

# Google Drawings

## Google Web Applications

The Google web applications are a set of web pages that perform certain standard tasks, such as email, word processing and spreadsheets. These are different from applications you download and run on your computer since they are all done in a web browser.

<b>Google App</b>	<b>Type</b>	<b>Programs That Do Similar Tasks</b>
Gmail	Email	Microsoft Outlook, AOL, Yahoo Mail
Google Docs	Word Processing	Microsoft Word, Pages, LibreOffice
Google Sheets	Spreadsheet	Microsoft Excel, LibreOffice Calc
Google Calendar	Calendar	Microsoft Outlook
Google Contacts	Contacts	Apple Contacts, Microsoft Contact Organizer
Google Drawings	Drawing	Sketch, CorelDRAW

Google also makes a browser program called Chrome which must be installed on your device (if it does not come with it). Other popular browser programs are Safari, Firefox, Microsoft Edge and Opera.

# Google Drawings

Google Drawings is a vector based drawing tool. This means that the drawings you create print very well and will not have jagged (pixilated) edges. Drawings are made up of objects (text, lines, shapes and images) that can be edited after they are added to the drawing. This will be explained in more detail below.

Google Drawings has the advantage that your drawings are kept on the Cloud (Internet) on Google computers and are associated with your Google account. That means that you have to sign up for a Google account to use if you don't already have one. This is free and easy to create if you don't already have one. It also means you can access your documents anywhere in the world on any device that connects to the Internet. You simply have to log into your Google account to access them.

It also means that you can imbed the drawing inside the other Google applications (Google Docs, Google Sheets). It is also possible to create new drawings inside the other Google applications (using the Drawings option on the Insert menu).

You can also share a drawing with other people. If you give them edit access, you and the other people edit the drawing at the same time.

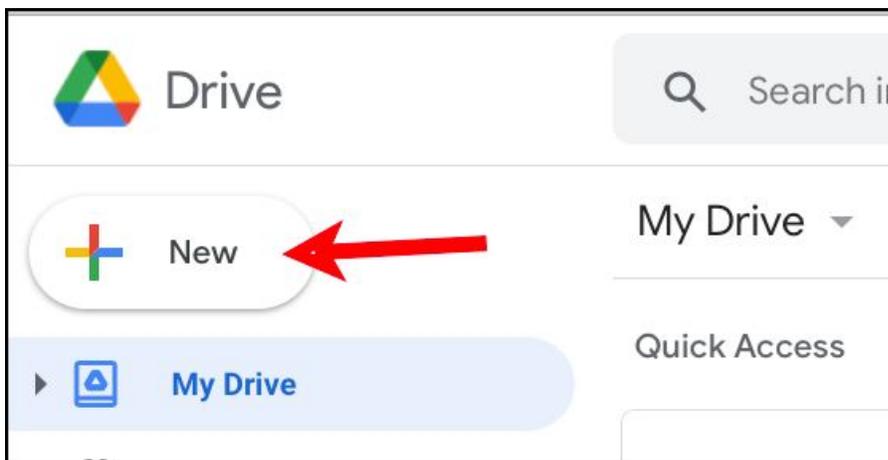
Just like the other Google web applications, Google Drawings automatically saves your changes to the drawings and also automatically keeps versions of the drawings so if you make a mistake you can go back to an earlier version and restore the drawing to how it looked at that point in time.

## Creating a Drawing

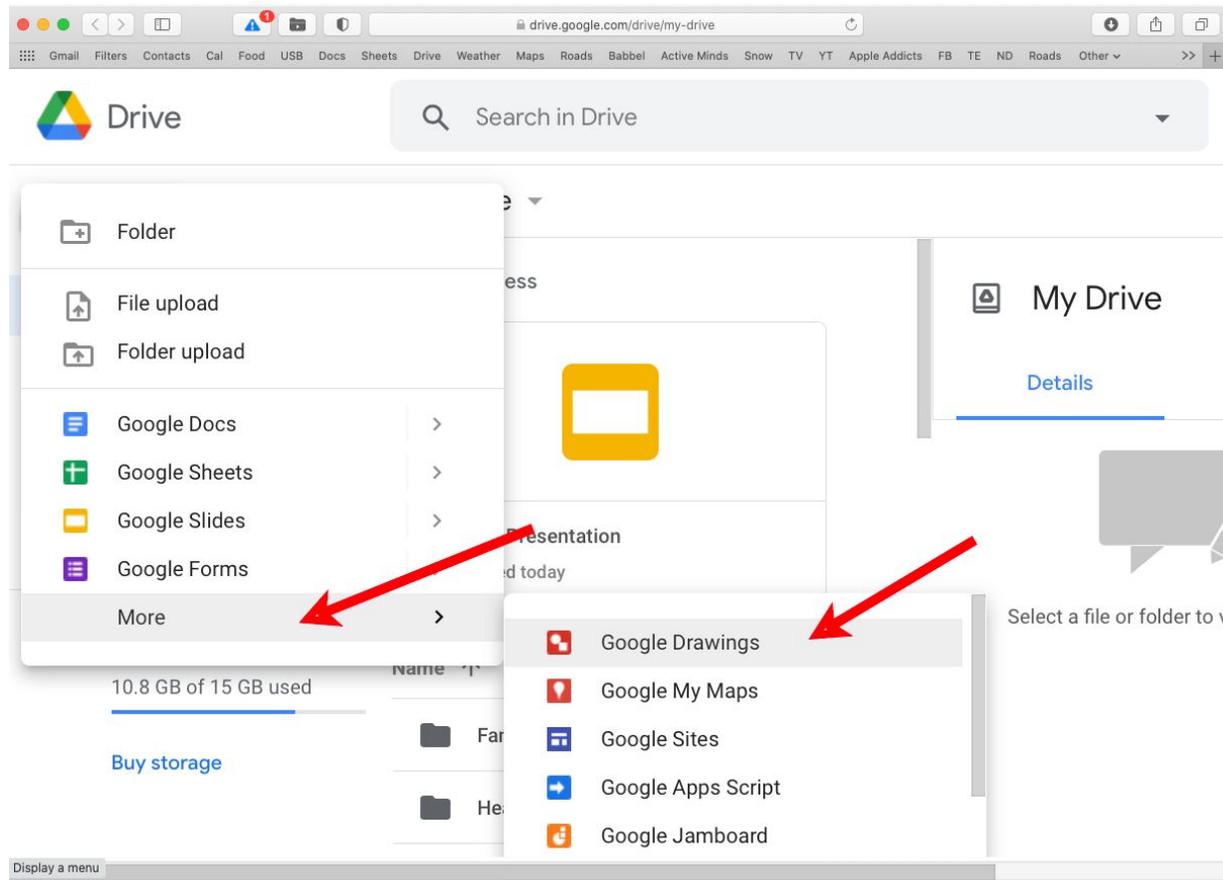
There are several ways to create a new drawing. One way is go to your Google Drive (where Google keeps your data)

