

How to choose a data visualization

If your data has a changing variable

You can use these visualizations

Which look like this

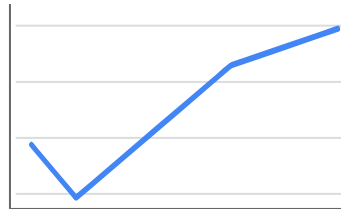
Line charts

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

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

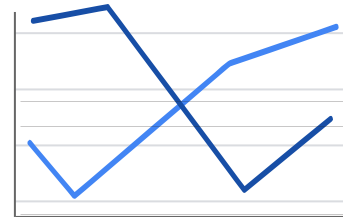
Single:

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)

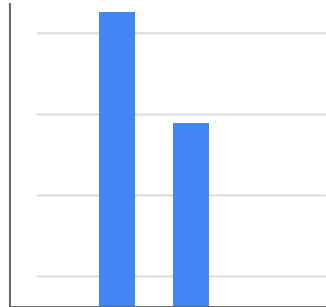
Individual data points for a changing variable are represented as vertical columns

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

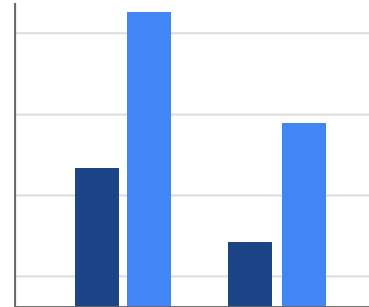
Single:

when the changing variable is for a single category



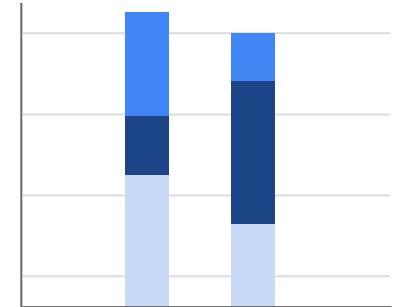
Grouped:

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



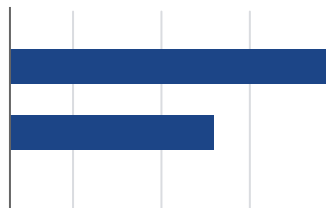
Horizontal bar charts

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

Download [examples](#) in Google Sheets

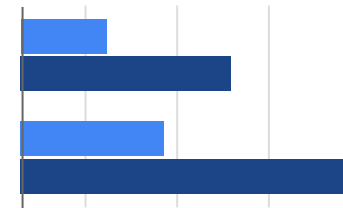
Single:

when the changing variable is for a single category



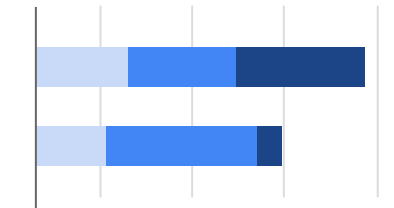
Grouped:

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

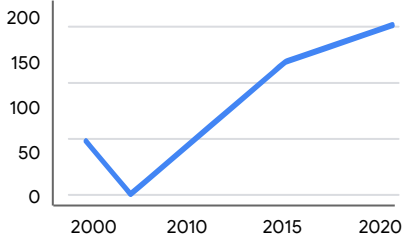
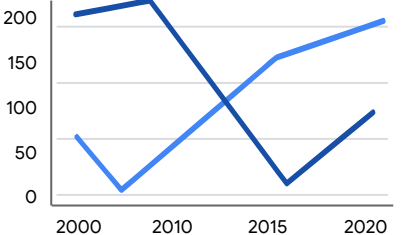
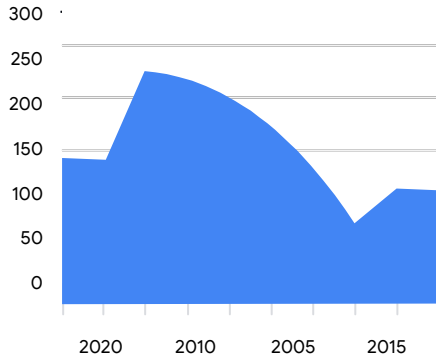
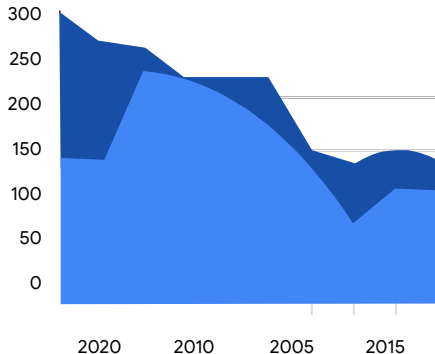
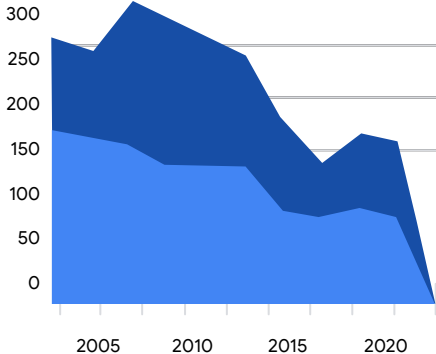


Stacked:

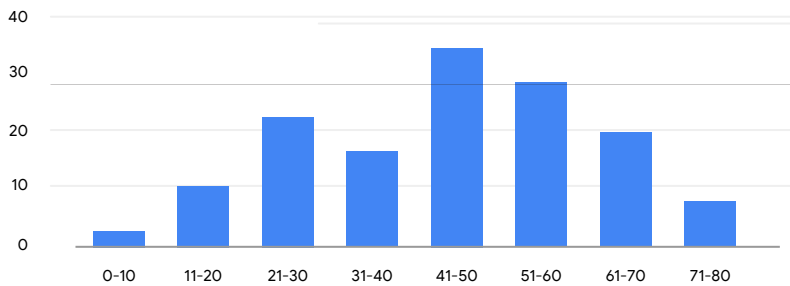
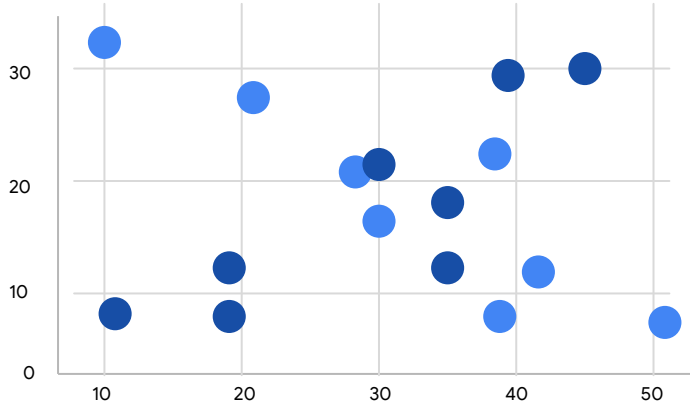
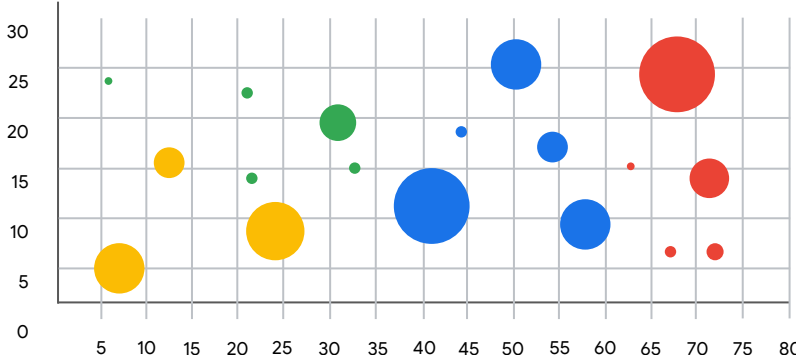
when the variable change applies to more than one category and you want to compare categories without the spread of a group



