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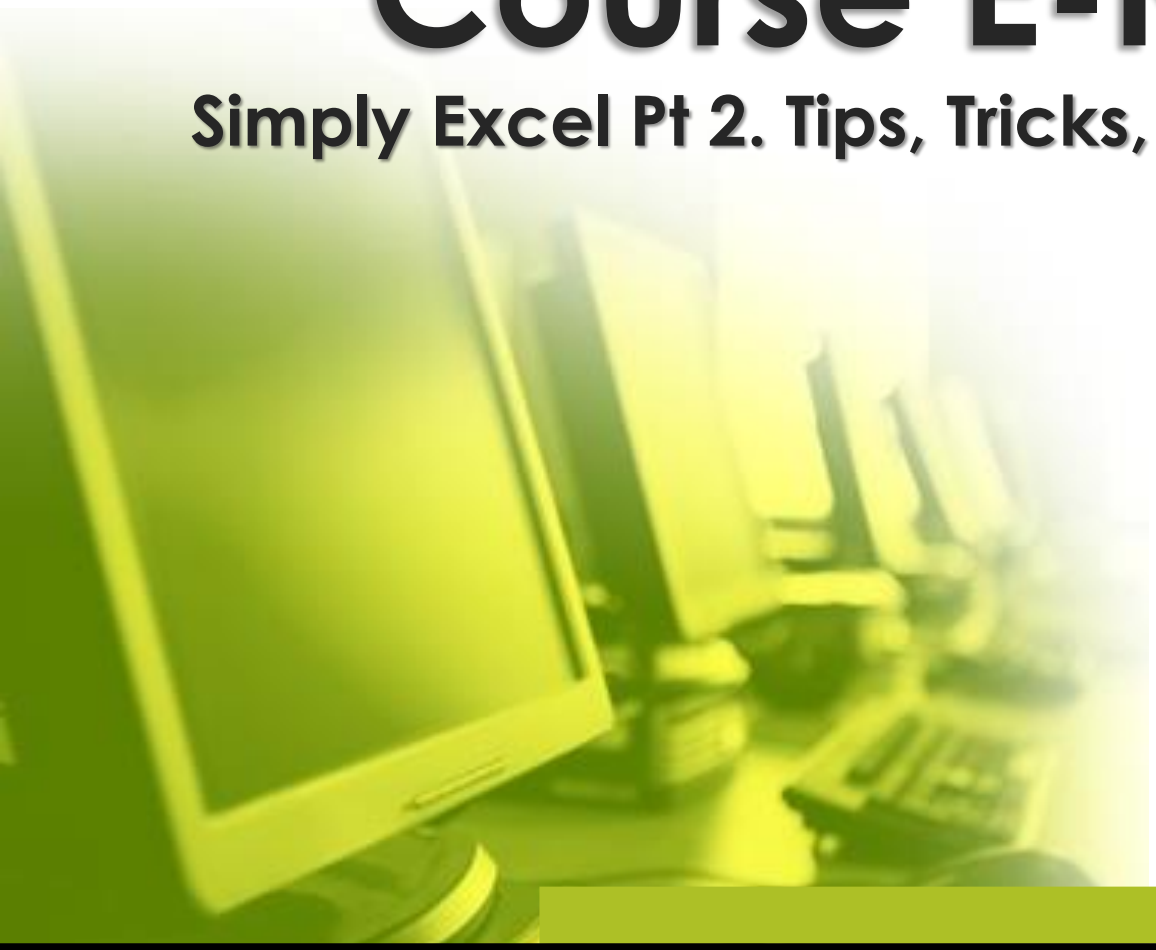
Course E-Notes

Simply Excel Pt 2. Tips, Tricks, Shortcuts & More



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Welcome to Excel Tips & Tricks!

Excel Tips & Tricks Description

Microsoft Excel Tips & Tricks focuses on shortcuts that will help you work more efficiently and effectively – minimizing time spent in the software and maximizing your time with the content of your work. This course includes favorite shortcuts and features collected over the lifetime of Excel. Choosing to take the "long cuts" is a cumulative endeavor. Implement the shortcuts and move ahead with your real work.

Prerequisites: Introduction to Excel / Simply Excel

Benefits / Outcomes

- Apply Quick Analysis Feature
- Produce and link multiple spreadsheets
- Build and manipulate auto subtotal commands
- Create data validation drop down lists and rules
- Practice with basic conditional formatting
- Receive an introduction to data analysis with Pivot Tables
- Create and use range names
- Use all common functions, such as IF, SUMIF, COUNTIF, VLOOKUP, basic Date and Text functions
- Use the PMT function and one and two-input data tables
- Display and print formulas in a worksheet.
- Use Excels tools to identify and correct formula errors

Quick Check – Setup Tips

START SCREEN

The Start Screen may be disabled under **File > Options > General**. Remove the checkmark from the Show the Start screen option. Future launching of Excel will take you immediately to a blank workbook screen. You may enable the feature again at any time.

OTHER FILE TAB > OPTIONS RECOMMENDATIONS

Options Categories

General

Turn Start Screen Off

Data

Show Legacy Data Import Wizards

Proofing

Spell Check (Turn off the checkmark for Ignore words in UPPERCASE)

Save

Don't show the Backstage when opening or saving files. **(Add checkmark.)** This allows you to use keyboard shortcuts for Opening (**Ctrl+O**) and Saving (**Ctrl+S**) without working through the full Save dialog. The keyboard shortcut for Save As is **F12**.

Note: Work with your extensions on so that you are aware of the file types you are working in and what your save choices are!

Customize Ribbon

Developer Tab – (Add checkmark in right column)

Save / Save As

The file types listed below are carried forward in the newer versions. Work with your extensions on so that the file types (.xlsx, etc.) are visible as you work.

WINDOWS 10 / EXTENSIONS ON

File Explorer > Double-click View tab > Checkmark File name extensions on right side

The examples shown here are only a small sampling of extension types for Excel.

File Extensions

Excel document (2007, 2010, 2013, 2016, 2019)	.xlsx
Excel macro-enable document	.xlsm
Excel template	.xltx
Excel macro-enabled template	.xltm

MANIPULATE WINDOWS

Tip: One of my favorite newer features is the ability of Excel to work with multiple Excel windows at will (without running multiple instances of Excel or without stretching the window frame.

- Windows Key + Arrow keys move and resize to half screen.
- Windows Key + D = Show desktop (the boss is coming); minimizes all windows at once. Windows Key + D again toggles this feature off.
- Shake – drag top file to mid screen and shake mouse. All windows below minimize. Shake again to restore all windows.

TIP: ANOTHER WINDOWS FEATURE

Jump List – When Excel is running, you will see an Excel icon at the bottom of the screen. Right-click on the icon and select Pin to Taskbar. You can also pin recent files within this list for easy access. Recent files rotate off the list and Pinned files are always visible. Right-click again and hover to unpin files.

QUICK ACCESS TOOLBAR (UPPER LEFT CORNER OF SCREEN)

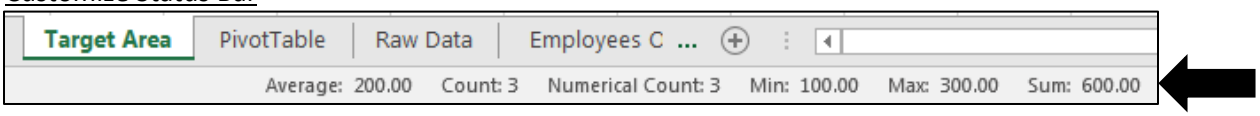
- Customize using the drop-down arrow on the right side
- Add buttons as short cuts or add command groups with a right click.
- Right-click command or command group > Add to Quick Access Toolbar
- Recommend adding Spelling & Grammar (**F7**)
- Recommend adding Page Setup Launcher Button command set

AUTOCALC

Right-click the status bar and select:

Numerical Count, Minimum, Maximum. Use these to display information on AutoCalc.

Customize Status Bar



To use AutoCalc, select a range of numbers and view the multiple calculations across the bottom right side of the status bar. This is a great tool for double-checking answers or just for getting additional information about any range of numbers!