<https://drive.google.com/drive/my-drive>

And then click on the New button in the upper left part of the window:



Then click on More and Google Drawings:



This will open a new blank drawing. You can also do this by going to this URL:

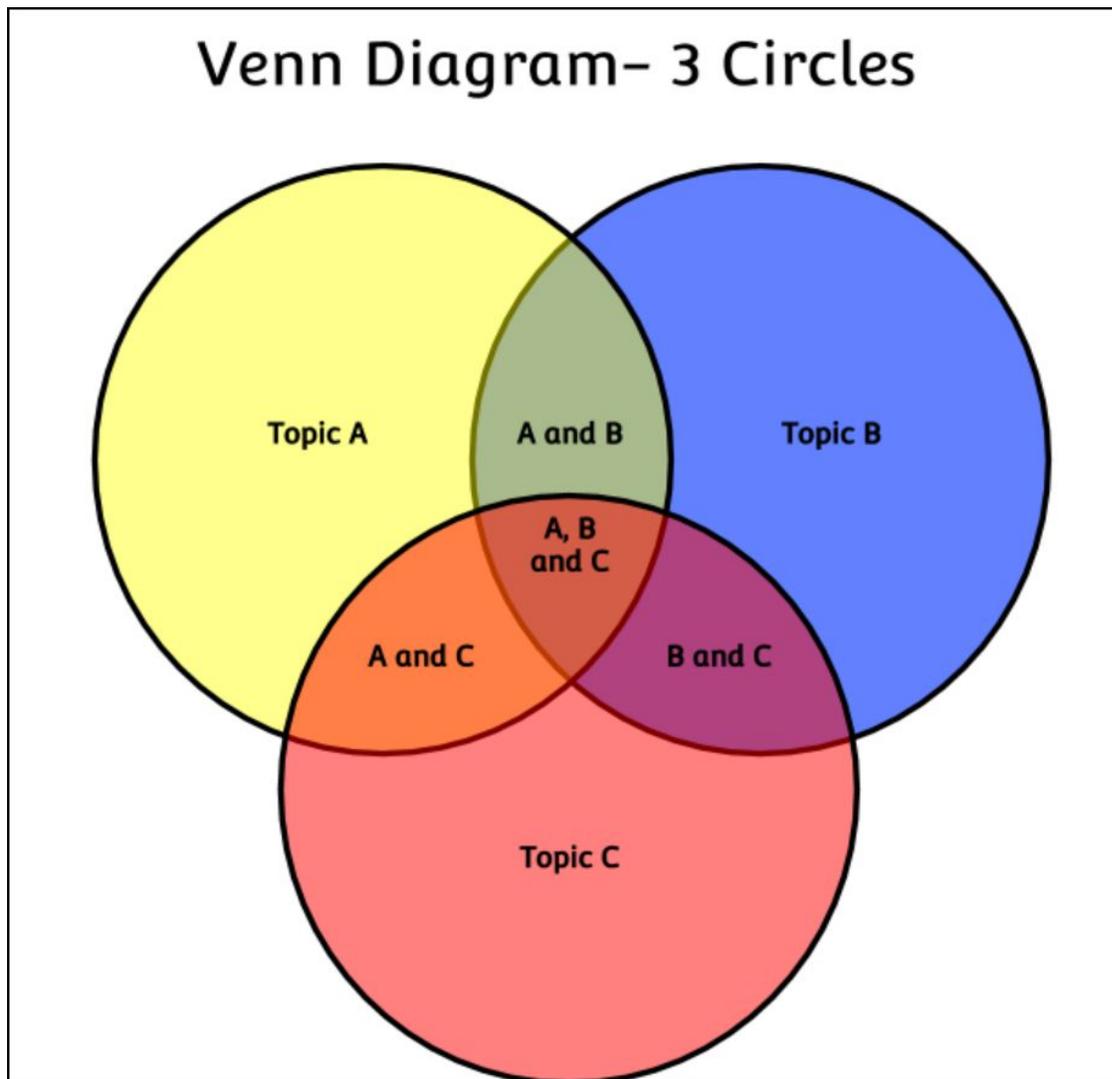
<http://drawings.google.com>

As mentioned above, if you are in a Google Doc or Google Sheet you can use the Insert menu and select the Drawing option. This creates a new drawing which will be placed in the document you are working on.

After you create the new drawing, you can resize it with the Page Setup option on the File menu. You can change the background color by right-clicking on the background and selecting the Background option.

