اكاديمية شرطة دبي
DUBAI POLICE ACADEMY

Microsoft Excel

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Microsoft Excel

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1-Get started with Excel.

Create a workbook

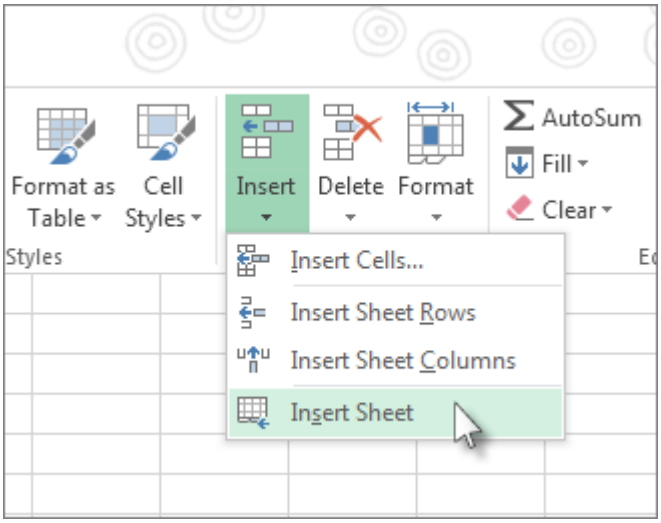
1. Open Excel.
2. Select **Blank workbook** or press Ctrl+N.
3. Start typing.

Create a workbook from a template

1. Select **File** > **New**.
2. Double-click a template.
3. Click and start typing.

Insert a worksheet

- Select the plus icon at the bottom of the screen.
- Or, select **Home** > **Insert** > **Insert Sheet**.

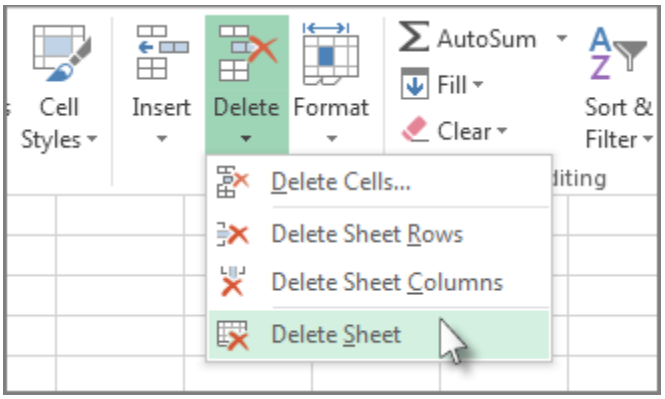


Rename a worksheet

- Double-click the sheet name on the **Sheet** tab to quickly rename it.
- Or, right-click on the **Sheet** tab, click **Rename**, and type a new name.

Delete a worksheet

- Right-click the **Sheet** tab and select **Delete**.
- Or, select the sheet, and then select **Home** > **Delete** > **Delete Sheet**.



Move or copy worksheets or worksheet data

You can use the **Move or Copy Sheet** command to move or copy entire worksheets (also known as sheets), to other locations in the same or a different workbook. You can use the **Cut** and **Copy** commands to move or copy a portion of the data to other worksheets or workbooks.

Move a worksheet within a workbook

- Select the worksheet tab, and drag it to where you want it.

Note: Be aware that calculations or charts that are based on worksheet data might become inaccurate if you move the worksheet.

Copy a worksheet in the same workbook

- Press CTRL and drag the worksheet tab to the tab location you want.

OR

1. Right click on the worksheet tab and select **Move or Copy.**
2. Select the **Create a copy** checkbox.
3. Under **Before sheet**, select where you want to place the copy.
4. Select **OK.**

Print a worksheet or workbook

You can print entire or partial worksheets and workbooks, one at a time, or several at once. And if the data that you want to print is in a Microsoft Excel table, you can print just the Excel table.

You can also print a workbook to a file instead of to a printer. This is useful when you need to print the workbook on a different type of printer from the one that you originally used to print it.

Before you print

Before you print anything in Excel, do remember that there are many options available for an optimal print experience.

Important: Some formatting, such as colored text or cell shading, may look good on the screen but not look how you expect when it prints on a black-and-white printer. You may also want to print a worksheet with gridlines displayed so that the data, rows, and columns stand out better.

Print one or several worksheets

1. Select the worksheets that you want to print.
2. Click **File** > **Print**, or press CTRL+P.
3. Click the **Print** button or adjust **Settings** before you click the **Print** button.

