

# How to choose a data visualization

## If your data has a changing variable

### You can use these visualizations

### Which look like this

#### Line charts

Individual data points for a changing variable are connected with a continuous line

Download a [stacked line chart](#) in Google Sheets

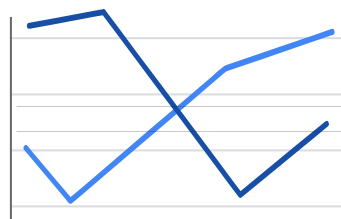
##### Single:

when the changing variable is for a single category



##### Stacked:

when the changing variable applies to more than one category and you want to compare categories



#### Column charts

(vertical bar charts)

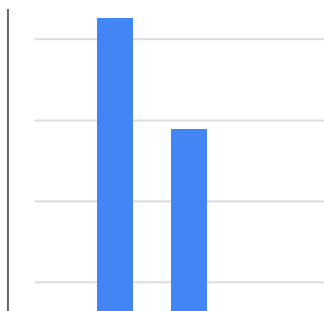
Individual data points for a changing variable are represented as vertical columns

**Note:** If the values being compared are vastly different, a column chart might be too tall. You can use a horizontal bar chart instead.

Download [examples](#) in Google Sheets

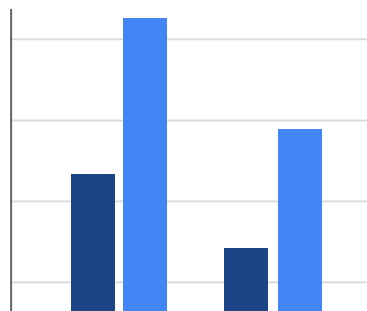
##### Single:

when the changing variable is for a single category



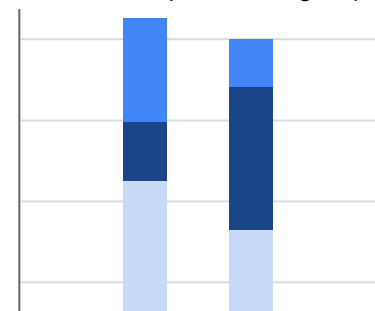
##### Grouped:

when the variable change applies to more than one category and you want to compare categories



##### Stacked:

when the variable change applies to more than one category and you want to compare categories without the spread of a group



#### Horizontal bar charts

Individual data points for a changing variable for one or more categories; these appear like rotated column charts

Download [examples](#) in Google Sheets

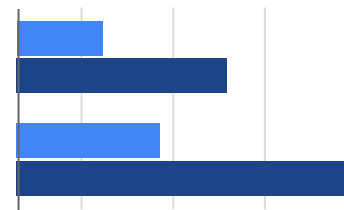
##### Single:

when the changing variable is for a single category



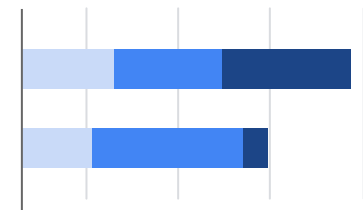
##### Grouped:

when the variable change applies to more than one category and you want to compare categories

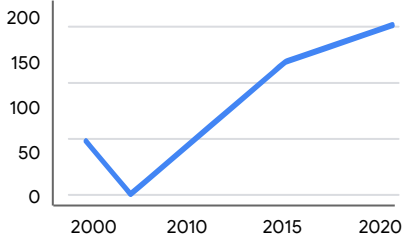
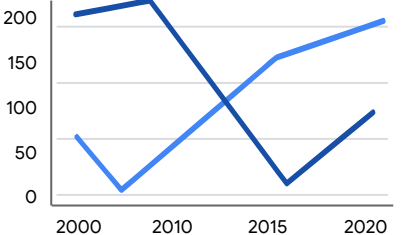
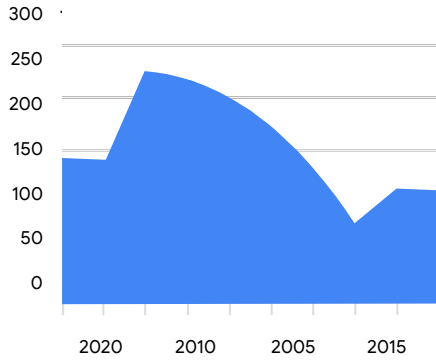
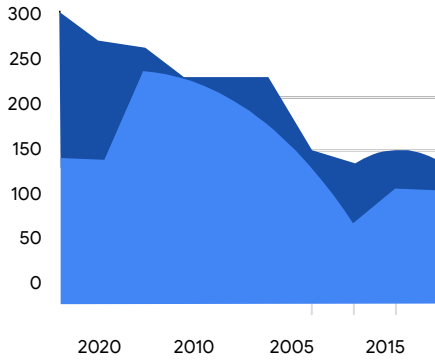
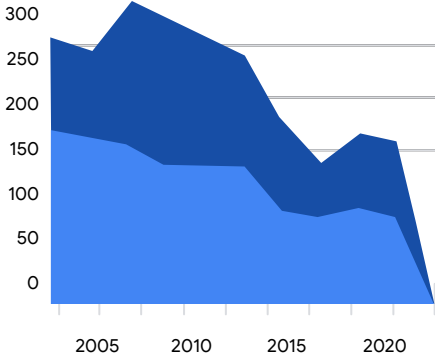