Entry and Editing Techniques

SHORTCUTS

Basic Entry

- Type and Tab to move to the right
- Type + Shift-Tab to move to the left
- Type and Enter to move down
- Type + Shift-Enter to move up

- Click and type. Press Enter or Tab to input the data. Press Ctrl+Enter when entering a formula so that the formula cell stays active rather than dropping below.

Basic Editing

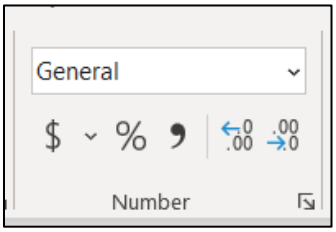
- Edit in the cell or in the formula bar at the top of the worksheet.
- **F2 positions the cursor in the cell to edit. Home key moves the cursor to the front of the cell (left).**

Name Box / Cancel / Enter / Insert Formula

- To replace cell contents, click on the cell and type over the top of the existing data.
- Until you press Enter or Tab, you can click the Cancel button (the X to the left of the formula bar) to revert to the previous contents. Use the **ESC** key is the keyboard shortcut for the Cancel button.

Quick Access Formatting

Home Tab > Number Group > Format (choices are front and center!)



Keyboard Shortcuts for Formatting Numbers

Ribbon Buttons	Keyboard Commands / Notes
Cell Formats	(Use upper row keyboard numbers for shortcuts!)
Clear Number Format	Shift+Ctrl+~
Number, Commas	Shift+Ctrl+1
Time	Shift+Ctrl+2
Date	Shift+Ctrl+3
Currency	Shift+Ctrl+4
Percentage	Shift+Ctrl+5
Format buttons:	Right-click, Mini Toolbar
Date Formats	
Julian Dates	
System Date – Date does not change	Ctrl+;
=Today() – Date changes	
Header/Footer Dates – Dates change	In the Header/Footer, type the date to keep it constant.
Table Formats: Home > Styles > Format as a Table, Cell Styles	
Or Home > Styles > Cell Styles	

Deleting versus Clearing

- The Delete key removes content and formulas only. Format remains in cells and will "reappear" when new data is entered.

- DO NOT USE THE SPACEBAR to “delete”. Spaces are text characters.
- Use Home > Editing Group > Clear > Clear All to remove contents and format.
- Do not use the Backspace key to delete a range of data or clear an area.

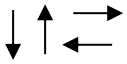
Selection and Navigation Shortcuts

Use your shortcuts and spare your hand and wrist from endless dragging with the death grip!

Selection Shortcuts	
Data Selected	**Selection Methods**
Range of data	Shift+click. Click at the top of a range and release the mouse button. Hold the Shift key and click at the end of the range.
Immediate range	Ctrl+A (with cursor in the data range)
Nonadjacent Data	Ctrl+click and drag
Select to end of data	**Shift+Ctrl+Arrow key – selects to first blank cell**
Entire Column / Row	Click on column / row heading. **USE ONLY WHEN:** Sizing columns / rows Inserting or Deleting columns / rows Hiding or Unhiding columns / rows

Use the navigation shortcuts and avoid endless scrolling with never getting anywhere fast!

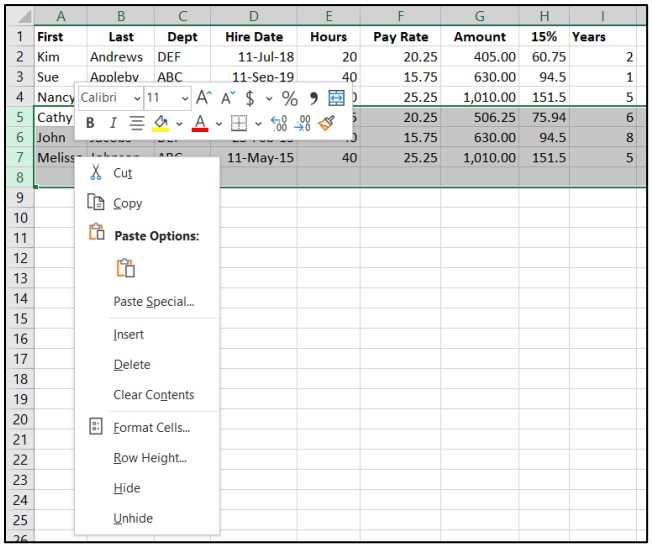
Navigation Shortcuts

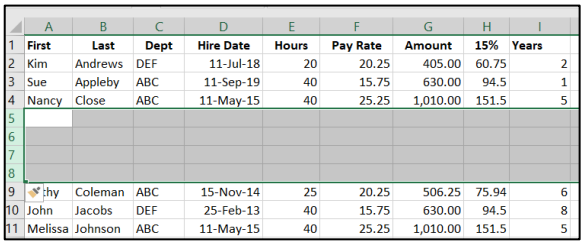
- Special keys: Home / End, Page Up / Page Down
- Ctrl+Home (A1) / Ctrl+End
- Ctrl+Arrow keys to move from data to data. 
- Shift+Ctrl+Arrow keys to select to end of data (first blank cell)
- Go To: Ctrl+G or F5
- **Name Box Shortcuts**
  - Enter cell reference in name box and press Enter
  - Enter cell range, such as A1:K50, and press Enter
  - Define a name for a selected cell or range by selecting the cell or range and typing a name (using no spaces) in the name box. Press Enter.
- Sheet Tab Navigation:
  - To move among sheet tabs - Ctrl+Page Up / Ctrl+Page Down
  - **To view all sheet tabs – Right-click on the sheet tab navigation arrows for a pop-up list; double-click**
  - To scroll to first / last sheet – Ctrl+Left-click on sheet tab navigation arrows

Inserting and Deleting Rows and Columns

SHORTCUT

When inserting or deleting multiple rows or columns, select multiple rows or columns (from the row or column headers) to begin with, rather than inserting or deleting one at a time. Right-click on the selected area and select Insert. Use the same technique for deleting. Deleting completely removes the rows and columns, not just the data from within! Inserting rows always inserts above the selected area, and inserting columns always inserts to the left. We always have to be able to create a new Row 1 and a new Column A.



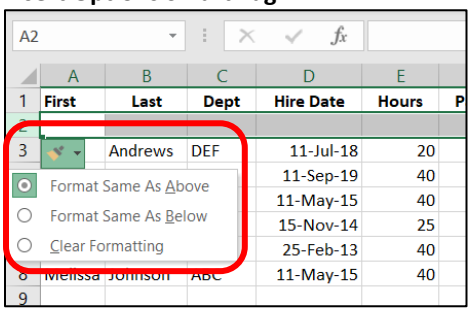


	First	Last	Dept	Hire Date	Hours	Pay Rate	Amount	15%	Years
2	Kim	Andrews	DEF	11-Jul-18	20	20.25	405.00	60.75	2
3	Sue	Appleby	ABC	11-Sep-19	40	15.75	630.00	94.5	1
4	Nancy	Close	ABC	11-May-15	40	25.25	1,010.00	151.5	5
5									
6									
7									
8									
9	hy	Coleman	ABC	15-Nov-14	25	20.25	506.25	75.94	6
10	John	Jacobs	DEF	25-Feb-13	40	15.75	630.00	94.5	8
11	Melissa	Johnson	ABC	11-May-15	40	25.25	1,010.00	151.5	5

Caution: When selecting entire rows and columns, the entire spreadsheet is being affected. Watch for data on the right or below the areas you are affecting.

When inserting a single or multiple rows and columns directly below the header row or next to a column of formatted headings, a Smart Tag with Insert Options will appear, as a paint brush icon. Hovering over the icon displays a drop-down arrow with three choices. The default choice is to Format Same As Above. This can be time-consuming if your new row is to contain data and not additional heading information. If you do not take time to address the Smart Tag, you will have to take time to remove the Bold and Centering commands from the data that you are entering below or next to the heading.

