REGION V computer services

Microsoft Office Excel 2016

Excel Tips and Tricks

April 4, 2024

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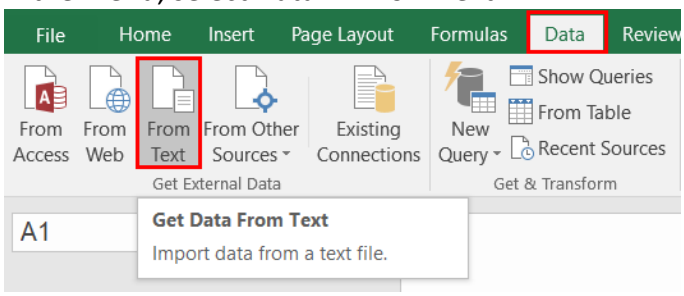
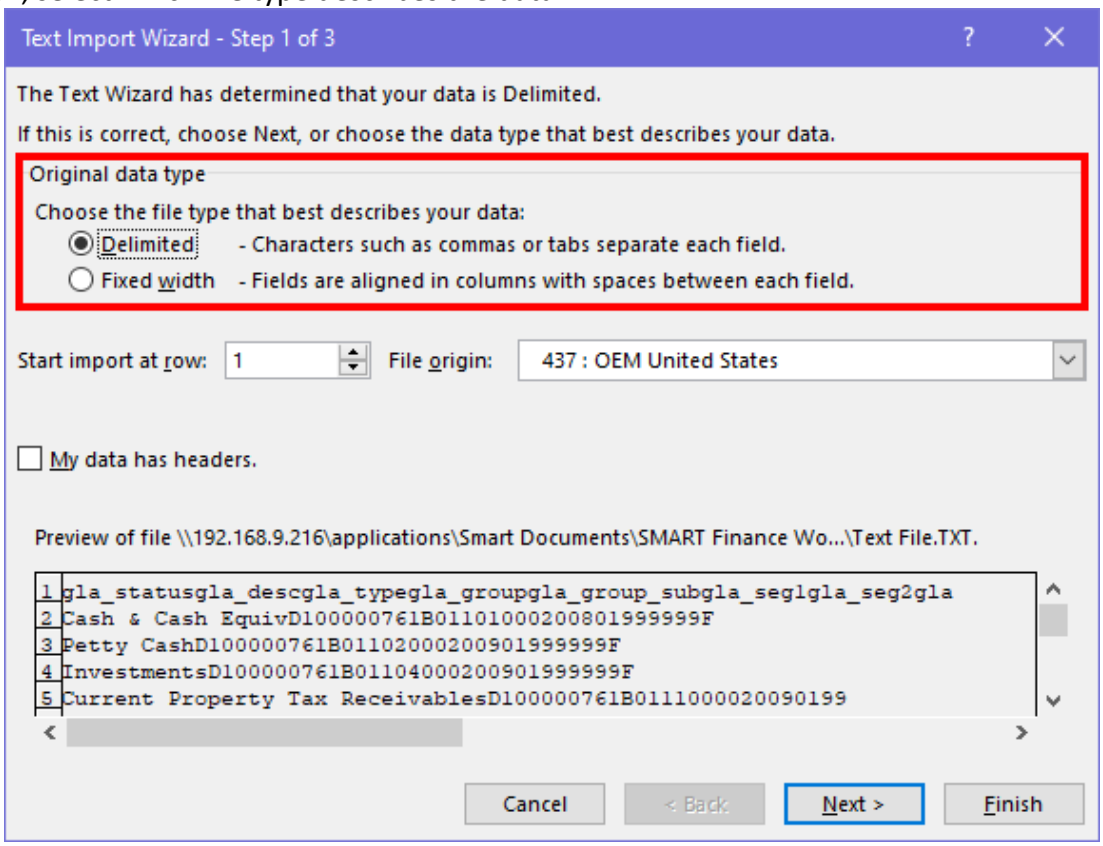
Excel Basics

Import a Text File into Excel

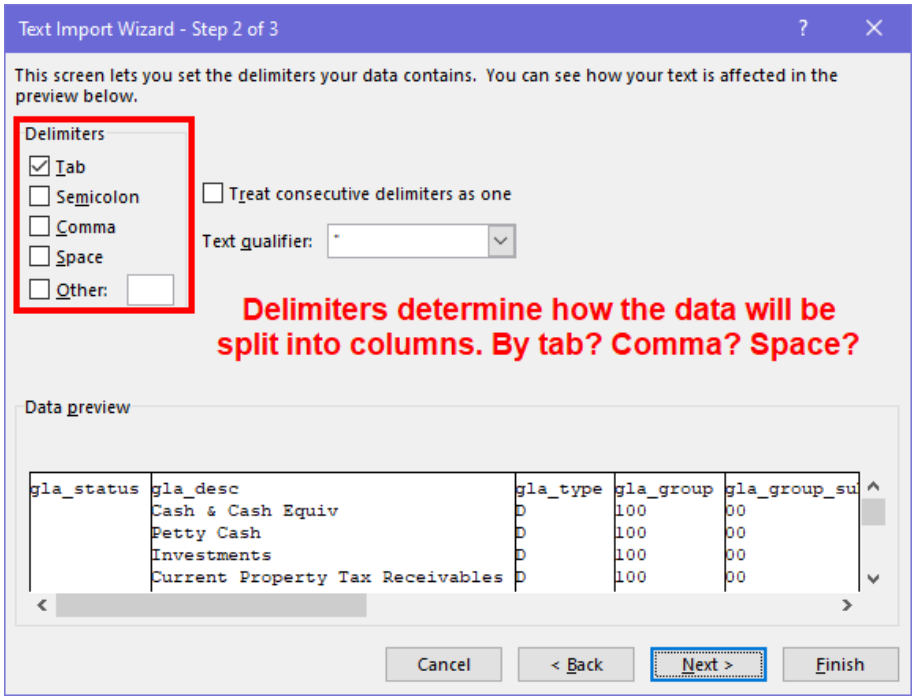
1. Open Excel.
2. From the menu, select Data → From Text.



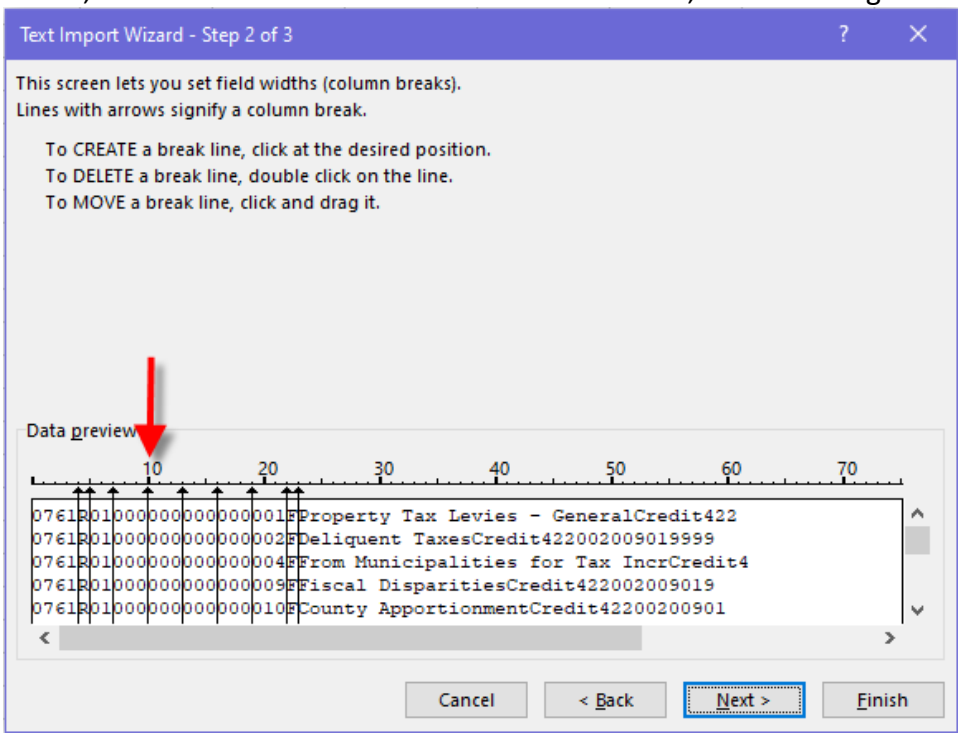
3. Open the text file you want to import.
4. Then, select which file type describes the data.



   a. The "Delimited" option lets you choose how the data will be separated into columns. For example, if you select Tab, it will separate the columns by each tab break.

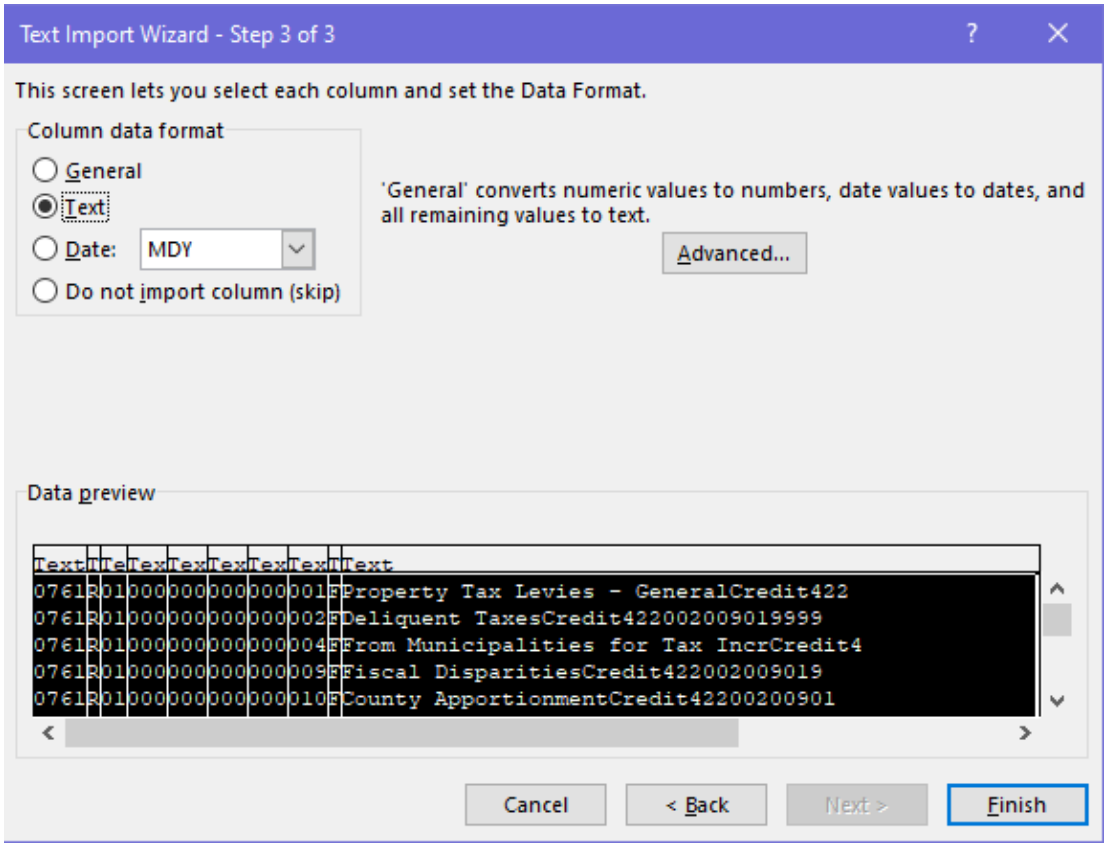


b. The "Fixed width" option allows you to manually move the bars to separate the columns. To create a break line, click at the desired position. To delete a break line, double-click on the line. To move a break line, click and drag it.



To ensure any leading zeroes will not be dropped, you must change the number column(s) to text.

1. Under "Data preview", click to highlight one or multiple columns to change them to text. If you need more than one column, highlight multiple columns by using the Ctrl or Shift keys.
2. Under "Column data format", click on the radio button next to Text.

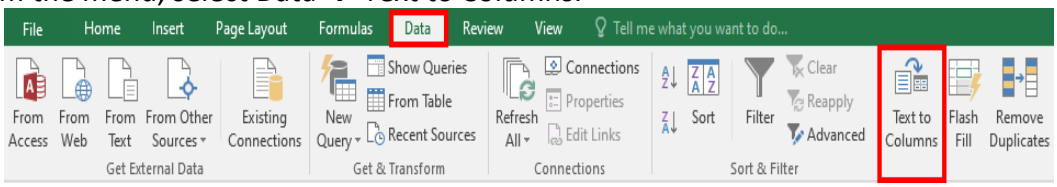


3. Click Finish.

Text to Columns

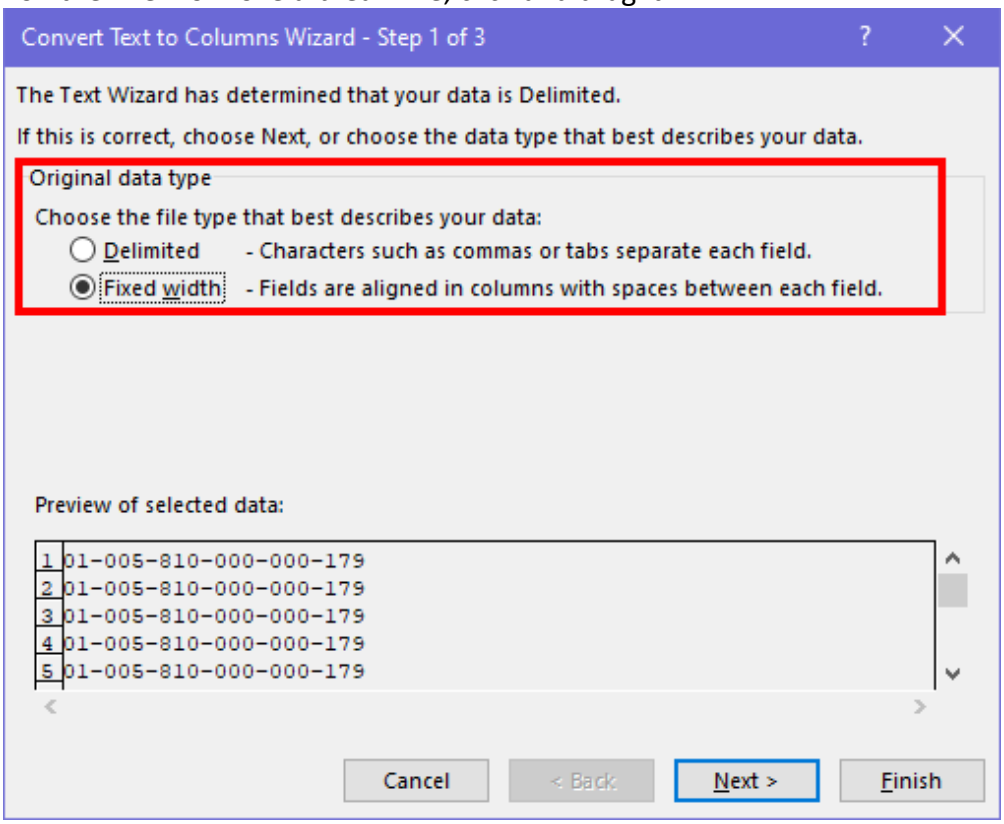
Use this feature if you want to split apart a column into multiple columns. You will need to insert the number of columns to hold the data. ***Note:*** If you do not insert columns, the Text to Columns will overwrite any existing data columns.