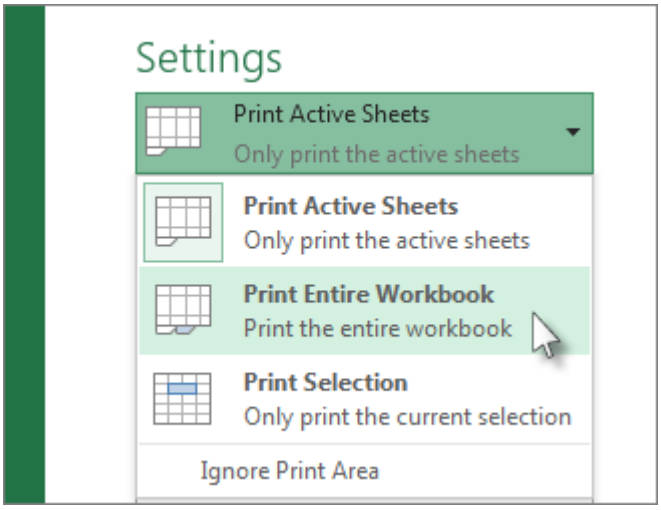
Print one or several workbooks

All workbook files that you want to print must be in the same folder.

1. Click **File** > **Open**.
2. Hold down CTRL click the name of each workbook to print, and then click **Print**.

Print all or part of a worksheet

1. Click the worksheet, and then select the range of data that you want to print.
2. Click **File**, and then click **Print**.
3. Under **Settings**, click the arrow next to **Print Active Sheets** and select the appropriate option.

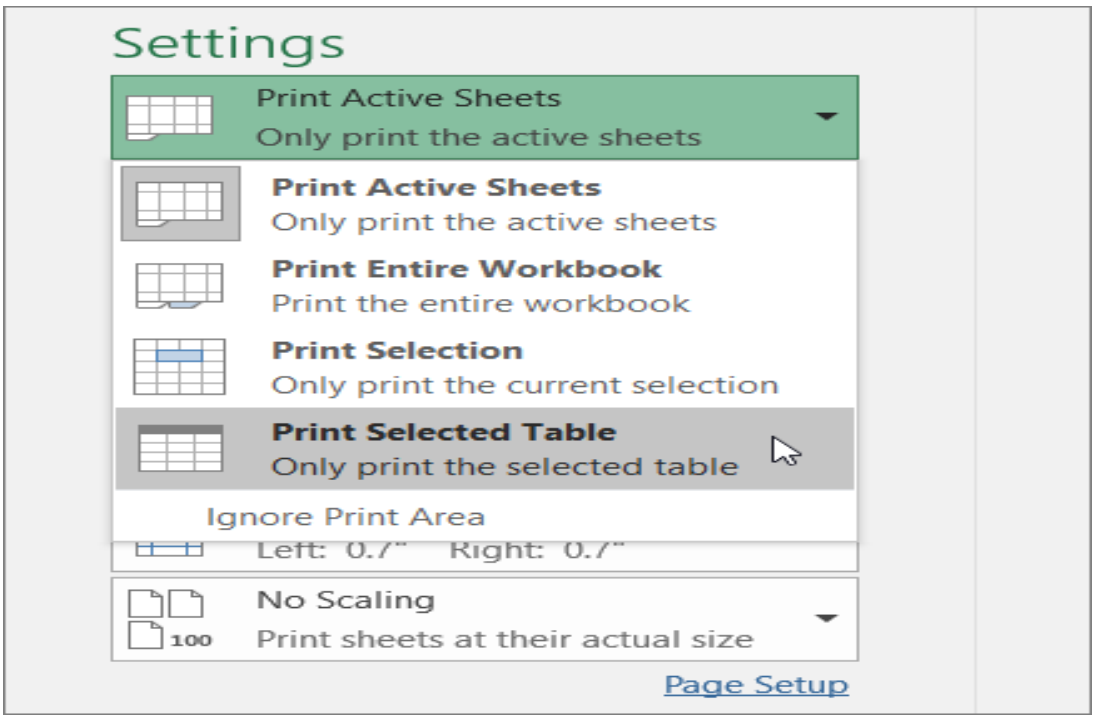


4. Click **Print**.

Note: If a worksheet has defined print areas, Excel will print only those print areas. If you don't want to print only the defined print area, select the **Ignore print area** check box

Print an Excel table

1. Click a cell within the table to enable the table.
2. Click **File**, and then click **Print**.
3. Under **Settings**, click the arrow next to **Print Active Sheets** and select **Print Selected Table**.



4. Click **Print**.

Print a workbook to a file

1. Click **File**, and then click **Print**, or press Ctrl+P.
2. Under **Printer**, select **Print to File**.
3. Click **Print.**
4. In the **Save Print Output As** dialog box, enter a file name and then click **OK**. The file will be saved in your *Documents* folder

Important: If you print the saved file on a different printer, the page breaks and font spacing may change.