Insert Options Smart Tag

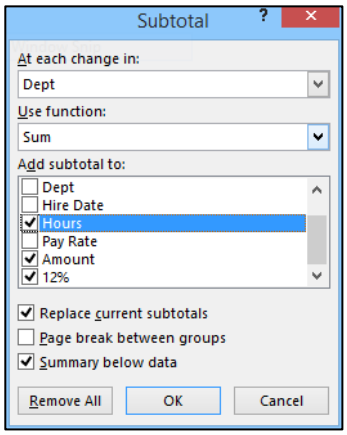


	First	Last	Dept	Hire Date	Hours
3		Andrews	DEF	11-Jul-18	20
				11-Sep-19	40
				11-May-15	40
				15-Nov-14	25
				25-Feb-13	40
		Melissa Johnson	ABC	11-May-15	40

Auto Subtotal Feature

SUBTOTALS

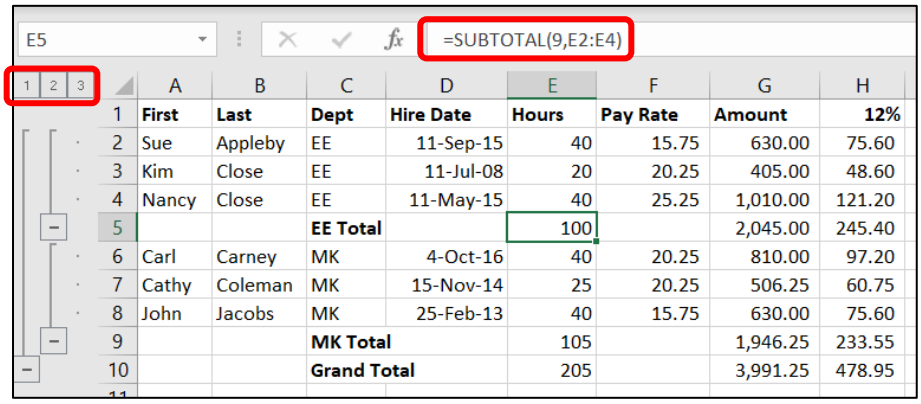
Subtotals is a feature that inserts rows as needed to create subtotals. This is based on how the data is sorted. Other functions are available through SubTotals in addition to Sum. You can return to the SubTotals dialog and stack functions, such as Average, Minimum, Maximum.



1. To begin, sort the list by the column you wish to subtotal (ex. Dept). (See Sorting Data below.)
2. Data > Outline > Subtotal. The Subtotal dialog appears.
3. Enter the field to subtotal in the first white box.
4. Choose the function (ex. Sum) from the second white box.
5. Checkmark the Fields you wish to sum
6. Choose the options at the bottom of the dialog box.
7. Click OK. Subtotals and a Grand total appear.
8. To turn subtotals off, return to Data Tab > Subtotal > Remove All

Subtotals outline the data. The buttons on the left of the spreadsheet are outline levels for collapsing and expanding the data so that different views may be easily accessed. These outline numbers make it possible to generate a subtotal or bottom line grand total report quickly. Click on the 2 button to view subtotals only. This may be all you need for your reporting. The 1 button displays only grand total, and the 3 button displays full detail. The + in the outline is used to expand the data and the – (minus) is used to collapse the data. These allow you to examine the data one level at a time for detail.

Level 3 Subtotals

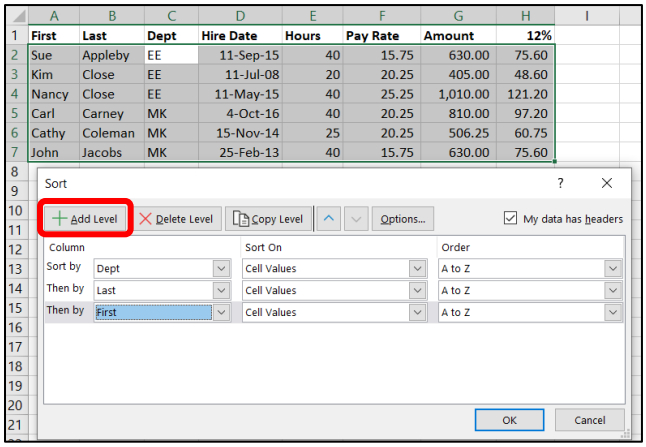


	First	Last	Dept	Hire Date	Hours	Pay Rate	Amount	12%
2	Sue	Appleby	EE	11-Sep-15	40	15.75	630.00	75.60
3	Kim	Close	EE	11-Jul-08	20	20.25	405.00	48.60
4	Nancy	Close	EE	11-May-15	40	25.25	1,010.00	121.20
5			**EE Total**		100		2,045.00	245.40
6	Carl	Carney	MK	4-Oct-16	40	20.25	810.00	97.20
7	Cathy	Coleman	MK	15-Nov-14	25	20.25	506.25	60.75
8	John	Jacobs	MK	25-Feb-13	40	15.75	630.00	75.60
9			**MK Total**		105		1,946.25	233.55
10			**Grand Total**		205		3,991.25	478.95

Click on the automatically created calculations to view the Subtotal formulas. The number 9 in the formula above is the Excel code for adding in the Subtotal feature.

SORTING

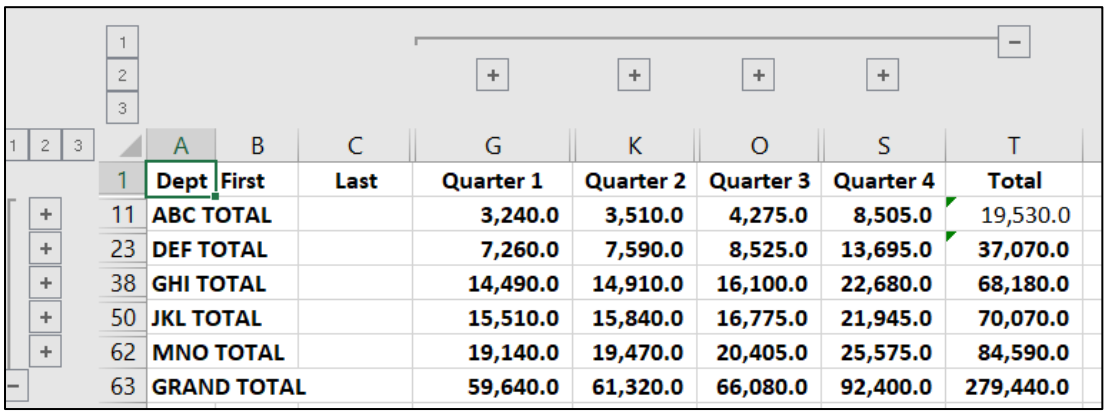
Sorting data can be done using a variety of techniques. Probably the fastest shortcut is to right-click on a **data** cell and select Sort. Multi-level sorting can be accessed using the right-click > Sort > Custom or you can click the Data Tab > Sort button. In our example, we use a 3-level sort, first by Dept, then Last, then First field headings. When the Departments are sorted, then people's names in the departments will be sorted by Last name, and if there are people with the same last name, they will be sorted by First name. It is not necessary to select data before you sort! As seen below, activating the Sort dialog (beginning with active cell within the data range) selects the range and only the needed range for you. Doing a single sort with the active cell within the data will move all data together. Always double-check that related data is moving together. "Skewed data" is often a gotcha in simple sorting! You may want to develop a habit of saving before your sort in case you encounter a problem. You may want to make a duplicate sheet tab to sort – name one tab "Original" and the other "Sorted". This way you have a list of the data the way you received it.



OUTLINES

Collapse and expand large amounts of subtotal data for easier viewing with the outline command.

1. With active cell in data, Data > Group drop-down arrow > Auto Outline.
2. Use the outline level buttons (1, 2, 3) on the upper left of the spreadsheet or click the plus sign to expand and the minus sign to collapse sections of data.
3. To clear the outline, Data > Ungroup drop-down arrow > Clear Outline.



