



2ND EDITION

MICROSOFT EXCEL COURSE

INTERMEDIATE
MODULE

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Published 2019.

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A Message From the Author

Congratulations on taking ownership of your professional development. My name is Allen Aguilar and I am the author of this booklet. My intention with this message is to provide you with additional context about this booklet and details on how to use it.

I began to use Excel since I was about 11 years old. However, I never received formal training in Excel until college but forgot most of it because I stopped using it. It wasn't until I worked for a start-up company that Excel became the every-day software to use. This booklet is intended for the average Excel user with not technical background. Although I do cover some of the Excel terminology in this booklet, I shy away from being too technical, and instead, provide a very practical approach to this booklet.

About This Booklet

This booklet can be used as a reference guide for any intermediate Excel user. This booklet most likely accompanies one of my in-person trainings or online trainings on the same topic. My Excel trainings typically consists of the training content (either in-person or online) a booklet (such as the one you're reading) and Excel files where the participants get to practice what they learned. To learn more about my trainings, please visit www.leadershipbuild.com.

How to Use This Booklet

This booklet will take you step-by-step through the journey of an Excel user moving from beginner level to intermediate. There are various screenshots that will help you visualize my explanations in this booklet. Additionally, there are practice exercises along with this booklet that will help you apply what you are learning. If you purchased one of my online courses, or are attending an in-person training, the practice exercises will be provided for you by your instructor.

If you have any questions or would like to get in contact with me, please feel free to send me an email at allenaguilar@leadershipbuild.com. Enjoy!



Allen Aguilar

Founder of Leadership Build

Introduction

Excel continues to be a very popular software used across different companies. Most people don't know this, but MS Excel existed since 1985, making its way to the offices of different companies throughout the world.

What is Excel used for?

Excel is typically used to capture information in a centralized location. However, the true power of Excel lies in its ability to make calculations by using different formulas and functions. MS Excel is one of the most powerful software that can make calculations, forecasts, charts, graphs and organize data in a way that can be understood.

How can Excel help me do my job?

Depending on the type of work that you do, a good understanding of Excel can help you become faster at your job. Excel experts are extremely efficient when it comes to projects, reports and sharing information. Those that use Excel with proficiency will save time because Excel will do the work for them.

What will I learn in the Excel Intermediate Course?

In the Excel Intermediate Course, you will learn:

1. More advanced techniques on using the Format Painter
2. How to use indentation and additional number formats
3. How to use different types of Conditional Formatting and how to set rules for your formatting
4. How to create data validation cells and drop-down entries
5. How to protect your workbook, sheet and restrict areas from being touched or edited
6. How to work with a list and table and how to convert a list into a table
7. How to customize your table and work with different types of formatting
8. A few tips on Excel formulas
9. How to use the Auto Fill Handle
10. How to use anchors when using the Auto Fill Handle and formulas
11. How to work with date formulas and use dates to make calculations
12. How to use more intermediate formulas
13. How to set up pages to print properly
14. How to change print settings for your printing needs

Basic Terminology

Before you begin this course, it is important that you know some of the terminology that we will use throughout the book. As you read through this booklet you will encounter different words that are used in Excel and you will get a chance to learn the definition of those words. Just like anything new that is worth learning, it takes some time to get used to the terminology used in Excel. The following are a few words we cover in our Beginner's course that need to be covered in the Intermediate course just in case:

A Workbook

A Workbook consists of one or many spreadsheets. You can think of a Workbook as a book with different pages (or sheets) that you are working on. Typically, when you save your work in Excel, you save it as a Workbook file.

A File

A file is the name of your workbook. Think of it as a book that you are 'filing' away. You need to give it a name so that you can easily find it later. The older versions of Excel save workbooks as *.xls*. Newer version of Excel saves files as *.xlsx*.

A Spreadsheet

The spreadsheet is the platform that allows you to do your work with cells, make calculations, enter data, store data, create graphs and display any type of information you would like to present. Spreadsheets are sometimes called 'sheets' or 'Excel sheets' as well.

Gridlines

Gridlines are the 'rectangles' that you see on a spreadsheet. They help users gauge the space between each entry while neatly organizing data. The gridlines do not print unless you modify a setting in Excel.

Beginner to Intermediate Excel Functions

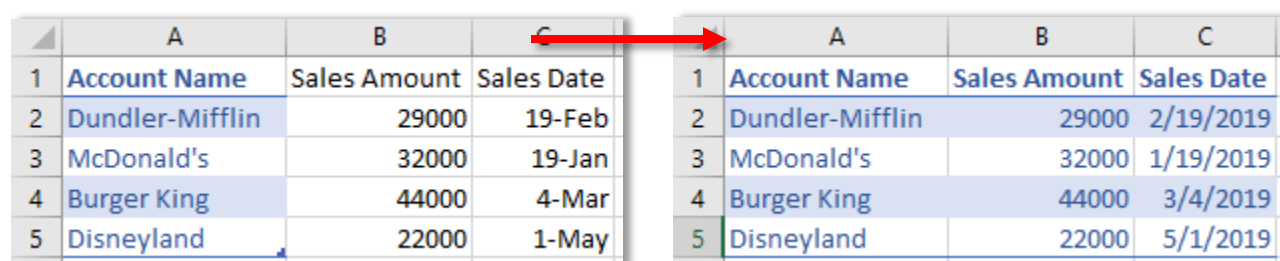
The functions you'll learn in this section are functions we discussed in our Beginner's booklet. However, in the Beginner's booklet, we only touched the surface on how to use these functions. In this section, you'll learn more about these functions and how to use them beyond the basics.

The Format Painter

As an intermediate Excel user, you should know how to use the **Format Painter**. This is a very useful tool to ensure that your tables have consistent formatting. In this section, you'll learn how to use the **Format Painter** and how to *lock* the **Format Painter** as well.

How to Use the Format Painter

The **Format Painter** is a useful tool located in the **Clipboard group** of the **Home** tab ribbon. The **Format Painter** is typically recognized by an icon of a paint brush. The **Format Painter** allows you to replicate the style, fonts, borders (aka cell's format) without replacing or overriding any of the values or contents from one cell to another. The **Format Painter** allows users to have a consistent looking spreadsheet.

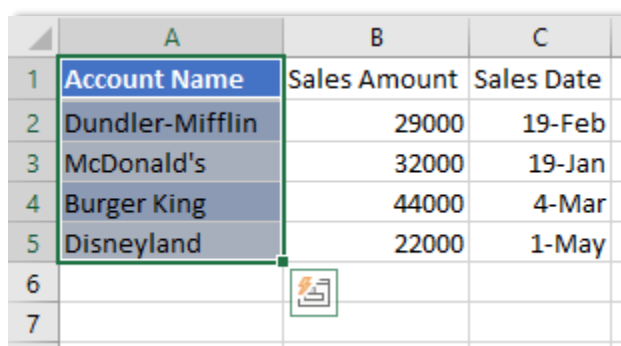


	A	B	C
1	Account Name	Sales Amount	Sales Date
2	Dundler-Mifflin	29000	19-Feb
3	McDonald's	32000	19-Jan
4	Burger King	44000	4-Mar
5	Disneyland	22000	1-May

	A	B	C
1	Account Name	Sales Amount	Sales Date
2	Dundler-Mifflin	29000	2/19/2019
3	McDonald's	32000	1/19/2019
4	Burger King	44000	3/4/2019
5	Disneyland	22000	5/1/2019

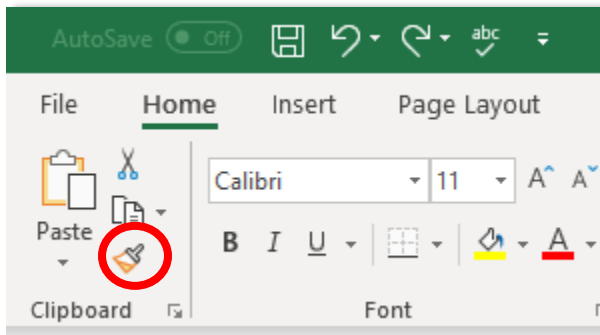
To use the **Format Painter**:

1. Select the range that includes the formatting you want to apply to the rest of the table



	A	B	C
1	Account Name	Sales Amount	Sales Date
2	Dundler-Mifflin	29000	19-Feb
3	McDonald's	32000	19-Jan
4	Burger King	44000	4-Mar
5	Disneyland	22000	1-May
6			
7			

- After selecting the range, select the **Format Painter** command, located in the **Clipboard** group



- After the **Format Painter** is selected, your selected range will have animated dashes around the content

	A	B	C
1	Account Name	Sales Amount	Sales Date
2	Dundler-Mifflin	29000	19-Feb
3	McDonald's	32000	19-Jan
4	Burger King	44000	4-Mar
5	Disneyland	22000	1-May
6			
7			

- Select the range where you want to apply the formatting and let go of your mouse after you're done

	A	B	C
1	Account Name	Sales Amount	Sales Date
2	Dundler-Mifflin	29000	43515
3	McDonald's	32000	43484
4	Burger King	44000	43528
5	Disneyland	22000	43586
6			
7			

The **Format Painter** allows you to copy background colors, number formats, font colors font types and font alignments. You'll know that you successfully used the **Format Painter** because you applied it correctly to the selected range.

How to Lock the Format Painter

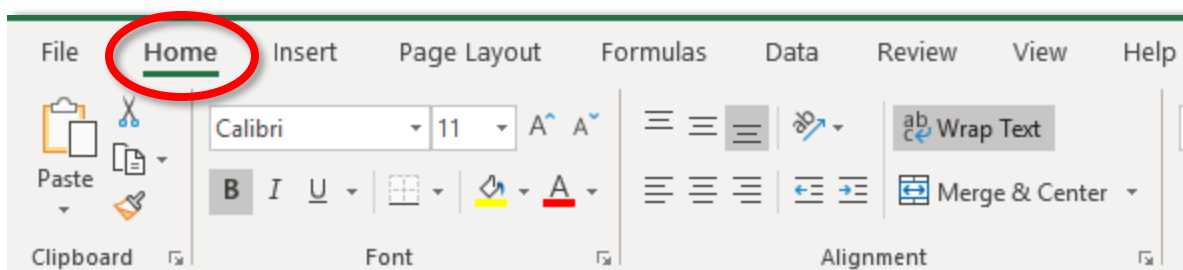
If you can successfully use the **Format Painter**, you know that once you “brush” the formatting to your desired location, the paint brush icon in your cursor disappears. This means that if you want to use the **Format Painter** for a big table, you would have to keep selecting the exemplary formatting and do the steps repeatedly. There is a shortcut that allows you to *lock* the **Format Painter** so that you don’t have to do the steps repeatedly.

To lock the **Format Painter**:

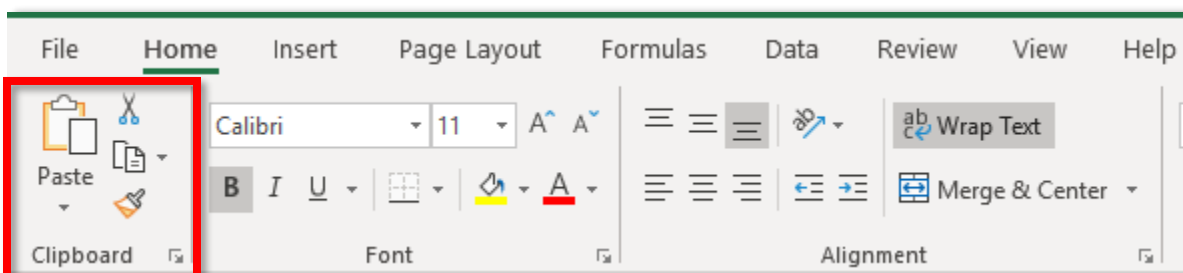
1. Select the range that includes the formatting you want to apply to the rest of the table.

	A	B	C
1	Account Name	Sales Amount	Sales Date
2	Dunder-Mifflin	29000	19-Feb
3	McDonald's	32000	19-Jan
4	Burger King	44000	4-Mar
5	Disneyland	22000	1-May
6			
7			

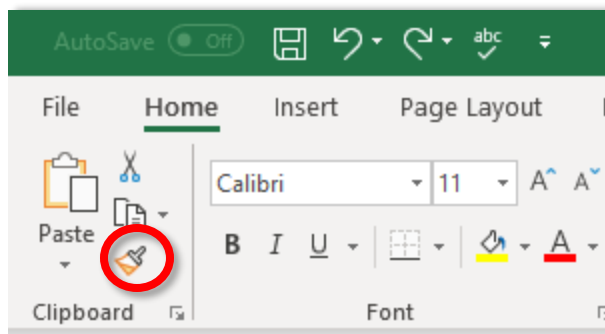
2. Navigate to the **Home** tab.



3. Locate the **Clipboard** group.



4. Double-click on the **Format Painter** command.



5. After the **Format Painter** is selected, your selected range will have animated dashes around the content

	A	B	C
1	Account Name	Sales Amount	Sales Date
2	Dundler-Mifflin	29000	19-Feb
3	McDonald's	32000	19-Jan
4	Burger King	44000	4-Mar
5	Disneyland	22000	1-May
6			
7			

6. Select the area where you want to apply the formatting and let go of your mouse after you're done

	A	B	C
1	Account Name	Sales Amount	Sales Date
2	Dundler-Mifflin	29000	43515
3	McDonald's	32000	43484
4	Burger King	44000	43528
5	Disneyland	22000	43586
6			
7			

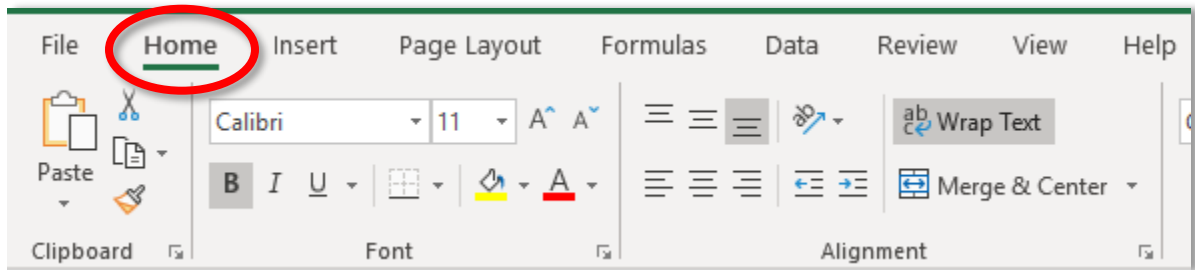
Note that when you lock the **Format Painter** the **Format Painter** command is permanently selected. This means, that the formatting you selected will apply to any cell that you click on. To stop using the **Format Painter** you will have to unlock it, which will be covered in the next section.

How to Unlock the Format Painter

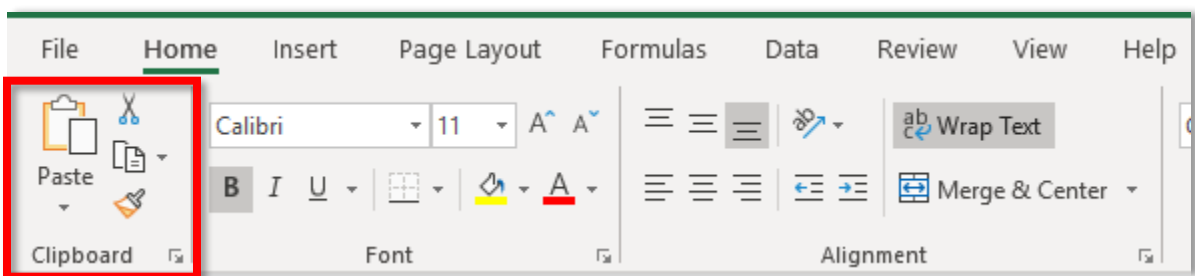
Be careful when locking the **Format Painter** because the formatting will apply to any area, or cell, that you click on. To stop using the locked **Format Painter** you will need to unlock it.

To unlock the **Format Painter**:

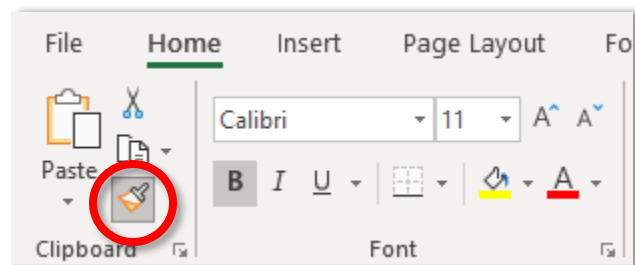
1. Navigate to the **Home** tab.



2. Locate the **Clipboard** group.



3. Click on the locked **Format Painter** command.



If you followed these steps correctly, you would have *unselected* the **Format Painter** command and your cursor will no longer have a paint brush icon.

Indentation

If you recall from grammar school, you always use an indentation when starting a new paragraph. Technically, this feature is also available in Excel. **Indentation** is not commonly used in Excel unless you're using this feature to demonstrate a sub category of some sort. Let's explore how to use this feature on a spreadsheet.

How to Increase Indentation

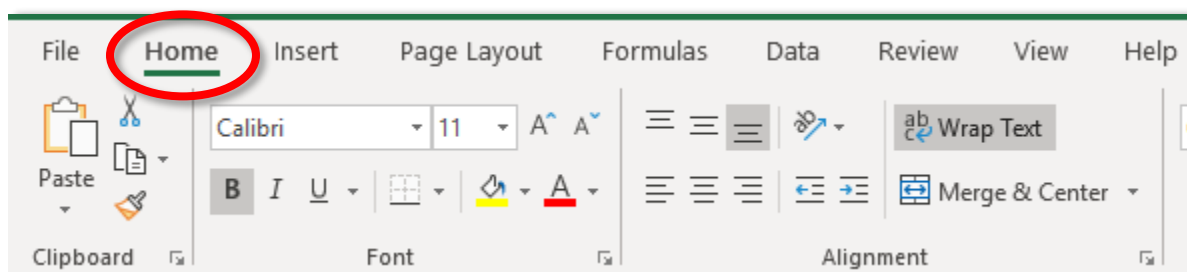
By default, the text in your cells are aligned to the left. You can change the alignment, but you can also use indentation to add space to the left of the text. This is commonly done in Excel to show a sub category.

To increase the indentation of a cell:

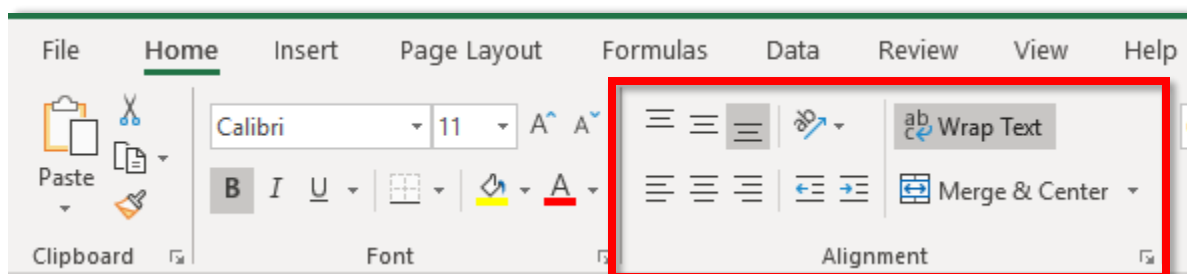
1. Select the cell(s) that you want to add indentation.

	A	B
1	Account Name	Potential Revenue
2	THE DAILY BREAD CRUMBS LLC	\$297,083.00
3	Revenue from new business	\$59,416.60
4	Revenue from renewals	\$237,666.40

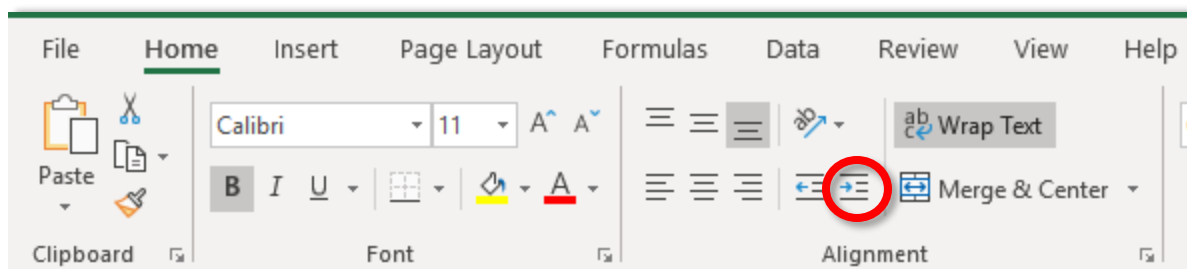
2. Navigate to the **Home** tab.



3. Locate the **Alignment** group.



4. Select the **Increase Indent** command.



If you successfully followed these steps, you would see the indentation in your cell(s).

	A	B
1	Account Name	Potential Revenue
2	THE DAILY BREAD CRUMBS LLC	\$297,083.00
3	Revenue from new business	\$59,416.60
4	Revenue from renewals	\$237,666.40

How to Decrease Indentation

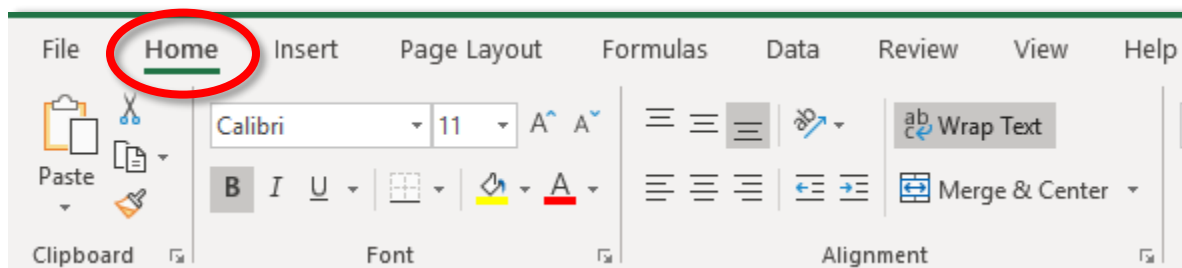
In Excel, you can also decrease or remove the indentation in your cells.

To decrease the indentation:

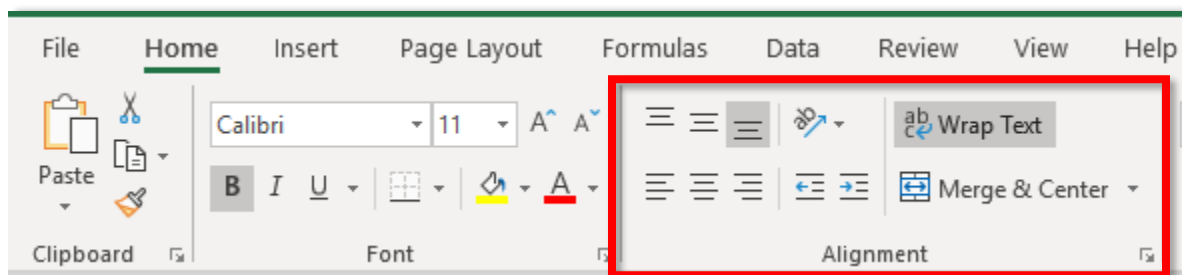
1. Select the cell(s) that you want to decrease or remove the indentation.

	A	B
1	Account Name	Potential Revenue
2	THE DAILY BREAD CRUMBS LLC	\$297,083.00
3	Revenue from new business	\$59,416.60
4	Revenue from renewals	\$237,666.40

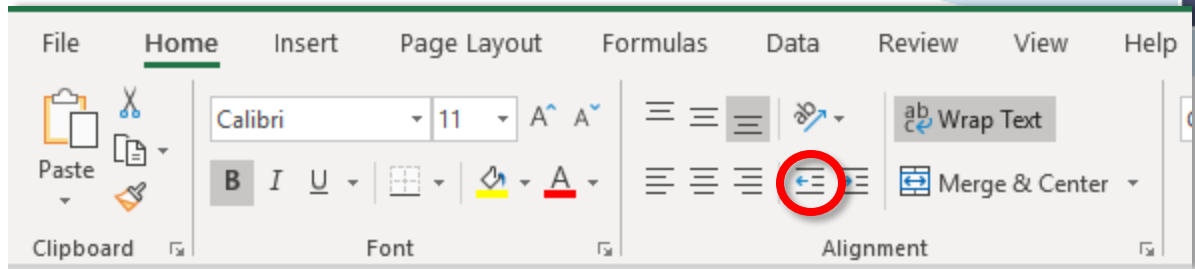
2. Navigate to the **Home** tab.



3. Locate the **Alignment** group.



4. Select the **Decrease Indent** command.



Additional Number Formats

As a beginner, you were able to quickly format your numbers into currency, dates or other basic formats. In this section, we will explore other number formats you can use for your numbers.

Percentages

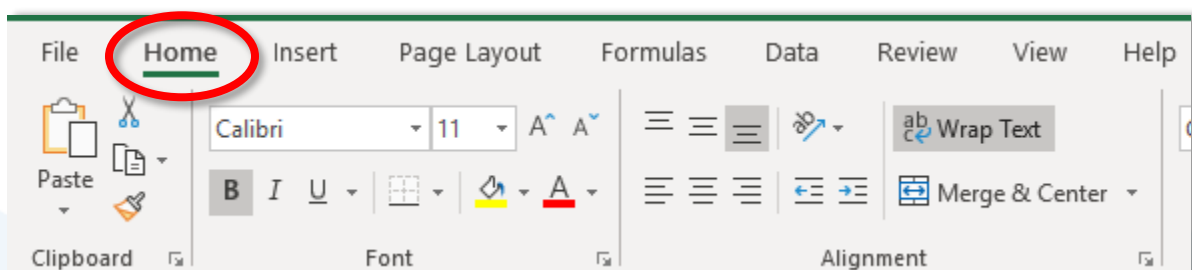
It is a common misconception that you must do a calculation in Excel in order to give you a percentage. There is also no "Percentage formula" in Excel. In fact, Excel makes it easy for us to use percentages. Typically, we would have decimals that we would like to convert into percentages.

To convert numbers into percentages:

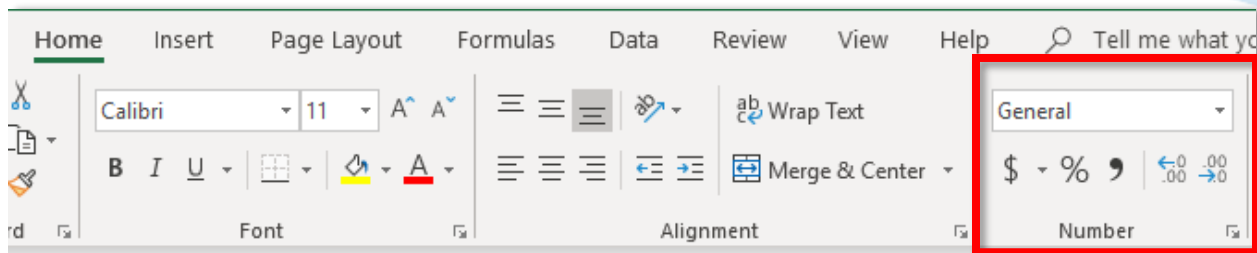
1. Select the cell(s) you want to convert to percentages.

1	Student ID	Score
2	472465	1
3	561453	0.84
4	855961	0.03
5	279264	0.97
6	258025	0.8
7	109715	0.26
8	175616	0.41
9	706847	0.2
10	193173	0.33

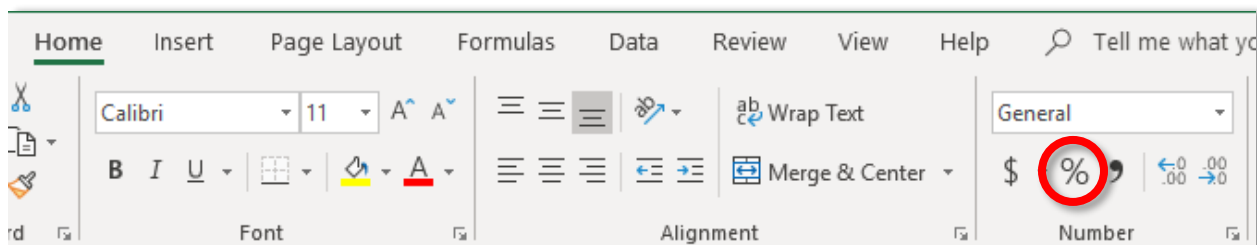
2. Navigate to the **Home** tab.



3. Locate the **Number** group



4. Select the **Percent** icon.



Foreign currency

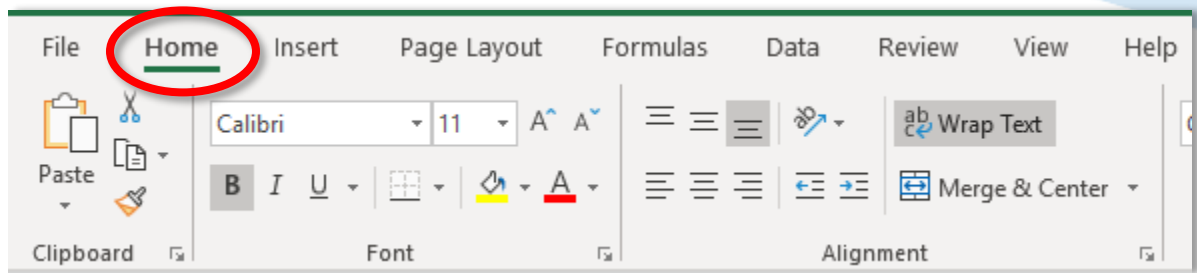
If you are working with other types of currency from around the world, Excel gives you a quick option to make changes to your number format.

To apply a foreign currency to your numbers:

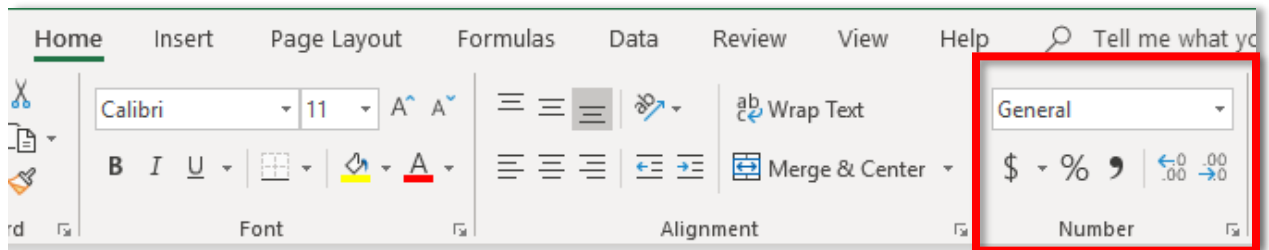
1. Select the cell or cells where you want to apply the **Foreign Currency** format.

	A	B
1	Account Name	Potential Revenue
2	THE DAILY BREAD CRUMBS LLC	\$297,083.00
3	ESPINOZA YARD LLC	\$295,231.00
4	NGUYEN INSTITUTE	\$294,923.00
5	DAN & CRADSTREED INC.	\$246,715.00
6	GRACE WARE LLC	\$224,816.00
7	STANFORD LAW INC.	\$213,352.00
8	DAVID&MIMIS INC	\$211,193.00
9	ROBERT SATIN, MD.	\$196,825.00
10	RAIN INSTITUTE OF THE ARTS	\$150,326.00

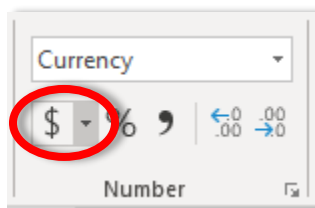
2. Navigate to the **Home** tab.



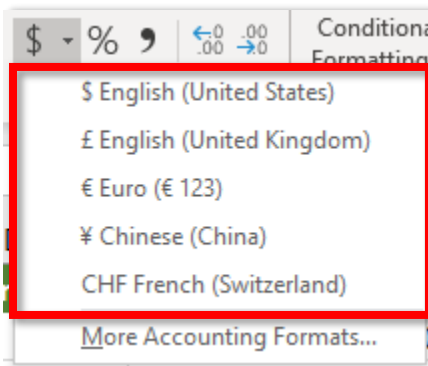
3. Locate the **Number** group



4. Select the drop-down menu from the dollar-sign icon.



5. Select the **Foreign Currency** of your choice from the drop-down menu.



More Number Formats

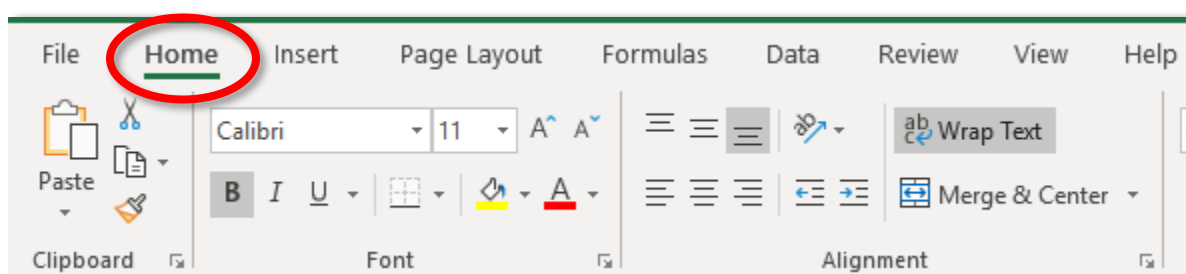
If you're looking to customize the number format of your text or are looking for a style that is not listed as a command or on a dropdown menu, then you can select the **More Number Formats** option at the bottom of the dropdown menu.

To select other number formats:

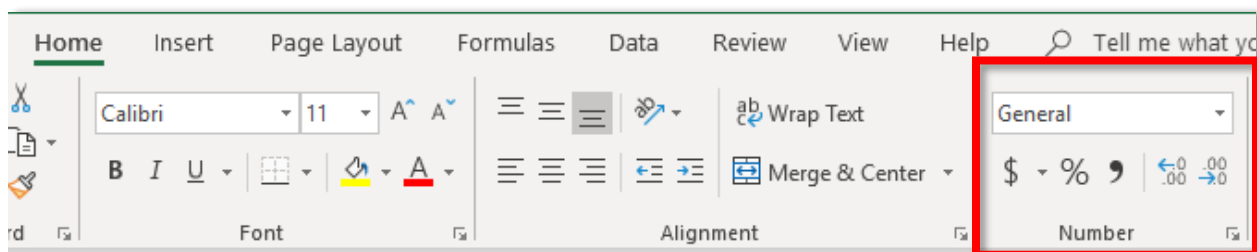
1. Select the cell or cells where you want to apply other types of number formats.

	A	B
1	Account Name	Potential Revenue
2	THE DAILY BREAD CRUMBS LLC	\$297,083.00
3	ESPINOZA YARD LLC	\$295,231.00
4	NGUYEN INSTITUTE	\$294,923.00
5	DAN & CRADSTREED INC.	\$246,715.00
6	GRACE WARE LLC	\$224,816.00
7	STANFORD LAW INC.	\$213,352.00
8	DAVID&MIMIS INC	\$211,193.00
9	ROBERT SATIN, MD.	\$196,825.00
10	RAIN INSTITUTE OF THE ARTS	\$150,326.00

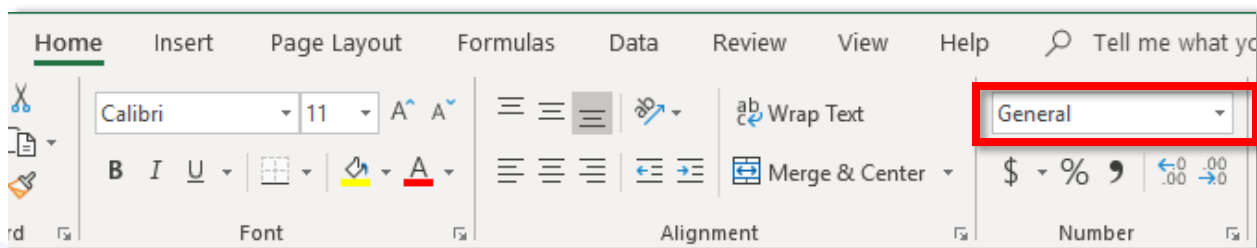
2. Navigate to the **Home** tab.



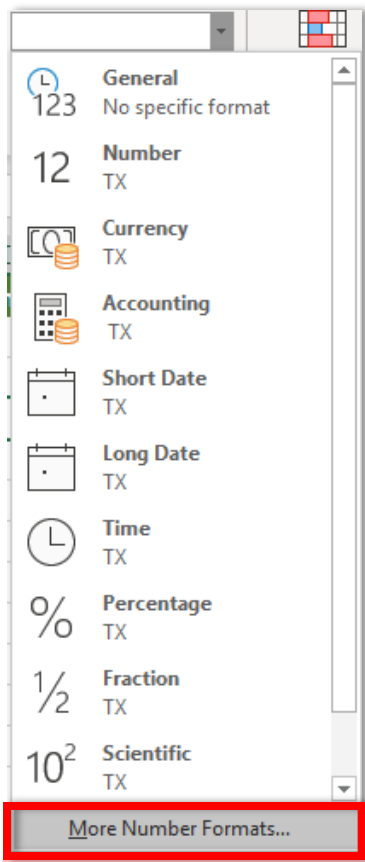
3. Locate the **Number** group



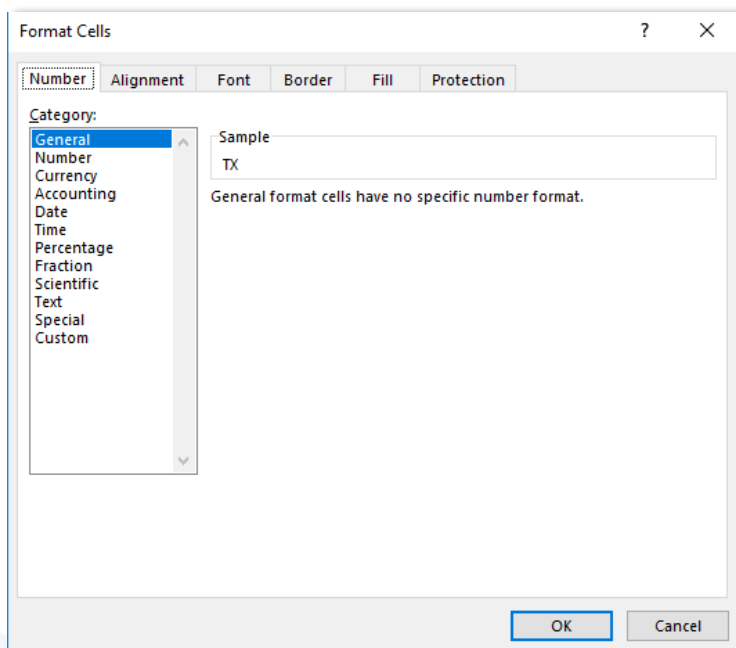
4. Select the **Number Format** drop-down menu.



5. From the drop-down menu, select the **More Number Formats...** option.



6. After selecting the **More Number Formats...** option, Excel will prompt a window where you will be able to select from a variety of number formats that aren't readily available in the ribbon.



The Intermediate Excel Functions

Before you learn more of the intermediate-type of formulas, there are some important Excel functions that you should also learn. These functions will help you properly manipulate, configure and enhanced your tables that go beyond what you learned as a beginner.

Conditional Formatting

One neat way to make your tables look impressive is by using **Conditional Formatting**.

Typically, novice Excel users like to highlight entire columns and rows which unfortunately make spreadsheets look unprofessional with much unnecessary color. **Conditional Formatting** allows you to create rules to highlight cells based on certain conditions.

	A	B	C	D
1	Account Name	Account State	Account ID	Potential Revenue
2	THE DAILY BREAD CRUMBS LLC	CA	237144	\$297,083.00
3	ESPINOZA YARD LLC	NM	607771	\$295,231.00
4	NGUYEN INSTITUTE	TX	496586	\$294,923.00
5	DAN & CRADSTREED INC.	CA	323843	\$246,715.00
6	GRACE WARE LLC	CA	692196	\$224,816.00
7	STANFORD LAW INC.	ID	466796	\$213,352.00
8	DAVID&MIMIS INC	NY	801195	\$211,193.00
9	ROBERT SATIN, MD.	CO	691498	\$196,825.00
10	RAIN INSTITUTE OF THE ARTS	AL	209014	\$150,326.00
11	FLOYD INC.	AL	936397	\$147,635.00
12	BASIC TEES, LLC	AL	762117	\$131,281.00
13	ONE WORLD FINANCIAL	CA	987742	\$113,949.00
14	ITALIANO BISTRO FRANCHISE	TX	395227	\$109,443.00
15	ABC DISTRIBUTION CENTER INC.	TX	998149	\$84,092.00

Highlight Cells Rules

One way to use **Conditional Formatting** is by creating a rule that allows you to highlight cells based on rules you create. Let's explore some of the rules you can create that allow Excel to automatically highlight cells that meet those criterias.

Greater Than

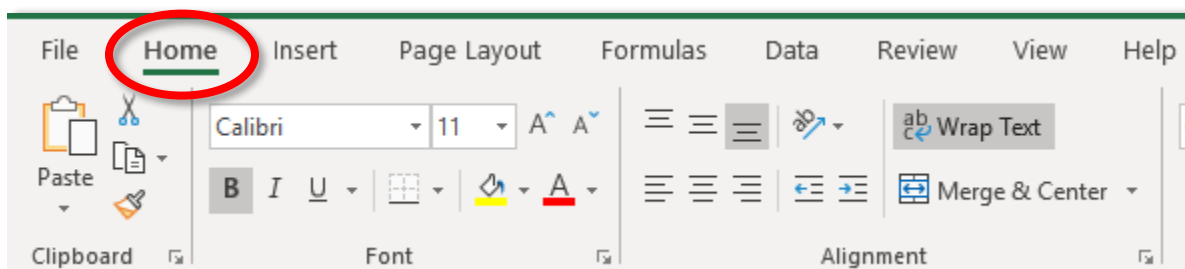
The *Greater Than* rule will highlight any cell that includes a number *greater than* the number that you determine.

To create a *Greater Than* rule:

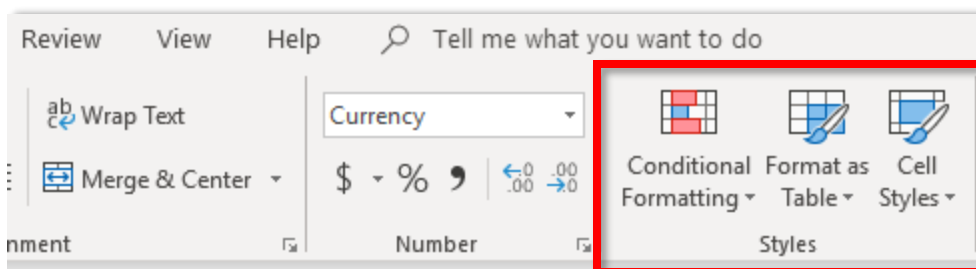
1. Select the range where you want to apply your *conditional formatting*.

	A	B	C	D
1	Account Name	Account State	Account ID	Potential Revenue
2	THE DAILY BREAD CRUMBS LLC	CA	237144	\$297,083.00
3	ESPINOZA YARD LLC	NM	607771	\$295,231.00
4	NGUYEN INSTITUTE	TX	496586	\$294,923.00
5	DAN & CRADSTREED INC.	CA	323843	\$246,715.00
6	GRACE WARE LLC	CA	692196	\$224,816.00
7	STANFORD LAW INC.	ID	466796	\$213,352.00
8	DAVID&MIMIS INC	NY	801195	\$211,193.00
9	ROBERT SATIN, MD.	CO	691498	\$196,825.00
10	RAIN INSTITUTE OF THE ARTS	AL	209014	\$150,326.00

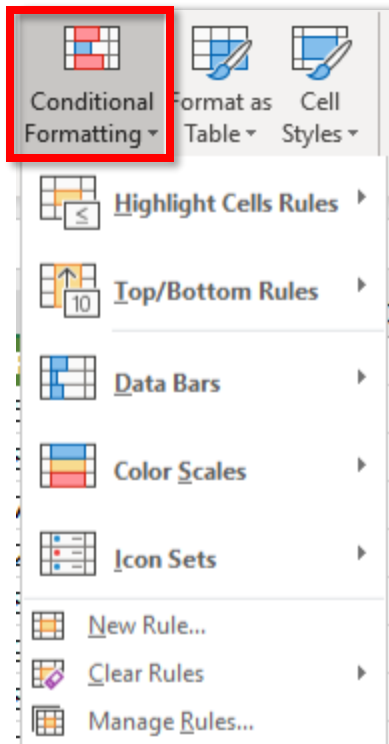
2. Navigate to the **Home** tab.



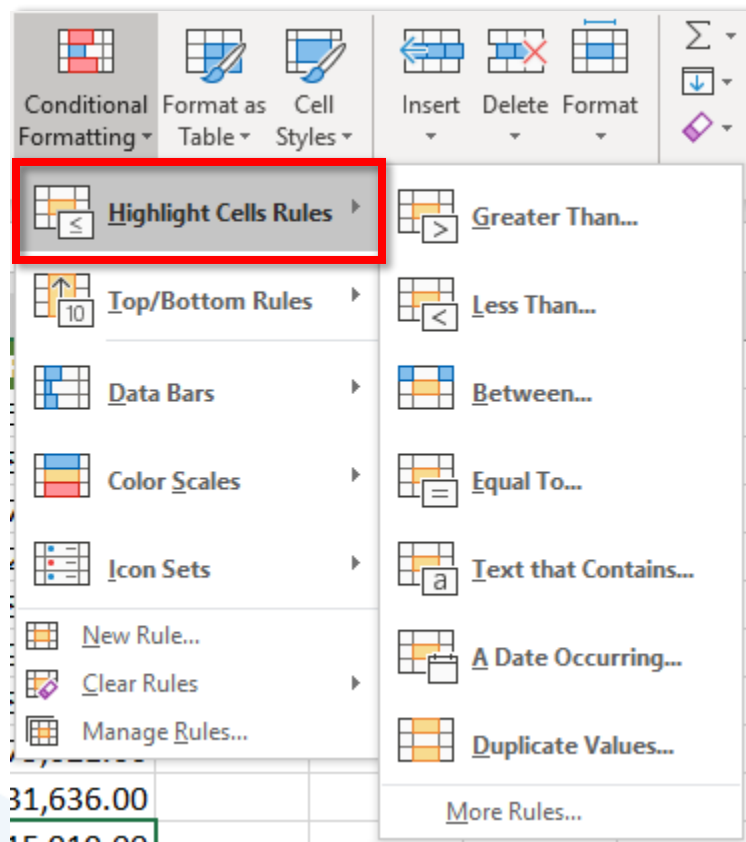
3. Locate the **Styles** group.



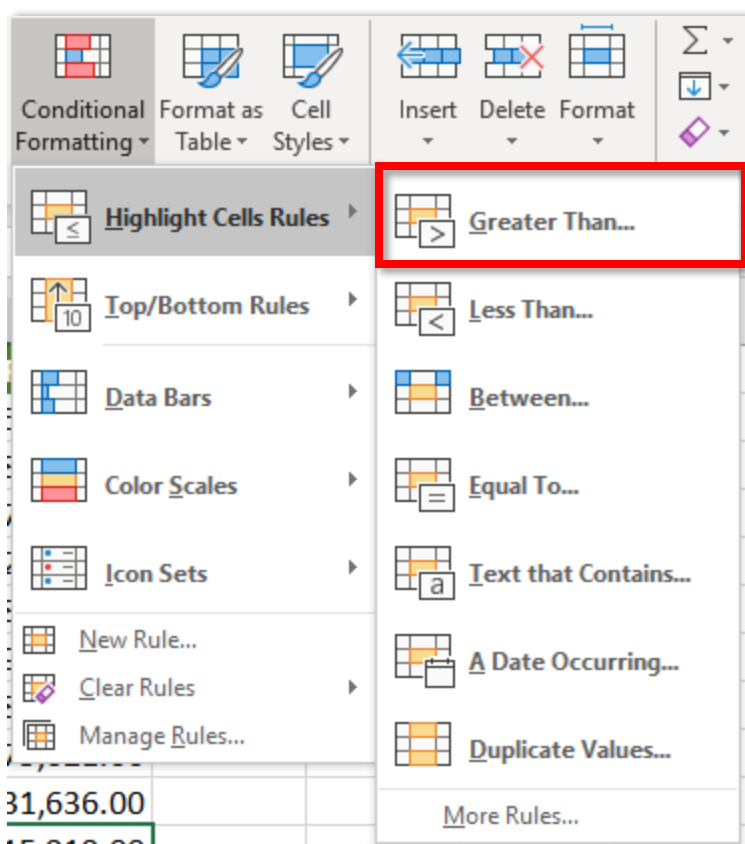
4. Select the **Conditional Formatting** command to display a drop-down menu.



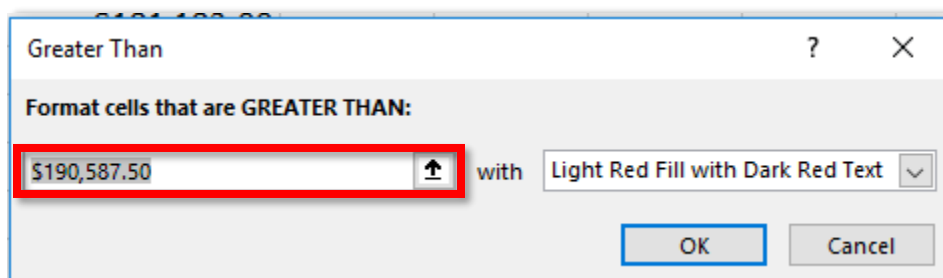
5. Select the **Highlight Cells Rules** option to display a submenu.



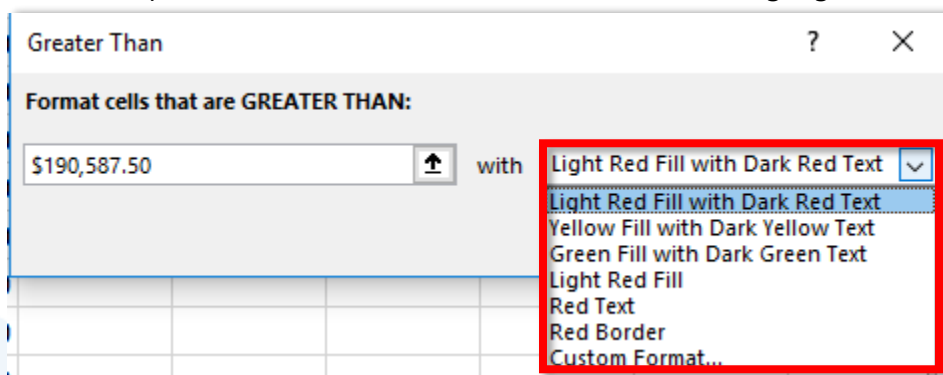
- Choose the option at the top: **Greater Than...**



- Excel will display a window to set up your rule. In the text box, type the number for your rule. You want Excel to highlight any cell greater than the number in this text box.



- The last step is to select the color(s) of the cells Excel will highlight when the rule is true.