Use Excel as your calculator

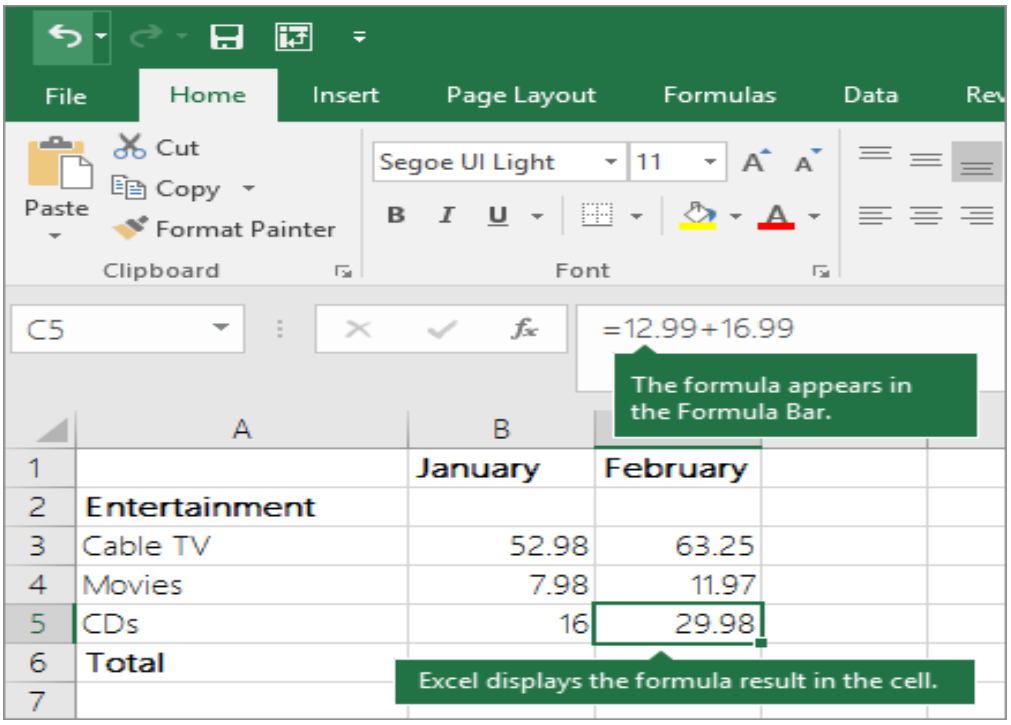
Instead of using a calculator, use Microsoft Excel to do the math!

You can enter simple formulas to add, divide, multiply, and subtract two or more numeric values. Or use the AutoSum feature to quickly total a series of values without entering them manually in a formula. After you create a formula, you can copy it into adjacent cells — no need to create the same formula over and over again.

Learn more about simple formulas

All formula entries begin with an equal sign (**=**). For simple formulas, simply type the equal sign followed by the numeric values that you want to calculate and the math operators that you want to use — the plus sign (**+**) to add, the minus sign (**-**) to subtract, the asterisk (*****) to multiply, and the forward slash (**/**) to divide. Then, press ENTER, and Excel instantly calculates and displays the result of the formula.

For example, when you type **=12.99+16.99** in cell C5 and press ENTER, Excel calculates the result and displays 29.98 in that cell.



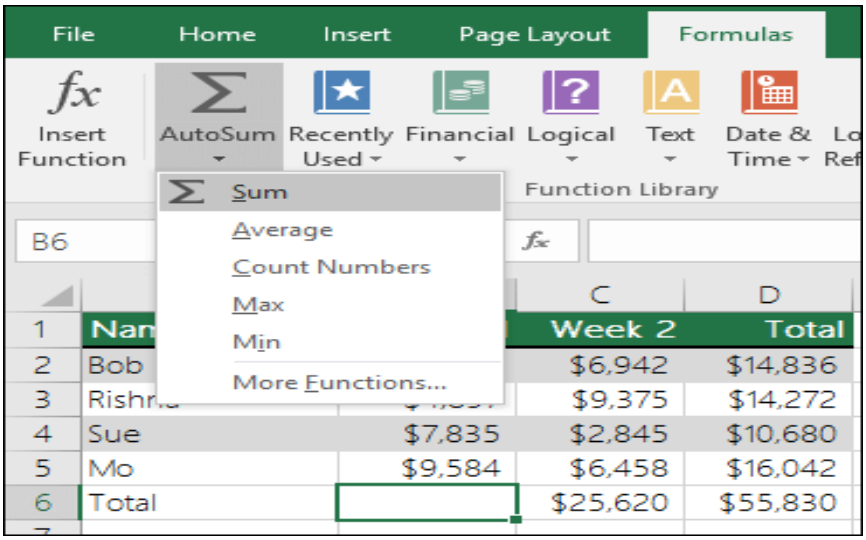
The formula that you enter in a cell remains visible in the formula bar, and you can see it whenever that cell is selected.