##### Stacked:

when the variable change applies to more than one category and you want to compare categories without the spread of a group



# How to choose a data visualization

If your data has a changing variable measured over time		
You can use these visualizations	Which look like this	
<h3>Line charts</h3> <p>Individual data points for a changing variable are connected with a continuous line</p> <p>Download a <a href="#">stacked line chart</a> in Google Sheets</p>	<p>The line charts are similar to those for a changing variable but <b>time</b> is shown on the x-axis</p>	<div><p><b>Single:</b> when the change over time is for a single item or classification</p></div> <div><p><b>Stacked:</b> when the change over time is for multiple items or classifications</p></div>
<h3>Area charts</h3> <p>Individual data points for a changing variable are connected with a continuous line and the area under the line is filled in</p> <p>Download a <a href="#">stacked area chart</a> in Google Sheets</p>	<p><b>Single:</b> when the variable change is for a single category over time</p> 	<div><p><b>Unstacked:</b> when data doesn't align on the x-axis (data is from different time points)</p></div> <div><p><b>Stacked:</b> when data aligns on the x-axis (data is from the same time points)</p></div>

# How to choose a data visualization

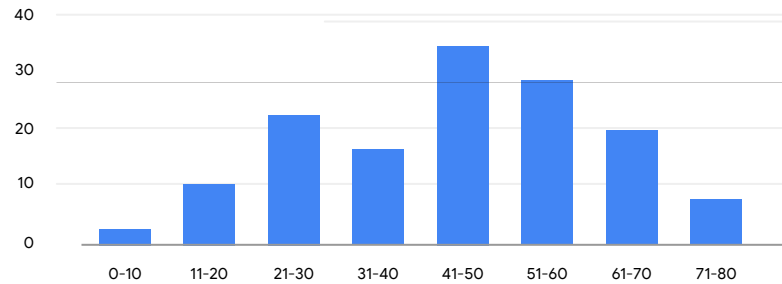
## If your data has a numeric trend

### You can use these visualizations

#### Histograms

Individual data points are categorized into columns that each represent a different range of values

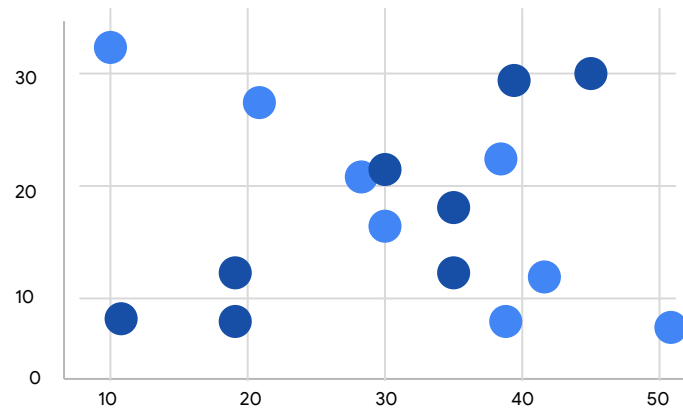
Download a [histogram](#) in Google Sheets



#### Scatter charts

Individual data points are displayed, but without a connecting line like in a line chart