1. From the menu, select Data → Text to Columns.

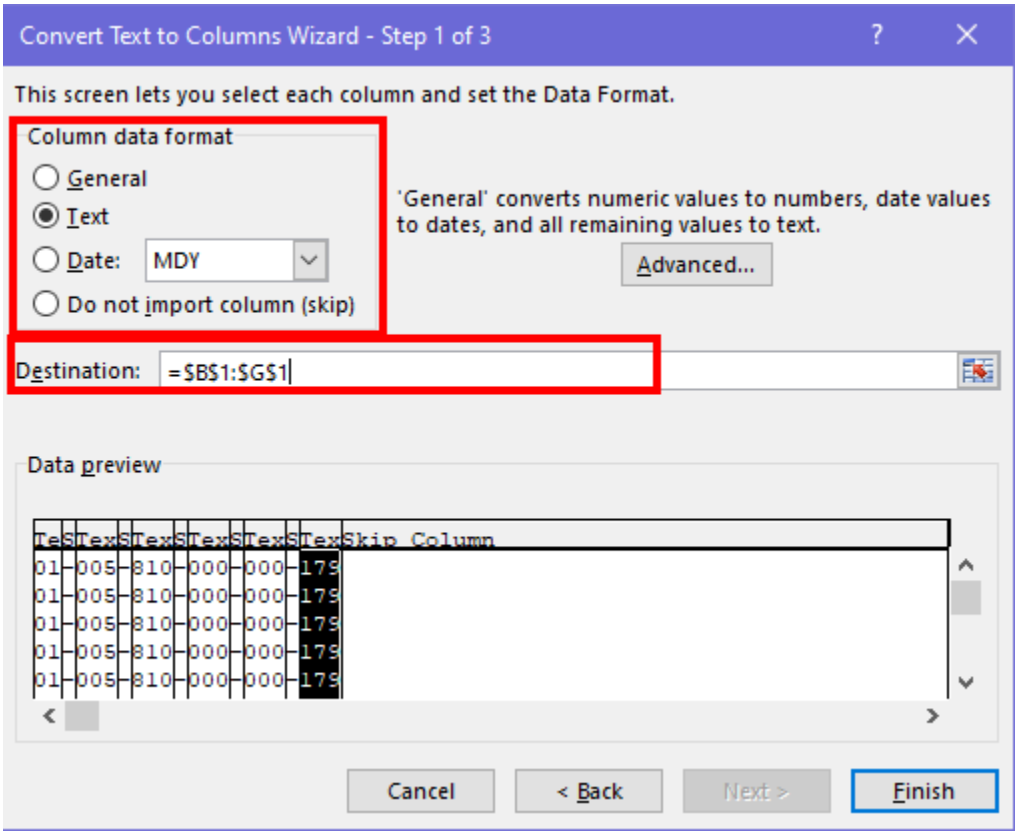


2. Choose the file type that best describes your data.

a. "Delimited" allows you to select characters, such as commas or tabs, to separate each field into a new column in the spreadsheet. This screen allows you to set the delimiter your data contains. You can view how you text will be affected in the "Data preview" screen.
b. "Fixed width" allows fields to be aligned into columns with spaces between each field. This screen allows you to set the field widths for the column breaks. To create a break line, click at the desired position. To delete a break line, double-click on the line. To move a break line, click and drag it.



3. This screen lets you select each column and set the data format.
   a. Hold down the Ctrl or Shift keys and click on each column.
   b. Now click on the Text radio button. ***Note:*** If you do not change the columns to be text, it will drop all leading zeroes in your spreadsheet. If you are working with UFARS codes, it will return bad data without leading zeroes.
   c. "Destination" is telling you it will be replacing the information in the columns beginning with that column and cell. If you don't want the existing columns to be overwritten, insert the number of columns needed before beginning the process.
   d. Click Finish.



Sorting Data

There are sorting capabilities when working in Excel.

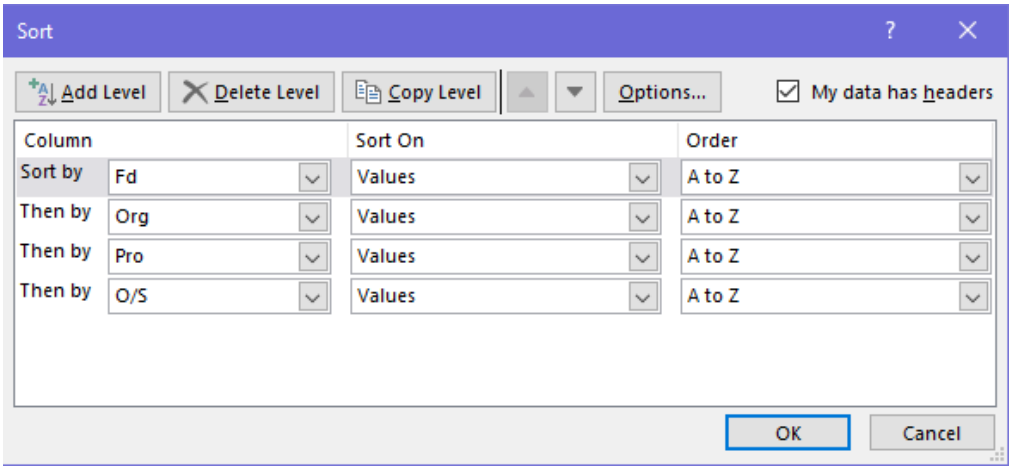
1. Highlight the data you want to sort.
2. From the menu, select Data.
3. Click on an icon based on the sorting that needs to be done.
   - Sorts ascending from A to Z.
   - Sorts descending from Z to A.
   - Sort — The custom Sort box allows you to make multiple sorting selections.

Custom Sort

The custom Sort option allow a user to do a detailed sort.

1. Highlight the data you want to sort.
2. From the menu, select Data.
3. Click on the Sort icon.
4. Select the sorting selections you would like to use on the selected data.
   a. **Add Level.** Inserts a row to sort by.
   b. **Delete Level.** Removes a row to sort by.

c. **Copy Level.** Copies the highlighted row.
d. **Up Arrow.** Moves the highlighted sort selection up.
e. **Down Arrow.** Moves the highlighted sort selection down.
f. **Options.** Gives orientation of sorting from top to bottom or left to right.
g. **My data has headers.** Click in the checkbox if you have a header row and want to use it to sort the data. This also prevents the header row(s) from being sorted into the data.
h. **Column.** Use the dropdown arrow to select the columns you want to sort on.
i. **Sort On.** Use the dropdown arrow to select Values, Cell Color, Font Color, or Cell Icon.
j. **Order.** Use the dropdown arrow to select the sort order, A to Z, Z to A, or Custom List.



5. Click OK.

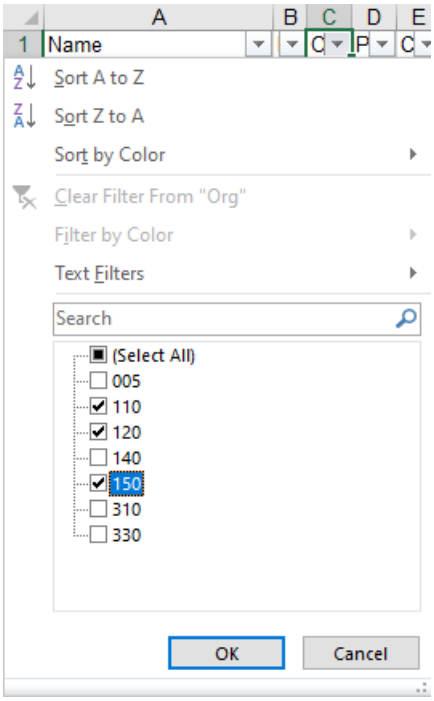
Filtering Data

There are filter capabilities when working in Excel.

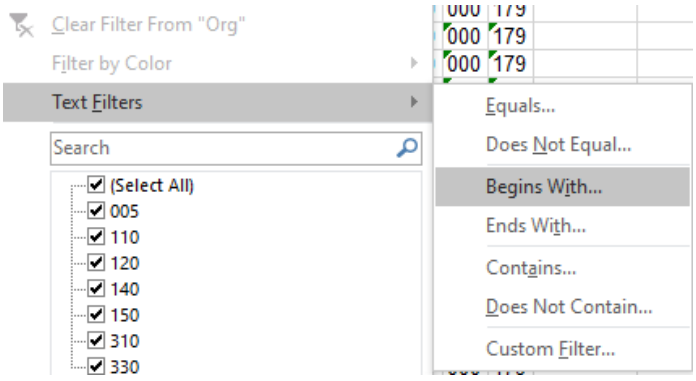
Create a Data Filter

1. To filter data, click on the row containing the column headings you would like to filter on.
2. From the menu, select Data.
3. Click on the Filter 

icon. This adds dropdown options to your header row. It allows you to filter data to narrow down the amount of information that is viewable.
    a. By unchecking the "(Select All)" box, you will be allowed to check any data listed in the dropdown.



b. To create custom filters, you can click on Text Filters from the menu. This will give additional options to filter by, such as:
    1) Equals
    2) Does Not Equal
    3) Begins With
    4) Ends With
    5) Contains
    6) Does Not Contain
    7) Custom Filter

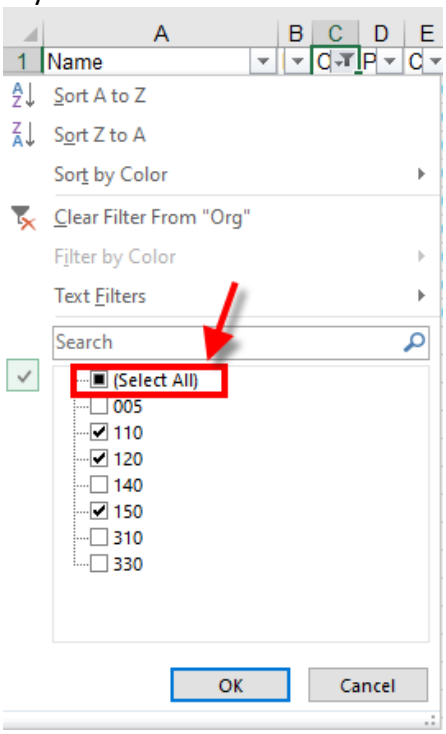


Remove/Clear a Data Filter

There are several options to remove or clear a data filter.

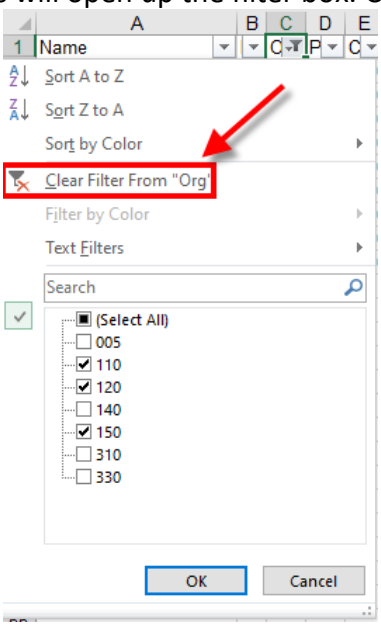
- Option #1
    1. Click on the dropdown arrow in the field you want filters removed.

2. This will open up the filter box. Select the checkbox next to “(Select All)” to display all data.



3. Click OK.

- Option #2
  1. Click on the dropdown arrow in the field you want filters removed.
  2. This will open up the filter box. Click on “Clear Filter From xxx”.



- Option #3
  1. From the menu, select Data.
  2. Under Sort & Filter, select the Clear  icon.

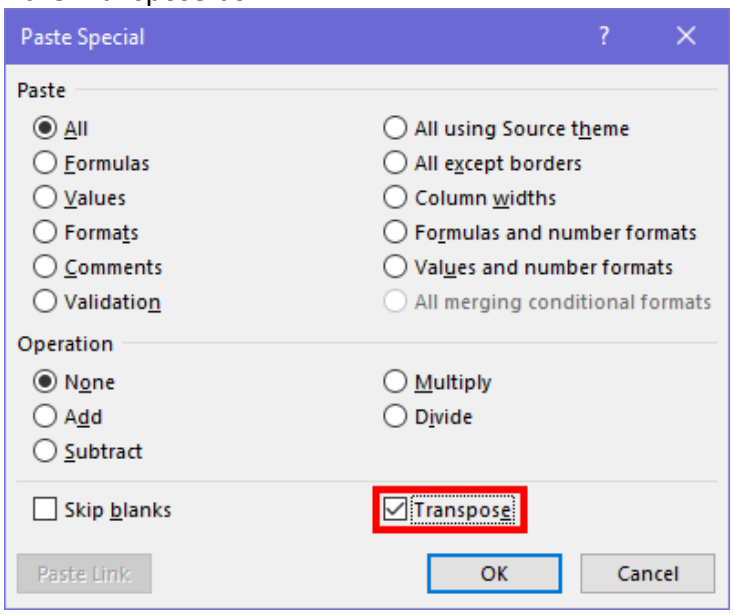
- Option #4
  1. From the menu, select Data.
  2. Under Sort & Filter, select the Filter  icon. This will turn the filter option off.

Transpose Data

This option takes data from a horizontal listing to a vertical display or from vertical to horizontal.

	A	B	C	D	E
1	**Name**	**Salary**	**FICA**	**TRA**	**Health**
2	Employee A	$40,000.00	$ 3,060.00	$ 3,336.00	$ 6,000.00
3	Employee B	$42,000.00	$ 3,213.00	$ 3,502.80	$ 6,000.00
4	Employee C	$45,000.00	$ 3,442.50	$ 3,753.00	$ 8,700.00
5	Employee D	$50,000.00	$ 3,825.00	$ 4,170.00	$ 6,000.00
6	Employee E	$55,000.00	$ 4,207.50	$ 4,587.00	$ 8,700.00

1. Highlight A1 to E6.
2. Right mouse click and select Copy.
3. Click in the cell where you would like to insert the new formatted listing.
4. Right mouse click and select Paste Special.
5. Click the Transpose box.

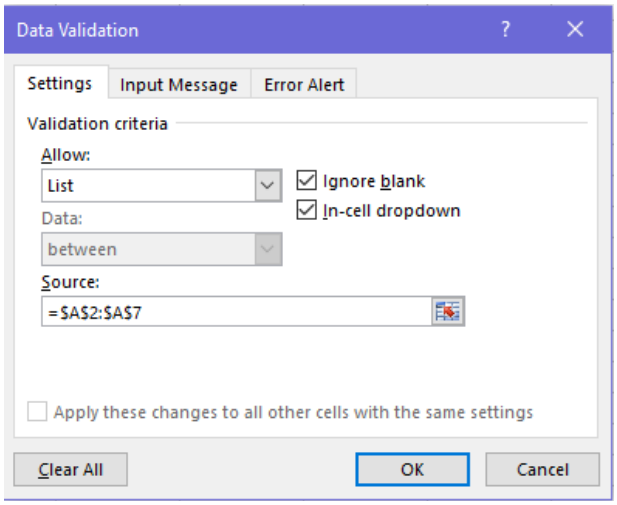


6. Click OK. The results are below.

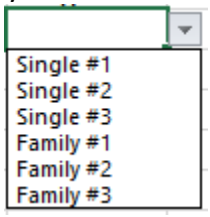
Name	Employee A	Employee B	Employee C	Employee D	Employee E
Salary	$40,000.00	$42,000.00	$45,000.00	$50,000.00	$55,000.00
FICA	$ 3,060.00	$ 3,213.00	$ 3,442.50	$ 3,825.00	$ 4,207.50
TRA	$ 3,336.00	$ 3,502.80	$ 3,753.00	$ 4,170.00	$ 4,587.00
Health	$ 6,000.00	$ 6,000.00	$ 8,700.00	$ 6,000.00	$ 8,700.00

Creating a Dropdown List

1. Click in the cell you would like to create the dropdown list.
2. From the menu, select Data → Data Validation.
3. Under Allow, select List.
4. Click  in the Source field.
5. Highlight the cells that include the information you want to appear in the dropdown list.
6. Click Enter.



7. Click OK.
8. Copy the cell down into the cells that you wish to control with the dropdown list.



Hyperlinks

Hyperlinks create a shortcut that jumps to another location in the current workbook or opens a document stored on a network server, intranet, or internet. When you click on a cell that contains a hyperlink, Excel jumps to the location listed or opens the document you specified.

Create a Hyperlink to an Internet Website

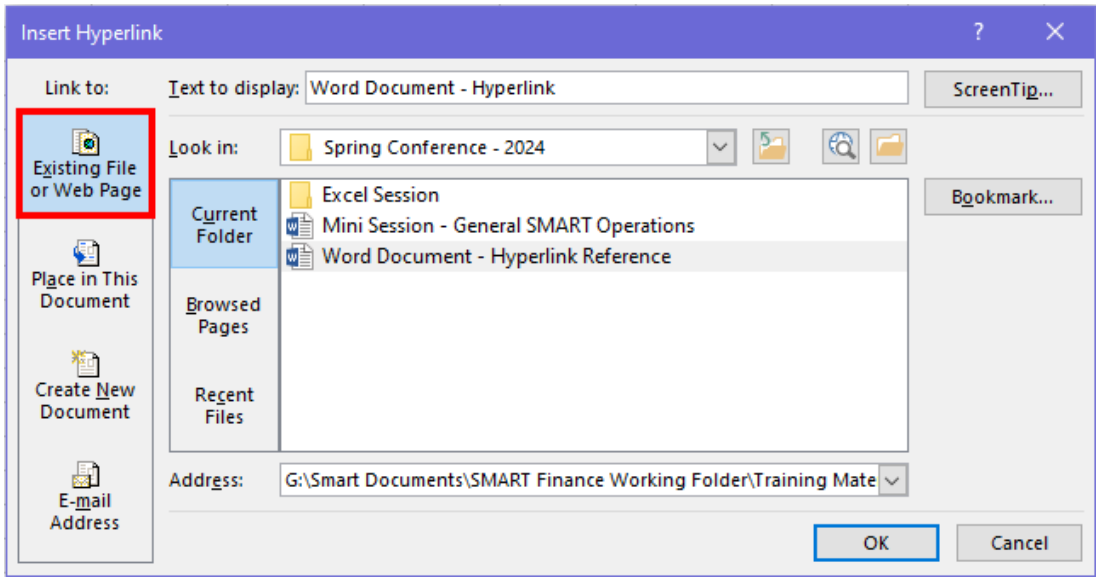
For an internet website hyperlink, type the website address into a cell and exit the cell. It will automatically underline the website address and create a hyperlink. Just click on the link to be taken to the website.