Important: Although there is a **SUM** function, there is no **SUBTRACT** function. Instead, use the minus (-) operator in a formula; for example, =8-3+2-4+12. Or, you can use a minus sign to convert a number to its negative value in the SUM function; for example, the formula =SUM(12,5,-3,8,-4) uses the SUM function to add 12, 5, subtract 3, add 8, and subtract 4, in that order.

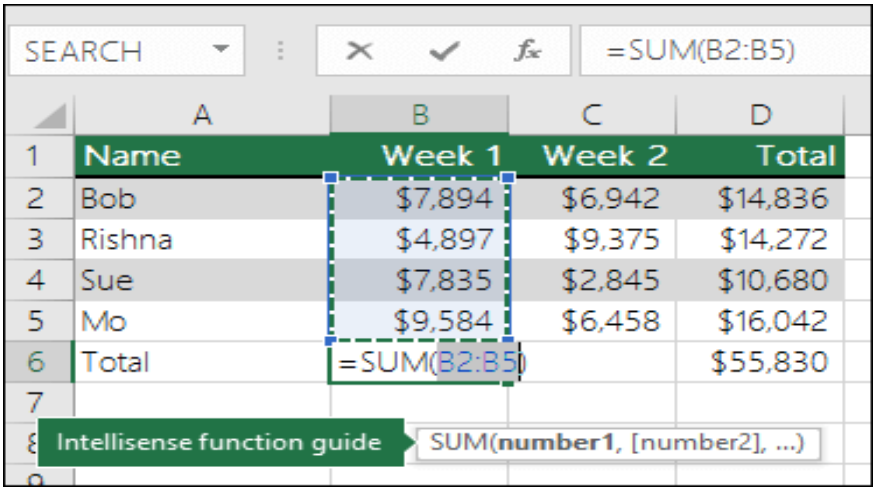
Use AutoSum

The easiest way to add a SUM formula to your worksheet is to use AutoSum. Select an empty cell directly above or below the range that you want to sum, and on the **Home** or **Formula** tabs of the ribbon, click **AutoSum** > **Sum**. AutoSum will automatically sense the range to be summed and build the formula for you. This also works horizontally if you select a cell to the left or right of the range that you need to sum.

Note: AutoSum does not work on non-contiguous ranges.



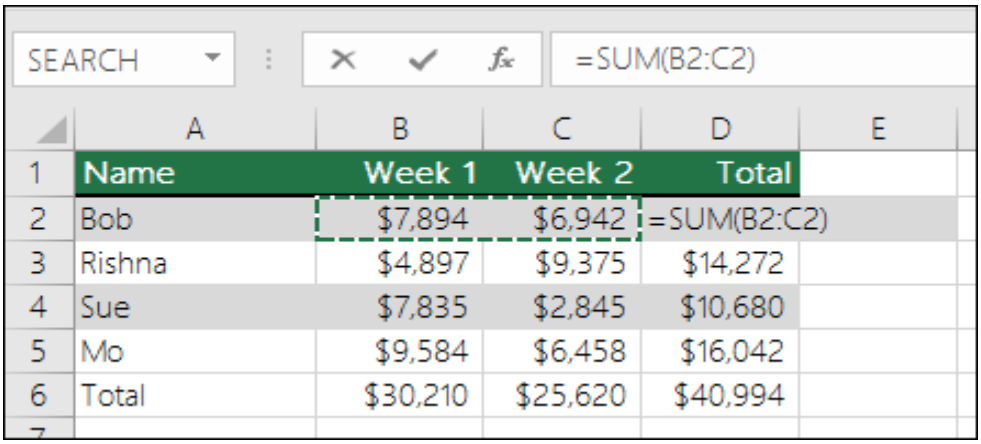
AutoSum vertically



In the figure above, the AutoSum feature is seen to automatically detect cells B2:B5 as the range to sum. All you need to do is press ENTER to confirm it. If you need to add/exclude more cells, you can hold the Shift Key + the arrow key of your choice until your selection matches what you want. Then press Enter to complete the task.

Intellisense function guide: the SUM(number1,[number2], …) floating tag beneath the function is its Intellisense guide. If you click the SUM or function name, it will change o a blue hyperlink to the Help topic for that function. If you click the individual function elements, their representative pieces in the formula will be highlighted. In this case, only B2:B5 would be highlighted, since there is only one number reference in this formula. The Intellisense tag will appear for any function.