	A	B	C	G	K	O	S	T
1	Dept	First	Last	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Total
11	ABC TOTAL			3,240.0	3,510.0	4,275.0	8,505.0	19,530.0
23	DEF TOTAL			7,260.0	7,590.0	8,525.0	13,695.0	37,070.0
38	GHI TOTAL			14,490.0	14,910.0	16,100.0	22,680.0	68,180.0
50	JKL TOTAL			15,510.0	15,840.0	16,775.0	21,945.0	70,070.0
62	MNO TOTAL			19,140.0	19,470.0	20,405.0	25,575.0	84,590.0
63	GRAND TOTAL			59,640.0	61,320.0	66,080.0	92,400.0	279,440.0

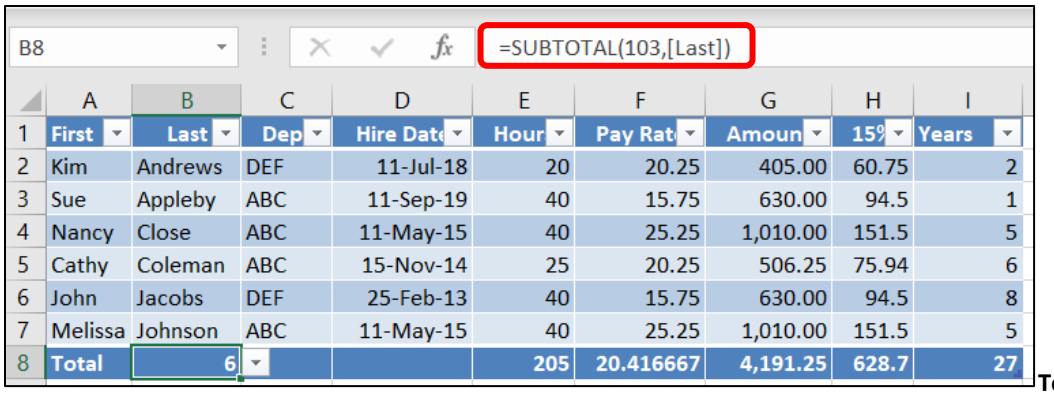
Automatic Excel Tables Functionality

Table Design Contextual Tab

Tables offer a collection of commands, under **Table Tools/Design** contextual tab, to automate the management of tabular lists in Excel. **To create a table**, click in any tabular data list, and press **Ctrl+T** or Insert Tab > Table to begin or use Home > Styles > Format as Table.

- Every-other-row shading (Medium 9) applied automatically. Select Table Styles > None to remove the shading.
- Top Row Freeze Panes automatically generated.
  Column heading titles automatically replace column heading letters (A, B, C) as the "freeze pane" command would outside of a table.
- Filter/sort buttons appear automatically.
- The Total Row checkbox activates automatic calculations across the bottom row of the table using referential formulas so that as filters are applied, the visible cells recalculate.
- Slicers (filters on steroids) are available in Tables
- Automatic inclusion of additional data
- Automatic absolute reference calculation fills down
- Tables "self-define" and as a result, grow dynamically as rows and columns are added, making the **Summarize with PivotTable** command a logical next step for reporting.

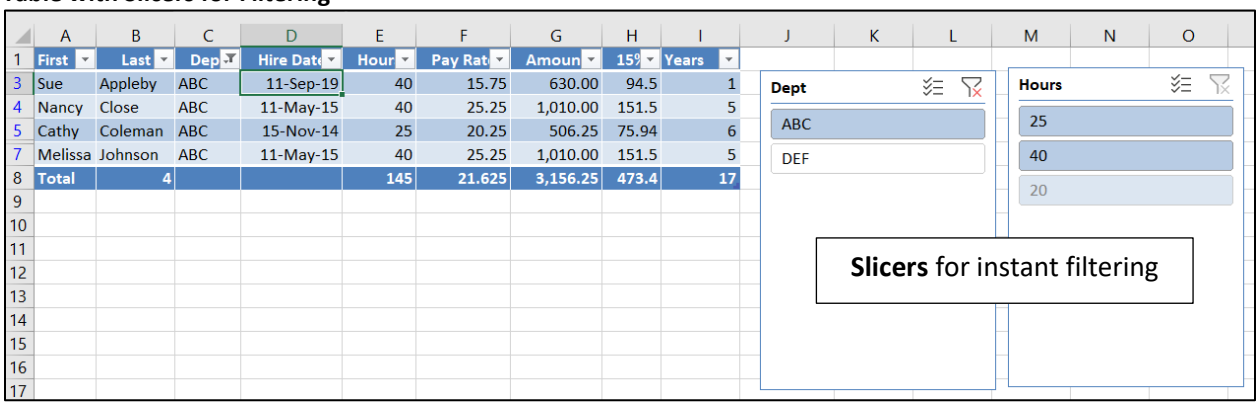
Excel Table with Count Formula in Formula Bar



	A	B	C	D	E	F	G	H	I
1	First	Last	Dep	Hire Dat	Hour	Pay Rat	Amoun	15%	Years
2	Kim	Andrews	DEF	11-Jul-18	20	20.25	405.00	60.75	2
3	Sue	Appleby	ABC	11-Sep-19	40	15.75	630.00	94.5	1
4	Nancy	Close	ABC	11-May-15	40	25.25	1,010.00	151.5	5
5	Cathy	Coleman	ABC	15-Nov-14	25	20.25	506.25	75.94	6
6	John	Jacobs	DEF	25-Feb-13	40	15.75	630.00	94.5	8
7	Melissa	Johnson	ABC	11-May-15	40	25.25	1,010.00	151.5	5
8	Total	6			205	20.416667	4,191.25	628.7	27

Total Row

Table with Slicers for Filtering



	A	B	C	D	E	F	G	H	I
1	First	Last	Dep	Hire Dat	Hour	Pay Rat	Amoun	15%	Years
3	Sue	Appleby	ABC	11-Sep-19	40	15.75	630.00	94.5	1
4	Nancy	Close	ABC	11-May-15	40	25.25	1,010.00	151.5	5
5	Cathy	Coleman	ABC	15-Nov-14	25	20.25	506.25	75.94	6
7	Melissa	Johnson	ABC	11-May-15	40	25.25	1,010.00	151.5	5
8	Total	4			145	21.625	3,156.25	473.4	17

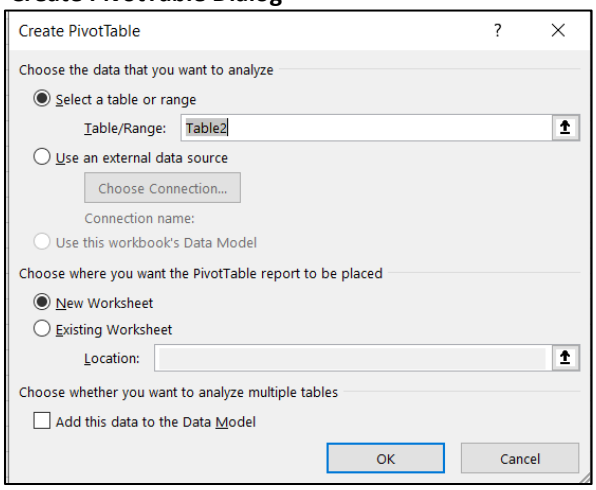
Caution: Always clear filters before leaving the data. Slicers have a Clear Filter button at the top of each.

PivotTables

PivotTables analyze data by creating a dynamic summary of the data. PivotTables pull unique values from a tabular list and perform instant calculations – as quickly as you can click! The main purpose of a PivotTable is to analyze data. Another important purpose is to make the data easy to read – rather than trying to draw conclusions from a large tabular list, we can display a variety of data "arrangements" to view results from different perspectives. Mix and match field headings (pivot fields/data) within a table layout to display varying combinations of data. Keep it simple (as simple as possible), keep the data refreshed, and keep it easy to read.

To create a PivotTable from a table, click the Table tab > Summarize with PivotTable button.
To create a PivotTable from a regular Excel list, click the Insert Tab > PivotTable. Using either technique, the same dialog appears prompting for information to build the PivotTable. **Remember the benefit of using the table is that it defines itself** and so as your data changes, you never have to redefine the new range of data; the table does that for you. That is a big advantage!

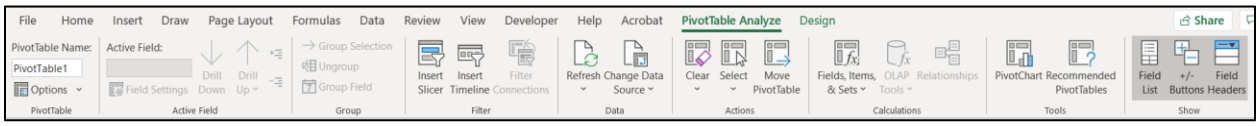
Create PivotTable Dialog



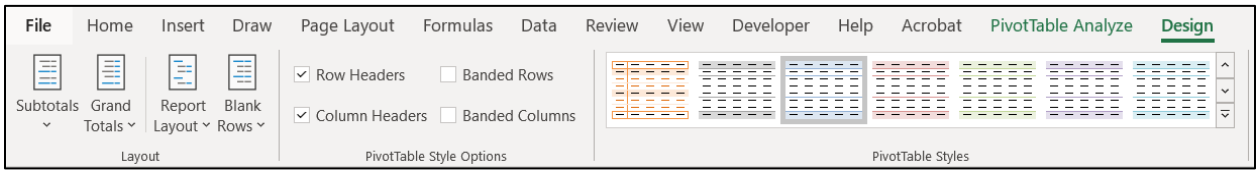
The dialog identifies the range of data (in this example it sees the existing table). You choose where you want the PivotTable report to be placed. Usually the PivotTable needs its own worksheet, and you click OK to accept the default choice. A PivotTable tab is created automatically to the immediate left of the table sheet tab.