Less Than

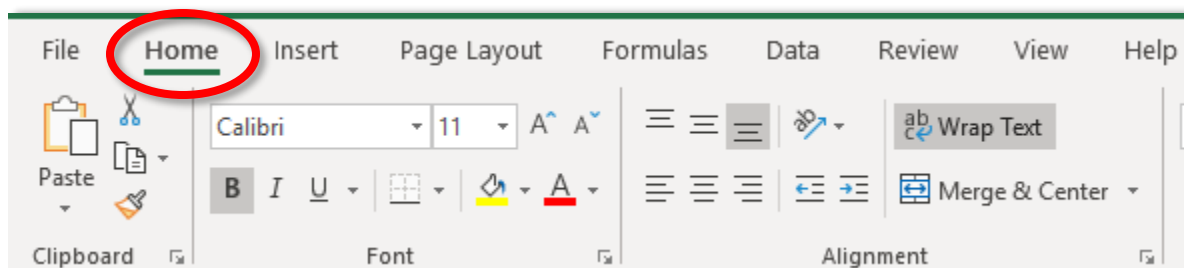
The *Less Than* rule will highlight any cell that includes a number *less than* the number that you determine.

To create a *Less Than* rule:

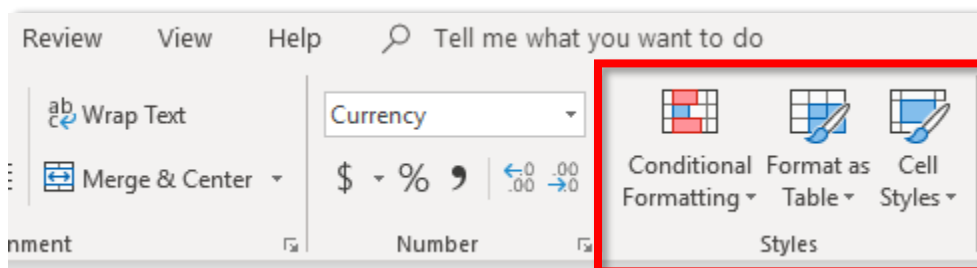
1. Select the range where you want to apply your *conditional formatting*.

	A	B	C	D
1	Account Name	Account State	Account ID	Potential Revenue
2	THE DAILY BREAD CRUMBS LLC	CA	237144	\$297,083.00
3	ESPINOZA YARD LLC	NM	607771	\$295,231.00
4	NGUYEN INSTITUTE	TX	496586	\$294,923.00
5	DAN & CRADSTREED INC.	CA	323843	\$246,715.00
6	GRACE WARE LLC	CA	692196	\$224,816.00
7	STANFORD LAW INC.	ID	466796	\$213,352.00
8	DAVID&MIMIS INC	NY	801195	\$211,193.00
9	ROBERT SATIN, MD.	CO	691498	\$196,825.00
10	RAIN INSTITUTE OF THE ARTS	AL	209014	\$150,326.00

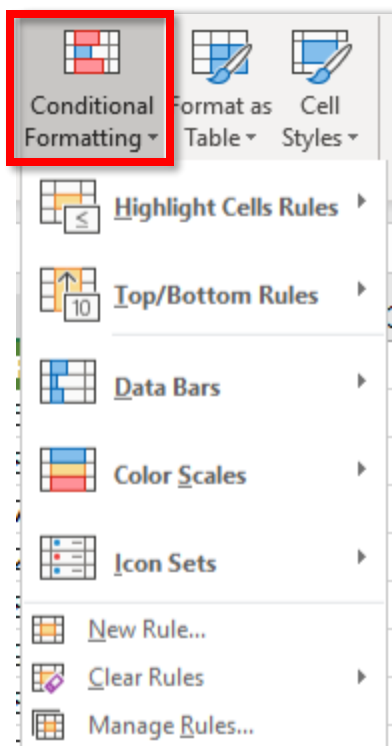
2. Navigate to the **Home** tab.



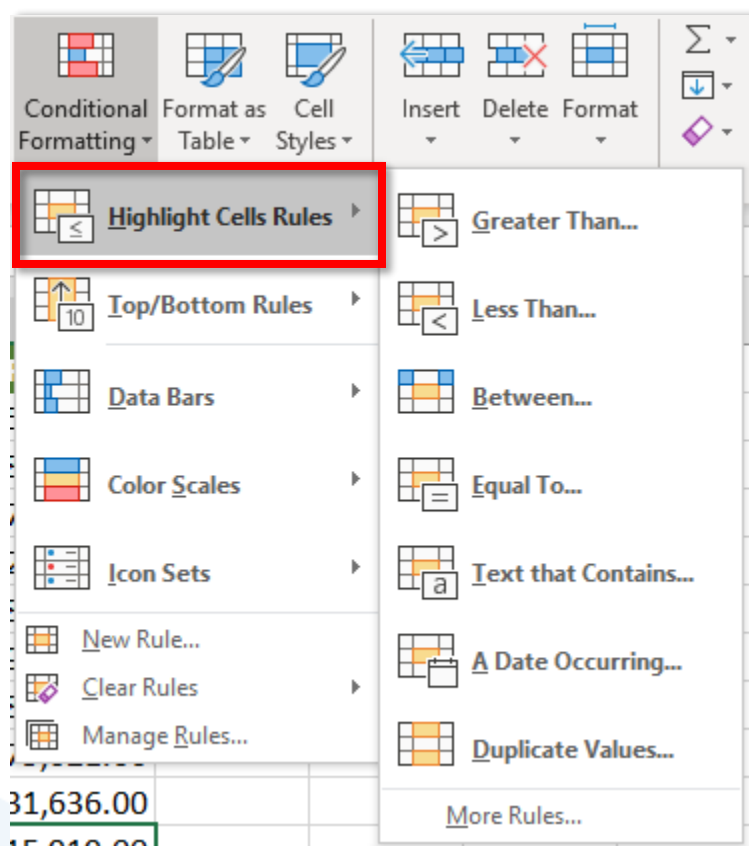
3. Locate the **Styles** group.



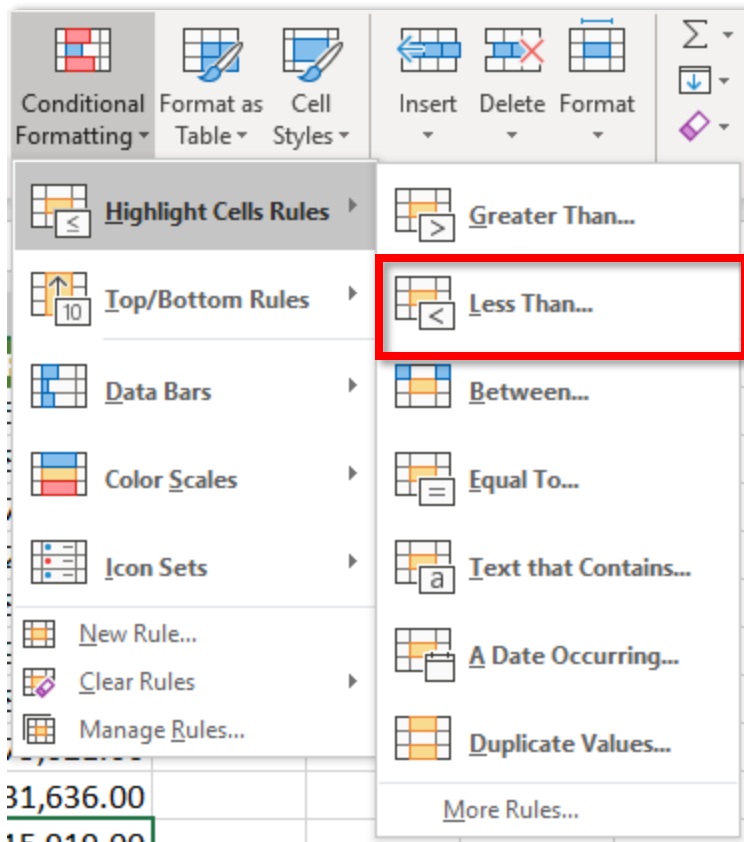
4. Select the **Conditional Formatting** command to display a drop-down menu.



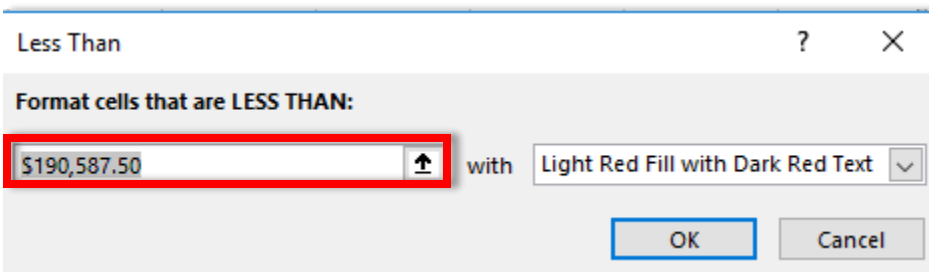
5. Select the **Highlight Cells Rules** option to display a submenu.



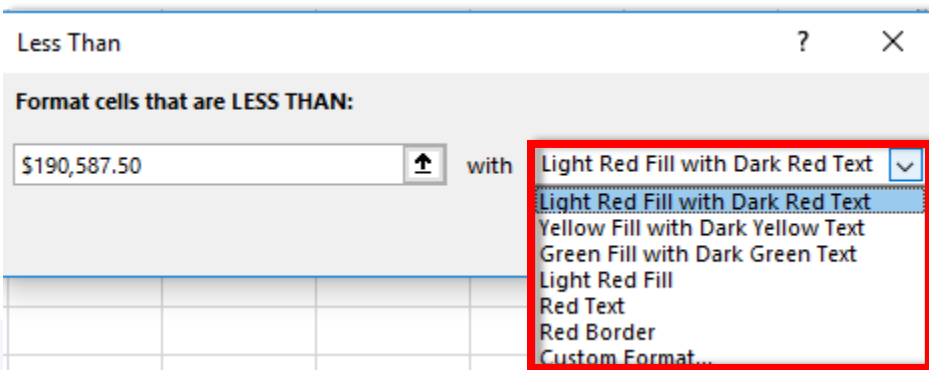
6. Choose the option: **Less Than...**



7. Excel will display a window to set up your rule. In the text box, type the number for your rule. You want Excel to highlight any cell less than the number in this text box.



8. The last step is to select the color(s) of the cells Excel will highlight when the rule is true.



Between

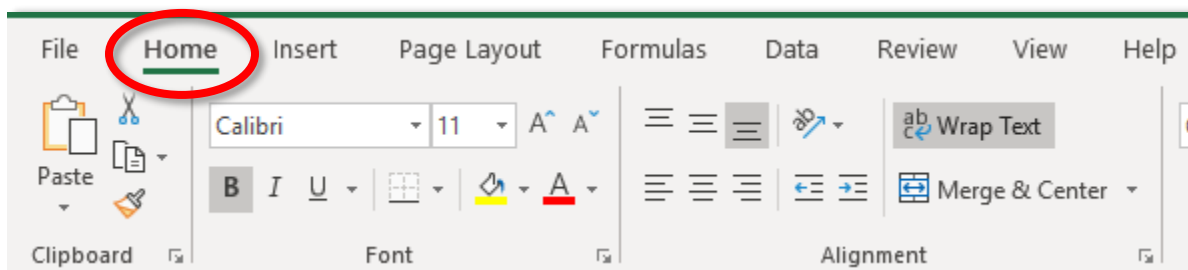
The *Between* rule will highlight cells *between* two numbers that you specify.

To create a *Between* rule:

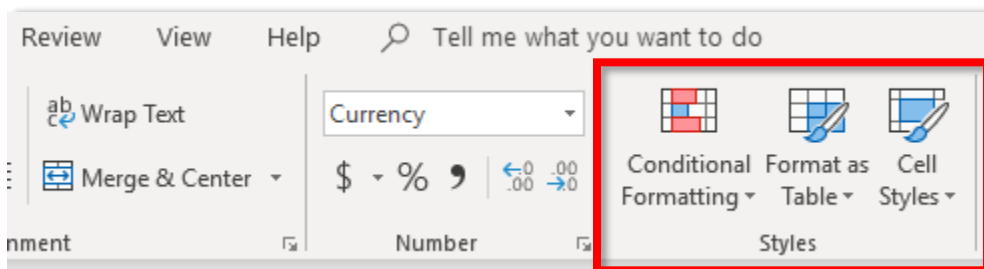
1. Select the range where you want to apply your *conditional formatting*.

	A	B	C	D
1	Account Name	Account State	Account ID	Potential Revenue
2	THE DAILY BREAD CRUMBS LLC	CA	237144	\$297,083.00
3	ESPINOZA YARD LLC	NM	607771	\$295,231.00
4	NGUYEN INSTITUTE	TX	496586	\$294,923.00
5	DAN & CRADSTREED INC.	CA	323843	\$246,715.00
6	GRACE WARE LLC	CA	692196	\$224,816.00
7	STANFORD LAW INC.	ID	466796	\$213,352.00
8	DAVID&MIMIS INC	NY	801195	\$211,193.00
9	ROBERT SATIN, MD.	CO	691498	\$196,825.00
10	RAIN INSTITUTE OF THE ARTS	AL	209014	\$150,326.00

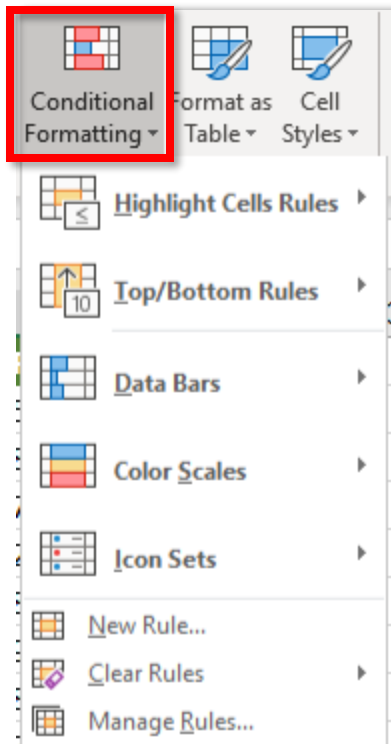
2. Navigate to the **Home** tab.



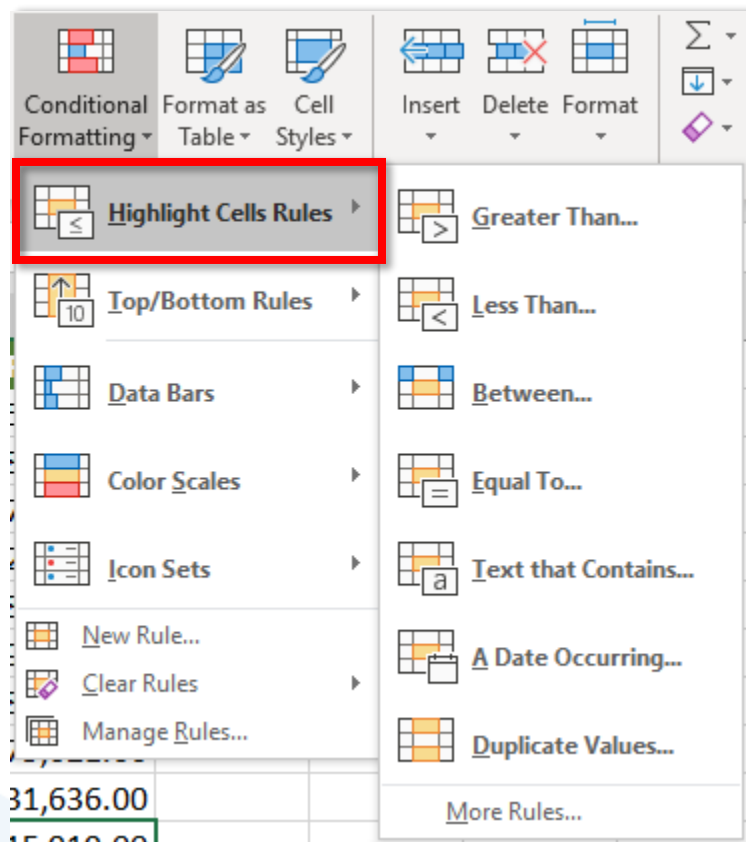
3. Locate the **Styles** group.



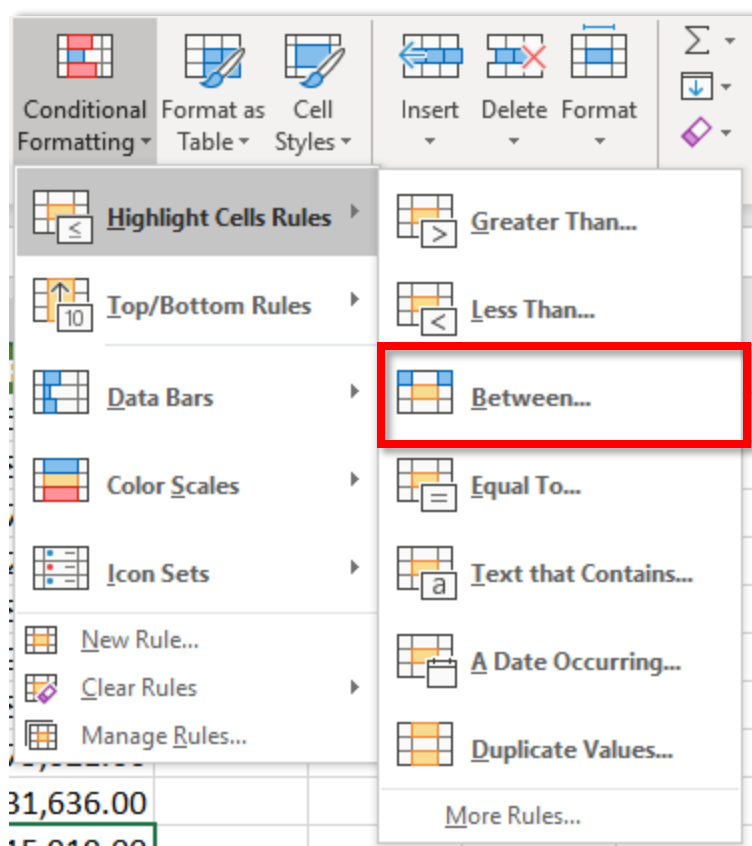
4. Select the **Conditional Formatting** command to display a drop-down menu.



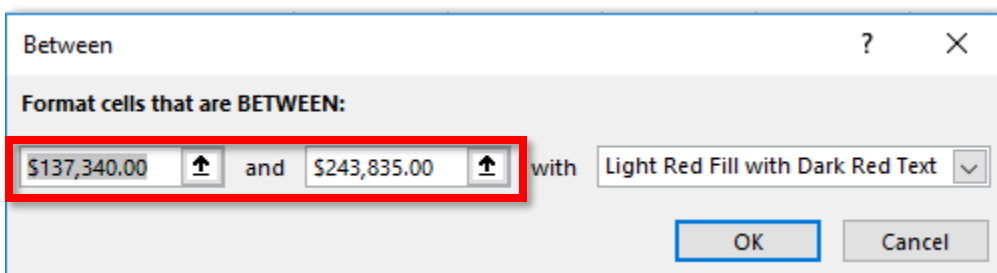
5. Select the **Highlight Cells Rules** option to display a submenu.



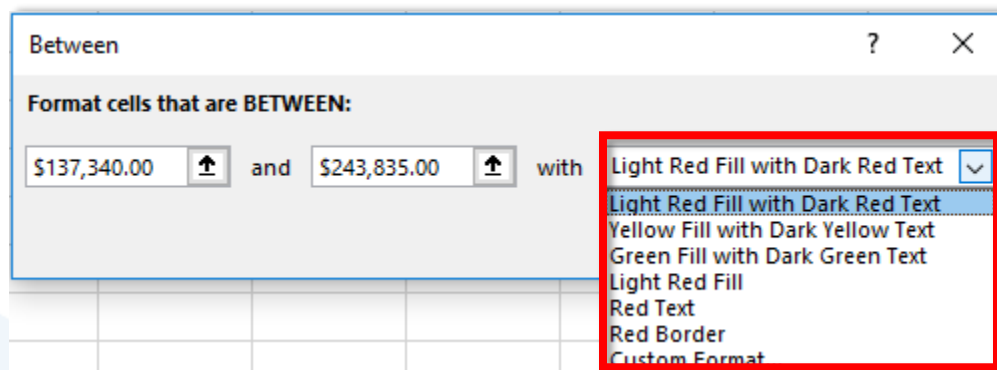
- Choose the option: **Between...**



- Excel will display a window to set up your rule. In the text box, type the numbers for the range in your rule. Excel will highlight any cells between these two numbers.



- The last step is to select the color(s) of the cells Excel will highlight when this rule is true.



Equal To

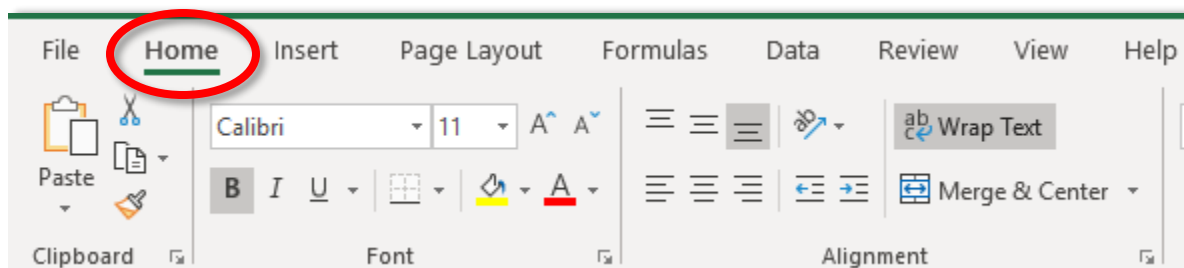
The *Equal To* rule will highlight cells that match an *exact* number or phrase you include in your rule.

To create an *Equal To* rule:

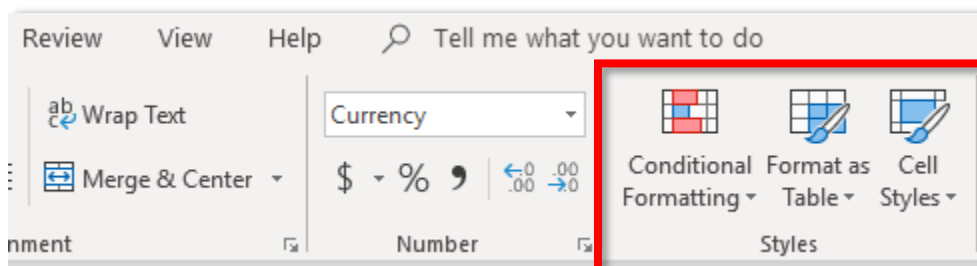
1. Select the range where you want to apply your *conditional formatting*.

	A	B	C	D
1	Account Name	Account State	Account ID	Potential Revenue
2	THE DAILY BREAD CRUMBS LLC	CA	237144	\$297,083.00
3	ESPINOZA YARD LLC	NM	607771	\$295,231.00
4	NGUYEN INSTITUTE	TX	496586	\$294,923.00
5	DAN & CRADSTREED INC.	CA	323843	\$246,715.00
6	GRACE WARE LLC	CA	692196	\$224,816.00
7	STANFORD LAW INC.	ID	466796	\$213,352.00
8	DAVID&MIMIS INC	NY	801195	\$211,193.00
9	ROBERT SATIN, MD.	CO	691498	\$196,825.00
10	RAIN INSTITUTE OF THE ARTS	AL	209014	\$150,326.00

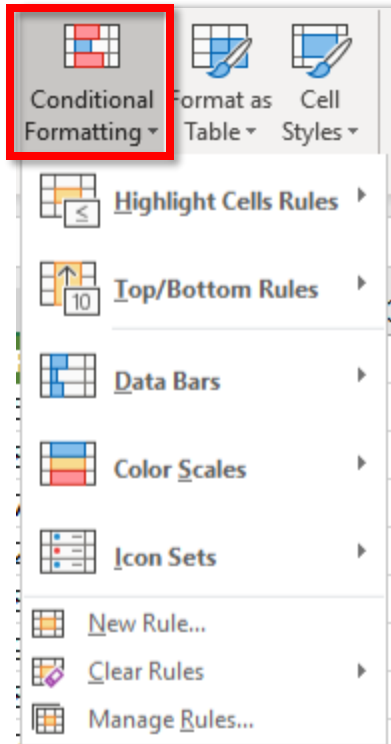
2. Navigate to the **Home** tab.



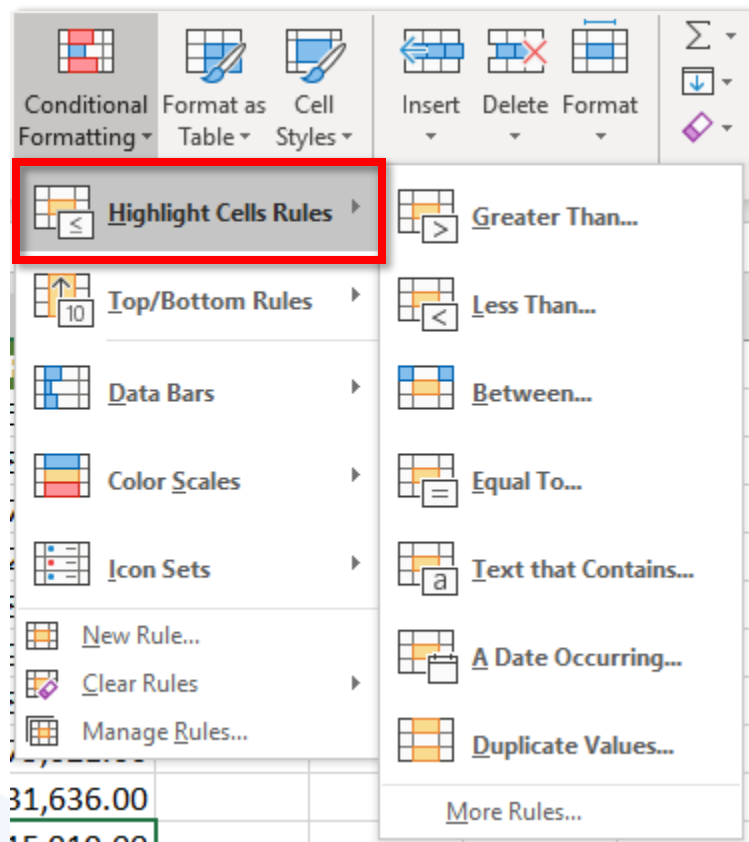
3. Locate the **Styles** group.



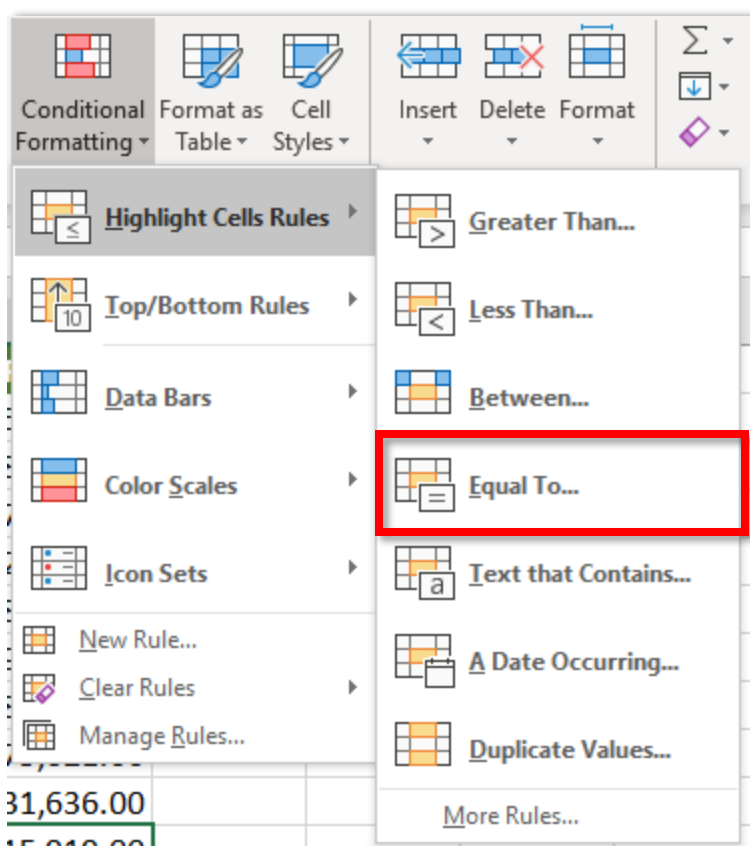
4. Select the **Conditional Formatting** command to display a drop-down menu.



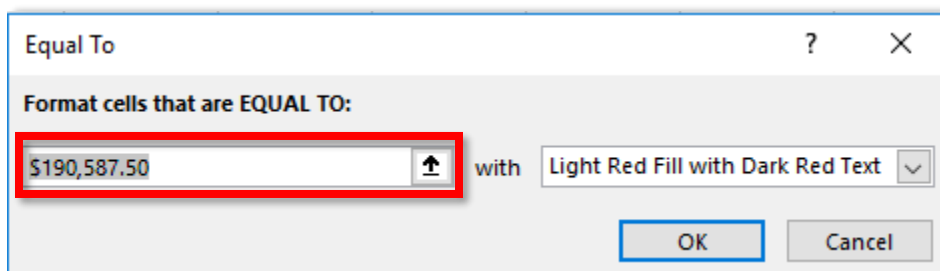
5. Select the **Highlight Cells Rules** option to display a submenu.



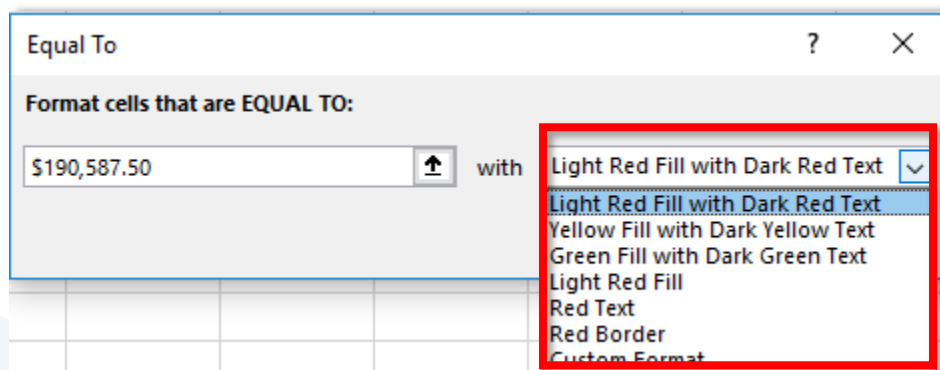
- Choose the option: **Equal To...**



- Excel will display a window to set up your rule. In the text box, type the number or word(s) that Excel will match in order to highlight the cells.



- The last step is to select the color(s) of the cells Excel will highlight when this rule is true.



Text That Contains

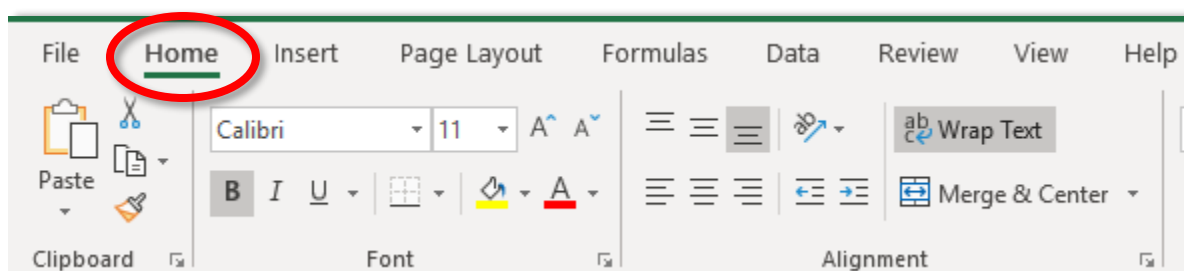
The *Text That Contains* rule will highlight cells that *contain* a certain word or phrase inside those cells.

To create a *Text That Contains* rule:

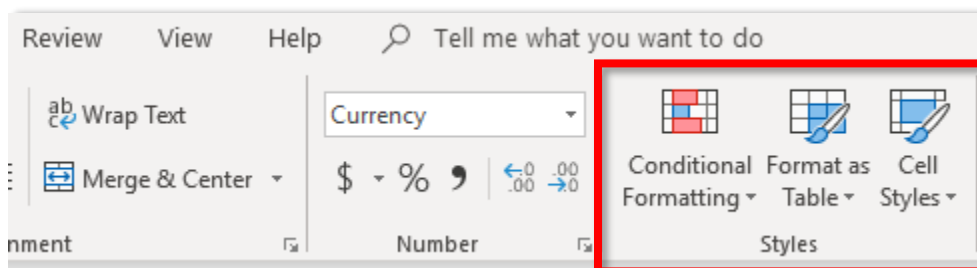
1. Select the range where you want to apply your *conditional formatting*.

	A	B	C	D
1	Account Name	Account State	Account ID	Potential Revenue
2	THE DAILY BREAD CRUMBS LLC	CA	237144	\$297,083.00
3	ESPINOZA YARD LLC	NM	607771	\$295,231.00
4	NGUYEN INSTITUTE	TX	496586	\$294,923.00
5	DAN & CRADSTREED INC.	CA	323843	\$246,715.00
6	GRACE WARE LLC	CA	692196	\$224,816.00
7	STANFORD LAW INC.	ID	466796	\$213,352.00
8	DAVID&MIMIS INC	NY	801195	\$211,193.00
9	ROBERT SATIN, MD.	CO	691498	\$196,825.00
10	RAIN INSTITUTE OF THE ARTS	AL	209014	\$150,326.00

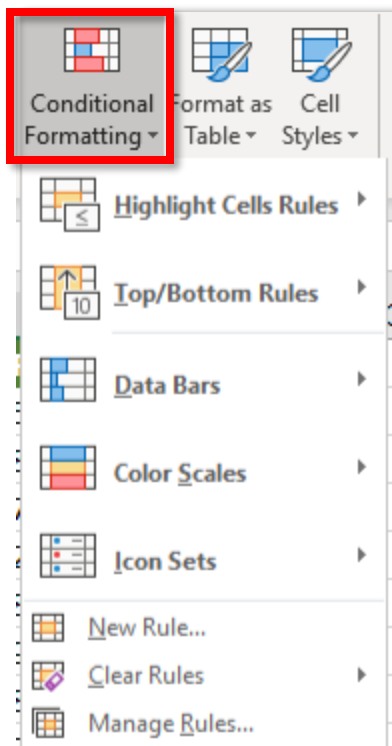
2. Navigate to the **Home** tab.



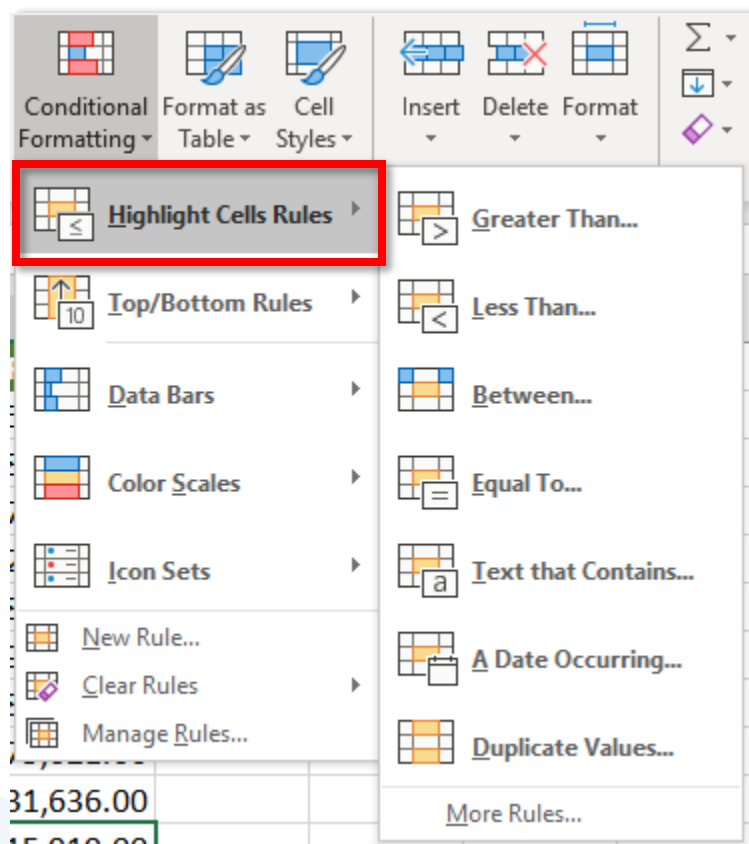
3. Locate the **Styles** group.



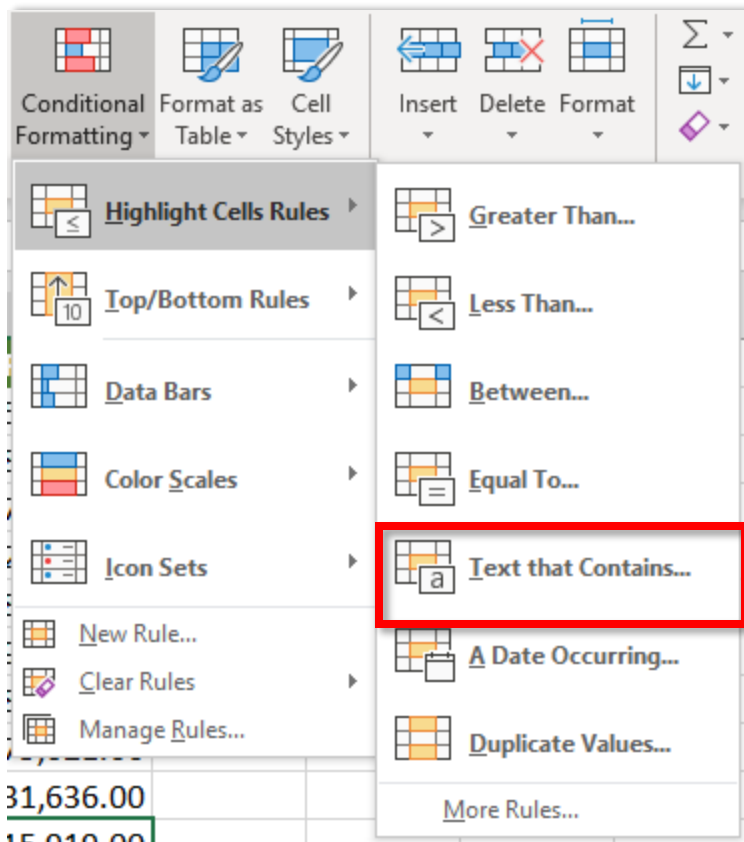
4. Select the **Conditional Formatting** command to display a drop-down menu.



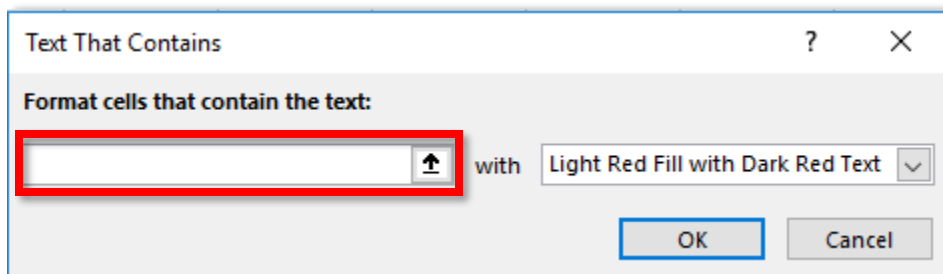
5. Select the **Highlight Cells Rules** option to display a submenu.



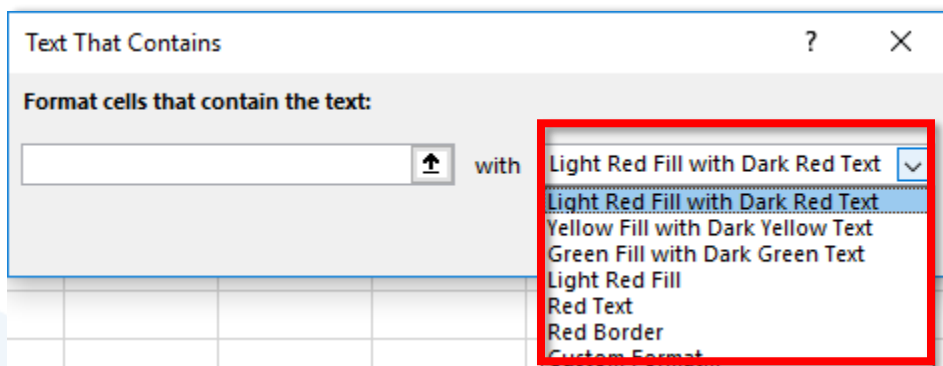
6. Choose the option: **Text That Contains...**



7. Excel will display a window to set up your rule. In the text box, type the number or word(s) that Excel will match in order to highlight the cells.



8. The last step is to select the color(s) of the cells Excel will highlight when this rule is true.



A Date Occurring

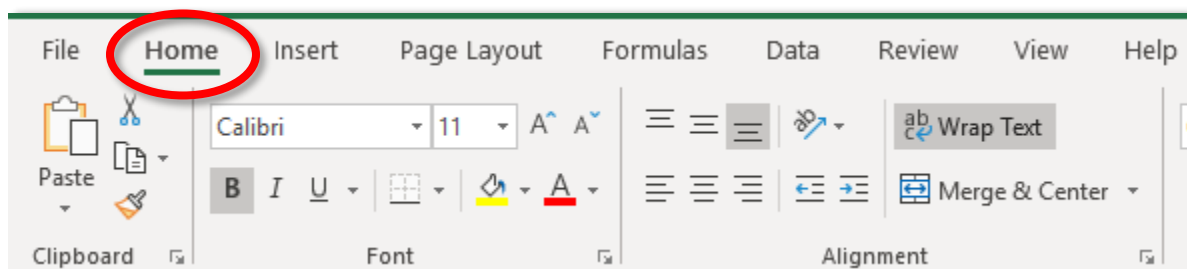
The *A Date Occurring* rule will highlight cells that contain a certain date that you select from a list of choices that Excel provides.

To create *A Date Occurring* rule:

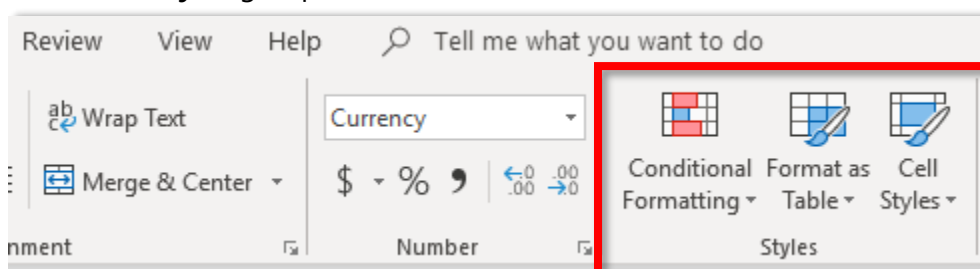
1. Select the range where you want to apply your *conditional formatting*.

	A	B	C	D
1	Account Name	Account State	Account ID	Date of Expiration
2	THE DAILY BREAD CRUMBS LLC	CA	237144	5/5/2019
3	ESPINOZA YARD LLC	NM	607771	4/4/2019
4	NGUYEN INSTITUTE	TX	496586	1/5/2019
5	DAN & CRADSTREED INC.	CA	323843	7/8/2019
6	GRACE WARE LLC	CA	692196	11/15/2019
7	STANFORD LAW INC.	ID	466796	5/5/2019
8	DAVID&MIMIS INC	NY	801195	4/4/2019
9	ROBERT SATIN, MD.	CO	691498	1/5/2019
10	RAIN INSTITUTE OF THE ARTS	AL	209014	7/8/2019
11	FLOYD INC.	AL	936397	11/15/2019
12	BASIC TEES, LLC	AL	762117	5/5/2019
13	ONE WORLD FINANCIAL	CA	987742	4/4/2019
14	ITALIANO BISTRO FRANCHISE	TX	395227	1/5/2019
15	ABC DISTRIBUTION CENTER INC.	TX	998149	7/8/2019

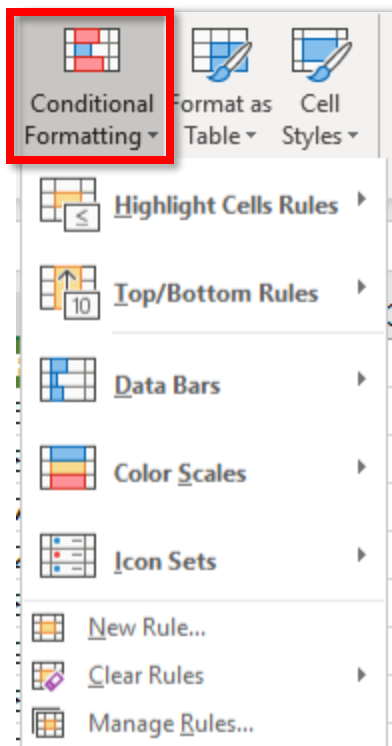
2. Navigate to the **Home** tab.



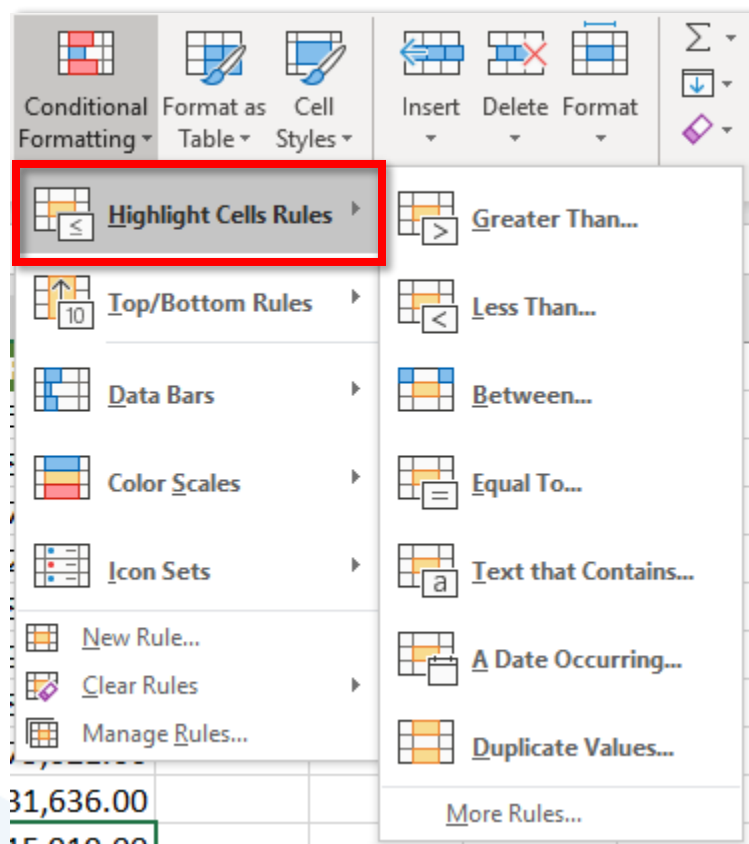
3. Locate the **Styles** group.



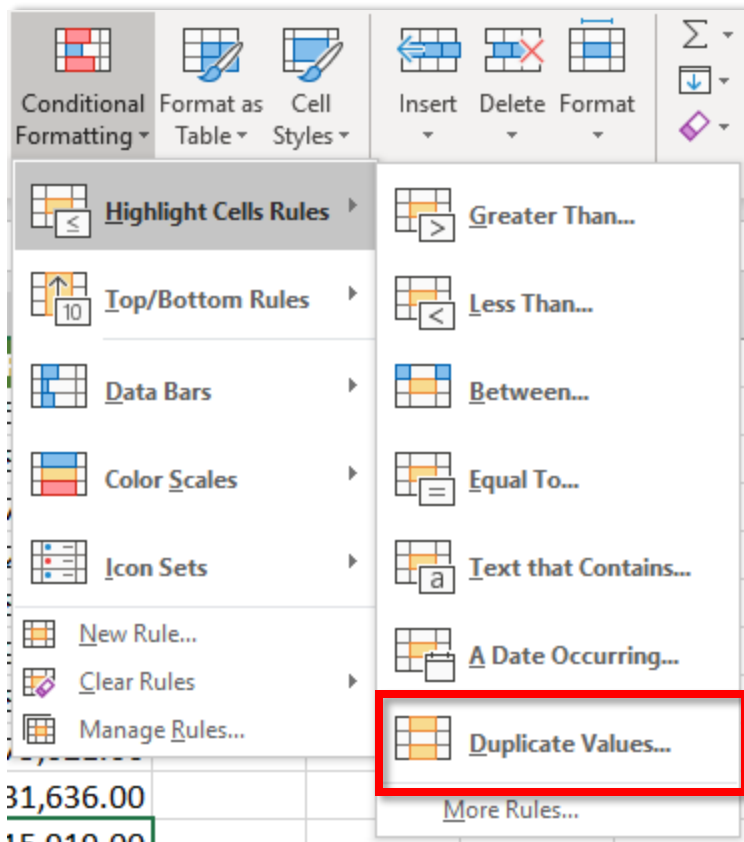
4. Select the **Conditional Formatting** command to display a drop-down menu.



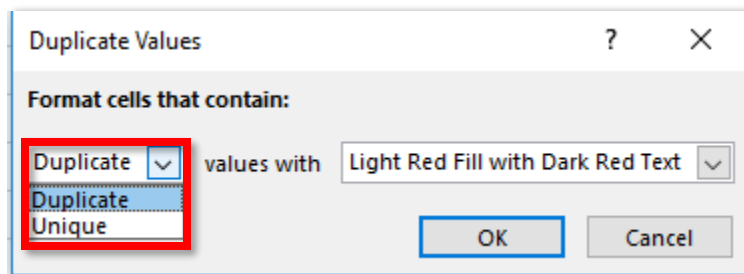
5. Select the **Highlight Cells Rules** option to display a submenu.



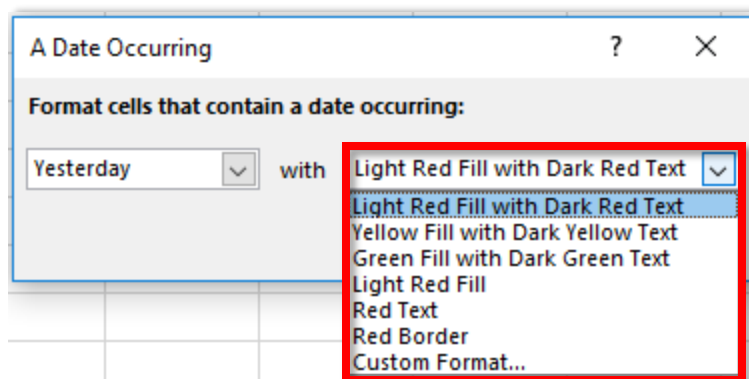
6. Choose the option: **A Date Occurring...**



7. Excel will display a window to set up your rule. In the drop-down menu on the left side, whether you want to highlight duplicate entries or unique entries.



8. The last step is to select the color(s) of the cells Excel will highlight when this rule is true.



Duplicate Values

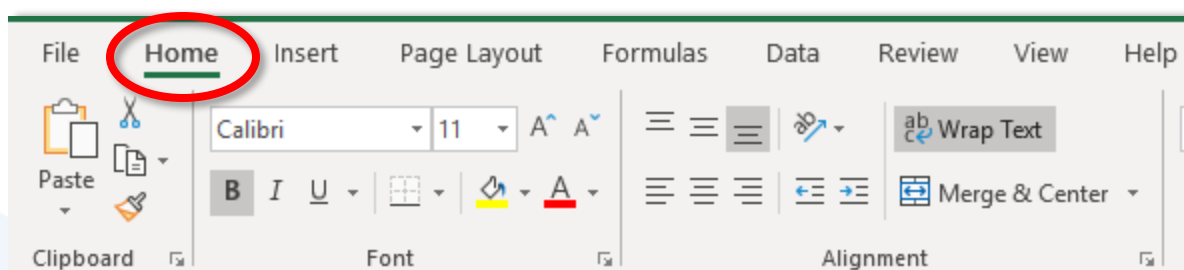
The *Duplicate Values* rule will highlight cells in a range or area with duplicate entries, or you can also highlight cells with unique values.