	A	B
1	Website Hyperlink	www.regionv.k12.mn.us

Create a Hyperlink to Open an Existing File

A user can create a hyperlink on a worksheet to take you to another file.

1. Click in the cell you want the hyperlink to appear.
2. From the menu, select Insert → Hyperlink  .
3. Select "Existing File or Web Page".
4. Enter in what you want to appear in the cell as the hyperlink name in the "Text to display:" field.
5. In the "Look in:" field, locate the file you want the hyperlink to open.
6. Click OK.



The hyperlink appears in the cell selected.

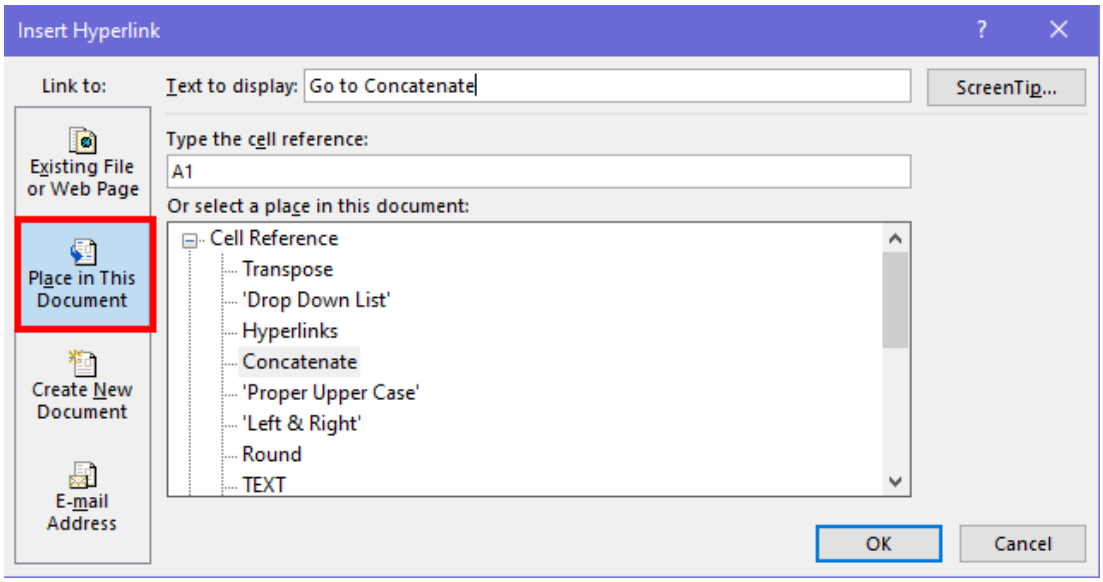
7	Word Document - Hyperlink

Create a Hyperlink to Jump to Another Worksheet Within the Excel Spreadsheet

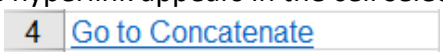
A user can create a hyperlink on a worksheet to take you to another worksheet within the same Excel spreadsheet.

1. Click in the cell you want the hyperlink to appear.
2. From the menu, select Insert → Hyperlink  .
3. Select "Place in This Document".

4. Enter in what you want to appear in the cell as the hyperlink name in the "Text to display:" field.
5. Under "Or select a place in this document:", select the worksheet you want the hyperlink to take you to.
6. Click OK.

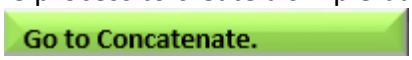


The hyperlink appears in the cell selected.

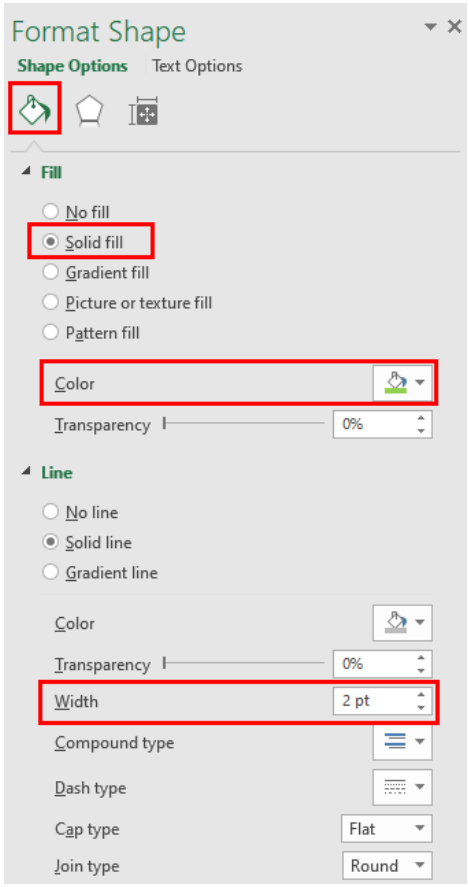


Create a Hyperlink Button

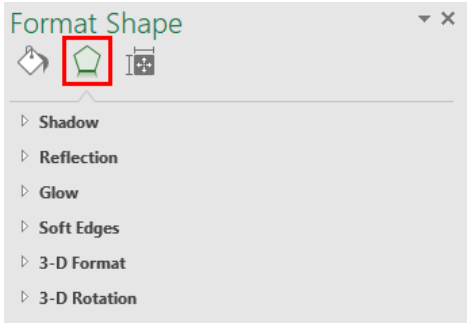
For the hyperlink, you can create a button to be selected rather than the underlined text. Below is the process to create a simple button that looks like the following.



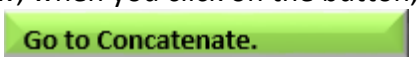
1. On the Menu, select Insert → Shapes.
2. Select the Textbox  icon.
3. Draw a textbook in the cell(s) you want the button to appear.
4. Right mouse click on the textbox and select Format Shape  .
5. Select the items you would like the button to have, like a solid fill color of green with a width line of 2.



6. Select Effects  .
7. Select the items you would like the button to have, like a shadow and 3-D format.



8. Click on the button and type what should appear on the button. Formatting can be added to the text.
9. Right mouse click and select Hyperlink.
10. Create your hyperlink.
11. Click into another cell.
12. Now, when you click on the button, it will direct you to the location you requested.



Excel Formulas

Relative Formula Reference

A relative reference is a cell reference in a formula that changes when a formula is copied from one position to another to reflect the new position. You are copying a "pattern" from one cell to another. Relative references contain a cell's column and row heading. Values are relative and are not fixed. It doesn't copy the absolute formula, it copies the pattern to that formula and is called a relative formula.

For example, if you type this formula into column C, =sum(C1:C20), and copy this formula as a relative reference into column D, it appears as =sum(D1:D20).

Absolute Formula Reference

An absolute reference is a cell reference in a formula that doesn't change when the formula is copied from one position to another to reflect the new position. Absolute references are used in formulas to refer to the values in the cells that need to be constant while performing calculations. A dollar sign ($) is used before the column and row heading in the cell reference to make it constant. By clicking in the formula reference you want to make absolute, hit the F4 key and it will add the dollar sign ($) to the formula automatically.

For example, if you type the formula, =sum(A3+$A$1), cell A1 will always be included in the formula.

Mixed Formula Reference

A mixed reference is a cell reference that contains both an absolute and a relative reference. An example might be that cell A1 holds the value of 2%. You want to take 2% of changing cells but do not want A1 to change. This is an absolute reference; a fixed cell.

For example, if you type this formula into column A, =sum($A$1*A20), and copy this formula into column B, it appears as =sum($A$1*B20).

Concatenate Formula

If you want to merge columns together (combine strings of data), you can use the concatenate feature in Excel. A good example of this would be Last Name and First Name that is stored in two columns in the file. The concatenate feature can be used to merge these two columns into one column. There is two ways to do this.

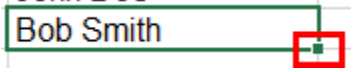
	A	B	C	D
1	**Last Name**	**First Name**	**Concatenate Name**	**Formula Entered**
2	Doe	John	John Doe	=B2&" "&A2
3	Smith	Bob	Bob Smith	=concatenate(B3," ",A3)

- Option #1
  - Type the formula (=B2&" "&A2) into the cell you want the information combined.

- This formula will take B2 (John), add a space, and then add A2 (Doe) to cell C2. Any alpha characters, including a space, needs to be typed inside the quotation marks.

- Option #2
  - Type the formula (=concatenate(B3," ", A3) into the cell you want the information combined.
  - This formula will take B3 (Bob), add a space, and then add A3 (Smith) to cell C3. Any alpha characters, including a space, needs to be typed inside the quotation marks.

If you want to copy down the formula, you will click on the little square in the lower right-hand corner of the field and double-click or pull down to copy.



If you want to delete the original columns A and B, you need to copy and paste the new concatenated column C as a value.

1. Right mouse click on column C and select Copy.
2. Right mouse click on column C again and select Paste Special.
3. Select Values.
4. Click OK.
5. Columns A and B can now be deleted.

PROPER or UPPER CASE Formula

Within Excel, you are able to change text from all capital letters to the first letter being capital using the PROPER formula. Also, you are able to change text from the first letter being capital to all the text being capital using the UPPER CASE formula.

	A	B	C	D	E	F	G
1	**Last Name**	**Proper Name**	**Proper Formula**		**First Name**	**Upper Case Name**	**Upper Case Formula**
2	ANDERSON	Anderson	=PROPER(A2)		Mary	MARY	=UPPER(E2)
3	JONES	Jones	=PROPER(A3)		John	JOHN	=UPPER(E3)
4	SMITH	Smith	=PROPER(A4)		Bob	BOB	=UPPER(E4)

PROPER Formula (Using Example Above)

- Type the formula, =PROPER(A2), into the cell you want the information to appear.
- Then, you can copy the formula down, if needed.

UPPER CASE Formula (Using Example Above)

- Type the formula, =UPPER(E2), into the cell you want the information to appear.
- Then, you can copy the formula down, if needed.

LEFT or RIGHT Formula

Within Excel, you are able to break out information from one cell using the LEFT or RIGHT formula. The LEFT formula will capture the first or last characters from the start of a text string. If a positive number is entered for the length, it will start from the beginning. If a negative number is entered for the length, it will exclude the ending characters. The RIGHT formula will capture the specified number of characters from the end of a text string.

	A	B	C	D	E	F
1	**Name & Extension**	**Name**	**LEFT Formula**		**Extension**	**RIGHT Formula**
2	Groskreutz, Dianna - 4804	Groskreutz, Dianna	=LEFT(A2,(LEN(A2)-7))		4804	=RIGHT(A2,4)
3	Guhlke, Jill - 4811	Guhlke, Jill	=LEFT(A3,(LEN(A3)-7))		4811	=RIGHT(A3,4)

LEFT Formula (Using Example Above)

- Type the formula, =LEFT(A2,(LEN(A2)-7)), into the cell you want the information to appear. This will capture all characters, except for the last seven (7), since the length number was a -7.
- Then, you can copy the formula down, if needed.

RIGHT Formula (Using Example Above)

- Type the formula, =RIGHT(A2,4), into the cell you want the information to appear. This will capture the last four (4) characters.
- Then, you can copy the formula down, if needed.

ROUND Formula

A ROUND formula rounds a number to a specified number of digits. This is especially helpful when multiplying cells in a formula.

The example below is creating a 2% increase to $33,333.00. Based on the last number of the formula, 0, 1, or 2 will determine how the answer rounds.

	A	B	C	D
1	**Amount**	**Increase by 2%**	**Answer**	**ROUND Formula**
2	$33,333.00	2%		
3				
4	Rounding to 0 Digits		$34,000.00	=ROUND($A$2+($A$2*$B$2),0)
5	Rounding to 1 Digit		$33,999.70	=ROUND($A$2+($A$2*$B$2),1)
6	Rounding to 2 Digits		$33,999.66	=ROUND($A$2+($A$2*$B$2),2)

TEXT Formula

The TEXT formula lets you change the way a number appears by applying formatting to it with format codes. It's useful in situations where you want to display numbers in a more readable format or combine numbers with text or symbols. It's best to keep your original value in one cell and use the TEXT formula in another cell.

	A	B	C	D
1	**Number**	**Result**	**Formula**	**Description**
2	4/4/2024	Thursday	=TEXT(A2,"DDDD")	Day the date falls on.
3	1234567890	(123) 456-7890	=TEXT(A3,"(###) ###-####")	Convert to a phone number.
4	1234567890	123-456-7890	=TEXT(A4,"###-###-####")	Convert to a phone number.
5	761	0761	=TEXT(A5,"0000")	Add leading zeros.

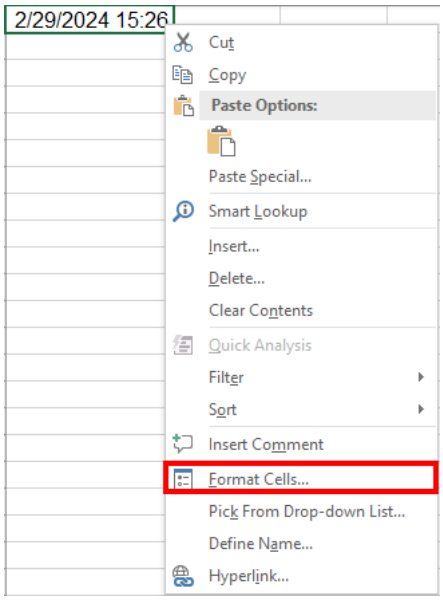
Using Dates to Calculate Values

Today's Date and Current Time

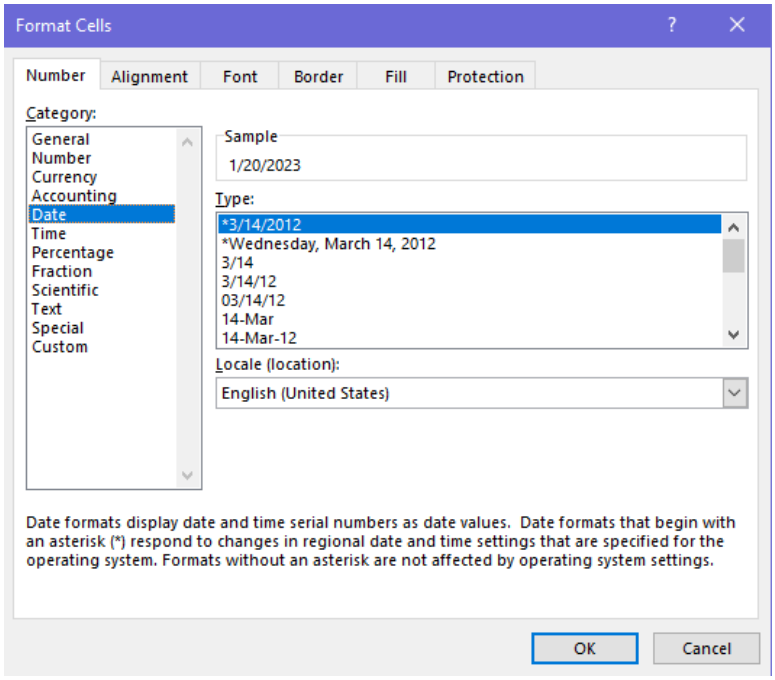
To add today's date and current time to your spreadsheet type in: =Now().

If you want to remove the time from a single cell, change the cell format to be a date only.

1. To edit the cell format, right mouse click on the cell you just entered the formula into.
2. Select Format Cells from the list.



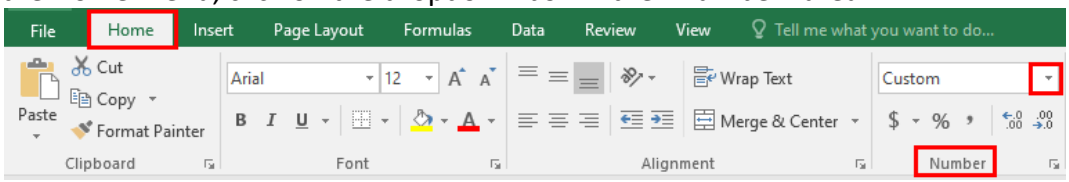
3. Under "Category", select Date.
4. Under "Type", select the date output you want to appear.



