Google Sheets – Introduction

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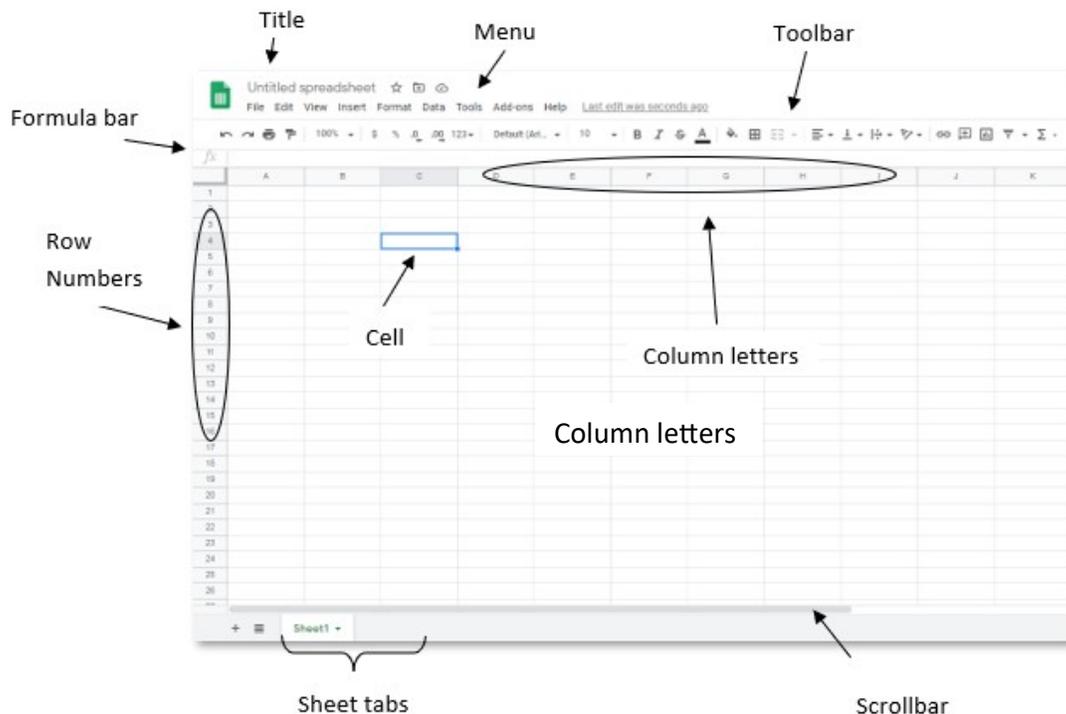# Google Sheets – Introduction

Class Objectives

- What you can do with Sheets
- Formatting Cells
- Moving and Selecting Cells
- Rows and Columns
- Resizing Rows and Columns
- Freezing Rows and Columns

- Adding Sheets
- Formulas / Functions
- Charts
- Sorting
- Autofill
- Themes

Google Sheets

Google Sheets is Google's equivalent of Microsoft Excel. Files are saved in the cloud on Google Drive under your Google account. You can keep the file to yourself or share it with others to view or edit along with you. You can even use it on your phone or tablet with the Sheets app, although it's easier to use on a desktop. Almost everything you can do in Excel you can do with Sheets, if perhaps a little differently.

Google Sheets allows you to create spreadsheets much like paper ledgers that can perform automatic calculations. Each Google Sheets file is a spreadsheet that can hold many sheets. The sheet is a grid of columns (designated by letters) and rows (designated by numbers). The letters and numbers of the columns and rows (called labels) are displayed in gray buttons across the top and left side of the sheet. The intersection of a column and a row is called a cell. Each cell on the spreadsheet has a cell address that is the column letter and row number. Cells can contain text, numbers, or mathematical formulas.

There are usually at least 3 different ways to do an action. We will mostly be covering the Menu or Toolbar options, since those are easiest to demonstrate in class. You can also right-click to bring up a menu that is relevant to the element you've clicked on. There are also keyboard shortcuts that you may be familiar with from other programs. You can see the keyboard shortcuts in the menu next to the action, or search for one by pressing **CTRL+/** (control key plus forward slash key).