Two new contextual tabs appear containing all the commands for PivotTables:

PIVOTTABLE RIBBON – ANALYZE



PIVOTTABLE RIBBON – DESIGN



The diagram placeholder for the PivotTable is on the left and the PivotTable Fields are on the right. Leaving your mouse with the active cell in the diagram, A3, the goal is to place the most important fields that you wish to view, in the area boxes below the field list. If you click a checkmark in a text field, the field automatically moves to the Rows area box and the PivotTable will now display a list of unique values from the data source. Click a number field and the the field will move to the Values area box. This creates grand totals for the text data in the PivotTable. The next text field will stak in the Rows box and subtotals will now be generated automatically. The pivot part of the process is that you can drag the fields into any of the boxes to display the desired data. You can even drag the same field multiple times into one box. Frequently users drag a number field several times into the values box and then use each column of data created to display a different type of calculation, such as Sum, Average, Count.

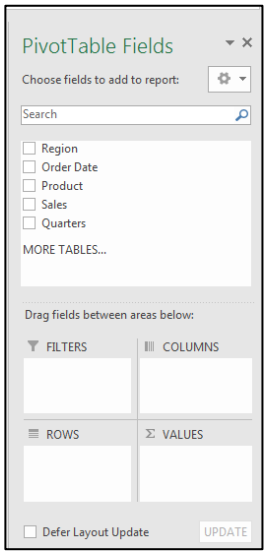
PivotTable

Sum of Sales	Column Labels					
Row Labels	Apples	Bananas	Oranges	Peaches	Pears	Grand Total
Central	94,206	91,668	62,272	86,799	181,218	516,163
East	112,980	141,408	69,698	119,457	172,285	615,828
North	114,984	149,868	67,031	153,296	187,405	672,584
South	51,676	154,494	67,962	164,400	211,598	650,130
West	186,000	112,190	68,177	185,788	224,482	776,637
Grand Total	559,846	649,628	335,140	709,740	976,988	3,231,342

New Field Search

Area Boxes

Field List

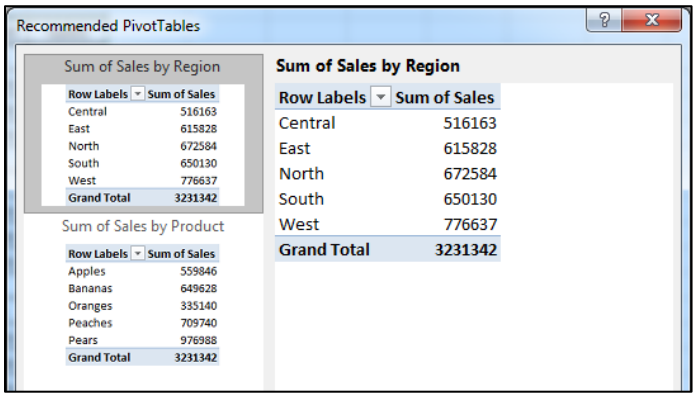


To Build a PivotTable from an Excel List:

1. Insert Tab > PivotTable. The PivotTable dialog appears.
2. Verify the Table/Range area. Select the location for the PivotTable (New Worksheet).
3. Consider building the PivotTable from a Table (Summarize with PivotTable) to eliminate the need to manually change data source ranges as records are added and / or deleted.
4. Drag fields into the area boxes of the table. Use the drop-down arrows next to each field in the area boxes to affect settings for the table data.
5. Data appears on the left side of the spreadsheet. Use the drop-down arrows next to each field in the PivotTable data to filter the table data for specific results.
6. PivotTable Tools appear in the title bar (with Analyze and Design tabs).
7. Data > Refresh All to update data (on all related pivottables) from data source.
8. Once the PivotTable has been built, consider Copy/Paste to build additional tables with different data collections from the first PivotTable. These become “related tables”.

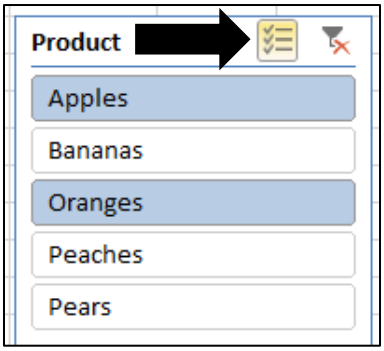
RECOMMENDED PIVOTTABLES

Recommended PivotTables is a feature that suggests different combinations of live data for additional PivotTables. With an active cell in a PivotTable, click Analyze Tab > Tools Group > Recommended PivotTables. Selecting on the recommended PivotTables, automatically creates the PivotTable without using the PivotTable dialog.



SLICER (WITH MULTI-SELECT BUTTON)

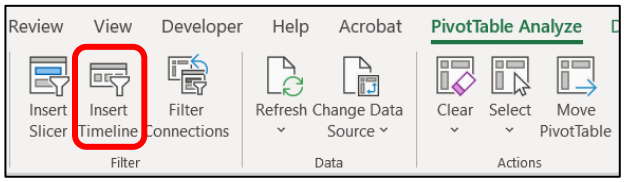
Slicers are filters on steroids! A slicer is an object which represents instant filtering on field headings without making changes directly within a PivotTable. Find Slicers in the PivotTable Analyze Contextual Tab. The new Multi-Select button toggles the selection of items rather than relying on the Ctrl key to select noncontiguous items. Slicers have their own ribbon with Slicer Styles and Slicer Connections.



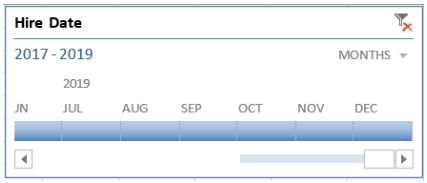
TIMELINE SLICER

The Timeline slicer can only be used with data that has a time element. You can set the time increments using the drop-down arrow on the upper right corner. You can also drag the bar across the time periods. The PivotTable will recalculate to display the time-related data as fast as you can drag!

Analyze tab > Filter group > Insert Timeline

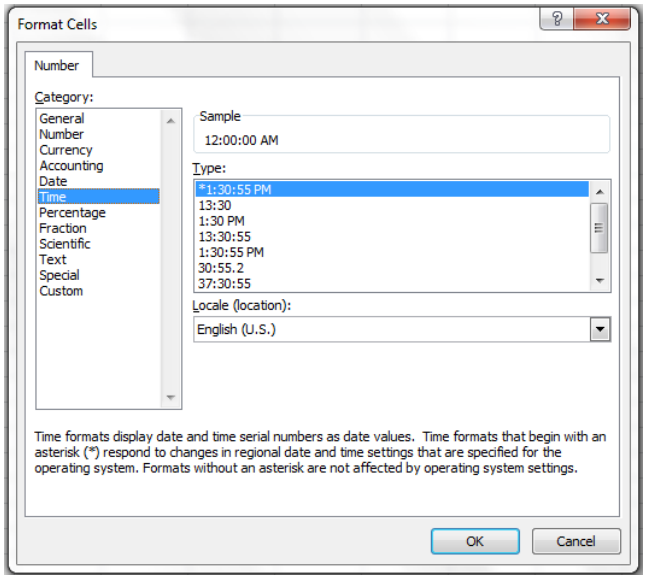


Timeline Slicer



<u>Format a Field</u>

Readability is the secondary goal next to accuracy when working in Excel. Do not select and format a PivotTable as you would any Excel data range. Right click on one cell and select Number Format (not Format Cells) > Number. Adjust the settings. Click OK. The format will appear on all calculated numbers and will remain consistent throughout the use of the PivotTable. This is the same command that can be accessed through Field Settings > Number Format button.