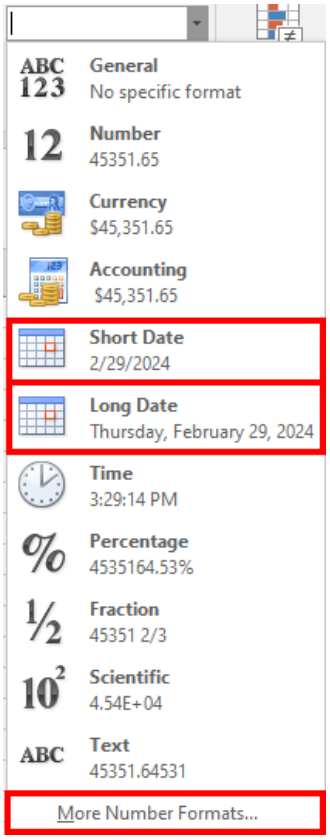
5. Click OK.

If you want to remove the time from an entire column, change the column format to be date only.

1. Click on the column letter(s) to highlight the entire column.
2. On the Home menu, click on the dropdown box in the "Number" area.



3. Select a date format either by selecting Short Date, Long Date, or More Number Formats.



Calculating Years of Service

The following process will identify the number of years from today's date. For example, this could be used to identify the years of service for specific people.

	A	B	C	D
1	**Today's Date**	4/4/2024		
2	**Employee**	**Date of Hire**	**Years of Service**	**Formula**
3	Anderson, Mary	9/1/1998	26.00	=ROUND(($B$1-B3)/365,0)
4	Jones, John	1/2/2002	22.00	=ROUND(($B$1-B4)/365,0)
5	Smith, Bob	4/22/2012	12.00	=ROUND(($B$1-B5)/365,0)

Years of Service Calculation (Using Example Above)

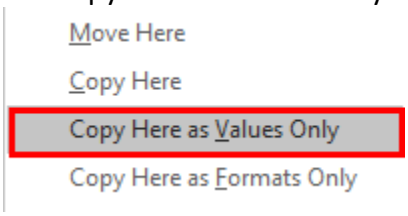
- Type the formula, =ROUND(($B$1-B3)/365,0) into the cell you want the information to appear.
- Then, you can copy the formula down, if needed.

The ROUND function is added to the formula, so the answer can be rounded to a full year. The ",0" at the end of the formula states you want to round the answer to the nearest full year. If a ",1" was entered, it would round the answer to the nearest tenth. The dollar sign ($) used in the formula makes it an absolute reference where each formula uses this date as a constant. Also, dividing by 365 represents 365 days in a year.

Copying Formulas as Values Only

If you wish to convert the formula to an actual number, you can accomplish this by using the "Copy Here as Values Only" feature of Excel.

1. Highlight the column or cell with a formula that you want to convert to a number.
2. Move your mouse to the right side of the cell or column until you see  . Right mouse click and hold the right mouse button down.
3. Move your mouse to another cell where you want the information to appear while continuing to hold the right mouse button.
4. Release the right mouse button.
5. Select "Copy Here as Values Only" from the options.



VLOOKUP Formula

The VLOOKUP formula is used when you need to find a value in a table. It has three arguments that appear in the following order: lookup value, table array, and column index number.

- The **lookup value** is the value you are looking up in the first column of the table. It can be a value, a test string, or a cell reference.
- The **table array** is the range address of the table of information.
- The **column index number** is the number of columns Excel counts over to the right from the first column in the table.

In the example below, the data contains teacher demographics. A separate table contains the teacher's file folder number (FFN). The VLOOKUP formula can be used to add the file folder number to the demographic record.

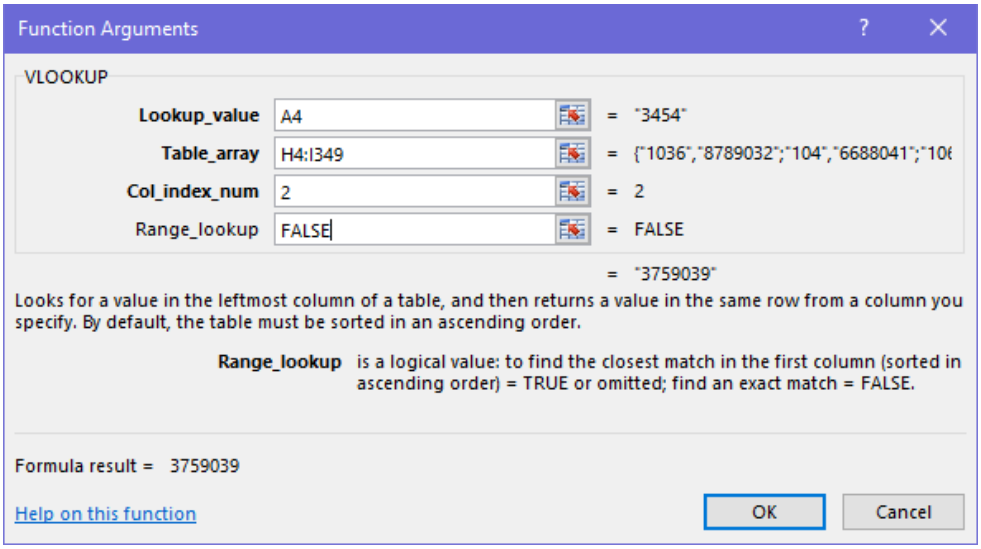
	A	B	C	D	E	F	G	H	I
1				Demographics					FFN Table
2									
3	ID	Name	Prim_Status	Barg_Unit	Job	FFN		ID	Folder_Nbr
4	3454	ABBOTT, MARIANNE 3454	AC	TEACHER	LANGUAGE ARTS TEACHER			1036	8789032
5	5413	ADKINS, NELSON 5413	AC	TEACHER	TEACHING/LEARNING COACH			104	6688041
6	1130	ALFORD, CATHY 1130	AC	TEACHER	KINDERGARTEN TEACHER			1065	2935034
7	2988	ALFORD, FAYE 2988	AC	TEACHER	LANGUAGE ARTS TEACHER			1088	8397034
8	5050	ALVARADO, LYNN 5050	AC	TEACHER	MEDIA SPECIALIST			1108	4608031
9	4677	ALVARADO, SONIA 4677	AC	TEACHER	KINDERGARTEN TEACHER			1122	6051041
10	5224	ALVARADO, WADE 5224	AC	PROBATIONARY TEACHER	PE/HEALTH TEACHER			1129	8677038
11	4700	ALVAREZ, NETTIE 4700	AC	TEACHER	SPECIAL EDUCATION TEACHER			1130	1567034

Enter the following formula in cell F4, FFN *(file folder number).*

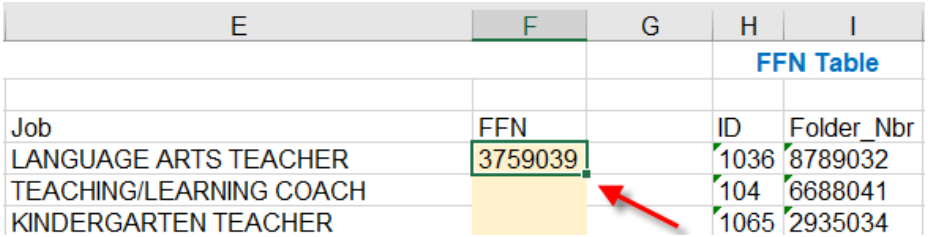
- Lookup_value = A4. *Field containing the employee ID.*
- Table_array = $H$4:$I$349. *Range that contains the file folder number. Note: Use absolute reference to define the table range.*

> ***Quick tip:*** To quickly select a range of cells use **Ctrl + Shift + Arrow Key →**.
> Then repeat going down **Ctrl + Shift + Arrow Key ↓**.

- Col_index_num = 2. *Indicates which column in the table contains the value you want returned.*
- Range_lookup
  - TRUE = Approximate Match
  - FALSE = Exact Match



To quickly copy the formula down the spreadsheet, double-click on the "box" in the lower right corner of cell F4.

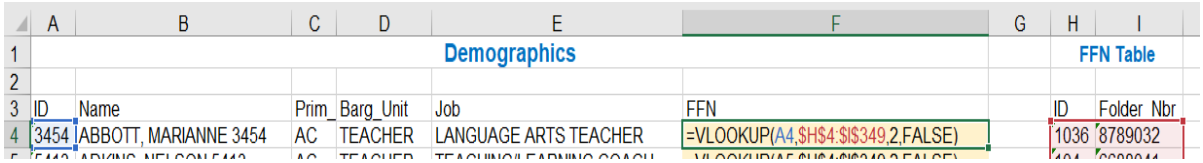


	E	F	G	H	I
				FFN Table	
	Job	FFN		ID	Folder_Nbr
	LANGUAGE ARTS TEACHER	3759039		1036	8789032
	TEACHING/LEARNING COACH			104	6688041
	KINDERGARTEN TEACHER			1065	2935034

The file folder number is now linked to the employee demographics.

	A	B	C	D	E	F	G	H	I
1				Demographics					FFN Table
2									
3	ID	Name	Prim_Status	Barg_Unit	Job	FFN		ID	Folder_Nbr
4	3454	ABBOTT, MARIANNE 3454	AC	TEACHER	LANGUAGE ARTS TEACHER	3759039		1036	8789032
5	5413	ADKINS, NELSON 5413	AC	TEACHER	TEACHING/LEARNING COACH	7950040		104	6688041
6	1130	ALFORD, CATHY 1130	AC	TEACHER	KINDERGARTEN TEACHER	1567034		1065	2935034
7	2988	ALFORD, FAYE 2988	AC	TEACHER	LANGUAGE ARTS TEACHER	9499032		1088	8397034
8	5050	ALVARADO, LYNN 5050	AC	TEACHER	MEDIA SPECIALIST	2711045		1108	4608031
9	4677	ALVARADO, SONIA 4677	AC	TEACHER	KINDERGARTEN TEACHER	7126035		1122	6051041
10	5224	ALVARADO, WADE 5224	AC	PROBATIONARY TEACHER	PE/HEALTH TEACHER	8640049		1129	8677038
11	4700	ALVAREZ, NETTIE 4700	AC	TEACHER	SPECIAL EDUCATION TEACHER	4851037		1130	1567034
12	319	ATKINS, JONATHON 319	AC	TEACHER	4TH GRADE TEACHER	0348038		1159	7569040
13	4499	AUSTIN, WAYNE 4499	AC	TEACHER	SCHOOL SOCIAL WORKER	3462047		1243	0499036

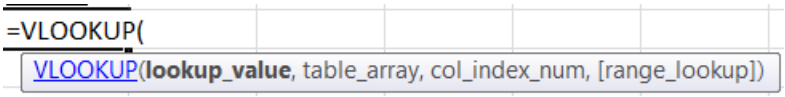
To view the formula, from the menu, select Formulas → Show Formulas.



	A	B	C	D	E	F	G	H	I
1		Demographics						FFN Table	
2									
3	ID	Name	Prim_	Barg_Unit	Job	FFN		ID	Folder_Nbr
4	3454	ABBOTT, MARIANNE 3454	AC	TEACHER	LANGUAGE ARTS TEACHER	=VLOOKUP(A4,$H$4:$I$349,2,FALSE)		1036	8789032

- The "lookup table" could be on another worksheet or it could be in another workbook.
  - To identify a workbook, it has to be in square brackets. [ ]
  - To identify a worksheet, you type in the name of the worksheet followed by !.
  - Assume the file folder number is in a separate worksheet named FFN. The formula used would look like this:
    =VLOOKUP(A4,FFN!$H$4:$I$349,2,false)

Quick tip: Need more help with this feature? Type in =VLOOKUP, double-click on VLOOKUP, now hover over it until it turns blue and click on the blue link for help.



INDEX and MATCH Formulas

The **INDEX** formula can be very useful when referencing a salary schedule within a spreadsheet.

- The INDEX formula returns a value for a range using a row index for a vertical range or column index for a horizontal range or both for a two-dimensional range.
- The MATCH formula searches for a value or text and returns the relative row or column in which the item was found.

Teacher Matrix Example

	A	B	C	D	E	F	G
1	Teacher Matrix						
2	Step	BA	BA+15	BA+30	MA	MA+20	MA+60
3	1	$42,160	$43,133	$44,116	$48,091	$49,088	$51,417
4	2	$43,976	$44,987	$46,010	$50,362	$51,949	$53,896
5	3	$45,798	$46,842	$47,907	$52,631	$53,714	$56,381
6	4	$47,618	$48,693	$49,797	$54,903	$56,027	$58,862
7	5	$49,434	$50,550	$51,690	$57,172	$58,337	$61,347
8	6	$51,257	$52,407	$53,588	$59,441	$60,652	$63,827
9							
10							
11	Name	FTE	Lane	Step	Annual Contract (matrix * FTE)		
12	BARR, DARLENE 4043	0.75	BA+30	2	$34,508		
13	DAWSON, MARLON 4602	0.25	MA	5	$14,293		
14	DURHAM, GREGG 5058	0.5	BA	3	$22,899		
15	FUENTES, SAMUEL 5219	1	MA+20	2	$51,949		
16	GOULD, CAROLE 4897	1	BA+15	4	$48,693		
17	NIXON, RAFAEL 5562	0.5	BA+30	1	$22,058		
18	NOEL, MARTIN 4652	0.75	MA	4	$41,177		
19	OSBORN, MARIANNE 4928	1	MA+60	5	$61,347		
20	REEVES, ANDREW 4053	1	BA	6	$51,257		

*In the **Teacher Matrix Example,** the following formula was entered in cell E12 (Annual Contract) for BARR, DARLENE.*

```
=INDEX($A$2:$G$8,MATCH(D12,$A$2:$A$8,0),MATCH(C12,$2:$2,0))*B12
```

- **$A$2:$G$8** *Range that contains the Teacher salary schedule; steps and lanes.*
- **D12** *Employee Step placement*
- **$A$2:$A$8** *Find an exact match for the Step by searching the range of cells.*
- **C12** *Employee Lane placement*
- **$2:$2** *Find an exact match for the Lane using all cells found in row A2 – G2.*
- **B12** *Employee FTE value*

Good to know:

- ✓ The formula exists in the column rows named "Annual Contract (matrix * FTE)".
- ✓ The formula is doing a "lookup" using the teacher matrix to find the Lane and Step for each employee name.
- ✓ The index defines the column/row range to look in.
- ✓ The match searches for a value within the index range of cells.
- ✓ The 0 in the formula identifies that you are looking for an exact match.

Benefit Rates by Bargaining Unit Example

Benefit Rates by Bargaining Unit

Health Coverage	Admin	Teacher	Para	Conf	Cust	Cook
Single 100	$1,000	$525	$512	$520	$520	$512
Single 500	$800	$425	$412	$420	$420	$412
Single Veba	$750	$400	$385	$390	$390	$385
Family 100	$2,000	$1,200	$1,015	$1,025	$1,025	$1,015
Family 500	$1,600	$1,000	$865	$875	$875	$865
Family Veba	$1,500	$950	$765	$775	$775	$765

Life Coverage	Admin	Teacher	Para	Conf	Cust	Cook
$25,000	$50	$50	$38	$38	$38	$38
$50,000	$100	$100	$76	$76	$76	$76
$75,000	$150					
$100,000	$200					
$125,000	$250					
$200,000	$400					

Name	FTE	Barg Unit	Health Coverage	Health Benefit	Life Coverage	Life Benefit
BARR, DARLENE	1.00	Teacher	Single 100	$525	$25,000	$50
DAWSON, MARLON	1.00	Cook	Family 500	$865	$25,000	$38
DURHAM, GREGG	0.80	Cust	Family 100	$820	$50,000	$61
FUENTES, SAMUEL	0.75	Admin	Family Veba	$1,125	$200,000	$300
GOULD, CAROLE	1.00	Teacher	Single Veba	$400	$50,000	$100
NIXON, RAFAEL	0.50	Conf	Single Veba	$195	$25,000	$19
NOEL, MARTIN	1.00	Para	Single 500	$412	$25,000	$38
OSBORN, MARIANNE	1.00	Teacher	Single 500	$425	$50,000	$100
REEVES, ANDREW	0.75	Para	Family 100	$761	$25,000	$29

Health Benefit

Formula used in column E.

```
=INDEX($A$2:$G$8,MATCH(D11,$A$2:$A$8,0),MATCH(C11,$2:$2,0))*B11
```

This formula finds the value for cell E11 by:

1. Matching the Health Coverage found in cell D11;
2. with the range of cells for Health Coverage, or range A2:A8;
3. for the Bargaining Unit type found in cell C11;
4. with the index range of cells for the Health Coverage by Bargaining Unit, or range A2:G8;
5. the calculation is then taken times the FTE found in cell B11.

Life Benefit

Formula used in column G.

```
=INDEX($I$2:$O$8,MATCH(F11,$I$2:$I$8,0),MATCH(C11,$2:$2,0))*B11
```

This formula finds the value for cell G11 by:

1. Matching the Life Coverage found in cell F11;
2. with the range of cells for Life Coverage, or range I2:I8;
3. for the Bargaining Unit type found in cell C11;
4. with the index range of cells for the Life Coverage by Bargaining Unit, or range I2:O8;
5. the calculation is then taken times the FTE found in cell B11.