Here's a quick overview of the Menu Options.

File - For changes you want to make to the file itself. You can **Share** it, create a **New** one, **Open** an existing one, **Import** data from another location, **Download** it, look at the **Version History**, **Rename** it, **Move to Trash** (delete), **Print** it and many other similar things under this menu.

Edit - Here you will find **Undo** and **Redo** for undoing and redoing typing or other actions. **Cut**, **Copy**, **Paste** and **Paste Special** (These only work in Google Chrome, not other browsers). **Find and Replace** to find information you've entered, and **Delete** to delete cells, rows, columns, etc.

View - This menu controls how things look on your screen. You can **Freeze** rows and columns, and toggle the display of **Gridlines**, **Protected Ranges**, and the **Formula Bar**. **Show Formulas** instead of the results of those formulas, view **Hidden Sheets**, adjust the **Zoom**, or go **Full Screen**.

Insert - Whenever you want to **Insert** a new element, check here. Notable things you can insert are **Rows**, **Columns**, **Charts**, **Images**, **Functions**, **Links**, **Comments**, and **Notes**. **Pivot Tables** are also under here.

Format - Sometimes you need to tell Sheets what type of data it is you've entered (text, currency, a date, etc.). That's under **Number** on the Format menu. Also here are **Font Size** and styles, **Text Wrapping** and things like that. **Conditional Formatting** allows you to tell Sheets to automatically format data a certain way, such as display all negative numbers in red text.

Data - This menu has options for manipulating the data. Go here to **Sort** or **Filter.**

Tools - **Spell Check** and more advanced features can be found here. **Accessibility Settings** are also here, for screen reader or magnifier options.

Extensions - **Add-Ons** are here. They're special programs you can download and add to your Google Sheets account to help you do other features that are not built-in to Sheets. You can **Get** and **Manage** them here, and if you've added one, it will show up under this menu. **Macros** are also here. Those are scripts you can create to repeat a set of actions.

Help - You can find Help here. Use **Function List** to see a full list of available functions. You may also be interested in looking at what **Keyboard Shortcuts** you can use.

Moving and Selecting Cells

You can use your mouse to click on any cell on your worksheet. This will select the cell. From there you can either format the cell or add data to the cell. You can also use your mouse to select and highlight a range of cells by clicking on a cell and dragging the mouse over the rest of the cells you'd like to select. When you finish selecting your cells you can let go of the mouse button. For keyboard strokes which let you move through and select cells, see the tables below.

Cursor Movement	
One cell up	Up arrow or SHIFT+Enter
One cell down	Down arrow or Enter
One cell right	Right arrow or Tab
One cell left	Left arrow or SHIFT+Tab
Top of worksheet (cell A1)	CTRL+Home
End of row	End
End of sheet	CTRL+End
Any cell	Help->Search for 'Go to Range', then type in the cell address
Move to next worksheet	ALT+Down arrow

Selecting Cells	
One cell	Click once in the cell
Entire column	Click the column label
Entire row	Click the row label
Entire worksheet	Click the whole sheet button or CTRL+A twice
Cluster of cells	Drag mouse over the cells or hold down the SHIFT key while using the arrow keys
Non-adjacent cells	Hold down the CTRL key and use the mouse to click on non-adjacent cells

Moving and Copying Cells

Action	Using the Menu (Only works in Chrome)	Using the right mouse button (Only works in Chrome)	Using the keyboard
To **cut** the cell's content that will be moved to another cell, highlight the cell and …	Edit -> Cut	Right click on the highlighted cell, select **Cut** from the menu that appears.	CTRL + X
To **copy** the cell's content, highlight the cell and …	Edit -> Copy	Right click on the highlighted cell, select **Copy** from the menu that appears.	CTRL + C
Highlight the cell into which you want to **paste** the cut or copied cell and …	Edit -> Paste	Select **Paste** from the menu that appears.	CTRL + V
Highlight the cell into which you want to **paste values** and …	Edit -> Paste Special -> Paste Values Only	Select **Paste Special** -> **Paste Values Only** from the menu that appears.	CTRL + SHIFT + V
Drag and Drop	Drag the highlighted border of the selected cell to the destination cell with the mouse.		

