

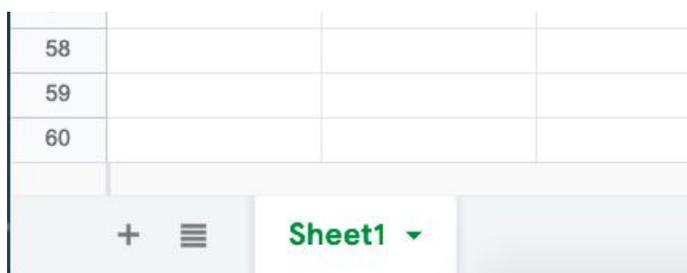
Advanced Google Sheets

This document covers some more advanced topics in the Google Sheets web application. This covers more about formatting than programming (using functions in cells). This will hopefully give you some ideas for things you can try yourself.

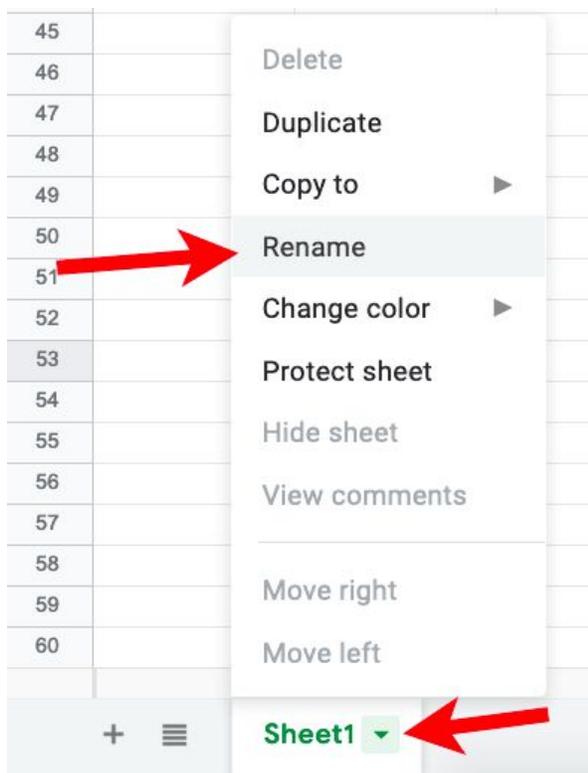
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Sheets

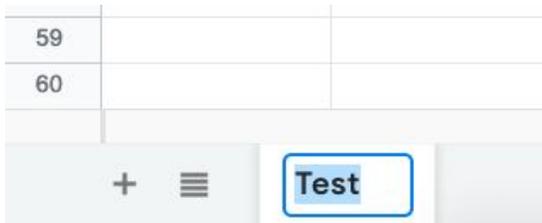
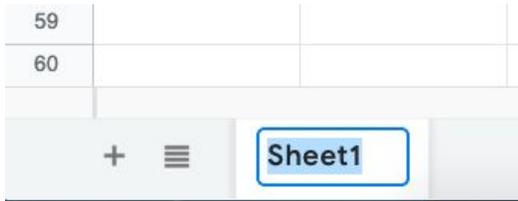
Each Google Sheets document has one or more sheets. Each sheet contains rows and columns of cells. When you create a new document it has one sheet, which you can see at the bottom of the window:



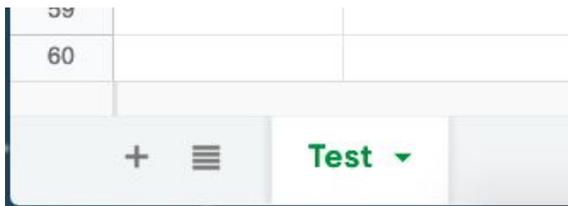
You can rename the the sheet by clicking on the down arrow next to the name:



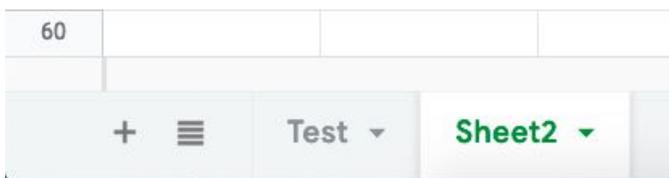
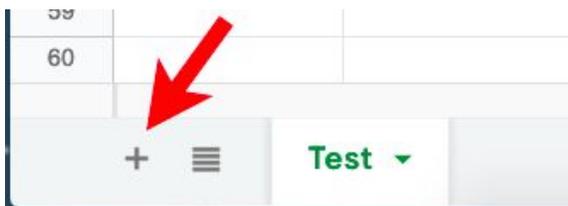
This highlights the name and you can type in the new one:



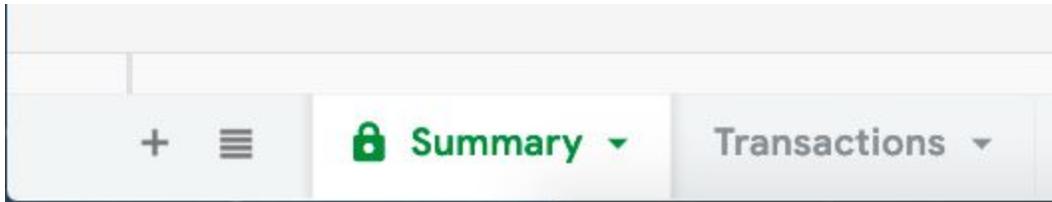
And click the Return key to change the name:



You can click the “+” button to add a new sheet:

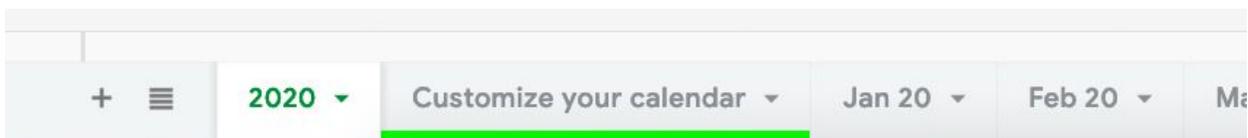


Some of the built-in templates use multiple sheets. For example, the Monthly budget uses two sheets



You enter the income and expense transactions on the second sheet and they are summarized on the first (Summary) sheet.

The Calendar template has one sheet for the year and another for each month:



Many of the templates use various sheets for their task. The first sheet usually has instructions on how to use the template and what you can change.

Selecting Cells

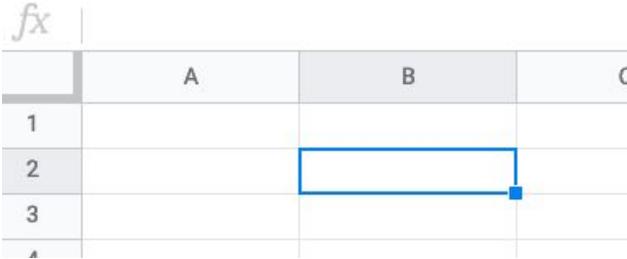
To select one cell, simply click on it:



A screenshot of an Excel spreadsheet. The formula bar at the top left contains 'fx'. The spreadsheet has columns labeled A and B, and rows labeled 1 through 4. A red arrow points to the cell in column B, row 2.

	A	B	
1			
2			
3			
4			

It will be surrounded by a blue border:



A screenshot of an Excel spreadsheet. The formula bar at the top left contains 'fx'. The spreadsheet has columns labeled A, B, and C, and rows labeled 1 through 4. The cell in column B, row 2 is selected and surrounded by a blue border.

	A	B	C
1			
2			
3			
4			

To select a rectangle of cells drag from one corner to the opposite corner:

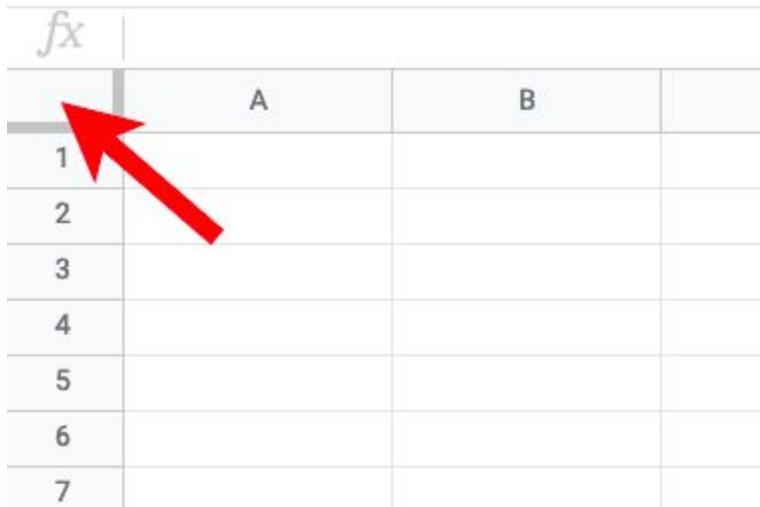


A screenshot of an Excel spreadsheet. The formula bar at the top left contains 'fx'. The spreadsheet has columns labeled A, B, and C, and rows labeled 1 through 8. A blue border surrounds a range of cells from B2 to C7. Red arrows point from the top-left corner of the selection to the text 'drag from one corner' and from the bottom-right corner to the text 'to the opposite'.