AutoSum horizontally

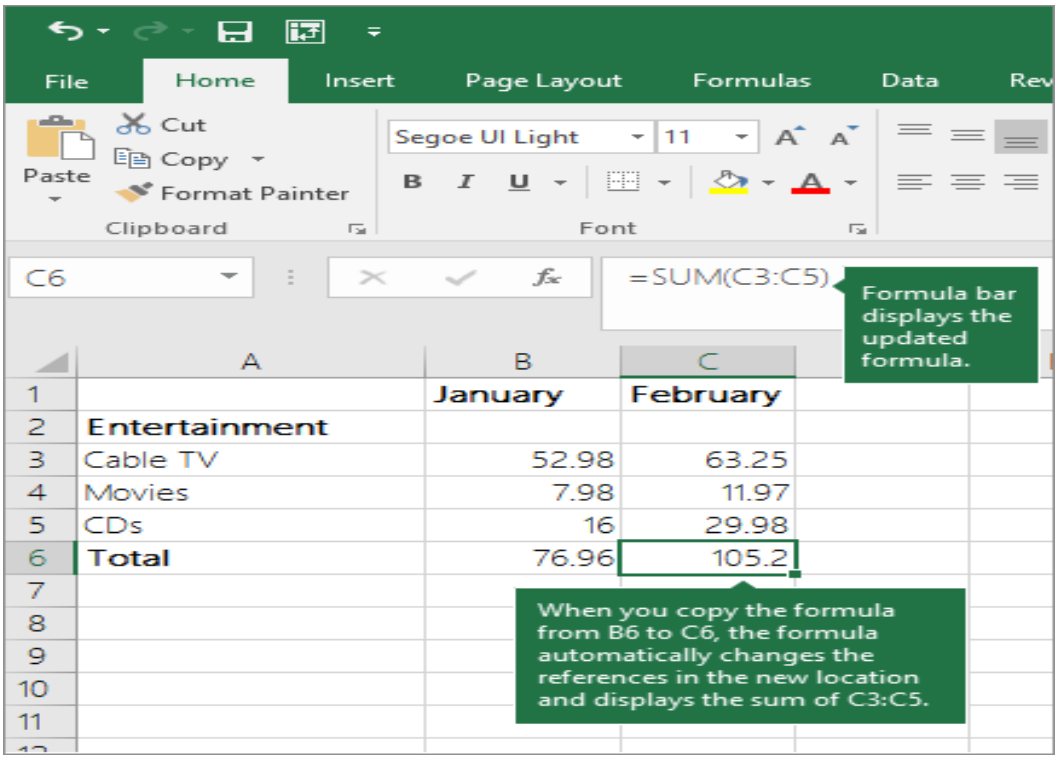


Avoid rewriting the same formula

After you create a formula, you can copy it to other cells — no need to rewrite the same formula. You can either copy the formula, or use the fill handle to copy the formula to adjacent cells.

For example, when you copy the formula in cell B6 to C6, the formula in that cell automatically changes to update to cell references in column C.

Calculator key	Excel method	Description, example	Result
+ (Plus key)	+ (plus)	Use in a formula to add numbers. Example: =4+6+2	12
- (Minus key)	- (minus)	Use in a formula to subtract numbers or to signify a negative number. Example: =18-12 Example: =24*-5 (24 times negative 5)	6 -120
x (Multiply key)	* (asterisk; also called "star")	Use in a formula to multiply numbers. Example: =8*3	24
÷ (Divide key)	/ (forward slash)	Use in a formula to divide one number by another. Example: =45/5	9
% (Percent key)	% (percent)	Use in a formula with * to multiply by a percent. Example: =15%*20	3
√ **(square root**)	SQRT (function)	Use the SQRT function in a formula to find the square root of a number. Example: =SQRT(64)	8
1/x (reciprocal)	=1/n	Use =1/*n* in a formula, where *n* is the number you want to divide 1 by. Example: =1/8	0.125



	A	B	C
1		January	February
2	Entertainment		
3	Cable TV	52.98	63.25
4	Movies	7.98	11.97
5	CDs	16	29.98
6	Total	76.96	105.2
7			
8			
9			
10			
11			

When you copy the formula, ensure that the cell references are correct. Cell references may change if they have relative references. For more information,

What can I use in a formula to mimic calculator keys?

Fill data automatically in worksheet cells

Use the Auto Fill feature to fill cells with data that follows a pattern or are based on data in other cells.

1. Select one or more cells you want to use as a basis for filling additional cells.

   For a series like 1, 2, 3, 4, 5..., type 1 and 2 in the first two cells. For the series 2, 4, 6, 8..., type 2 and 4.

   For the series 2, 2, 2, 2..., type 2 in first cell only.

2. Drag the fill handle .

3. If needed, click **Auto Fill Options** and choose the option you want.

2-Design workbooks.