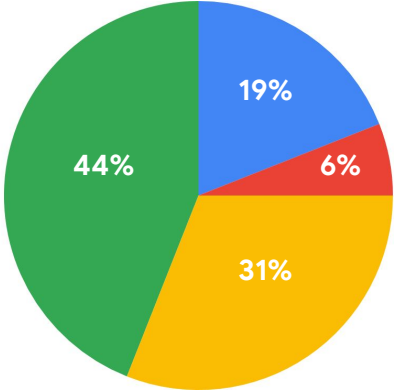
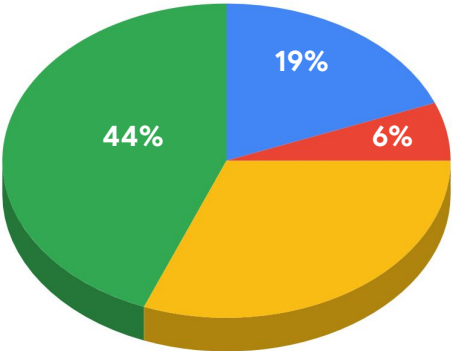
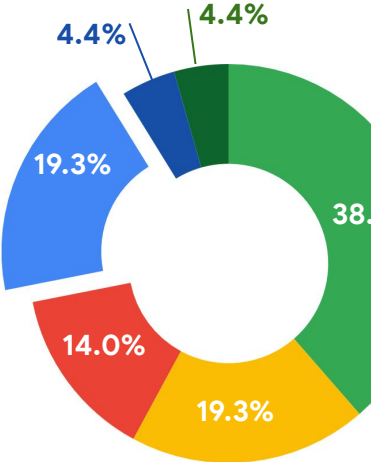
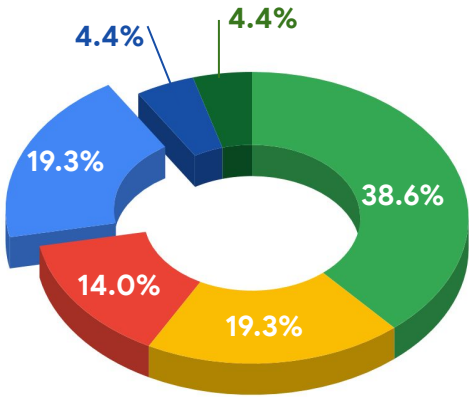
How to choose a data visualization