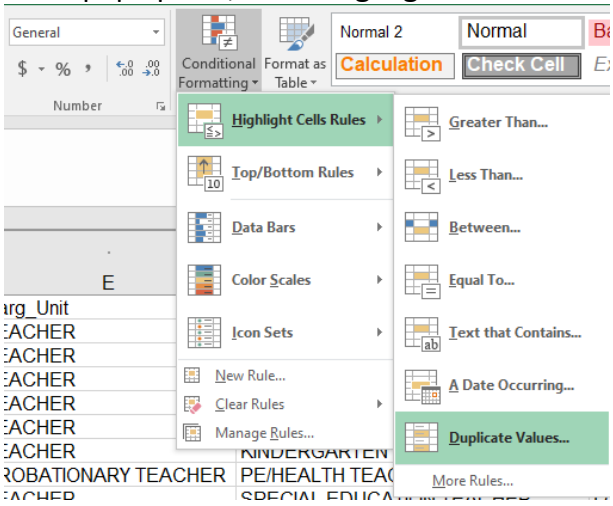
Data Tools

Conditional Formatting

Conditional Formatting in Excel enables you to highlight cells with a certain color, depending on the cell's value. This is helpful when analyzing data. Based on the conditions specified, if they are true, the cell is formatted. If false, the cell is not formatted.

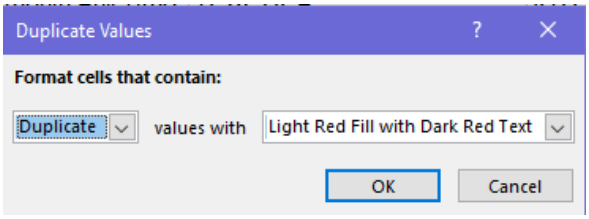
Find duplicate employee IDs

In the example below, the employee demographics may have more than one row per employee. To find these rows, highlight the column containing the employee ID, then click on the **Home** tab. Under the Styles section, select the down arrow on **Conditional Formatting**. From the pop up box, select **Highlight Cells Rules → Duplicate Values.**



The **Duplicate Values** box appears.

- Format cells that contain: **Duplicate.**
- Values with: Choose color scheme.
- Click OK.



Employees with more than one row in the file are highlighted, so further analysis can be done.

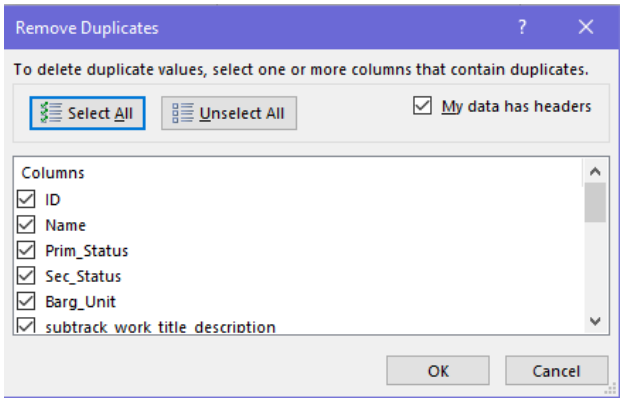
	A	B	L	M	N	O	P	Q	R	S	T
1	ID	Name	Code	Start	Stop	Annual_Cont	FTE	Factor1	Factor2	Hours / Day	Days / Year
260	4029	POOLE, OLIVER 4029	TEACHER	9/1/2019 0:00		$ 59,441	1	MA	06	6	193
261	5049	POWERS, HUGO 5049	TEACHER	9/1/2019 0:00	9/30/2019 0:00	$ 45,798	1	BA	03	6	193
262	5049	POWERS, HUGO 5049	TEACHER	10/1/2019 0:00	11/30/2019 0:00	$ 37,730	1	BA	03	6	193
263	5049	POWERS, HUGO 5049	TEACHER	12/1/2019 0:00		$ 38,916	1	BA	03	6	193
264	1287	PRICE, MARJORIE 1287	TEACHER	9/1/2019 0:00		$ 78,181	1	MA+40	17	6	193

Remove Duplicates

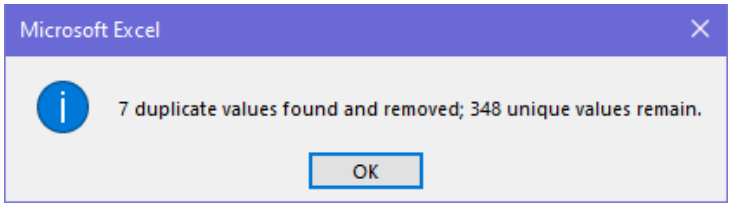
Using the above example, if Conditional Formatting finds duplicate employee IDs and the information in all rows is the same, the duplicate information can easily be removed. This is completed by highlighting the data columns. From the menu, select Data → Remove Duplicates.

	A	B	L	M	N	O	P	Q	R
1	ID	Name	Code	Annual_Cont	FTE	Factor1	Factor2	Hours / Day	Days / Year
48	4671	CAMERON, GLEN 4671	TEACHER	$ 66,031	1	MA	08	6	193
49	1934	CANTRELL, REX 1934	TEACHER	$ 76,807	1	MA+20	25	6	193
50	4605	CARLSON, VERNON 4605	TEACHER	$ 41,238	1	BA	05	6	193
51	4605	CARLSON, VERNON 4605	TEACHER	$ 41,238	1	BA	05	6	193
52	3386	CARNEY, EDWARD 3386	TEACHER	$ 72,468	1	MA	10	6	193
53	5192	CASTILLO, BESSIE 5192	TEACHER	$ 52,407	1	BA+15	06	6	193

The Remove Duplicates box appears. Additional selections can be made or click OK to accept the default.



A message appears telling you how many values were removed and how many unique values remain. Click OK.



In the example below, note only one row remains for employee ID 4605.

	A	B	L	M	N	O	P	Q	R
1	ID	Name	Code	Annual_Cont	FTE	Factor1	Factor2	Hours / Day	Days / Year
48	4671	CAMERON, GLEN 4671	TEACHER	$ 66,031	1	MA	08	6	193
49	1934	CANTRELL, REX 1934	TEACHER	$ 76,807	1	MA+20	25	6	193
50	4605	CARLSON, VERNON 4605	TEACHER	$ 41,238	1	BA	05	6	193
51	3386	CARNEY, EDWARD 3386	TEACHER	$ 72,468	1	MA	10	6	193
52	5192	CASTILLO, BESSIE 5192	TEACHER	$ 52,407	1	BA+15	06	6	193
53	5217	CASTILLO, NICHOLE 5217	TEACHER	$ 75,894	1	MA+40	10	6	193

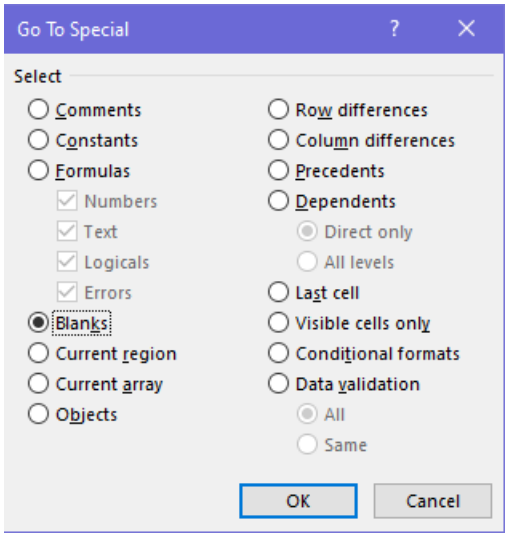
Remove Blanks

Sometimes the data we are working with contains blank rows. In the example below, there is a blank row between each employee row.

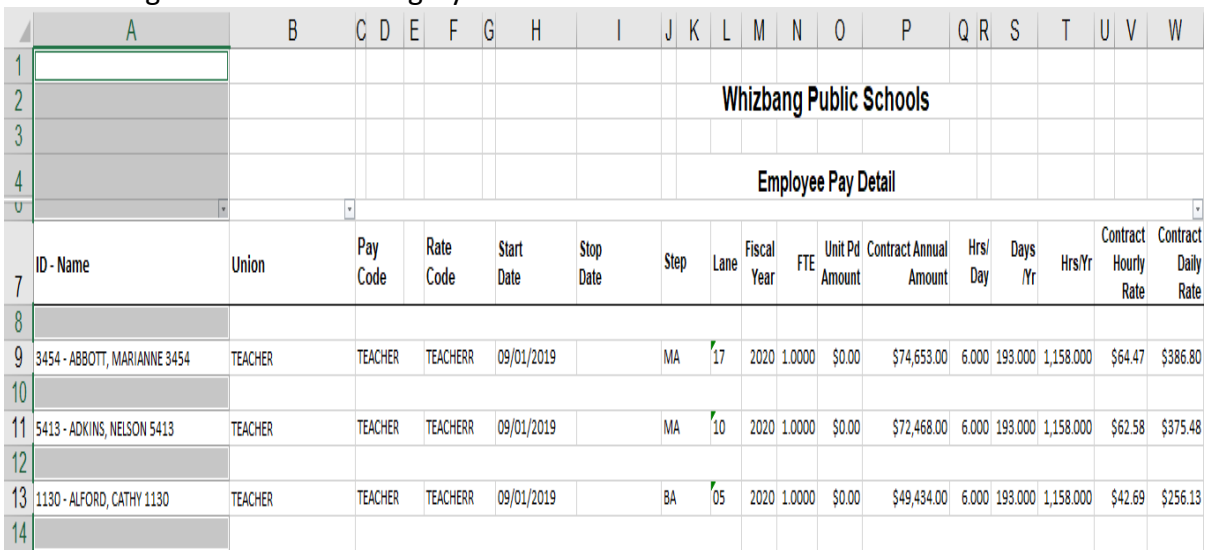
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
1																							
2															Whizbang Public Schools								
3																							
4															Employee Pay Detail								
7	ID - Name	Union	Pay Code	Rate Code	Start Date	Stop Date	Step	Lane	Fiscal Year	FTE	Unit Pd Amount	Contract Annual Amount	Hrs/ Day	Days /Yr	Hrs/Yr	Contract Hourly Rate	Contract Daily Rate						
8																							
9	3454 - ABBOTT, MARIANNE 3454	TEACHER	TEACHER	TEACHERR	09/01/2019		MA	17	2020	1.0000	$0.00	$74,653.00	6.000	193.000	1,158.000	$64.47	$386.80						
10																							
11	5413 - ADKINS, NELSON 5413	TEACHER	TEACHER	TEACHERR	09/01/2019		MA	10	2020	1.0000	$0.00	$72,468.00	6.000	193.000	1,158.000	$62.58	$375.48						
12																							
13	1130 - ALFORD, CATHY 1130	TEACHER	TEACHER	TEACHERR	09/01/2019		BA	05	2020	1.0000	$0.00	$49,434.00	6.000	193.000	1,158.000	$42.69	$256.13						

To easily remove the blank rows, complete the following steps.

1. Highlight a column containing a blank value.
2. From the menu, select Home → Find & Select.
3. A selection list appears. Click on “Go To Special...”.
4. A message box appears. Click in the radio button for Blanks.
5. Click OK.



Cells containing a blank value are “grayed out”.

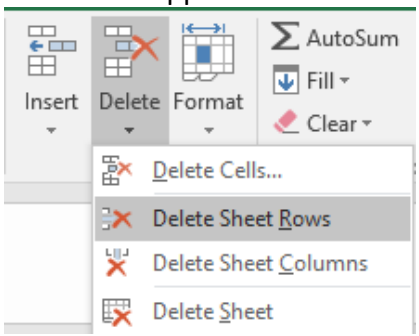


Whizbang Public Schools

Employee Pay Detail

ID - Name	Union	Pay Code	Rate Code	Start Date	Stop Date	Step	Lane	Fiscal Year	FTE	Unit Pd Amount	Contract Annual Amount	Hrs/ Day	Days /Yr	Hrs/Yr	Contract Hourly Rate	Contract Daily Rate
3454 - ABBOTT, MARIANNE 3454	TEACHER	TEACHER	TEACHERR	09/01/2019		MA	17	2020	1.0000	$0.00	$74,653.00	6.000	193.000	1,158.000	$64.47	$386.80
5413 - ADKINS, NELSON 5413	TEACHER	TEACHER	TEACHERR	09/01/2019		MA	10	2020	1.0000	$0.00	$72,468.00	6.000	193.000	1,158.000	$62.58	$375.48
1130 - ALFORD, CATHY 1130	TEACHER	TEACHER	TEACHERR	09/01/2019		BA	05	2020	1.0000	$0.00	$49,434.00	6.000	193.000	1,158.000	$42.69	$256.13

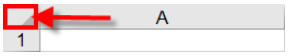
6. From the menu, select Home.
7. Click on the down arrow on Delete.
8. A selection list appears. Select Delete Sheet Rows.



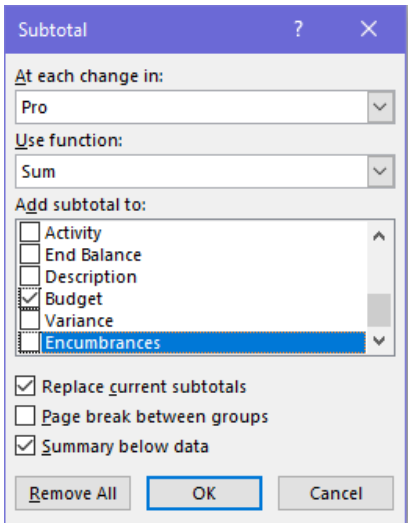
Blank rows are removed.

	ID - Name	Union	Pay Code	Rate Code	Start Date	Stop Date	Step	Lane	Fiscal Year	FTE	Unit Pd Amount	Contract Annual Amount	Hrs/ Day	Days /Yr	Hrs/Yr	Contract Hourly Rate	Contract Daily Rate
2	3454 - ABBOTT, MARIANNE 3454	TEACHER	TEACHER	TEACHERR	09/01/2019		MA	17	2020	1.0000	$0.00	$74,653.00	6.000	193.000	1,158.000	$64.47	$386.80
3	5413 - ADKINS, NELSON 5413	TEACHER	TEACHER	TEACHERR	09/01/2019		MA	10	2020	1.0000	$0.00	$72,468.00	6.000	193.000	1,158.000	$62.58	$375.48
4	1130 - ALFORD, CATHY 1130	TEACHER	TEACHER	TEACHERR	09/01/2019		BA	05	2020	1.0000	$0.00	$49,434.00	6.000	193.000	1,158.000	$42.69	$256.13
5	2988 - ALFORD, FAYE 2988	TEACHER	TEACHER	TEACHERR	09/01/2019		MA	17	2020	1.0000	$0.00	$74,653.00	6.000	193.000	1,158.000	$64.47	$386.80

Subtotals

To add subtotals to your spreadsheet, click between Column A and Row 1 

to highlight the entire spreadsheet and select the **Data** tab from the menu. Then, click on **Subtotal** found under the **Outline** section. This brings up the Subtotal selection box.

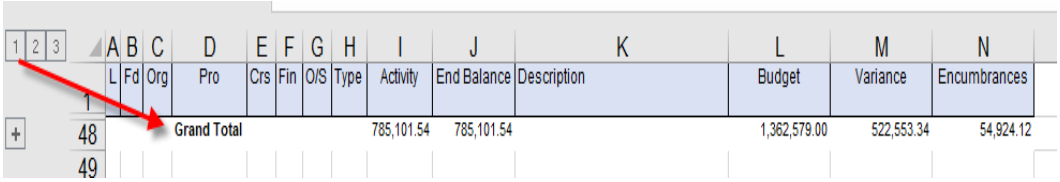


- **At each change in:** You define how the spreadsheet should do the subtotals. For example, you can subtotal by Program.
- **Use function:** You define what function should be used for subtotaling. SUM gives you a "subtotal" amount of the cells selected. COUNT returns a "count" of the cells. AVERAGE returns the "average" of the cells you selected.
- **Add subtotal to:** What fields should have subtotals displayed? You can display subtotals for several columns.
- **Remove All.** You will click on this button if you want to remove all subtotals and start over again.

Collapse/Expand Detail Rows

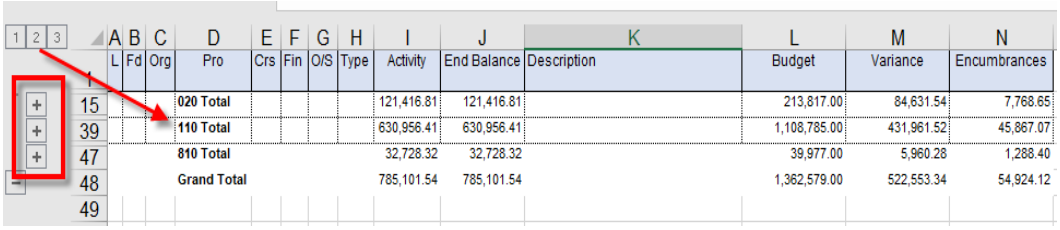
Notice that after you subtotal your spreadsheet you now have numbers in the upper left-hand corner of the spreadsheet of 1, 2, and 3.