## Examples

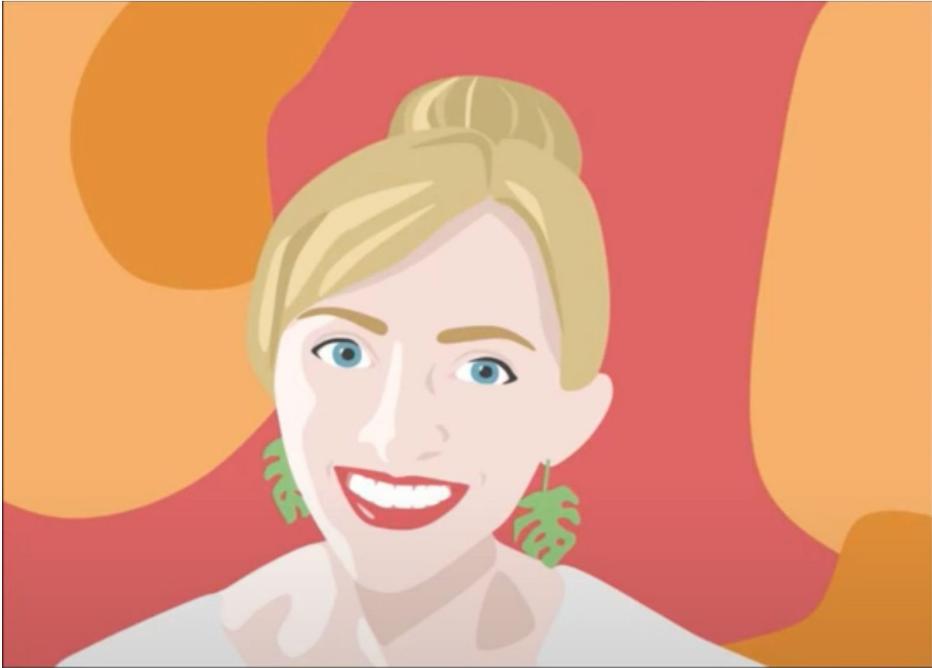
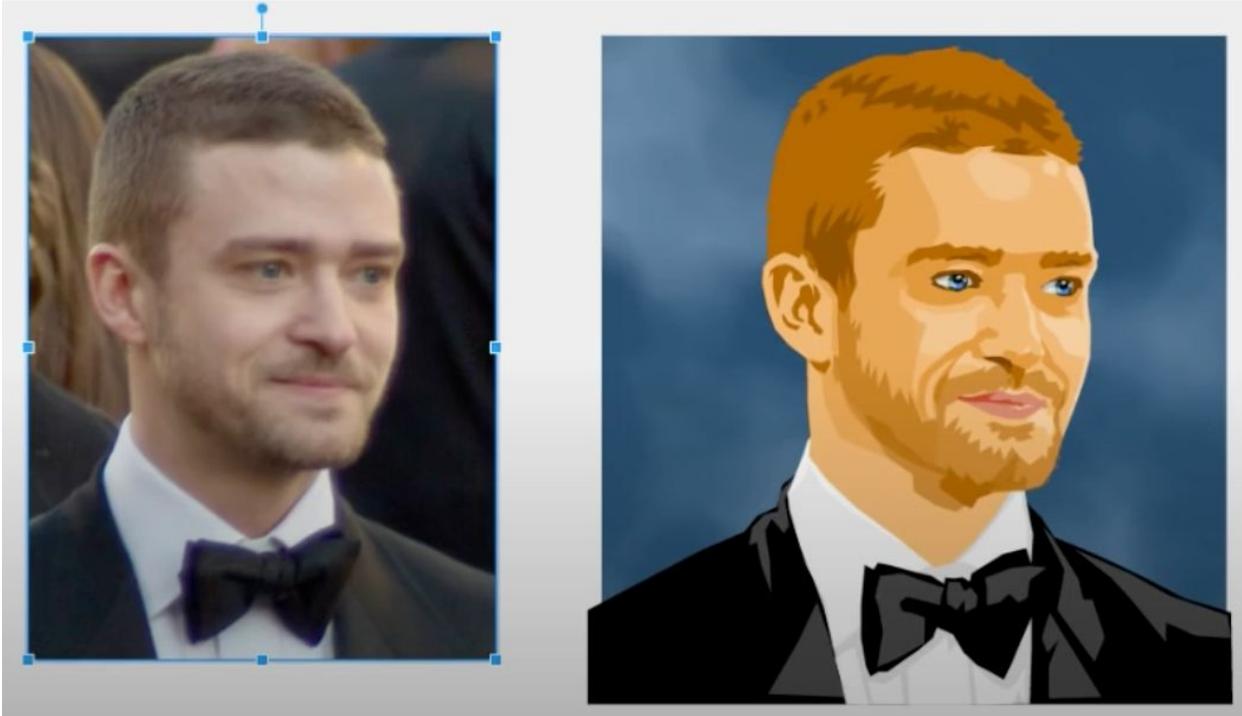
Here are some examples of what you can do with Google Drawings. You can create simple drawing with shapes:



You can create a poster:

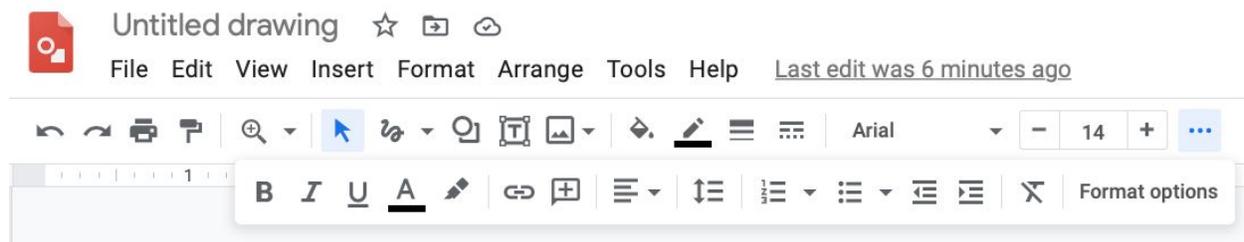


Or even a make a portrait from a photograph:



## Menu and Toolbar

Google Draw is like several of the other Google web applications and has its own menu inside the window with a toolbar below it. This is not to be confused with the browser menu which normally appears at the top of the computer screen (in some operating systems).



The File menu has several interesting options, including page setup that lets you change the drawing size. It also has a Download option to convert the drawing into a PDF file or several other formats.

The first set of buttons on the toolbar:



Are Undo, Redo, Print, Paint Format, Zoom and Select. The Select button is highlighted. This lets you click on objects to select them. You can switch back to this tool by typing the Escape key on the keyboard. The next set:

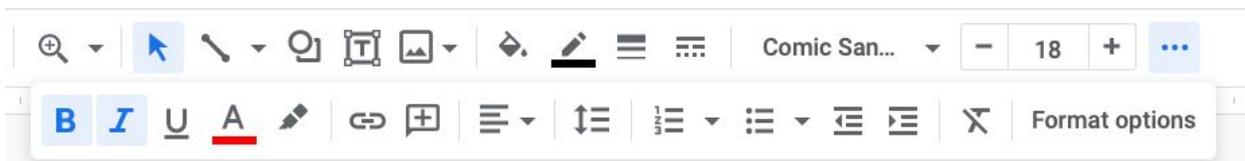


Are the line, shape, text box, insert image, fill color, border color, border width and border type buttons.