	A	B	C	
1				
2				
3				
4				
5				
6				
7				
8				

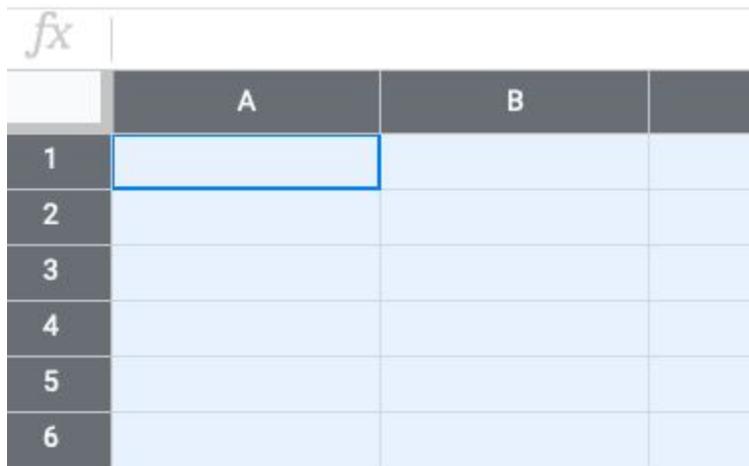
The cells will be highlighted with a blue background.

To select all cells click in the upper left corner:



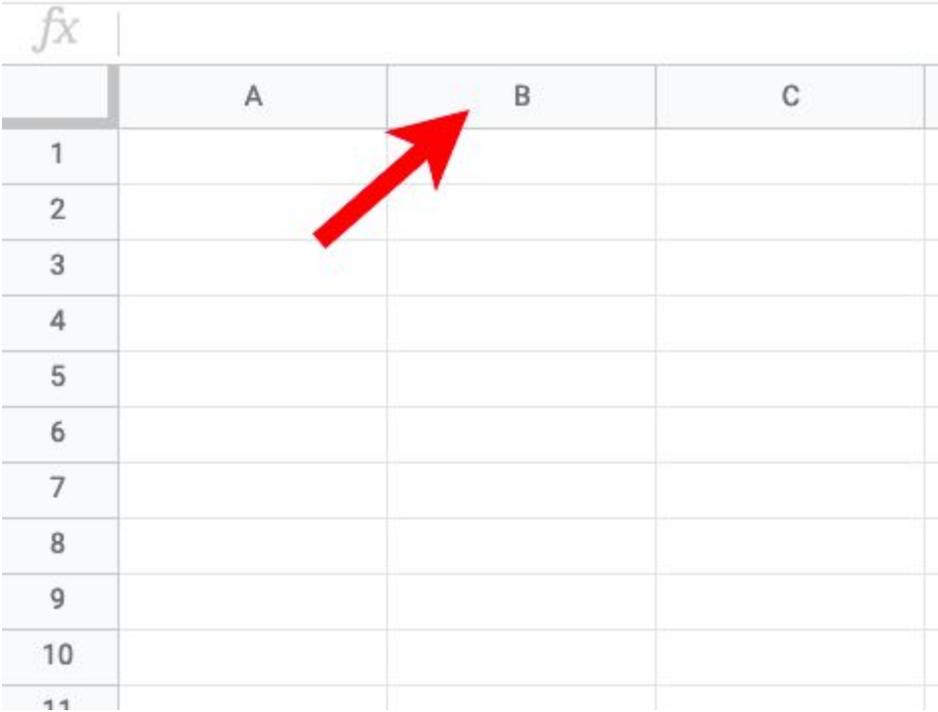
	A	B	
1			
2			
3			
4			
5			
6			
7			

All the cells get the blue background:



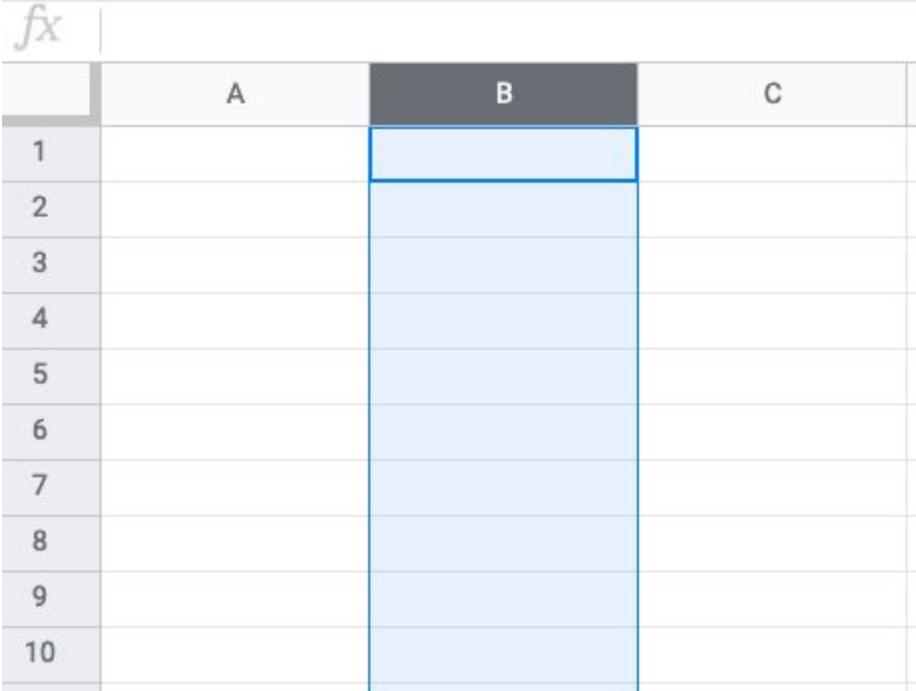
	A	B	
1			
2			
3			
4			
5			
6			

To highlight a column, click on the alphabetic column header:



A screenshot of an Excel spreadsheet. The top-left corner shows the formula bar with "fx". The spreadsheet has three columns labeled A, B, and C, and rows numbered 1 through 11. A red arrow points to the "B" column header.

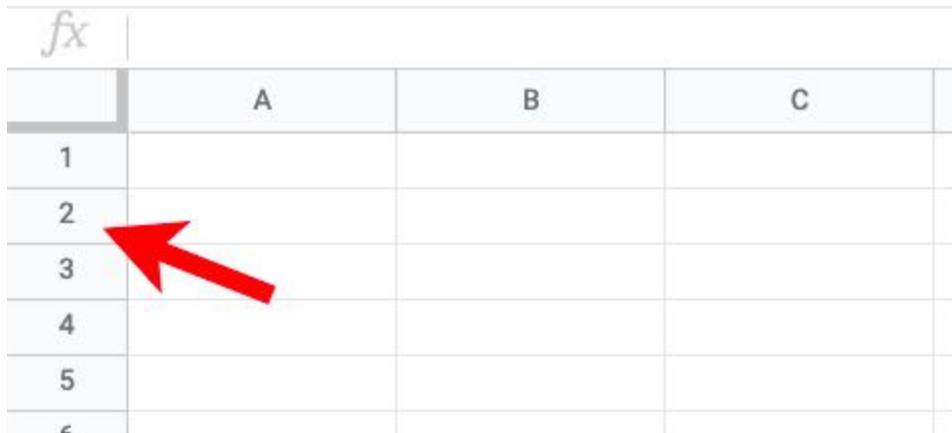
	A	B	C
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			



A screenshot of an Excel spreadsheet. The top-left corner shows the formula bar with "fx". The spreadsheet has three columns labeled A, B, and C, and rows numbered 1 through 10. Column B is highlighted in blue.