To create *Duplicate Values* rule:

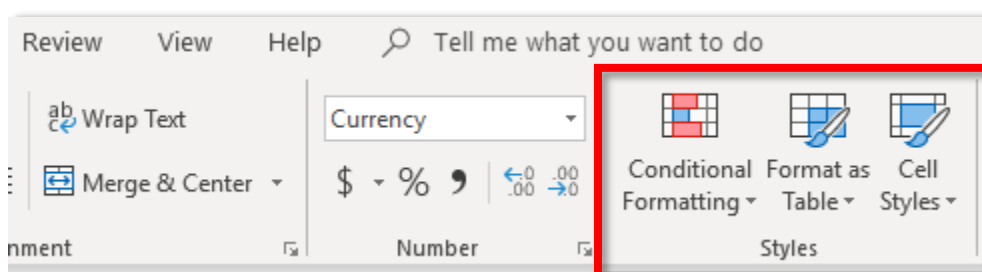
1. Select the range or column where you want to apply your *conditional formatting*.

	A	B	C	D
1	Account Name	Account State	Account ID	Date of Expiration
2	THE DAILY BREAD CRUMBS LLC	CA	237144	5/5/2019
3	ESPINOZA YARD LLC	NM	607771	4/4/2019
4	NGUYEN INSTITUTE	TX	496586	1/5/2019
5	DAN & CRADSTREED INC.	CA	323843	7/8/2019
6	GRACE WARE LLC	CA	692196	11/15/2019
7	STANFORD LAW INC.	ID	466796	5/5/2019
8	DAVID&MIMIS INC	NY	801195	4/4/2019
9	ROBERT SATIN, MD.	CO	691498	1/5/2019
10	RAIN INSTITUTE OF THE ARTS	AL	209014	7/8/2019
11	FLOYD INC.	AL	936397	11/15/2019
12	BASIC TEES, LLC	AL	762117	5/5/2019
13	ONE WORLD FINANCIAL	CA	987742	4/4/2019
14	ITALIANO BISTRO FRANCHISE	TX	395227	1/5/2019
15	ABC DISTRIBUTION CENTER INC.	TX	998149	7/8/2019

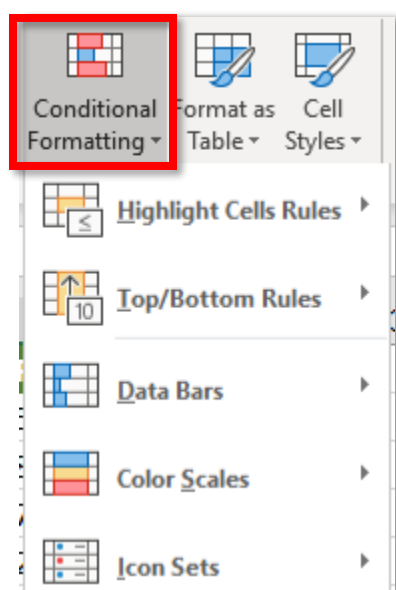
2. Navigate to the **Home** tab.



3. Locate the **Styles** group.



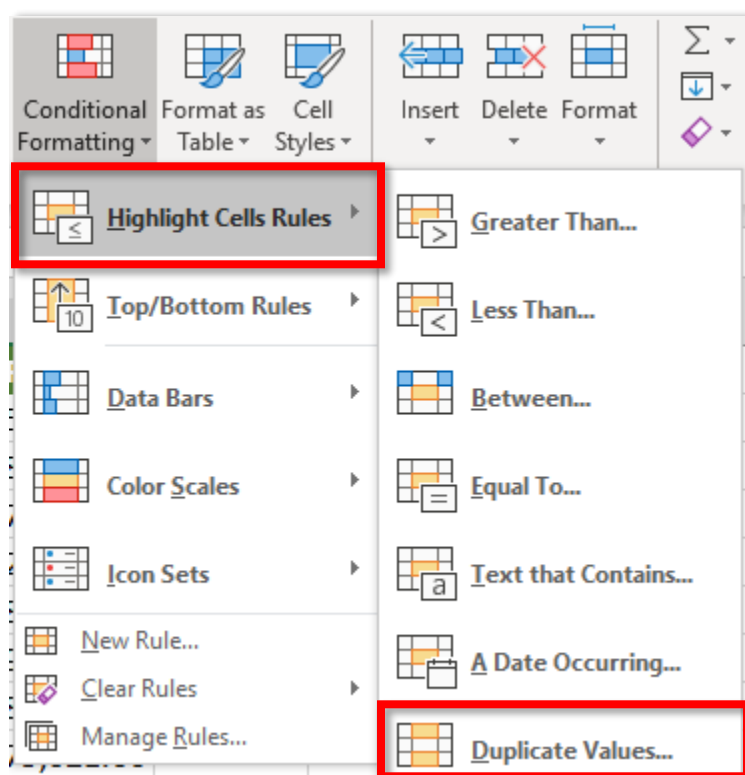
4. Select the **Conditional Formatting** command to display a drop-down menu.

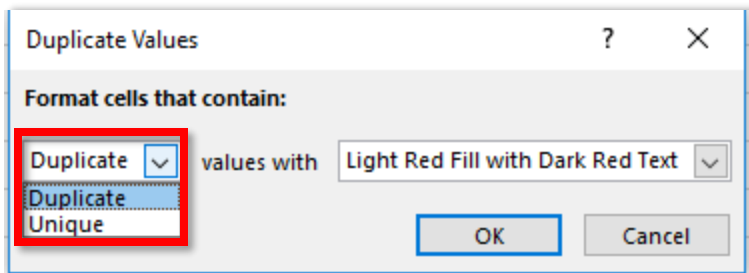


5. Select the **Highlight Cells Rules** option to display a submenu.

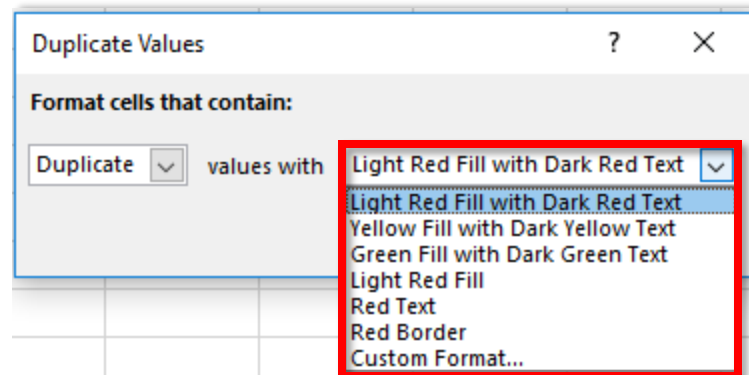
6. Choose the option: **Duplicate Values...**

7. Excel will display a window to set up your rule. In the drop-down menu on the left side, select whether you want Excel to highlight duplicate entries or unique values.





- The last step is to select the color(s) of the cells Excel will highlight when this rule is true.



Top/Bottom Rules

Excel has some pre-built rules that you can use if you want to highlight cells from a predefined list. The **Top/Bottom Rules** options are to be used only with numbers. Here are the few options available for the *Top/Bottom Rules*.

Top 10 Items

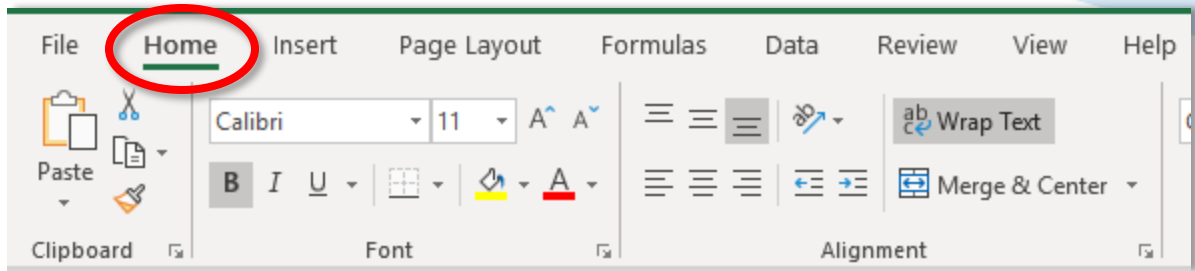
The **Top 10 Items** defaults to the highest 10 amounts or numbers in a range or column. You can also change how many entries you want to highlight.

To use the **Top 10 Items** rule:

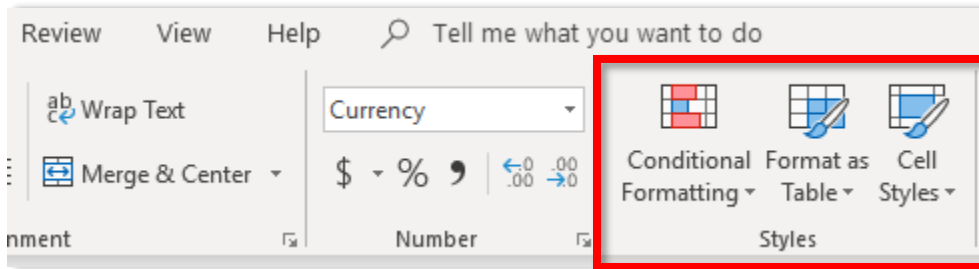
- Select the range or column where you want to apply the rule.

	A	B	C
1	Account Name	Sales Amount	Average Order
2	ABC DISTRIBUTION CENTER INC.	\$84,092.50	20.2
3	BASIC TEES, LLC	\$131,281.65	36.55
4	DAN & CRADSTREED INC.	\$246,715.65	78.5
5	DAVID&MIMIS INC	\$211,193.76	67.67777
6	ESPINOZA YARD LLC	\$295,231.23	89.999999
7	FLOYD INC.	\$147,635.76	38.75
8	GRACE WARE LLC	\$224,816.89	75.666666
9	ITALIANO BISTRO FRANCHISE	\$109,443.01	25.25
10	NGUYEN INSTITUTE	\$294,923.13	85.25

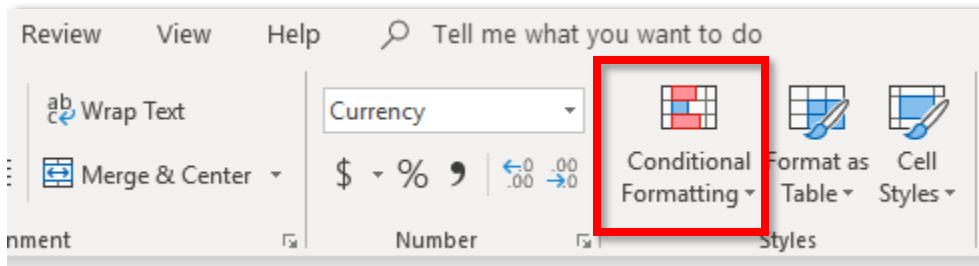
2. Navigate to the **Home** tab.



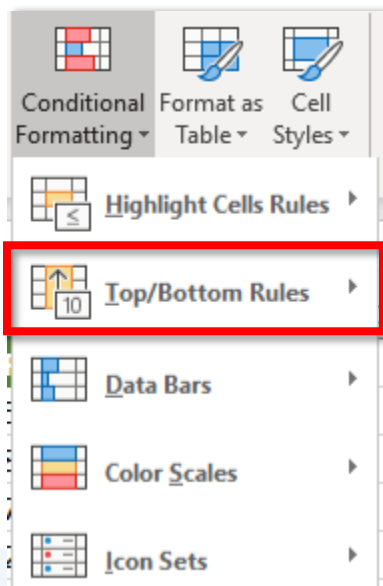
3. Locate the **Styles** group.



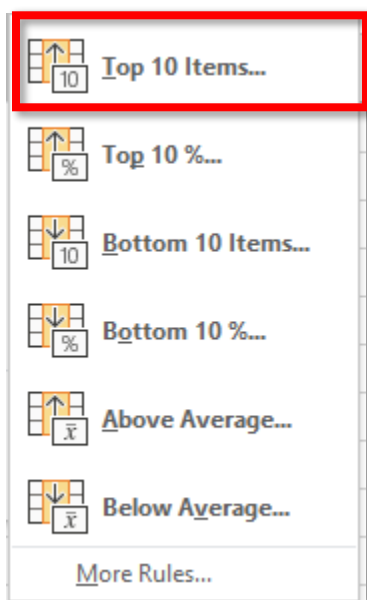
4. Select the **Conditional Formatting** command to display a drop-down menu.



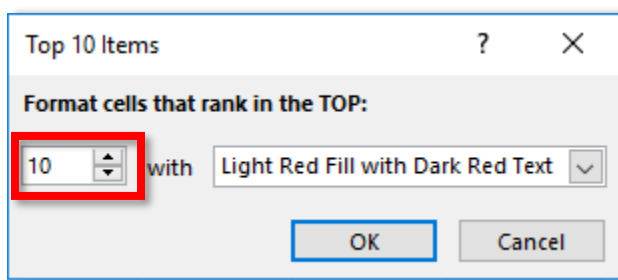
5. In the drop-down menu, select the **Top/Bottom Rules** option.



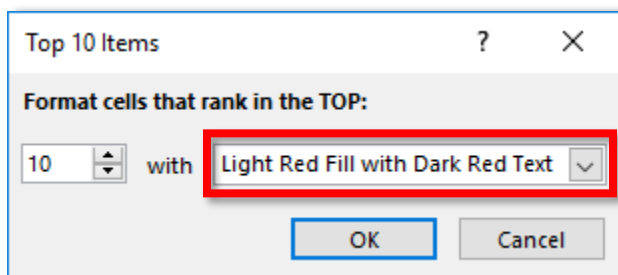
6. From the **Top/Bottom Rules** submenu select the **Top 10 Items...** option.



7. After selecting the **Top 10 Items...** option, Excel will display a dialog box. On the left side of the box you can change the number of top items to highlight. Excel defaults to 10.



8. On the right-side of the pop-up window, select how you would like Excel to highlight the cells that meet this rule.



Top 10%

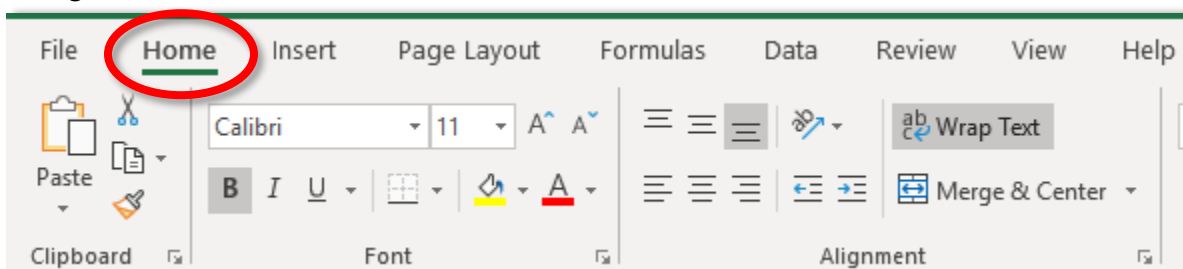
The *Top 10%* option allows you to highlight the top 10% of a given range. You can also change the percentage if, for example, you want Excel to highlight the top 25% ranking instead.

To use the **Top 10%** rule:

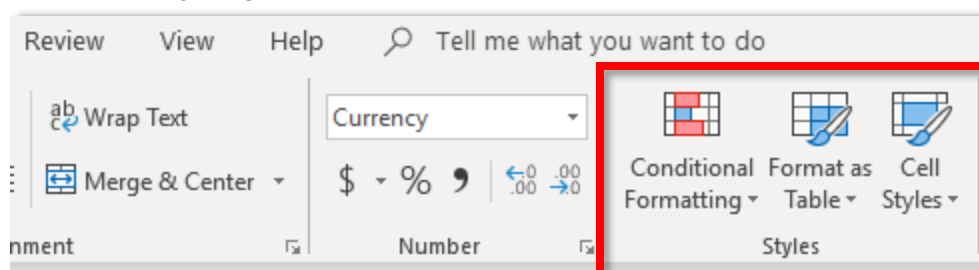
1. Select the range or column where you want to apply the rule.

	A	B	C
1	Account Name	Sales Amount	Average Order
2	ABC DISTRIBUTION CENTER INC.	\$84,092.50	20.2%
3	BASIC TEES, LLC	\$131,281.65	36.6%
4	DAN & CRADSTREED INC.	\$246,715.65	78.5%
5	DAVID&MIMIS INC	\$211,193.76	67.7%
6	ESPINOZA YARD LLC	\$295,231.23	90.0%
7	FLOYD INC.	\$147,635.76	38.8%
8	GRACE WARE LLC	\$224,816.89	75.7%
9	ITALIANO BISTRO FRANCHISE	\$109,443.01	25.3%
10	NGUYEN INSTITUTE	\$294,923.13	85.3%

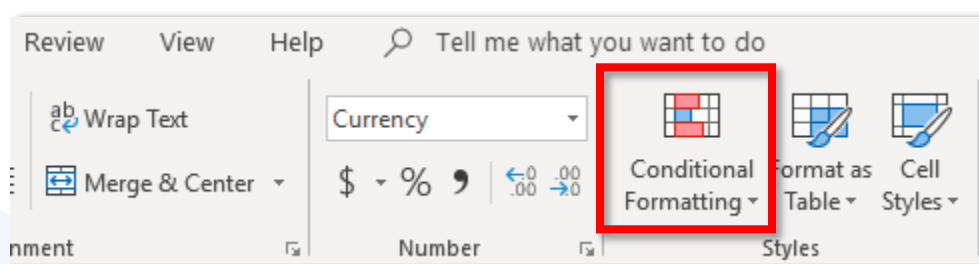
2. Navigate to the **Home** tab.



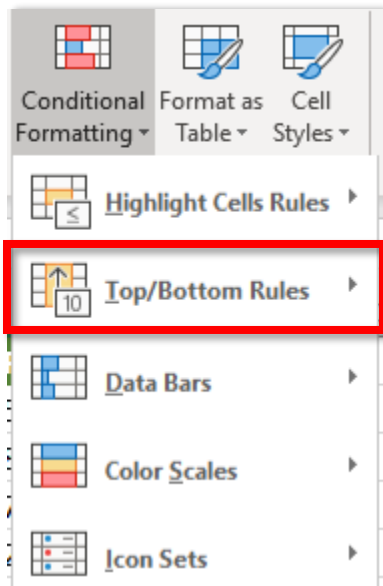
3. Locate the **Styles** group.



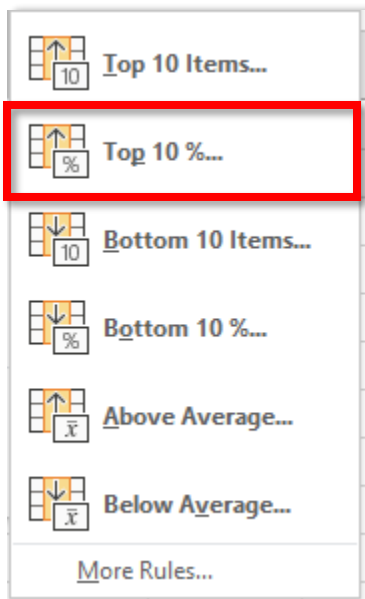
4. Select the **Conditional Formatting** command to display a drop-down menu.



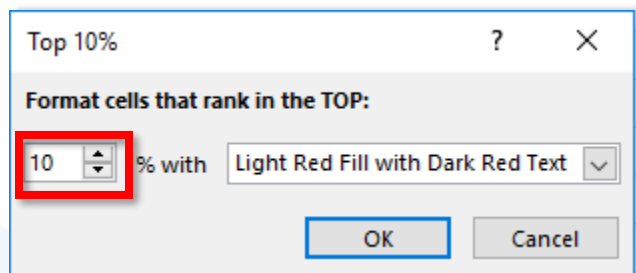
5. In the drop-down menu, select the **Top/Bottom Rules** option.



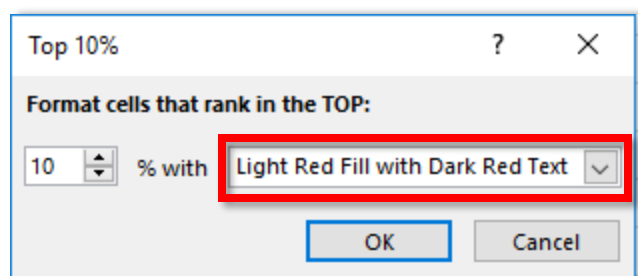
6. From the **Top/Bottom Rules** submenu select the **Top 10%...** option.



7. After selecting the **Top 10%...** option, Excel will display a dialog box. On the left side of the box you can change the percentage of cells that will be highlighted.



- On the right-side of the pop-up window, select how you would like Excel to highlight the cells that meet this rule.



Bottom 10 Items

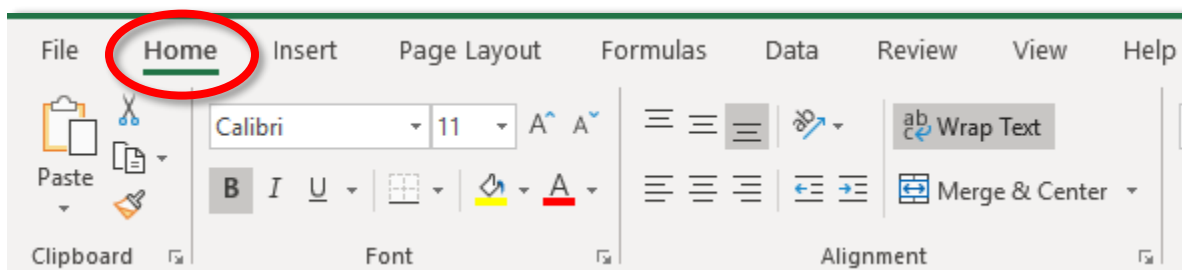
The **Bottom 10 Items** option highlights the lowest 10 items in a given range or column. You also have the option to change the number of items to be highlighted; it doesn't have to be ten.

To use the **Bottom 10 Items** rule:

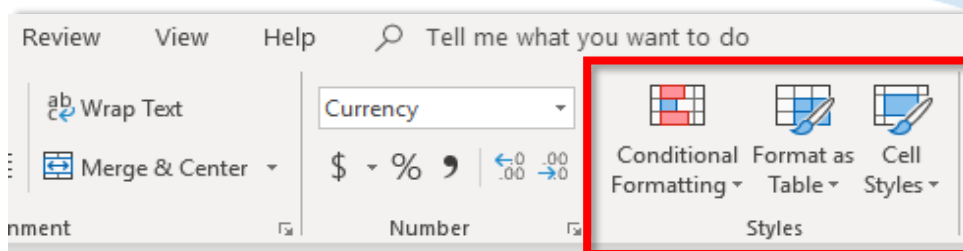
- Select the range or column where you want to apply the rule.

	A	B	C
1	Account Name	Sales Amount	Average Order
2	ABC DISTRIBUTION CENTER INC.	\$84,092.50	20.2
3	BASIC TEES, LLC	\$131,281.65	36.55
4	DAN & CRADSTREED INC.	\$246,715.65	78.5
5	DAVID&MIMIS INC	\$211,193.76	67.67777
6	ESPINOZA YARD LLC	\$295,231.23	89.999999
7	FLOYD INC.	\$147,635.76	38.75
8	GRACE WARE LLC	\$224,816.89	75.666666
9	ITALIANO BISTRO FRANCHISE	\$109,443.01	25.25
10	NGUYEN INSTITUTE	\$294,923.13	85.25

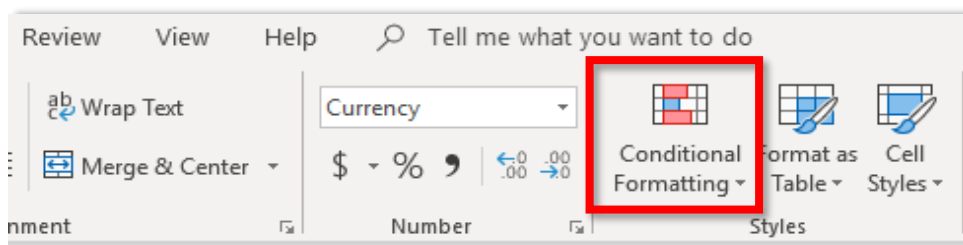
- Navigate to the **Home** tab.



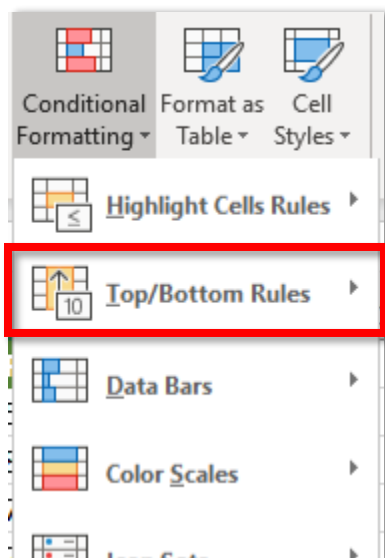
- Locate the **Styles** group.



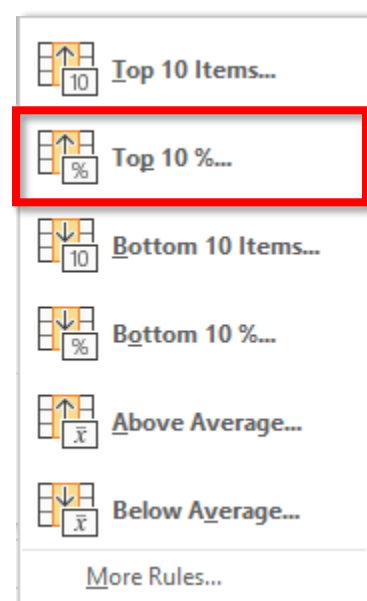
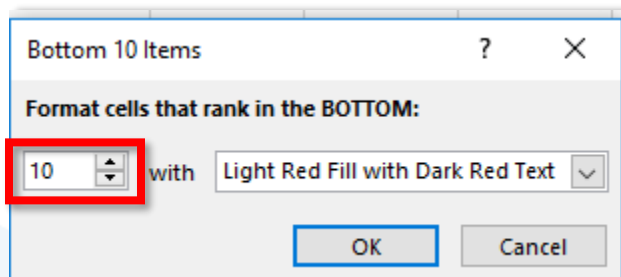
4. Select the **Conditional Formatting** command to display a drop-down menu.



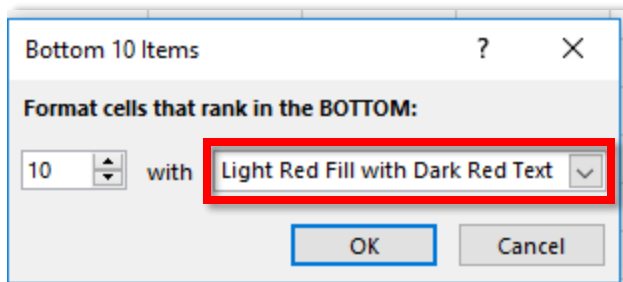
5. In the drop-down menu, select the **Top/Bottom Rules** option.



6. From the **Top/Bottom Rules** submenu select the **Bottom 10 Items...** option.
7. After selecting the **Bottom 10 Items...** option, Excel will display a dialog box. On the left side of the box you can change the number of items Excel will highlight.



- On the right-side of the pop-up window, select how you would like Excel to highlight the cells that meet this rule.



Bottom 10%

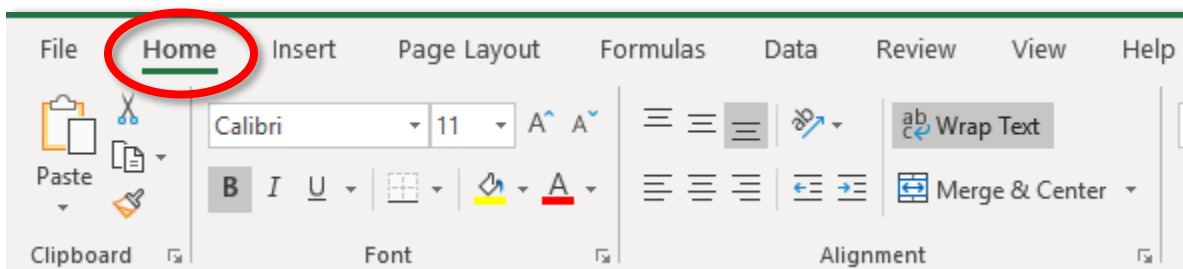
The *Bottom 10%* highlights the lowest 10% of a given range or column.

To use the **Bottom 10%** rule:

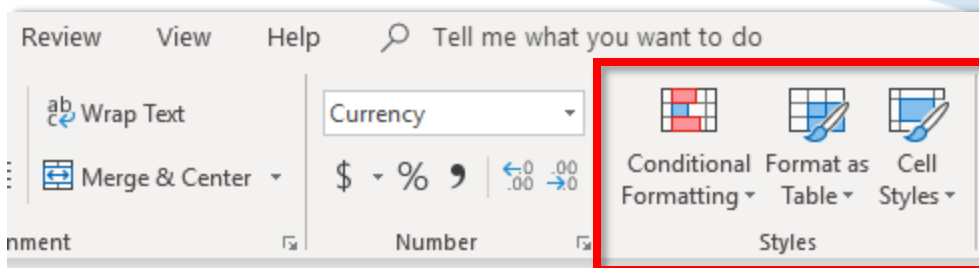
- Select the range or column where you want to apply the rule.

	A	B	C
1	Account Name	Sales Amount	Average Order
2	ABC DISTRIBUTION CENTER INC.	\$84,092.50	20.2%
3	BASIC TEES, LLC	\$131,281.65	36.6%
4	DAN & CRADSTREED INC.	\$246,715.65	78.5%
5	DAVID&MIMIS INC	\$211,193.76	67.7%
6	ESPINOZA YARD LLC	\$295,231.23	90.0%
7	FLOYD INC.	\$147,635.76	38.8%
8	GRACE WARE LLC	\$224,816.89	75.7%
9	ITALIANO BISTRO FRANCHISE	\$109,443.01	25.3%
10	NGUYEN INSTITUTE	\$294,923.13	85.3%

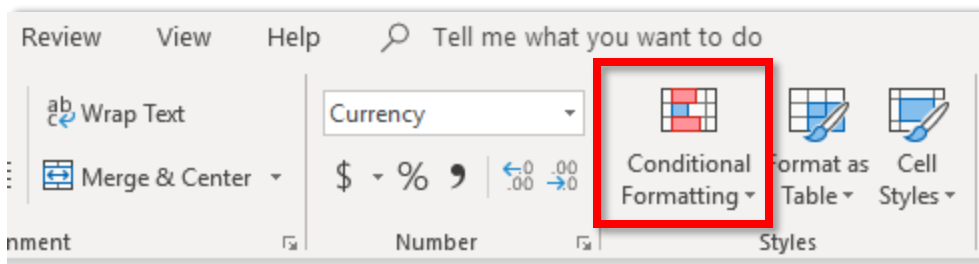
- Navigate to the **Home** tab.



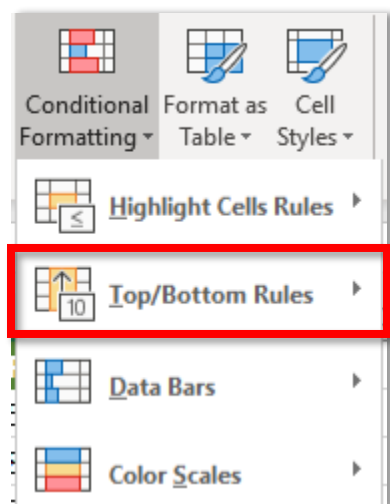
- Locate the **Styles** group.



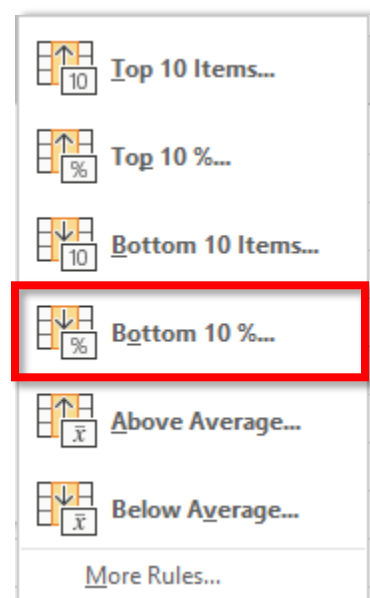
4. Select the **Conditional Formatting** command to display a drop-down menu.



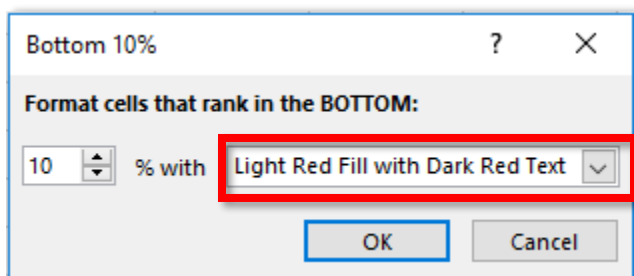
5. In the drop-down menu, select the **Top/Bottom Rules** option.



6. From the **Top/Bottom Rules** submenu select the **Bottom 10%...** option.
7. After selecting the **Bottom 10%...** option, Excel will display a dialog box. On the left side of the box you can change the percentage of cells that will be highlighted.



- On the right-side of the pop-up window, select how you would like Excel to highlight the cells that meet this rule.



Above Average

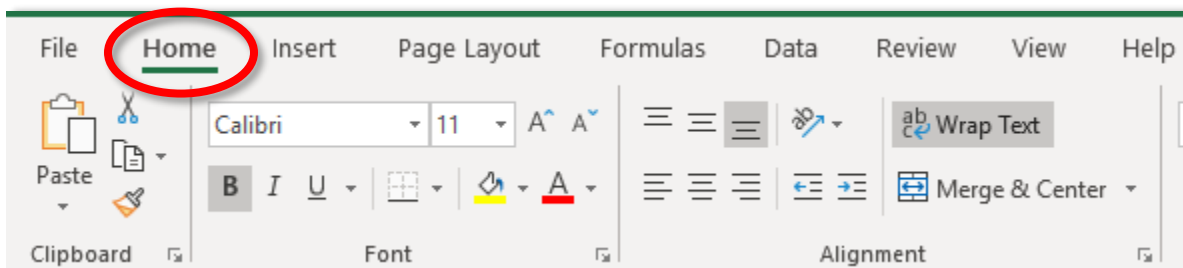
The **Above Average** rule allows you to highlight any cells that are above the average from a given range or column.

To use the **Above Average** rule:

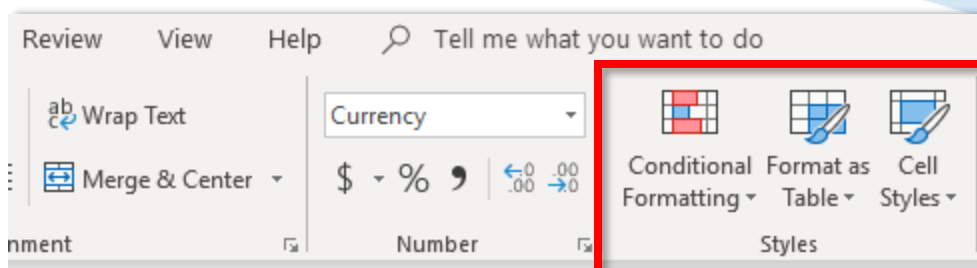
- Select the range or column where you want to apply the rule.

	A	B	C
1	Account Name	Sales Amount	Average Order
2	ABC DISTRIBUTION CENTER INC.	\$84,092.50	20.2%
3	BASIC TEES, LLC	\$131,281.65	36.6%
4	DAN & CRADSTREED INC.	\$246,715.65	78.5%
5	DAVID&MIMIS INC	\$211,193.76	67.7%
6	ESPINOZA YARD LLC	\$295,231.23	90.0%
7	FLOYD INC.	\$147,635.76	38.8%
8	GRACE WARE LLC	\$224,816.89	75.7%
9	ITALIANO BISTRO FRANCHISE	\$109,443.01	25.3%
10	NGUYEN INSTITUTE	\$294,923.13	85.3%

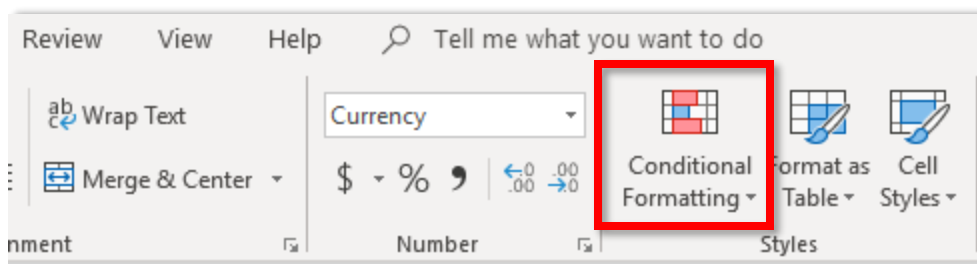
- Navigate to the **Home** tab.



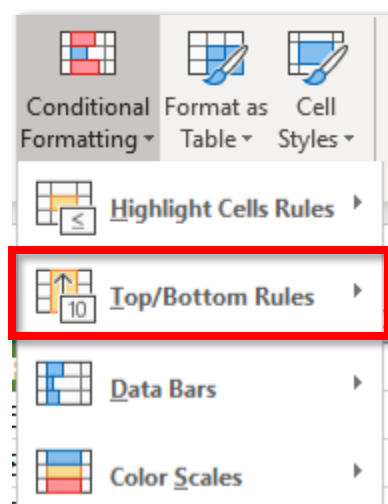
- Locate the **Styles** group.



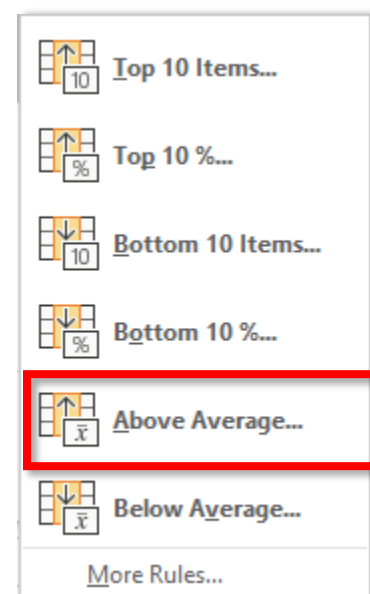
4. Select the **Conditional Formatting** command to display a drop-down menu.



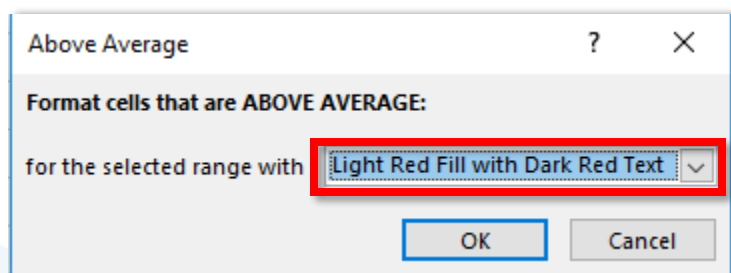
5. In the drop-down menu, select the **Top/Bottom Rules** option.



6. From the **Top/Bottom Rules** submenu select the **Above Average...** option.



7. Select the color(s) you want Excel use to highlight the cells that meet your rule.



Below Average

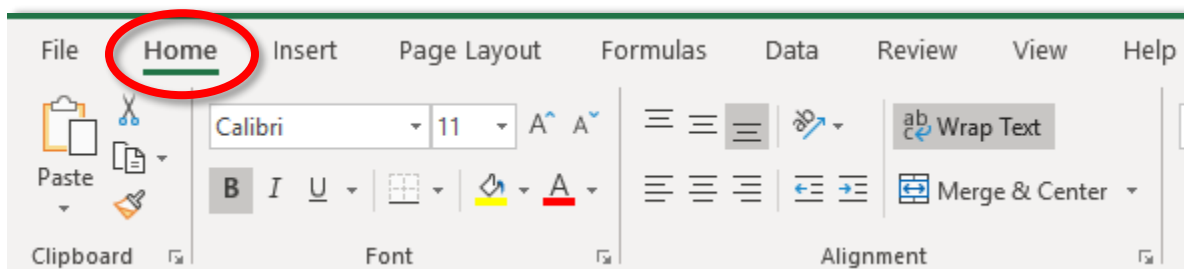
The **Below Average** rule allows you to highlight any cells that are below average in a given range.

To use the **Below Average** rule:

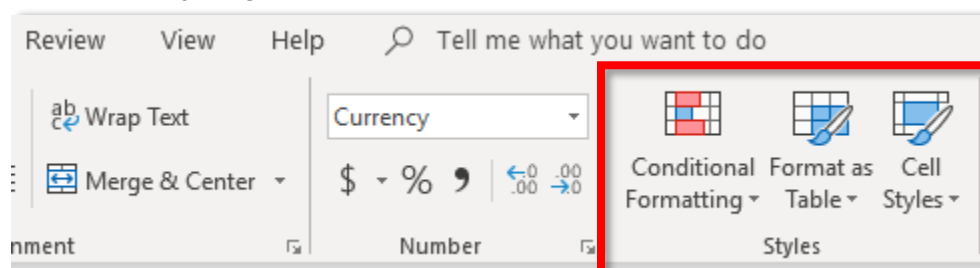
1. Select the range or column where you want to apply the rule.

	A	B	C
1	Account Name	Sales Amount	Average Order
2	ABC DISTRIBUTION CENTER INC.	\$84,092.50	20.2%
3	BASIC TEES, LLC	\$131,281.65	36.6%
4	DAN & CRADSTREED INC.	\$246,715.65	78.5%
5	DAVID&MIMIS INC	\$211,193.76	67.7%
6	ESPINOZA YARD LLC	\$295,231.23	90.0%
7	FLOYD INC.	\$147,635.76	38.8%
8	GRACE WARE LLC	\$224,816.89	75.7%
9	ITALIANO BISTRO FRANCHISE	\$109,443.01	25.3%
10	NGUYEN INSTITUTE	\$294,923.13	85.3%

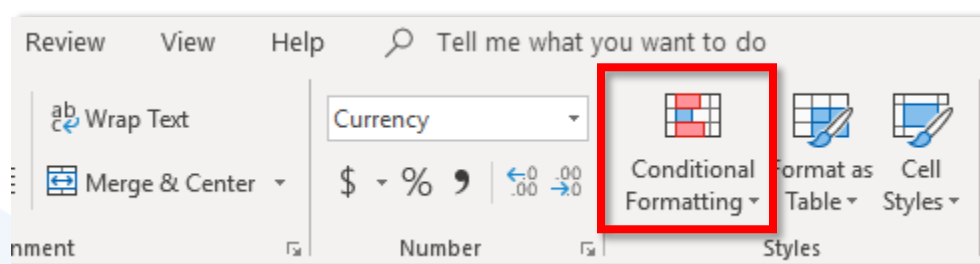
2. Navigate to the **Home** tab.



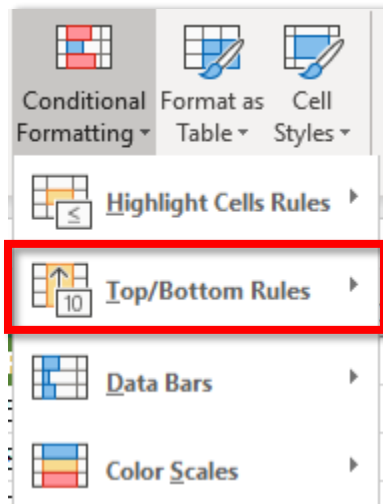
3. Locate the **Styles** group.



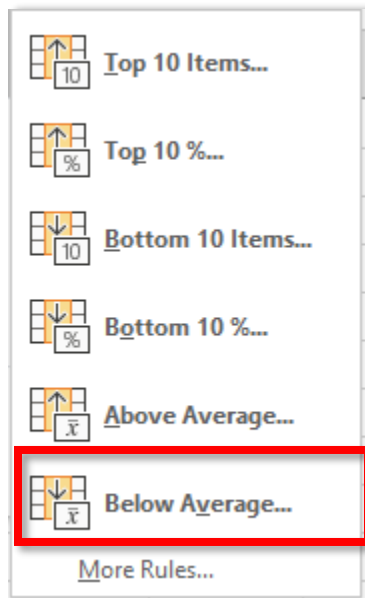
4. Select the **Conditional Formatting** command to display a drop-down menu.



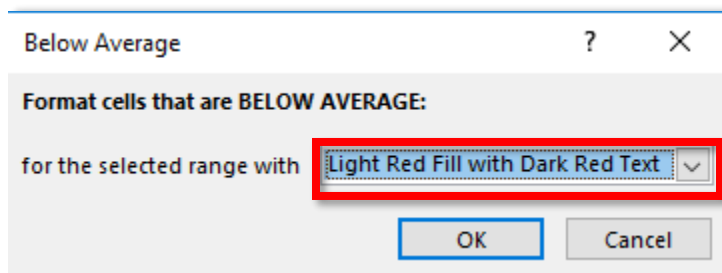
5. In the drop-down menu, select the **Top/Bottom Rules** option.



6. From the **Top/Bottom Rules** submenu select the **Below Average...** option.



7. Select the color(s) you want Excel use to highlight the cells that meet your rule.



Data Bars

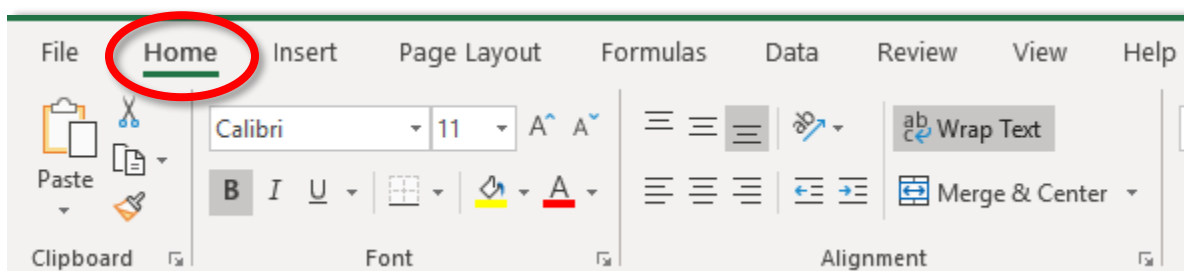
Data Bars allow you to insert colored bars inside your cells to represent a number. The larger the number the longer the bar. The smaller the number, the shorter the bar. The length of the bars are represented in relation to the range that you select. The **Data Bars** option is an easy way to add a visual representation to your data without needing to use charts or graphs.

To use **Data Bars**:

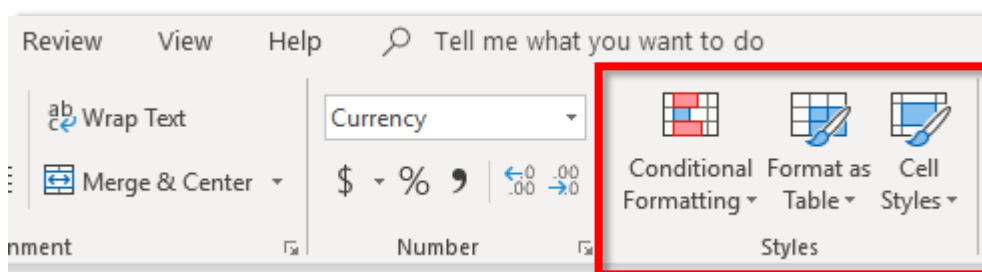
1. Select the range or columns where you want to apply the data bars.

	A	B	C
1	Account Name	Sales Amount	Average Order
2	ABC DISTRIBUTION CENTER INC.	\$84,092.50	20.2%
3	BASIC TEES, LLC	\$131,281.65	36.6%
4	DAN & CRADSTREED INC.	\$246,715.65	78.5%
5	DAVID&MIMIS INC	\$211,193.76	67.7%
6	ESPINOZA YARD LLC	\$295,231.23	90.0%
7	FLOYD INC.	\$147,635.76	38.8%
8	GRACE WARE LLC	\$224,816.89	75.7%
9	ITALIANO BISTRO FRANCHISE	\$109,443.01	25.3%
10	NGUYEN INSTITUTE	\$294,923.13	85.3%

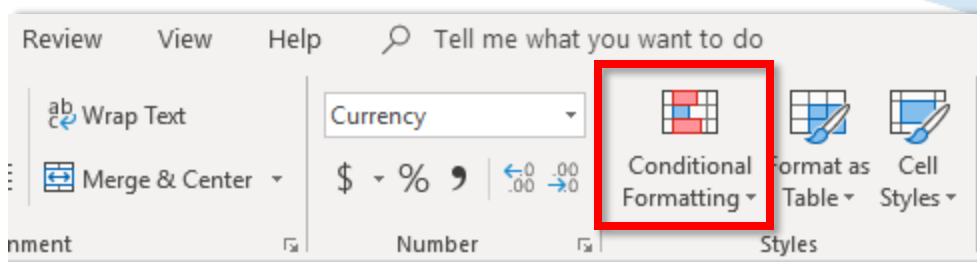
2. Navigate to the **Home** tab.



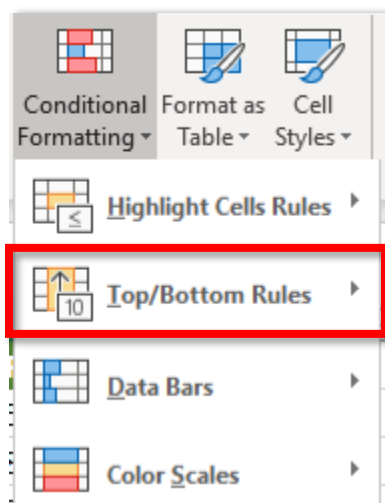
3. Locate the **Styles** group.



4. Select the **Conditional Formatting** command to display a drop-down menu.



5. In the drop-down menu, select the **Data Bars** option.



6. The **Data Bars** option will display a gallery of bar types that you can choose one. Select the color scheme of your choice.



If you properly added the **Data Bars** you'll see these applied to the data in your table.

	A	B	C
1	Account Name	Sales Amount	Average Order
2	ABC DISTRIBUTION CENTER INC.	\$84,092.50	20.2%
3	BASIC TEES, LLC	\$131,281.65	36.6%
4	DAN & CRADSTREED INC.	\$246,715.65	78.5%
5	DAVID&MIMIS INC	\$211,193.76	67.7%
6	ESPINOZA YARD LLC	\$295,231.23	90.0%
7	FLOYD INC.	\$147,635.76	38.8%
8	GRACE WARE LLC	\$224,816.89	75.7%
9	ITALIANO BISTRO FRANCHISE	\$109,443.01	25.3%

Color Scales

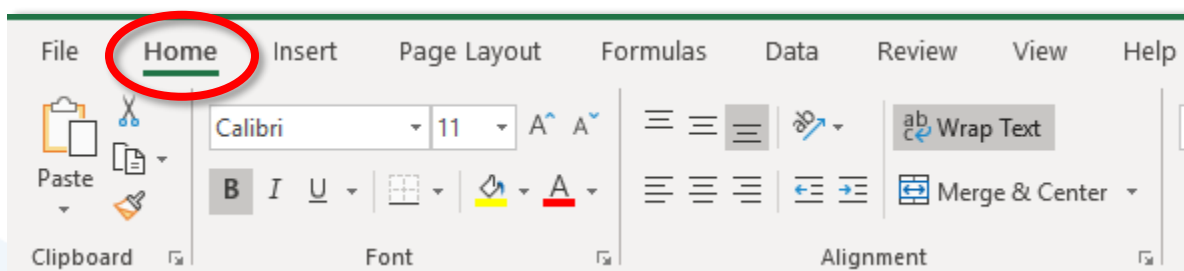
Color Scales is a function in Excel that allows you to apply a color gradient to a range of cells. Basically, Excel will highlight each cell with one of three colors, representing where that cell falls in comparison to the other cells. You can almost think of it as one color represents the bottom third, another color represents the middle third and another color represents the top third. Excel allows you to choose the color combinations.

