



# Andhra Pradesh State Skill Development Corporation



## Google Tools For Everyone

### Google Sheets



## Google Sheets:

Google sheet is a spreadsheet much like Microsoft-excel. With Google Sheets, you can create and edit spreadsheets directly in your web browser and using a mobile app. Google Sheets supports cell formulas typically found in most desktop spreadsheet packages. It provides basic easy calculations of data using Functions and formulas. Analyze data with charts and filters, every change is saved automatically, and much more.

## Requirements:

- Google Account
- Internet

## Topics Covered:

1. Getting Started
2. Create a new spreadsheet
3. Spreadsheet interface
4. Work with rows, columns, and cells
5. Google sheet functions and formulas
6. Reference data from other sheets
7. Conditional formatting and Data Validation
8. Enhancing Spreadsheet
9. Spreadsheet Distribution



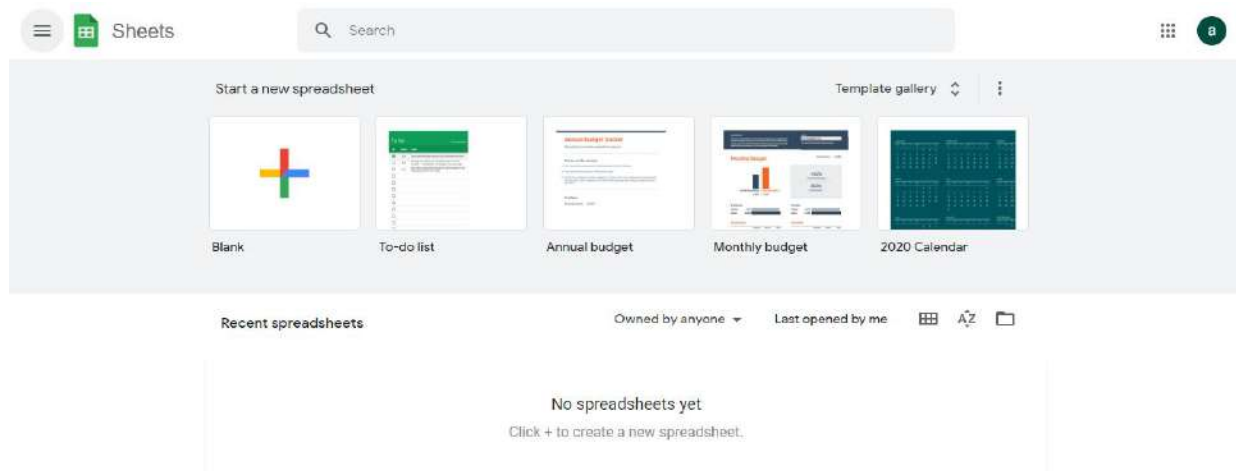
## 1. Getting Started:

### What is a Google sheet?

Google sheet is a spreadsheet much like Microsoft-excel. With Google Sheets, you can create and edit spreadsheets directly in your web browser—no special software is required. Multiple people can work simultaneously, you can see people's changes as they make them, you can also see the view history of the file. Analyze data with charts and filters, every change is saved automatically, and much more.

### How to access google sheet:

- On your computer, visit [sheets.google.com](https://sheets.google.com)
- If you already have a Google Account, sign in. If you don't have one yet, click Create an account.
- Once you sign in, you will get a google sheet homepage

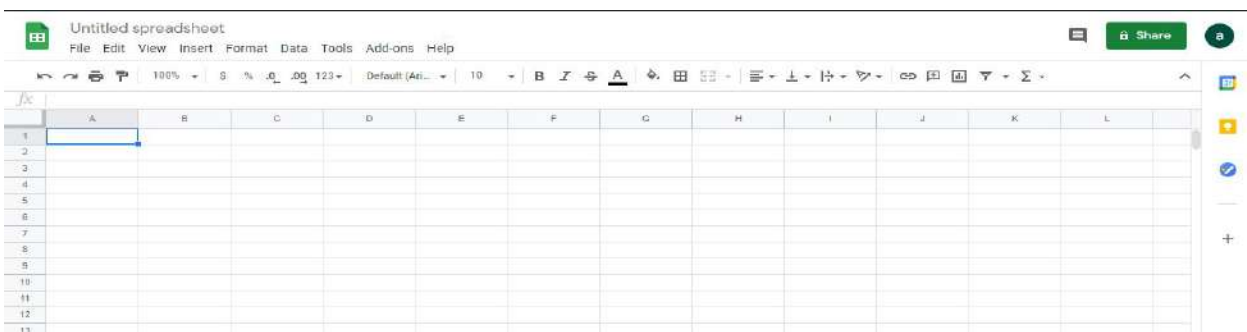


## 2. Create a new spreadsheet:

Create a new google sheet by using the below ways:

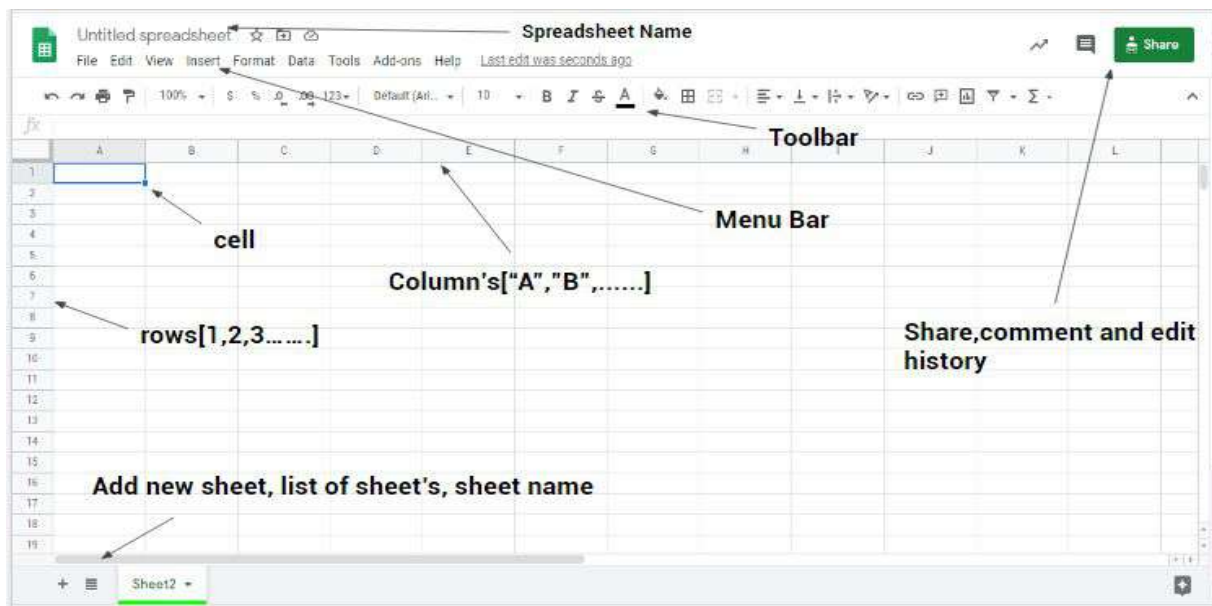
- From the [Docs, Sheets, or Slides](#) homepage, above Blank, click Create(+)
- In Drive, click New>Google Docs/Sheets/Slides>Blank document or From a template.
- [sheets.new](#) it will directly create a new spreadsheet

Choose any one option from above, then you will get a new google sheet as shown below



## 3. Spreadsheet Interface:

The spreadsheet is a combination of cells, rows, and columns. In a single spreadsheet, you can add a number of sheets, and also you can modify sheet names.







## Enter and edit your data:

- **Rename your spreadsheet:** Click Untitled spreadsheet and enter a new name.
- **Enter text or data:** Click a cell and enter text.
- **Insert more items:** Click Insert and add charts, images, drawings, functions, notes, and more.

## Customize your spreadsheet and data:

This is tools will help you customize the spreadsheet data.

	Copy formatting from any text and apply it to another selection of text
	Format data as currency, a percentage, change decimal places and more
	Add or edit cell borders
	Change text alignment
	Change how text wraps, rotate text
	Add links, charts, filters, functions
	Change text format, styles, colors



### 3. Work with rows, columns, and cells

#### Add rows, columns, and cells:

1. Select the row, column, or cell near where you want to add your new entry.
2. Right-click the highlighted row, column, or cell>Insert>choose where to insert the new

