**Dot strip plot**

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**Barcode plot**

Like dot strip plots, good for displaying all the data in a table. The work best when displaying individual values.

**Boxplot**

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**Violin plot**

Similar to a box plot but more effective with skewed distributions. The shape of the data that cannot be summarised with simple average).

**Population pyramid**

A standard way for showing the age and sex breakdown of a population. The data is effectively back to back histograms.

**Cumulative curve**

A good way of showing how unequal a distribution is: y axis is always cumulative frequency, x axis is always a measure.

**Frequency polygons**

For displaying multiple distributions of data. Like a regular line chart, best limited to a maximum of 3 or 4 datasets.

**Besworn**

Use to emphasise individual points in a series. Points can be sized to an additional variable. Best with medium-sized datasets

**Line**

The standard way to show a changing time series. If data are irregular, consider markers to represent data points.

**Column**

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**Area chart**

Use with care - these charts draw more attention to the changes in total, but seeing change in components can be very difficult.

**Candlestick**

Usually focused on day-to-day activity, but can be used for opening/closing and high/low points of each day.

**Fan chart (pictogram)**

Excellent solution in some instances - use only with whole numbers. The slices off an arm to represent a decimal).

**Lollipop**

Lollipop charts draw more attention to the data value than a standard bar/column - does not have to start at zero (but preferable).

**Radar**

A space-efficient way of showing multiple variables - but make sure they are organised in a way that makes sense to reader.

**Parallel coordinates**

An alternative to radar charts - again, the lines are connected, so make sure the variables are important. Usually benefits from highlighting values.

**Bullet**

Good for showing a measurement against the context of a target or performance range.

**Grouped symbol**

An alternative to bar/column charts when being able to count data or highlight individual elements is useful.

**Column**

The standard way to compare the size of things. Must always start at 0 on the axis.

**Bar**

See above. Good when the data are not time series and/or the categories have long category names.

**Paired column**

As per standard column but allows for comparison of two series with more than 2 series.

**Paired bar**

See above.

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Use for hierarchical part-to-whole relationships; can be difficult to read when there are many small segments.

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**Marimekko**

A good way of showing the size and proportion of data at the same time - as long as the data are not too complicated.

**Pie**

A common way of showing part-to-whole data - but be aware that pie charts are difficult to read with more than 2 segments.

**Donut**

Similar to a pie chart - but the centre can be a good way of making space to include more information about the data (eg total).

**Treemap**

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**Voronoi**

A way of turning points into areas - any area closer to a particular point than any other centroid.

**Arc**

A hemicycle, often used for visualising parliamentary constituencies or number of seats.

**Gridplot**

Good for showing % information, they work best when used on whole numbers and work well in small multiple layout form.

**Venn**

Generally only used for showing the relationship between sets or representation.

**Waterfall**

Can be useful for showing part-to-whole information where some of the components are negative.

**Basic choropleth (rate/ratio)**

The standard approach for putting data on a map - should always be rates rather than totals and use a sensible base geography.

**Proportional symbol (count/magnitude)**

Use for totals rather than rates. The size of the symbol can be very large and the difference in data will be hard to see.

**Flow map**

For showing unambiguous movement across a map.

**Contour map**

For showing areas of equal value on a map. Can use deviation colour schemes for showing +/- values

**Equalized cartogram**

Converting each unit on a map to an equally-sized shape - good for representing voting regions with equal value.

**Scaled cartogram (value)**

Stretching and shrinking a map so that the area is scaled according to a particular value.

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**Chord**

A complex but powerful diagram which can illustrate 2-way relationships (winner) in a matrix.

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**Visual Vocabulary**

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