Formatting Sheets

Adding Rows, and Columns
Highlight the cell, row or column where you'd like to make the insert. Choose **Insert** from the menu and select **Rows->Insert 1 row above** or **Rows->Insert 1 row below** or **Columns->Insert 1 column left** or **Columns->Insert 1 column right**.

Adding Sheets
Click on **Insert** in the menu and select **Sheet**. Or click on the **+** on the bottom to the left of the Sheets.

Formatting Cells
Click on one cell or highlight multiple cells to be formatted. You can use the icons and shortcuts on the toolbar to change the **Font** (e.g. color of the font, fill of the background, underline/outline of the selected cells), **Alignment** or the way the data inside the cells is displayed.

Also, clicking on the button with the **$** will format all selected cells which contain numbers to be displayed with a dollar sign and two decimal places. Clicking on **123** will give you more data formatting options.

Resizing Rows and Columns

There are several ways to resize rows and columns:

1. Resize a row by dragging the line below the label of the row you would like to resize. Resize a column in a similar manner by dragging the line to the right of the label corresponding to the column you want to resize.
    — OR —
2. Select a row or column by clicking on its number or letter and then right-click. Choose **Resize Row** or **Resize Column** from the popup menu. Enter a number or select **Fit to data** and hit **OK**.
    — OR —
3. Hover over the row number or column letter until the arrow appears and click on the arrow. Then select **Resize Row** or **Resize Column** as in option 2.
    — OR —
4. Select the column or row and then double-click on the line separating its label from the next label. This will make the column or row as wide or as deep as it currently needs to be (aka Fit to Data).
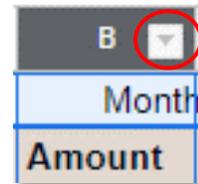
Freezing

If you have a large worksheet with column and row headings, these headings will not be visible when you scroll down or to the right. Sheets provides a handy solution to this problem: freezing. Freezing keeps the headings visible while you're scrolling through the sheet.

You can freeze rows or columns, or both. To freeze a row, select **View** then **Freeze** then **1 row** or **2 rows**. **1 row** will freeze the top row, **2 rows** will freeze the top two rows. Select **Up to current row** to freeze all rows above and including the row you have selected.

To freeze a column, select **View** then **Freeze** then **1 column**, **2 columns**, or **Up to current column**. Sheets inserts dark lines to indicate the frozen rows and columns. The frozen row and column remain visible as you scroll throughout the sheet.

To unfreeze something you've previously frozen, select **View** then **Freeze** then **No rows** and/or **No columns**.

Formulas

The distinguishing feature of a spreadsheet program is that it allows you to create mathematical formulas and execute functions. Otherwise, it is not much more than a large table for displaying text.

Formulas are entered in the sheet cell and must begin with an equal sign "=". The formula then includes the addresses of the cells whose values will be manipulated with appropriate operands placed in between. After the formula is typed into the cell, the calculation executes immediately and the formula itself is visible in the formula bar. See the example below to view the formula for calculating the sub total for a number of textbooks. The formula multiplies the quantity and price of each textbook and adds the subtotal for each book.
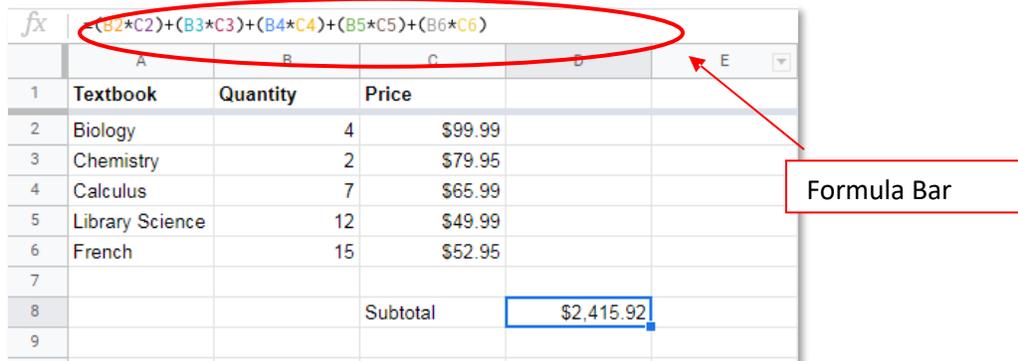
To view the actual formula or function in the cell and its components, double-click on the cell or click once and press **F2**. Also, if you select the cell, you will see the formula or function for the cell in the Formula Bar.