- **Click on 1** in the upper left-hand corner of the spreadsheet to see **Grand Total.**



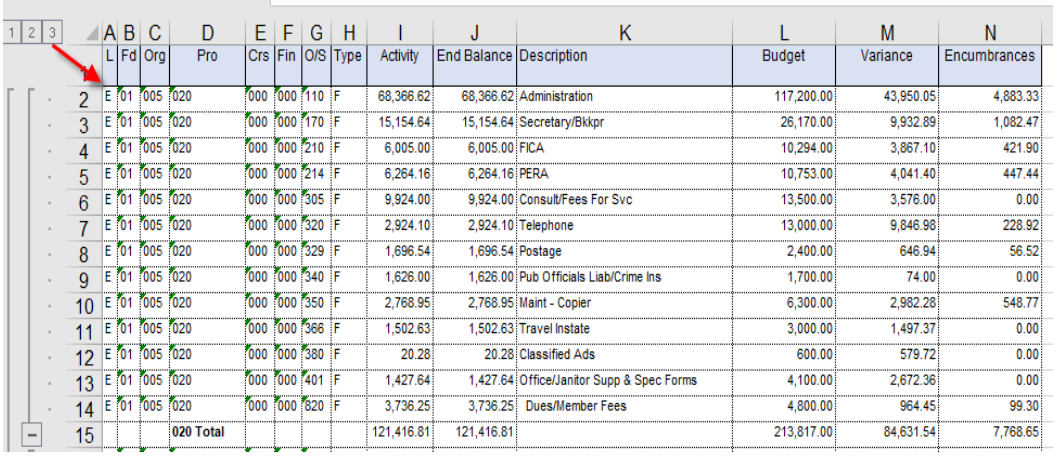
	L	Fd	Org	Pro	Crs	Fin	O/S	Type	Activity	End Balance	Description	Budget	Variance	Encumbrances
48				Grand Total					785,101.54	785,101.54		1,362,579.00	522,553.34	54,924.12

- **Click on 2** in the upper left-hand corner of the spreadsheet to see **Subtotals** by the item you added subtotals to. In this example, we used Pro [Program]. *Note: To see detail, click on the expand and collapse options (+/-) on the left side of the rows.*



	L	Fd	Org	Pro	Crs	Fin	O/S	Type	Activity	End Balance	Description	Budget	Variance	Encumbrances
15				020 Total					121,416.81	121,416.81		213,817.00	84,631.54	7,768.65
39				110 Total					630,956.41	630,956.41		1,108,785.00	431,961.52	45,867.07
47				810 Total					32,728.32	32,728.32		39,977.00	5,960.28	1,288.40
48				Grand Total					785,101.54	785,101.54		1,362,579.00	522,553.34	54,924.12

- **Click on 3** to return to the detailed spreadsheet.



	L	Fd	Org	Pro	Crs	Fin	O/S	Type	Activity	End Balance	Description	Budget	Variance	Encumbrances
2	E	01	005	020	000	000	110	F	68,366.62	68,366.62	Administration	117,200.00	43,950.05	4,883.33
3	E	01	005	020	000	000	170	F	15,154.64	15,154.64	Secretary/Bkkpr	26,170.00	9,932.89	1,082.47
4	E	01	005	020	000	000	210	F	6,005.00	6,005.00	FICA	10,294.00	3,867.10	421.90
5	E	01	005	020	000	000	214	F	6,264.16	6,264.16	PERA	10,753.00	4,041.40	447.44
6	E	01	005	020	000	000	305	F	9,924.00	9,924.00	Consult/Fees For Svc	13,500.00	3,576.00	0.00
7	E	01	005	020	000	000	320	F	2,924.10	2,924.10	Telephone	13,000.00	9,846.98	228.92
8	E	01	005	020	000	000	329	F	1,696.54	1,696.54	Postage	2,400.00	646.94	56.52
9	E	01	005	020	000	000	340	F	1,626.00	1,626.00	Pub Officials Liab/Crime Ins	1,700.00	74.00	0.00
10	E	01	005	020	000	000	350	F	2,768.95	2,768.95	Maint - Copier	6,300.00	2,982.28	548.77
11	E	01	005	020	000	000	366	F	1,502.63	1,502.63	Travel Instate	3,000.00	1,497.37	0.00
12	E	01	005	020	000	000	380	F	20.28	20.28	Classified Ads	600.00	579.72	0.00
13	E	01	005	020	000	000	401	F	1,427.64	1,427.64	Office/Janitor Supp & Spec Forms	4,100.00	2,672.36	0.00
14	E	01	005	020	000	000	820	F	3,736.25	3,736.25	Dues/Member Fees	4,800.00	964.45	99.30
15				020 Total					121,416.81	121,416.81		213,817.00	84,631.54	7,768.65

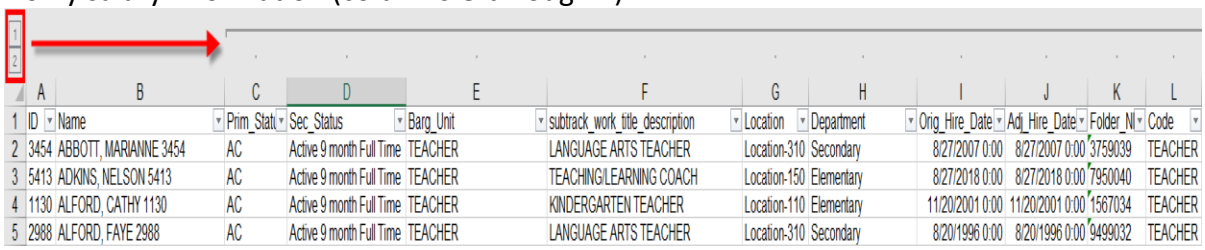
Quick tip: When the subtotal is collapsed, you can format (bold, color, etc.) just the subtotals. This formatting style will stay on the detail page, too. This makes a good visual to those viewing the spreadsheet data.

Groups and Outlines

Excel spreadsheets can contain very large amounts of data. To quickly view pertinent information, you can group data together to create outlines. An Excel outline groups the data by their headings. To view data on the spreadsheet, click the outline to expand or collapse its section.

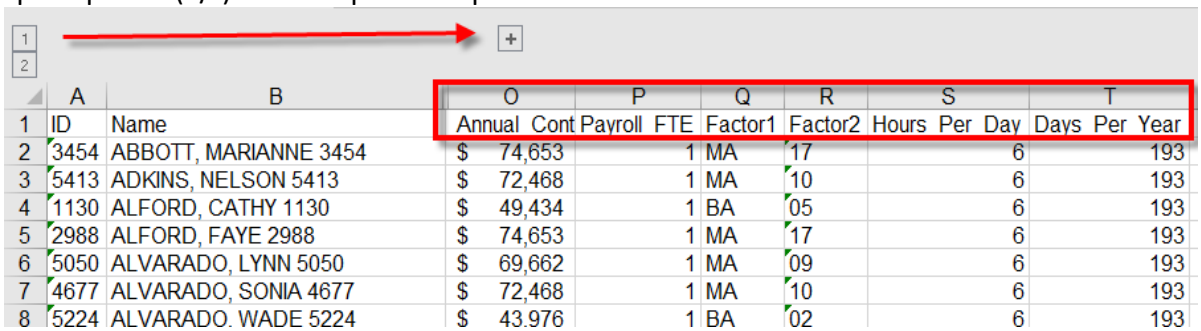
To begin, determine the columns (or rows) you want to collapse and drag the mouse cursor over them to highlight the selection. From the menu, select Data → Group.

This example contains employee demographic and salary information. The demographic information (columns C through N) are grouped together, so the data can be collapsed quickly to view only salary information (columns O through T).



	A	B	C	D	E	F	G	H	I	J	K	L
1	ID	Name	Prim_Stati	Sec_Status	Barg_Unit	subtrack_work_title_description	Location	Department	Orig_Hire_Date	Adj_Hire_Date	Folder_Nl	Code
2	3454	ABBOTT, MARIANNE 3454	AC	Active 9 month Full Time	TEACHER	LANGUAGE ARTS TEACHER	Location-310	Secondary	8/27/2007 0:00	8/27/2007 0:00	3759039	TEACHER
3	5413	ADKINS, NELSON 5413	AC	Active 9 month Full Time	TEACHER	TEACHING/LEARNING COACH	Location-150	Elementary	8/27/2018 0:00	8/27/2018 0:00	7950040	TEACHER
4	1130	ALFORD, CATHY 1130	AC	Active 9 month Full Time	TEACHER	KINDERGARTEN TEACHER	Location-110	Elementary	11/20/2001 0:00	11/20/2001 0:00	1567034	TEACHER
5	2988	ALFORD, FAYE 2988	AC	Active 9 month Full Time	TEACHER	LANGUAGE ARTS TEACHER	Location-310	Secondary	8/20/1996 0:00	8/20/1996 0:00	9499032	TEACHER

Click on Outline 1 to view salary information. To view detail, click on Outline 2 or the expand and collapse options (+/-) at the top of the spreadsheet.



	A	B	O	P	Q	R	S	T
1	ID	Name	Annual_Cont	Payroll_FTE	Factor1	Factor2	Hours_Per_Day	Days_Per_Year
2	3454	ABBOTT, MARIANNE 3454	$ 74,653	1	MA	17	6	193
3	5413	ADKINS, NELSON 5413	$ 72,468	1	MA	10	6	193
4	1130	ALFORD, CATHY 1130	$ 49,434	1	BA	05	6	193
5	2988	ALFORD, FAYE 2988	$ 74,653	1	MA	17	6	193
6	5050	ALVARADO, LYNN 5050	$ 69,662	1	MA	09	6	193
7	4677	ALVARADO, SONIA 4677	$ 72,468	1	MA	10	6	193
8	5224	ALVARADO, WADE 5224	$ 43,976	1	BA	02	6	193

Quick tip: More than one outline can be created per spreadsheet allowing multiple ways in view data. To remove an outline, highlight the columns used in the group and click on **Ungroup**. If using multiple outlines on a spreadsheet, they can all be removed at once by selecting Ungroup → Clear Outline.

PivotTables

Database Basic Rules

- An entire row or column should never be blank in the range of data.
- A cell is allowed to be blank.
- Each row is a record in the database.
- The columns are fields.
- It is a good idea to label the first row in a column.
- Use a unique font or style to label the column, so it is different from the data in the column. If you do, it will be easy for Excel to identify it as a label.
- Excel uses labels to create reports and to find and organize data.

PivotTable and PivotChart Report

The PivotTable feature of Excel is an easy and powerful way to analyze data. It displays summary information from particular fields of a database. After the PivotTable has been built, you can rearrange the tables, rows, or columns to allow different views of the data.

There are four things to consider when creating a PivotTable.

1. What do you want to use as the Row Headers?
2. What do you want to use as the Column Headers?
3. What data do you want to analyze?
4. Do I need to subdivide it into separate reports or pages?

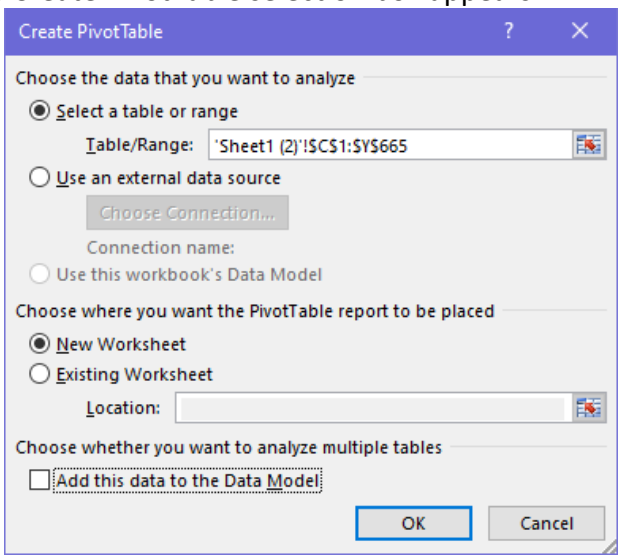
General PivotTable Rules

- Before you start the PivotTable, all columns must be named (labeled).
- You need more than two criteria of data to work with – otherwise you have nothing to pivot.

Creating the PivotTable

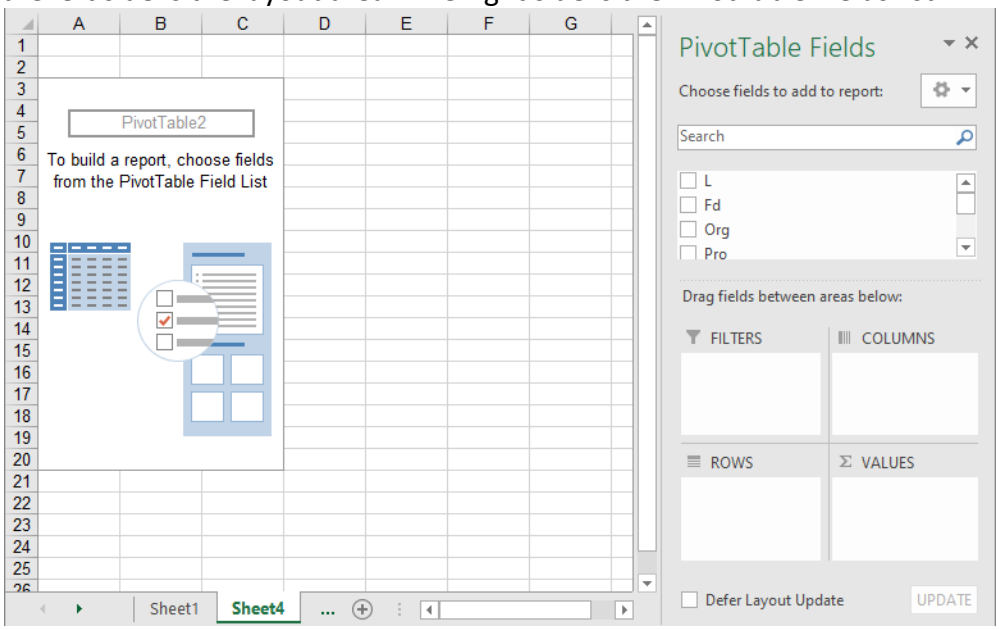
1. Click into any cell in the worksheet.
2. From the menu, select Insert → PivotTable 

.
3. The Create PivotTable selection box appears.

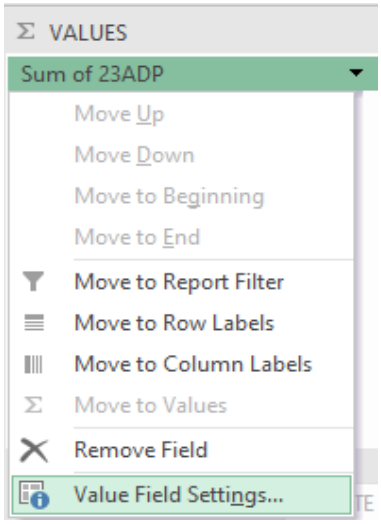


   a. Select or verify the table or range is correct.
   b. The PivotTable report will be placed in a New Worksheet by default. It can be changed to an Existing Worksheet.
   c. Click OK to begin designing the PivotTable.

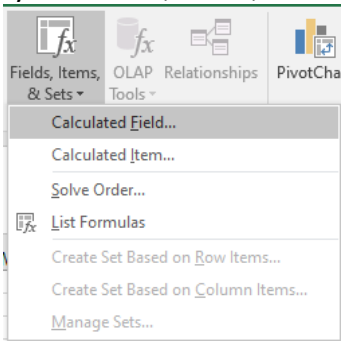
4. On the left side is the layout area. The right side is the PivotTable Fields list.



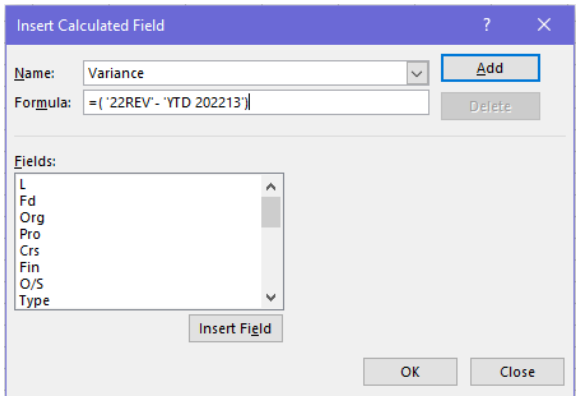
5. Design the report by clicking the field name to include in the PivotTable and dragging it to the lower section of the setup window. There are four boxes at the bottom of the PivotTable Fields list. You can drag fields to the areas of Filters, Rows, Columns, and Values.
6. To remove a field from the report, deselect it from the PivotTable Fields list. To remove all fields, from the menu, select PivotTable Tools → Analyze → Clear → Clear All.
7. If you click outside the layout area, the PivotTable Fields list goes away. Click inside the layout area to get the list back.
8. To change the formula for the values that you are analyzing, click on the field in the Values section and a dropdown will appear that will allow you to change from count to sum, etc.