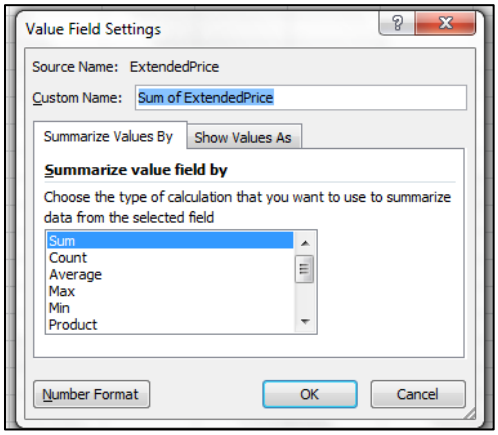
Use the Format Cells option if you do not wish to affect all numbers with the format changes.
As noted at the bottom of the Date and Time format dialogs, date and time formats that begin with an asterisk are subject to change if the file is opened in another country.

To clear formatting:
Home > Editing Group > Clear > Clear Formats

BUILT-IN CALCULATIONS WITHIN PIVOTTABLES – SUMMARIZE VALUES BY (DEFAULT)

Summary Calculations in PivotTables

By default, Excel applies Sum as the default calculation if a numeric field is added to the Values area. If a text field is added, the summary calculation is automatically a Count function. If the numeric field in the Values area contains a text item, the calculation will change to Count. Blank cells have the same affect. Use the drop-down arrow on the field in the Values area box to switch settings.

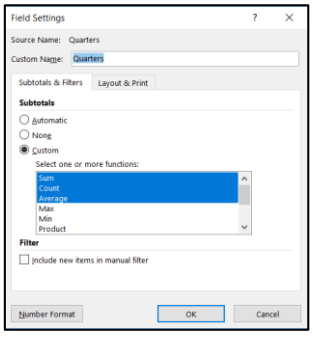


You can also view the summary calculation for subtotals or grand totals with a right-click on a numeric cell and select Summarize Values By. The list of functions appears. Click More Options at the bottom of the list to view the Value Field Settings dialog. Another path to the dialog is Analyze Tab > Calculations Command Group > Summarize Values By button. The screen tip shows summary calculation function type.

To apply multiple calculations at one time. Begin by selecting an item that has been subtotaled. Right-click a subtotaled item > Field Settings > Custom. Choose functions, such as Sum, Average, and Count.

Field Settings

3	Row Labels	Sum of Sales
4	⊟Qtr1	
5	Jan	277788
6	Feb	202566
7	Mar	152682
8	**Qtr1 Sum**	**633036**
9	**Qtr1 Count**	**24**
10	**Qtr1 Average**	**26376.5**
11	⊟Qtr2	
12	Apr	203455
13	May	177272
14	Jun	178934
15	**Qtr2 Sum**	**559661**
16	**Qtr2 Count**	**18**
17	**Qtr2 Average**	**31092.27778**



Right-click a number item to apply auto calculations from a full list of built-in formulas.

SHOW VALUES AS

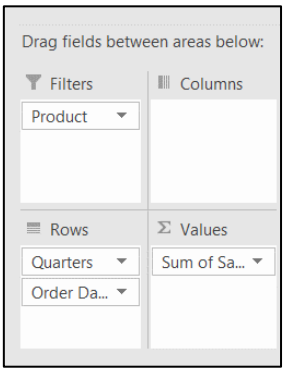
No Calculation	% of Grand Total
% of Column Total	% of Row Total
% Of…	% of Parent Row Total
% of Parent Column Total	% of Parent Total
Difference From…	% Difference From…
Running Total In…	% Running Total In…
Rank Smallest to Largest	Rank Largest to Smallest
Index	More Options…

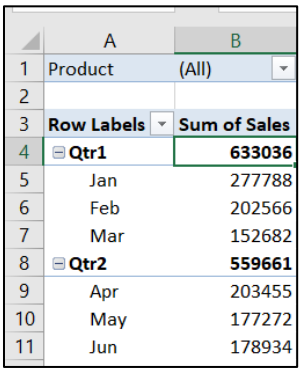
DRILL DOWN

Formulas do not display in the formula bar when working with PivotTables. To double-check accuracy as you build a PivotTables, double-click on any value you wish to view. The PivotTable will automatically create a Table on a separate sheet tab (to the immediate left of the PivotTable) with a copy of the data from the data source used in the calculation. This makes it easy to click on the Data tab and the Total Row checkbox to activate automatic calculations for comparing numbers with the PivotTable.

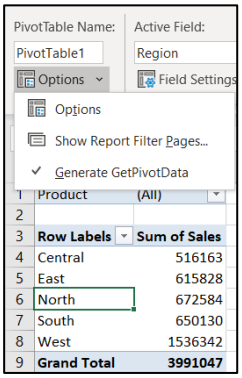
INSTANT REPORTS

By placing a field in the Filters area box, the PivotTable adds the field(s) to the A1:B1 cells. This gives access to another layer of filtering possibilities. It also activates an instant report function called Show Report Filter Pages… For any items filtered within that field, an instant PivotTable will be generated on a separate named sheet tab; hence, instant reports!





	A	B
1	Product	(All)
2		
3	Row Labels	Sum of Sales
4	Qtr1	633036
5	Jan	277788
6	Feb	202566
7	Mar	152682
8	Qtr2	559661
9	Apr	203455
10	May	177272
11	Jun	178934



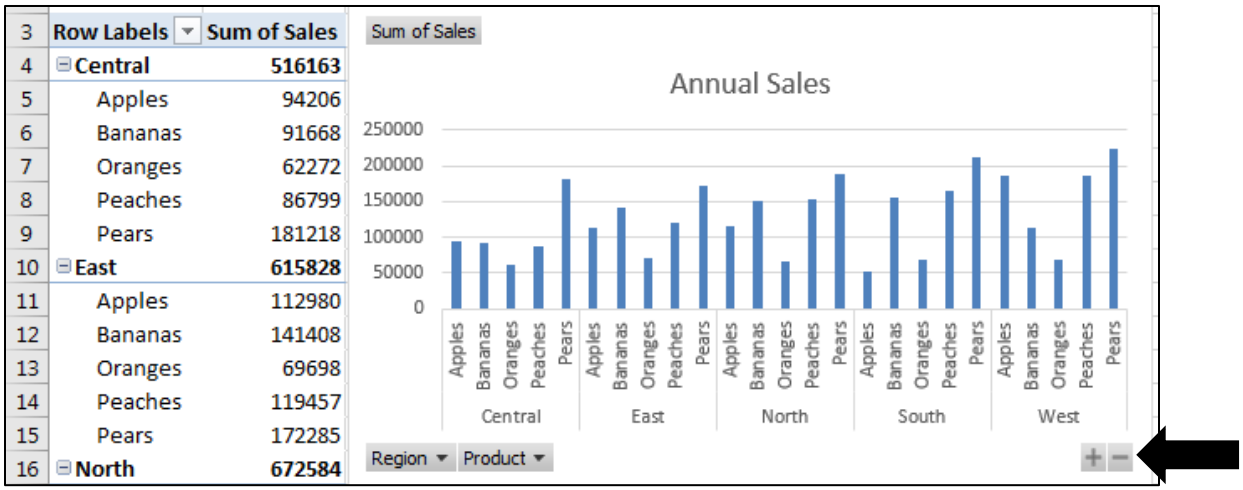
1	Product	(All)
2		
3	Row Labels	Sum of Sales
4	Central	516163
5	East	615828
6	North	672584
7	South	650130
8	West	1536342
9	Grand Total	3991047

PIVOTCHARTS (WITH DRILL DOWN BUTTONS FOR MULTI-LEVEL DATA)

Click in the PivotTable data. There is no need to select data prior to charting as there is with regular charts.

Analyze tab > PivotChart. The selected chart type will appear on the PivotTable sheet. The chart area will have fields with filter buttons (drop-down arrows), like the PivotTable. The chart data will change as the fields are filtered on the chart or on the PivotTable. The Chart ribbon is now available to change chart types and options. Making changes on the chart will affect the table. Likewise, changes on the table will affect the chart.