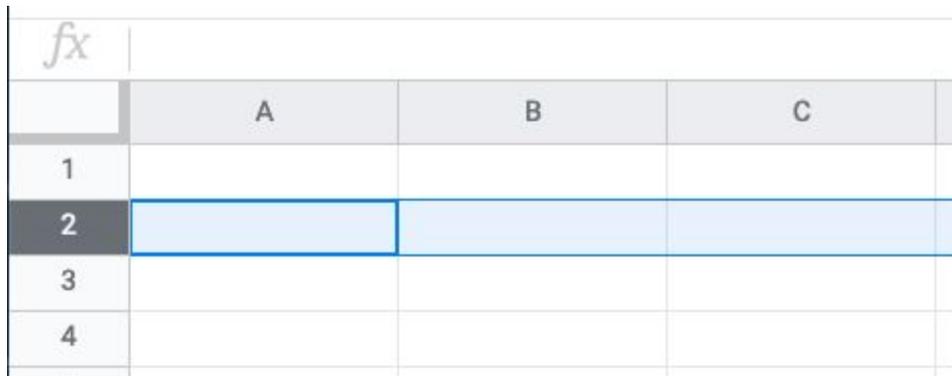
	A	B	C
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

To highlight a row of cells, click on the numeric row number:



<i>fx</i>		A	B	C
1				
2				
3				
4				
5				

The row is highlighted in a blue background:



<i>fx</i>		A	B	C
1				
2				
3				
4				

Entering Sequences

You can easily enter a sequence of numbers or dates into a row or column of cells. Enter two numbers in the sequence into two cells and highlight them:

fx		10
	A	B
1	10	
2	20	
3		
4		
5		

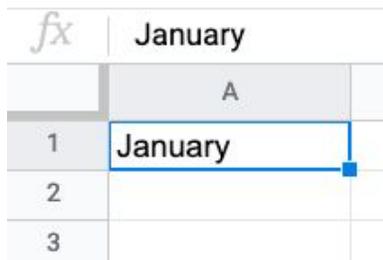


Then click on the solid blue rectangle at the lower right corner of the bottom cell and drag down as many rows as you need and let go:

fx		10
	A	
1	10	
2	20	
3	30	
4	40	
5	50	
6	60	
7	70	
8	80	
9	90	
10	100	
11		

The sequence is based on the difference between the numbers. So, if you use 1 and 2 you will get 1, 2, 3, 4, etc.

Google Sheets is very smart about sequences. In some cases, you only need to enter data in the first cell:



A screenshot of a Google Sheet showing a sequence. The first cell (A1) contains the text 'January'. The rest of the cells in the first column are empty. The spreadsheet has a header row with 'fx' and 'January', and a second row with 'A'.

fx	January
	A
1	January
2	
3	

If you drag down to row 12, you will get a list of months:



A screenshot of a Google Sheet showing a list of months. The first cell (A1) contains 'January', and the rest of the cells in the first column contain the months from February to December. The spreadsheet has a header row with 'fx' and 'January', and a second row with 'A'.

fx	January
	A
1	January
2	February
3	March
4	April
5	May
6	June
7	July
8	August
9	September
10	October
11	November
12	December

If you enter a date

<i>fx</i>	9/10/2020
	A
1	9/10/2020
2	
3	

You can create a sequence of dates:

<i>fx</i>	9/10/2020
	A
1	9/10/2020
2	9/11/2020
3	9/12/2020
4	9/13/2020
5	9/14/2020
6	9/15/2020
7	9/16/2020
8	9/17/2020
9	9/18/2020
10	9/19/2020
11	9/20/2020
12	9/21/2020
13	

You can also do days of the week:

<i>fx</i>	Monday
	A
1	Monday
2	

<i>fx</i>	Monday
	A
1	Monday
2	Tuesday
3	Wednesday
4	Thursday
5	Friday
6	Saturday
7	Sunday
8	Monday
9	Tuesday
10	Wednesday
11	Thursday
12	Friday
13	Saturday
14	Sunday
15	

You can also put sequences into rows:

	A	B	C	D	E
1	100	200			
2					

If you drag the solid rectangle to the right, you get a sequence

	A	B	C	D	E
1	100	200	300	400	500
2					

This works for all types of sequences. If we put “Sunday” into a cell and drag the blue rectangle to the right

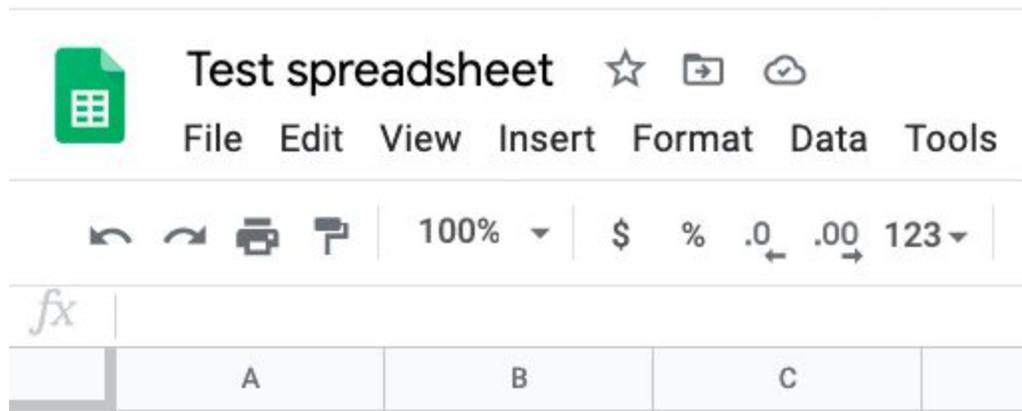
	A	B	C	D	E	F	G
1	Sunday						
2							

we get this:

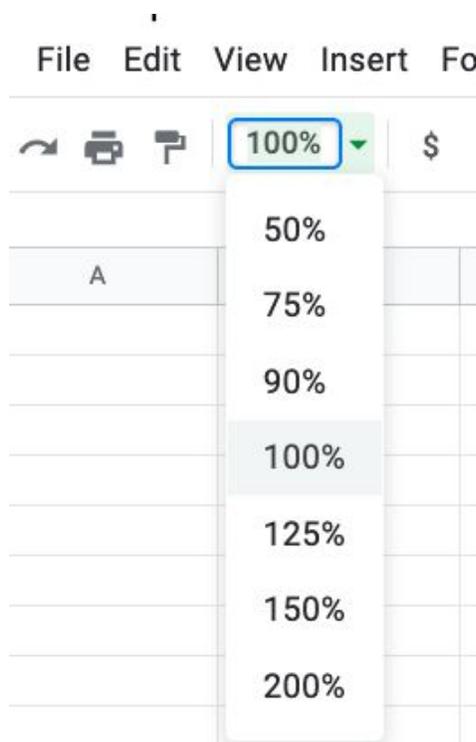
	A	B	C	D	E	F	G
1	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
2							

Formatting Buttons

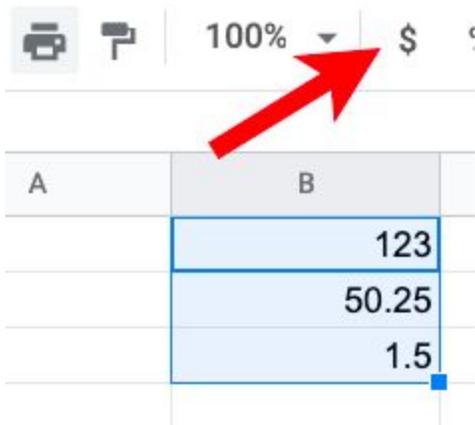
There is a row of formatting buttons below the Google Sheets menu:



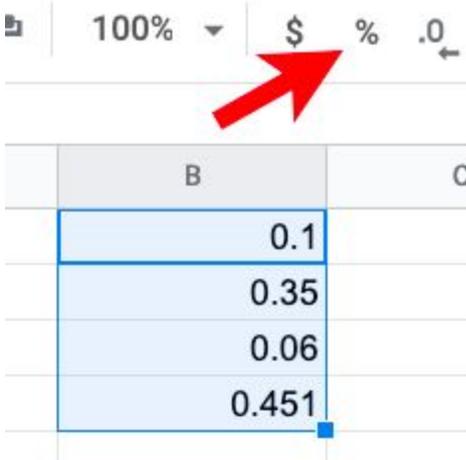
They are very handy. You can control the zoom level:



Format selected cells as currency:



Format selected cells as percent:



100% ▾ \$ % .0

B
10.00%
35.00%
6.00%
45.10%

Reduce the number of decimal points:

100% ▾ \$ % .0 .00

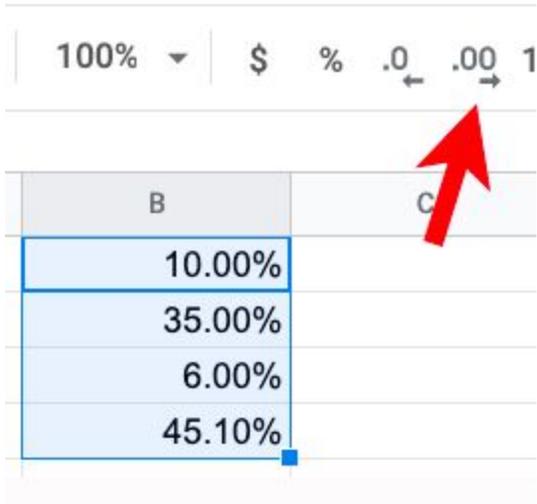
B	C
10.00%	
35.00%	
6.00%	
45.10%	



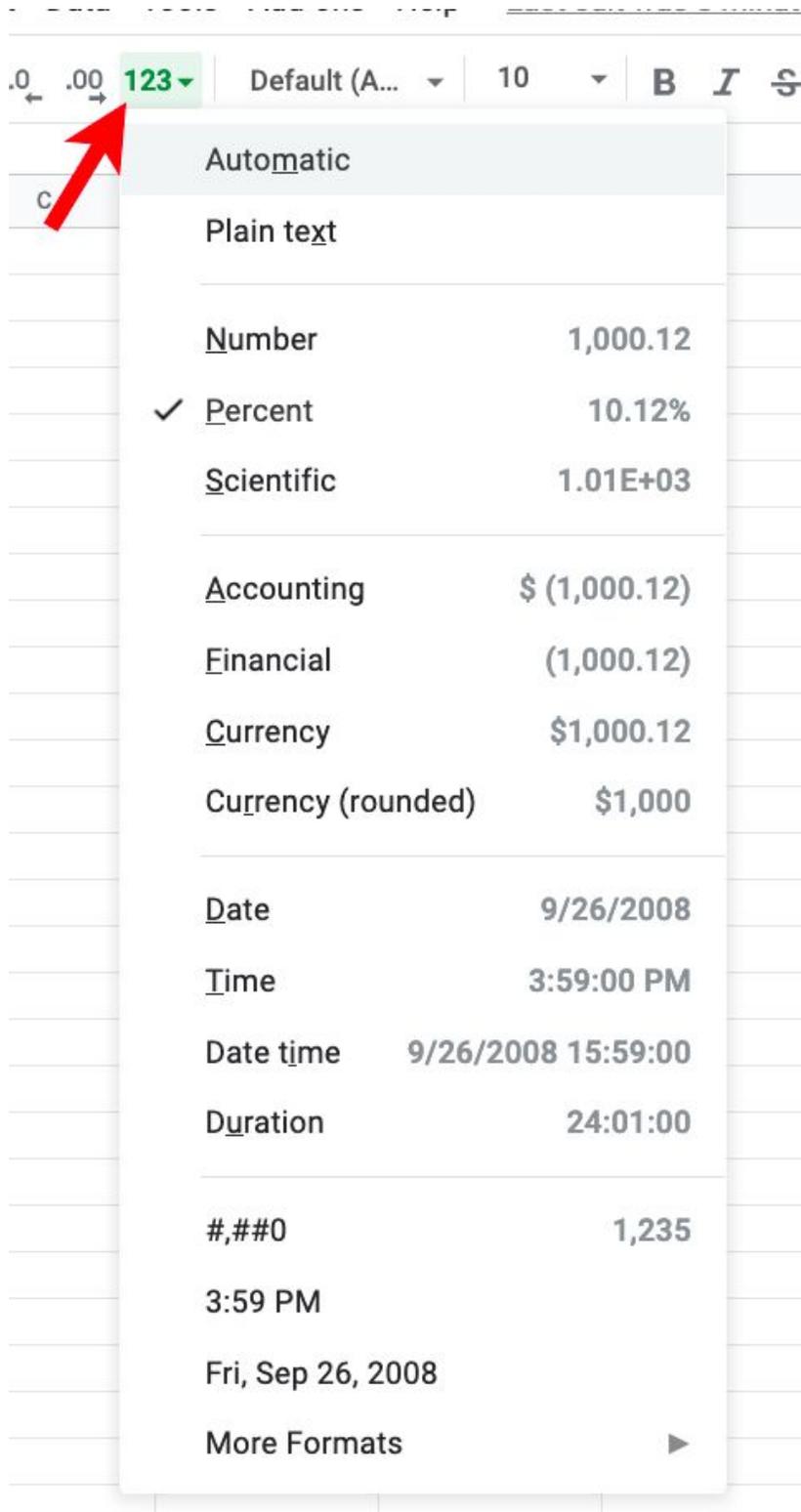
100% ▾ \$ % .0 .00

B	C
10.0%	
35.0%	
6.0%	
45.1%	

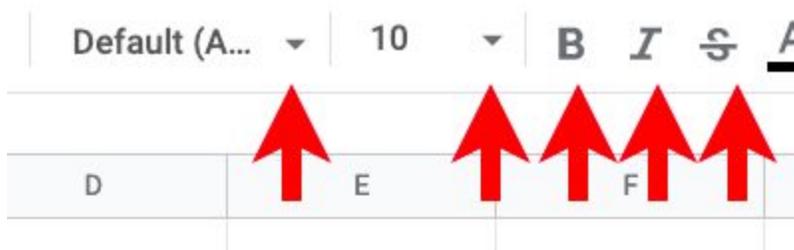
The button to the right of the decrease decimal points increases them:



The menu to the right of that button gives you many options:



The next set of buttons



let you change the font, text size, bold, italic or strikethrough selected cells.

The next buttons:



let you change the text color, background color, borders, merge cells, the horizontal and vertical alignment.

Merging will combine multiple cells into one. This is often done for headers. For example, if we have a this table:

	A	B	C
1	My Checkbook		
2	Date	Payee	Amount
3	9/10/2020	Mickey Mouse	\$100.00
4			

We can select cells A1 to C1 and merge them.

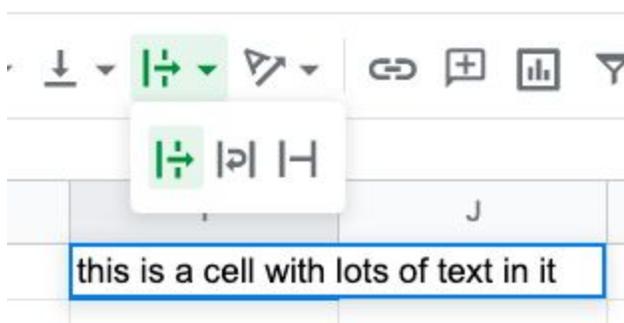
My Checkbook		
A	B	C
My Checkbook		
Date	Payee	Amount
9/10/2020	Mickey Mouse	\$100.00

We can then center this merged cell and increase the text size:

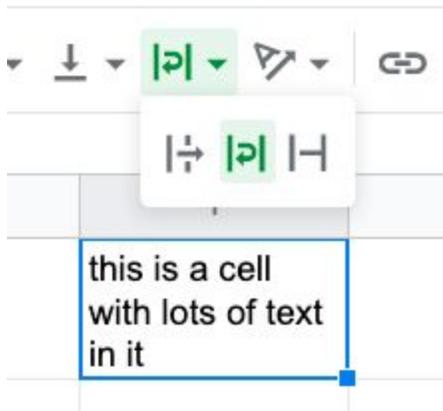
	A	B	C
1	My Checkbook		
2	Date	Payee	Amount
3	9/10/2020	Mickey Mouse	\$100.00

The merged and centered header looks nicer.

The next button controls text wrapping. If you have a cell that where the text is wider than the width of the cell, the first option will let the text overflow onto the cells to the right which is the default behavior:



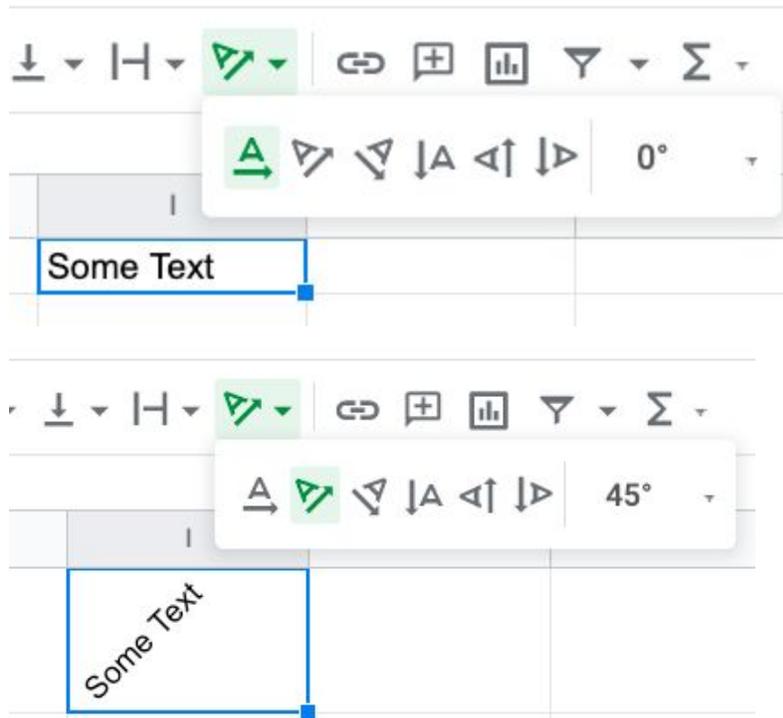
The second option will wrap the text and make the row taller:



The third option will clip the display of the text at the right border of the cell. The text is still in the cell but is not visible.