Functions

Instead of manually typing a formula into the formula bar, you can use the ∑ (**Functions)** icon on the toolbar to insert common functions such as **SUM**, **DATE**, **AVERAGE**, **COUNT**, **MAX**, etc.

Activate the cell where the function will be placed and select ∑ from the toolbar. From the functions menu you can select a category or view them **All** alphabetically. As you hover your mouse over a function, it provides a brief description of what it does. Click on one to select it. You can also search for a function use the search under **Help** in the menu.

The next step is to choose the cells that will be included in the function. You can do that by clicking on a cell, holding down the Shift key, then clicking the cell you want to end at. Notice that it puts them into the function separated by a colon. Hit enter and it will calculate and put the result in the cell. Your other option is to type the cell addresses right into the function.

Example --
 =SUM(C2:C6)
This will add the contents of C2, C3, C4, C5 and C6.

Autofill

The **Autofill** feature allows you to quickly fill cells with repetitive or sequential data such as chronological dates or numbers, and repeated text.

1. Type the beginning number or date of an incrementing series or the text that will be repeated into a cell.
2. Select the handle at the bottom, right corner of the cell with the left mouse button and drag it down as many cells as you want to fill.
3. Release the mouse button.
4.

If you want to **Autofill** a column with cells displaying the same number or date you must enter identical data to two adjacent cells in a column. Highlight the two cells and drag the handle of the selection with the mouse.

Autofilling Formulas

Autofill can also be used to copy formulas. In the example below, both column B and column C contain numbers. Column D is the total price for that quantity of textbooks. The formula in cell D2 would be "=B2*C2" This formula can then be copied to the remaining cells of column D by activating cell D2 and dragging the handle down to fill in the remaining cells. The **Autofill** feature will automatically update the row numbers as shown below if the cells are referenced relatively.
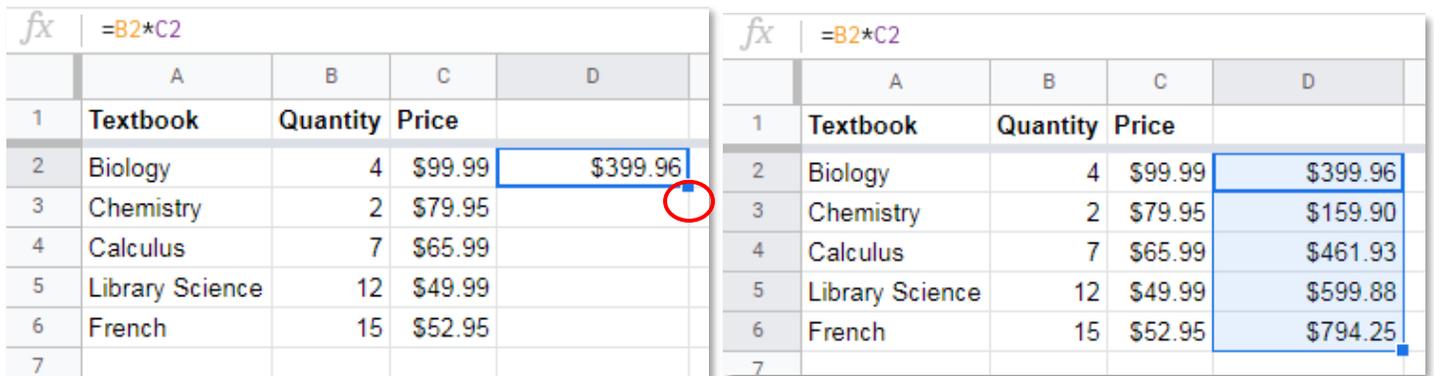
fx	=B2*C2			
	A	B	C	D
1	Textbook	Quantity	Price	
2	Biology	4	$99.99	$399.96
3	Chemistry	2	$79.95	
4	Calculus	7	$65.99	
5	Library Science	12	$49.99	
6	French	15	$52.95	
7				