**Delete, clear, or hide rows and columns:** Right-click the row number or column letter>Delete, Clear, or Hide.

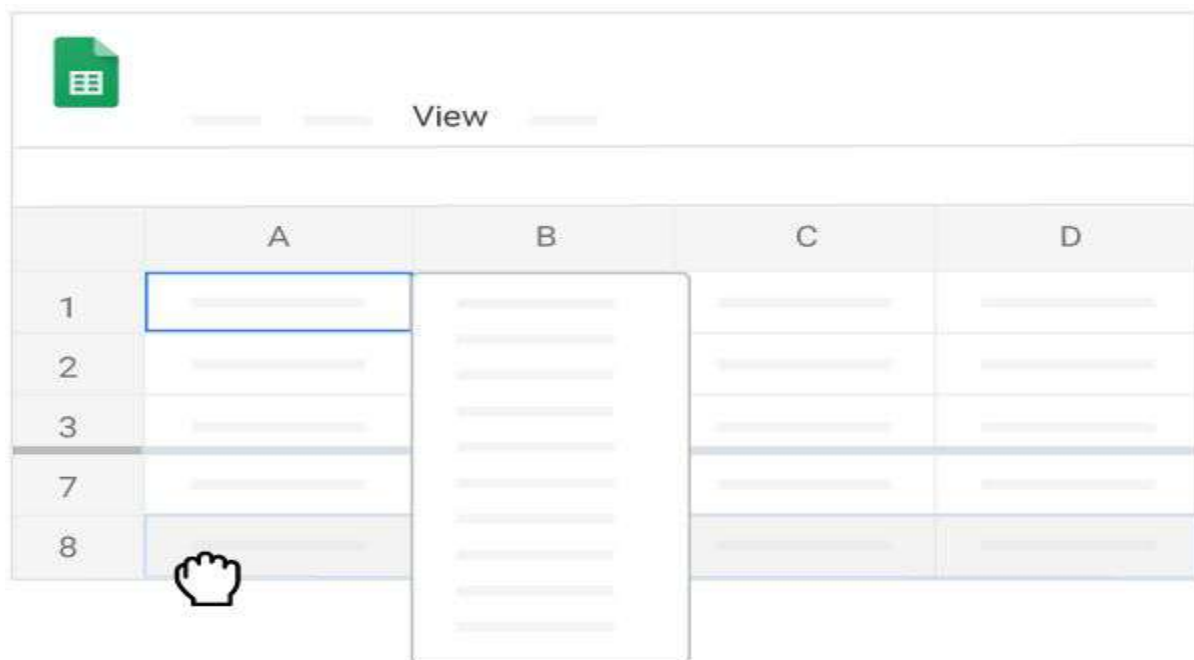
**Delete cells:** Select the cells and right-click>Delete cells>Shift left or Shift up.

**Move rows or columns:** Select the row number or column letter and drag it to a new location.

#### Move cells:

1. Select the cells.
2. Point your cursor to the top of the selected cells until a hand appears.
3. Drag the cells to a new location.

**Freeze header rows and columns:** Keep a row or column in the same place as you scroll through your spreadsheet. On the menu bar, click View>Freeze and choose an option.





## 4. Google sheet functions and formulas

Google Sheets supports cell formulas typically found in most desktop spreadsheet packages. It provides basic easy calculations of data using Functions and formulas.

- A function is a built-in operation in sheets such as addition, subtraction, division, etc
- Formula use one and more spreadsheet functions to obtain specific results such as sum, avg, etc

Functions can be used to create formulas that manipulate data and calculate strings and numbers

### **Difference between function and formula:**

A formula is any calculation in Excel, but a function is a pre-defined calculation.

#### **For example:**

=A1+A2+A3    => is just a formula

=MAX(A1:A20) => is a formula containing a function.

### **How to use Formula and Functions:**

You can perform many different types of calculations by using functions to create formulas in Google Sheets. Here's a [list of all the functions available](#).

1. Open a spreadsheet.
2. Type an equal sign (=) in a cell and type in the function you want to use. Note: You may see suggested formulas and ranges based on your data.
3. A function help box will be visible throughout the editing process to provide you with a definition of the function and its syntax, as well as an example for reference.



Example:

1. **Sum:** To find a sum select a range of cells

The syntax for to find a sum:

=SUM(range)

Ex1:

	A	B	C	D	E
1	10	30	50	90	
2	20	40	10	70	
3	30	70	60	160	

=sum(A1:C1)

Ex2:

	A	B	C	D	E
1	10	30	50	90	
2	20	40	10	70	
3	30	70	60	160	

=sum(D1:D2)

Ex3:

	A	B	C	D	E
1	10	30	50	90	
2	20	40	10	70	220
3	30	70	60		

=sum(C1:D2)





## 2. Average:

	A	B
1	Student	Grade
2	Student 1	91%
3	Student 2	88%
4	Student 3	72%
5	Student 4	93%

To find the average grade:

1. Highlight the range B2:B5.
2. In the bottom right, click Sum.
3. Choose Avg.
4. In the bottom right, you'll see "Avg: 86%."