The final set of buttons:

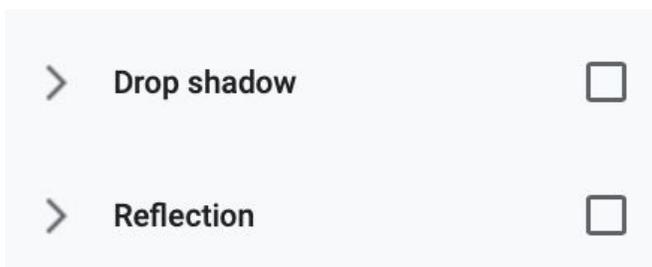


Are the text font, text size and a button to see more options, which are displayed below the first set of buttons:



This has buttons for bold, italic, underline, text color, highlight color, insert link, add comment, horizontal text alignment, vertical text alignment, line spacing, numbered list, bulleted list, decrease indent, increase indent and finally a button to clear text formatting.

The Format options button brings up a right sidebar panel with extra options that depend on the type of object selected. These include adding drop shadows and reflection for the object:



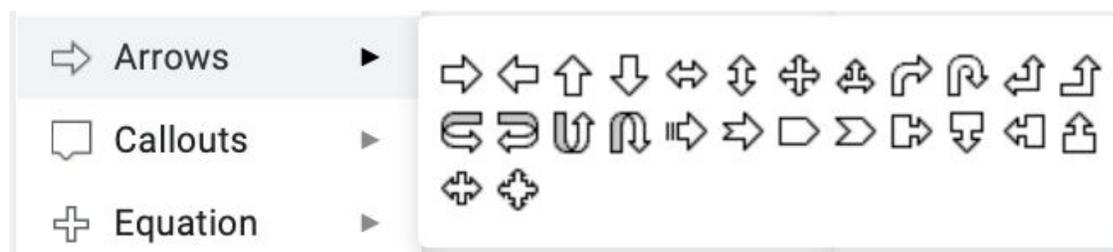
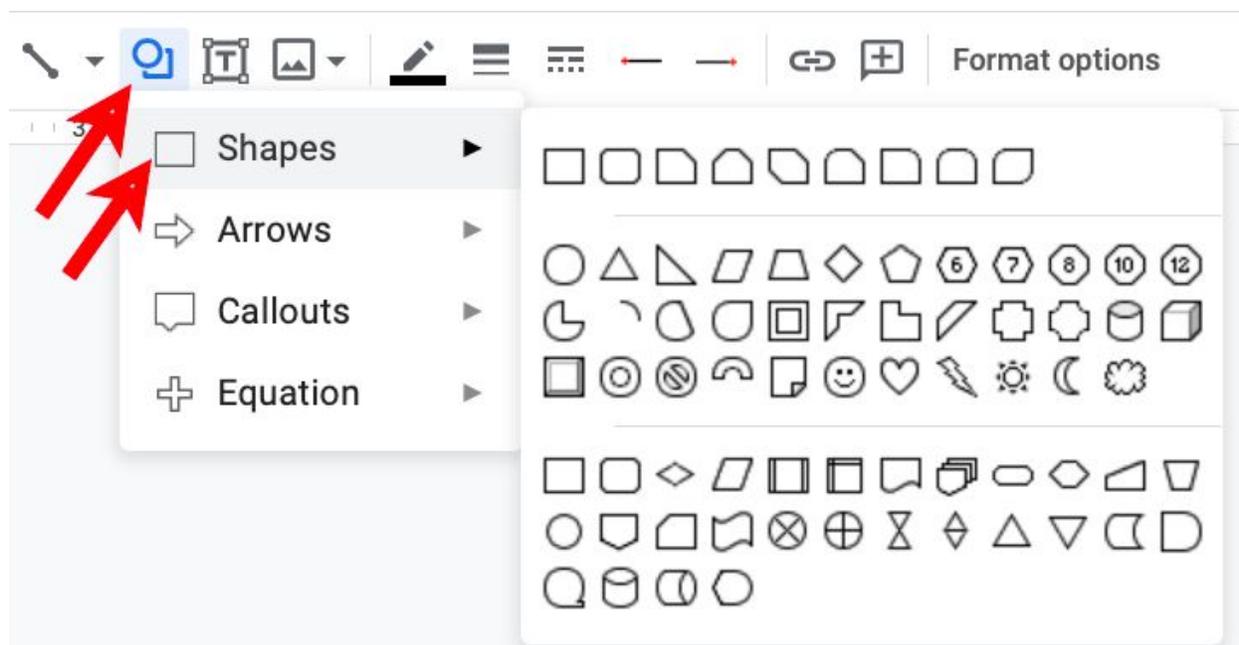
## Basic Ideas

Each Google Drawing is made up of objects: text, lines, shapes and images. You can change the properties of each type:

All objects can be rotated and given a drop shadow or reflection. You can easily change the size of any object. Objects can also be aligned to each other and grouped together. You can also control how they overlap (which object is in front of other objects).

## Shapes

There are many types of shapes built into Google Drawings.



You can change many properties of a shape: fill color, border color, border width and style (solid, dash, dots) and also change the shape itself in many ways. You can also create your own shapes with special types of lines (curved and polygons).

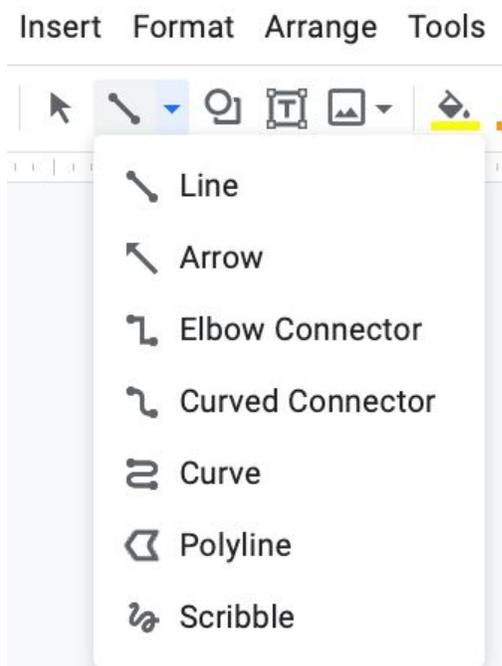
## Text

Text is entered in text boxes and you can change the font, size, style (bold, italic, underline.), color, highlight color, alignment (left, right, center), line spacing, text box fill and border color (which can both be transparent so you only see the text)

There is also a special kind of text called “Word Art” which is like a special shape and lets you change all the shape properties (e.g. fill and border color) along with the font and size. This will be explained below.