To use **Color Scales**:

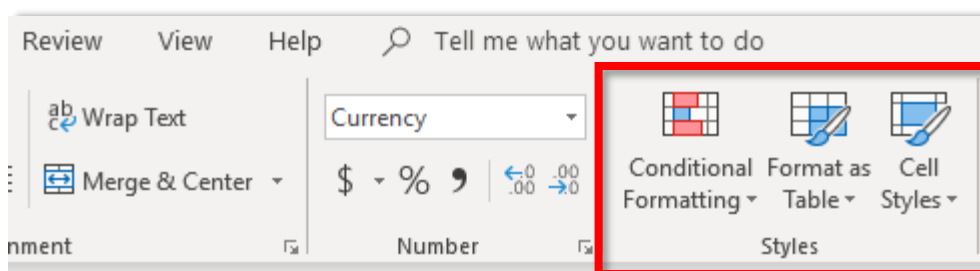
1. Select the range or columns where you want to apply the data bars.

	A	B	C
1	Account Name	Sales Amount	Average Order
2	ABC DISTRIBUTION CENTER INC.	\$84,092.50	20.2%
3	BASIC TEES, LLC	\$131,281.65	36.6%
4	DAN & CRADSTREED INC.	\$246,715.65	78.5%
5	DAVID&MIMIS INC	\$211,193.76	67.7%
6	ESPINOZA YARD LLC	\$295,231.23	90.0%
7	FLOYD INC.	\$147,635.76	38.8%
8	GRACE WARE LLC	\$224,816.89	75.7%
9	ITALIANO BISTRO FRANCHISE	\$109,443.01	25.3%
10	NGUYEN INSTITUTE	\$294,923.13	85.3%

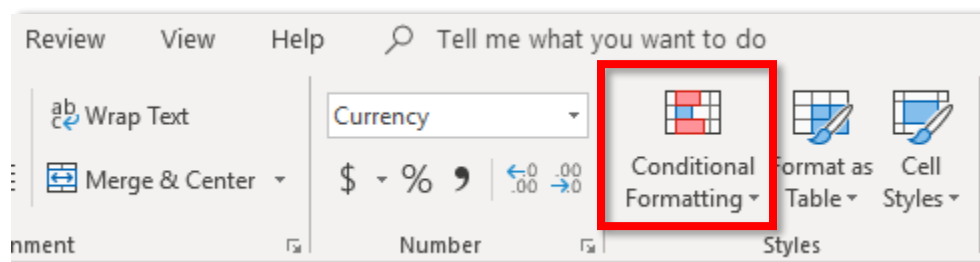
2. Navigate to the **Home** tab.



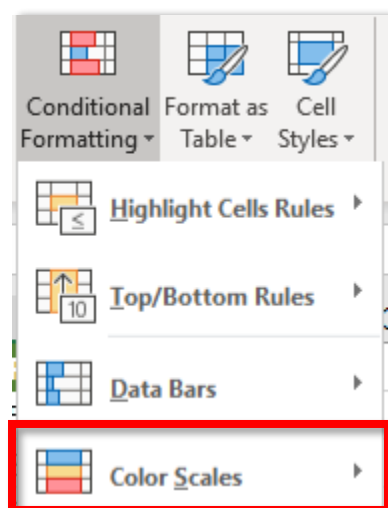
3. Locate the **Styles** group.



4. Select the **Conditional Formatting** command to display a drop-down menu.



5. In the drop-down menu, select the **Color Scales** option.



6. The **Color Scales** option will display a gallery with different type of colors that you can use to represent a scale. Select the color scheme of your choice from this drop-down menu.



Once you select the **Color Scales** your cells will be highlighted in color based on a predetermined scale that Excel applied.

	A	B	C
1	Account Name	Sales Amount	Average Order
2	ABC DISTRIBUTION CENTER INC.	\$84,092.50	20.2%
3	BASIC TEES, LLC	\$131,281.65	36.6%
4	DAN & CRADSTREED INC.	\$246,715.65	78.5%
5	DAVID&MIMIS INC	\$211,193.76	67.7%
6	ESPINOZA YARD LLC	\$295,231.23	90.0%
7	FLOYD INC.	\$147,635.76	38.8%
8	GRACE WARE LLC	\$224,816.89	75.7%
9	ITALIANO BISTRO FRANCHISE	\$109,443.01	25.3%

Icon Sets

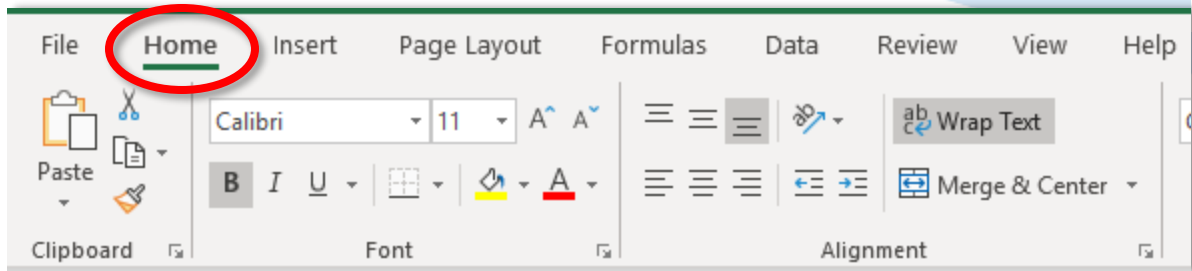
Icon Sets works more or less the same way as the **Color Scales**, but instead of using colors to highlight cells that represent certain milestones, this option uses icons. For example, instead of highlighting the bottom third with a red color, you can choose to include a down arrow instead.

To use **Icon Sets**:

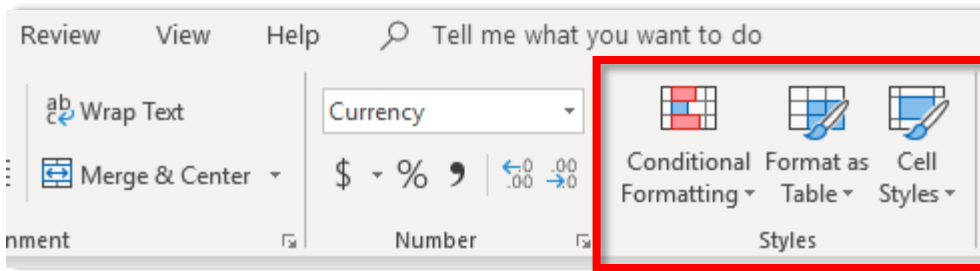
1. Select the range or columns where you want to apply the data bars.

	A	B	C
1	Account Name	Sales Amount	Average Order
2	ABC DISTRIBUTION CENTER INC.	\$84,092.50	20.2%
3	BASIC TEES, LLC	\$131,281.65	36.6%
4	DAN & CRADSTREED INC.	\$246,715.65	78.5%
5	DAVID&MIMIS INC	\$211,193.76	67.7%
6	ESPINOZA YARD LLC	\$295,231.23	90.0%
7	FLOYD INC.	\$147,635.76	38.8%
8	GRACE WARE LLC	\$224,816.89	75.7%
9	ITALIANO BISTRO FRANCHISE	\$109,443.01	25.3%
10	NGUYEN INSTITUTE	\$294,923.13	85.3%

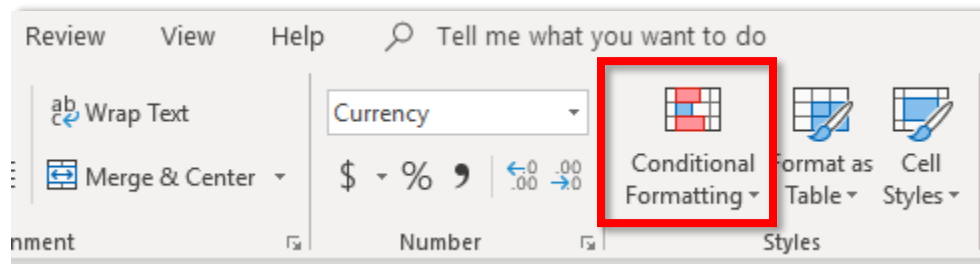
2. Navigate to the **Home** tab.



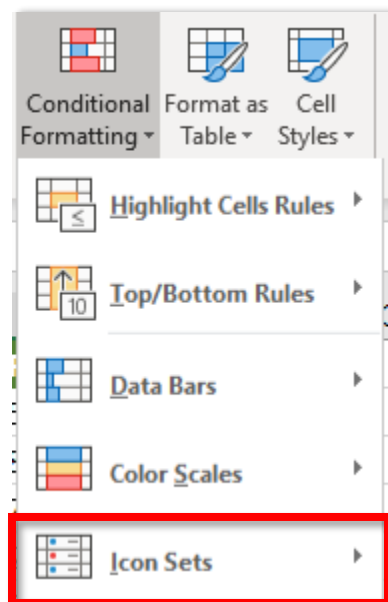
3. Locate the **Styles** group.



4. Select the **Conditional Formatting** command to display a drop-down menu.



5. In the drop-down menu, select the **Icon Sets** option.



- The **Icon Sets** option will display a gallery of icons that you can choose to be displayed directly in the cells that you selected. Choose the icons that best fit your need.



Once you select the **Icon Sets**, Excel will display the icons directly on the cells that represent the scale selected.

	A	B	C
1	Account Name	Sales Amount	Average Order
2	ABC DISTRIBUTION CENTER INC.	\$84,092.50	↓
3	BASIC TEES, LLC	\$131,281.65	↓
4	DAN & CRADSTREED INC.	\$246,715.65	↗
5	DAVID&MIMIS INC	\$211,193.76	↗
6	ESPINOZA YARD LLC	\$295,231.23	↑
7	FLOYD INC.	\$147,635.76	↓
8	GRACE WARE LLC	\$224,816.89	↗
9	ITALIANO BISTRO FRANCHISE	\$109,443.01	↓

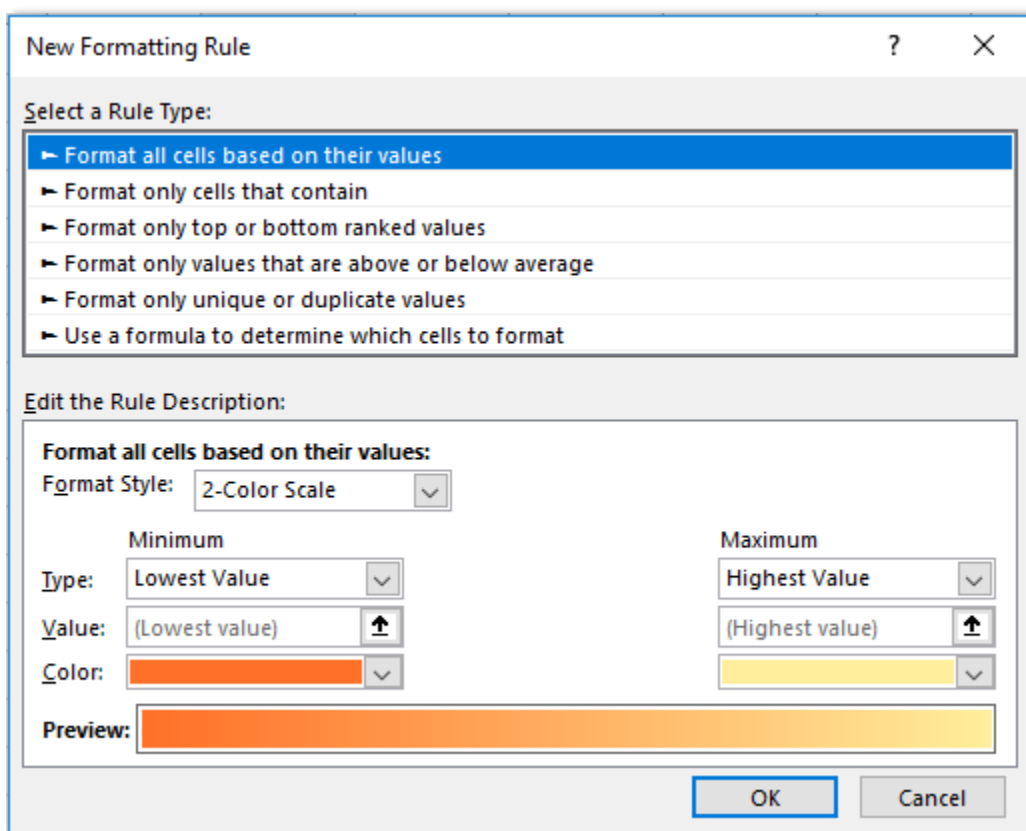
New Rules & More Rules

The Conditional Formatting function allows you to create your own rules and highlight (or color or use icons) the cells with the conditions you specify. If you understand how the rules work, you can use the *New Rules* option in the Conditional Formatting drop-down menu to create a rule.

Excel makes it easy to start this process by allowing you to select a rule type (which is essentially the rules we described in the *Highlight Cell Rules* section of this booklet).

At the bottom of the window, you can edit the Rule description and format the cells in any of the ways we just described. For example, you can create a rule for those amounts that are above average and change the Format Style to data bars.

Whenever you use any of the options for Conditional Formatting, such as *Data Bars* or *Top/Bottom 10*, there is an option at the bottom of the dropdown-menu that allows you to see More Rules. The More Rules option works just like the Create Rules option, but the More Rules option defaults to the type of rule that you selected. Therefore, if I choose to use *Icon Sets* and select More Rules, I will be prompted to choose my conditions for the *Icon Sets*.



New Formatting Rule

Select a Rule Type:

- Format all cells based on their values
- Format only cells that contain
- Format only top or bottom ranked values
- Format only values that are above or below average
- Format only unique or duplicate values
- Use a formula to determine which cells to format

Edit the Rule Description:

Format all cells based on their values:

Format Style: 2-Color Scale

Minimum		Maximum	
Type:	Lowest Value	Type:	Highest Value
Value:	(Lowest value)	Value:	(Highest value)
Color:	Orange	Color:	Yellow

Preview: [Orange to Yellow Gradient Bar]

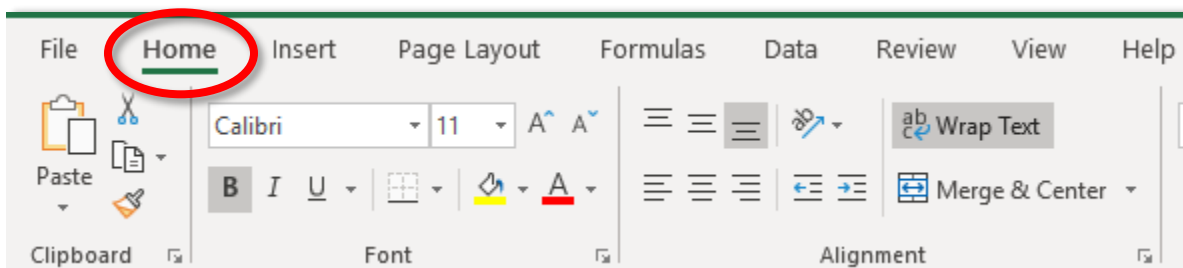
OK Cancel

How to Clear Rules

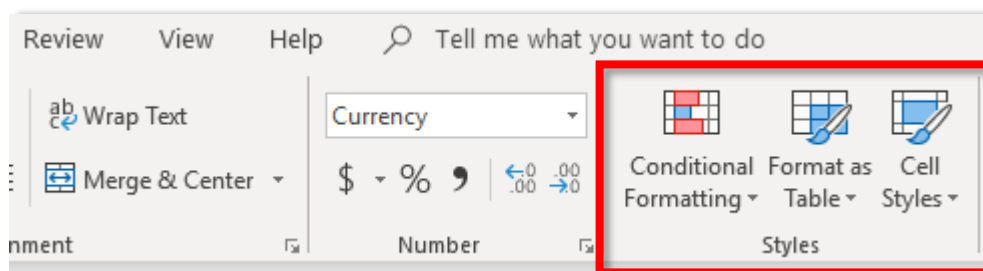
If you created any rules by using any of the **Conditional Formatting** options, you have the option to remove the rule if you no longer want to use it.

To remove your **Conditional Formatting** rule(s):

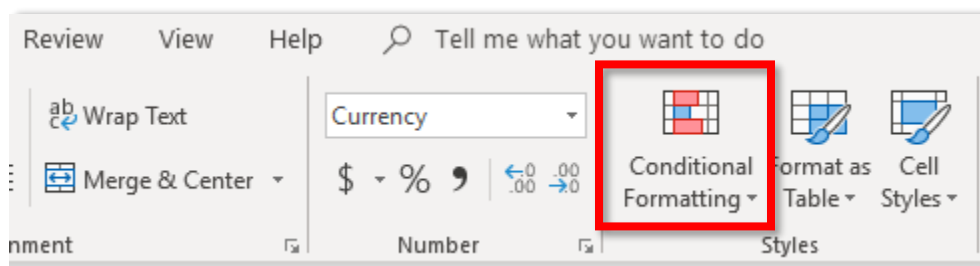
1. Navigate to the **Home** tab.



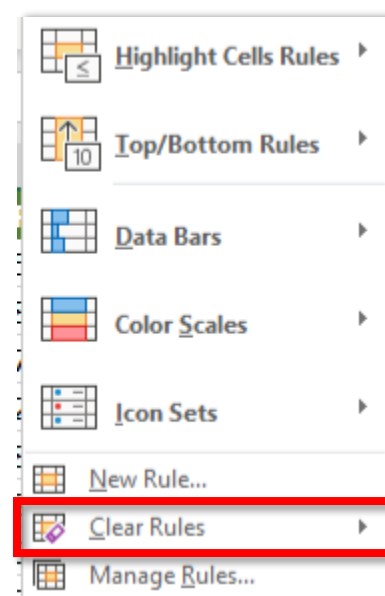
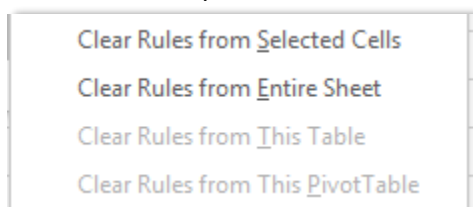
2. Locate the **Styles** group.



3. Select the **Conditional Formatting** command to display a drop-down menu.



4. In the drop-down menu, select the **Clear Rules** option.
5. Once you select the **Clear Rules** option, you will notice a submenu where you get to decide if you want to remove rules from selected cells, a table or the entire spreadsheet. Select one of these options.

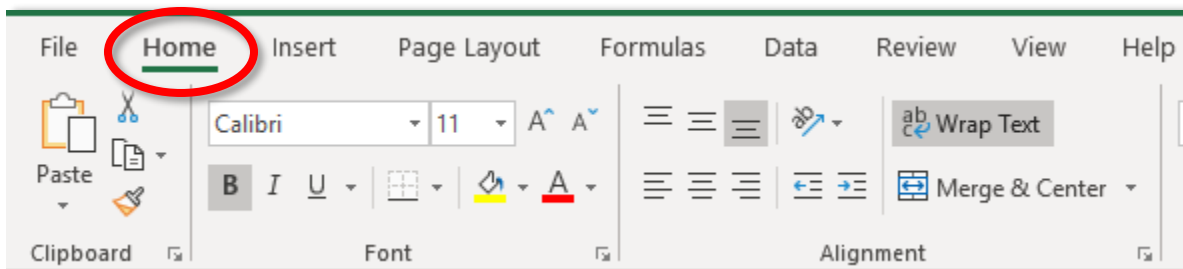


How to Manage Rules

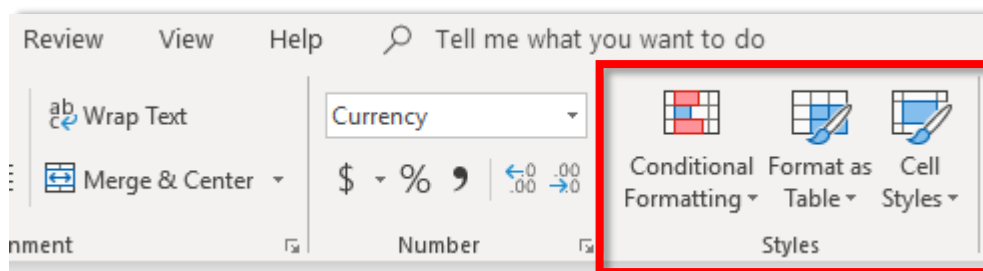
Excel also gives you the option to edit rules you created with **Conditional Formatting**. This process is simple because you'll be able to edit certain aspects of your rules (such as the range, the style, etc.).

To edit or manage your **Conditional Formatting** rules:

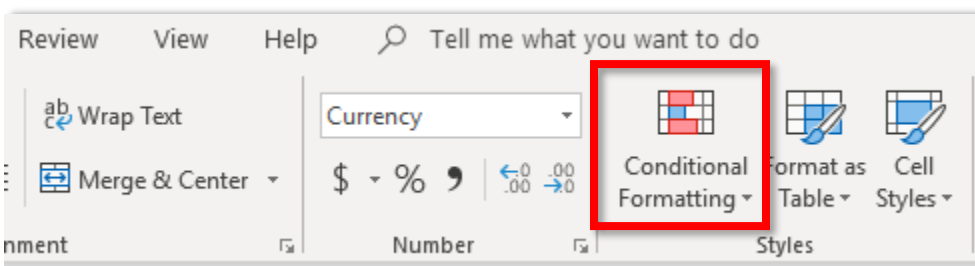
1. Select the area where you have created or applied rules for **Conditional Formatting**.
2. Navigate to the **Home** tab.



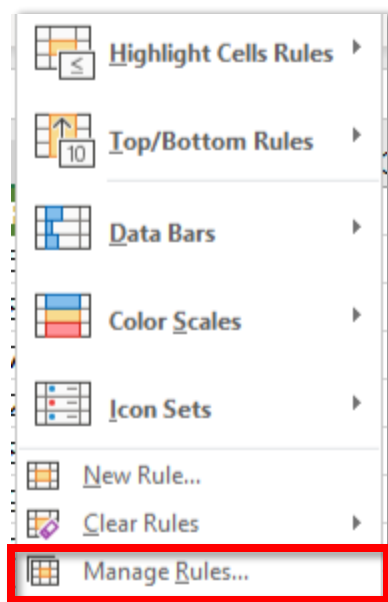
3. Locate the **Styles** group.



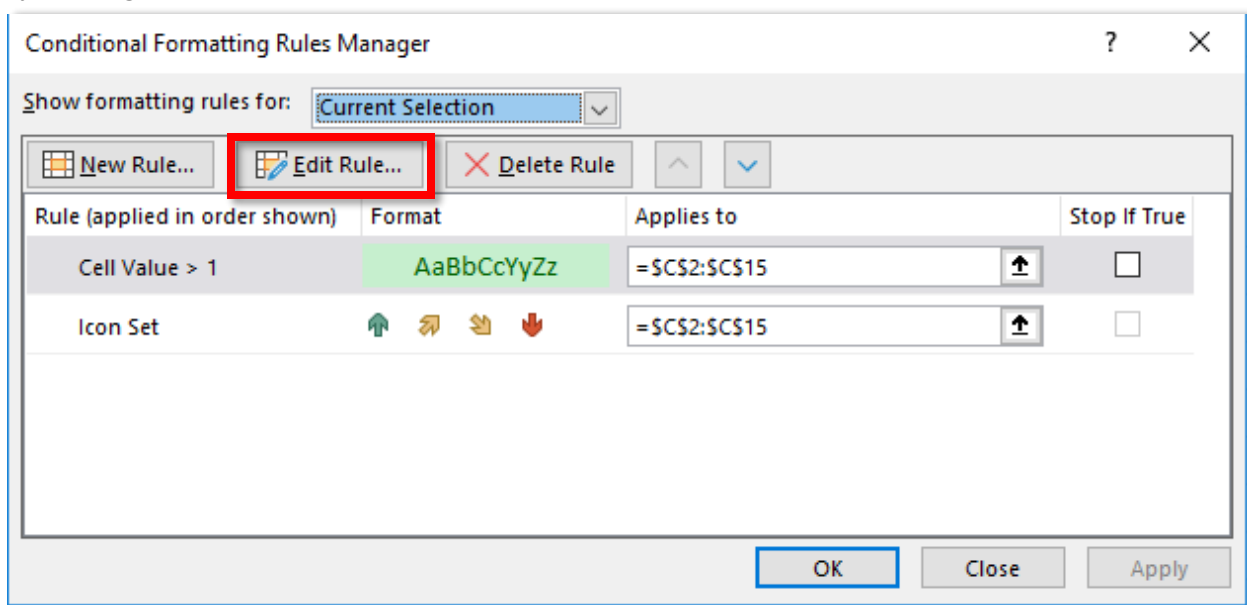
4. Select the **Conditional Formatting** command to display a drop-down menu.



5. In the drop-down menu, select the **Manage Rules...** option.



6. Once you select the **Manage Rules...** option, you will have the ability to change the rule by clicking on the **Edit Rule** button in the top section.



Data Validation

Many times, spreadsheets are shared within an organization, department or coworkers and with so many hands using one spreadsheet, things can go wrong. This is particularly true when spreadsheets are heavily used for data entry. When many people enter data onto spreadsheets, there could be a lot of misspellings and errors. To control the input from users, you can use the **Data Validation** function. The **Data Validation** function allows you to use drop-down lists or to limit the type of data used for entry. This helps keep the spreadsheet clean and improves the data integrity of the users.

Things to Consider When Using Data Validation

Before you set up a criterion for your **Data Validation**, decide what type of validation you want. Can users type any number? Should entries be restricted to certain digits or characters? Should entries be restricted to certain choices? Do you want to exclusively provide the entries for users instead of relying on their typing?

These questions will help you better set up the **Data Validation** feature in Excel.

How to Restrict Entries in Cells

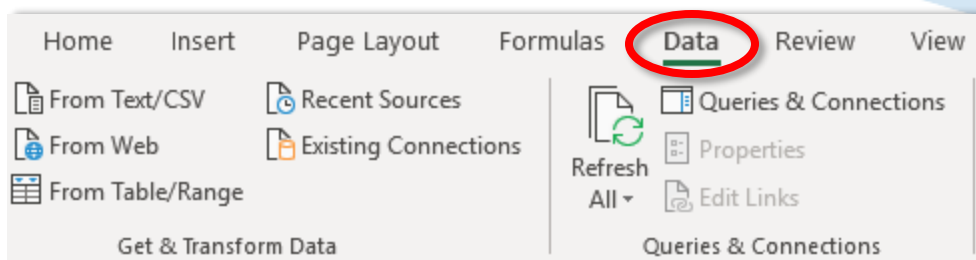
After you made your decision on how you want to use **Data Validation**, it is time to restrict the type of entries available to people who use your spreadsheet.

To restrict the type of entries in your cells and set up **Data Validation**:

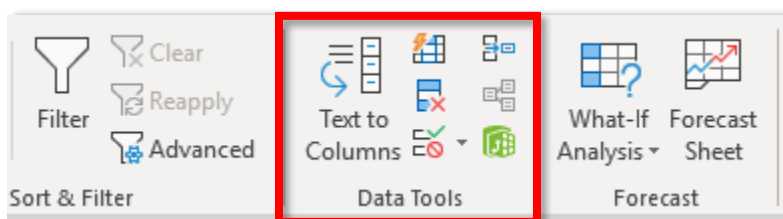
1. Select the cell(s) or column(s) where you want to include a drop-down menu to validate the data.

	A	B	C	D
1	Customer Last Name ▼	Customer First Name ▼	Account ID ▼	Membership Type ▼
2	Dominguez	Barbara	46941	
3	Anthony	Rob	42897	
4	Williams	Debon	19751	
5	Hernandez	Harold	87321	
6	Ochoa	Jose	25829	
7	Houston	Steven	29520	
8	Stevenson	Raymond	86884	
9	Guill	Sarah	68587	
10	Quintero	Jesus	80761	

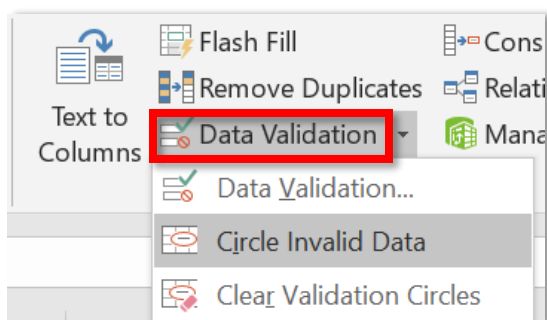
2. Navigate to the **Data** tab.



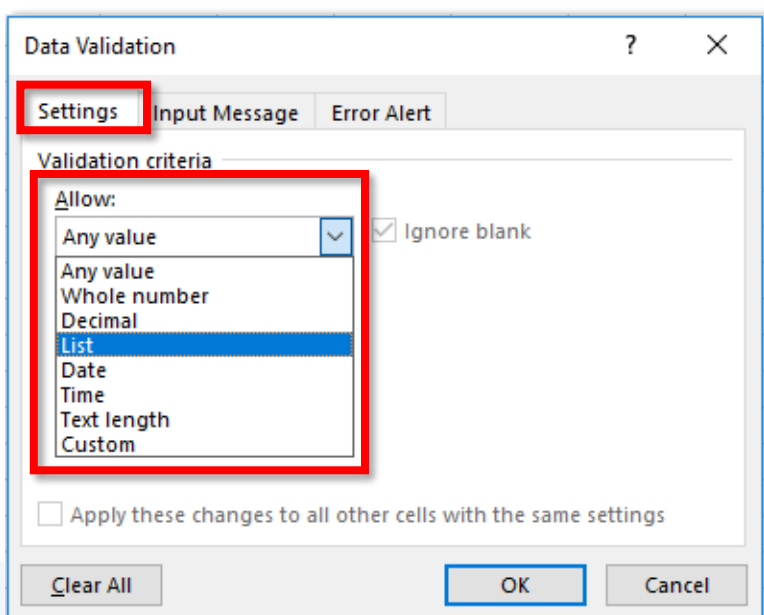
3. Locate the **Data Tools** group.



4. Select the **Data Validation** command.



5. Selecting **Data Validation** will display a window. Select the type of validation you want to allow in the cells that you selected and make additional changes to your settings in this window.



You can decide to only allow users to input whole numbers, dates, or restrict the number of characters they can enter by choosing the *Text length* option. The most popular type of **Data Validation** is the *List* which we will explore further in the next section.

How to Use A Manual List for Data Validation

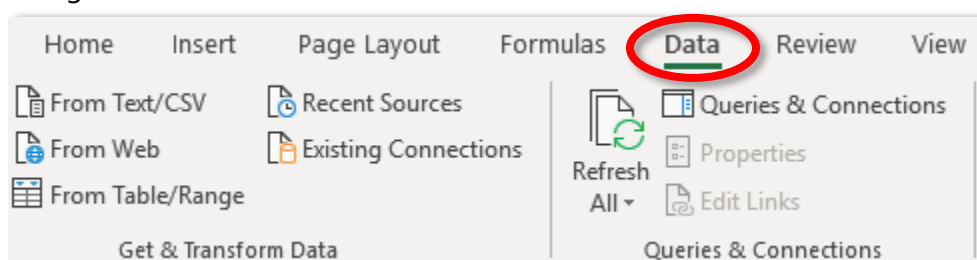
The **Data Validation** function is easy to set up and will help control the data integrity of your spreadsheet. In this section you'll learn how to create a drop-down menu inside the cells that allows users to pick the entry allowed in that cell while prohibiting the user from typing any other data.

To set up a list for your **Data Validation**:

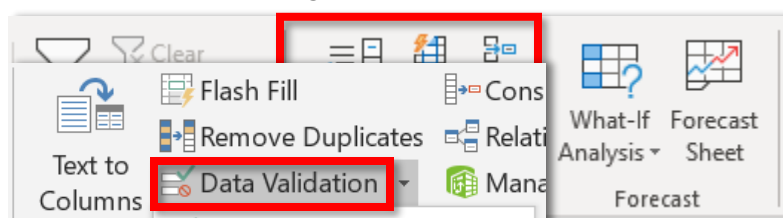
1. Select the cell(s) or column(s) where you want to include a drop-down menu to validate the data.

	A	B	C	D
1	Customer Last Name	Customer First Name	Account ID	Membership Type
2	Dominguez	Barbara	46941	
3	Anthony	Rob	42897	
4	Williams	Debon	19751	
5	Hernandez	Harold	87321	
6	Ochoa	Jose	25829	
7	Houston	Steven	29520	
8	Stevenson	Raymond	86884	
9	Guill	Sarah	68587	
10	Quintero	Jesus	80761	

2. Navigate to the **Data** tab.

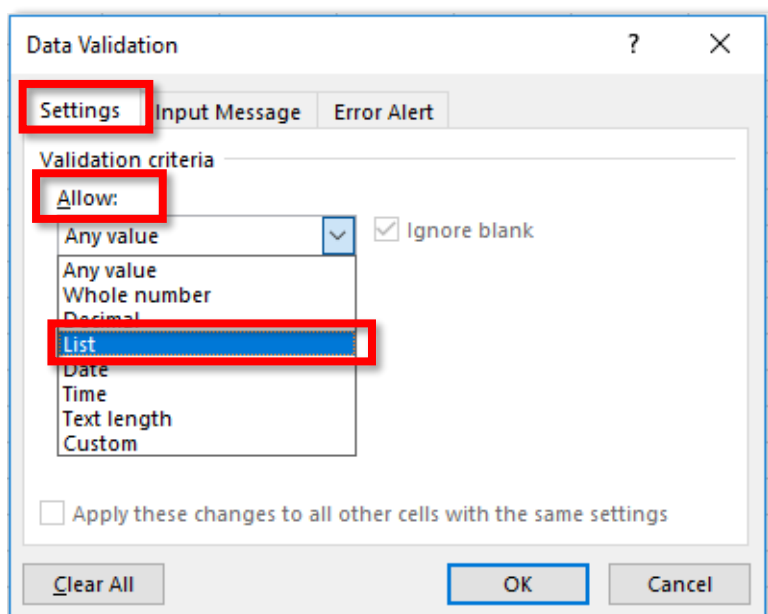


3. Locate the **Data Tools** group.

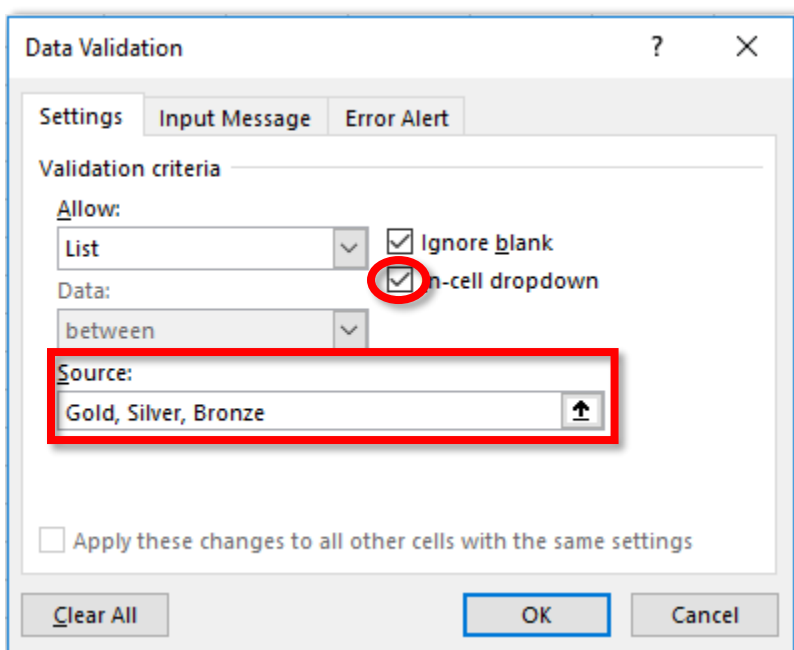


4. Select the **Data Validation** command.

5. Selecting **Data Validation** will display a window. In the *Allow* area of the **Settings** section, change the option to *List* which will change the cells' restriction from any input to values only available in a list that you provide.



6. After selecting *List* as your option, type the available entries for these cells by separating them by a comma in the *Source* section of the window. To allow a drop-down menu in the cells, make sure to check the box that says *In-cell dropdown*.



7. Click the **OK** button when finished.

You will know that you followed these steps correctly if your cells now include a drop-down menu with the options you manually typed as a list.

	A	B	C	D	
1	Customer Last Name ▼	Customer First Name ▼	Account ID ▼	Membership Type ▼	Acc
2	Dominguez	Barbara	46941		Ho
3	Anthony	Rob	42897		Ho
4	Williams	Debon	19751		
5	Hernandez	Harold	87321		
6	Ochoa	Jose	25829		
7	Houston	Steven	29520		Lor
8	Stevenson	Raymond	86884		AB

How to Use A Table or List for Data Validation

If you have a long list you would like to include as a drop-down menu in a cell or your list is constantly changing or growing, then you may want to use a table as a source instead of manually typing your list.

To use a table or list for **Data Validation**:

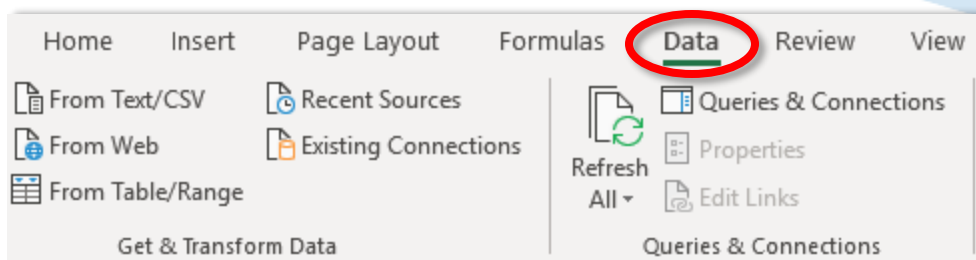
1. Create or locate a table that you have available in your workbook.

	A	B
1	January	
2	February	
3	March	
4	April	
5	May	
6	June	
7	July	
8	August	

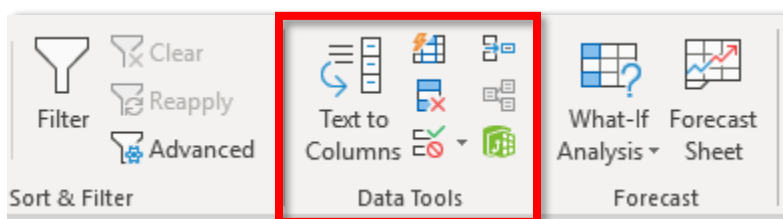
2. Select the cell(s) or column(s) where you want to include a drop-down menu to validate the data.

	Customer Last Name ▼	Customer First Name ▼	Account ID ▼	Membership Type ▼
2	Dominguez	Barbara	46941	
3	Anthony	Rob	42897	
4	Williams	Debon	19751	
5	Hernandez	Harold	87321	
6	Ochoa	Jose	25829	
7	Houston	Steven	29520	
8	Stevenson	Raymond	86884	
9	Guill	Sarah	68587	
10	Quintero	Jesus	80761	

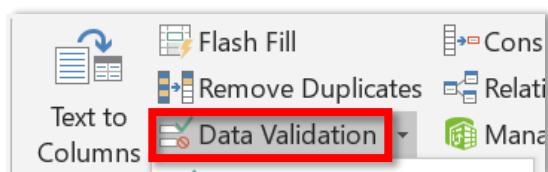
3. Navigate to the **Data** tab.



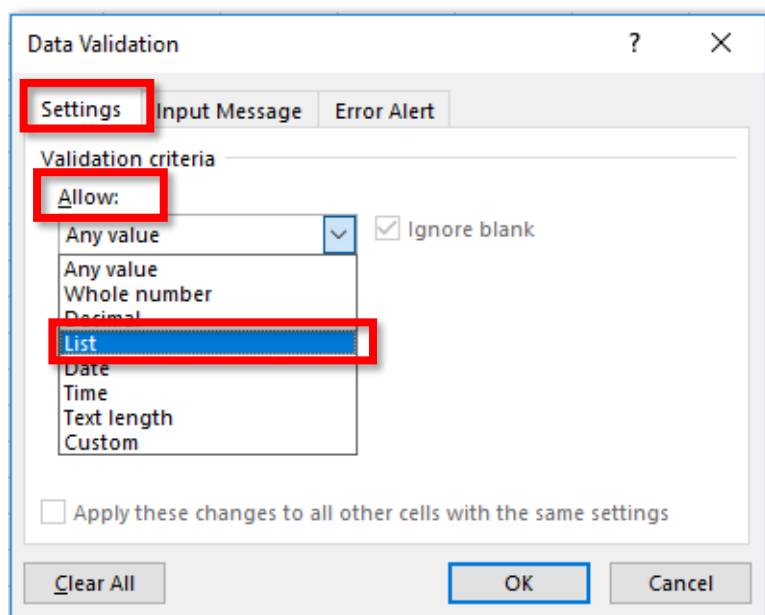
4. Locate the **Data Tools** group.



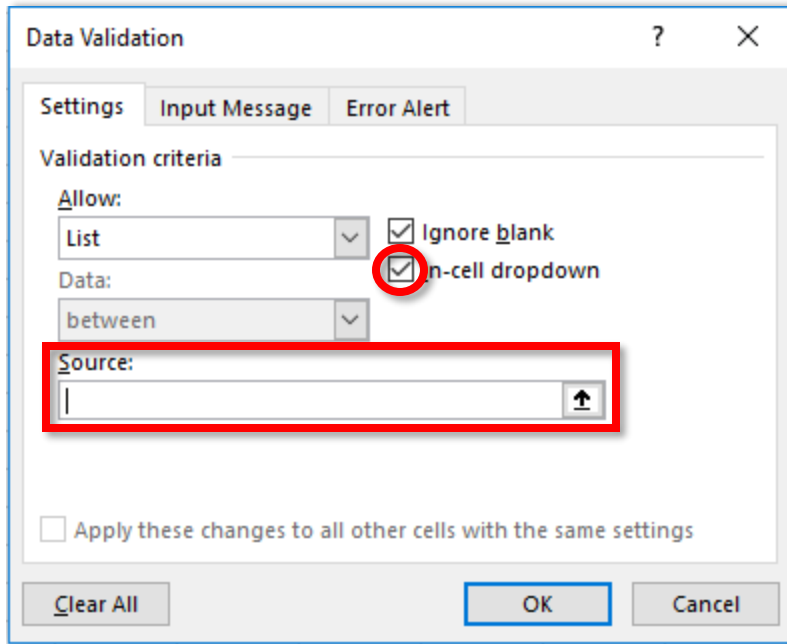
5. Select the **Data Validation** command.



6. Selecting **Data Validation** will display a window. In the *Allow* area of the **Settings** section, change the option to *List* which will change the cells' restriction from any input to values only available in a list that you provide.

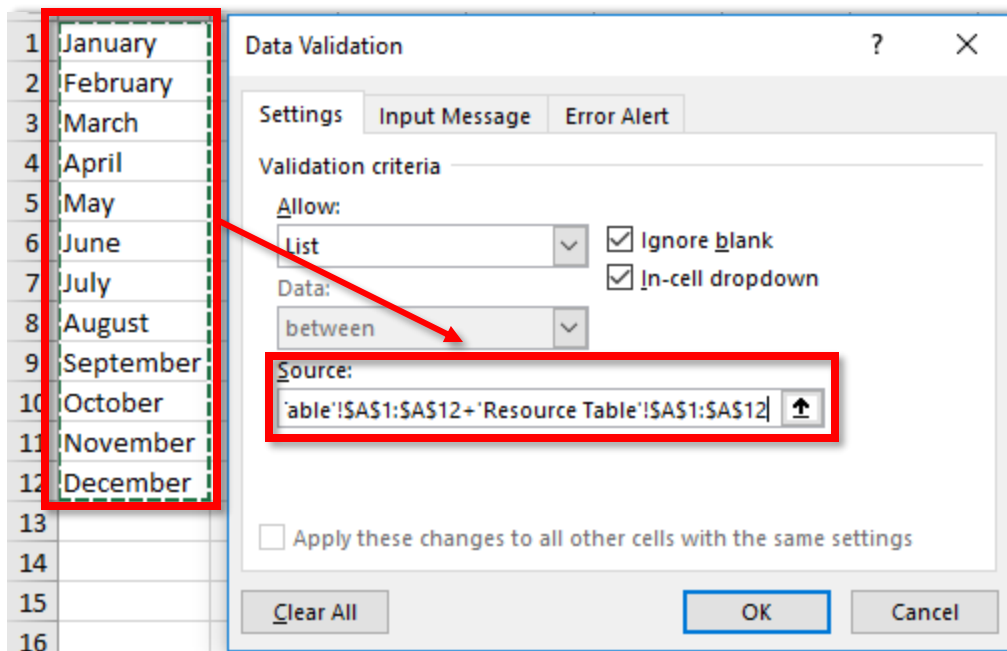


7. After selecting *List* as your option make sure that the *In-cell dropdown* box is checked. Click in the *Source* section of the window.



The Data Validation dialog box is shown with the 'Settings' tab selected. Under 'Validation criteria', the 'Allow:' dropdown is set to 'List'. The 'Ignore blank' checkbox is checked. The 'Data:' dropdown is set to 'between'. The 'In-cell dropdown' checkbox is checked and circled in red. The 'Source:' text box is empty and highlighted with a red rectangle. At the bottom, there are 'Clear All', 'OK', and 'Cancel' buttons.

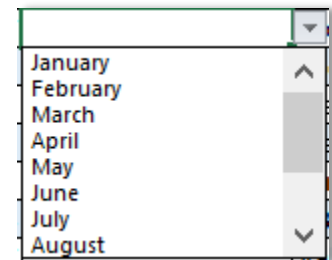
8. After clicking on the *Source* section of the window, select the list you created (from Step



The Data Validation dialog box is shown with the 'Settings' tab selected. Under 'Validation criteria', the 'Allow:' dropdown is set to 'List'. The 'Ignore blank' checkbox is checked. The 'Data:' dropdown is set to 'between'. The 'In-cell dropdown' checkbox is checked. The 'Source:' text box contains the formula `'table'!$A$1:$A$12+'Resource Table'!$A$1:$A$12` and is highlighted with a red rectangle. A red arrow points from the 'Source:' text box to a list of months (January through December) displayed in a separate window on the left. At the bottom, there are 'Clear All', 'OK', and 'Cancel' buttons.

9. Click the **OK** button when you are finished.

You will know that you followed these steps correctly if your cells now include a drop-down menu that align with the table that you selected.



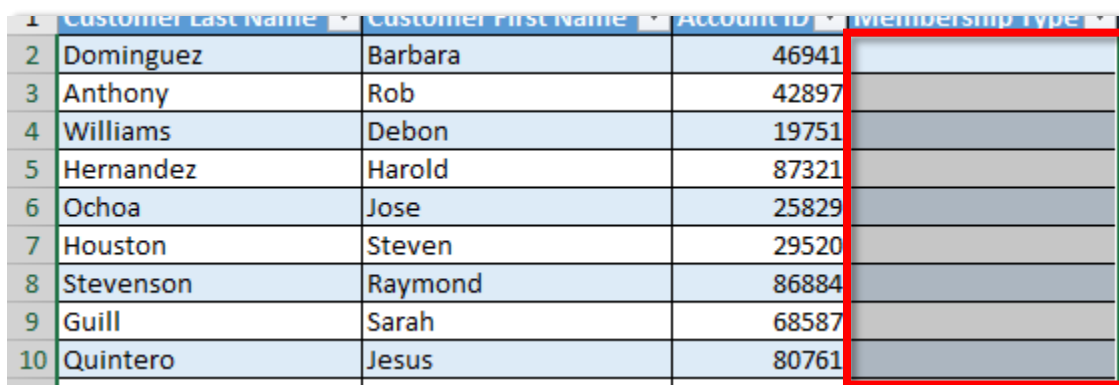
A drop-down menu is shown with a list of months: January, February, March, April, May, June, July, and August. The menu is open, showing the list of options.

How to Change the Input Message When Entering Data

Excel gives you the option to provide an **Input Message**, which is more like a Help window for the users entering data in cells where you use **Data Validation**. The **Input Message** may appear any time that someone clicks on a cell that has the **Data Validation** enabled. For example, we can include an **Input Message** as a quick explanation of what someone should enter in this cell.

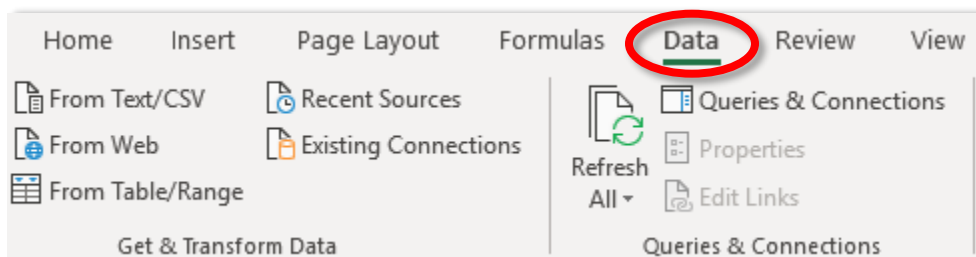
To change the **Input Message** for your **Data Validation** cells:

1. Select the cell(s) or column(s) where you want to include an **Input Message**.

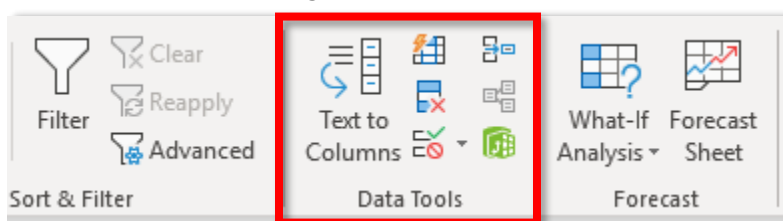


	Customer Last Name	Customer First Name	Account ID	Membership Type
2	Dominguez	Barbara	46941	
3	Anthony	Rob	42897	
4	Williams	Debon	19751	
5	Hernandez	Harold	87321	
6	Ochoa	Jose	25829	
7	Houston	Steven	29520	
8	Stevenson	Raymond	86884	
9	Guill	Sarah	68587	
10	Quintero	Jesus	80761	

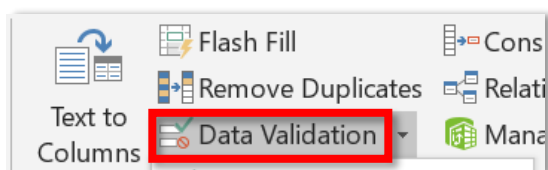
2. Navigate to the **Data** tab.