## 3. Count:

	A	B
1	Student	Grade
2	Student 1	91%
3	Student 2	88%
4	Student 3	72%
5	Student 4	93%
6		=COUNT(B2:B5)
7		

	A	B
1	Student	Grade
2	Student 1	91%
3	Student 2	88%
4	Student 3	72%
5	Student 4	93%
6		4

1. Highlight the range B2:B5
2. Select any one cell(Ex: B6)
3. Use function as in selected cell =Count(B2:B5)
4. Click on the outside of a cell
5. Then you'll see "count as 4"



Your most important Excel functions exist in Sheets, too. Here are a few of the things you can do.

AVERAGE	Statistical Returns the numerical average value in a dataset, ignoring the text.
AVERAGEIFS	Statistical Returns the average of a range that depends upon multiple criteria.
CHOOSE	Lookup returns an element from a list of choices based on an index.
COUNT	Statistical Returns the count of the number of numeric values in a dataset.
COUNTIF	Statistical Returns a conditional count across a range.
DATE	Date Converts a provided year, month, and day into a date.
FIND	Text Returns the position at which a string is first found within text.
GETPIVOTDATA	Text Extracts an aggregated value from a pivot table that corresponds to the specified row and column headings.
IF	Logical Returns one value if a logical expression is true and another if it is false.
INDEX	Lookup Returns the content of a cell, specified by row and column offset.



INT	Math Rounds a number down to the nearest integer that's less than or equal to it.
LOOKUP	Lookup Looks through a row or column for a key and returns the value of the cell as a result range located in the same position as the search row or column.
MATCH	Lookup Returns the relative position of an item in a range that matches a specified value.
MAX	Statistical Returns the maximum value in a numeric dataset.
MIN	Statistical Returns the minimum value in a numeric dataset.
NOW	Date Returns the current date and time as a date value.
ROUND	Math Rounds a number to a certain number of decimal places according to standard rules.
SUM	Math Returns the sum of a series of numbers and/or cells.
SUMIF	Math Returns a conditional sum across a range.
TODAY	Date Returns the current date as a date value.
VLOOKUP	Lookup Searches down the first column of a range for a key and returns the value of a specified cell in the row found.



## 6. Reference data from other sheets

Within a single spreadsheet, you can replicate data and copy it from one sheet to another.

### Get data from other sheets in your spreadsheet:

1. On your spreadsheet
2. Open or create a sheet.
3. Select a cell.
4. Type = followed by the sheet name, an exclamation point, and the cell being copied.

For example, =Sheet1!A1 or ='Sheet number two'!B4.

**Syntax:** IMPORTRANGE(spreadsheet\_url, range\_string)

- **Spreadsheet\_url** - The URL of the spreadsheet from where data will be imported.
- **Range\_string** - A string, of the format "[sheet\_name!]range" (e.g. "Sheet1!A2:B6" or "A2:B6")

### See Also,

- **Hyperlink:** Create a hyperlink inside a cell

Syntax: =HYPERLINK(url, [label\_name])

- **IMPORTHTML:** Imports data from a table or list within HTML page

Syntax: =IMPORTHTML(url,query,index)

- **IMPORTXML:** Imports data from any of various structured data types including XML, HTML, CSV, TSV, and RSS and ATOM XML feeds.

Syntax: =IMPORTXML(url,xpath\_query)



## 7. Conditional Formatting and Data Validation

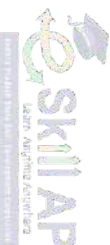
**Conditional Formatting:** Cells, rows, or columns can be formatted to change text or background color if they meet certain conditions.

1. Open a spreadsheet
2. Select the cells you want to apply format rules to.
3. Click Format > Conditional formatting. A toolbar will open to the right.
4. Create a rule.
  - **Single color:** Under "Format cells if," choose the condition that you want to trigger the rule. Under "Formatting style," choose what the cell will look like when conditions are met.
  - **Color scale:** Under "Preview," select the color scale. Then, choose a minimum and maximum value, and an optional midpoint value. To choose the value category, click the Down arrow ▼.
5. Click Done.