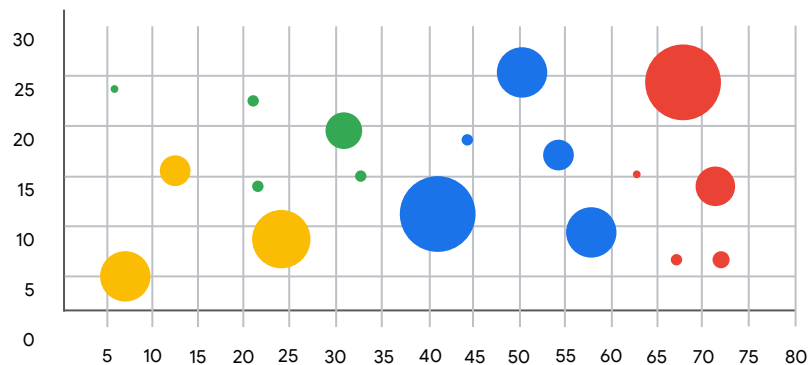
Download a [scatter chart](#) in Google Sheets



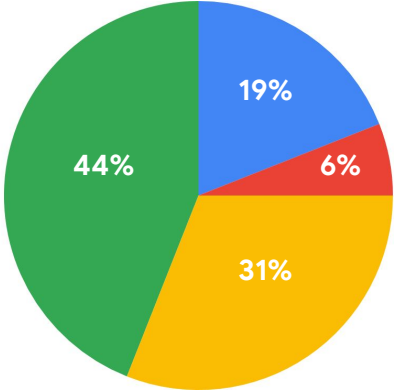
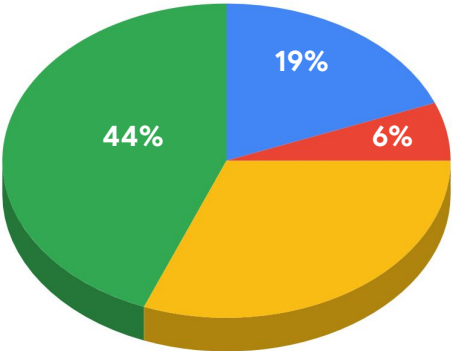
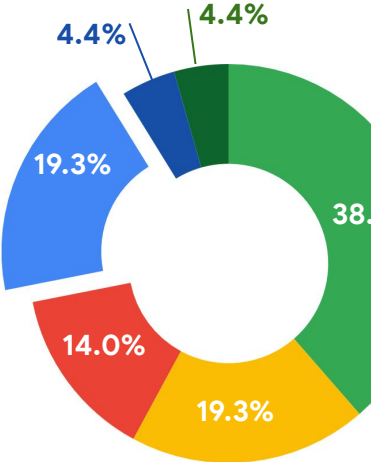
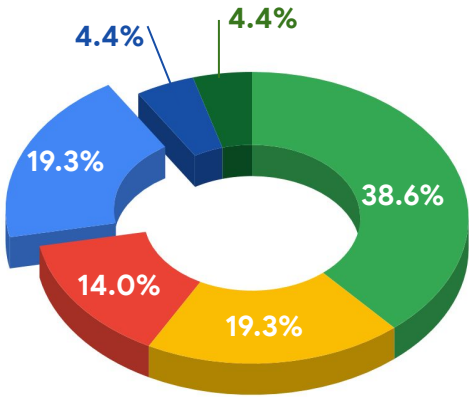
#### Bubble charts

Individual data points are displayed as bubbles like in a scatter plot, but numeric values are compared relative size of the bubbles

Download a [bubble chart](#) in Google Sheets



# How to choose a data visualization

If your data has partial and whole results	
You can use these visualizations	Which look like this
<p><b>Pie charts</b></p> <p>2D or 3D proportions (slices) are shown adding up to a whole or 100%</p> <p>Download a <a href="#">2D pie chart</a> in Google Sheets</p>	<div><p>Two-dimensional:</p></div> <div><p>Three-dimensional:</p></div>
<p><b>Donut charts</b></p> <p>2D or 3D proportions (segments) adding up to a whole or 100%</p> <p>Download a <a href="#">2D donut chart</a> in Google Sheets</p>	<div><p>Two-dimensional:</p></div> <div><p>Three-dimensional:</p></div>

## How to choose a data visualization

If your data is progressive	
You can use these visualizations	Which look like this
<b>Gauge charts</b> Single result is shown within a progressive range of values allowed  Download <a href="#">gauge charts</a> in Google Sheets	
<b>Bullet charts</b> Progressive result is shown as a horizontal or vertical bar chart moving towards a desired value	
If your data has intensity or frequency	
You can use these visualizations	Which look like this
<b>Heat maps</b> Results are shown by color gradations representing the strength or frequency of values; higher or more frequent values have more intense color	

## How to choose a data visualization

If your data has intensity or frequency (continued)	
You can use these visualizations	Which look like this
<b>Density maps</b> Results are shown by color representing the number or frequency of data points in a given area on a map	