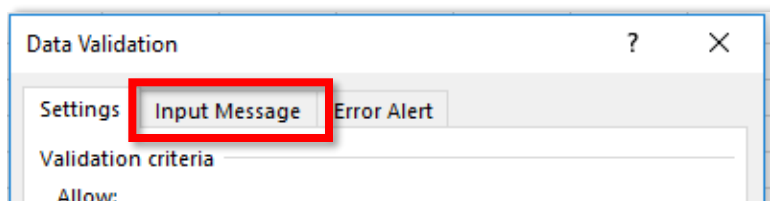
3. Locate the **Data Tools** group.



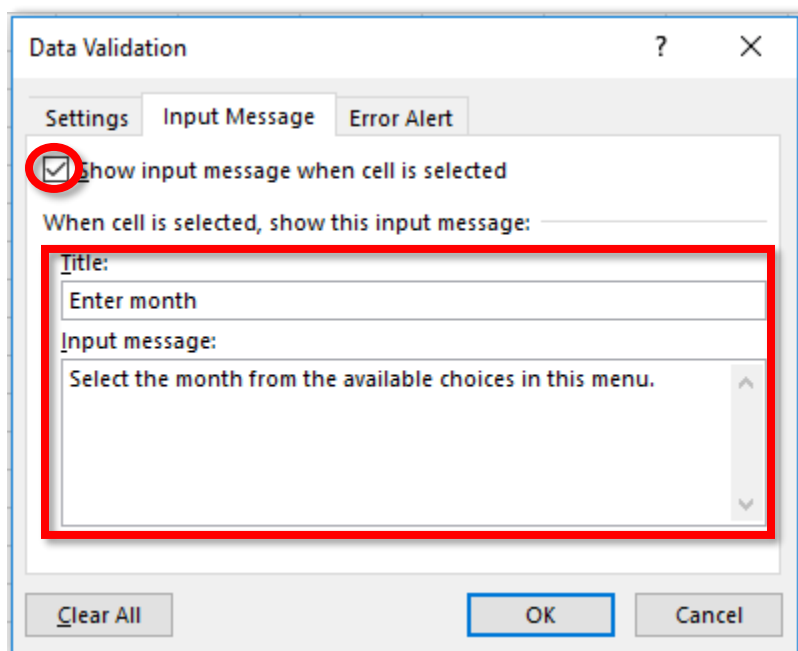
4. Select the **Data Validation** command.



5. Selecting **Data Validation** will display a window. By default, you will view the *Settings* section. Make sure that you click on the *Input Message* section instead.

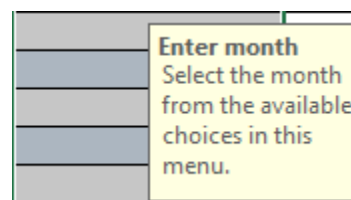


6. After selecting the *Input Message* section, make sure that the *Show input message when cell is selected* box is checked. Add a title for your message and include the message in the boxes available.



7. Click the **OK** button when finished.

You'll know that you followed these steps correctly because your message will appear anytime someone clicks on any of the cells with **Data Validation**.



How to Customize the Error Alert in a Data Validation List

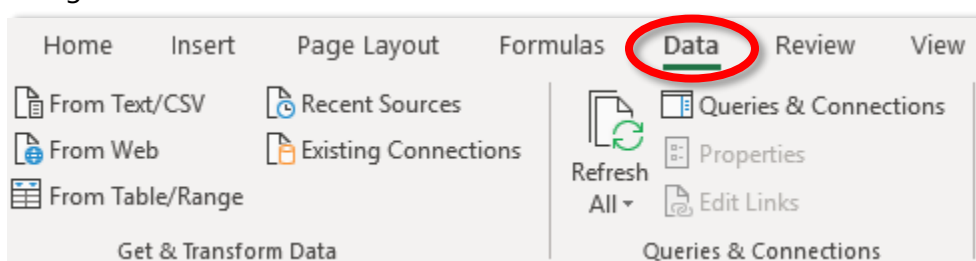
Another thing you can customize when using **Data Validation** is the error message that users receive when they type something that is not included in your **Data Validation** list.

To customize the **Error Alert** of your **Data Validation** list:

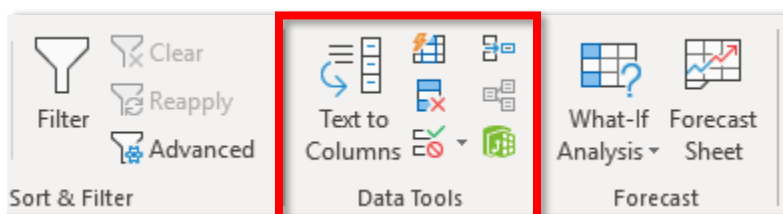
1. Select the cell(s) or column(s) where you want to include your **Error Alert**.

1	Customer Last Name	Customer First Name	Account ID	Membership Type
2	Dominguez	Barbara	46941	
3	Anthony	Rob	42897	
4	Williams	Debon	19751	
5	Hernandez	Harold	87321	
6	Ochoa	Jose	25829	
7	Houston	Steven	29520	
8	Stevenson	Raymond	86884	
9	Guill	Sarah	68587	
10	Quintero	Jesus	80761	

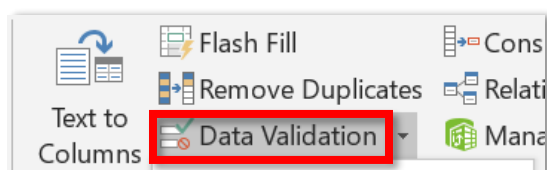
2. Navigate to the **Data** tab.



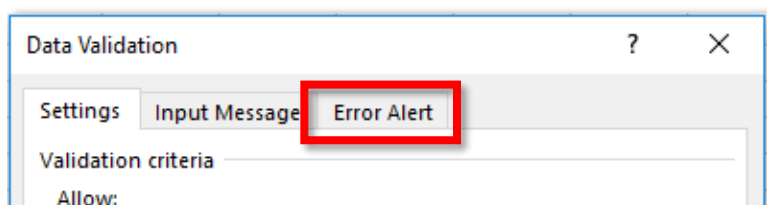
3. Locate the **Data Tools** group.



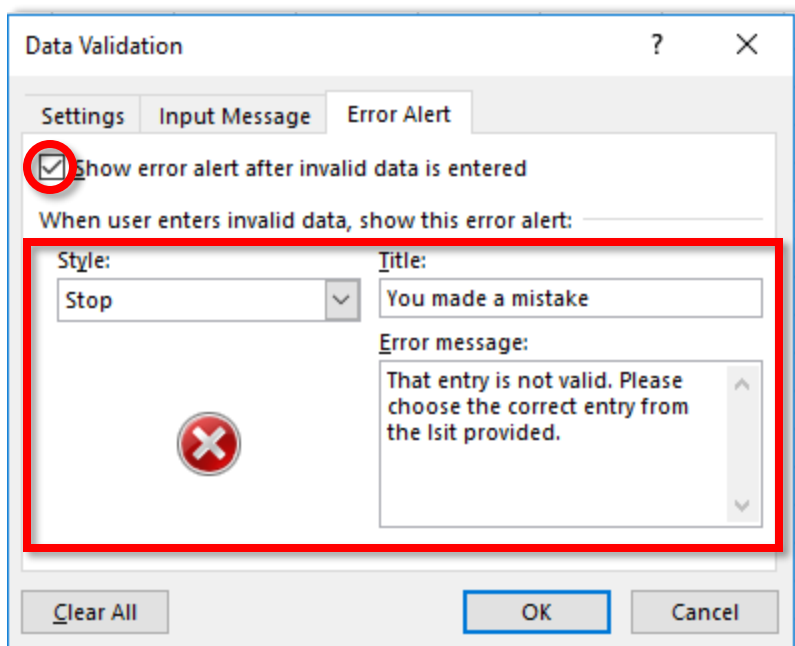
4. Select the **Data Validation** command.



5. Selecting **Data Validation** will display a window. By default, you will view the *Settings* section. Make sure that you click on the *Error Alert* section instead.

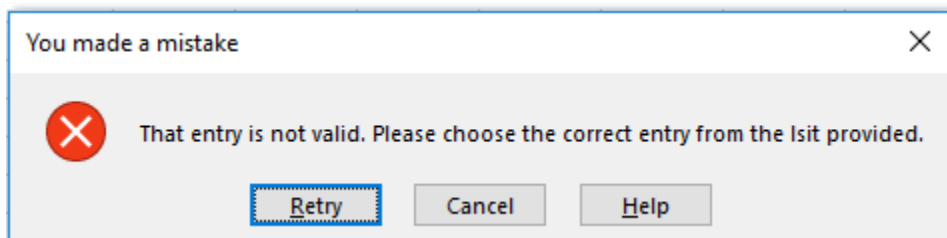


- After selecting the *Error Alert* section, make sure that the *Show error alert after invalid data is entered* box is checked. Afterwards, select the style of the error icon, include a title and write your error message in the spaces provided.



- Click the **OK** button when finished.

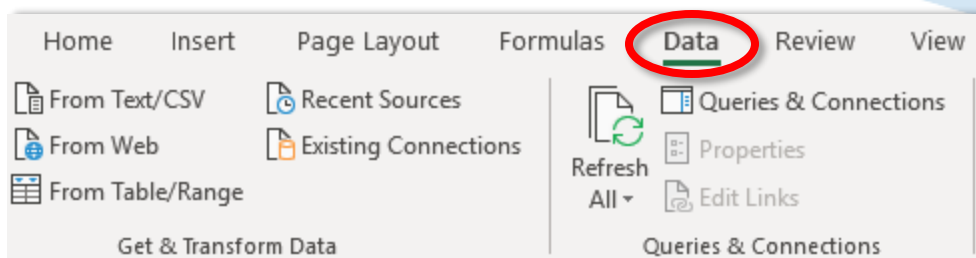
You'll know that you followed these steps correctly if your error message displays when entering an invalid value in the cells you selected.



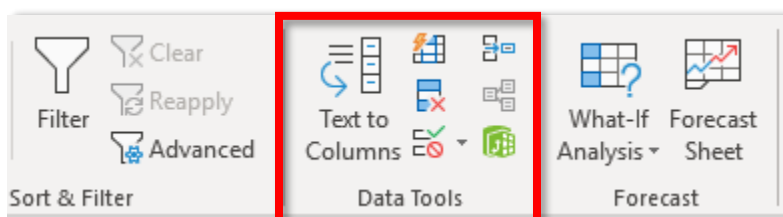
The Circle Invalid Data Option

If you use a **Data Validation** list, Excel will not allow anyone to type any entries that are not included in your list. However, if there were already entries in those cells before you enabled your **Data Validation** list, Excel will not remove those entries that were in those cells prior to your **Data Validation** setup. Yet, Excel does have an option where you can easily identify which cells include invalid entries. This option is called the **Circle Invalid Data** option.

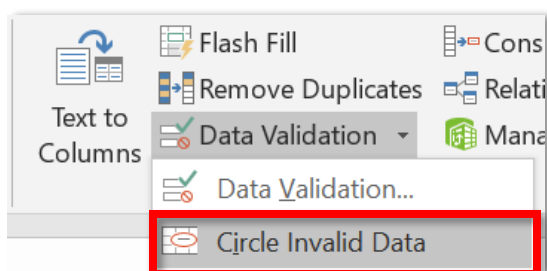
- Navigate to the **Data** tab.



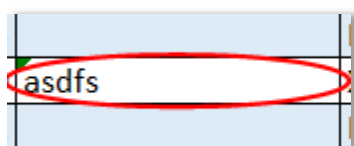
2. Locate the **Data Tools** group.



3. Select the **Data Validation** command and choose the **Circle Invalid Data** option from the drop-down menu.



You'll know that you followed the steps correctly because any invalid inputs will be automatically circled in red.

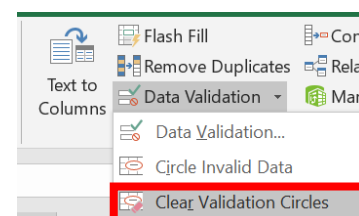


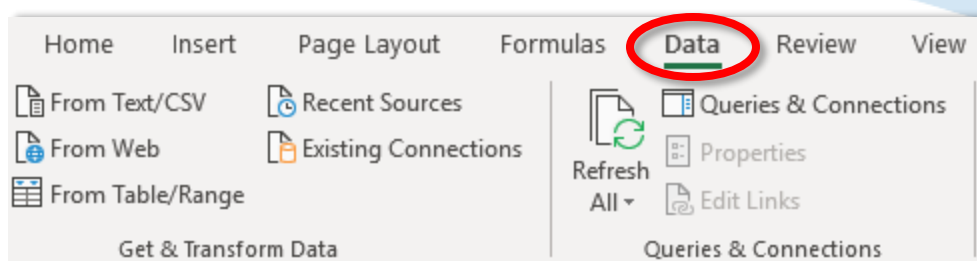
Clear Validation Circles

If you added the circles for invalid data, Excel gives you the option to remove those circles.

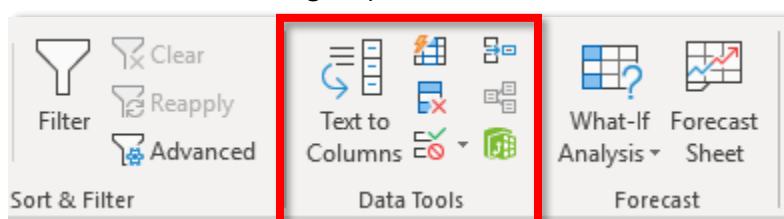
To remove the validation circles:

1. Navigate to the **Data** tab.

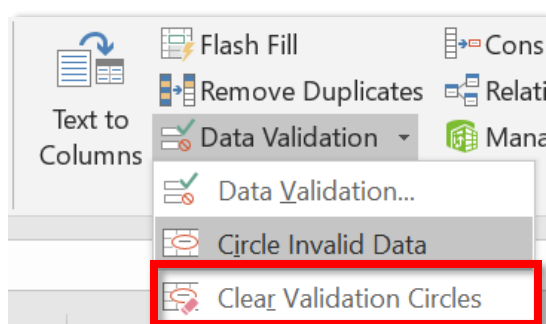




2. Locate the **Data Tools** group.



3. Select the **Data Validation** command and choose the **Clear Validation Circles** option from the drop-down menu.



You'll know that you followed these steps correctly if your validation circles disappear.

Protecting Your Sheet or Workbook

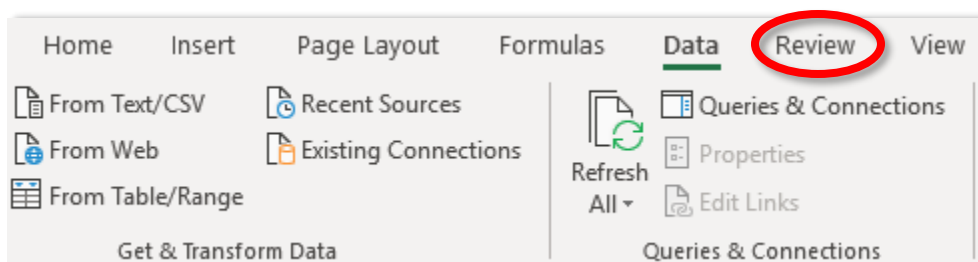
Microsoft understand that many organizations want to ensure that their data is safe especially when it is shared across staff, departments or customers. Microsoft easily allows its users to password-protect the data. In this section we will cover a few ways that you can protect your sheet and workbook.

How to Password-Protect Your Workbook

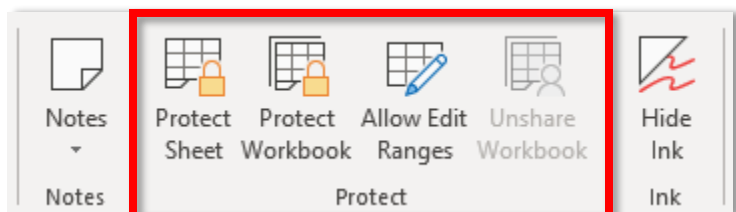
More and more companies are taking extra measures to make sure that their data doesn't fall into the wrong hands. Even if your spreadsheet will be shared with a client, it is best to password-protect your workbook, especially if you're sending the file via email. Basically, if you protect the workbook, you protect the file.

To password-protect your workbook:

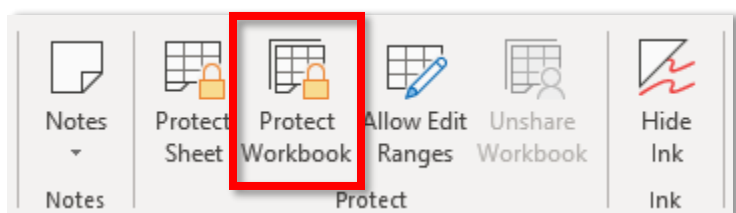
1. Navigate to the **Review** tab



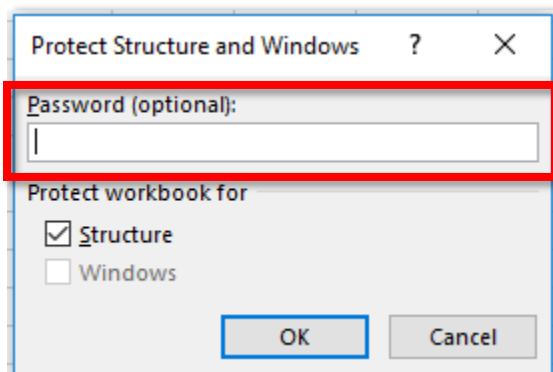
2. Locate the **Protect** group.



3. Select the **Protect Workbook** command.

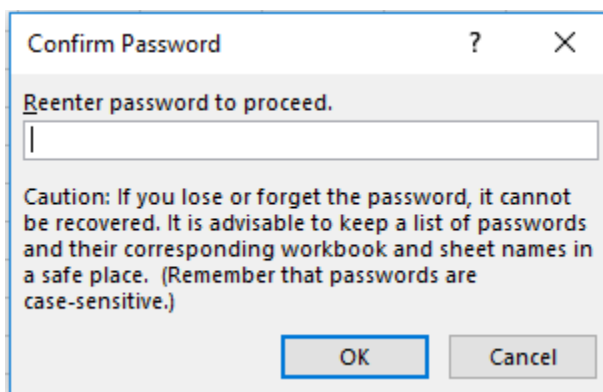


4. After selecting **Protect Workbook**, a small window will appear, asking you enter a password. Type the password of your choice.



5. Select the **OK** button.
6. After pressing the **OK** button, a second window will appear, asking you to re-enter the password. Re-enter your password and press **OK**.

Please note that there is no way to recover this password. If you forget this password, you will not be able to open this file any more. You'll know that you



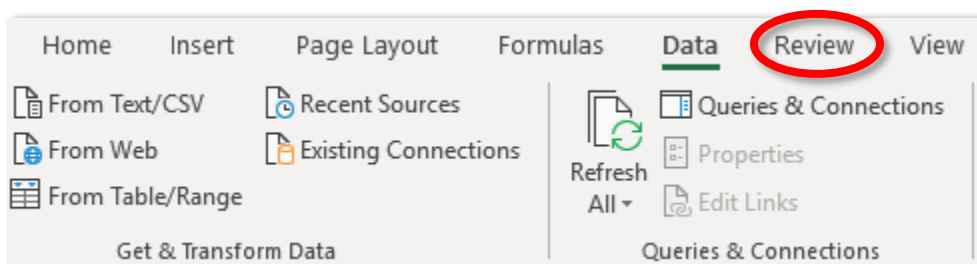
followed these steps correctly because any time that someone opens this file, Excel will ask for the password.

How to Remove the Password-Protection of Your Workbook

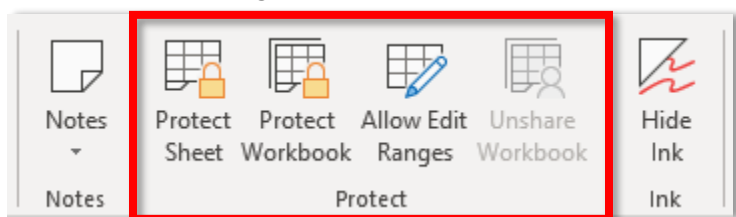
If you no longer want the workbook to be password-protected, you can easily remove it. However, you will need the original password you used to protect the workbook.

To remove the password-protection of your workbook:

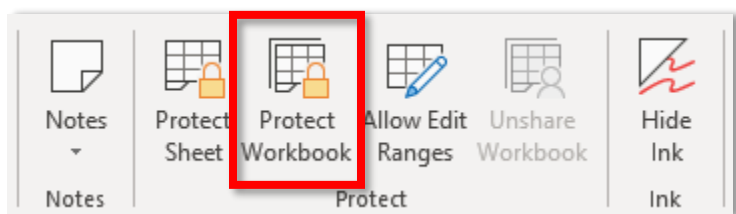
1. Navigate to the **Review** tab



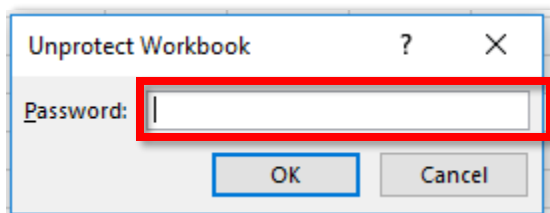
2. Locate the **Protect** group.



3. Select the **Protect Workbook** command.



4. After unselecting **Protect Workbook**, a small window will appear asking you for your password. Enter the password and select the **OK** button.

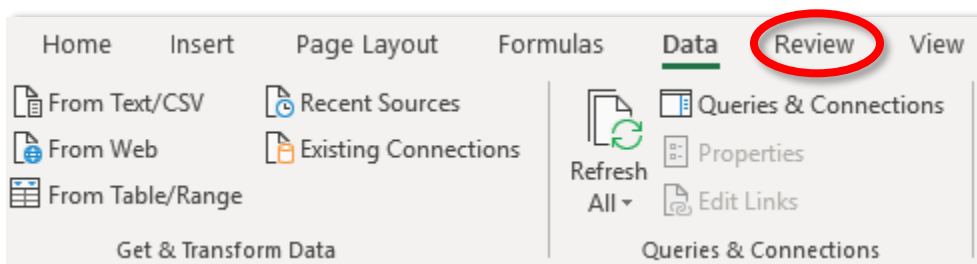


You'll know that you followed these steps correctly if (1) you don't see the **Protect Workbook** command selected and (2) if Excel no longer asks you a password when you open this file.

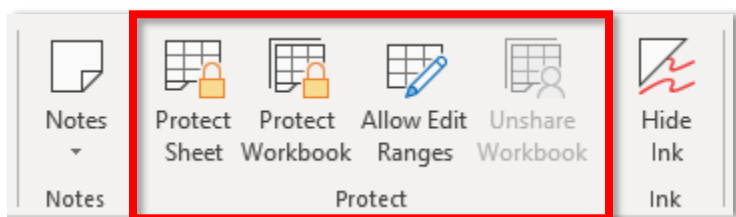
Protecting Your Sheet So That No One Can Make Edits

We just covered how to protect the contents of an entire workbook. In addition to password-protecting the entire file, Excel also gives you the option to block a spreadsheet so that no one can edit. This feature is useful when you have multiple spreadsheets, but you want others to have access to some sheets but not others. The following steps will show you a quick way to set this up.

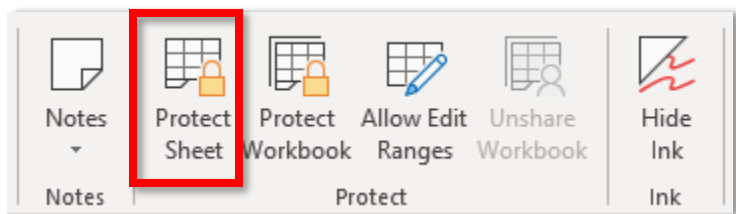
1. Make sure that you are working on the spreadsheet you want to protect.
2. Navigate to the **Review** tab



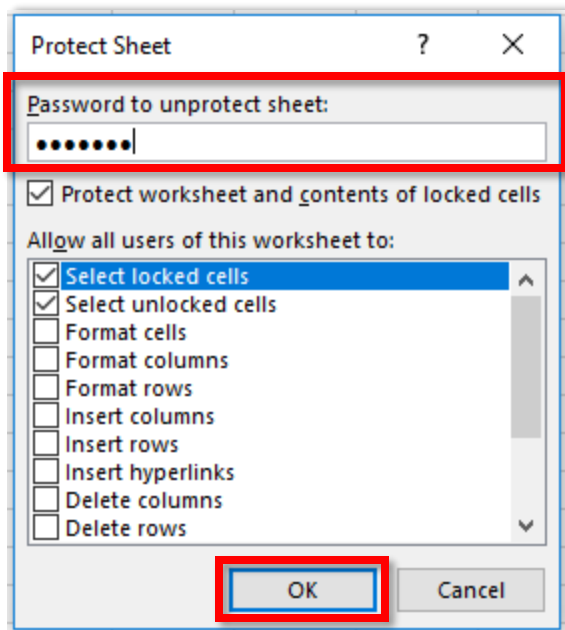
3. Locate the **Protect** group.



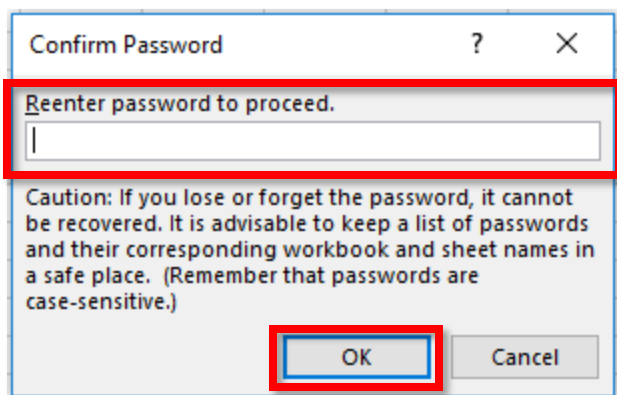
4. Select the **Protect Sheet** command.



5. Selecting the **Protect Sheet** command will trigger a window asking you to enter a password. Enter a password and click the **OK** button.

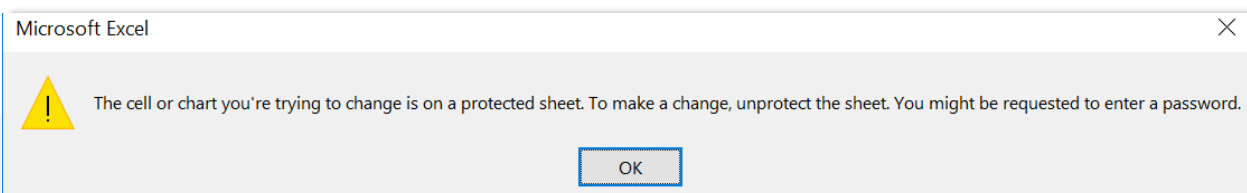


6. Re-enter your password and click the **OK** button.



Typically, you can use the default settings in the pop-up window and just worry about entering (and remembering) your password. The common defaults settings include two checked checkboxes: *Select locked cells* and *Select unlocked cells*. These two options should be checked. These two options allow a user to see the spreadsheet and to click on cells, but if this person tries to type or edit a cell an error message will appear. We'll discuss this in more detail shortly.

As previously mentioned, when a spreadsheet is password protected, the *entire* spreadsheet is protected, and no cell can be edited. When someone tries to edit the spreadsheet the following error message will appear like the one pictured below.

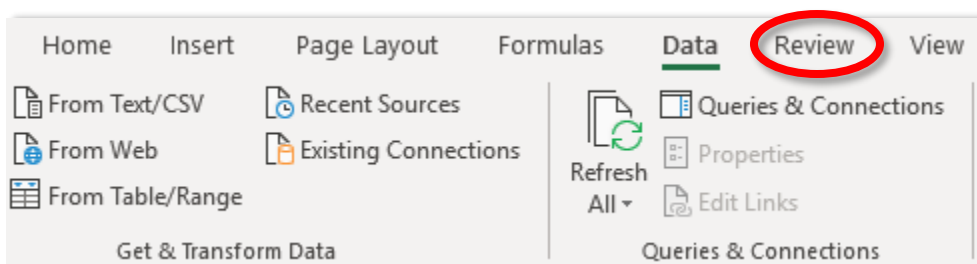


How to Remove the Password-Protection from Your Spreadsheet

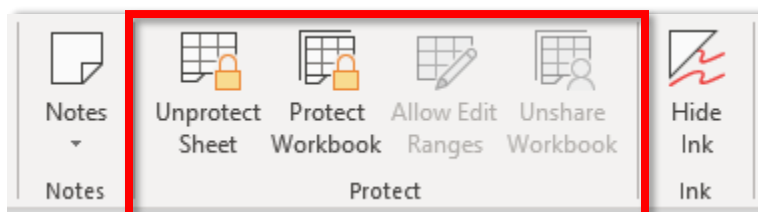
The only way to remove the password-protection of a spreadsheet is by 'unprotecting' the spreadsheet. This is simply done by entering the password.

To unprotect your spreadsheet:

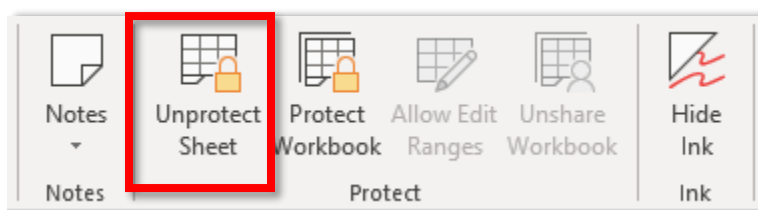
1. Make sure that you are working on the spreadsheet you want to protect.
2. Navigate to the **Review** tab



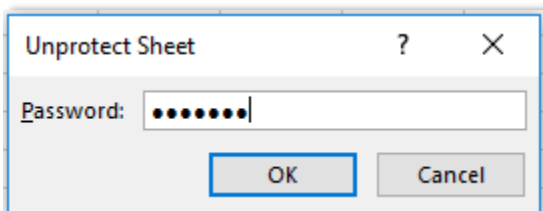
3. Locate the **Protect** group.



4. Select the **Unprotect Sheet** command.



5. Enter your password and select the **OK** button.



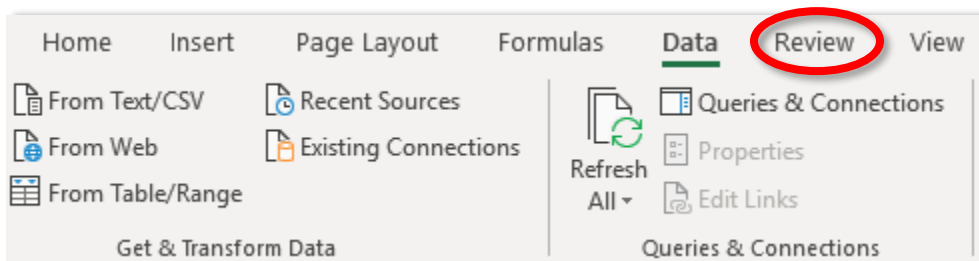
You'll know that you followed these steps correctly if (1) Excel no longer gives you an error message when editing the spreadsheet and (2) the **Unprotect Sheet** command is replaced with the **Protect Sheet** command.

How to Limit Users from Making Format Changes or Edits on Spreadsheets

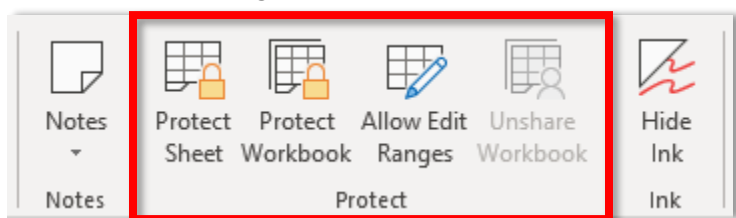
You may run into a scenario in which you want people to make edits to most of your spreadsheet but want to restrict users from changing your formatting or moving columns or rows. Excel makes it easy for you to restrict certain aspects of your spreadsheet.

To restrict certain formats or changes in your spreadsheet:

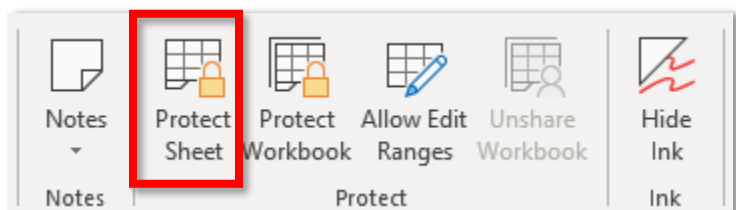
1. Make sure that you are working on the spreadsheet you want to protect.
2. Navigate to the **Review** tab



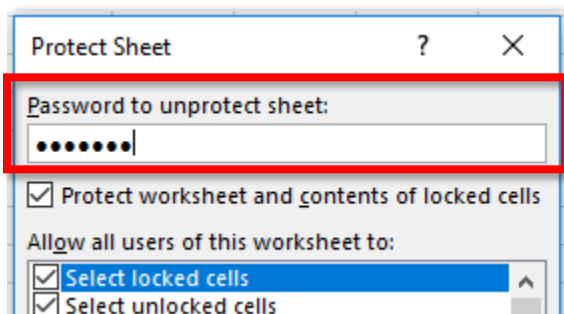
3. Locate the **Protect** group.



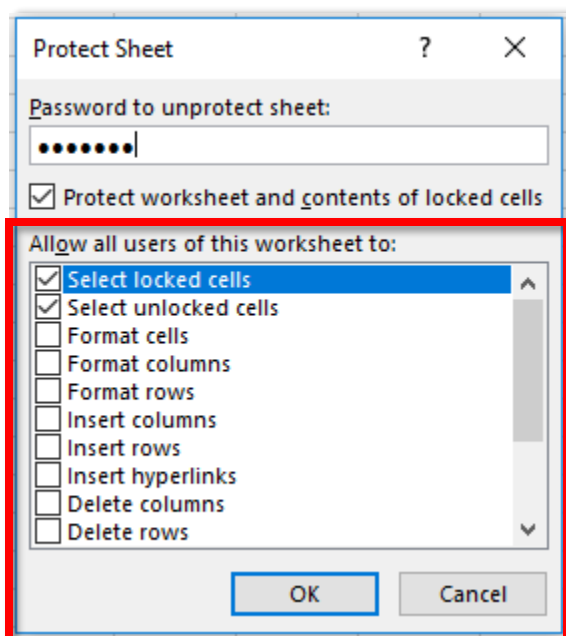
4. Select the **Protect Sheet** command.



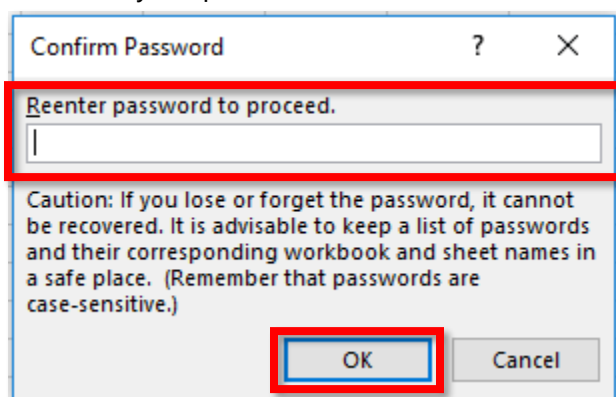
5. Selecting the **Protect** Sheet command will trigger a window asking you to enter a password.



6. Next, check the boxes of the features you want to allow users to have. By default, most of these boxes are not checked. Select the **OK** button when you are finished.



7. Re-enter your password and click the **OK** button.

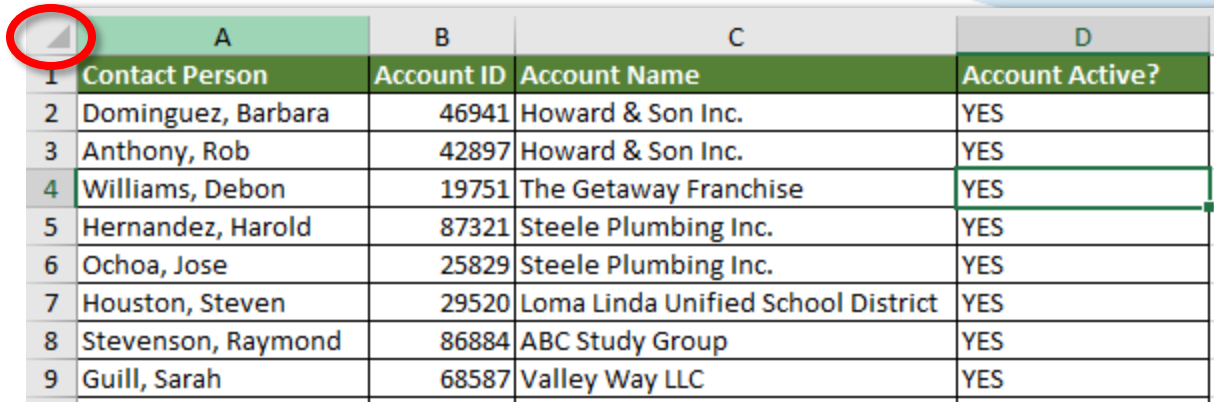


How to Unlock All Cells in Your Spreadsheet

Believe it or not, all cells in Excel are *locked* by default. This becomes an issue when you're trying to protect certain cells, formulas, rows or columns in a spreadsheet from being edited. Therefore, unlocking cells becomes the first step to ensuring that you can block certain areas in your spreadsheet from being edited or even touched.

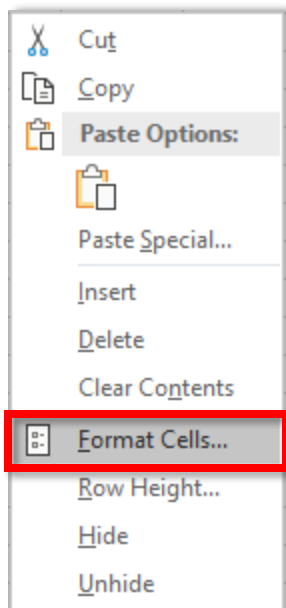
To unlock all cells in your spreadsheet:

1. Choose the spreadsheet where you want to unlock your cells.
2. Select all cells in your spreadsheet by clicking in the upper-left hand corner of the sheet.

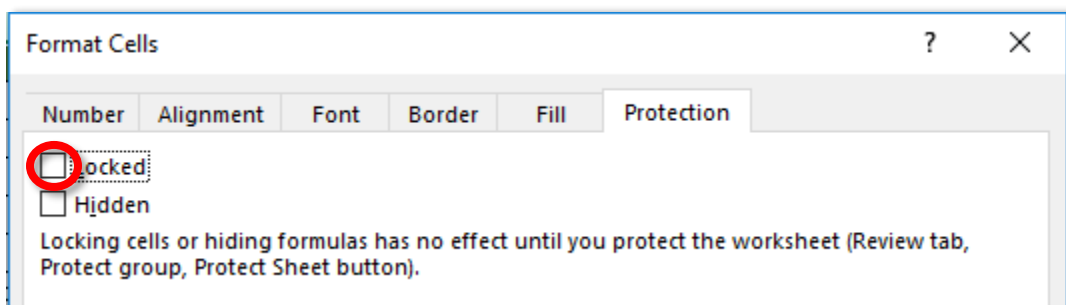


	A	B	C	D
1	Contact Person	Account ID	Account Name	Account Active?
2	Dominguez, Barbara	46941	Howard & Son Inc.	YES
3	Anthony, Rob	42897	Howard & Son Inc.	YES
4	Williams, Debon	19751	The Getaway Franchise	YES
5	Hernandez, Harold	87321	Steele Plumbing Inc.	YES
6	Ochoa, Jose	25829	Steele Plumbing Inc.	YES
7	Houston, Steven	29520	Loma Linda Unified School District	YES
8	Stevenson, Raymond	86884	ABC Study Group	YES
9	Guill, Sarah	68587	Valley Way LLC	YES

- After selecting all cells in your spreadsheet, place your cursor over any cell and right-click. Select the **Format Cells...** option.



- The **Format Cells...** option will display a window and will default to the *Protection* section of the window. By default, your cells are locked. Uncheck the **Locked** checkbox and click the **OK** button.



How to Restrict Users from Touching or Editing Areas in Your Spreadsheet

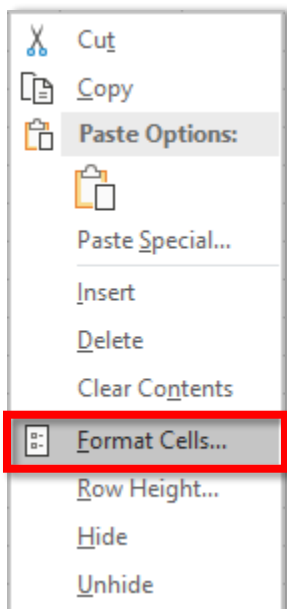
In this section you'll learn how to restrict areas in your spreadsheet. This is useful when you want users to edit certain cells, but not others. This method will not allow users to click or touch the cells that you specify. You'll first need to make sure that *only* the cells you want blocked are *locked*.

To restrict users from touching or editing areas in your spreadsheet:

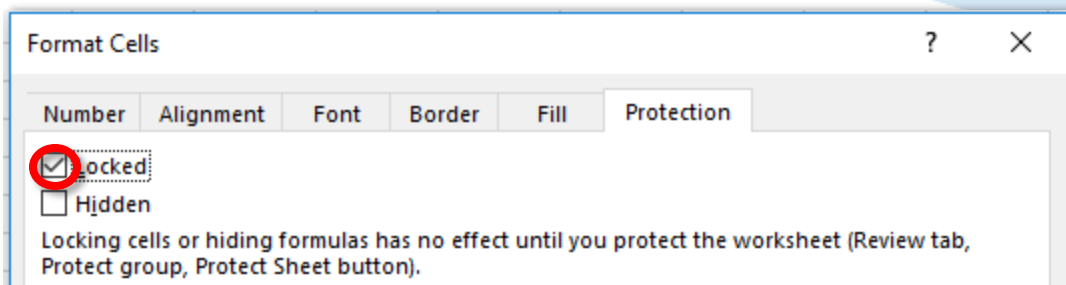
1. Make sure that your cells are *not locked*. (See the [How To Unlock All Cells In Your Spreadsheet](#))
2. Select the cells, columns or area you want to block.

	A	B	C	D
1	Contact Person	Account ID	Account Name	Account Active?
2	Dominguez, Barbara	46941	Howard & Son Inc.	YES
3	Anthony, Rob	42897	Howard & Son Inc.	YES
4	Williams, Debon	19751	The Getaway Franchise	YES
5	Hernandez, Harold	87321	Steele Plumbing Inc.	YES
6	Ochoa, Jose	25829	Steele Plumbing Inc.	YES
7	Houston, Steven	29520	Loma Linda Unified School District	YES
8	Stevenson, Raymond	86884	ABC Study Group	YES
9	Guill, Sarah	68587	Valley Way LLC	YES

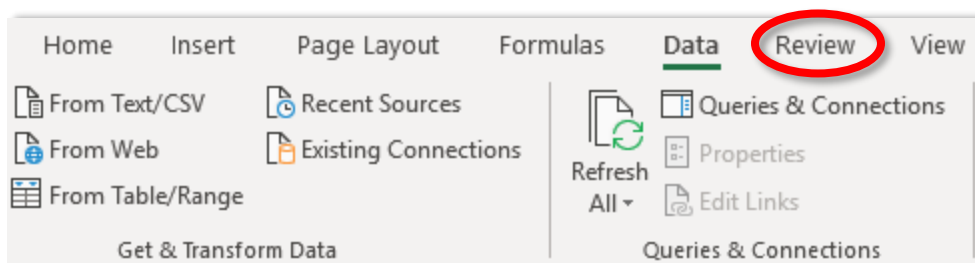
3. Right-click with your mouse and select the **Format Cells...** option.



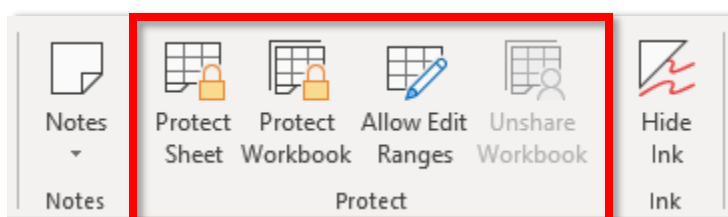
4. The **Format Cells...** option will display the *Protect* section of the window. In the window, check the **Locked** checkbox and click the **OK** button.



5. Navigate to the **Review** tab



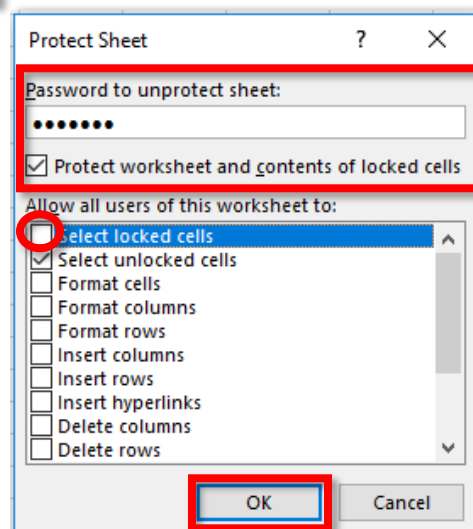
6. Locate the **Protect** group.

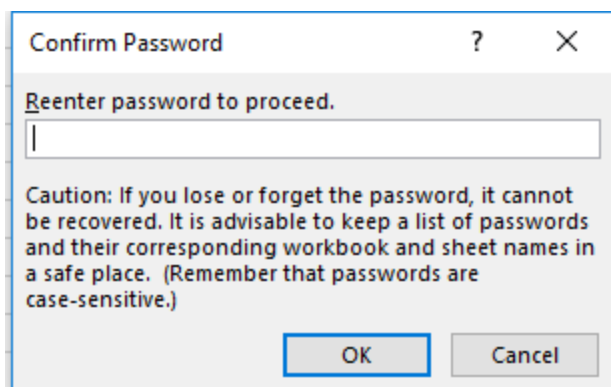


7. Select the **Protect Sheet** command.



8. The **Protect Sheet** command will display a window. In the window, type your password in the top section and make sure that the *Protect worksheet and contents of locked cells* is checked.
9. After typing your password, uncheck the box in the area titled *Select locked cells* and click on the **OK** button.
10. Confirm your password in the following window and press the **OK** button.





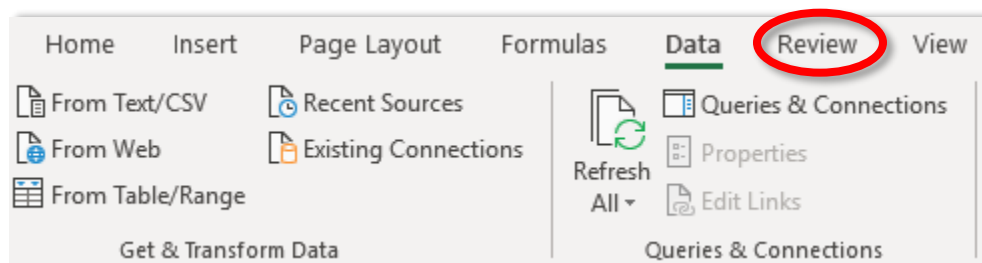
If you followed these steps correctly, you'll learn that you can't click or type in the area that you just blocked. This will prevent other users from making edits or even clicking on your cells within this area.

How To Password-Protect Areas In Your Spreadsheet

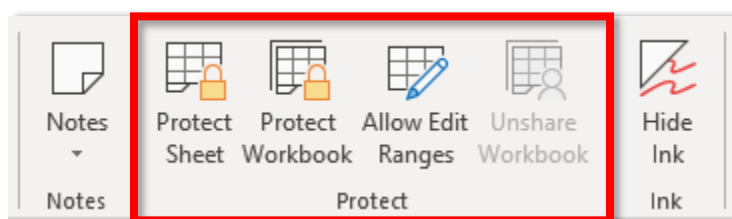
In the previous section, you learned how to prevent users from selecting areas that you decide to block in your spreadsheet. However, perhaps you only want certain people to edit those cells and you want those people to edit those cells by using a password. In this section you'll learn how to password-protect areas in your spreadsheet.

To password-protect areas in your spreadsheet:

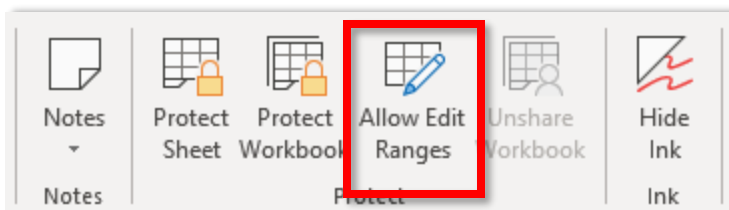
1. Navigate to the **Review** tab



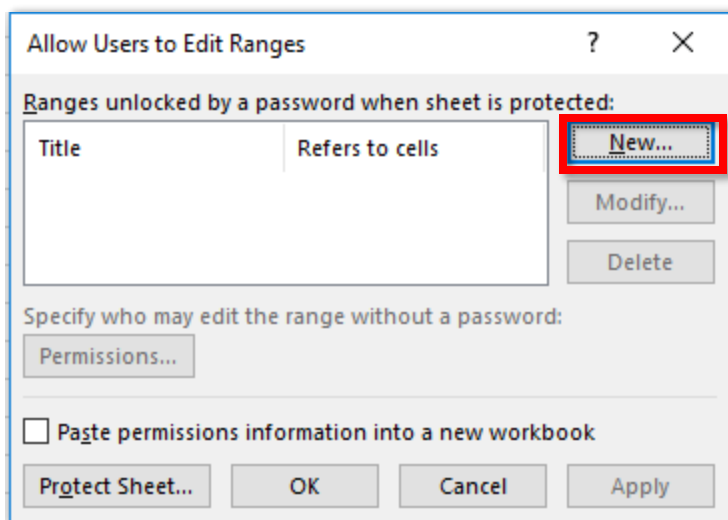
2. Locate the **Protect** group.



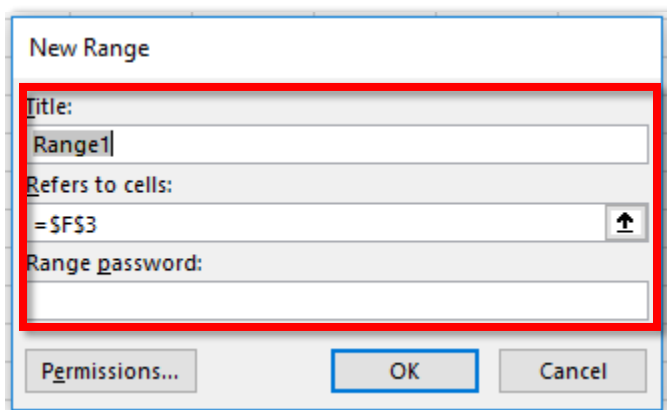
3. Select the **Allow Edit Ranges** command.



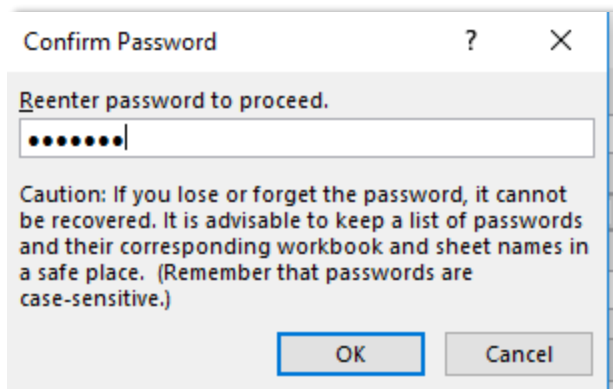
4. The **Allow Edit Ranges** command will display a window where you'll be able to select the area you want to password-protect. Click on the **New** button.