Analyze Tab > PivotChart

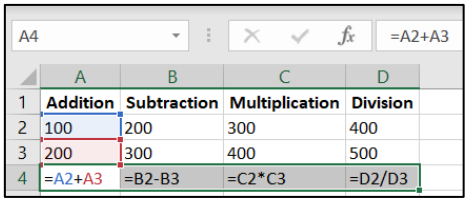


Drill down buttons appear at the lower right corner of the chart if the chart was created from multi-level data. The minus sign is used to collapse the detail level. The plus sign expands the detail.

Calculations – Basic Arithmetic and Formulas

Basic Operations:

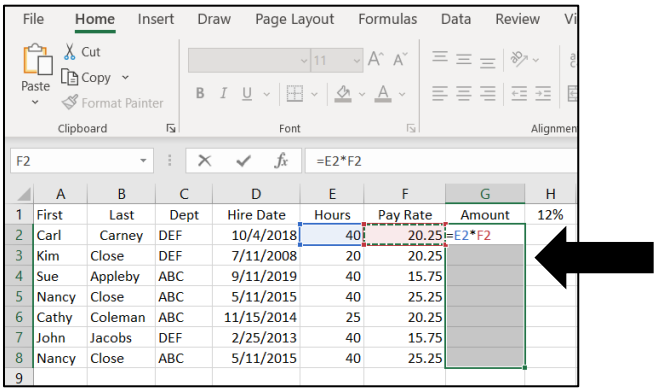
+ Addition
- Subtraction
***** Multiplication
/ Division



- Use cell references in formulas so that if the numbers change, the answers recalculate.
- Excel color codes the cell related to the cell reference as another visual clue that you are accessing the correct cell(s).

Tip: By **selecting a range of cells** (as shown below) prior to creating the formula, you can complete all the rows of formulas automatically with one formula without using the double-click Fill Down handle shortcut to fill the formulas down after creating the first calculation. You must press Ctrl+Enter for all the cells to calculate at once.

The Shortest Shortcut



A best practice is to use **Ctrl+Enter** when entering any formula. Ctrl+Enter enters the formula and leaves the same cell active. Using this technique, you can take another look at the formula bar for a quick

check on accuracy and avoid the constant clicking back up on the cell as you would do by only pressing Enter. Always spot check formulas for accuracy!

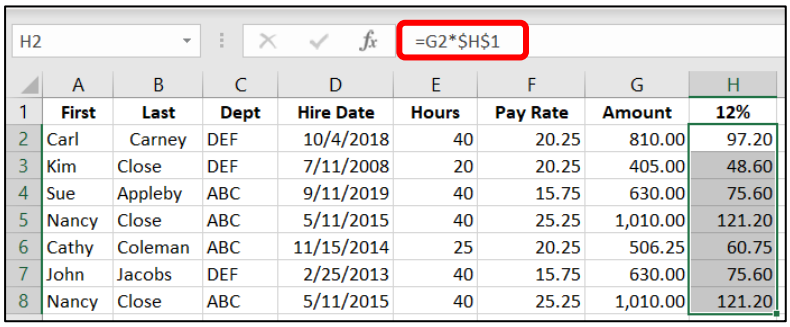
Relative and Absolute Formula References

RELATIVE REFERENCE

Any formula that fills down (repeats down a column) or fills right (repeats across a row), is called a relative reference formula. The formula changes automatically for each new cell location.

ABSOLUTE REFERENCE

Any formula that holds one cell absolute (remains the same) as the formula fills down (repeats down a column) or fills right (repeats across a row), is called an absolute reference formula. The formula changes automatically for each new cell location but one cell reference within the formula does not change. To keep a cell reference absolute, Excel uses a $ as the code for holding that reference the same. The reference of the value in cell H1, 12%, is repeated down the column. Always, by using the cell reference rather than the value of 12% in the formula, we have the flexibility of typing a different number in H1 and when we press Enter, all the cells recalculate automatically. Users who simply use 12% have to rewrite and refill all their formulas when the number changes!



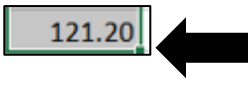
	A	B	C	D	E	F	G	H
1	First	Last	Dept	Hire Date	Hours	Pay Rate	Amount	12%
2	Carl	Carney	DEF	10/4/2018	40	20.25	810.00	97.20
3	Kim	Close	DEF	7/11/2008	20	20.25	405.00	48.60
4	Sue	Appleby	ABC	9/11/2019	40	15.75	630.00	75.60
5	Nancy	Close	ABC	5/11/2015	40	25.25	1,010.00	121.20
6	Cathy	Coleman	ABC	11/15/2014	25	20.25	506.25	60.75
7	John	Jacobs	DEF	2/25/2013	40	15.75	630.00	75.60
8	Nancy	Close	ABC	5/11/2015	40	25.25	1,010.00	121.20

H
0.12
=G2*H1
=G3*H1
=G4*H1
=G5*H1
=G6*H1
=G7*H1
=G8*H1

FILLING FORMULAS

The fill handle of a cell is the small black block in the lower right corner of the cell. When you place your mouse on the fill handle, the mouse marker turns into a flat black plus sign. It is with that symbol that you can begin the fill process. Filling a formula is the process of repeating the formula (or any data) across or down a range of cells. There are several techniques for filling. Double-clicking on a fill handle to fill a formula down is the shortest shortcut. It only works for Fill Down and it must have data next to it, so it knows how far to fill. If you know the range you are filling, you can click on the first cell, Shift+click on the last cell and use a **Ctrl+R** for Fill Right or **Ctrl+D** for Fill Down. And then there is always the drag technique – remember that in general dragging is a drag! See Home tab > Editing group > Fill for more options.

Fill Handle



Creating 3D Linked Formulas

3D FORMULAS – WITHIN SAME WORKBOOK
Multiple worksheets may be used to divide work into smaller more manageable components. For example, each worksheet may contain information for a different region or for a different time period. A summary sheet may be created to automatically link information from each worksheet.

TO CREATE MULTIPLE SHEETS WITH SIMILAR DATA:
By completing the setup of one sheet with formatting and formulas, this copy technique saves creating one sheet at a time.

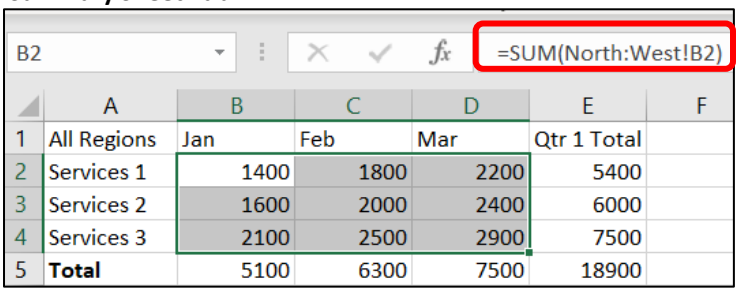
1. Right-click on the completed sheet tab
2. Select **Move or Copy**
3. Click on Create a copy
4. Click on Before sheet: Sheet 2
5. Click OK
6. Rename the copied sheet tab.

If all sheets are set up identically, create a copy of a sheet and move it to the end of the related sheets. Clear out the data, keeping the formats and formulas to begin to gather data for the summary sheet.

To create an internal summary sheet with links:

1. Click in the cell of the first summary formula (or select the full range to calculate all cells at once).
2. To total numbers from the region sheets, click on the AutoSum button. (shortcut **Alt+=**)
   The AutoSum formula will act as a placeholder on the summary sheet tab while you click on the first "region" tab and the first numeric cell within that tab.
3. Click on first tab to activate it. In the example provided, North is the name of the first sheet tab. B2 is the first cell to add.
4. Click on the first cell to add. Notice the formula in the formula bar.
5. Hold the **Shift** key and click on the last related tab in the range of sheets. Notice the changes in the formula. In the example below, South is the last sheet tab to add.
6. Press Ctrl+Enter to input the answer and return to the Summary sheet tab. The formula shows the addition of each cell for each sheet tab. Double-check the answers! Use the fill handle to complete the calculations if you did not begin with the full range selected.