Insert or delete rows or columns

Hide or unhide columns in your spreadsheet to show just the data that you need to see or print.

Hide columns

1. Select one or more columns, and then press Ctrl to select additional columns that aren't adjacent.
2. Right-click the selected columns, and then select **Hide**.

Note: The double line between two columns is an indicator that you've hidden a column.

Unhide columns

1. Select the adjacent columns for the hidden columns.
2. Right-click the selected columns, and then select **Unhide**.

Or double-click the double line between the two columns where hidden columns exist.

Adjust the column width or row height

You can manually adjust the column width or row height or automatically resize columns and rows to fit the data.

Note: The boundary is the line between cells, columns, and rows. If a column is too narrow to display the data, you will see ### in the cell.

Resize rows

1. Select a row or a range of rows.
2. Select **Format** > **Row Width**.
3. Type the row width and select **OK**.

Resize columns

1. Select a column or a range of columns.
2. Select **Format** > **Column Width**.

3. Type the column width and select **OK**.

Automatically resize all columns and rows to fit the data

1. Select the **Select All** button at the top of the worksheet, to select all columns and rows.
2. Double-click a boundary. All columns or rows resize to fit the data.

Freeze columns or rows

Freeze rows and columns to keep specific areas visible when you scroll in a worksheet.

Freeze the first column

- Select **View** > **Freeze Panes** > **Freeze First Column**.

  The faint line that appears between Column A and B shows that the first column is frozen.

Freeze the first two columns

1. Select the third column.
2. Select **View** > **Freeze Panes** > **Freeze Panes**.

Freeze columns and rows

1. Select the cell below the rows and to the right of the columns you want to keep visible when you scroll.
2. Select **View** > **Freeze Panes** > **Freeze Panes.**

Hide or unhide columns

Hide or unhide columns in your spreadsheet to show just the data that you need to see or print.

Hide columns

1. Select one or more columns, and then press Ctrl to select additional columns that aren't adjacent.
2. Right-click the selected columns, and then select **Hide**.

Note: The double line between two columns is an indicator that you've hidden a column.

Unhide columns

1. Select the adjacent columns for the hidden columns.
2. Right-click the selected columns, and then select **Unhide**.

Or double-click the double line between the two columns where hidden columns exist.

Split data into different columns

You can take the text in one or more cells, and split it into multiple cells using the **Convert Text to Columns Wizard**.

1. Select the cell or column that contains the text you want to split.
2. Select **Data** > **Text to Columns**.
3. In the **Convert Text to Columns Wizard**, select **Delimited** > **Next**.
4. Select the **Delimiters** for your data. For example, **Comma** and **Space**. You can see a preview of your data in the **Data preview** window.
5. Select **Next**.
6. Select the **Column data format** or use what Excel chose for you.
7. Select the **Destination**, which is where you want the split data to appear on your worksheet.
8. Select **Finish**.

Combine data

You can combine data from multiple cells into a single cell using the Ampersand symbol (&) or the CONCAT function.

Combine data with the Ampersand symbol (&)

1. Select the cell where you want to put the combined data.
2. Type **=** and then select the first cell you want to combine.
3. Next, type **&** and use quotation marks with a space enclosed.
4. Select the next cell you want to combine and then press enter. An example formula might be **=A2&" "&B2**.

Note: To combine the text from more than two cells, continue selecting cells, and typing **&" "&** after each cell you select. If you don't want to add a space between the combined text, type **&** instead of **&" "&**. To add a comma, type **&", "&** (a comma followed by a space, both enclosed in quotation marks).

Combine data using the CONCAT function

1. Select the cell where you want to put the combined data.
2. Type **=CONCAT(**.

3. Select the cell you want to combine first.

   Use commas to separate the cells you are combining and use quotation marks to add spaces, commas, or other text.

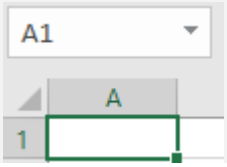
4. Close the formula with a parenthesis and press Enter. An example formula might be **=CONCAT(A2, " Family")**.

3-Add text and data.

Add data

1. To add data in a cell, place the mouse cursor in a cell and select it or use the arrow keys on a keyboard to navigate to the correct cell.

   Note: The address of the selected cell displays in the top left part of the screen above the worksheet and the selected cell now has a border to visually indicate it is the active cell.



2. After you have selected a cell:

- Type in the active cell.
- Select **Formula Bar** located above the worksheet, and then type in the data.

- Double-click the cell, and then enter data.
- Press F2 and then enter data.

Edit data

- Select a cell to display the data in **Formula Bar**, and then select **Formula Bar** to edit the data.
- Double-click a cell and then edit the data.
- Select a cell in the worksheet, and then start typing to replace the cell content with new data.