### Example:

A teacher can highlight test scores to see which students scored less than 80%.

1. On your computer, open a spreadsheet in Google Sheets.
2. Select the test scores.
3. Click Format > Conditional formatting.
4. Under "Format cells if," click Less than. If there's already a rule, click it or Add new rule
  - > Less than.
5. Click Value or formula and enter 0.8.
6. To choose red color, click Fill.
7. Click Done. The low scores will be highlighted in red.







**Data Validation:** The role of Data Validation or you can say data constraints is to ensure data quality by applying validation logic into Spreadsheet cells. With data validation, you can control the types of values entered in a cell or range of cells.

**Example:** Create a drop-down list using Data Validation

1. Open a spreadsheet in google sheets
2. Select the cell or cells where you want to create a drop-down list.
3. Click Data >Data validation.
4. Next to "Criteria," choose an option:
  - **List from a range:** Choose the cells that will be included in the list.
  - **List of items:** Enter items, separated by commas and no spaces.
5. The cells will have a Down arrow. To remove the arrow, uncheck "Show dropdown list in cell."
6. If you enter data in a cell that doesn't match an item on the list, you'll see a warning. If you want people to only enter items from the list, choose "Reject input" next to "On invalid data."
7. Click Save. The cells will show a drop-down list. To change the color of a cell based on the option selected, use conditional formatting.

**Change or delete a drop-down list:**

1. Open a spreadsheet in google sheets
2. Select the cell or cells you'd like to change.
3. Click Data Data validation.
4. To change the options listed, edit the items next to "Criteria."
5. To delete a list, click Remove validation.
6. Click Save. If you change the contents of the range you've selected, the changes will be made in the list automatically.



## 8. Enhancing Spreadsheet

- Sorting and Filtering data
- Inserting images and working with charts
- Create drawings

### Sorting and Filtering data:

You can sort data in alphabetical and numerical order, or use filters to hide data you don't want to see.

1. Open spreadsheet
2. Highlight the group of cells you'd like to sort.
3. If your sheet includes a header row, freeze the first row.
4. Click Data > Sort range.
5. If your columns have titles, click Data has header row.
6. Select the column you'd like to be sorted first and choose a sorting order.
  - To add another sorting rule, click Add another sort column.
7. Click Sort.

### Sort an entire sheet:

1. Open google sheets
2. At the top, right-click the letter of the column you want to sort by.
3. Click Sort sheet by A to Z or Sort sheet Z to A.

### Filter your data:

Important: When you add a filter, anyone with access to your spreadsheet will see the filter too. Anyone with permission to edit your spreadsheet will be able to change the filter.

1. On your computer, open a spreadsheet in Google Sheets.
2. Select a range of cells.
3. Click Data Create a filter.
4. To see filter options, go to the top of the range and click Filter .
  - Filter by condition: Choose conditions or write your own.
  - Filter by values: To hide data points, uncheck the box next to the data point and click OK.
  - Search: Search for data points by typing in the search box.
  - Filter by color: Choose which text or fill color to filter by. You can filter by conditional formatting colors, but not alternating colors.
5. To turn the filter off, click Data Turn off filter.



## Create, save, or delete a filtered view:

Important: If you only have permission to view a spreadsheet, you can create a temporary filter view that only you can use. Your filter view won't be saved.

1. On your computer, open a spreadsheet in Google Sheets.
2. Click Data Filter views Create a new filter view.
3. Sort and filter the data.
4. To close your filter view, at the top right, click Close.
5. Your filter view is saved automatically.

To delete or duplicate a filtered view, in the top right, click Options Delete or Duplicate.

## Save a filter as a filtered view:

1. Open google sheets
2. Apply a filter.
3. Click Data>Filter views> Save as filter view.

## Rename a filtered view:

1. Open google sheets
2. Click Data Filter views.
3. Select a filtered view.
4. Click the filter view name in the top left of the black bar and type the new name.
5. Press Enter.

## Inserting images:

To add an image as a header, at the top, click View->Freeze and specify the number of rows or columns to freeze. Click anywhere in the frozen section where you want the image.

## Select an option:

- Upload—Choose an image from your computer and click Open.
- Take a snapshot—Use your webcam and click Take a snapshot.
- By URL—Paste the image's URL and click Select.
- Your albums—Choose an image from an album and click Select.
- Google Drive—Choose an image stored in Drive and click Select.
- Search—Search for and choose an image and click Select.