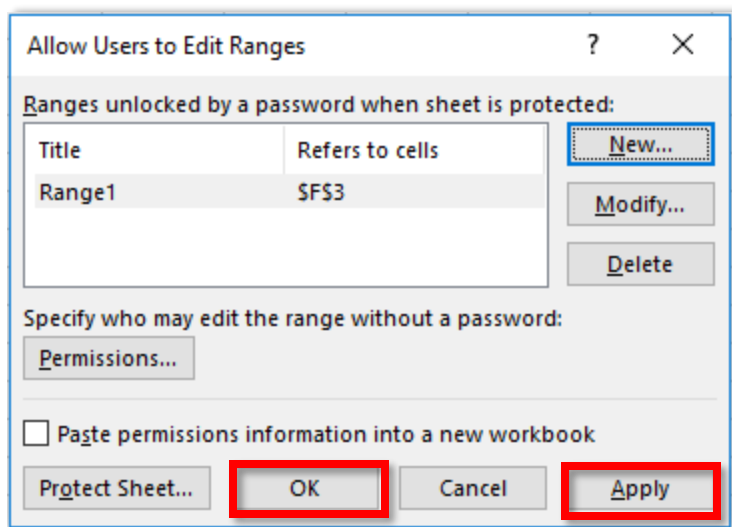
5. After selecting the **New** button, a new window will appear. Give this range a title in the top section. In the *Refers to cells* section, make sure that you select the cell or the range you want to password protect. In the *Range password* select a password for this range. Once you're done, click the **OK** button.



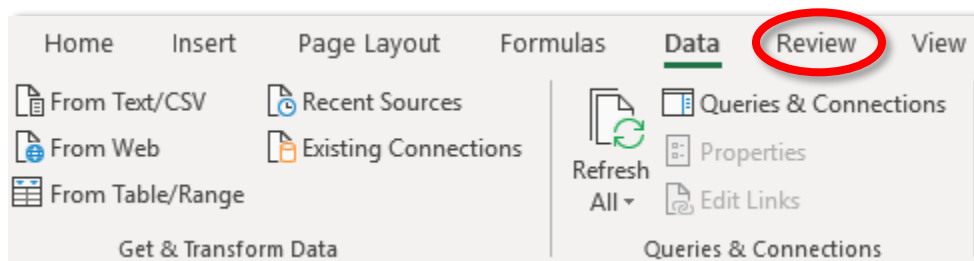
6. After selecting the **OK** button, confirm your password.



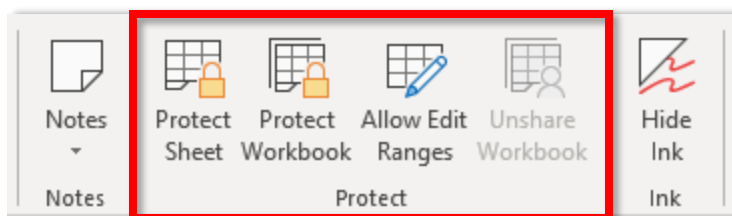
- Now that you have confirmed the ranges and password, Excel will take you back to the previous window where you will verify the details, select **Apply** and then select the **OK** button when you're done.



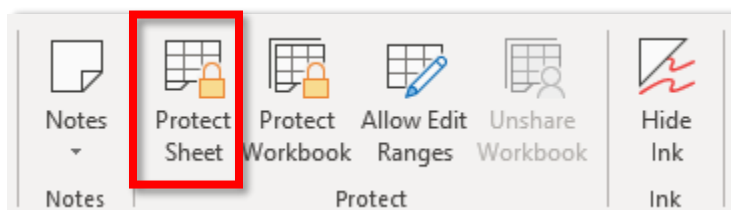
- After you selected the ranges to password-protect, you'll then need to protect the spreadsheet. Navigate to the **Review** tab.



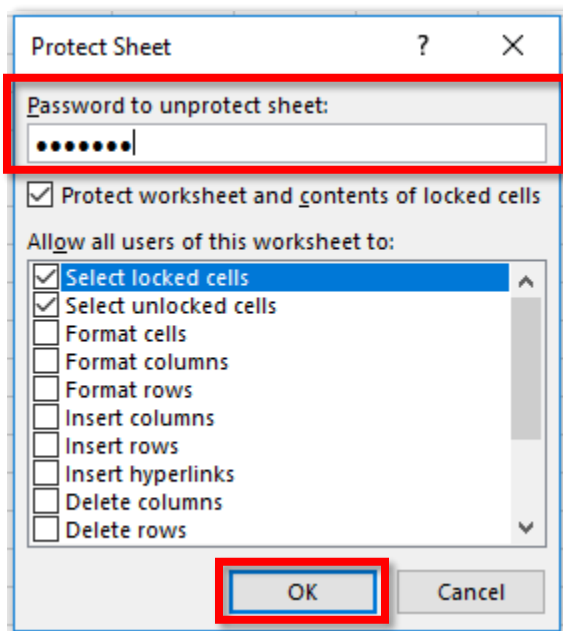
- Locate the **Protect** group.



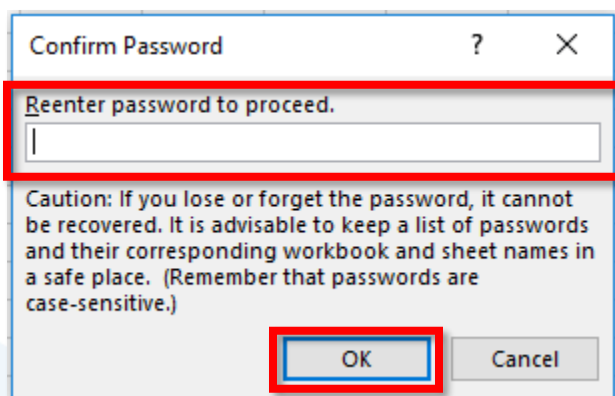
9. Select the **Protect Sheet** command.



10. Selecting the **Protect** Sheet command will trigger a window asking you to enter a password. Enter a password and click the **OK** button.



11. Re-enter your password and click the **OK** button.



You'll know that you followed these steps correctly if any time that you clicked on the protected area of your spreadsheet, Excel prompts you to enter your password.

Working with Tables

In this section, you'll learn about the terminology that Excel uses when working with Tables, the difference between lists and tables and how to format your lists and use them as table.

List vs Tables

Technically, Excel does not recognize any organized data as a table unless it is formatted as a table. Although you may not be using tables, you can still use all the functions available in Excel. If your data is organized, you can basically use your data as a table. When data is not formatted as a table, Excel recognizes it only as a list. Let's explore the difference.

What Are Lists?

Any data organized in rows or columns is automatically considered a list in Excel. For example, in the screenshot below, you'll see that we technically have a list with 9 columns and 10 rows. Even if color is added to the headers and the list looks presentable, it still does not make this list a table, according to Excel.

	A	B	C	D	E	F	G	H	I
1	Transact	Store ID	Date of Transaction	Time of Transaction	Item No	Item Desc	Qty	Price	Amount
2	897	003	11/19/2014	9:02:00 AM	100145	Peach Daisy	1	1.1	1.1
3	898	004	11/19/2014	9:06:00 AM	100136	Yellow Orchids	18	1.5	27
4	899	005	11/19/2014	9:10:00 AM	100145	Peach Daisy	9	1.1	9.9
5	900	003	11/19/2014	9:14:00 AM	100132	Peach Carnations	8	1.3	10.4
6	900	003	11/19/2014	9:14:00 AM	100146	Tigerlilly	4	0.99	3.96
7	900	003	11/19/2014	9:14:00 AM	100124	Yellow Lillys	10	0.99	9.9
8	900	003	11/19/2014	9:14:00 AM	100136	Yellow Orchids	21	1.5	31.5
9	904	003	11/19/2014	9:20:00 AM	100137	Red Orchids	18	1.5	27
10	904	003	11/19/2014	9:20:00 AM	100141	Pink Daisy	14	1.1	15.4

Why are Lists Not Considered Tables?

Typically for the average user, any spreadsheet that we create and add data, can be considered a table. In fact, many of us may be calling our data a "table". Yet, the technical terminology is wrong because Excel does not recognize the format as a table. The main reason why these differences are explained in detail in this booklet is because we do not want you to get confused if we use the technical terminology used by Excel.

What is a Table?

To the eye, telling the difference between a table and a list may be difficult. This is especially true if the list has been heavily formatted. A table is an Excel format that allows you to manage your entries quicker, organize your data much better and format your cells in a consistent manner. A table is nothing more than a formatted database. Most of the time, a person can spot a “table” because Excel styles are used (such as the one pictured below).

	A	B	C	D	E	F	G	H	I
1	Transaction No	Store ID	Date of Transaction	Time of Transaction	Item No	Item Desc	Qty	Price	Amount
2	897	003	11/19/2014	9:02:00 AM	100145	Peach Daisy	1	1.1	1.1
3	898	004	11/19/2014	9:06:00 AM	100136	Yellow Orchids	18	1.5	27
4	899	005	11/19/2014	9:10:00 AM	100145	Peach Daisy	9	1.1	9.9
5	900	003	11/19/2014	9:14:00 AM	100132	Peach Carnations	8	1.3	10.4
6	900	003	11/19/2014	9:14:00 AM	100146	Tigerlilly	4	0.99	3.96
7	900	003	11/19/2014	9:14:00 AM	100124	Yellow Lillys	10	0.99	9.9
8	900	003	11/19/2014	9:14:00 AM	100136	Yellow Orchids	21	1.5	31.5
9	904	003	11/19/2014	9:20:00 AM	100137	Red Orchids	18	1.5	27
10	904	003	11/19/2014	9:20:00 AM	100141	Pink Daisy	14	1.1	15.4

What is the Benefit of Using A Table?

There are some benefits of converting a list into a table:

1. The formatting (color, style, etc.) is consistent and automatically done by Excel
2. Filters are automatically added to your table
3. Any new column or row is automatically formatted
4. Formulas are automatically duplicated across the table
5. The table can be easily named and referenced
6. The table headers are always visible

What Are Some Limitations to Using Tables?

Although tables seem like the way to go when working with data on Excel, they do have their limitations.

1. The table’s format may not be available in other (previous) versions of Excel
2. Using inconsistent formulas will make you reset your cells
3. The styles of the tables are limited to the styles available on Excel

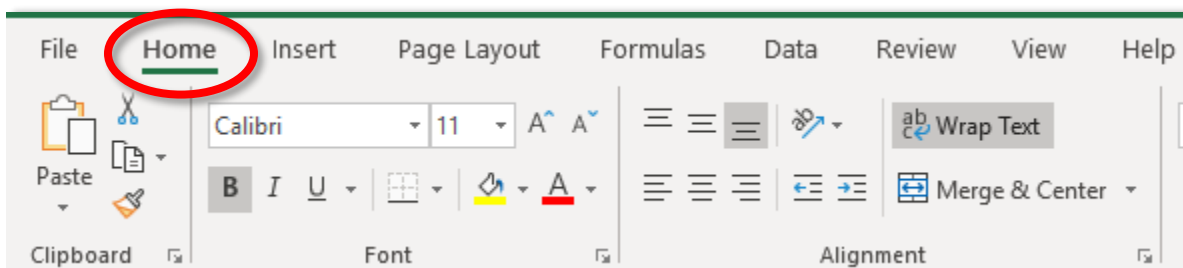
For the Excel user who likes to heavily customize the data, then shying away from using tables is probably the best option. Anything that you can do in a table, you can basically do on a list as well.

Converting Your List into A Table

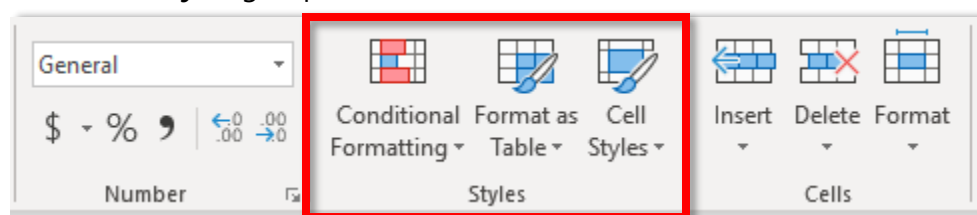
Now that you understand the benefits of converting your list (or data) into a table, let's explore the steps to create a table.

To convert your list into a table.

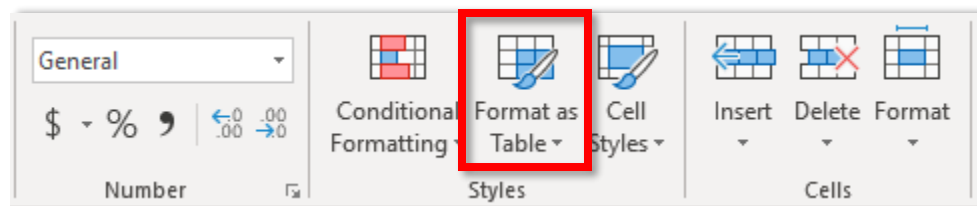
1. Click in any cell within your list.
2. Navigate to the **Home** tab.



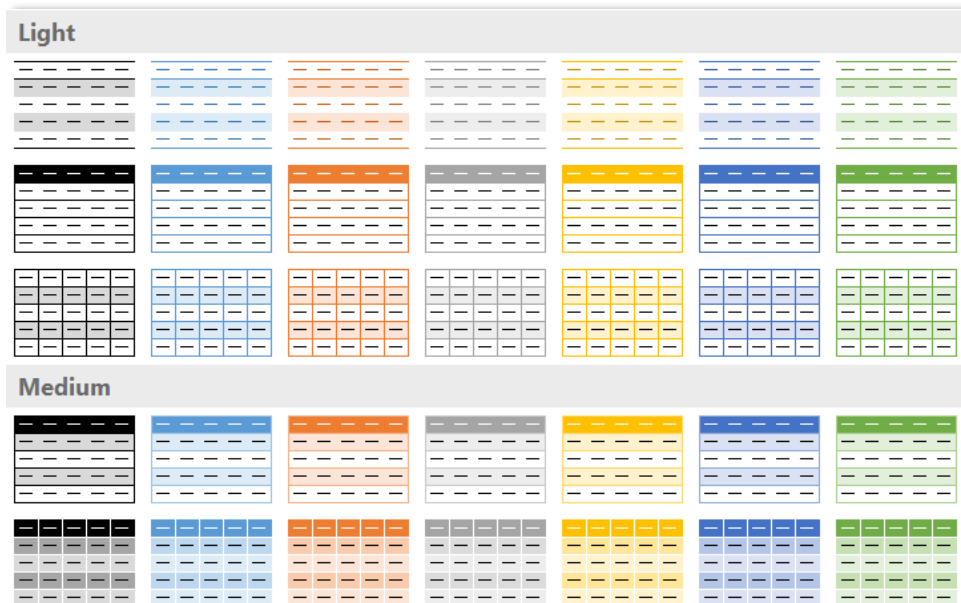
3. Locate the **Styles** group.



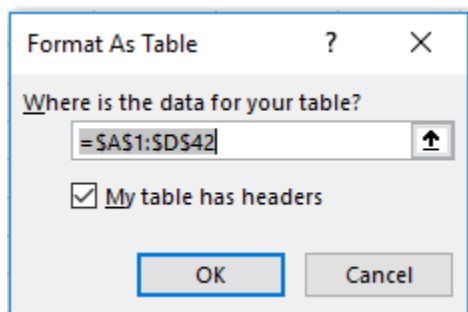
4. Select the **Format as Table** command.



- The **Format as Table** command will display a gallery of formats for you to choose. Choose a table style.



- Upon selecting a table style, Excel will ask you to confirm the data range of your table. Excel will typically recognize your list and automatically display it in this window to convert. Verify your range and ensure that the box titled *My table has headers* is checked.

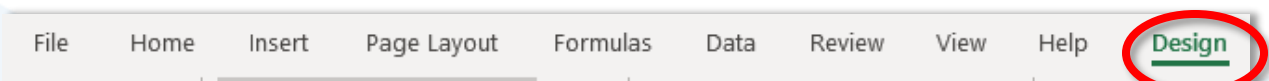


- Click the **OK** button

You'll know that your list was converted to a table because your list will now be formatted in the color scheme that you chose from the gallery of options.

Editing & Customizing Tables

Now that you have learned how to convert your list into an official Excel table, you'll be able to customize your data and format your data in a more consistent way. Moving forward, any time that you click anywhere in your table, Excel will display a new tab called **Design**.



Navigating Through Your Table

One of the benefits of converting your list into a table is that the headers of your table are always visible. This makes it easier to scroll down your table when you have lots of data. As you scroll down your spreadsheet, you'll see that the typical column letters now display the names of your headers instead.

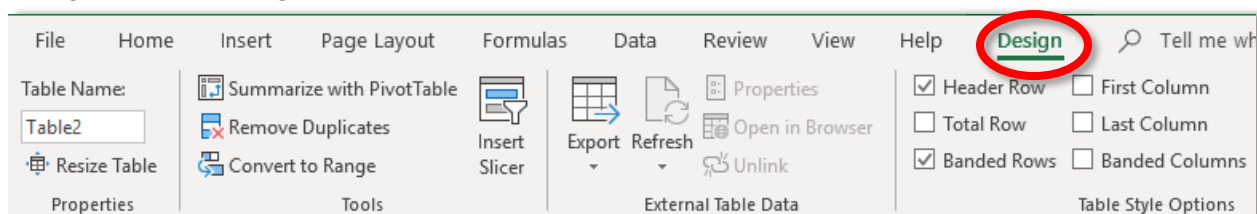
	Transaction No	Store ID	Date of Transaction	Time of Transaction	Item No	Item Desc	Qty	Price	Amount
27	917	005	11/19/2014	10:32:00 AM	100136	Yellow Orchids	13	1.5	19.5
28	918	003	11/19/2014	10:36:00 AM	100140	Violet Violets	20	1.25	25
29	919	003	11/19/2014	10:40:00 AM	100145	Peach Daisy	21	1.1	23.1
30	920	003	11/19/2014	10:44:00 AM	100130	Red Carnations	23	1.3	29.9
31	921	004	11/19/2014	10:48:00 AM	100145	Peach Daisy	9	1.1	9.9
32	921	004	11/19/2014	10:48:00 AM	100124	Yellow Lillys	17	0.99	16.83
33	922	003	11/19/2014	11:01:00 AM	100134	Pink Orchids	24	1.5	36
34	922	003	11/19/2014	11:01:00 AM	100124	Yellow Lillys	20	0.99	19.8
35	922	003	11/19/2014	11:01:00 AM	100128	Red Roses	10	1.25	12.5
36	922	003	11/19/2014	11:01:00 AM	100127	White Roses	16	1.25	20
37	923	005	11/20/2014	9:02:00 AM	100134	Pink Orchids	8	1.5	12
38	924	004	11/20/2014	9:06:00 AM	100130	Red Carnations	8	1.3	10.4
39	925	004	11/20/2014	9:10:00 AM	100125	White Lillys	5	0.99	4.95

How to Name/Rename Your Table

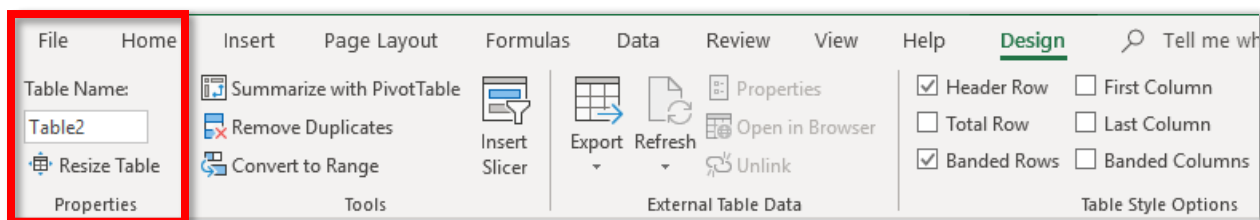
Any range, list or cell can have a specific name in Excel. When using a table, you can easily name or rename your table. Editing the table's name allows Excel to easily reference the table. This is particularly practical when working with formulas that need to reference this table.

To change the name of the table:

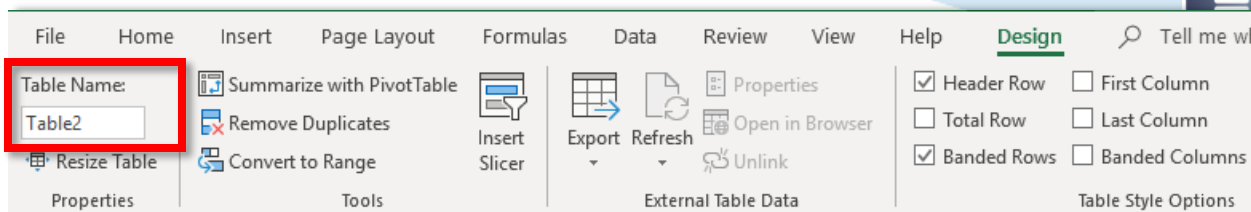
1. Click on any cell within your table.
2. Navigate to the **Design** tab.



3. Locate the **Properties** group in the ribbon.



4. In the **Properties** group, click on the white bar underneath the **Table Name** section and type a name for your table. Excel will default to naming the table "Table" with a number.

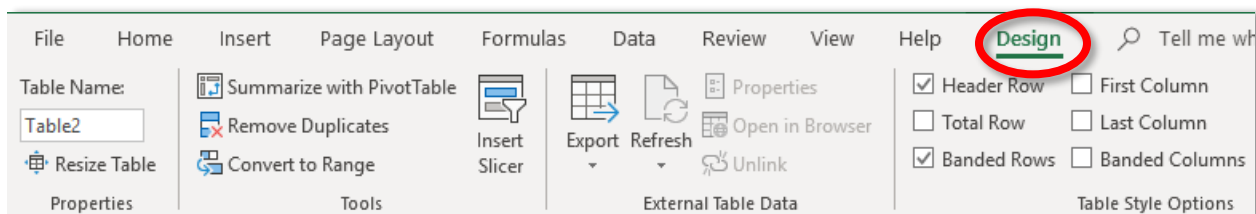


How to Update or Change the Range of Your Table

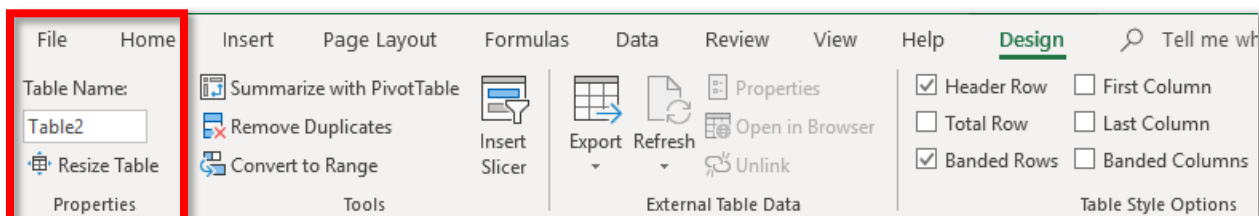
If you recall, when you first converted your list into a table, you selected the range of your table which would let Excel know what cells should be included with the table formatting. Typically, if you add new columns or rows, Excel will apply your table's formatting to those new columns or rows. However, there may be some instances in which you may need to change the data range to include other data that is not formatted as your table. In this case, you'll need to change the data source.

To update or change the range of your table:

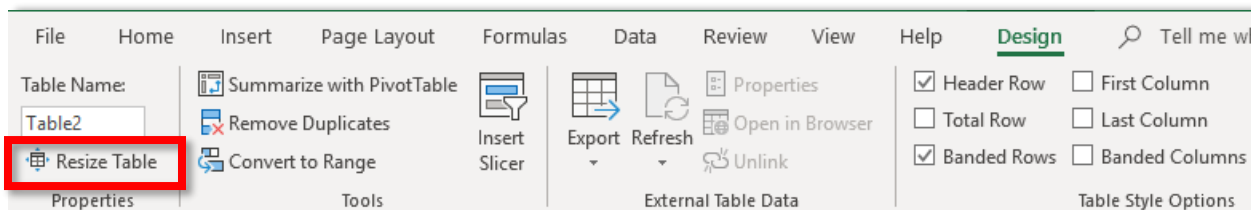
1. Click on any cell within your table.
2. Navigate to the **Design** tab.



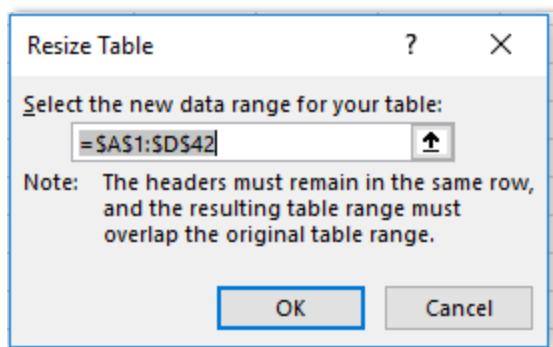
3. Locate the **Properties** group in the ribbon.



4. In the **Properties** group, click on the **Resize Table** command.



5. Clicking on the **Resize Table** command will prompt a window where you can reselect the range in your data. Select the new data range for your table and click the **OK** button when finished.



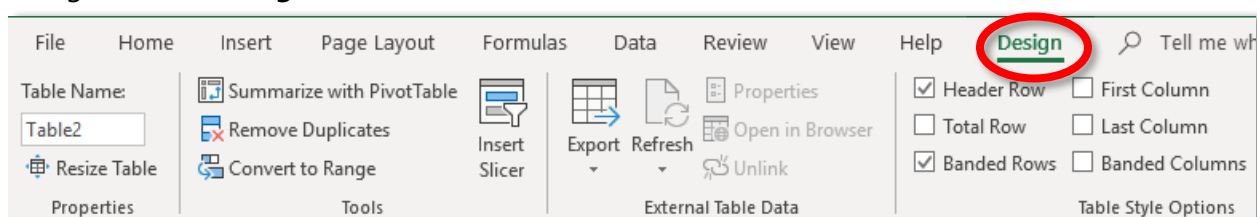
If you have followed these steps correctly, you'll notice that the boundaries of your table have been modified and the area you selected is now formatted.

How to Change the Style of Your Table

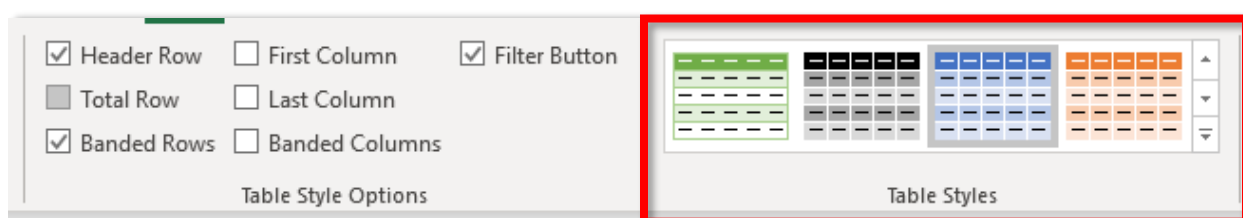
When you converted your list into a table, you selected a table style format. Excel gives you the flexibility to change the format even after you selected an original style.

To change the table style format:

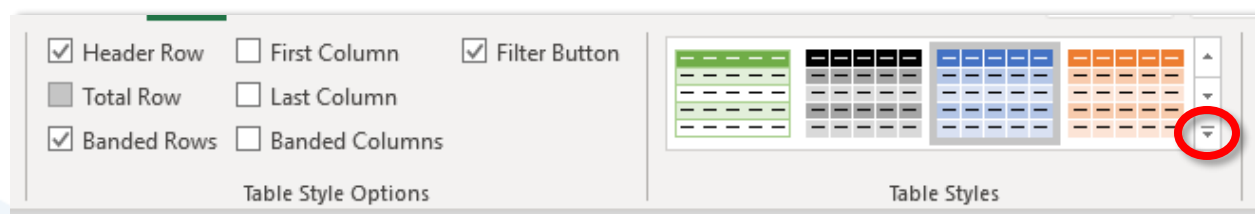
1. Click on any cell within your table.
2. Navigate to the **Design** tab.



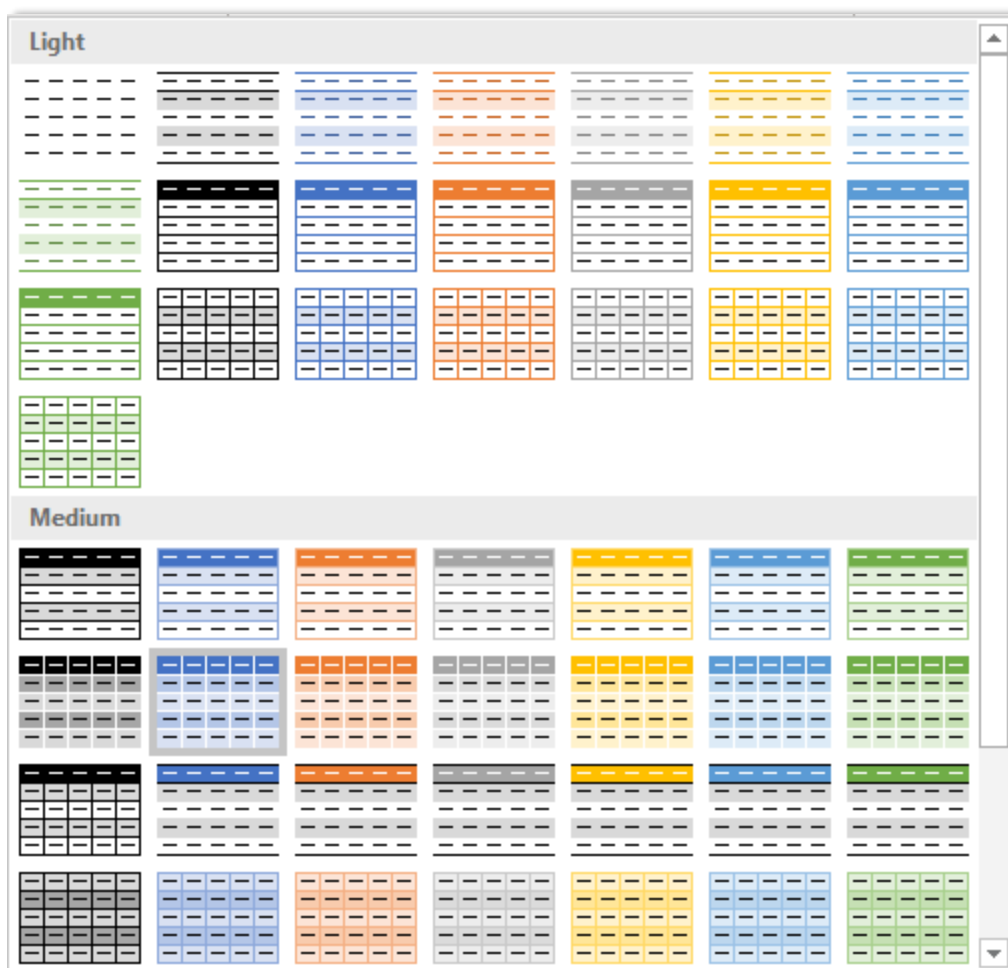
3. In the ribbon, locate the **Table Styles** group.



4. Click on the arrow in the lower-right hand corner of the group to display a gallery of styles.



5. Select the style of your choice from the gallery.

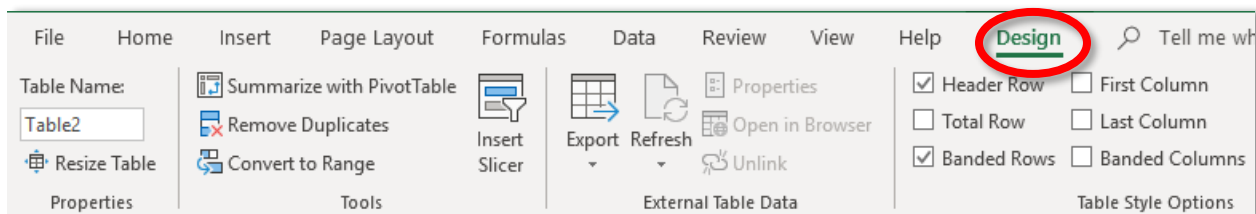


How to Get Rid of The Table Formatting

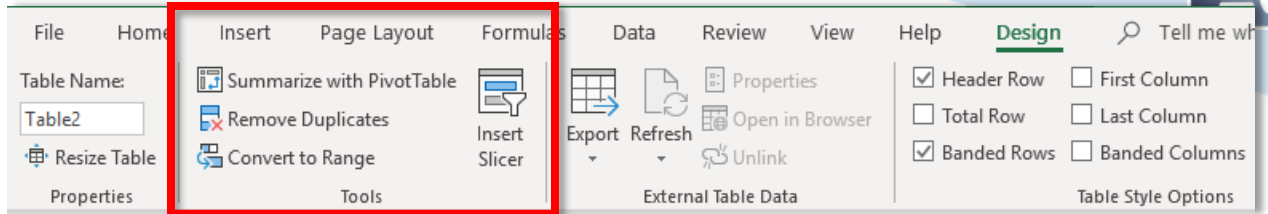
Excel makes it easy for users to convert their table back to a list. If you decide to do this, please note that the table color scheme will remain.

To convert your table back to a list:

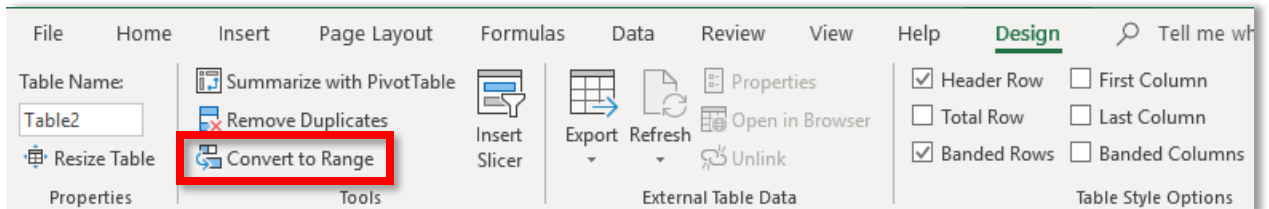
1. Click on any cell within your table.
2. Navigate to the **Design** tab.



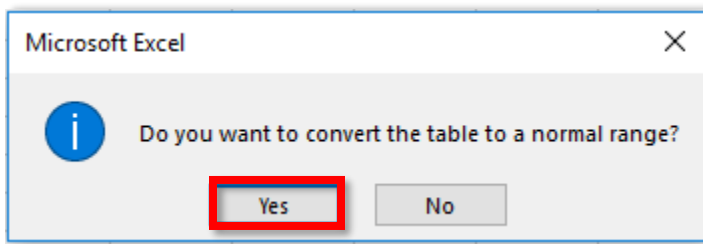
3. Locate the **Tools** group in the ribbon.



4. In the **Tools** group, click on the **Convert to Range** command.



5. Clicking on the **Convert to Range** command will display a window. Excel just wants to confirm that you want to convert your table back to a *normal range* or a list. Click on the **Yes** button.



After completing these steps, the table formatting will disappear and Excel will only recognize your data as a list, not a table.

Working with Intermediate Excel Formulas

The formulas you will be learning in this Intermediate Excel booklet are complex, take time to learn but will help you do your job much quicker and smarter. To use and understand these formulas, we rely on the assumption that you are comfortable and familiar with some of the more basic Excel formulas such as the SUM formula, COUNT formulas and AVERAGE formula.

5 Tips to Remember About Excel Formulas

The following tips will hopefully help you learn and understand the structure of formulas, how to approach using the intermediate Excel formulas and when to use them.

Excel speaks its own language

To make things simplistic, assume that your goal is to learn a language called Excel. By learning Excel's language you can tell Excel what you want it to do by *writing* in Excel's language. Luckily, most of the way we think and speak can be easily "translated" into Excel's language. Keep this concept in mind while you work on these more intermediate Excel formulas and pretend that you are the translator.

An Excel Formula cannot read words

In more advanced formulas, you'll want Excel to return certain values. For example, if you create a formula that will tell you when employees have completed all compliance training, then you might want Excel to show the word 'Complete' next to the employees' name. In your formula, you'll need to tell Excel to return the word 'Complete', but the only way Excel will know that you want it to return a word (or text) is if you include those words inside quotation marks. Therefore, anytime you include a word in Excel that is not a formula, you'll need to place it inside quotations marks (i.e. "Complete").

If you're stuck with a formula, read it out loud

The best habit to develop as an Excel beginner is the habit of reading the formulas out loud. Remember, you're basically learning to write a new language and it may take you some time to get the hang of this. If you read the formulas out loud, it will help you find a mistake if there is one. Additionally, if you say out loud what you want Excel to do, it will also help you to appropriately write a flawless formula.

In Excel, there are multiple ways to do the same thing

In previous sections of this booklet, you learned that one Excel function can be accessed in multiple ways. In fact, there could be a button in Excel that exists in two or three different ribbons. This is also true with Excel formulas. For example, there are multiple ways to add in Excel. You learned about the AutoSum function, but there are two other formulas that you can use that will also add numbers for you. Just like there are separate ways to say things in the English language, there are diverse ways that you can tell Excel to do something. Much of it depends on how your brain works.

Work on the first entry or row before moving on

Since we plan to use the auto-fill handle quite often, we need to make sure that we access a cell with a perfect formula. This way, we can select that cell and use the auto-fill handle to copy the formula into the other cells. This is also important when you're fixing a formula in a cell. Always make sure to work on the first entry and fix that formula so that you can use the auto-fill handle.

The Auto Fill Handle

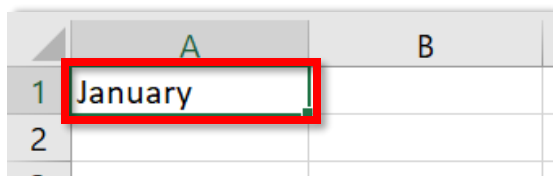
Microsoft Excel has a useful tool called the **Auto Fill Handle**. The **Auto Fill Handle** helps you become more efficient in Excel by quickly copying patterns or formulas across multiple cells. The **Auto Fill Handle** is recognized as a little, black, flat cross that appears in the lower-right hand corner of a cell. There are two main ways to use the **Auto Fill Handle** to copy information across cells. Let's explore both options.

How to Drag the Auto Fill Handle When Using Patterns

The first way to use the **Auto Fill Handle** is by *dragging* the contents of a cell onto other cells. Remember, *dragging* the **Auto Fill Handle** will copy a pattern or formula onto other cells.

To *drag* the **Auto Fill Handle**:

1. Select a cell that contains content or a formula that you wish to apply to other cells.



2. Place your cursor in the lower-right hand corner of the cell you selected until you see a black, flat cross. This cross is the **Auto Fill Handle**.

	A	B
1	January	
2		

- Once you see the **Auto Fill Handle**, click with your mouse and hold, dragging your cursor to the desired area.

	A	B
1	January	
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		December

- Let go of the mouse so that Excel will apply the pattern to the cells you selected.

	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

How to Use the Auto Fill Handle to Copy Formulas

The **Auto Fill Handle** is a great tool when you have an organized list or table and are trying to quickly make calculations. Besides patterns, the **Auto Fill Handle** can also be used to apply a formula to other cells and referencing the appropriate cells based on your calculation.

To use the **Auto Fill Handle** to *drag (or copy) a formula*:

1. Select the cell that includes the formula you want to apply to other cells.

Expense Type	Kelly's Expenses	Raul's Expenses	Robert's Expenses	Totals
CAR INSURANCE	\$106.00	\$98.00	\$101.00	\$305.00
FAST FOOD	\$688.00	\$721.00	\$499.00	
RENT	\$853.00	\$899.00	\$1,000.00	
MISC	\$7.00	\$10.00	\$54.00	
CAR PAYMENT	\$398.00	\$450.00	\$259.00	
STUDENT LOAN	\$759.00	\$0.00	\$338.00	
TIME SHARE PAYMENT	\$877.00	\$0.00	\$0.00	
ELECTRICITY BILL	\$68.00	\$74.00	\$76.00	

2. Place your cursor in the lower-right hand corner of the cell you selected until you see a black, flat cross. This cross is the **Auto Fill Handle**.

Expense Type	Kelly's Expenses	Raul's Expenses	Robert's Expenses	Totals
CAR INSURANCE	\$106.00	\$98.00	\$101.00	\$305.00
FAST FOOD	\$688.00	\$721.00	\$499.00	
RENT	\$853.00	\$899.00	\$1,000.00	
MISC	\$7.00	\$10.00	\$54.00	
CAR PAYMENT	\$398.00	\$450.00	\$259.00	
STUDENT LOAN	\$759.00	\$0.00	\$338.00	
TIME SHARE PAYMENT	\$877.00	\$0.00	\$0.00	
ELECTRICITY BILL	\$68.00	\$74.00	\$76.00	

3. Once you see the **Auto Fill Handle**, click with your mouse and hold, dragging your cursor to the desired area

Expense Type	Kelly's Expenses	Raul's Expenses	Robert's Expenses	Totals
CAR INSURANCE	\$106.00	\$98.00	\$101.00	\$305.00
FAST FOOD	\$688.00	\$721.00	\$499.00	
RENT	\$853.00	\$899.00	\$1,000.00	
MISC	\$7.00	\$10.00	\$54.00	
CAR PAYMENT	\$398.00	\$450.00	\$259.00	
STUDENT LOAN	\$759.00	\$0.00	\$338.00	
TIME SHARE PAYMENT	\$877.00	\$0.00	\$0.00	
ELECTRICITY BILL	\$68.00	\$74.00	\$76.00	

4. Once you select your desired cells, let go of your mouse and Excel will apply the formula to the cells that you selected, referencing the appropriate cells in those calculations.

Expense Type	Kelly's Expenses	Raul's Expenses	Robert's Expenses	Totals
CAR INSURANCE	\$106.00	\$98.00	\$101.00	\$305.00
FAST FOOD	\$688.00	\$721.00	\$499.00	\$1,908.00
RENT	\$853.00	\$899.00	\$1,000.00	\$2,752.00
MISC	\$7.00	\$10.00	\$54.00	\$71.00
CAR PAYMENT	\$398.00	\$450.00	\$259.00	\$1,107.00
STUDENT LOAN	\$759.00	\$0.00	\$338.00	\$1,097.00
TIME SHARE PAYMENT	\$877.00	\$0.00	\$0.00	\$877.00
ELECTRICITY BILL	\$68.00	\$74.00	\$76.00	\$218.00

If you followed these steps correctly, you'll find that the formula has been applied in the other cells and you can confirm that the formulas in these cells are correct.

Double-Clicking the Auto Fill Handle to copy formulas

There is an alternative to *dragging* the **Auto Fill Handle**. The alternative to *dragging* the **Auto Fill Handle** is double-clicking on the auto-fill handle. When double-clicking the **Auto Fill Handle**, the formulas will automatically copy down to the last entry it finds in your list or table, or Excel will stop copying the formula until it finds an empty cell.

To use **Auto Fill Handle** in an alternate way:

1. Select the cell that includes the formula you want to apply to other cells.

Expense Type	Kelly's Expenses	Raul's Expenses	Robert's Expenses	Totals
CAR INSURANCE	\$106.00	\$98.00	\$101.00	\$305.00
FAST FOOD	\$688.00	\$721.00	\$499.00	
RENT	\$853.00	\$899.00	\$1,000.00	
MISC	\$7.00	\$10.00	\$54.00	
CAR PAYMENT	\$398.00	\$450.00	\$259.00	
STUDENT LOAN	\$759.00	\$0.00	\$338.00	
TIME SHARE PAYMENT	\$877.00	\$0.00	\$0.00	
ELECTRICITY BILL	\$68.00	\$74.00	\$76.00	

2. Place your cursor in the lower-right hand corner of the cell you selected until you see a black, flat cross. This cross is the **Auto Fill Handle**.

Expense Type	Kelly's Expenses	Raul's Expenses	Robert's Expenses	Totals
CAR INSURANCE	\$106.00	\$98.00	\$101.00	\$305.00
FAST FOOD	\$688.00	\$721.00	\$499.00	
RENT	\$853.00	\$899.00	\$1,000.00	
MISC	\$7.00	\$10.00	\$54.00	
CAR PAYMENT	\$398.00	\$450.00	\$259.00	
STUDENT LOAN	\$759.00	\$0.00	\$338.00	
TIME SHARE PAYMENT	\$877.00	\$0.00	\$0.00	
ELECTRICITY BILL	\$68.00	\$74.00	\$76.00	

- Once you see the **Auto Fill Handle**, double-click with your mouse. And Excel will automatically apply the formula to the cells in your table.

Expense Type	Kelly's Expenses	Raul's Expenses	Robert's Expenses	Totals
CAR INSURANCE	\$106.00	\$98.00	\$101.00	\$305.00
FAST FOOD	\$688.00	\$721.00	\$499.00	\$1,908.00
RENT	\$853.00	\$899.00	\$1,000.00	\$2,752.00
MISC	\$7.00	\$10.00	\$54.00	\$71.00
CAR PAYMENT	\$398.00	\$450.00	\$259.00	\$1,107.00
STUDENT LOAN	\$759.00	\$0.00	\$338.00	\$1,097.00
TIME SHARE PAYMENT	\$877.00	\$0.00	\$0.00	\$877.00
ELECTRICITY BILL	\$68.00	\$74.00	\$76.00	\$218.00

Anchors in Formulas

Now that you have learned how to use the **Auto Fill Handle**, you may also have a need to learn how to use **Anchors** in Excel. **Anchors** allow users to lock cells in a formula, allowing you to use the **Auto Fill Handle** or to copy formulas without changing one or various cell references.

Why do I need to use Anchors?

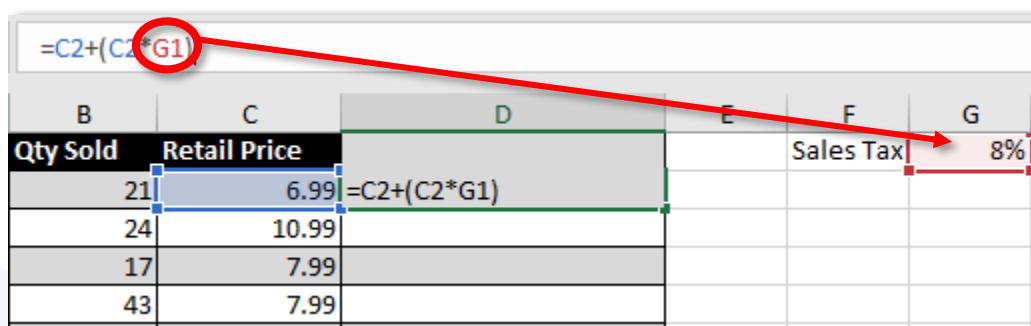
If you need to apply a formula to an entire column for example, but you need each cell in that row to reference the *same* cell, then you can only lock that cell by using an **Anchor**. By default, when you use the **Auto Fill Handle**, the cell references will change. When you use an **Anchor**, the cell reference will not change and instead will display a dollar sign surrounding the column and row in the formula bar (i.e. \$I\$3). To *anchor* a cell in a formula, use the **F4** key in your keyboard.

How to use Anchors in Formulas

Remember, **Anchors** will lock a cell inside a formula so that the cell reference does not change. You lock cells by hitting the **F4** key on your keyboard.

To use anchors in your formula:

- Access the formula bar and identify the cell reference that needs to be anchored.



B	C	D	E	F	G
Qty Sold	Retail Price			Sales Tax	
21	6.99	=C2+(C2*G1)			8%
24	10.99				
17	7.99				
43	7.99				

- Click on the cell reference you want to **Anchor** from inside the formula bar.

=C2+(C2*G1)						
B	C	D	E	F	G	
Qty Sold	Retail Price			Sales Tax	8%	
21	6.99	=C2+(C2*G1)				
24	10.99					
17	7.99					
43	7.99					

- Press the **F4** key on your keyboard to add the **Anchor**.

=C2+(C2*\$G\$1)						
B	C	D	E	F	G	
Qty Sold	Retail Price			Sales Tax	8%	
21	6.99	=C2+(C2*\$G\$1)				
24	10.99					
17	7.99					

- Select the **Enter** key on your keyboard to complete your formula.

	A	B	C	D
1	Account Name	Qty Sold	Retail Price	Total Cost to Customer
2	Howard & Son Inc.	21	6.99	7.5492
3	The Getaway Franchise	24	10.99	
4	Steele Plumbing Inc.	17	7.99	
5	Loma Linda Unified School District	43	7.99	
6	ABC Study Group	44	9.99	
7	Valley Way LLC	22	4.99	

- Click back on the cell that contains your formula.

	A	B	C	D
1	Account Name	Qty Sold	Retail Price	Total Cost to Customer
2	Howard & Son Inc.	21	6.99	7.5492
3	The Getaway Franchise	24	10.99	
4	Steele Plumbing Inc.	17	7.99	
5	Loma Linda Unified School District	43	7.99	
6	ABC Study Group	44	9.99	
7	Valley Way LLC	22	4.99	

- Use the **Auto Fill Handle** to copy down the formula in your table or list.

The screenshot shows an Excel spreadsheet with the following data:

	A	B	C	D	E	F	G
1	Account Name	Qty Sold	Retail Price	Total Cost to Customer		Sales Tax	8%
2	Howard & Son Inc.	21	6.99	7.5492			
3	The Getaway Franchise	24	10.99	11.8692			
4	Steele Plumbing Inc.	17	7.99	8.6292			
5	Loma Linda Unified School District	43	7.99	8.6292			
6	ABC Study Group	44	9.99	10.7892			
7	Valley Way LLC	22	4.99	5.3892			

The formula bar shows the formula for cell D5: `=C5+(C5*$G$1)`. Red annotations highlight the formula, the `$G$1` cell reference, and the 8% value in cell G1.

Excel not only allows you to do calculations for dollar amounts and basic numbers, but it can also do calculations on date formats. In this section you'll explore a few ways that you can use dates to make calculations.

The TODAY formula allows users to quickly display the current date in a cell. This is extremely helpful when you want to make up-to-date calculations. Therefore, if you use the TODAY formula today and log into Excel tomorrow, tomorrow's date will display in the cell where you used the TODAY formula. The TODAY formula doesn't require an argument.

=TODAY()

1. Select the cell in your spreadsheet where you want the current date displayed.

	A	B	C
1			
2			
3			
4			

2. In the cell you selected, type **=TODAY()**

	A	B	C
1	=TODAY()		
2			
3			
4			

3. Press the **ENTER** key on your keyboard to complete the formula and you will see the current date displayed in the cell you selected.

	A	B	C
1	10/23/2019		
2			
3			
4			

Using formulas to calculate days in the future

Just like you can add regular numbers with each other in Excel, the true is for making calculations when you're using dates.

To use formulas to calculate days in the future:

1. Click on a cell to type a formula.

	A	B
1	Current Date	Date in 45 days
2	10/23/2019	

2. Type **=** and use the cell with the date you want to reference in your formula by clicking on that cell.

	A	B
1	Current Date	Date in 45 days
2	10/23/2019	=A2

3. Add the number of days you want to include in your calculation by selecting another cell reference or using a constant.