9. If you would like to insert a calculated field, from the menu, select PivotTable Tools → Analyze → Field, Items, & Sets → Calculated Field.

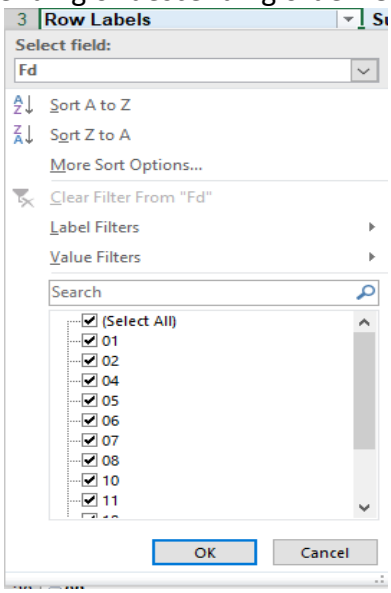


10. Name your new field.
11. Enter the formula you would like to calculate. You can double-click from the Fields list to insert into the Formula line.



Hide/Show Fields & Sort

Click on the dropdown arrow to hide/show rows or columns. You can also choose to sort in ascending or descending order. Or, you are able to choose More Sort Options.



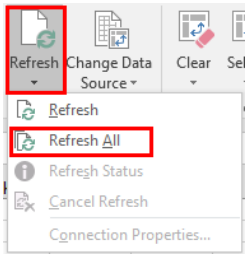
Note the + / - drilldown indicators. They let you know if more or less detail of the PivotTable can be shown.

	Fd	O/S Series Desc	Sum of YTD 201813
5	⊟01	Capital Expenditures	$373,479.68
6		Employee Benefits	$1,673,401.14
7		Other Expenditures	$87,153.03
8		Other Financing Uses	$5,275.67
9		Purchased Services	$2,283,919.26
10		Salaries & Wages	$6,166,013.89
11		Supplies & Materials	$476,089.50
12	01 Total		$11,065,332.17
13	⊞02		$661,029.56
14	⊟04	Capital Expenditures	$5,246.60
15		Employee Benefits	$66,122.17
16		Other Expenditures	$2,654.86
17		Purchased Services	$155,646.41
18		Salaries & Wages	$315,186.78
19		Supplies & Materials	$27,186.15
20		(blank)	$0.00
21	04 Total		$572,042.97
22	Grand Total		$12,298,404.70

Refreshing the Data in a PivotTable

The PivotTable is linked to the source data. However, it will not automatically update each time a change occurs in the source data. You need to refresh the PivotTable.

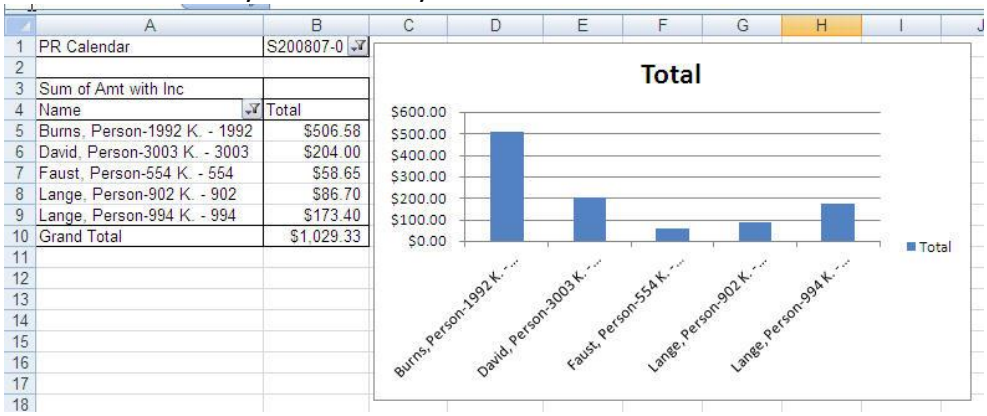
1. Click inside the PivotTable.
2. Right mouse click in the PivotTable and choose Refresh.
3. Or, from the menu, select PivotTable Tools → Analyze → Refresh → Refresh All.



PivotChart

Once your data is presented in a PivotTable, you can easily ask for it to be displayed as a chart.

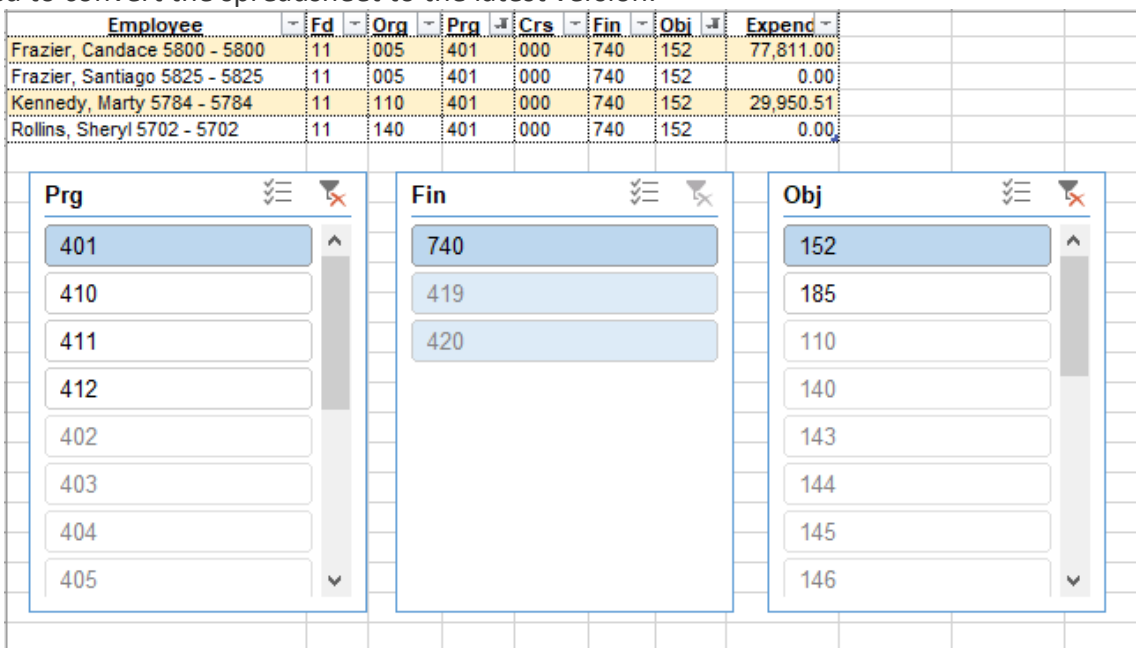
1. Click in the PivotTable data.
2. Press the F11 key to quickly create the chart in a separate worksheet.
3. Or, to create a chart in the same worksheet as the PivotTable, from the menu, select PivotTable Tools → Analyze → PivotChart. Select the type of chart you would like. Then, a chart is automatically created for you on the same worksheet.



	A	B
1	PR Calendar	S200807-0
2		
3	Sum of Amt with Inc	
4	Name	Total
5	Burns, Person-1992 K. - 1992	$506.58
6	David, Person-3003 K. - 3003	$204.00
7	Faust, Person-554 K. - 554	$58.65
8	Lange, Person-902 K. - 902	$86.70
9	Lange, Person-994 K. - 994	$173.40
10	Grand Total	$1,029.33

Slicers

Slicers provide buttons that you can click to filter table data or PivotTable data. In addition to quick filtering, slicers also indicate the current filtering state, which makes it easy to understand what exactly is shown in a filtered PivotTable. In order to use a slicer, you must convert your data into a table first. **Note:** If you are working with an Excel file created from SMART, you will need to convert the spreadsheet to the latest version.



When you select an item, it is included in the filter and the data for that item will be displayed in the report. For example, when you select Administration in the Prog Series Desc field, only data that includes Administration in that field are displayed. You can use a slicer to filter data in a table with ease.

Use a Slicer to Filter Data

1. Click anywhere in the table.
2. From the menu, select Insert → Slicer 

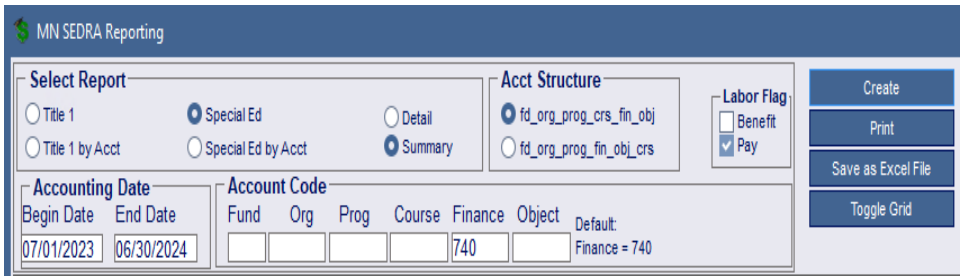
.
3. Select the fields you'd like to filter.
4. Click OK and adjust your slicer preferences, such as Columns, under Options.
5. Select Clear Filter  to clear the slicer filter.

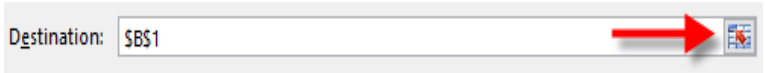
Note: To select more than one item, hold Ctrl and select the items that you want to show. Select and hold the corner of a slicer to adjust and resize it.

Appendix A – How to Create a PivotTable for MN SEDRA Reporting Data

The following are directions on how to create a PivotTable from the data obtained from the MN SEDRA Reporting found in SMART. This information may be helpful is completing the SEDRA vs. UFARS year-end reconciliation process.

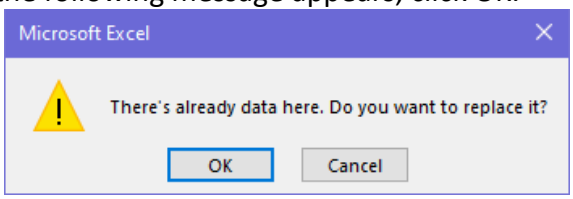
1. In SMART, go to Payroll → General Ledger-Pay.
2. Under Reports, select "MN SEDRA Reporting".
3. Complete the following items:
    a. Select Report = Special Ed or Special Ed by Acct
    b. Select Report = Summary
    c. Acct Structure = The format your UFARS codes are listed.
    d. Labor Flag = Pay
    e. Accounting Date = 07/01/20xx to 06/30/20xx
    f. Account Code = Enter in the specific segments for the information you want to obtain, like Finance = 740.



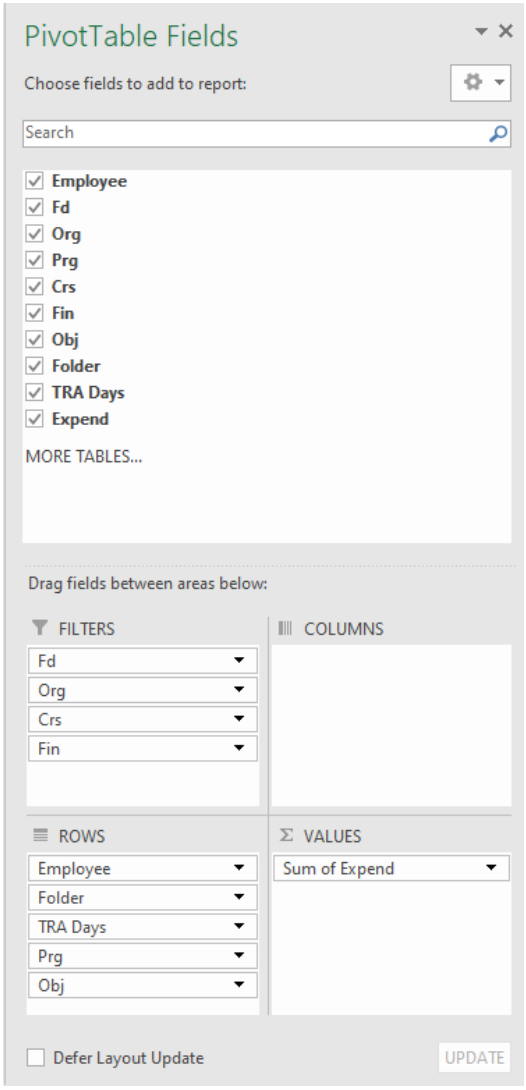
4. Click Create.
5. Click Save as Excel File.
6. Click Save settings and Generate Excel Spreadsheet.
7. Notice the path of the file. Go to that location and save the file to another location, so it's not accidently overwritten.
8. Open up the Excel file.
9. Delete all columns except for those named Employee, Account, Folder, TRA Days, and Expend. If you don't need the Folder or TRA Days columns, you can delete them.
10. Delete the rows at the top until you get to the column headings identified above.
11. Insert 5 columns to the right of the account code.
12. Highlight the Account column.
13. Click Data → Text to Columns.
14. Select Fixed width. Click Next.
15. Click between each segment. Click Next.
16. In the Destination field, click 

.
17. Highlight the 6 columns for each segment to appear individually. Click the X to close the window.
18. Under Data preview, highlight all of the columns and click on the Text radio button.

19. Click Finish.
20. When the following message appears, click OK.



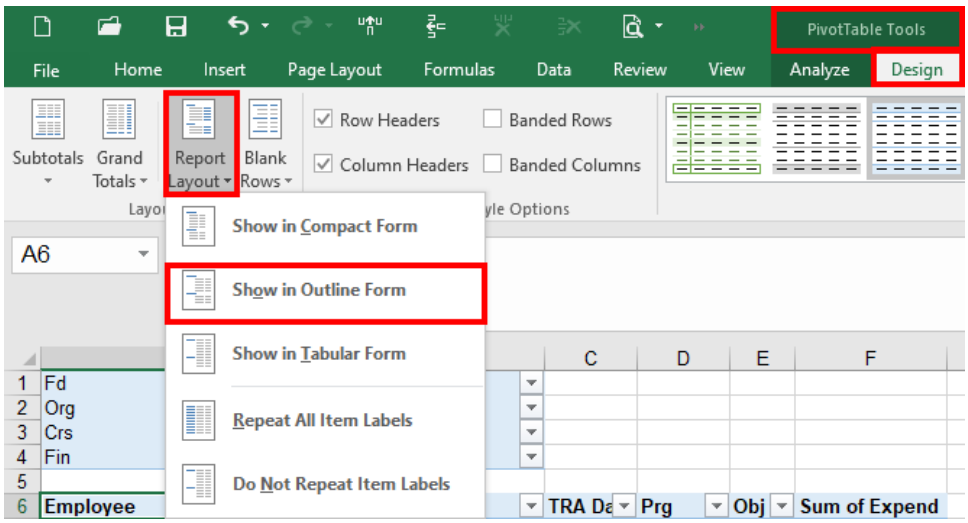
21. Change your headings to what you want, especially with the account code segments.
22. Select the Data tab and Filter.
23. Select one of the segments filter.
24. Deselect “(Select All)”.
25. Select “Blanks”.
26. Click OK.
27. Delete all of these lines as the totals by employee are not needed.
28. Select “(Select All)” again.
29. Click OK.
30. Delete the Grand Total at the bottom of the data.
31. Click on the Insert tab and PivotTable.
32. In the Create PivotTable window, review the options selected. Click OK.
33. In the PivotTable Fields window, select the fields you want included in the PivotTable. Then, drag the fields to the various areas based on what you might want to search on. Below is an example.