## To add an image to the body of a spreadsheet,

1. Open google sheet
2. Click the cell where you want to add an image.
3. Click Insert Image.
4. Select to place your image in the cell or over the the cells. Cells with an image cannot also have text.
5. Choose an image or take a snapshot.
6. Click Open or Select.

## Create Drawing in google sheets:

1. Open google sheet
2. In the top left, click Insert >Drawing >New.
3. Insert shapes, lines or text with the editing tools.

You can use the editing tools to add lines, shapes, text boxes and images.

## Working with Charts:

You can summarize your data with charts. Google sheets offer various charts for visual representation of data

- Data Visualization
- Reports and Presentations

## Make a graph or chart:

1. Open google sheets
2. Select the cells you want to include in your chart.
3. Click Insert >Chart.

## Change the chart type


1. Open google sheets
2. Double-click the chart you want to change.
3. At the right, click Setup.
4. Under "Chart type," click the Down arrow ▾ .
5. Choose a chart from the list.

[Learn more about chart and graph types.](#)



## Change the data range

The "data range" is the set of cells you want to include in your chart.

1. Open google sheets
2. Double-click the chart you want to change.
3. At the right, click Setup.
4. Under "Data range," click Grid .
5. Select the cells you want to include in your chart.
6. Optional: To add more data to the chart, click Add another range. Then, select the cells you want to add.
7. Click OK.

## Change the look of a chart

### Change the background, font & other options

The options you can change depends on your chart type. Learn more about each chart.

1. Open google sheets
2. Double-click the chart you want to change.
3. At the right, click Customize.
4. Click Chart style.
5. Make the changes you want.

## Add gridlines

You can add gridlines to your chart to make the data easier to read.

**Before you edit:** Gridlines can be added to line, area, column, bar, scatter, waterfall, histogram, radar, or candlestick charts.

1. Open google sheets
2. Double-click the chart you want to change.
3. At the right, click Customize.
4. Click Gridlines.
5. Optional: If your chart has horizontal and vertical gridlines, next to "Apply to," choose the gridlines you want to change.
6. Make changes to the gridlines.

### Tips:

- To hide gridlines but keep axis labels, use the same color for the gridlines and chart background. To customize the number of gridlines, in the box under "Major gridline count" or "Minor gridline count," enter a number.





## Edit titles:

You can change titles, subtitles, or title fonts.

Before you edit: Titles and subtitles can be added to line, area, column, bar, scatter, pie, waterfall, histogram, radar, candlestick, or treemap charts.

1. On your computer, open a spreadsheet in Google Sheets.
2. Double-click the chart you want to change.
3. At the right, click Customize.
4. Click Chart & axis title.
5. Next to "Type," choose which title you want to change.
6. Under "Title text," enter a title.
7. Make changes to the title and font.

Tip: To edit existing titles on the chart, double-click them.

## Edit the legend:

The legend describes the data in the chart.

Before you edit: You can add a legend to line, area, column, bar, scatter, pie, waterfall, histogram, or radar charts.

1. On your computer, open a spreadsheet in Google Sheets.
2. Double-click the chart you want to change.
3. At the right, click Customize > Legend.
4. To customize your legend, you can change the position, font, style, and color.

Tip: To customize an individual legend item, double-click the text.

## Add or edit legend header:

1. On your computer, open a spreadsheet in Google Sheets.
2. Double-click the chart you want to change.
  - Tip: Make sure the text you want to appear in the legend is the first row or column of your data set.
3. At the right, click Setup.
4. Choose an option:
  - If headers are in rows: Click Use row N as headers.
  - If headers are in columns: Click Switch rows/columns and Use column N as headers.

Tip: To customize an individual legend item, double-click the text.



## Edit individual points & bars:

Before you edit: You can change the points and bars of the bar, column, line, scatter, and certain types of combo charts.

1. On your computer, open a spreadsheet in Google Sheets.
2. On the chart, right-click the bar or point.
3. Click Format Data Point.
4. Make your changes.

## Delete or move items on your chart:

### Delete items:

You can delete some chart items like titles, legends, data labels, and error bars. To delete items:

- To delete a specific item on the chart, double-click the item. Then, press delete or backspace.
- To delete data labels or error bars, double-click one to select all. Then, click a third time to select the single data label/bar.

Tip: To remove other items on your chart, double-click the chart to open the side panel.