Change active cell

- Press Tab to change the location of the active cell to the cell in the next column.
- Press Enter to change the location of the active cell to the cell in the next row.
- Use the mouse cursor to choose another cell.

Format numbers in cells

Use different alignment options to align text in a column, row, or workbook.

Align a column

1. Select a column.
2. Select **Align Right**, **Center**, or **Align Left**.

Align a row

1. Select a row.
2. Select **Center**, **Align Right**, or **Align Left**.

Align cells in a workbook

1. Click a cell, or press Ctrl + A to select all cells.
2. Select **Align Left**, **Center**, or **Align Right**.

Align text in a cell

Apply styles

Copy cell formatting

Conditional Formatting

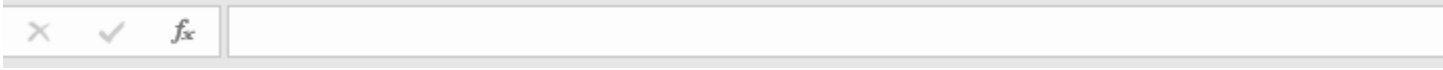
4-Use formulas and functions

Create formulas

Get started on how to create formulas and use built-in functions to perform calculations and solve problems.

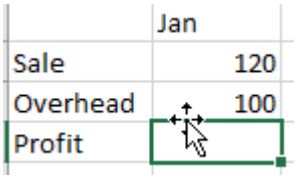
Formula bar

- When a formula is entered into a cell, it also appears in the **Formula bar**.



Create a formula that refers to values in other cells

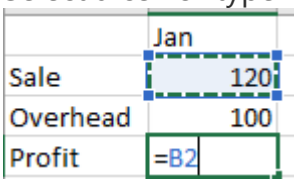
1. Select a cell.



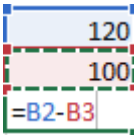
2. Type the equal sign =.

Note: Formulas in Excel always begin with the equal sign.

3. Select a cell or type its address in the selected cell.



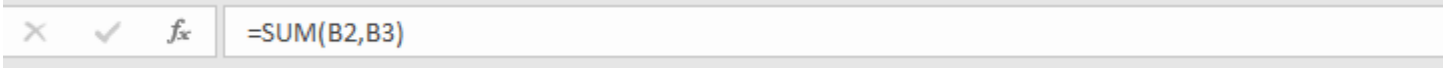
4. Enter an operator. For example, – for subtraction.
5. Select the next cell, or type its address in the selected cell.



6. Press Enter. The result of the calculation appears in the cell with the formula.

To see a formula

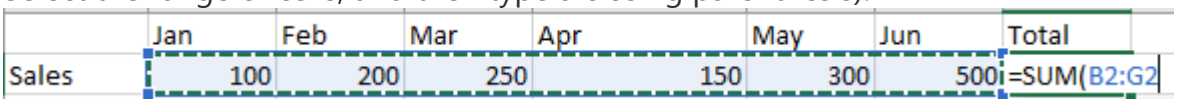
1. Select a cell, and see the formula in the formula bar.



Enter a formula that contains a built-in function

1. Select an empty cell.

2. Type an equal sign = and then type a function. For example, =SUM for getting the total sales.
3. Type an opening parenthesis (.
4. Select the range of cells, and then type a closing parenthesis).



5. Press Enter to get the result.

VLOOKUP

Use VLOOKUP when you need to find things in a table or range by row.

1. Select a cell.
2. Type =VLOOKUP(and then select the value to lookup.
3. Type a comma (,) and select the range or table to look for the value.
4. Type a comma (,) and the number of the column where the lookup value is located.
5. Type ,FALSE) to find an exact match.
6. Press Enter.

The formula for the video example is as follows:

=VLOOKUP(A7, A2:B5, 2, FALSE).

In its simplest form, the VLOOKUP function says:

=VLOOKUP(lookup value, range containing the lookup value, the column number in the range containing the return value, optionally specify TRUE for approximate match or FALSE for an exact match).

SUM

Add values in Excel with the SUM function. You can add individual values, cell references, ranges, or a mix of all three.

For example:

- =SUM(A2:A10)
- =SUM(A2:A10, C2:C10)

Use the SUM function

1. Select a cell.
2. Type =SUM(

3. Select the cells you want to add.
4. Type a closed parenthesis) and press Enter.

SUMIF

Use the SUMIF function to sum the values in a range that meet criteria that you specify.

1. Select a cell.
2. Type =SUMIF(.
3. Click and drag the cells you to analyze.
4. Enter the category you want to find.
5. Click and drag the cells for the range.
6. Press Enter.