| fx	=B2*C2			
	A	B	C	D
1	Textbook	Quantity	Price	
2	Biology	4	$99.99	$399.96
3	Chemistry	2	$79.95	$159.90
4	Calculus	7	$65.99	$461.93
5	Library Science	12	$49.99	$599.88
6	French	15	$52.95	$794.25
7				

Creating Charts

Charts allow you to present data entered into the sheet in a visual format using a variety of graph types. Before you can make a chart you must first enter data into a sheet. Once you have entered data, you can select the data and headings in the sheet that you want represented in the new chart. Click on the **Insert** menu option, then select **Chart**. The **Chart Editor** will pop up on the right. Select the type of chart under **Chart Type** (**Line**, **Column**, **Bar**, **Pie**, etc.)

Click on the picture of the type of chart you want to use.

Use the options under **Setup** to define what data to include in your chart and what you want to use for headers and labels. Use **Customize** to change the style, colors and other aspects of the chart's appearance.

Copying or Downloading a Chart

A finished chart can be copied to be pasted elsewhere. Click on the chart so the three dots appear in the upper right-hand corner. Click on the dots. You can either **Copy chart** to copy it to the clipboard to pasted anywhere you like, or you can **Download** it as a PNG, PDF, or SVG file.
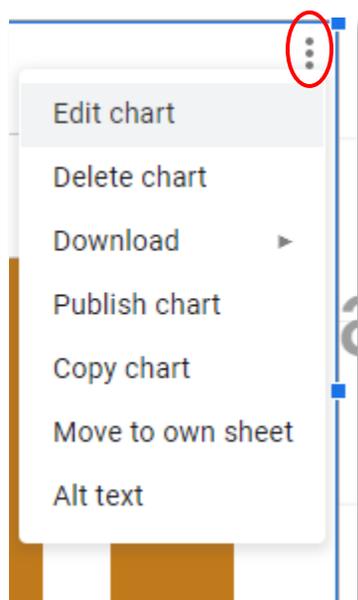
Sorting

Basic Sort

The **Data** menu can be used to sort cells in a sheet. To sort by one column, highlight the cells that will be sorted and click **Data**, then **Sort sheet by Column X, A→Z** or **Sort sheet by Column X, Z→A.** A→Z will either do an alphabetical sort or an ascending number sort, depending on the data in your cells. Note that if you instead select **Sort range**, that it will sort within your column and not take the adjacent rows along with your data.

Advanced Sort (Complex Sorts)

To sort by multiple columns, follow these steps:

1. Highlight the cells, rows, or columns that will be sorted.
1. Go to **Data — Sort Range – Advanced Range Sorting Options**.
2. From the **Sort range** dialog box, check the box if in your selection your **Data has header row**.
3. Then choose the column to **Sort by** and whether you want it **A→Z** or **Z→A**.

4. Click **Add another sort column** and choose what column you want next in **Then by**. Add as many sort columns as you need.

Themes

The use of themes in Sheets allows you to quickly format your sheet, provide consistency, and create a professional look. Sheets provides several preset themes which include predefined Colors and Fonts to enhance the aesthetics of a sheet and its charts. To apply a predefined theme, highlight the cells you want to match the theme. Click on **Format** in the menu, then **Theme**. You can click on any of the options to apply a theme to your selected cells. You can also click the **Customize** button if you'd like to tweak some of the colors or change the font. Theme changes are more obvious if you have created a chart.

Other Resources

G Suite Learning Center's Google Sheets Training and Help -
https://support.google.com/a/users/answer/9282959

Universal Class has a Google Sheets class. You can access Universal Class from our website:
Explore->eLearning->Universal Class.