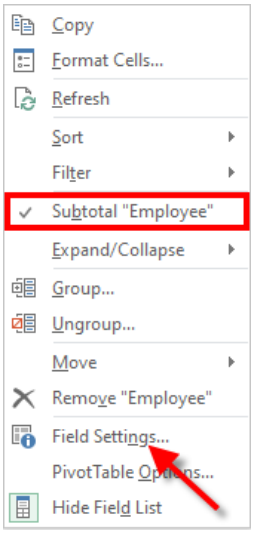
34. If the PivotTable layout doesn't appear like it does below, complete the following:

	A	B	C	D	E	F
1	Fd	(All)				
2	Org	(All)				
3	Crs	(All)				
4	Fin	(All)				
5						
6	**Employee**	**Folder**	**TRA Da**	**Prg**	**Obj**	**Sum of Expend**
7	**Acosta, Kenny 4671 - 4671**					**16026.59**

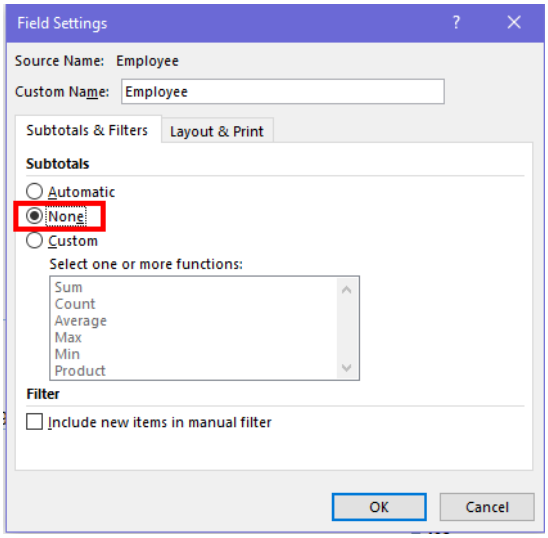
a. Click on the PivotTable Tools "Design" tab.
b. Click on Report Layout.
c. Click on Show in Outline Form.



35. To remove the subtotals, like Employee, right click on the field heading and deselect Subtotal "Employee". Or, select "Field Settings" and click on "None". You may want to remove all the subtotals.

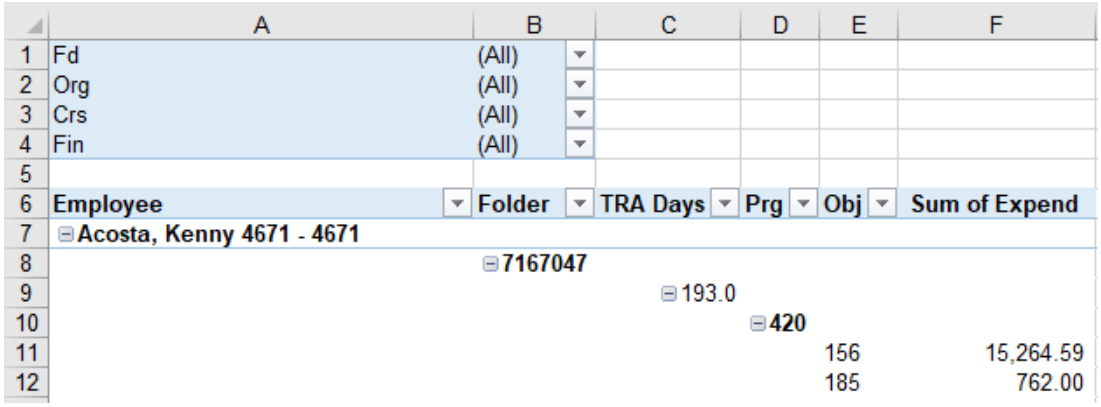


or



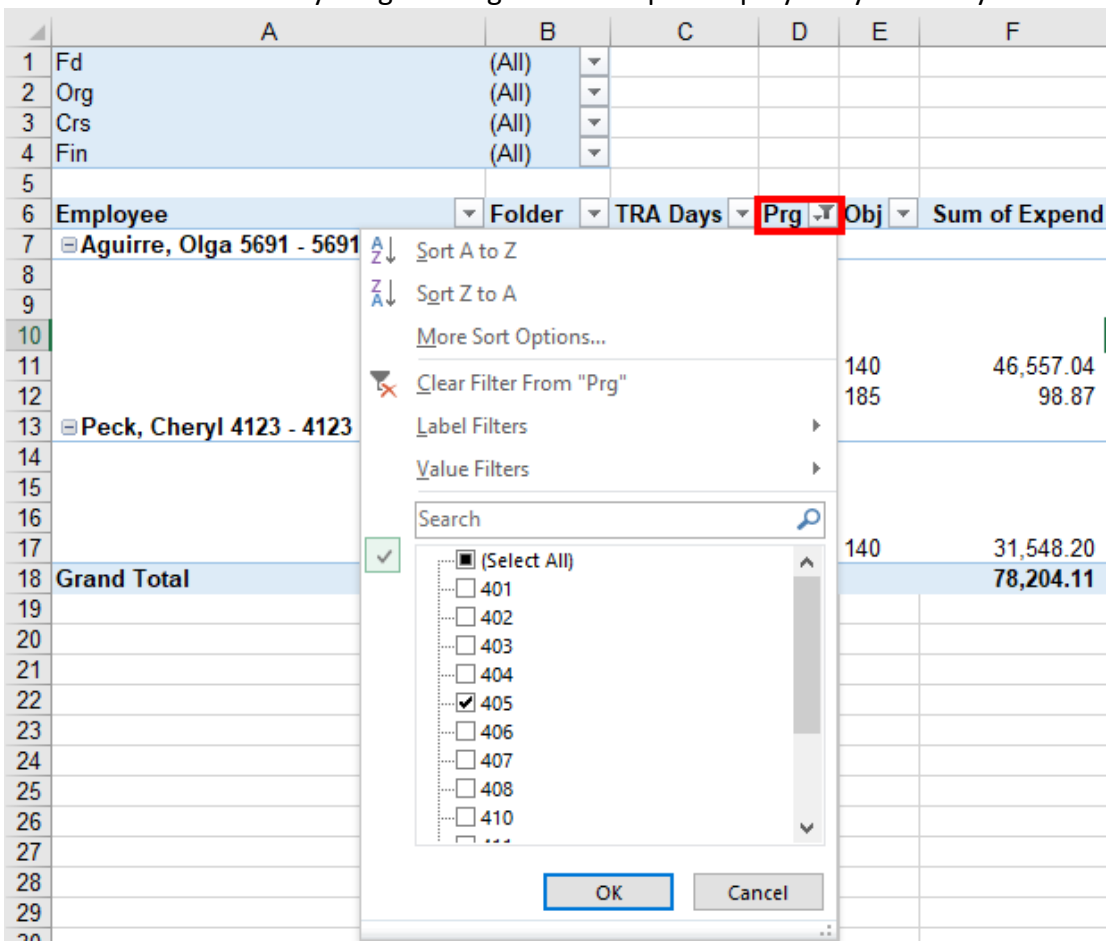
36. Format the columns and adjust column widths.

37. The file layout should look like this with a Grand Total at the bottom of the report.



	A	B	C	D	E	F
1	Fd	(All)				
2	Org	(All)				
3	Crs	(All)				
4	Fin	(All)				
5						
6	**Employee**	**Folder**	**TRA Days**	**Prg**	**Obj**	**Sum of Expend**
7	**Acosta, Kenny 4671 - 4671**					
8		**7167047**				
9			193.0			
10				**420**		
11					156	15,264.59
12					185	762.00

38. The district can now filter by Program to get the cost per employee by disability area.



	A	B	C	D	E	F
1	Fd	(All)				
2	Org	(All)				
3	Crs	(All)				
4	Fin	(All)				
5						
6	**Employee**	**Folder**	**TRA Days**	**Prg**	**Obj**	**Sum of Expend**
7	**Aguirre, Olga 5691 - 5691**					
8						
9						
10						
11					140	46,557.04
12					185	98.87
13	**Peck, Cheryl 4123 - 4123**					
14						
15						
16						
17					140	31,548.20
18	**Grand Total**					**78,204.11**
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						

Appendix B – Excel 2016 Shortcut Keys

The Excel 2016 Shortcuts document on the next page was obtained from https://www.wallstreetprep.com/knowledge/excel-shortcuts/.

Excel 2016 Shortcuts

Find shortcuts for previous Excel versions at at www.wallstreetprep.com/excel-shortcuts

Edit

	Windows	Mac
Copy	Ctrl + C	Ctrl + C
Paste	Ctrl + V	Ctrl + V
Undo	Ctrl + Z	Ctrl + Z
Redo	Ctrl + Y	Ctrl + Y

File

Open	Ctrl + O	Ctrl + O
New	Ctrl + N	Ctrl + N
Print	Ctrl + P	Ctrl + P
Save	Ctrl + S	Ctrl + S
Save as	F12	⌘ + ⇧ + S
Go to next workbook	Ctrl + Tab	⌘ + ~
Close file	Ctrl + F4	Ctrl + W

Formatting

Open Format Cells dialog	Ctrl + 1	⌘ + 1
Bold	Ctrl + B	⌘ + B
Italic	Ctrl + I	⌘ + I
Underline	Ctrl + U	⌘ + U
Number format	Ctrl + ⇧ + !	Ctrl + ⇧ + !
Percent format	Ctrl + ⇧ + %	Ctrl + ⇧ + %
Date format	Ctrl + ⇧ + #	Ctrl + ⇧ + #
Increase font size	Alt H FG	⌘ + ⇧ + >
Decrease font size	Alt H FK	⌘ + ⇧ + <
Insert/edit comment	⇧ + F2	⇧ + F2
Increase decimal	Alt H 0	
Decrease decimal	Alt H 9	
Increase indent	Alt H 6	Ctrl + M
Decrease indent	Alt H 5	⌘ + ⇧ + M
Clear cell data	Delete	Delete
Clear cell formats	Alt H E F	
Clear cell comments	Alt H E M	
Clear all	Alt H E A	

Borders

Outline border	Ctrl + ⇧ + &	Ctrl + ⇧ + &
Remove border	Ctrl + ⇧ + -	Ctrl + ⇧ + -
Left border	Alt H B L	⌘ + Opt + ←
Right border	Alt H B R	⌘ + Opt + →
Top border	Alt H B T	⌘ + Opt + ↑
Bottom border	Alt H B O	⌘ + Opt + ↓

Paste Special

Paste special formats	Ctrl + Alt + V T	Ctrl + ⌘ + V T
Paste special values	Ctrl + Alt + V V	Ctrl + ⌘ + V V
Paste special formulas	Ctrl + Alt + V F	Ctrl + ⌘ + V F
Paste special comments	Ctrl + Alt + V C	Ctrl + ⌘ + V C

Ribbon

	Windows	Mac
Show ribbon accelerator keys	Alt	
Show/hide ribbon	Ctrl + F1	⌘ + Opt + R

Getting around a worksheet

Move from cell to cell	Arrows	Arrows
Go to end of contiguous range	Ctrl + Arrows	⌘ + Arrows
Move one screen up	PgUp	Fn + ↑
Move one screen down	PgDn	Fn + ↓
Move one screen left	Alt + PgUp	Fn + Opt + ↑
Move one screen right	Alt + PgDn	Fn + Opt + ↓
Go to cell A1	Ctrl + Home	Fn + Ctrl + ←
Go to beginning of row	Home	Fn + ←
Go to last cell in worksheet	Ctrl + End	Fn + Ctrl + →
Open the Go To dialog box	F5	F5

Selecting data in a worksheet

Select a cell range	⇧ + Arrows	⇧ + Arrows
Highlight a contiguous range	Ctrl + ⇧ + Arrows	⌘ + ⇧ + Arrows
Extend selection up a screen	PgUp	Fn + ⇧ + ↑
Extend selection down a screen	PgDn	Fn + ⇧ + ↓
Extend selection left a screen	Alt + ⇧ + PgUp	Fn + ⇧ + ⌘ + ↑
Extend selection right a screen	Alt + ⇧ + PgDn	Fn + ⇧ + ⌘ + ↓
Select all	Ctrl + A	⌘ + A

Data editing

Fill down from cell above	Ctrl + D	Ctrl + D
Fill right from cell left	Ctrl + R	Ctrl + R
Find and replace	Ctrl + F	Ctrl + F
Show all constants	F5 Alt + S O	
Highlight cells with comments	F5 Alt S C	

Data editing when inside cell

Edit the active cell (Edit mode)	F2	F2
While editing cell, allow use of arrow keys to create reference	F2	F2
Confirm change and leave cell	Enter	Return
Cancel cell entry and leave cell	Esc	Esc
Insert line break within cell	Alt + Enter	Opt + Enter
Highlight within a cell	⇧ + ← or →	⇧ + ← or →
Highlight contiguous items	Ctrl + ⇧ + ← or →	Ctrl + ⇧ + ← or →
Jump to beginning of cell	Home	
Jump to end of cell	End	
Delete character to left	Backspace	Delete
Delete character to right	Delete	Fn + Delete
Accept AutoComplete suggestion	Tab	Tab
Reference a cell from another worksheet	Ctrl + PgUp Arrows Ctrl + PgDn Arrows	Ctrl + Fn + ↑ Arrows Ctrl + Fn + ↓ Arrows

Excel 2016 Shortcuts

Find shortcuts for previous Excel versions at at www.wallstreetprep.com/excel-shortcuts

Calculations

	Windows	Mac
Start a formula	=	=
Insert autosum formula	Alt + =	⌘ + ⇧ + T
Recalculate all worksheets	F9	F9
Anchor cells (A1), toggle anchors (edit mode)	F4	F4
Open Insert Formula dialog	⇧ + F3	⇧ + F3
Enter array formula (edit mode)	⇧ + Ctrl + Enter	⇧ + Ctrl + Enter

Auditing formulas

Inspect cell values (edit mode)	F9	F9
Switch to formula view	Ctrl + ~	Ctrl + ~
Select direct precedents	Ctrl + [	Ctrl + [
Select direct dependents	Ctrl +]	Ctrl +]
Trace immediate precedents	Alt M P	
Trace immediate depedents	Alt M D	
Remove tracing arrows	Alt M A A	
Go to last cell	F5 + Enter	F5 + Enter

Excel Utilities

Calculate all open workbooks	F9	F9
Open Excel Options dialog box	Alt F O	⌘ + ,
Accessing data validation	Alt A V V	
Get inside a drop-down list	Alt ↑ or ↓	Opt + ↑ or ↓
Insert data table	Alt A W T	
Open Sort dialog	Alt A S S	⌘ + ⇧ + R
Autofilter selection	Alt A T	
Insert a pivot table	Alt N V	
Insert a chart	Alt N R	
Zoom	Alt W Q	Ctrl + Mouse scroll
Name a cell or cell range	Ctrl + F3	Ctrl + L

Rows and Columns

	Windows	Mac
Select column	Ctrl + Space	Ctrl + Space
Select row	⇧ + Space	⇧ + Space
Delete row(s)/column(s)	Ctrl + -	Ctrl + -
Add row(s)/column(s)	Ctrl + ⇧ + +	Ctrl + ⇧ + +
Set column width	Alt H O W	
Autofit column width	Alt H O I	
Fit to specific row height	Alt H O H	
Group rows/columns	Alt + ⇧ + →	Opt + ⇧ + →
Ungroup rows/columns	Alt + ⇧ + ←	Opt + ⇧ + ←

Navigating across worksheets and panes

Jump to next worksheet	Ctrl + PgDn	Opt + →
Jump to previous worksheet	Ctrl + PgUp	Opt + ←
Change worksheet name	Alt H O R	
Rearrange tab order	Alt H O M	
Freeze pane	Alt W F F	
Split screen	Alt W S	
Toggle from tab, ribbon, task pane, status bar	F6	
Close help (and other panes)	Ctrl + Space + C	

Moving inside Excel forms (format dialog, page setup, etc.)

Move to next control	Tab	Tab
Move from tab to tab	Ctrl + Tab	Ctrl + Tab
Move to previous control	⇧ + Tab	⇧ + Tab
Move within a list	Arrows	Arrows
Activate control	Alt + Underlined Ltr	
Toggle checkboxes	Spacebar	Spacebar
Close a dialog	Esc	Esc
Apply change	Enter	Enter

Optimal Excel settings (PC and Mac)

1. Calculation options

Open Excel settings/preferences (Alt T O on Windows, Ctrl + , on Mac). Under "Calculation options," (under the "Formulas" tab in Windows), chose "Automatic except for data tables" and click on "Enable iterative calculation."

2. Disable Autocomplete

Open Excel settings/preferences. Click off "Enable Auto-Complete for cell values. In Windows, this can be found under Options > Advanced > Editing Options.

3. Disable Error Checking

Open Excel settings/preferences. Click off "background error checking." (Found under the "Formulas" tab in Windows.)

Disabling conflicting Mac OS shortcuts

Enable Ctrl + Arrows by disabling Mission Control settings

1. Go to System Preferences > Keyboard.
2. Go to “Keyboard shortcuts” tab.
3. Click “Mission Control” in the left window.
4. Expand the “Mission Control” tab in the right window and click off “Move left a space” and “Move right a space”

Enable Ctrl+Spacebar for highlighting columns by disabling Spotlight Search

1. System Preferences > Keyboard.
2. Go to “Keyboard shortcuts”s” tab.
3. Click “Spotlight” in the left window.
4. Disable “Show Spotlight Search.”

A Note on Mac function keys

By default, Mac function keys control system settings and Mission Control. To use function keys for shortcuts, you'll need to hold down the "fn" key before you press F2, F3, etc. You can change this in **System Preferences > Keyboard** by checking "Use all F1, F2, etc. keys as standard function keys." You can now use the function keys without pressing "fn."