## Lines

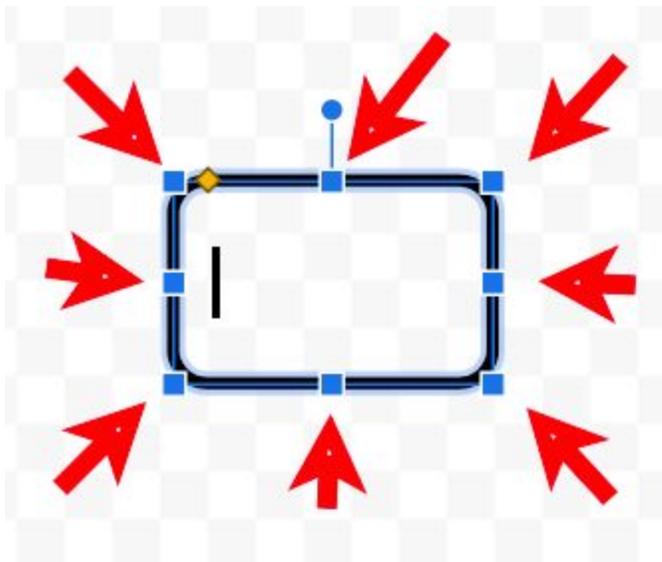
There are several types of lines:



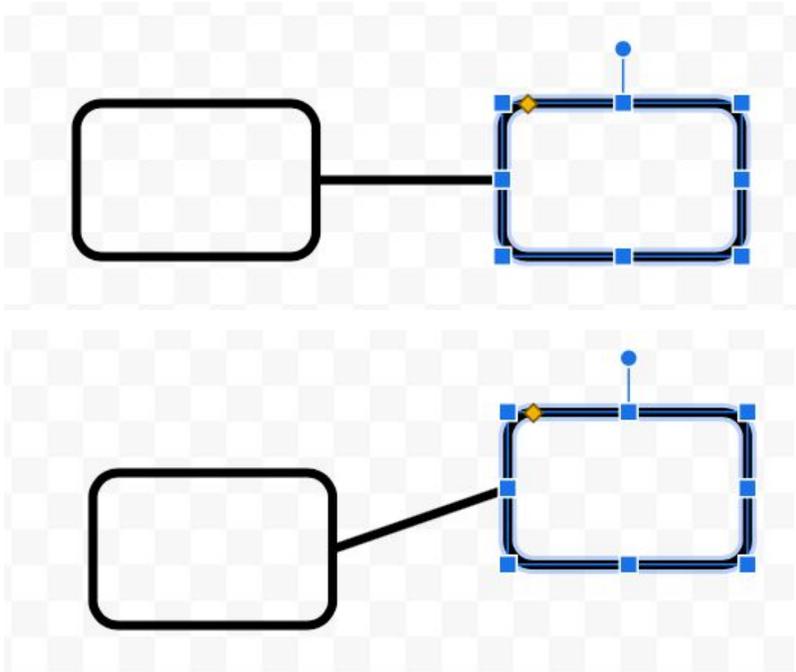
A regular line does not have any arrowheads although they can be added later. You can choose the color, width and type of line (solid, dashed, dotted) after you draw the line. You can also move the ends of the line after it is added to the drawing.

The Arrow line is similar to the regular line but has an arrowhead on the end. There are menus for changing the starting and ending arrowheads for both of these line types.

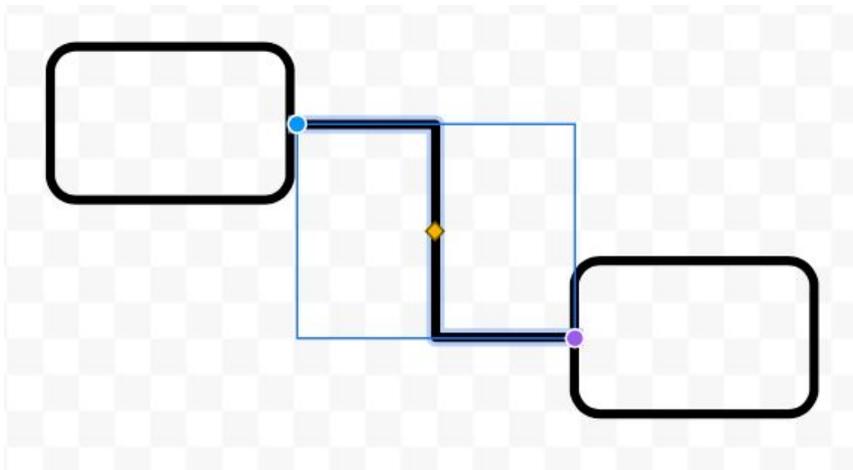
The Elbow Connector and Curved Connector are normally used to draw lines between other objects at special connection points. These appear as blue rectangles on the shape when you select it by clicking on it:



You can draw a line between connectors and two shapes and the line will move if the shape moves.