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 stacked line chart in Google Sheets</p>	<p>The line charts are similar to those for a changing variable but time is shown on the x-axis</p>	<div><p>Single: when the change over time is for a single item or classification</p></div> <div><p>Stacked: 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 stacked area chart in Google Sheets</p>	<p>Single: when the variable change is for a single category over time</p> 	<div><p>Unstacked: when data doesn't align on the x-axis (data is from different time points)</p></div> <div><p>Stacked: 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	Which look like this																																																																				
<h3>Histograms</h3> <p>Individual data points are categorized into columns that each represent a different range of values</p> <p>Download a histogram in Google Sheets</p>	 <table><tr><th>Age Range</th><th>Frequency</th></tr><tr><td>0-10</td><td>2</td></tr><tr><td>11-20</td><td>10</td></tr><tr><td>21-30</td><td>22</td></tr><tr><td>31-40</td><td>16</td></tr><tr><td>41-50</td><td>34</td></tr><tr><td>51-60</td><td>28</td></tr><tr><td>61-70</td><td>20</td></tr><tr><td>71-80</td><td>8</td></tr></table>	Age Range	Frequency	0-10	2	11-20	10	21-30	22	31-40	16	41-50	34	51-60	28	61-70	20	71-80	8																																																		
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<h3>Scatter charts</h3> <p>Individual data points are displayed, but without a connecting line like in a line chart</p> <p>Download a scatter chart in Google Sheets</p>	 <table><tr><th>X-axis Value</th><th>Y-axis Value</th></tr><tr><td>10</td><td>33</td></tr><tr><td>10</td><td>8</td></tr><tr><td>20</td><td>28</td></tr><tr><td>20</td><td>12</td></tr><tr><td>20</td><td>7</td></tr><tr><td>30</td><td>21</td></tr><tr><td>30</td><td>17</td></tr><tr><td>30</td><td>22</td></tr><tr><td>35</td><td>18</td></tr><tr><td>35</td><td>12</td></tr><tr><td>40</td><td>30</td></tr><tr><td>40</td><td>23</td></tr><tr><td>40</td><td>7</td></tr><tr><td>45</td><td>30</td></tr><tr><td>45</td><td>11</td></tr><tr><td>50</td><td>7</td></tr></table>	X-axis Value	Y-axis Value	10	33	10	8	20	28	20	12	20	7	30	21	30	17	30	22	35	18	35	12	40	30	40	23	40	7	45	30	45	11	50	7																																		
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<h3>Bubble charts</h3> <p>Individual data points are displayed as bubbles like in a scatter plot, but numeric values are compared relative size of the bubbles</p> <p>Download a bubble chart in Google Sheets</p>	 <table><tr><th>X-axis Value</th><th>Y-axis Value</th><th>Color</th><th>Relative Size</th></tr><tr><td>5</td><td>25</td><td>Green</td><td>Small</td></tr><tr><td>10</td><td>7</td><td>Yellow</td><td>Large</td></tr><tr><td>15</td><td>17</td><td>Yellow</td><td>Medium</td></tr><tr><td>20</td><td>24</td><td>Green</td><td>Small</td></tr><tr><td>25</td><td>10</td><td>Yellow</td><td>Large</td></tr><tr><td>30</td><td>21</td><td>Green</td><td>Medium</td></tr><tr><td>35</td><td>16</td><td>Green</td><td>Small</td></tr><tr><td>40</td><td>12</td><td>Blue</td><td>Large</td></tr><tr><td>45</td><td>20</td><td>Blue</td><td>Small</td></tr><tr><td>50</td><td>27</td><td>Blue</td><td>Medium</td></tr><tr><td>55</td><td>18</td><td>Blue</td><td>Medium</td></tr><tr><td>60</td><td>10</td><td>Blue</td><td>Medium</td></tr><tr><td>65</td><td>16</td><td>Red</td><td>Small</td></tr><tr><td>70</td><td>27</td><td>Red</td><td>Large</td></tr><tr><td>70</td><td>15</td><td>Red</td><td>Medium</td></tr><tr><td>75</td><td>8</td><td>Red</td><td>Small</td></tr></table>	X-axis Value	Y-axis Value	Color	Relative Size	5	25	Green	Small	10	7	Yellow	Large	15	17	Yellow	Medium	20	24	Green	Small	25	10	Yellow	Large	30	21	Green	Medium	35	16	Green	Small	40	12	Blue	Large	45	20	Blue	Small	50	27	Blue	Medium	55	18	Blue	Medium	60	10	Blue	Medium	65	16	Red	Small	70	27	Red	Large	70	15	Red	Medium	75	8	Red	Small
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How to choose a data visualization

If your data has partial and whole results	
You can use these visualizations	Which look like this
<p>Pie charts</p> <p>2D or 3D proportions (slices) are shown adding up to a whole or 100%</p> <p>Download a 2D pie chart in Google Sheets</p>	<div><p>Two-dimensional:</p></div> <div><p>Three-dimensional:</p></div>
<p>Donut charts</p> <p>2D or 3D proportions (segments) adding up to a whole or 100%</p> <p>Download a 2D donut chart 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
Gauge charts Single result is shown within a progressive range of values allowed Download gauge charts in Google Sheets	
Bullet charts 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
Heat maps 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

Density maps

Results are shown by color representing the number or frequency of data points in a given area on a map

Which look like this