	A	B
1	Current Date	Date in 45 days
2	10/23/2019	=A2+45

- Press the **Enter** key on your keyboard to complete your formula.

Once you're done typing your formula, check the cell to ensure that your formula is calculating correctly.

	A	B
1	Current Date	Date in 45 days
2	10/23/2019	12/7/2019

Using dates as cell references within formulas

In Excel, you can also use dates as cell references to make certain calculations. For example, perhaps you want to know the days in between two dates. In this case, you can use the subtraction operator to come up with that calculation.

To calculate the number of days between two dates:

- Click on the cell where you want to make your calculation.

	A	B	C
1	Invoice Date	Current Date	Days Past Due
2	8/1/2019	10/23/2019	

- Type = and reference the first cell with a date by clicking on that cell.

	A	B	C
1	Invoice Date	Current Date	Days Past Due
2	8/1/2019	10/23/2019	=B2

- In your formula, subtract that cell with a reference to a cell with another date.

	A	B	C
1	Invoice Date	Current Date	Days Past Due
2	8/1/2019	10/23/2019	=B2-A2

- Press the **Enter** key on your keyboard to complete your formula.

	A	B	C
1	Invoice Date	Current Date	Days Past Due
2	8/1/2019	10/23/2019	83

Once you're done with your formula, check the cell with your calculation to make sure that the formula is giving you the correct computation.

DAYS Formula

In the previous section, you learned how to manually subtract two dates to compute the days in between those days. Excel allows the simplicity of using a formula that will automatically do this calculation. The DAYS formula will calculate the number of days between two dates.

Example of the DAYS formula

=DAYS(C2,D2)

The DAYS formula consists of two parts

=DAYS(End Date,Start Date)

To create a DAYS formula:

1. Select the cell where you want to create your DAYS formula.

	A	B	C
1	Invoice Date	Current Date	Days Past Due
2	8/1/2019	10/23/2019	

2. In the cell, type **=DAYS(**

	A	B	C
1	Invoice Date	Current Date	Days Past Due
2	8/1/2019	10/23/2019	=DAYS(

3. Click on a cell that has the end date you want to reference and type a , to complete the first part of the formula.

	A	B	C
1	Invoice Date	Current Date	Days Past Due
2	8/1/2019	10/23/2019	=DAYS(B2,

4. Click on a cell that has the start date you want to reference.

	A	B	C
1	Invoice Date	Current Date	Days Past Due
2	8/1/2019	10/23/2019	=DAYS(B2,A2

5. Press the **Enter** key on your keyboard to complete the formula.

	A	B	C
1	Invoice Date	Current Date	Days Past Due
2	8/1/2019	10/23/2019	83

You'll know that you typed the formula correctly if you don't get an error message in the cell where you did the calculation and if the calculation is correct.

Intermediate Formulas & Functions

Now that you explored some common functionality of Excel formulas as an intermediate Excel user, let's dig in to some of the most commonly used Excel formulas that intermediate Excel users use.

LEFT Formula

The LEFT formula allows Excel to display the content of a certain cell reference with the number of characters that you specify starting from the *left* side of the cell. The LEFT formula consists of two parts.

Example of the LEFT formula

=**LEFT**(A1,5)

Example of how the LEFT formula works

GEORGE WASHINGTON → LEFT formula with 5 characters → GEORG

The LEFT formula consists of two parts

=LEFT(**Cell Reference** , **Number of characters to display**)

To create a LEFT formula:

1. Click on the cell where you want to create the LEFT formula.

	A	B	C
1	ID	Account Name	USER ID
2	USER-0061-4891	Howard & Son Inc.	
3	USER-0089-8674	The Getaway Franchise	
4	USER-0041-1982	Steele Plumbing Inc.	

2. In the cell, type =**LEFT**(to begin creating your formula.

	A	B	C
1	ID	Account Name	USER ID
2	USER-0061-4891	Howard & Son Inc.	=LEFT(
3	USER-0089-8674	The Getaway Franchise	
4	USER-0041-1982	Steele Plumbing Inc.	

3. Select the cell reference followed by a ,

	A	B	C
1	ID	Account Name	USER ID
2	USER-0061-4891	Howard & Son Inc.	=LEFT(A2,
3	USER-0089-8674	The Getaway Franchise	
4	USER-0041-1982	Steele Plumbing Inc.	

4. In the formula, type the number of characters you want Excel to display in this cell.

	A	B	C
1	ID	Account Name	USER ID
2	USER-0061-4891	Howard & Son Inc.	=LEFT(A2,9
3	USER-0089-8674	The Getaway Franchise	
4	USER-0041-1982	Steele Plumbing Inc.	

5. Press the **ENTER** key on your keyboard to complete the formula.

	A	B	C
1	ID	Account Name	USER ID
2	USER-0061-4891	Howard & Son Inc.	USER-0061
3	USER-0089-8674	The Getaway Franchise	
4	USER-0041-1982	Steele Plumbing Inc.	

RIGHT Formula

The RIGHT formula allows Excel to display the content of a certain cell reference with a number of characters that you specify starting from the *right* side of the cell reference. The RIGHT formula consists of two parts.

Example of the RIGHT formula

=**RIGHT**(A1,5)

Example of how the RIGHT formula works

GEORGE WASHINGTON → RIGHT formula with 5 characters → NGTON

The RIGHT formula consists of two parts

=RIGHT(**Cell Reference** , **Number of characters to display**)

To create a RIGHT formula:

1. Click on the cell where you want to create the RIGHT formula.

	A	B	C
1	ID	Account Name	USER ID
2	USER-0061-4891	Howard & Son Inc.	
3	USER-0089-8674	The Getaway Franchise	
4	USER-0041-1982	Steele Plumbing Inc.	

2. In the cell, type =**RIGHT**(to begin creating your formula.

	A	B	C
1	ID	Account Name	USER ID
2	USER-0061-4891	Howard & Son Inc.	=RIGHT(
3	USER-0089-8674	The Getaway Franchise	
4	USER-0041-1982	Steele Plumbing Inc.	

3. Select the cell reference followed by a ,

	A	B	C
1	ID	Account Name	USER ID
2	USER-0061-4891	Howard & Son Inc.	=RIGHT(A2,
3	USER-0089-8674	The Getaway Franchise	
4	USER-0041-1982	Steele Plumbing Inc.	

4. In the formula, type the number of characters you want Excel to display in this cell.

	A	B	C
1	ID	Account Name	USER ID
2	USER-0061-4891	Howard & Son Inc.	=RIGHT(A2,4
3	USER-0089-8674	The Getaway Franchise	
4	USER-0041-1982	Steele Plumbing Inc.	

5. Press the **ENTER** key on your keyboard to complete the formula.

	A	B	C
1	ID	Account Name	USER ID
2	USER-0061-4891	Howard & Son Inc.	4891
3	USER-0089-8674	The Getaway Franchise	
4	USER-0041-1982	Steele Plumbing Inc.	

MID Formula

The MID formula allows Excel to display the content of a certain cell reference with a number of characters that you specify starting from the *middle* of the cell reference. Unlike the LEFT and RIGHT formulas, the MID formula consists of three parts.

Example of the MID formula

=MID(A1,2,5)

Example of how the MID formula works

GEORGE WASHINGTON → MID formula with 5 characters → WASHI

The MID formula consists of three parts

=MID(**Cell Reference** , **No of characters from the left** , **No of characters to display**)

To create a MID formula:

1. Click on the cell where you want to create the MID formula.

	A	B	C
1	ID	Account Name	USER ID
2	USER-0061-4891	Howard & Son Inc.	
3	USER-0089-8674	The Getaway Franchise	
4	USER-0041-1982	Steele Plumbing Inc.	

2. In the cell, type =MID(to begin creating your formula.

	A	B	C
1	ID	Account Name	USER ID
2	USER-0061-4891	Howard & Son Inc.	=MID(
3	USER-0089-8674	The Getaway Franchise	
4	USER-0041-1982	Steele Plumbing Inc.	

3. Select the cell reference followed by a ,

	A	B	C
1	ID	Account Name	USER ID
2	USER-0061-4891	Howard & Son Inc.	=MID(A2,
3	USER-0089-8674	The Getaway Franchise	
4	USER-0041-1982	Steele Plumbing Inc.	

4. In the formula, type a number that represents how many characters from the right side of the cell should Excel start. Follow the formula with a ,

	A	B	C
1	ID	Account Name	USER ID
2	USER-0061-4891	Howard & Son Inc.	=MID(A2,6
3	USER-0089-8674	The Getaway Franchise	
4	USER-0041-1982	Steele Plumbing Inc.	

5. In the third section of the formula, type how many characters Excel should display.

	A	B	C
1	ID	Account Name	USER ID
2	USER-0061-4891	Howard & Son Inc.	=MID(A2,6,4
3	USER-0089-8674	The Getaway Franchise	
4	USER-0041-1982	Steele Plumbing Inc.	

6. Press the **ENTER** key on your keyboard to complete the formula.

	A	B	C
1	ID	Account Name	USER ID
2	USER-0061-4891	Howard & Son Inc.	0061
3	USER-0089-8674	The Getaway Franchise	
4	USER-0041-1982	Steele Plumbing Inc.	

CONCATENATE Formula

The CONCATENATE formula allows users to select the content from different cells and combine them into one cell. In the formula itself, the contents that will be displayed will be separated by a comma. Therefore, the CONCATENATE formula doesn't have a specific number of parts in its structure.

Example of the CONCATENATE formula

=**CONCATENATE**(B2,C2,D2)

The CONCATENATE formula consists of various parts that represent the numerous cell references

=CONCATENATE(**Cell Reference** , **Cell Reference** , **Cell Reference**)

How to use the CONCATENATE formula

The CONCATENATE formula is typically used to *combine cells* into one. However, you are not merging cells into one, but you are combining the content of different cells into one.

To create a CONCATENATE formula:

1. Select a cell where you want to create the CONCATENATE formula.

	A	B	C
1	Month	Day	Month & Day
2	September	4	
3	August	16	
4	July	30	

2. Begin typing the formula: **=CONCATENATE(**

	A	B	C
1	Month	Day	Month & Day
2	September	4	=CONCATENATE(
3	August	16	
4	July	30	

3. Select your first cell reference followed by a ,

	A	B	C	D
1	Month	Day	Month & Day	
2	September	4	=CONCATENATE(A2,	
3	August	16		
4	July	30		

4. Select your second cell reference followed by a ,

	A	B	C	D
1	Month	Day	Month & Day	
2	September	4	=CONCATENATE(A2,B2	
3	August	16		
4	July	30		

5. Continue to select cell references as desired.
6. Press the **ENTER** button on your keyboard when finished.

	A	B	C
1	Month	Day	Month & Day
2	September	4	September4
3	August	16	
4	July	30	

How to Use Characters in Your Formula That Excel Cannot Read

Remember, Excel cannot read regular texts since it can only read its own language when you're writing formulas. Therefore, in CONCATENATE formula (and in other formulas), Excel will not be able to read spaces, words, letters and symbols that don't belong in the formula. To fix this issue, you'll need to use quotation marks.

To create a CONCATENATE formula with special characters in the formula:

1. Select a cell where you want to create the CONCATENATE formula.

	A	B	C
1	Month	Day	Month & Day
2	September	4	
3	August	16	
4	July	30	

2. Begin typing the formula: **=CONCATENATE(**

	A	B	C
1	Month	Day	Month & Day
2	September	4	=CONCATENATE(
3	August	16	
4	July	30	

3. Select your first cell reference followed by a ,

	A	B	C	D
1	Month	Day	Month & Day	
2	September	4	=CONCATENATE(A2,	
3	August	16		
4	July	30		

4. Include a space by typing it in the formula surrounded by quotation marks: " ",

	A	B	C	D
1	Month	Day	Month & Day	
2	September	4	=CONCATENATE(A2," ",	
3	August	16		
4	July	30		

5. Select the next cell reference and continue to add cell references or other characters surrounded by quotation marks.

	A	B	C	D
1	Month	Day	Month & Day	
2	September	4	=CONCATENATE(A2," ",B2	
3	August	16		
4	July	30		

6. Press the **ENTER** button on your keyboard when finished.

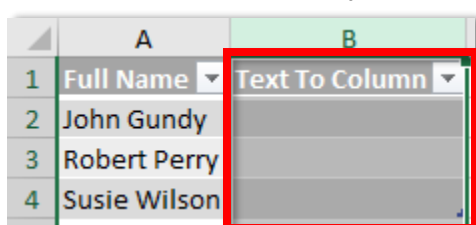
	A	B	C
1	Month	Day	Month & Day
2	September	4	September 4
3	August	16	
4	July	30	

Text to Columns

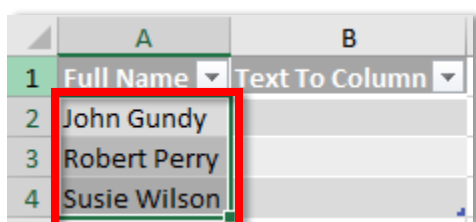
If you recall, the CONCATENATE formula combines the content of cells into one. You can also separate the content of one cell into multiple cells. To do this you would use a function called **Text to Columns**. In order to use **Text to Columns**, you'll need to make sure that the content you want to split has a delimiter (i.e. a space, comma or a character that separates the text in the current cell).

To use **Text to Columns**:

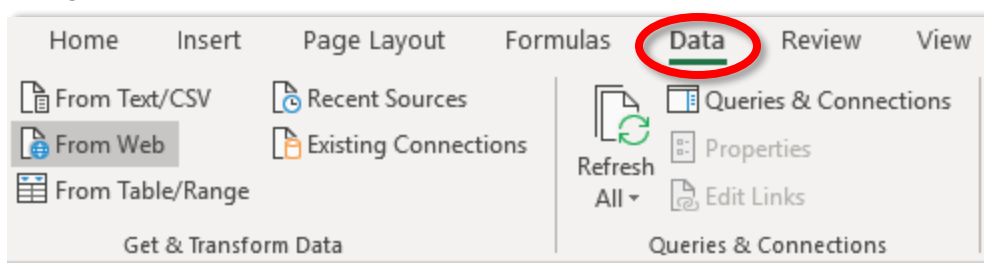
1. Locate the column or cell that you wish to split the content and add a blank cell or column to the right. This will allow Excel to place the content in empty cells instead of placing the content in cells that already have content inside.



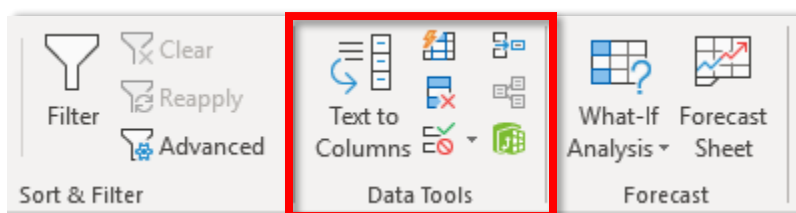
2. Select the cell or cells whose content you want to split.



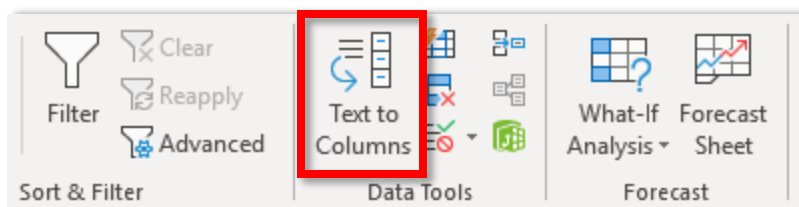
3. Navigate to the **Data** tab.



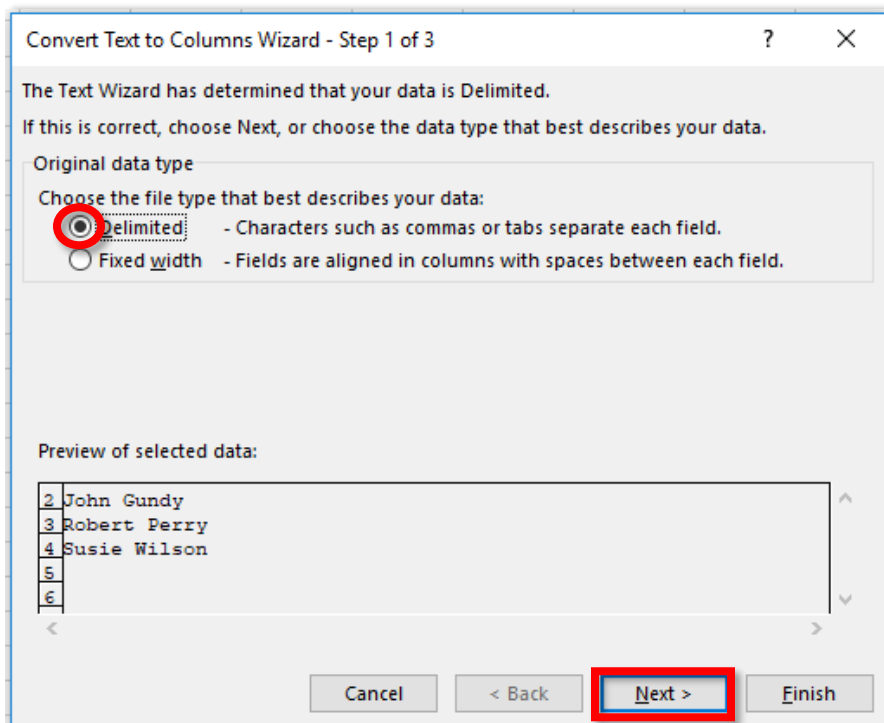
4. Locate the **Data Tools** group.



5. Select the **Text to Columns** command.



6. After selecting the **Text to Columns** command, you will see a window displayed that will allow you to follow along through certain steps to successfully complete the **Text to Columns** function. In the first step, select the **Delimited** option and click the **Next** button.



7. In *Step 2*, select the *Delimiter*. This can be a tab, space, comma or another character that you can identify in the content of the cell you're planning on splitting into a column or columns. Check the appropriate box and click on the **Next** button.

Convert Text to Columns Wizard - Step 2 of 3

This screen lets you set the delimiters your data contains. You can see how your text is affected in the preview below.

Delimiters

☐ Tab
☐ Semicolon
☐ Comma
☒ Space
☐ Other:

☒ Treat consecutive delimiters as one

Text qualifier:

Data preview

John	Gundy
Robert	Perry
Susie	Wilson

Cancel < Back **Next >** Finish

8. In *Step 3*, verify that the formatting of the column you'll be using and click the **Finish** button once you're done.

Convert Text to Columns Wizard - Step 3 of 3

This screen lets you select each column and set the Data Format.

Column data format

☒ General
☐ Text
☐ Date: MDY
☐ Do not import column (skip)

'General' converts numeric values to numbers, date values to dates, and all remaining values to text.

Advanced...

Destination: SAS2

Data preview

General	General
John	Gundy
Robert	Perry
Susie	Wilson

Cancel < Back Next > **Finish**

You'll know that you followed these steps correctly because the contents of the data in the original cells will now be split into one or more columns.

	A	B
1	Full Name	Text To Column
2	John	Gundy
3	Robert	Perry
4	Susie	Wilson

IFERROR Formula

Many times when working with Excel formulas, you can't avoid error messages. This typically happens when you use a formula that should technically be used to calculate numbers but some of your cells may have words or text instead. In these cases, you may want to keep your formula but don't want to display an error message. Excel allows you to use the IFERROR formula which will basically ask you what content you would want to display *if an error* were to occur when using your formula.

	A	B	C	D	E
1	ID	Account Name	1st Quarter Sales	2nd Quarter Cells	Total
2	USER-0061-4891	Howard & Son Inc.	\$ 29,107.00	\$ 27,224.00	\$ 56,331.00
3	USER-0089-8674	The Getaway Franchise	NO DATA	\$ 25,647.00	#VALUE!
4	USER-0041-1982	Steele Plumbing Inc.	\$ 23,970.00	\$ 17,216.00	\$ 41,186.00

Example of the IFERROR formula

=**IFERROR**(SUM(B2,B5),"N/A")

The IFERROR formula consists of two parts in its argument

=IFERROR (**Formula or Value** , **Content to be displayed if error is found**)

To use the IFERROR formula:

1. Select the cell where you want to include your formula.

B	C	D	E
Account Name	1st Quarter Sales	2nd Quarter Cells	Total
Howard & Son Inc.	\$ 29,107.00	\$ 27,224.00	
The Getaway Franchise	NO DATA	\$ 25,647.00	
Steele Plumbing Inc.	\$ 23,970.00	\$ 17,216.00	

2. In the cell, begin the formula by typing =**IFERROR**(

B	C	D	E
Account Name	1st Quarter Sales	2nd Quarter Cells	Total
Howard & Son Inc.	\$ 29,107.00	\$ 27,224.00	=IFERROR(
The Getaway Franchise	NO DATA	\$ 25,647.00	
Steele Plumbing Inc.	\$ 23,970.00	\$ 17,216.00	

3. Select a value, type a formula or a create a calculation for the formula's first part of the argument. Complete the first part of the argument with a comma.

B	C	D	E
Account Name	1st Quarter Sales	2nd Quarter Cells	Total
Howard & Son Inc.	\$ 29,107.00	\$	=IFERROR(C2+D2,
The Getaway Franchise	NO DATA	\$	
Steele Plumbing Inc.	\$ 23,970.00	\$ 17,216.00	

4. Add a word, number, value or cell reference you would want Excel to display if it finds an error with the formula. Remember, if you decide to use text or words, you will need to surround that content with quotation marks.

B	C	D	E
Account Name	1st Quarter Sales	2nd Quarter Cells	Total
Howard & Son Inc.	\$ 29,107.00	\$	=IFERROR(C2+D2,"N/A")
The Getaway Franchise	NO DATA	\$	
Steele Plumbing Inc.	\$ 23,970.00	\$ 17,216.00	

5. Press the **Enter** key on your keyboard and use the **Auto Fill Handle** as necessary.

B	C	D	E
Account Name	1st Quarter Sales	2nd Quarter Cells	Total
Howard & Son Inc.	\$ 29,107.00	\$ 27,224.00	\$ 56,331.00
The Getaway Franchise	NO DATA	\$ 25,647.00	N/A
Steele Plumbing Inc.	\$ 23,970.00	\$ 17,216.00	\$ 41,186.00

SUMIF Formula vs. SUMIFS Formula

There are two formulas that basically do the same thing but differ slightly in how they are structured and when you can use them. The SUMIF formula allows users to add cells or a range of cells when a condition is met. The SUMIFS formula allows users to add cells or a range of cells when one *or more* conditions are met. This means that the SUMIFS formula can do the same thing that a SUMIF formula can and more. Let's explore these two formulas in detail.

SUMIF Formula

The SUMIF formula allows users to sum the value of cells (or a range of cells) when a condition is met.

Example of the SUMIF formula

=**SUMIF**(D:D,F2,B:B)

The SUMIF formula consists of three parts in its argument

=SUMIF (**Column with criteria**, **Cell reference**, **Column to add values**)

To use the SUMIF formula:

1. Select the cell where you want to create your SUMIF formula.

G	H
State	Total orders in 5 years
CA	
IL	
NY	
TX	
WA	
OR	

2. Begin typing the formula: =**SUMIF**(

G	H
State	
CA	=SUMIF(
IL	
NY	
TX	
WA	
OR	

3. Select the range or column that includes the criteria that you want Excel to find. This data is typically found in a separate table. Type the comma sign after you selected the range to conclude the first part of the formula.

	A	B	C	D	E	F	G	H
1	Customer Name	State	Orders in past 5 years				State	
2	Dominguez, Barbara	CA	3				CA	=SUMIF(B:B,
3	Anthony, Rob	CA	12				IL	
4	Williams, Debon	CA	19				NY	
5	Hernandez, Harold	IL	17				TX	
6	Ochoa, Jose	IL	3				WA	
7	Houston, Steven	IL	8				OR	

4. Select the cell that includes the criteria you want Excel to find in the previous step. Type a comma to complete part two of the formula.

G	H
State	
CA	=SUMIF(B:B,G2,)
IL	
NY	
TX	
WA	
OR	

5. Select the range or column that includes the data you want Excel to add.

	A	B	C	D	E	F	G	H
1	Customer Name	State	Orders in past 5 years				State	
2	Dominguez, Barbara	CA	3				CA	=SUMIF(B:B,G2,C:C)
3	Anthony, Rob	CA	12				IL	
4	Williams, Debon	CA	19				NY	
5	Hernandez, Harold	IL	17				TX	
6	Ochoa, Jose	IL	3				WA	
7	Houston, Steven	IL	8				OR	

6. Press the **Enter** key on your keyboard. Use the **Auto Fill Handle** to apply the formula to other rows.

Once you complete these steps, you'll find that the table where you are making all calculations will correctly include the sum totals of the criterion that you selected.

G	H
State	Total orders in 5 years
CA	181
IL	88
NY	34
TX	47
WA	74
OR	32

SUMIFS Formula

As previously mentioned, the SUMIFS formula can be used to make calculations with data that includes one criterion or many. Typically it is recommended that you learn to use the SUMIFS formula since this formula will allow you to do the same things that a SUMIF formula does plus more.

Example of the SUMIFS formula

=SUMIFS(D:D,B:B,G4)

The SUMIFS formula consists of a *minimum* of three parts in its argument

=SUMIFS (**Column to add values** , **Column with criteria #1** , **Criteria #1**)

If you have more than one criterion, then continue adding commas and the last two parts of the argument.

To use the SUMIFS formula:

1. Select the cell where you want to create your **SUMIFS** formula.

H	I
Area	Active Yearly Amounts
Los Angeles	
Fresno	
San Diego	
San Bernardino	
Riverside	
Orange	

2. Begin typing the formula: =**SUMIFS**(

H	I
Area	
Los Angeles	=SUMIFS(
Fresno	
San Diego	
San Bernardino	
Riverside	
Orange	

3. Select the range or column that includes the data you want Excel to add. Complete the first part of the argument by adding a comma.

	A	B	C	D	E	F	G
1	Customer Name	Area	Account Active	Membership Amount/Year		Area	
2	Dominguez, Barbara	Los Angeles	YES	\$ 239.88		Los Angeles	=SUMIFS(D:D,
3	Anthony, Rob	Los Angeles	NO	\$ 179.88		Fresno	
4	Williams, Debon	Los Angeles	YES	\$ 119.88		San Diego	
5	Hernandez, Harold	Fresno	NO	\$ 119.88		San Bernardino	
6	Ochoa, Jose	Fresno	NO	\$ 119.88		Riverside	
7	Houston, Steven	Fresno	NO	\$ 119.88		Orange	

4. Select the range or column that includes the *first* criteria that you want Excel to find. This data is typically found in a separate table. Type the comma sign after you selected the range to conclude the second part of the formula.

	A	B	C	D	E	F	G
1	Customer Name	Area	Account Active	Membership Amount/Year		Area	
2	Dominguez, Barbara	Los Angeles	YES	\$ 239.88		Los Angeles	=SUMIFS(D:D,C:C,"YES")
3	Anthony, Rob	Los Angeles	NO	\$ 179.88		Fresno	
4	Williams, Debon	Los Angeles	YES	\$ 119.88		San Diego	
5	Hernandez, Harold	Fresno	NO	\$ 119.88		San Bernardino	
6	Ochoa, Jose	Fresno	NO	\$ 119.88		Riverside	
7	Houston, Steven	Fresno	NO	\$ 119.88		Orange	

5. Select the cell that includes the *first* criteria you want Excel to find from the previous step or type the criteria directly onto the formula. Type a comma to complete part three of the formula.

	A	B	C	D	E	F	G
1	Customer Name	Area	Account Active	Membership Amount/Year		Area	
2	Dominguez, Barbara	Los Angeles	YES	\$ 239.88		Los Angeles	=SUMIFS(D:D,C:C,"YES",
3	Anthony, Rob	Los Angeles	NO	\$ 179.88		Fresno	
4	Williams, Debon	Los Angeles	YES	\$ 119.88		San Diego	
5	Hernandez, Harold	Fresno	NO	\$ 119.88		San Bernardino	
6	Ochoa, Jose	Fresno	NO	\$ 119.88		Riverside	
7	Houston, Steven	Fresno	NO	\$ 119.88		Orange	

6. If you have other criterion to include, you would have to include the criteria's column/range along with the criteria itself. In the next step of the formula, select another column for the *second* criteria followed with a comma.

	A	B	C	D	E	F	G
1	Customer Name	Area	Account Active	Membership Amount/Year		Area	
2	Dominguez, Barbara	Los Angeles	YES	\$ 239.88		Los Angeles	=SUMIFS(D:D,C:C,"YES",B:B,"Los Angeles")
3	Anthony, Rob	Los Angeles	NO	\$ 179.88		Fresno	
4	Williams, Debon	Los Angeles	YES	\$ 119.88		San Diego	
5	Hernandez, Harold	Fresno	NO	\$ 119.88		San Bernardino	
6	Ochoa, Jose	Fresno	NO	\$ 119.88		Riverside	
7	Houston, Steven	Fresno	NO	\$ 119.88		Orange	

7. If you include another criterion, always include the column and criteria as a pair. Since you included the column in Step 6, you'll now have to include the criteria for that column.

	A	B	C	D	E	F	G	H
1	Customer Name	Area	Account Active	Membership Amount/Year		Area		
2	Dominguez, Barbara	Los Angeles	YES	\$ 239.88		Los Angeles	=SUMIFS(D:D,C:C,"YES",B:B,"Los Angeles")	
3	Anthony, Rob	Los Angeles	NO	\$ 179.88		Fresno		
4	Williams, Debon	Los Angeles	YES	\$ 119.88		San Diego		
5	Hernandez, Harold	Fresno	NO	\$ 119.88		San Bernardino		
6	Ochoa, Jose	Fresno	NO	\$ 119.88		Riverside		
7	Houston, Steven	Fresno	NO	\$ 119.88		Orange		

8. Press the **Enter** key on your keyboard. Use the **Auto Fill Handle** to apply the formula to other rows.

COUNTIFS Formula

As previously mentioned, the SUMIFS formula is a SUM formula that allows you to include one or more conditions in the formula. The COUNTIFS formula is a COUNT formula that allows you to count cells based on certain conditions as well. The COUNTIFS formula has a minimum of two

parts that should be used in pairs. Basically, you'll need to include a column for Excel to investigate and the criteria that Excel will have to find in that column.

Example of the COUNTIFS formula

=COUNTIFS(D:D,G4,A:A,H4)

The COUNTIFS formula consists of a *minimum* of two parts in its argument, always used in pairs

=COUNTIFS (Column to count #1 , Criteria #1 , Column to count #2 , Criteria #2)

To create a COUNTIFS formula:

1. Select the cell where you want to create your **COUNTIFS** formula.

	A	B	C	D	E	F
1	Customer Name	Area	Account Active		Area	No. of Active Accounts
2	Dominguez, Barbara	Los Angeles	YES		Los Angeles	
3	Anthony, Rob	Los Angeles	NO		Fresno	
4	Williams, Debon	Los Angeles	YES		San Diego	
5	Hernandez, Harold	Fresno	NO		San Bernardino	
6	Ochoa, Jose	Fresno	NO		Riverside	
7	Houston, Steven	Fresno	NO		Orange	

2. Begin typing the formula: **=COUNTIFS(**

E	F
Area	=COUNTIFS(
Los Angeles	
Fresno	
San Diego	
San Bernardino	
Riverside	
Orange	

3. Select the range or column of the *first criteria* that includes the data you want Excel to count. Complete the first part of the formula with a comma.

	A	B	C	D	E	F
1	Customer Name	Area	Account Active		Area	No. of Active Accounts
2	Dominguez, Barbara	Los Angeles	YES		Los Angeles	=COUNTIFS(C:C,
3	Anthony, Rob	Los Angeles	NO		Fresno	
4	Williams, Debon	Los Angeles	YES		San Diego	
5	Hernandez, Harold	Fresno	NO		San Bernardino	
6	Ochoa, Jose	Fresno	NO		Riverside	
7	Houston, Steven	Fresno	NO		Orange	

4. Select the cell that includes the *first* criteria you want Excel to find from the previous step or type the criteria directly onto the formula. Type a comma to complete part two of the formula.

	A	B	C	D	E	F
1	Customer Name	Area	Account Active		Area	
2	Dominguez, Barbara	Los Angeles	YES		Los Angeles	=COUNTIFS(C:
3	Anthony, Rob	Los Angeles	NO		Fresno	
4	Williams, Debon	Los Angeles	YES		San Diego	
5	Hernandez, Harold	Fresno	NO		San Bernardino	
6	Ochoa, Jose	Fresno	NO		Riverside	
7	Houston, Steven	Fresno	NO		Orange	

5. If you have multiple criterion that you want to use in your formula, you'll have continue with another pair adding a column for Excel to count along with the criteria to find in that column. In this step, include the column or range followed by a comma.

	A	B	C	D	E	F
1	Customer Name	Area	Account Active		Area	
2	Dominguez, Barbara	Los Angeles	YES		Los Angeles	=COUNTIFS(C:C,"YES",B:B,
3	Anthony, Rob	Los Angeles	NO		Fresno	
4	Williams, Debon	Los Angeles	YES		San Diego	
5	Hernandez, Harold	Fresno	NO		San Bernardino	
6	Ochoa, Jose	Fresno	NO		Riverside	
7	Houston, Steven	Fresno	NO		Orange	

6. Include the criteria you want Excel to find from the previous step.

	A	B	C	D	E	F
1	Customer Name	Area	Account Active		Area	
2	Dominguez, Barbara	Los Angeles	YES		Los Angeles	=COUNTIFS(C:C,"YES",B:B,E2
3	Anthony, Rob	Los Angeles	NO		Fresno	
4	Williams, Debon	Los Angeles	YES		San Diego	
5	Hernandez, Harold	Fresno	NO		San Bernardino	
6	Ochoa, Jose	Fresno	NO		Riverside	
7	Houston, Steven	Fresno	NO		Orange	

7. Press the **Enter** button to complete your formula and use the **Auto Fill Handle** if needed.

E	F
Area	No. of Active Accounts
Los Angeles	13
Fresno	3
San Diego	3
San Bernardino	2
Riverside	2
Orange	1

AVERAGE IFS Formula

As previously mentioned, the SUMIFS formula can be used to make calculations with data that includes one criterion or many. The AVERAGEIFS formulas also makes calculations with data with more than one criterion. The only difference is that the AVERAGEIFS formula calculates the average.

Example of the AVERAGEIFS formula

=AVERAGEIFS(D:D,B:B,G4)

The AVERAGEIFS formula consists of a *minimum* of three parts in its argument

=AVERAGEIFS (Column to average , Column with criteria #1 , Criteria #1)

If you have more than one criterion, then continue adding commas and pair the column with the criteria

To use the AVERAGEIFS formula:

1. Select the cell where you want to create your **AVERAGEIFS** formula.

F	G
Area	AVG Active Yearly Amounts
Los Angeles	
Fresno	
San Diego	
San Bernardino	
Riverside	
Orange	

2. Begin typing the formula: **=AVERAGEIFS(**

F	G
Area	
Los Angeles	=AVERAGEIFS(
Fresno	
San Diego	
San Bernardino	
Riverside	
Orange	

3. Select the range or column that includes the data you want Excel to average. Complete the first part of the argument by adding a comma.

	A	B	C	D	E	F	G
1	Customer Name	Area	Account Active	Membership Amount/Year		Area	
2	Dominguez, Barbara	Los Angeles	YES	\$ 239.88		Los Angeles	=AVERAGEIF(D:D,
3	Anthony, Rob	Los Angeles	NO	\$ 179.88		Fresno	
4	Williams, Debon	Los Angeles	YES	\$ 119.88		San Diego	
5	Hernandez, Harold	Fresno	NO	\$ 119.88		San Bernardino	
6	Ochoa, Jose	Fresno	NO	\$ 119.88		Riverside	
7	Houston, Steven	Fresno	NO	\$ 119.88		Orange	

4. Select the range or column that includes the *first* criteria that you want Excel to find. This data is typically found in a separate table. Type the comma sign after you selected the range to conclude the second part of the formula.

	A	B	C	D	E	F	G
1	Customer Name	Area	Account Active	Membership Amount/Year		Area	
2	Dominguez, Barbara	Los Angeles	YES	\$ 239.88		Los Angeles	=AVERAGEIF(D:D,
3	Anthony, Rob	Los Angeles	NO	\$ 179.88		Fresno	
4	Williams, Debon	Los Angeles	YES	\$ 119.88		San Diego	
5	Hernandez, Harold	Fresno	NO	\$ 119.88		San Bernardino	
6	Ochoa, Jose	Fresno	NO	\$ 119.88		Riverside	
7	Houston, Steven	Fresno	NO	\$ 119.88		Orange	

5. Select the cell that includes the *first* criteria you want Excel to find from the previous step or type the criteria directly onto the formula. Type a comma to complete part three of the formula.

	A	B	C	D	E	F	G
1	Customer Name	Area	Account Active	Membership Amount/Year		Area	
2	Dominguez, Barbara	Los Angeles	YES	\$ 239.88		Los Angeles	=AVERAGEIFS(D:D,C:C,"YES",
3	Anthony, Rob	Los Angeles	NO	\$ 179.88		Fresno	
4	Williams, Debon	Los Angeles	YES	\$ 119.88		San Diego	
5	Hernandez, Harold	Fresno	NO	\$ 119.88		San Bernardino	
6	Ochoa, Jose	Fresno	NO	\$ 119.88		Riverside	
7	Houston, Steven	Fresno	NO	\$ 119.88		Orange	

6. If you have other criterion to include, you would have to include the criteria's column/range along with the criteria itself. In the next step of the formula, select another column for the *second* criteria followed with a comma.

	A	B	C	D	E	F	G
1	Customer Name	Area	Account Active	Membership Amount/Year		Area	
2	Dominguez, Barbara	Los Angeles	YES	\$ 239.88		Los Angeles	=AVERAGEIFS(D:D,C:C,"YES",B:B,
3	Anthony, Rob	Los Angeles	NO	\$ 179.88		Fresno	
4	Williams, Debon	Los Angeles	YES	\$ 119.88		San Diego	
5	Hernandez, Harold	Fresno	NO	\$ 119.88		San Bernardino	
6	Ochoa, Jose	Fresno	NO	\$ 119.88		Riverside	
7	Houston, Steven	Fresno	NO	\$ 119.88		Orange	

7. If you include another criterion, always include the column and criteria as a pair. Since you included the column in Step 6, you'll now have to include the criteria for that column.

	A	B	C	D	E	F	G	H
1	Customer Name	Area	Account Active	Membership Amount/Year		Area		
2	Dominguez, Barbara	Los Angeles	YES	\$ 239.88		Los Angeles	=AVERAGEIFS(D:D,C:C,"YES",B:B,"Los Angeles",	
3	Anthony, Rob	Los Angeles	NO	\$ 179.88		Fresno		
4	Williams, Debon	Los Angeles	YES	\$ 119.88		San Diego		
5	Hernandez, Harold	Fresno	NO	\$ 119.88		San Bernardino		
6	Ochoa, Jose	Fresno	NO	\$ 119.88		Riverside		
7	Houston, Steven	Fresno	NO	\$ 119.88		Orange		

- Press the **Enter** key on your keyboard. Use the **Auto Fill Handle** to apply the formula to other rows.

F	G
Area	AVG Active Yearly Amounts
Los Angeles	\$ 166.03
Fresno	\$ 119.88
San Diego	\$ 219.88
San Bernardino	\$ 149.88
Riverside	\$ 179.88
Orange	\$ 179.88

How to Use Name Ranges

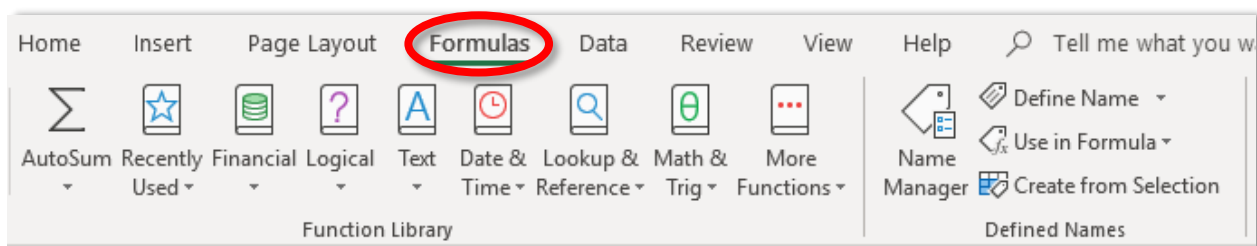
Many times you'll have to work between multiple spreadsheets and formulas will need to toggle back and forth between spreadsheets to complete your formulas. Using **Name Ranges** will drastically assist through this process. **Name Ranges** allow you to title, or name, a column, table, area, location or range. Once you name an area, you'll be able to easily find that range with the name you gave it. This makes it easier when you're creating a formula.

To create a **Name Range**:

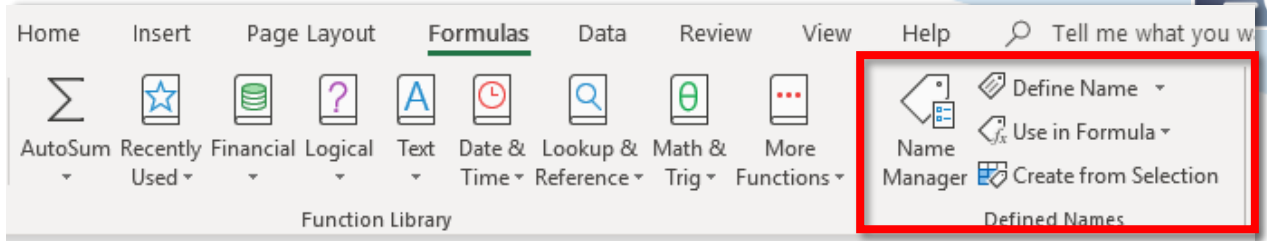
- Select a column, table, area or cells that you would like to name.

	A	B	C	D
1	Customer Name	Area	Account Active	Membership Amount/Year
2	Dominguez, Barbara	Los Angeles	YES	\$ 239.88
3	Anthony, Rob	Los Angeles	NO	\$ 179.88
4	Williams, Debon	Los Angeles	YES	\$ 119.88
5	Hernandez, Harold	Fresno	NO	\$ 119.88

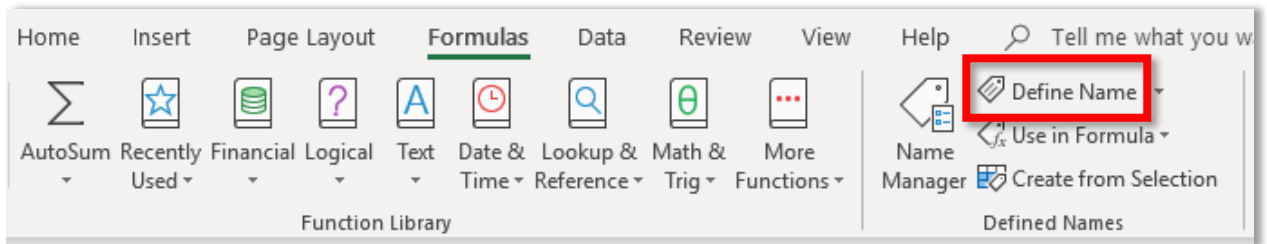
- Navigate to the **Formulas** tab.



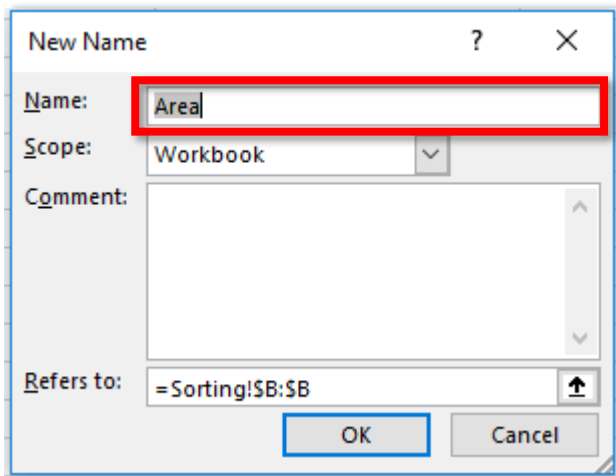
- Locate the **Defined Names** group.



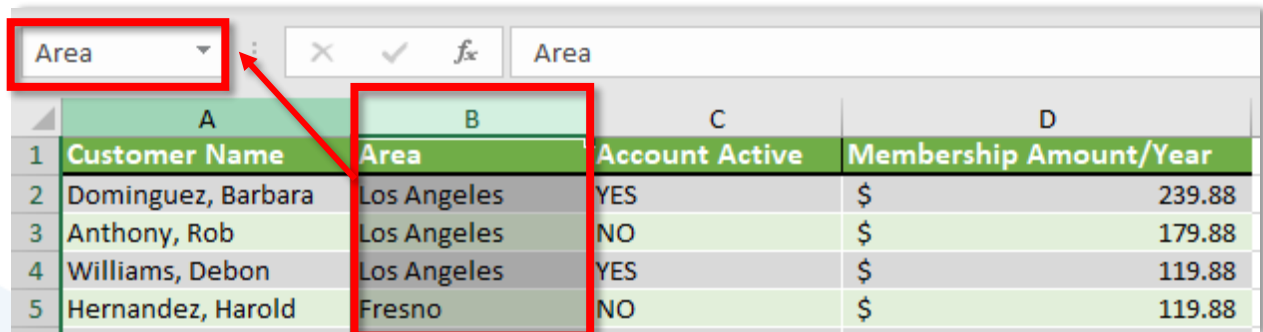
4. Select the command called **Define Name**.



5. After selecting the **Define Name** command, Excel will display a window. Name the range in the *Name* box. Pick a name you can easily remember and one that will not interfere with other ranges you have named. Select the **OK** button when done.



You'll know that you successfully named your range if you select that range and the name you provided appear in the **Name Box**.

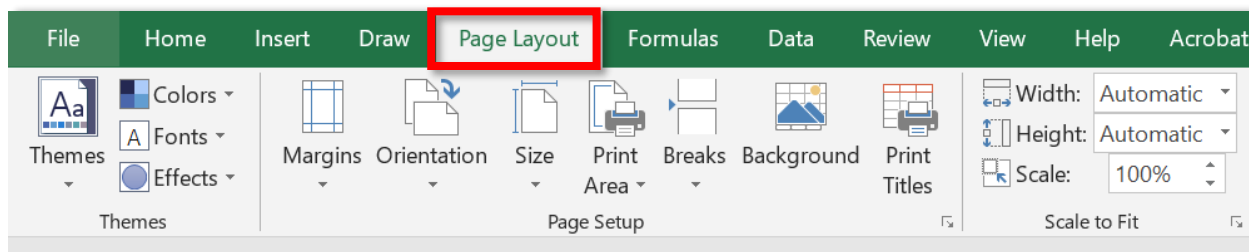


The image shows an Excel spreadsheet with the **Name Box** at the top left displaying **Area**, highlighted with a red box. A red arrow points from the **Name Box** to the **Area** cell in the spreadsheet. The spreadsheet data is as follows:

	A	B	C	D
1	Customer Name	Area	Account Active	Membership Amount/Year
2	Dominguez, Barbara	Los Angeles	YES	\$ 239.88
3	Anthony, Rob	Los Angeles	NO	\$ 179.88
4	Williams, Debon	Los Angeles	YES	\$ 119.88
5	Hernandez, Harold	Fresno	NO	\$ 119.88

Printing Spreadsheets

To change the layout of your sheet, you'll have to navigate to the **Page Layout** tab to make edits. The **Page Layout** tab will help you make changes to your spreadsheet so that you can print the sheet based on your needs.



Page Setup

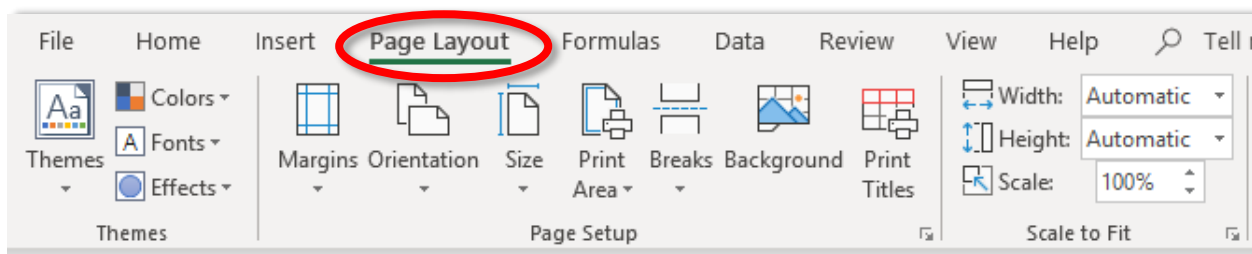
The **Page Setup** section of the **Page Layout** tab helps you change your print settings and the default settings of your spreadsheet. Changes made in this section only pertain to the sheet you're working on and won't affect the entire workbook. Let's explore some functionalities available in this section.

How to Change the Page Margins

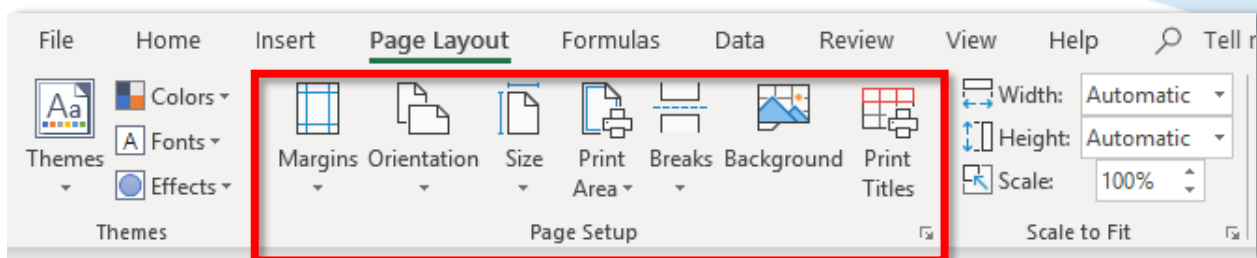
The margins in your spreadsheet default to *Normal* which allow you to print your sheet with a set space at the top, bottom, left and right of the page. You can also make the margins wide or narrow. By making the margins narrower, it will allow you to fit more of your spreadsheet into one page.

To change the **Page Margins**:

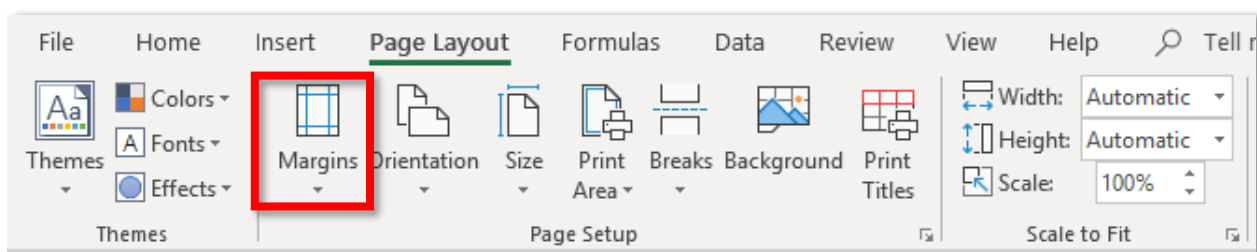
1. Navigate to the **Page Layout** tab.