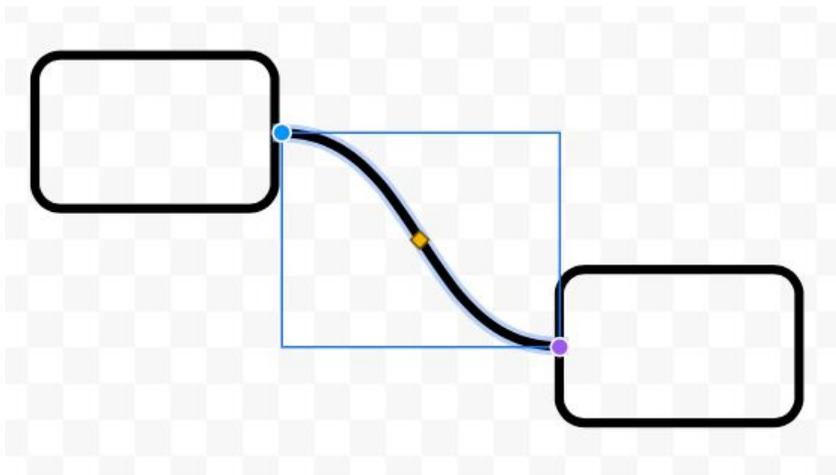


Elbow connects work the same way but use multiple line segments:

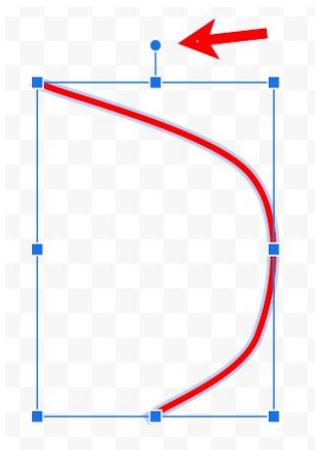


The connector stays attached to the shapes as they move. This is very handy for some types of drawings, like flow charts.

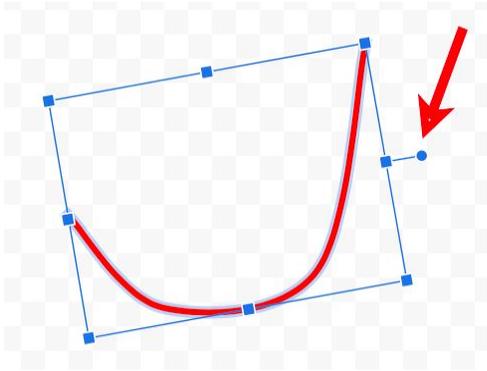
The Curved Connector is similar but drawn with a curve:



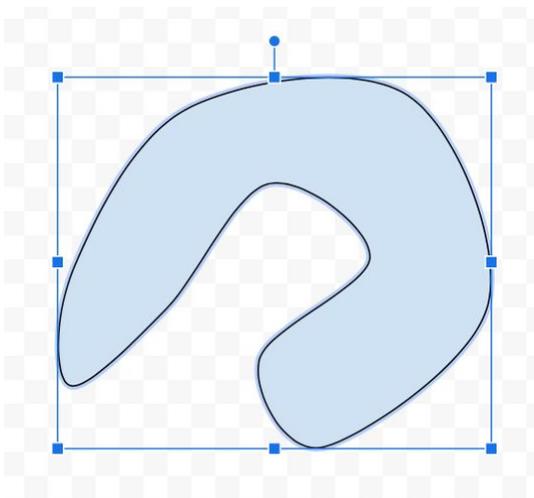
The Curve line can be used to add a curved line to your drawing. You click on a starting point and start dragging to create the curve. You can then release the mouse and click to define new places the curve should turn:



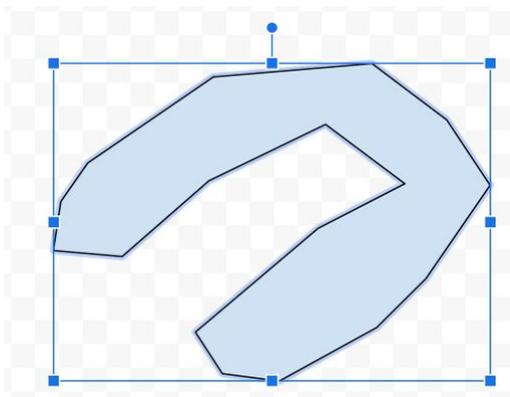
The extra dot next to a shape is used for rotating it. You click and drag on that dot and rotate the shape.



If your final click is on the starting point, the curve becomes a shape with where you can change the fill color:



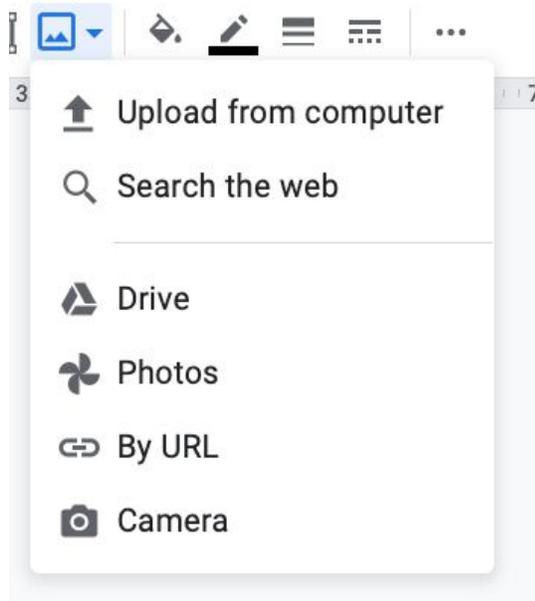
The Polyline is similar but does not add curves. Each time you click in becomes a vertex of the new shape:



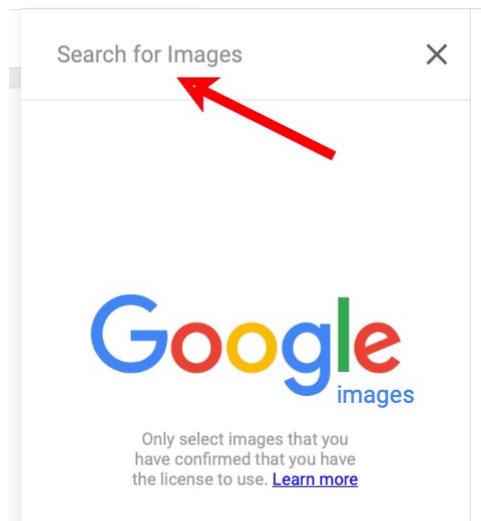


## Images

The Insert Image button has several options:



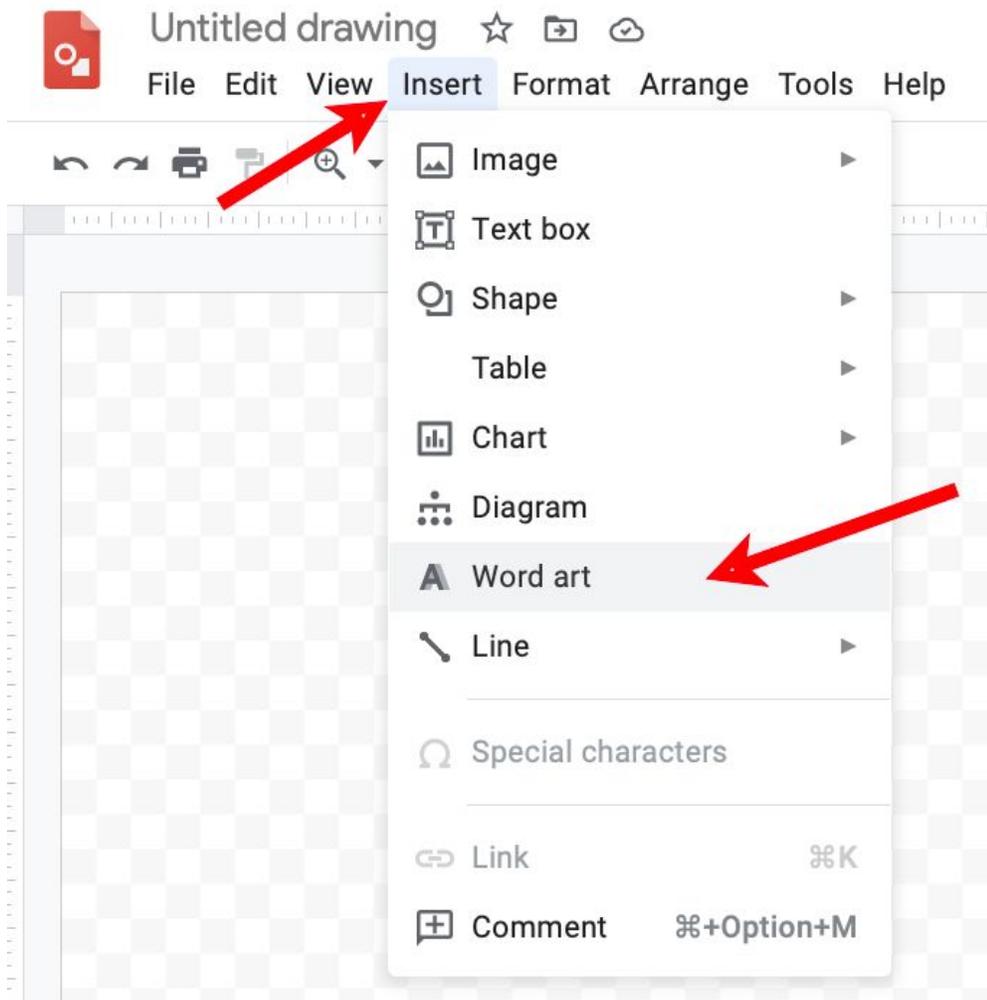
You can insert an image from your computer, take a new image with your camera, insert an image from Google Photos or search the web for an image which brings up a sidebar on the right with a search box:



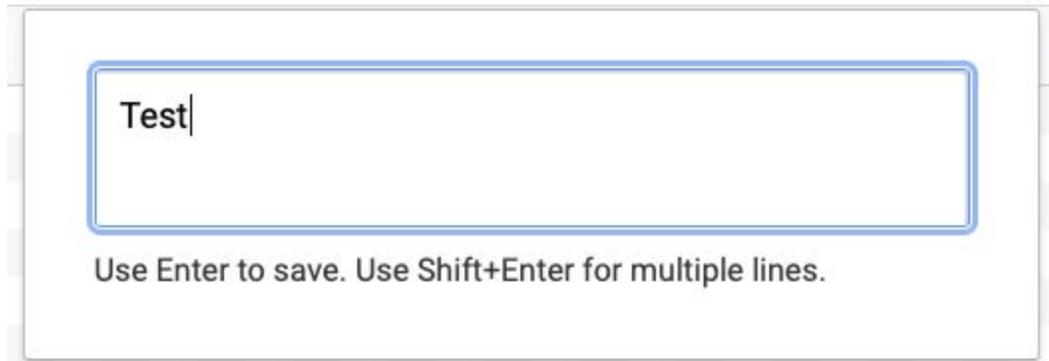
You can also copy an image from another application and paste it into your drawing.

## Word Art

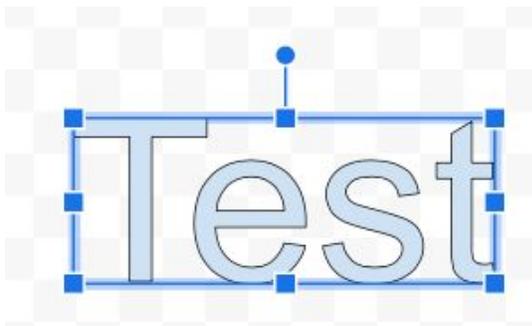
The final type of shape is called Word Art. You add this to a drawing with the Word Art option on the Insert menu:



This brings up a popup window that lets you enter the text you want to add to the drawing, in this case “Test”. You can have multiple lines of text by using Shift / Enter to add a new line.



You then click on the drawing to insert the word art:



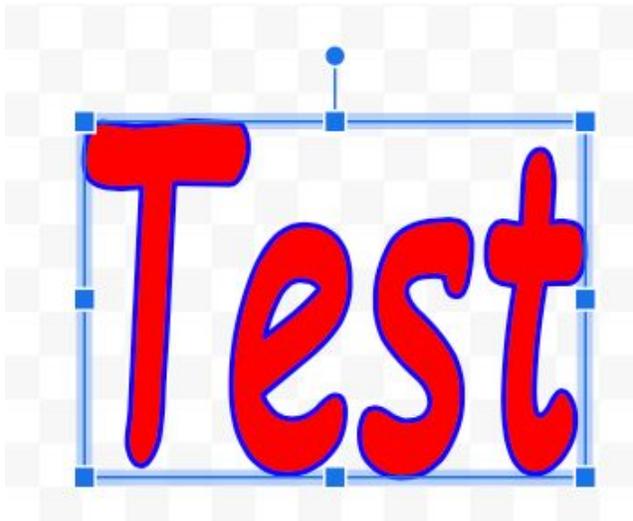
This now acts like a shape where you control the border color, thickness, type, fill color, etc. There is also a rotate button so you can rotate the text. You can use the font menu in the toolbar to change the font or size. You can also change the size of the box without changing the font size. This stretches the text vertically or horizontally depending on how you change the enclosing box.