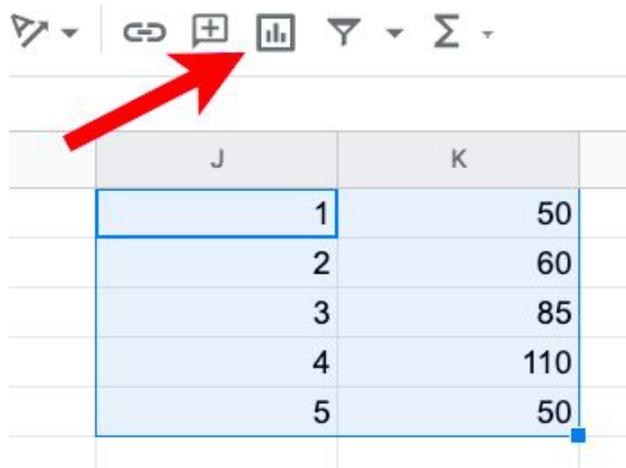


The next button lets you rotate the text in a cell

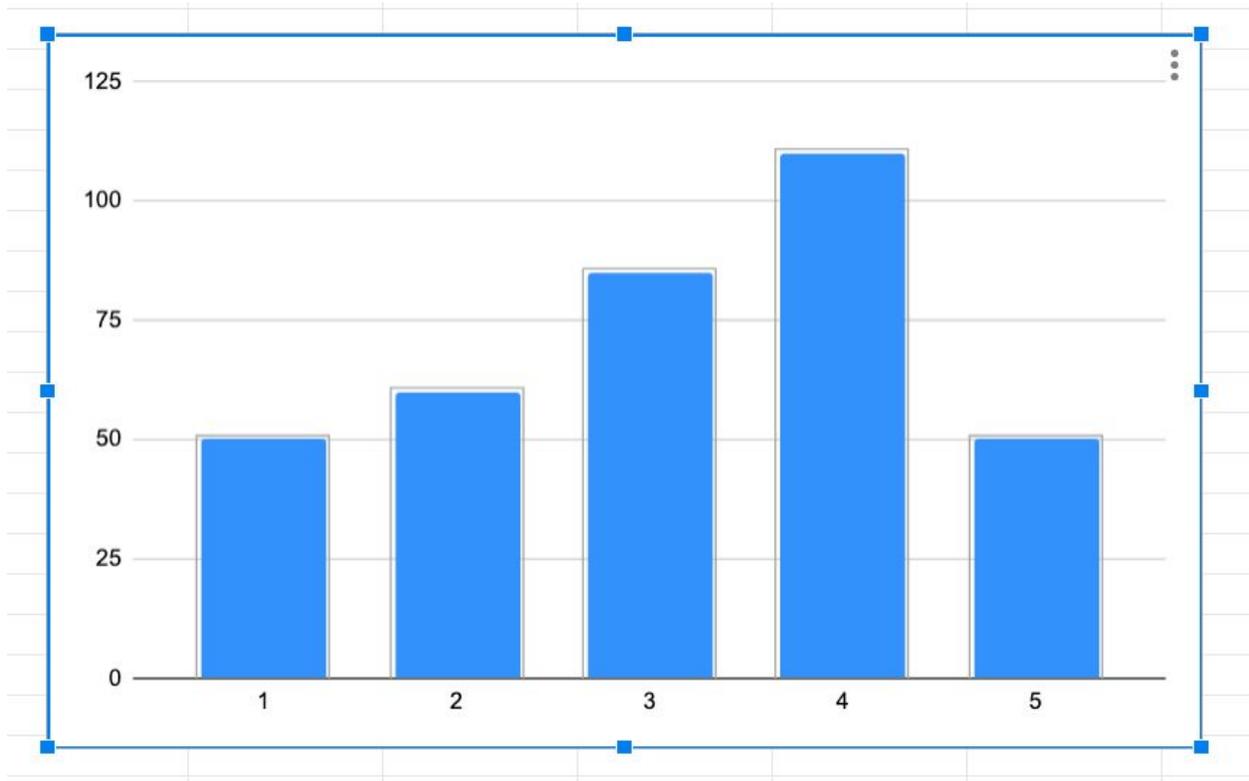


The right most option lets you set a specific angle for the text.

The chart button lets you select some cells and chart them:



Which adds a chart that looks like this:



There are many types of charts and many ways to customize them.

There are controls on the right to change the chart:

The image shows the 'Chart editor' window in Google Sheets, with the 'Setup' tab selected. The window has a title bar with a close button (X) and a chart icon. Below the title bar are two tabs: 'Setup' (active) and 'Customize'. The 'Setup' tab contains several sections:

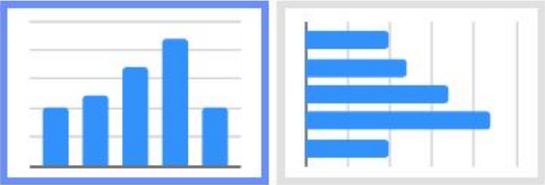
- Chart type:** A dropdown menu showing 'Column chart' with a small bar chart icon to the left.
- Stacking:** A dropdown menu showing 'None'.
- Data range:** A text field containing 'J1:K5' and a small grid icon to its right.
- X-axis:** A light blue rounded button containing '123 J1:J5' and a vertical ellipsis menu icon to its right.
- Aggregate:** An unchecked checkbox followed by the text 'Aggregate'.
- Series:** A light blue rounded button containing '123 K1:K5' and a vertical ellipsis menu icon to its right.
- Add Series:** A light blue rounded button containing the text 'Add Series'.
- Options:** Three checkboxes at the bottom:
 - Unchecked checkbox: 'Switch rows / columns'
 - Unchecked checkbox: 'Use row 1 as headers'
 - Checked checkbox: 'Use column J as labels'

You can even change to a different kind of chart:

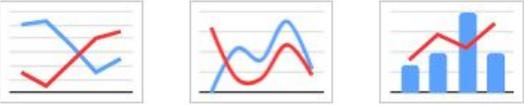
Chart type

Column chart

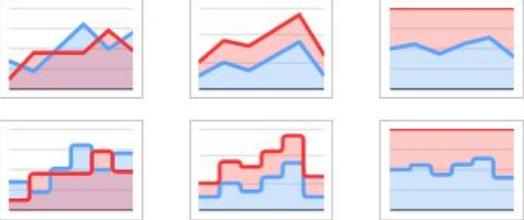
SUGGESTED



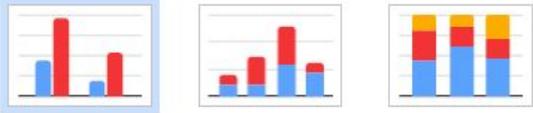
Line



Area



Column



Bar

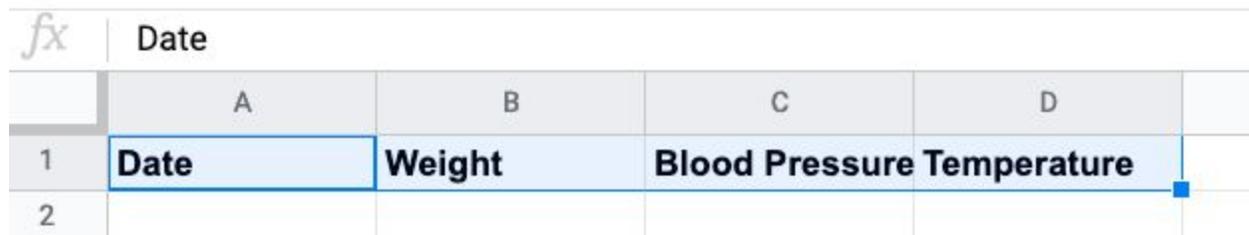


Pie



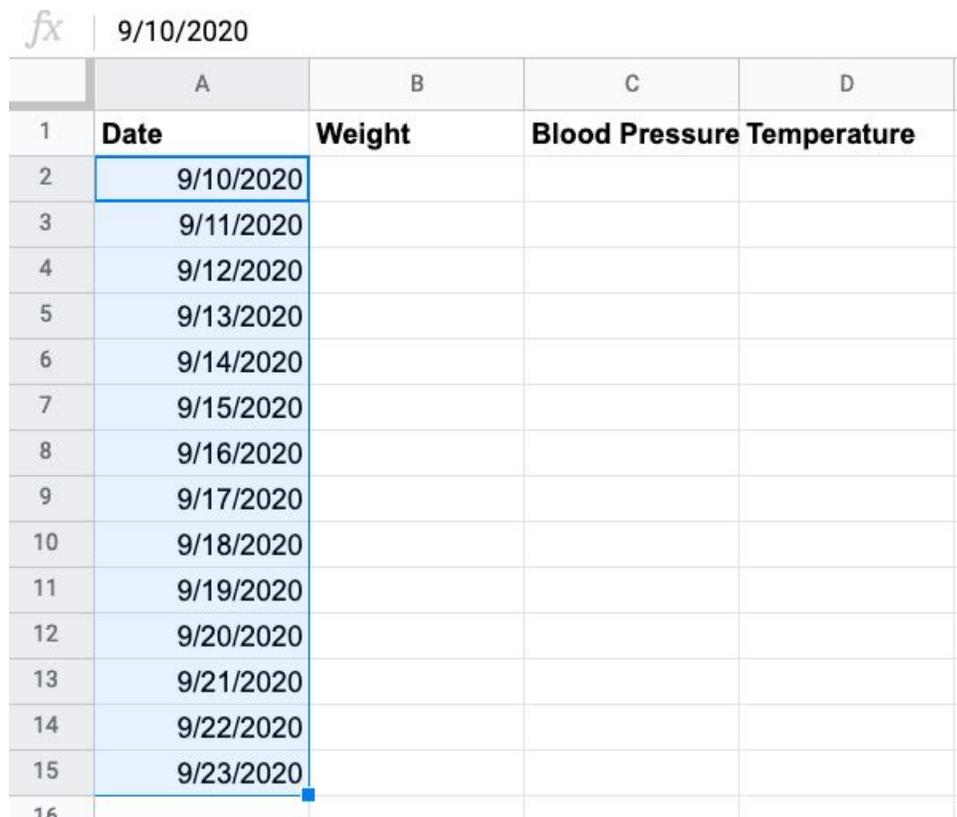
Table Formatting Example

Let's say you want to track your weight, blood pressure and temperature every day. You could make a simple spreadsheet by entering the headers, selecting them and clicking the Bold button to make them bold text:



	A	B	C	D
1	Date	Weight	Blood Pressure	Temperature
2				

Then enter our first date in column A, row 2 and drag down to create a couple of weeks of dates:



	A	B	C	D
1	Date	Weight	Blood Pressure	Temperature
2	9/10/2020			
3	9/11/2020			
4	9/12/2020			
5	9/13/2020			
6	9/14/2020			
7	9/15/2020			
8	9/16/2020			
9	9/17/2020			
10	9/18/2020			
11	9/19/2020			
12	9/20/2020			
13	9/21/2020			
14	9/22/2020			
15	9/23/2020			
16				

We can use the format button to make the dates nicer. Click on the column A header cell to select the cells and use the format button:

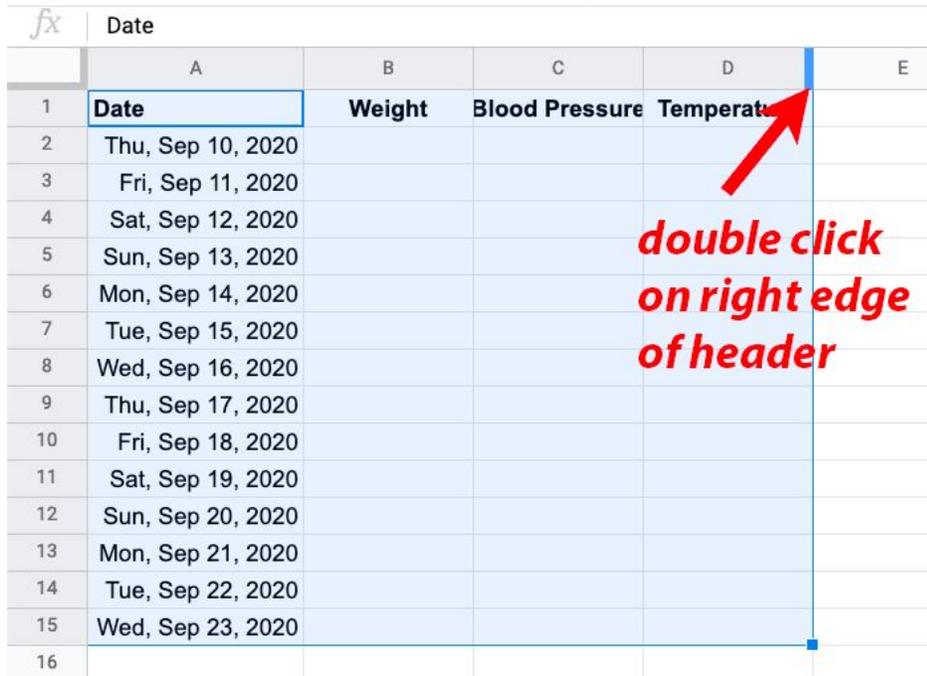
The screenshot shows an Excel spreadsheet with a table containing dates in column A. The table has three columns: Date, Weight, and Blood Pressure. The dates range from 9/10/2020 to 9/23/2020. A red arrow points to the '123' format button in the ribbon. Another red arrow points to the 'Fri, Sep 26, 2008' option in the format dropdown menu.

	A	B	C
1	Date	Weight	Blood Pressure
2	9/10/2020		
3	9/11/2020		
4	9/12/2020		
5	9/13/2020		
6	9/14/2020		
7	9/15/2020		
8	9/16/2020		
9	9/17/2020		
10	9/18/2020		
11	9/19/2020		
12	9/20/2020		
13	9/21/2020		
14	9/22/2020		
15	9/23/2020		
16			
17			
18			
19			
20			
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22			
23			
24			
25			
26			
27			
28			

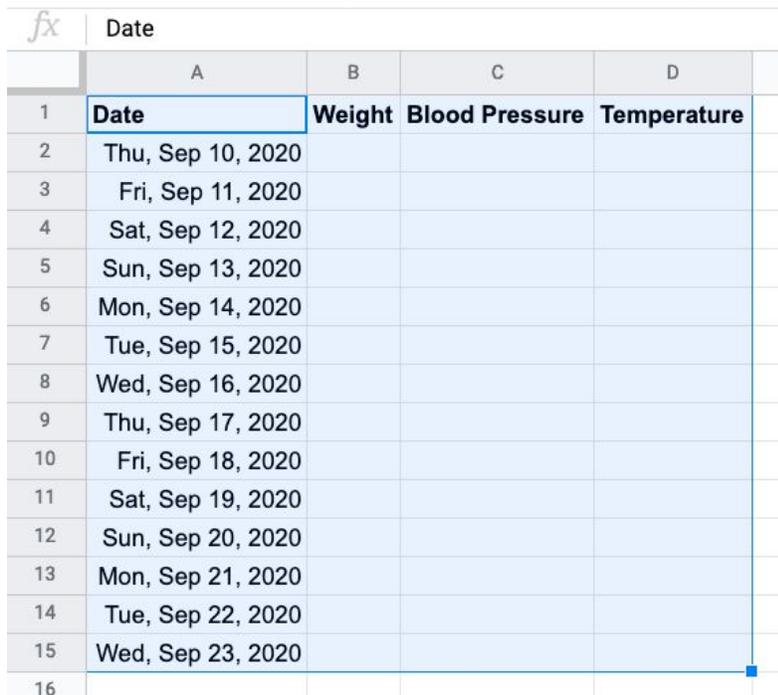
Format dropdown menu options:

- Automatic
- Plain text
- Number: 1,000.12
- Percent: 10.12%
- Scientific: 1.01E+03
- Accounting: \$ (1,000.12)
- Financial: (1,000.12)
- Currency: \$1,000.12
- Currency (rounded): \$1,000
- Date: 9/26/2008
- Time: 3:59:00 PM
- Date time: 9/26/2008 15:59:00
- Duration: 24:01:00
- ###0: 1,235
- 3:59 PM
- Fri, Sep 26, 2008
- More Formats

We can select select the columns and fix their width by double clicking on the dark blue rectangle at the edge of the rightmost header:

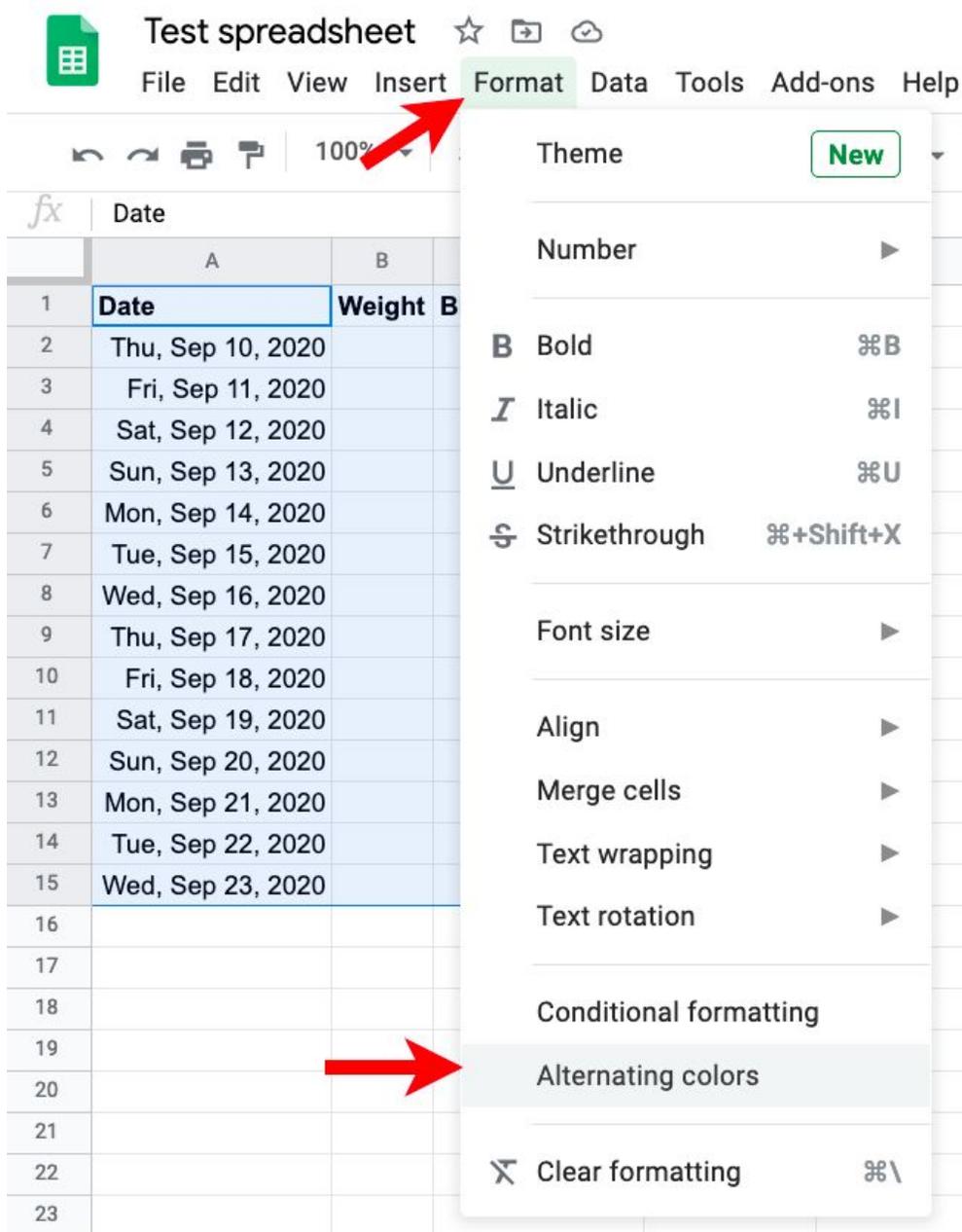


	A	B	C	D	E
1	Date	Weight	Blood Pressure	Temperature	
2	Thu, Sep 10, 2020				
3	Fri, Sep 11, 2020				
4	Sat, Sep 12, 2020				
5	Sun, Sep 13, 2020				
6	Mon, Sep 14, 2020				
7	Tue, Sep 15, 2020				
8	Wed, Sep 16, 2020				
9	Thu, Sep 17, 2020				
10	Fri, Sep 18, 2020				
11	Sat, Sep 19, 2020				
12	Sun, Sep 20, 2020				
13	Mon, Sep 21, 2020				
14	Tue, Sep 22, 2020				
15	Wed, Sep 23, 2020				
16					



	A	B	C	D	
1	Date	Weight	Blood Pressure	Temperature	
2	Thu, Sep 10, 2020				
3	Fri, Sep 11, 2020				
4	Sat, Sep 12, 2020				
5	Sun, Sep 13, 2020				
6	Mon, Sep 14, 2020				
7	Tue, Sep 15, 2020				
8	Wed, Sep 16, 2020				
9	Thu, Sep 17, 2020				
10	Fri, Sep 18, 2020				
11	Sat, Sep 19, 2020				
12	Sun, Sep 20, 2020				
13	Mon, Sep 21, 2020				
14	Tue, Sep 22, 2020				
15	Wed, Sep 23, 2020				
16					

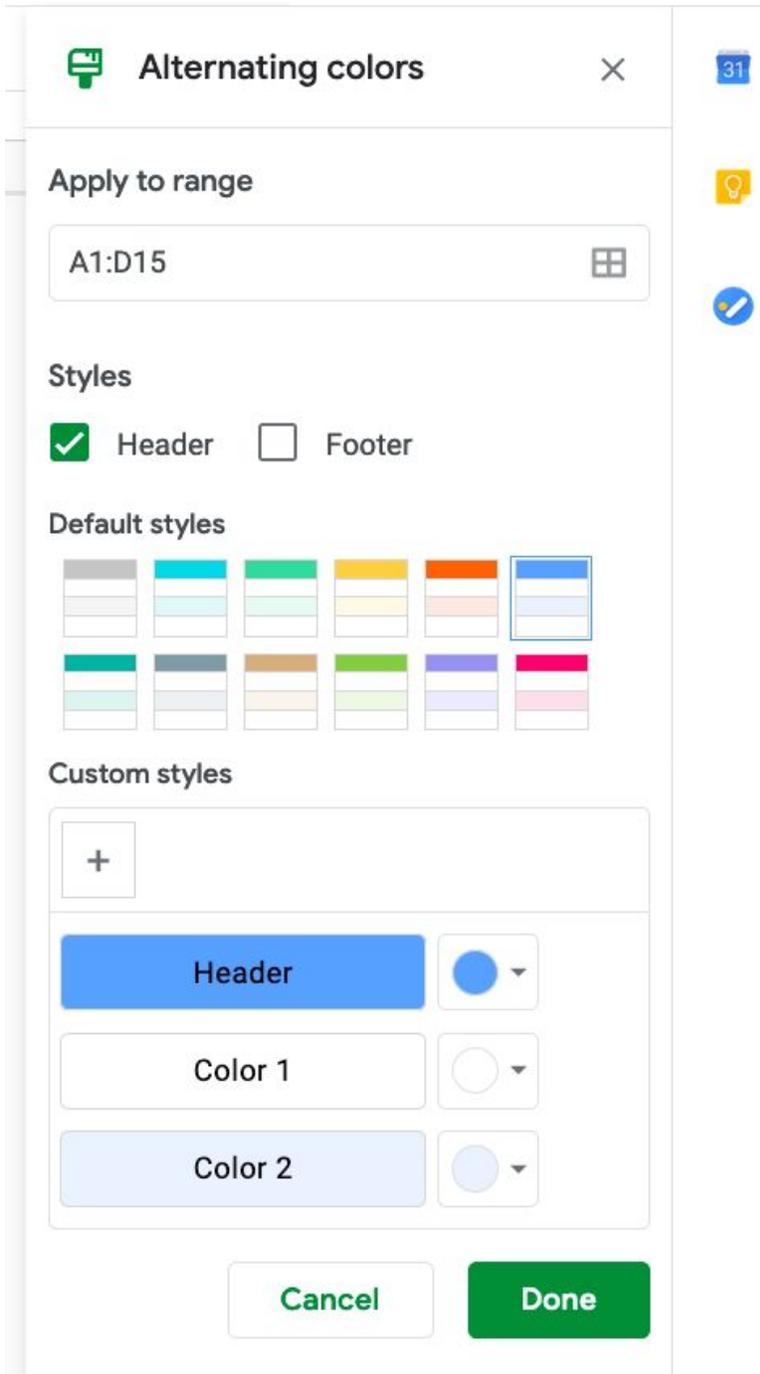
We can now use the Alternating Colors option in the Format menu



To set a header color and a background color for alternating rows:

	A	B	C	D	
1	Date	Weight	Blood Pressure	Temperature	
2	Thu, Sep 10, 2020				
3	Fri, Sep 11, 2020				
4	Sat, Sep 12, 2020				
5	Sun, Sep 13, 2020				
6	Mon, Sep 14, 2020				
7	Tue, Sep 15, 2020				
8	Wed, Sep 16, 2020				
9	Thu, Sep 17, 2020				
10	Fri, Sep 18, 2020				
11	Sat, Sep 19, 2020				
12	Sun, Sep 20, 2020				
13	Mon, Sep 21, 2020				
14	Tue, Sep 22, 2020				
15	Wed, Sep 23, 2020				
16					

The right part of the window has an editor for setting the colors and other options:



If the table has a footer (in this case to show the average weight, pressure and temperature) you can click the Footer box to give that a different color.