Summary Sheet Tab



	A	B	C	D	E	F
1	All Regions	Jan	Feb	Mar	Qtr 1 Total	
2	Services 1	1400	1800	2200	5400	
3	Services 2	1600	2000	2400	6000	
4	Services 3	2100	2500	2900	7500	
5	**Total**	5100	6300	7500	18900	

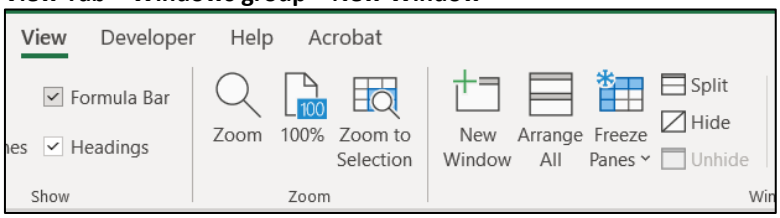
Viewing Techniques

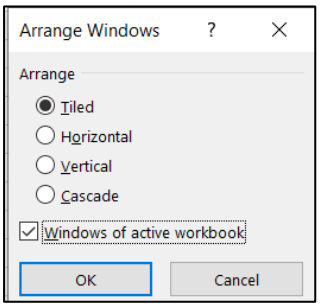
View Sheet Tabs within Workbook Side-by-Side

1. View Tab > New Window. The title bar shows a :2 on the right of the file title at the top of the window.
2. View Tab > Arrange All > Vertical > Windows of active workbook
3. Click desired sheet tab in each window.
4. Close each window to return to the single screen view. (Shortcut – **Ctrl+W** is close window)

You can create as many new windows as you have room to view the data. The number next to the file name will increase with each new window. There is only one set of data; no copies are made during this process. Changing data in any window will affect the original data. Click once on the window you want to activate and then click again on that window to begin your work. Repeat that process as you work from window to window. Use **Ctrl+W** to close one window at a time or click the close box at the upper right of the window.

View Tab > Windows group > New Window



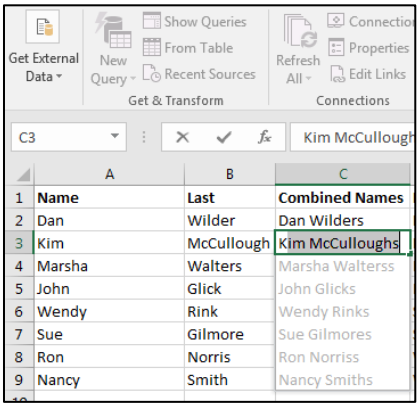


Text Functions

Combining information from various columns has never been so easy as it is with the Flash Fill feature! Flash Fill combines data any way you would to combine it. It is not limited to names, not even to only text. You skip the formula previously used, CONCATENATE, and you simply type the data the way you want to view it.

- The data must be consistent. The spelling you enter must be an exact match.
- There can be no blank columns separating the data from the column you are using to enter.
- Flash Fill is case sensitive. If you want to view the data in all caps, you can type it in all caps.
- Flash fill has its own button in Data tab > Data Tools group

FLASH FILL



To combine data automatically from multiple columns:

1. Enter the data from multiple columns as you want it to appear at the top of the new column. Press the Enter key.
2. Type the first character of the data from the second cell. The remainder of the data will fill in automatically.
3. Press Enter to accept.

Flash fill does not create a formula within the newly created list; it simply creates a list of text which you can then manipulate further.

Text Functions	
To convert text to upper case	=UPPER(cell reference)
To convert text to lower case	=LOWER(cell reference)
To convert text to upper and lower	=PROPER(cell reference)
To split names, or any data, combined within a column:	Data > Text to Columns

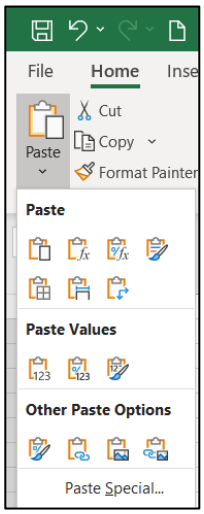
PASTE / PASTE SPECIAL OPTIONS

Paste option buttons list numerous options.

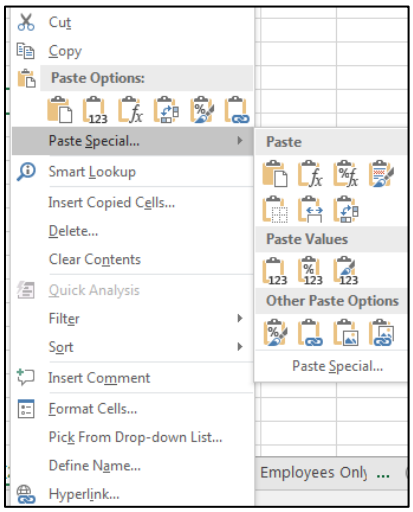
Paste Special dialog remains. Make sure when you paste that you only activate one cell for pasting; do not select the range you wish to paste into.

Use the **shortest shortcut** for Paste Special. Select data and copy. Place navigation arrow on border of selected data. RIGHT-CLICK, HOLD, DRAG off and back on to the existing data and release mouse button. Click Paste As Values on the pop-up menu to replace the existing data.

Home Tab > Paste or



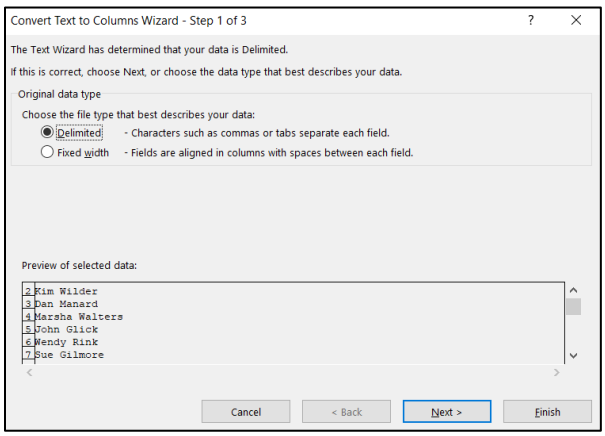
Right-click > Paste Special

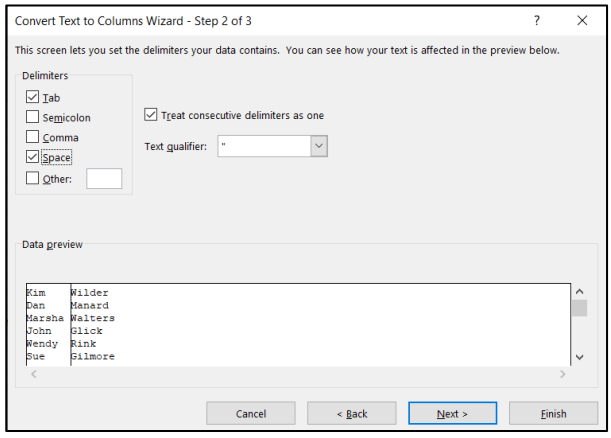


TEXT TO COLUMNS

Data tab > Text to Columns contains a wizard that will assist you in splitting data into columns. Caution: make sure to make room for the data when it splits so that nothing gets inadvertently replaced. Begin by selecting the text you want to split. The data in the example of splitting names needs to be Delimited due to the different character counts in names. Click Next to move to Step 2. Identify the type of delimiter. The names are separated by a space. As you select Space, you will see a preview of the text as it will split. Since no further formatting is needed in this example, we can skip Next and go straight to Finish. Step 3 offers formatting options in the process.

Convert Text to Columns Wizard – Step 1 and 2





Three Additional Tips

1. A **shortcut for entering data** in a spreadsheet if some of the data is repetitive is to use **Ctrl+"** (ditto) on the cell below to duplicate the cell above.
2. When entering built-in functions, it is not necessary to type a) (closed parenthesis) at the end of the formula as long as there is only one open parenthesis. Excel will close the parenthesis for you when you complete entering the formula.
3. The shortcut for entering today's date is **Ctrl+;** (semicolon). This is the computer's system date and will not change automatically.

After Your Training

NEXT STEPS

The first step that should follow the completion of any class is to apply your new knowledge, as quickly and as often as possible in order to "make it stick". If you are working through levels of Excel, the Excel PivotTables course is considered the next intermediate level.

THANK YOU!

Thank you for learning with Learn Excel Now! We appreciate your interest in learning more about Excel and hope to "see you" in future courses! We hope you have gained information that will aid in your successful use of Excel! Please reach out to us if we can help further! Thank You!