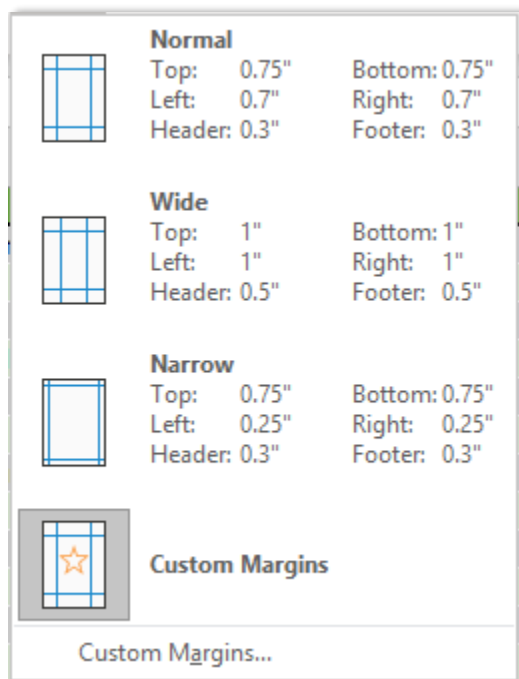
2. Locate the **Page Setup** group.



3. Select the **Margins** command.



4. Selecting the **Margins** command will display a menu of choices. Select the type of margins you would like for your page.

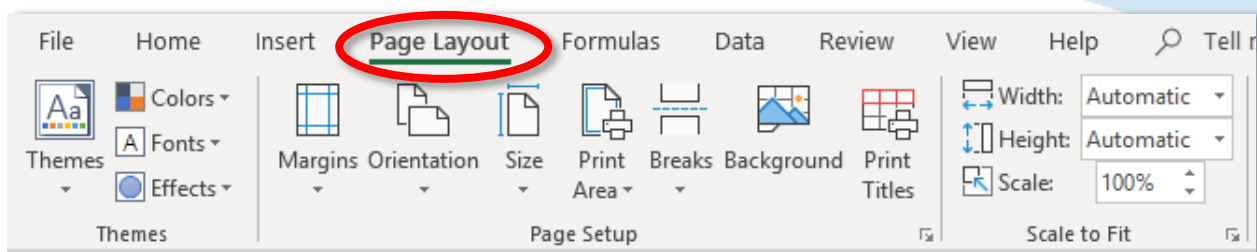


How to Change the Page Orientation

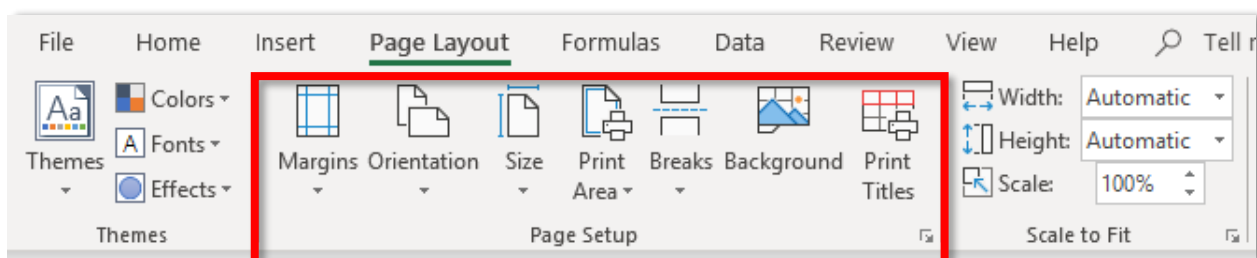
By default, your spreadsheet will print in a *Portrait* style. You can change this setting.

To change the **Page Orientation** of your sheet:

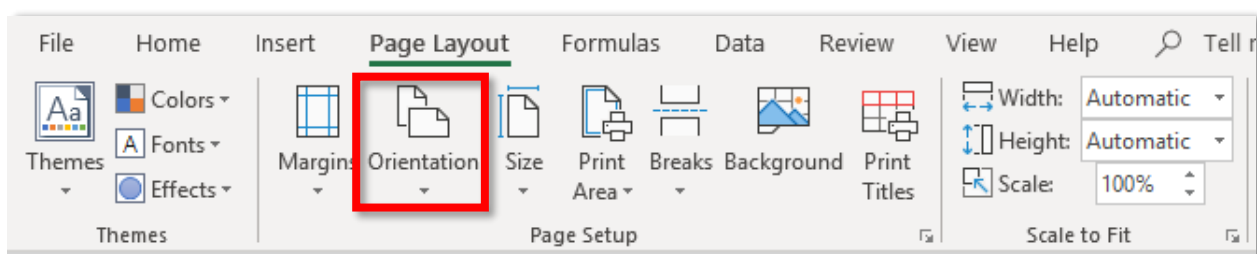
1. Navigate to the **Page Layout** tab.



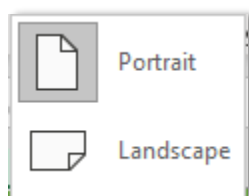
2. Locate the **Page Setup** group.



3. Select the **Orientation** command.



4. The **Orientation** command will display a drop-down menu that will allow you to change the page orientation from *Portrait* to *Landscape*.

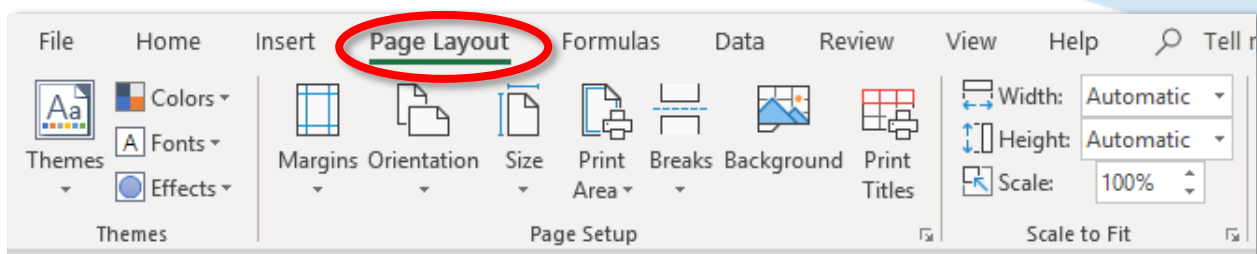


How to Change the Size of the Paper

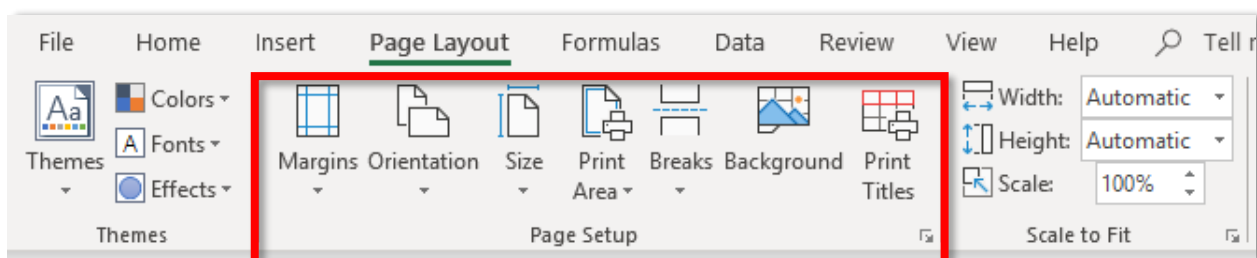
At times, you might need to print your data on ledger paper or other type of paper that suits your needs. Excel defaults to *Letter* size paper, but you can change this option and select a different paper size.

To change the size of the paper:

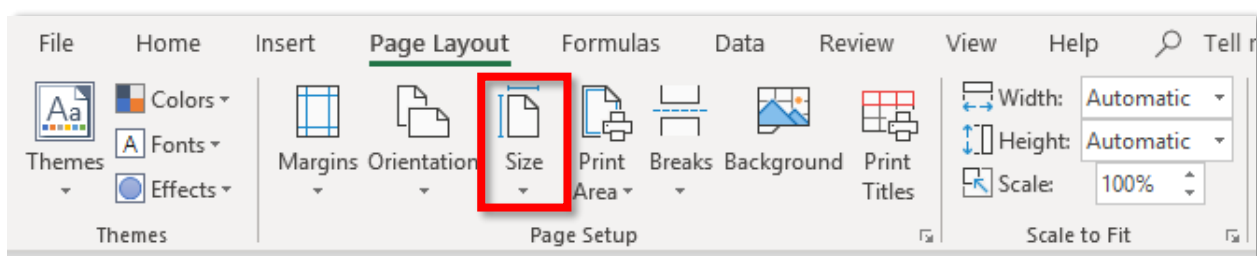
1. Navigate to the **Page Layout** tab.



2. Locate the **Page Setup** group.



3. Select the **Size** command.



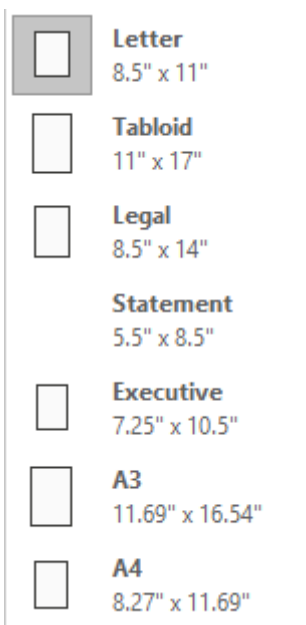
4. The **Size** command will display a drop-down menu that will allow you to change the size of your sheet.

How to Set a Print Area

Excel also allows you to print a chosen selection from your spreadsheet, instead of printing the entire sheet. This feature is called *Setting the Print Area*.

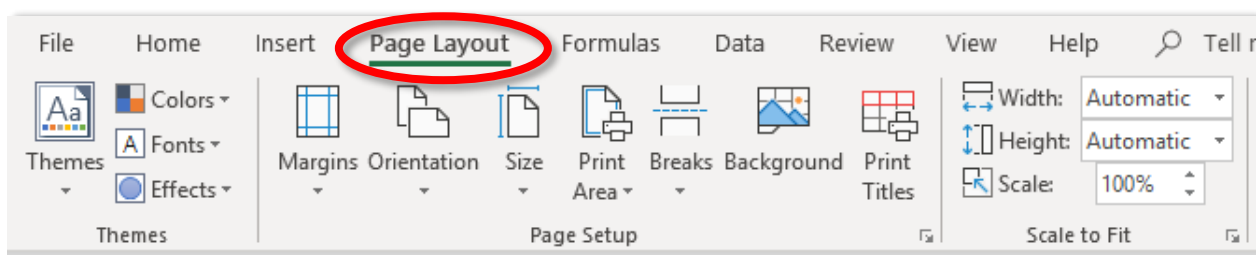
To set a **Print Area**:

1. Select the area in your spreadsheet that you want to exclusively print.

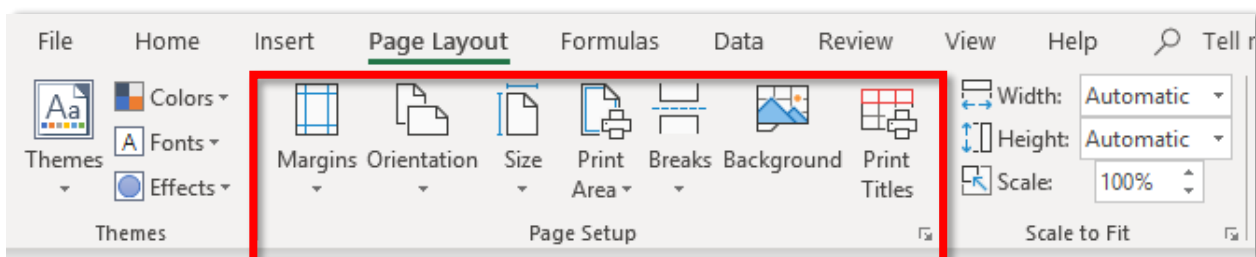


	A	B	C	D
1	Customer Name	Area	Account Active	Membership Amount/Year
2	Dominguez, Barbara	Los Angeles	YES	\$ 239.88
3	Anthony, Rob	Los Angeles	NO	\$ 179.88
4	Williams, Debon	Los Angeles	YES	\$ 119.88
5	Hernandez, Harold	Fresno	NO	\$ 119.88
6	Ochoa, Jose	Fresno	NO	\$ 119.88
7	Houston, Steven	Fresno	NO	\$ 119.88
8	Stevenson, Raymond	Los Angeles	NO	\$ 119.88
9	Guill, Sarah	Fresno	NO	\$ 119.88
10	Quintero, Jesus	Los Angeles	NO	\$ 119.88

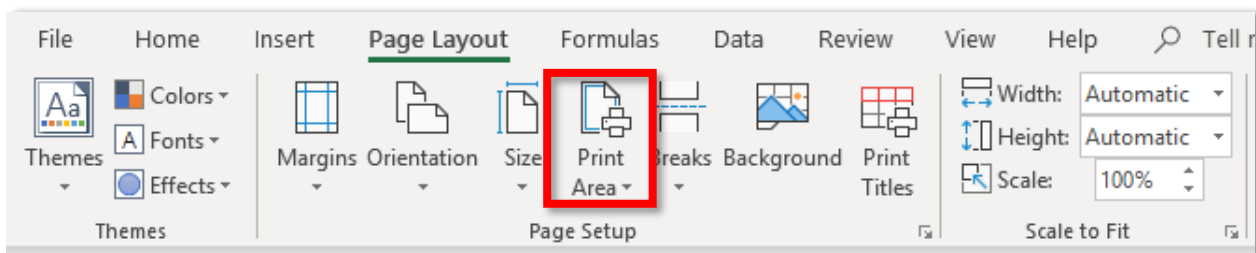
2. Navigate to the **Page Layout** tab.



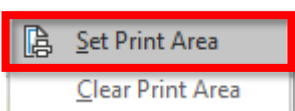
3. Locate the **Page Setup** group.



4. Select the **Print Area** command.



5. The **Print Area** command will display a drop-down menu. Select the **Set Print Area** option.

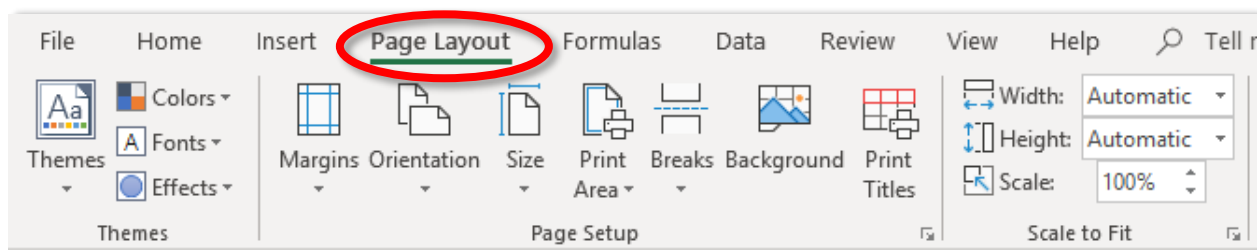


How to Clear a Print Area

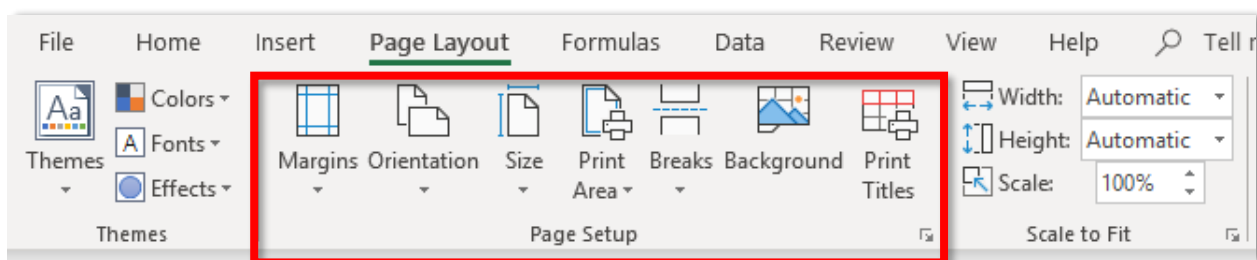
If you set a **Print Area** but now need to print the entire page, you'll have to clear the **Print Area**.

To clear the **Print Area**:

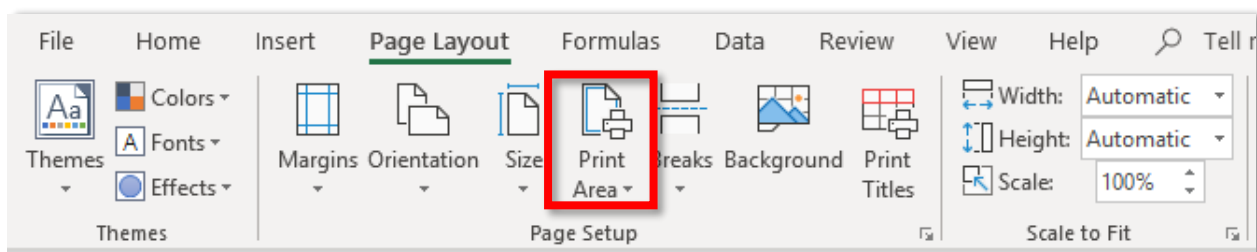
1. Navigate to the **Page Layout** tab.



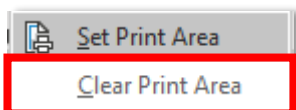
2. Locate the **Page Setup** group.



3. Select the **Print Area** command.



4. The **Print Area** command will display a drop-down menu. Select the **Clear Print Area** option.

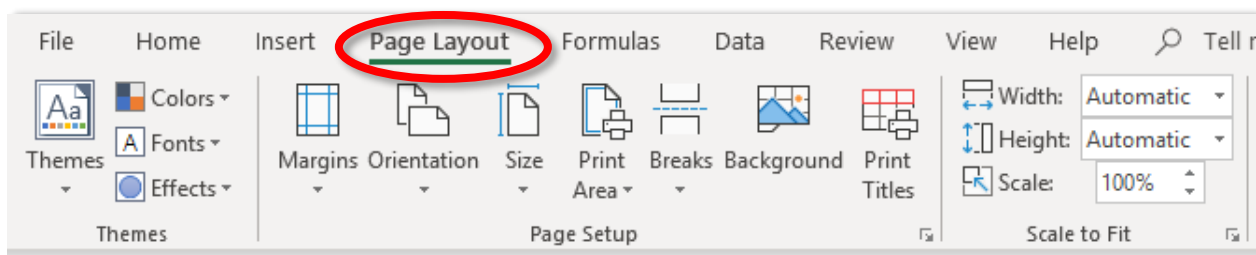


How to Repeat the Table Headers When Printing

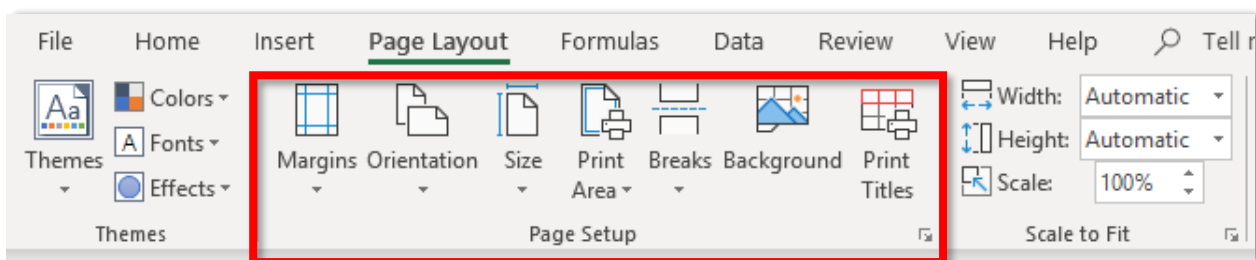
Most of us work with lots of data which means that if we decide to print a spreadsheet, the spreadsheet will print in more than one page. When this happens, only page one will have the headers that you created, but the rest of the pages will only have the data without the headers. However, the headers can be repeated throughout each page.

To print the headers on every page, you'll have to select the titles to print.

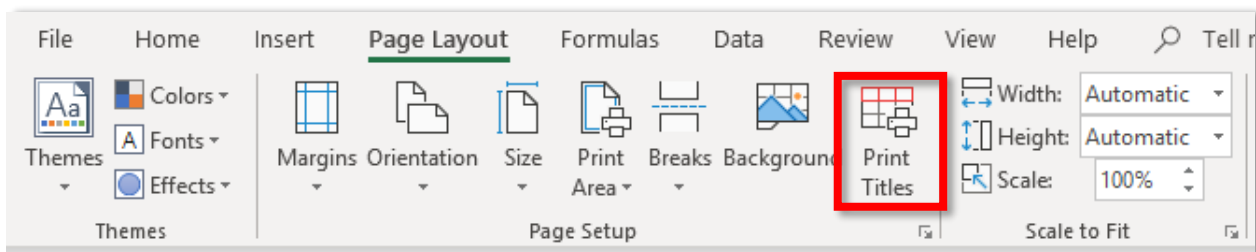
1. Navigate to the **Page Layout** tab.



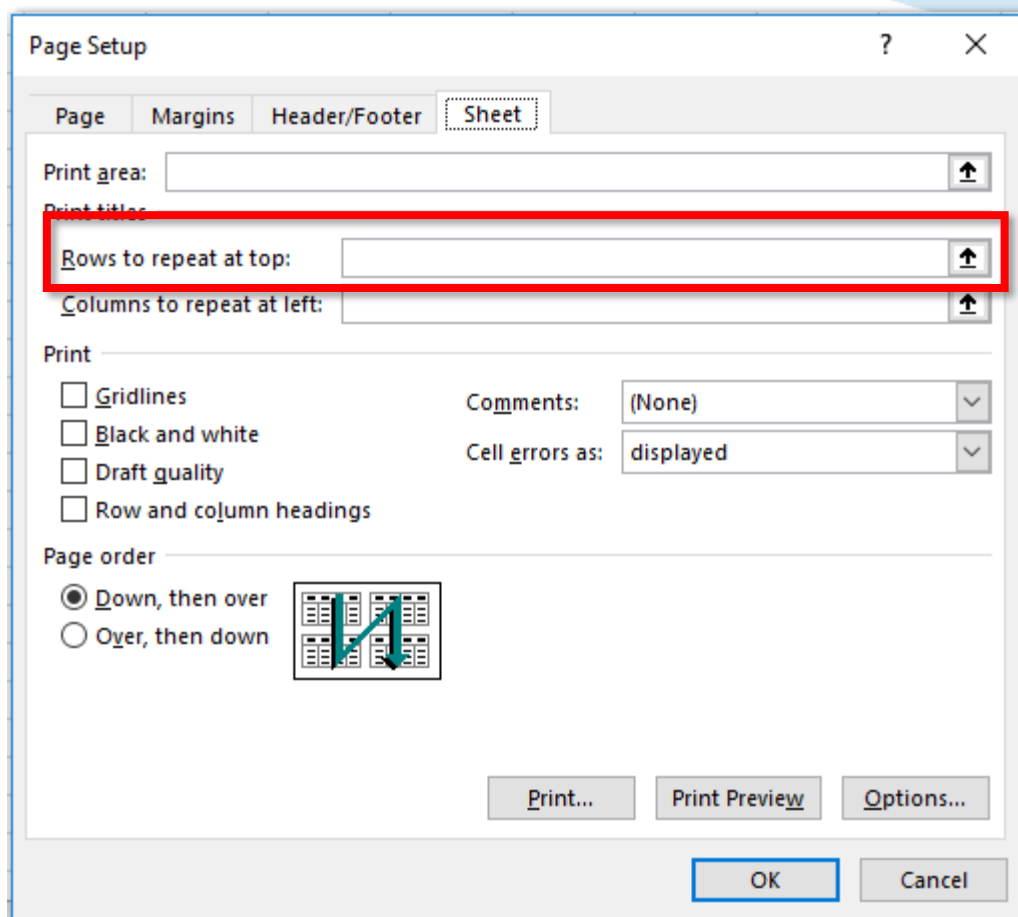
2. Locate the **Page Setup** group.



3. Select the **Print Titles** command.



4. The **Print Titles** command will display a pop-up window. Click on the *Rows to repeat at the top* box and select a row from your spreadsheet that includes your table headers. By selecting that entire row, Excel will repeat the row on every printed page. Press the **OK** button when finished.



Additionally, you can select to print the **Gridlines**, print in black and white, print comments and print in a different order. You can also click on the **Print Preview** button to get a preview of the sheet you're about to print.

Scaling to Fit

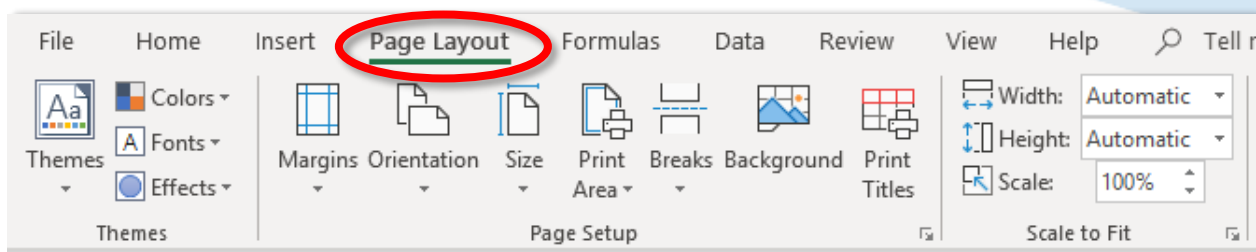
In the **Page Layout** tab, there is a **Scale to Fit** section where you can customize your sheet to make it fit in one page. Sometimes, when you try to print a spreadsheet, some columns may not fit into the first page and will print on the second page instead.

How to Change the Width and Height of Your Sheet to Print

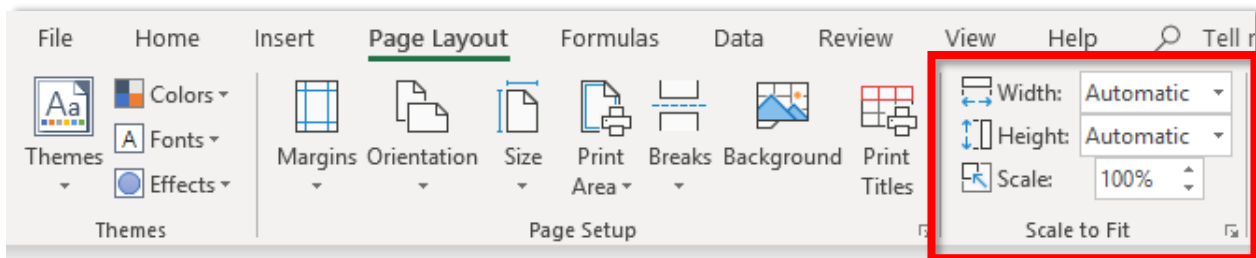
The width and height of a sheet can be customized so that you can try to fit your sheet into one or multiple pages. Most likely, when using these features, the size of the font or your table will decrease, making it harder to read. By default, Excel makes the width and height automatic.

To change the width and height of your sheet:

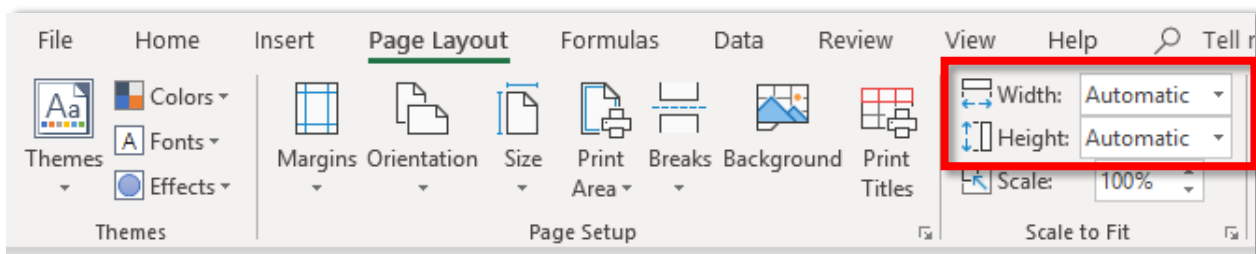
1. Navigate to the **Page Layout** tab.



2. Locate the **Scale to Fit** group.



3. Change the *Width* and *Height* by clicking on the drop-down box.

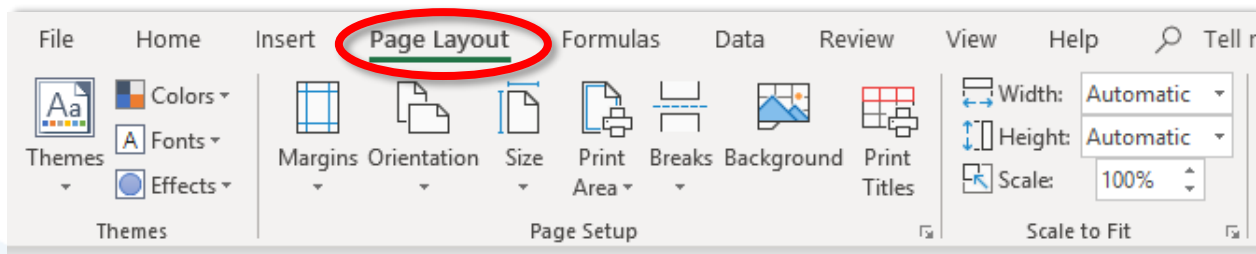


Changing the Scale

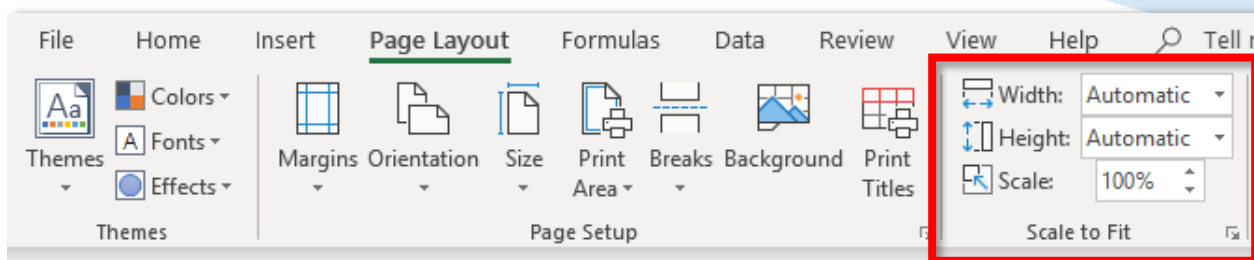
The best option to make your sheet fit in one page (or in several desired pages) is by changing the scale percentage. Be careful when you also use this option because your table will shrink as you decrease the percentage. Anything lower than 70% may start to look too small and the table will be aligned to the left of the sheet.

To change the scale of your sheet:

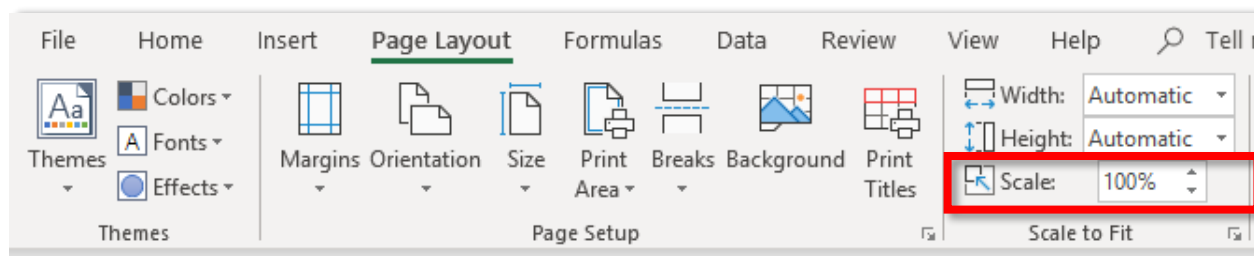
1. Navigate to the **Page Layout** tab.



2. Locate the **Scale to Fit** group.



3. Change the *Scale* by clicking on the drop-down box.



Other Sheet Options

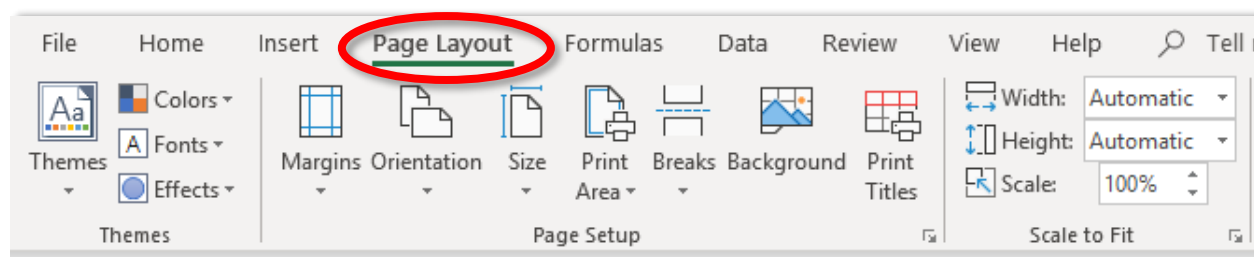
As described before, the ribbons can only fit a limited number of buttons. However, you can continue to customize the print options by checking a few options on the **Sheet Options** group.

How to Remove the Gridlines

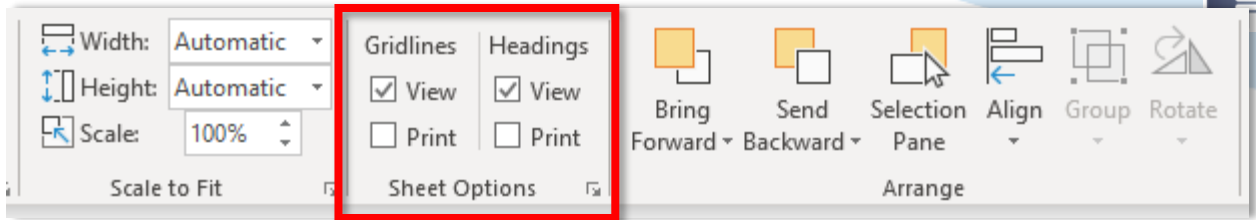
By default, Excel spreadsheets will show the gridlines, but they won't print unless you specify that you want the gridlines to print.

To remove the gridlines from your spreadsheet:

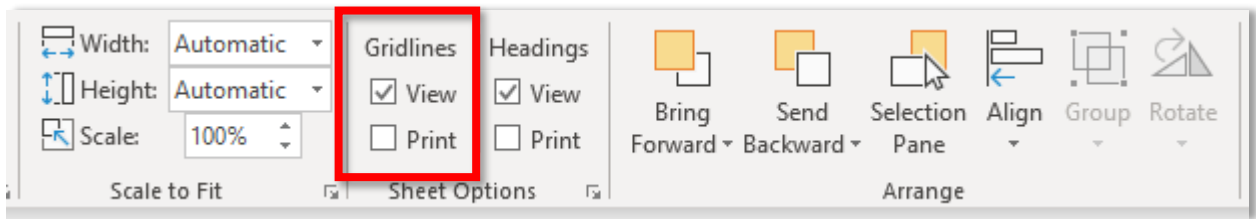
1. Navigate to the **Page Layout** tab.



2. Locate the **Sheet Options** group.



3. Uncheck the *View* checkbox in the **Gridlines** section.

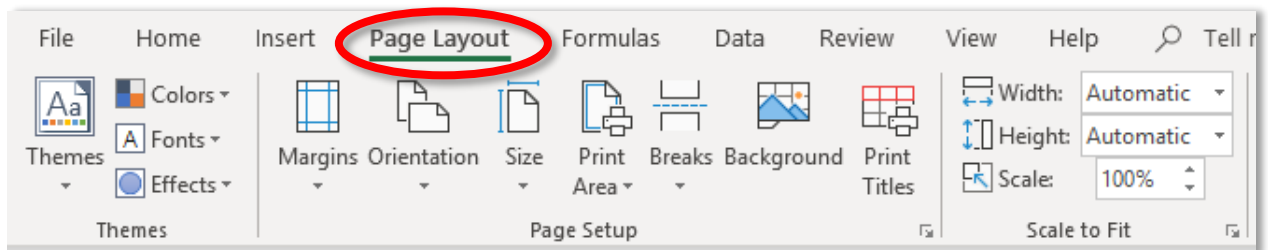


How to Remove the Headings

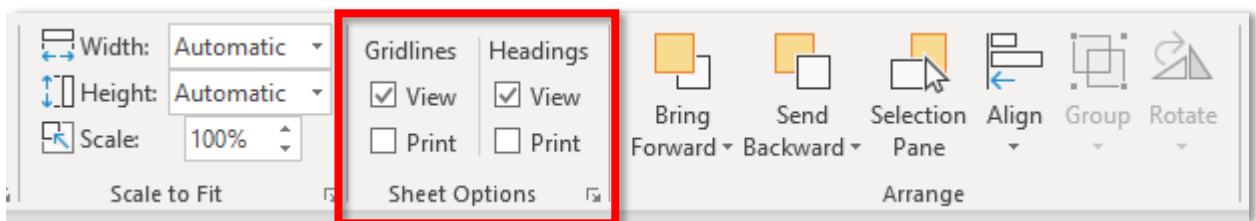
By defaults, Excel will show you the column letters and the row numbers. These are called **Headings** and they can also be removed from your view.

To remove the headings from your spreadsheet:

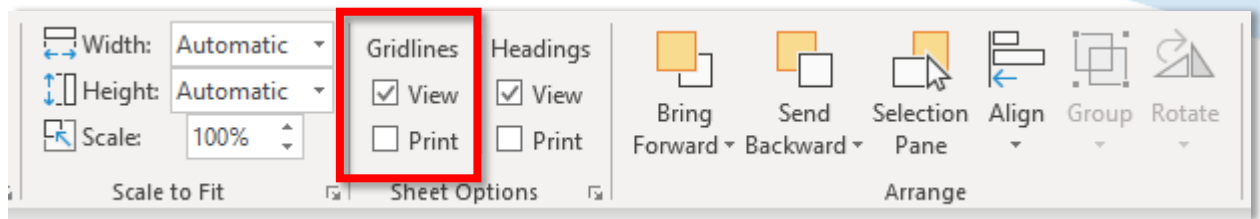
1. Navigate to the **Page Layout** tab.



2. Locate the **Sheet Options** group.



3. Uncheck the View checkbox in the **Headings** section.



Basic Excel Shortcuts

Excel has plenty of shortcuts that can save you some time. Many of these shortcuts are basic keyboard shortcuts that are universally recognized. Please note that the shortcuts listed below are only compatible with Windows.

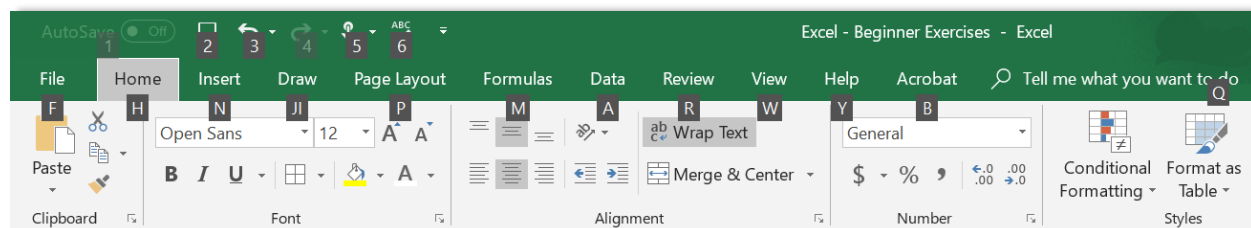
Commonly Used Shortcuts

The table below lists the most commonly used shortcuts. Please note that the command 'CTRL' stands for the 'Control' button located on your keyboard. Additionally, the plus sign signifies the following button to press on your keyboard. For example, 'CTRL + C', means that you'll need to press the 'Control' button and the letter 'C' button on your keyboard.

Shortcut Type	Buttons on your keyboard
<i>Copy</i>	CTRL + C
<i>Paste</i>	CTRL + V
<i>Cut</i>	CTRL + X
<i>Highlight All</i>	CTRL + A
<i>Bold</i>	CTRL + B
<i>Underline</i>	CTRL + U
<i>Italicize</i>	CTRL + I
<i>Find text</i>	CTRL + F
<i>Undo</i>	CTRL + Z
<i>Save a Workbook</i>	CTRL + S
<i>Close a Workbook</i>	CTRL + W
<i>Open a Workbook</i>	CTRL + O
<i>Center align cell contents</i>	ALT + H + A + C
<i>Delete column</i>	ALT + H + D + C
<i>Add borders</i>	ALT + H + B
<i>Hide selected rows</i>	CTRL + 9
<i>Hide selected columns</i>	CTRL + 0

Keyboard Shortcuts for Ribbons

When using any Microsoft Office programs, you can navigate through the different ribbons without using a mouse. The keyboard can be used to navigate through all the ribbons and buttons. The ALT button will display letters that show you which keys will take you to which ribbon or button. For example, after pressing the ALT key on the keyboard, Excel gives me the following options (in the screenshot below). If the 'P' button is pressed, then Excel will display the Page Layout ribbon.



Below are a few shortcuts that will help you navigate through the ribbons and buttons in Excel by using your keyboard.

To do the following...	Buttons on your keyboard
Go to the Home Tab	ALT + H
Go to the Insert Tab	ALT + N
Go to the Draw Tab	ALT + J + I
Go to the Page Layout Tab	ALT + P
Go to the Formulas Tab	ALT + M
Go to the Data Tab	ALT + A
Go to the Review Tab	ALT + R
Go to the View Tab	ALT + W
Go to the Help Tab	ALT + Y

Keyboard Shortcuts for Navigating Through a Spreadsheet

Below are additional shortcuts that you can use to navigate through cells. Unlike most of the previously mentioned shortcuts, most of the following shortcuts are Excel specific.

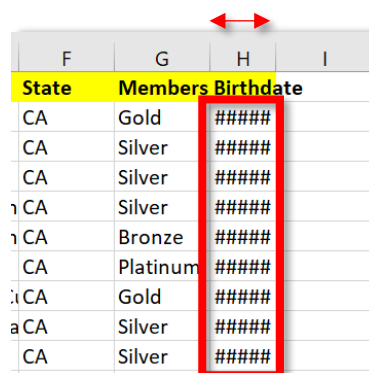
To do the following...	Buttons on your keyboard
<i>Move one cell right in a spreadsheet</i>	Right arrow key
<i>Move one cell left in a spreadsheet</i>	Left arrow key
<i>Move one cell up in a spreadsheet</i>	Up arrow key
<i>Move one cell down in a spreadsheet</i>	Down arrow key
<i>Move one cell right on a spreadsheet (or the next unlocked cell)</i>	Tab key
<i>Move to the last entry of a region</i>	CTRL + Arrow key
<i>Move to the last cell on a spreadsheet</i>	CTRL + End key
<i>Move to the last used cell on a spreadsheet</i>	CTRL + Shift + End key
<i>Move to the top of a spreadsheet</i>	CTRL + Home key
<i>Move one screen down in a spreadsheet</i>	Page Down key
<i>Move one screen to the right in a spreadsheet</i>	ALT + Page Down key
<i>Move one screen up in a spreadsheet</i>	Page Up key
<i>Move one screen to the left in a spreadsheet</i>	ALT + Page Up key
<i>Move to the next spreadsheet in a workbook</i>	CTRL + Page Down key
<i>Move to the previous spreadsheet in a workbook</i>	CTRL + Page Up key

Common Formula Errors in Excel

As you continue to work through formulas and learn how to use more advanced formulas in your Excel journey, you'll at some point encounter error messages. Error messages in Excel usually occur when there is an incorrect digit, or entry in a formula. Excel will then return a message that begins with a pound sign (#). Below is a quick reference guide to common Excel errors you will encounter as a beginning Excel user.

#####

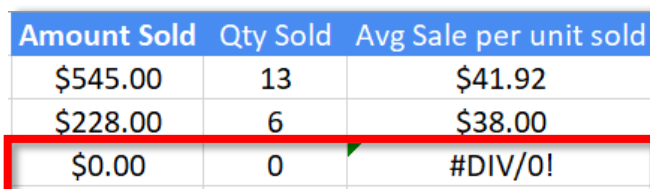
You probably have already seen a cell with a bunch of pound signs inside the cell. You are 100% sure that you never typed those pound signs inside those cells, and you're right. You will encounter a cell filled with pound signs any time that the content of a cell does not fit inside a cell. In other words, you need to make the width of the cell larger because the number inside your cell is too long.



State	Members	Birthdate
CA	Gold	#####
CA	Silver	#####
CA	Silver	#####
CA	Silver	#####
CA	Bronze	#####
CA	Platinum	#####
CA	Gold	#####
CA	Silver	#####
CA	Silver	#####

#DIV/0

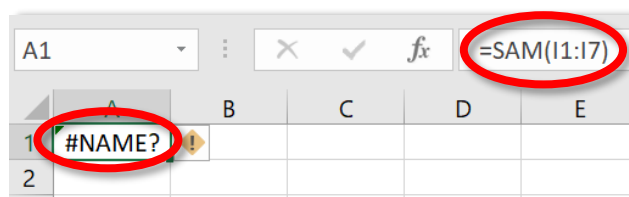
If you recall back to your High School days, you'll remember that in math class you were taught that you cannot divide by 0. Excel knows this too and whenever you try to divide by 0, it will give you the error message #DIV/0. This error message typically occurs when you use a formula to divide but you may have a cell with the entry '0', or a cell that is completely blank. In this instance, Excel will return the error message. If you no longer want to see the error message, you'll have to use a formula like the IFERROR formula so that Excel displays a digit or value you provide. In the screenshot provide, Excel returns a #DIV/0 error because you can't divide 0 by 0.



Amount Sold	Qty Sold	Avg Sale per unit sold
\$545.00	13	\$41.92
\$228.00	6	\$38.00
\$0.00	0	#DIV/0!

#NAME?

At times, you will encounter the #NAME? error message. This error message typically appears because of a misspelling. When you see the #NAME? message, Excel is telling you that either (1) the name of the formula is wrong (i.e., you accidentally wrote =SAM(I4:I15) instead of =SUM(I4:I15) or (2) there is something wrong

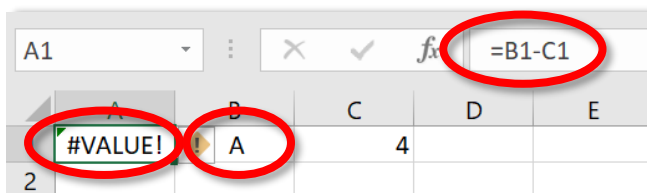


A	B	C	D	E
#NAME?				

with the entries you entered in your formula (which typically happens with more advanced formulas). To correct the #NAME? error message, check your spelling and that every part in your formula was properly written.

#VALUE!

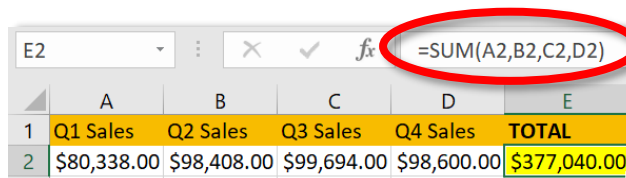
The #VALUE! message typically shows when there is something wrong with the cells that Excel is referencing. The #NAME? occurs when you have an error with your formula, but the #VALUE! error message shows when you have an error somewhere in the cell that you're referencing. For example, let's say that you're trying to add cells together but one of the cells has a space (which is very hard to notice) in front of the number. In this case, Excel will bring up the #VALUE! error message. This error message may also pop up when Excel is referencing a cell where it expects a digit, but there is something else other than a digit in that cell. To correct the #VALUE! formula, make sure to check the cells that are referenced for any misspellings or spaces.



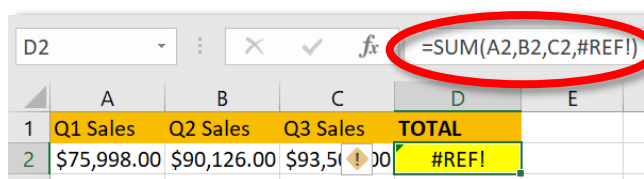
	A	B	C	D	E
1	#VALUE!	A	4		
2					

#REF!

The #REF! error occurs when you have removed a cell that Excel was referencing in one of your formulas. For example, if you use a formula that reads from Cell A4, and later you delete Column A in its entirety, then Excel will show you the #REF! error message because it can no longer reference Cell A4. This error is also common when using formulas that read from other Excel files. As soon as that file that Excel is referencing goes away, you may get a #REF! error message. To fix this error message, you can get rid of your formula by copying/pasting special values or add the sheet from another file to your current Excel file so that they are in the same workbook.



	A	B	C	D	E
1	Q1 Sales	Q2 Sales	Q3 Sales	Q4 Sales	TOTAL
2	\$80,338.00	\$98,408.00	\$99,694.00	\$98,600.00	\$377,040.00



	A	B	C	D	E
1	Q1 Sales	Q2 Sales	Q3 Sales	TOTAL	
2	\$75,998.00	\$90,126.00	\$93,510.00	#REF!	

Excel Exercises

Below, please find a table with a list of all Excel exercises referenced in this workbook. The URL listed below are case sensitive.

Exercise Type	Exercise Number	Exercise URL
<i>Identifying A Cell</i>	Exercise 1	https://bit.ly/Excel-Beg-Exercise-1
<i>Cut, Copy & Paste</i>	Exercise 2	https://bit.ly/Excel-Beg-Exercise-2
<i>Using the Format Painter</i>	Exercise 3	https://bit.ly/Excel-Beg-Exercise-3
<i>The Alignment & Font Section</i>	Exercise 4	https://bit.ly/Excel-Beg-Exercise-4
<i>The Number Format Section</i>	Exercise 5	https://bit.ly/Excel-Beg-Exercise-5
<i>The Cells Section</i>	Exercise 6	https://bit.ly/Excel-Beg-Exercise-6
<i>Using Workbook Views</i>	Exercise 7	https://bit.ly/Excel-Beg-Exercise-7
<i>Freezing Panes</i>	Exercise 8	https://bit.ly/Excel-Beg-Exercise-8
<i>Find & Replace Function</i>	Exercise 9	https://bit.ly/Excel-Beg-Exercise-9
<i>Sorting Data</i>	Exercise 10	https://bit.ly/Excel-Beg-Exercise-10
<i>Filter Data</i>	Exercise 11	https://bit.ly/Excel-Beg-Exercise-11
<i>The Auto Fill Handle</i>	Exercise 12	https://bit.ly/Excel-Beg-Exercise-12
<i>Grouping Cells</i>	Exercise 13	https://bit.ly/Excel-Beg-Exercise-13
<i>Removing Duplicates</i>	Exercise 14	https://bit.ly/Excel-Beg-Exercise-14
<i>Using AutoSum Function</i>	Exercise 15	https://bit.ly/Excel-Beg-Exercise-15
<i>Using Operators in Formulas</i>	Exercise 16	https://bit.ly/Excel-Beg-Exercise-16
<i>Constants & Cell References in Formulas</i>	Exercise 17	https://bit.ly/Excel-Beg-Exercise-17
<i>Using the SUM Formula</i>	Exercise 18	https://bit.ly/Excel-Beg-Exercise-18
<i>Using the AVERAGE Formula</i>	Exercise 19	https://bit.ly/Excel-Beg-Exercise-19
<i>Using COUNT & COUNTA Formulas</i>	Exercise 20	https://bit.ly/Excel-Beg-Exercise-20
<i>Using MAX & MIN Formulas</i>	Exercise 21	https://bit.ly/Excel-Beg-Exercise-21
<i>Using PROPER, LOWER & UPPER Formulas</i>	Exercise 22	https://bit.ly/Excel-Beg-Exercise-22