Conditional Formatting

If you put some data into our chart:

	A	B	C	D
1	Date	Weight	Blood Pressure	Temperature
2	Thu, Sep 10, 2020	150	120 / 80	98.6
3	Fri, Sep 11, 2020	151	125 / 90	98.1
4	Sat, Sep 12, 2020	150	120 / 90	98.3
5	Sun, Sep 13, 2020	153	130 / 90	98.6
6	Mon, Sep 14, 2020	152	125 / 85	98.5
7	Tue, Sep 15, 2020	149	120 / 80	101.2
8	Wed, Sep 16, 2020	150	125 / 90	102.4
9	Thu, Sep 17, 2020	153	120 / 90	101.6
10	Fri, Sep 18, 2020	155	130 / 90	98.6
11	Sat, Sep 19, 2020	153	125 / 85	98.3
12	Sun, Sep 20, 2020	152	122 / 82	98.5
13	Mon, Sep 21, 2020	152	115 / 75	98.6
14	Tue, Sep 22, 2020	150	119 / 82	98.2
15	Wed, Sep 23, 2020	151	135 / 95	98.2
16				

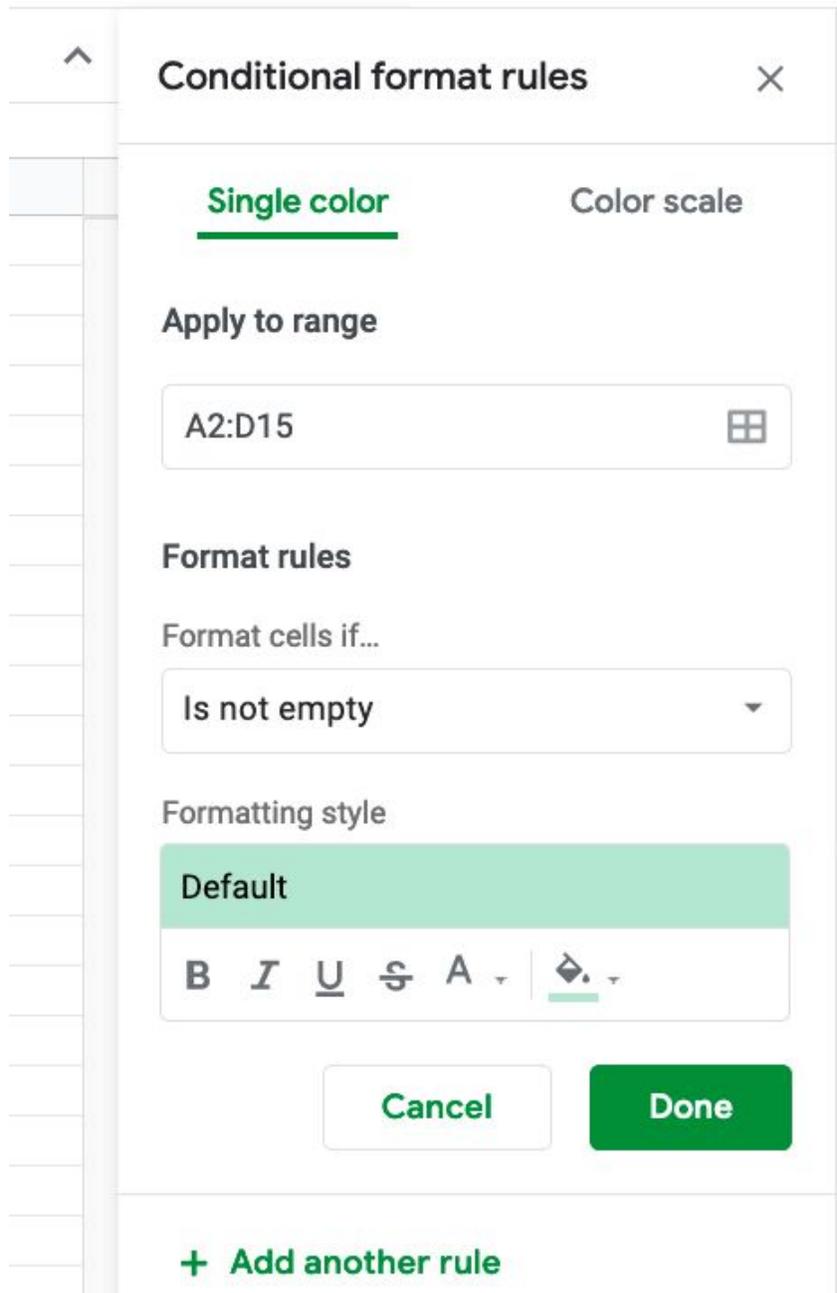
It might be helpful to highlight all the temperatures above 99. This can be done by selecting the column D and then the Conditional Formatting option in the Format menu:

The screenshot shows the Google Sheets interface for a spreadsheet titled "Test spreadsheet". The "Format" menu is open, and the "Conditional formatting" option is highlighted with a red arrow. The spreadsheet data is as follows:

	A	B
1	Date	Weight
2	Thu, Sep 10, 2020	150
3	Fri, Sep 11, 2020	151
4	Sat, Sep 12, 2020	150
5	Sun, Sep 13, 2020	153
6	Mon, Sep 14, 2020	152
7	Tue, Sep 15, 2020	149
8	Wed, Sep 16, 2020	150
9	Thu, Sep 17, 2020	153
10	Fri, Sep 18, 2020	155
11	Sat, Sep 19, 2020	153
12	Sun, Sep 20, 2020	152
13	Mon, Sep 21, 2020	152
14	Tue, Sep 22, 2020	150
15	Wed, Sep 23, 2020	151
16		
17		
18		
19		
20		
21		
22		
23		

The "Format" menu includes the following options: Theme (with a "New" button), Number, Bold (⌘B), Italic (⌘I), Underline (⌘U), Strikethrough (⌘+Shift+X), Font size, Align, Merge cells, Text wrapping, Text rotation, Conditional formatting (highlighted), Alternating colors, and Clear formatting (⌘\).

This brings up an editor on the right hand part of the window:



The Format rules menu lets you select how you want to choose the cells to format differently. We can click on the “Format cells if...” menu and select the “Greater than” option:

Conditional format rules

Single color Color scale

Apply to range

A2:D15

Format rules

- Is empty
- Is not empty
- Text contains
- Text does not contain
- Text starts with
- Text ends with
- Text is exactly
- Date is
- Date is before
- Date is after
- Greater than**
- Greater than or equal to
- Less than
- Less than or equal to
- Is equal to
- Is not equal to
- Is between
- Is not between
- Custom formula is

We then enter 99 for the value:

Conditional format rules

Single color Color scale

Apply to range

D1:D983

Format rules

Format cells if...

Greater than

99

Formatting style

Default

B *I* U ~~S~~ A

Cancel Done

+ Add another rule

You can click on the Formatting style to choose a standard format:

Conditional format rules ×

Single color Color scale

Apply to range

D1:D999 ⊞

Format rules

Format cells if...

Greater than ▾

99

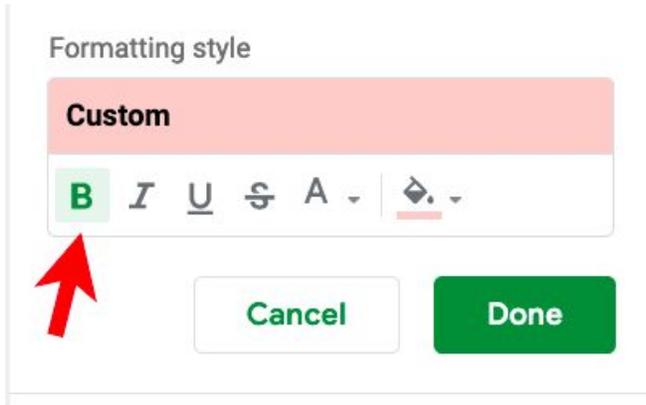
Formatting style

Default ↖

✓123	123	123
123	123	123

Custom format

There are buttons below the color area to change the text to bold, italic or change the text or background color, so we can make the text bold:



The table now looks like this:

	A	B	C	D
1	Date	Weight	Blood Pressure	Temperature
2	Thu, Sep 10, 2020	150	120 / 80	98.6
3	Fri, Sep 11, 2020	151	125 / 90	98.1
4	Sat, Sep 12, 2020	150	120 / 90	98.3
5	Sun, Sep 13, 2020	153	130 / 90	98.6
6	Mon, Sep 14, 2020	152	125 / 85	98.5
7	Tue, Sep 15, 2020	149	120 / 80	101.2
8	Wed, Sep 16, 2020	150	125 / 90	102.4
9	Thu, Sep 17, 2020	153	120 / 90	101.6
10	Fri, Sep 18, 2020	155	130 / 90	98.6
11	Sat, Sep 19, 2020	153	125 / 85	98.3
12	Sun, Sep 20, 2020	152	122 / 82	98.5
13	Mon, Sep 21, 2020	152	115 / 75	98.6
14	Tue, Sep 22, 2020	150	119 / 82	98.2
15	Wed, Sep 23, 2020	151	135 / 95	98.2
16				

There are many other advanced features of Google Sheets but hopefully this has given you some ideas of things you can try.