### Move items:

You can move some chart labels like the legend, titles, and individual data labels. You can't move labels on a pie chart or any parts of a chart that show data, like an axis or a bar in a bar chart. To move items:

- To move an item to a new position, double-click the item on the chart you want to move. Then, click and drag the item to a new position. You can also use the keyboard arrows to move items.
- To reset the position of a single item, right-click the item. Then, click Reset layout.
- To reset to the position of all items, open the chart editor by double-clicking on the chart, going to the “Customize” tab, and clicking Chart style > Reset layout.

## Keyboard shortcuts:

You can use your keyboard to navigate the chart quickly.

- You can cycle through the layers of elements. To select different parts of a chart, press Enter.
- To switch amongst chart elements, press Tab.
- To jump out one level, press Esc.
- To go into another level, press Enter.
- To cycle through various objects at that level, press Tab.



- To move in the opposite direction of “Tab,” press Shift + Tab.

## Move a chart:

1. Open google sheets
2. Click the chart you want to move.
3. Drag the chart where you want it.

Tip: To move more than one item at the same time, press CTRL or Command and click the items you want to move.

## Resize a chart:

1. Open google sheets
2. Click the chart you want to change.
3. Drag the blue markers to resize the chart.

Tip: To resize more than one item by the same amount, press CTRL or Command and click the items you want to resize.

## Add and Edit axes titles:

1. Open google sheets
2. Double-click the chart you want to change.
3. At the right, click Customize.
4. Click Chart & axis title.
5. Next to "Type," choose which title you want to change.
6. Under "Title text," enter a title.
7. Make changes to the title and font.

## Edit the vertical axis:

You can format the labels, set min or max values, and change the scale.

1. Open google sheets
2. Double-click the chart you want to change.
3. At the right, click Customize.
4. Click Vertical axis.
5. Make the changes you want.

Tip: To hide the vertical axis line, uncheck the box next to "Show axis line".



## 9. Spreadsheet Distribution

- Share and Collaborate files
- Print and Download

### Share and Collaborate files:

Share documents, spreadsheets, or presentations with individuals or large groups of people. You can share with people inside or outside your organization. People can make changes at the same time, and you can see changes as they happen.

### Share a file or folder with specific people:

1. Select the file you want to share.
2. Click Share or Share.
3. Under Share with people and groups, enter the email address you want to share with.  
Note: If visitor sharing is on for your organization, you can invite someone who doesn't have a Google Account to collaborate on your Google Drive files and folders. See Share documents with visitors.
4. To change what people can do to your file, on the right, click the Down arrow
  - Viewer,
  - Commenter,
  - Editor.
5. Choose to notify people:
  - If you want to notify people that you shared a file with them, check the Notify people box. If you notify people, each email address you enter will be included in the email.
  - If you don't want to notify people, uncheck the Notify people box.
6. Click Share or Send.



## Share a link to a file or folder:

1. In Drive, select google sheet then right-clicks the file or folder you want to share and

select Share .

In Docs, Sheets, or Slides, at the top, click Share.

Note: You can only share files that you own or have edit access to.

2. (Optional) To specify what people can do with your file when you share it, under your organization name, click Change:



- To change the permission, at right, click the Down arrow and select Viewer, Commenter, or Editor.
- To allow sharing the link outside of your organization, next to your organization name, click the Down arrow Public.

Note: If you don't see this option, contact your administrator.



3. Click the Copy link.
4. Click Done.
5. Paste the link in an email, on a website, or wherever you need to share it.

## Unshare files in Drive, Docs, Sheets, or Slides:

### Stop sharing a file or folder you own:

1. Open google sheets
2. Select a file or folder.
3. Click Share or Share .
4. Find the person you want to stop sharing with.
5. To the right of their name, click the Down arrow  > Remove.
6. To save changes, click Save.

### Remove a link to a file or folder you own:

1. Open google sheets
2. Open or select a file or folder.
3. Click Share or Share  > Get a link,
4. Under “Get Link”, click the Down arrow .
5. Select Restricted.
6. Click Done.





## Print and download files:

To print your file, click File >Print or click Print.

- **For documents and presentations:** In the preview that appears, you can scroll through your document on the right, or choose print options on the left.
- **For spreadsheets:** You can choose which sheets to print, what features to include, and which layout you want

## Download a file:

To download your file so it can be opened by other programs, click File>Download as and choose one of the download formats and download the file