If you double click on the word art, the popup window comes back which lets you change the text in the word art.

For example, here is the same word art changed to Comic Sans font, bold, italic with red fill and a blue border of width 4:

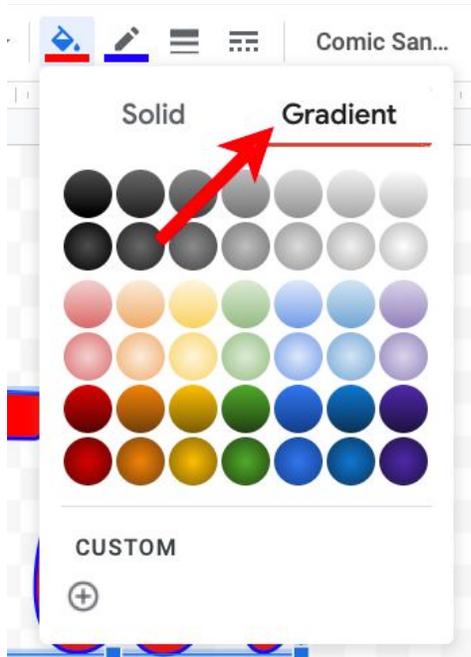


If we drag on the bottom we can make it taller:



This is great for making posters with text that really stands out.

On the fill color menu, there is a Gradient option that lets you fill a shape with a gradient that you define:



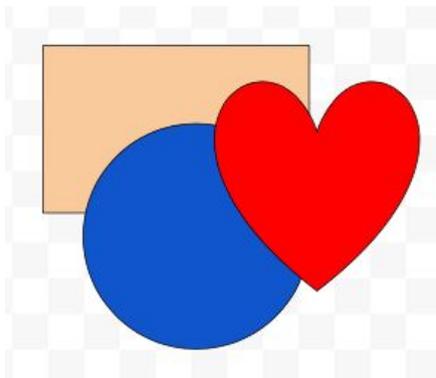
There are lots of fun effects you can do with gradient fills. This is available on the CUSTOM option for any shape but is not available for lines.

The CUSTOM option is available for line, text and shape colors and also lets you control the transparency of the object for shapes and text. This lets the background or other objects behind the object show through (as in the Venn Diagram example).

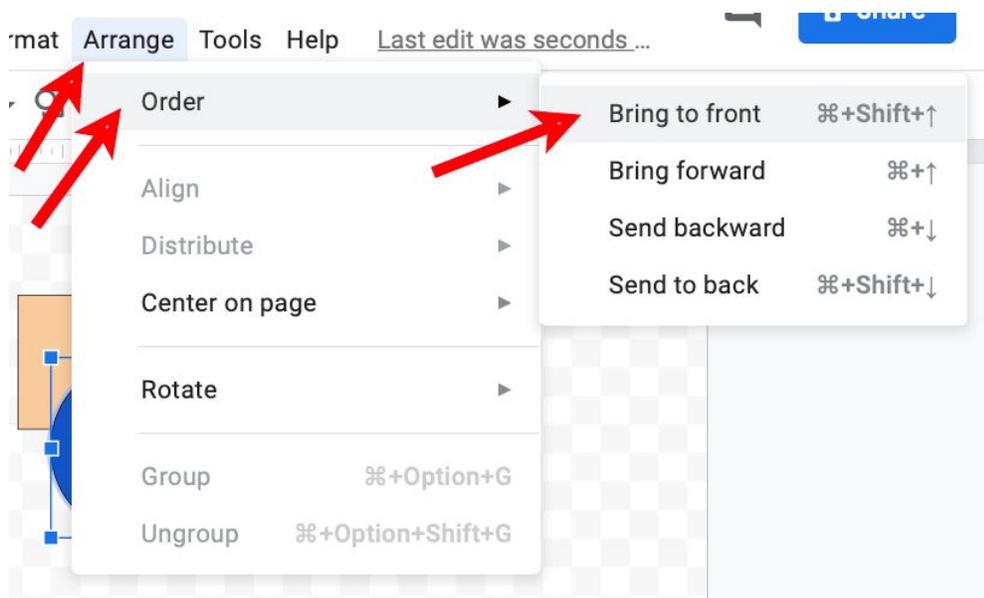
## Vertical Display Order

If you have multiple objects in a drawing that overlap, you can control which one is in front, back and the order in between for all of the objects.

For example, we add a tan rectangle, a blue circle and a red heart to the diagram:



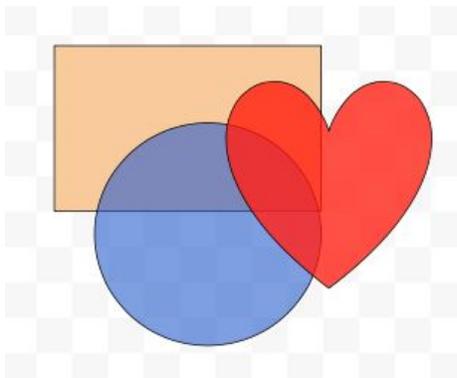
If we click to select the blue circle, we can move it to the front by choosing the Order option on the Arrange menu



There are also keyboard shortcuts for this which are very helpful:

- Command / Up Arrow on Mac (or Control / Up arrow on the PC) brings the object forward
- Shift / Command / Up Arrow on Mac (Shift / Control / Up Arrow on PC) brings the object all the way to the front
- Command / Down Arrow on Mac (or Control / Down arrow on the PC) brings the object backwards
- Shift / Command / Down Arrow on Mac (Shift / Control / Down Arrow on PC) brings the object all the way to the back

This in combination with the translucent colors have interesting effects:



Another important keyboard action when you are resizing an object is to hold down the shift key on the keyboard and then drag a corner it will keep the same ratio of height to width. If you do this when you create an object it will make sure it is square for a rectangle or a perfect circle for the circle shape (instead of an ellipse). This works for all types of shapes and makes sure the new shape has the same height and width.

To create a copy of an object, hold down the Option key and drag it to a new location or you can select Copy and then Paste from the Edit menu or use the keyboard shortcut of Command / D on a Mac or Control / D on a PC to create a duplicate of the selected object.