SUMIFS

Use SUMIFS to test multiple conditions and return a value based on those conditions. For example, you could use SUMIFS to sum the number of a products sold by a certain salesperson.

Syntax

SUMIFS(sum_range, criteria_range1, criteria1, [criteria_range2, criteria2], ...)

- =SUMIFS(A3:A10,B3:B:10,B13,C3:C10,A13)
- Sum the values in the cell A3 to A10 for the rows where the value in B3 to B10 is B13, and the value in C3 to C10 is A13.

Steps

1. Select a cell.
2. Type =SUMIFS, and a left parenthesis (.
3. Select the sum range, and type a comma.
4. Select the first criteria range, and type a comma.
5. Select the criteria, and type a comma.
6. Select the second criteria range, and type a comma.
7. Select the criteria, and type a comma.
8. Press Enter.

IF

Use IF to return a value based on a condition.

For example, =IF(C2="Yes",1,2) says IF(C2 = Yes, then return a 1, otherwise return a 2).

IF

1. Select a cell.
2. Type =IF and a left parenthesis (.
3. Add the condition you want to test, and type a comma.
4. Add the value to return if the condition is true, and type a comma.
5. Add the value to return if the condition is false, and type a right parenthesis).
6. Press Enter.
7. If needed, drag the handle to apply the IF function to other rows.

IFS function

Use the IFS function to check whether one or more conditions are met and returns a value that corresponds to the first TRUE condition.

Note: This feature is only available if you have an Office 365 subscription.

1. Select the cell you want to create a IFS function from.
2. Type =IFS(.
3. Create the first condition.
4. Add the other conditions.
5. Press Enter.

Apply the IFS formula to the column

1. Type $ to add an absolute reference to an existing IFS formula.
2. Drag to bring this formula down in a column.

Subtract

Subtract values in Excel using the minus sign (-). You can subtract cells, individual values, or a mix.

For example:

- =A9-A10
- =50-30
- =H9-20

Subtract in Excel

1. Select a cell.
2. Type =.
3. Type a number or select a cell.
4. Type a minus sign (-).
5. Type a number or select a cell to subtract.
6. Press Enter.

Multiply

You can use the asterisk sign (*) to multiply values on Excel. You can multiply:

1. Cells (e.g. =A9*A10)
2. individual values (e.g. =50*30)

   or

3. A mix of both (e.g. =H9*20)

Multiply in Excel

1. Select a cell.
2. Type =.
3. Type a number or select a cell.
4. Type an asterisk (*).
5. Type a number or select a cell to multiply by.
6. Press Enter.

Divide

In Excel, you can divide cells, individual values, or a mix using a forward slash (/).

For example:

- =A9/A10
- =50/10
- =H9/2

Divide in Excel

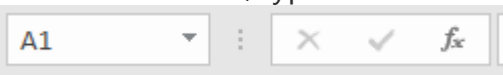
1. Select a cell.
2. Type = and type a number or select a cell.
3. Type a forward slash (/).
4. Type a number or select a cell to divide by.
5. Press Enter.

Name a cell

In Excel, you can name cells and cell ranges, and use those names in formulas. This useful feature makes formulas easier to understand and maintain.

Name a cell

1. Select a cell.
2. In the **Name Box**, type a name.



3. Press Enter.

Define names from a selected range

1. Select the range you want to name, including the row or column labels.
2. Select **Formulas** > **Create from Selection**.
3. In the **Create Names from Selection** dialog box, designate the location that contains the labels by selecting the **Top row**, **Left column**, **Bottom row**, or **Right column** check box.
4. Select **OK**.

   Excel names the cells based on the labels in the range you designated.

Use names in formulas

1. Select a cell and enter a formula.
2. Place the cursor where you want to use the name in that formula.
3. Type the first letter of the name, and select the name from the list that appears.

   Or, select **Formulas** > **Use in Formula** and select the name you want to use.
4. Press Enter.

5-Add and format tables.

Create a table

You can create and format a table, to visually group and analyze data.

1. Select a cell within your data.
2. Select **Home** > **Format as Table**.
3. Choose a style for your table.
4. In the **Format as Table** dialog box, set your cell range.
5. Mark if your table has headers.
6. Select **OK**.

Sort data in a table

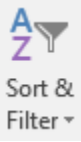
Sorting is one of the most common tools for data management. In Excel, you can sort your table by one or more columns, by ascending or descending order, or do a custom sort.

Before sorting a table:

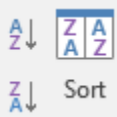
1. Make sure that there are no empty rows or columns in the table.
2. Get table headers into one row across the top.
3. Make sure there is at least one empty column between the table you want to sort, and other information on the worksheet not in that table.

Sort the table

1. Select a cell within the data.
2. Select **Home** > **Sort & Filter**.



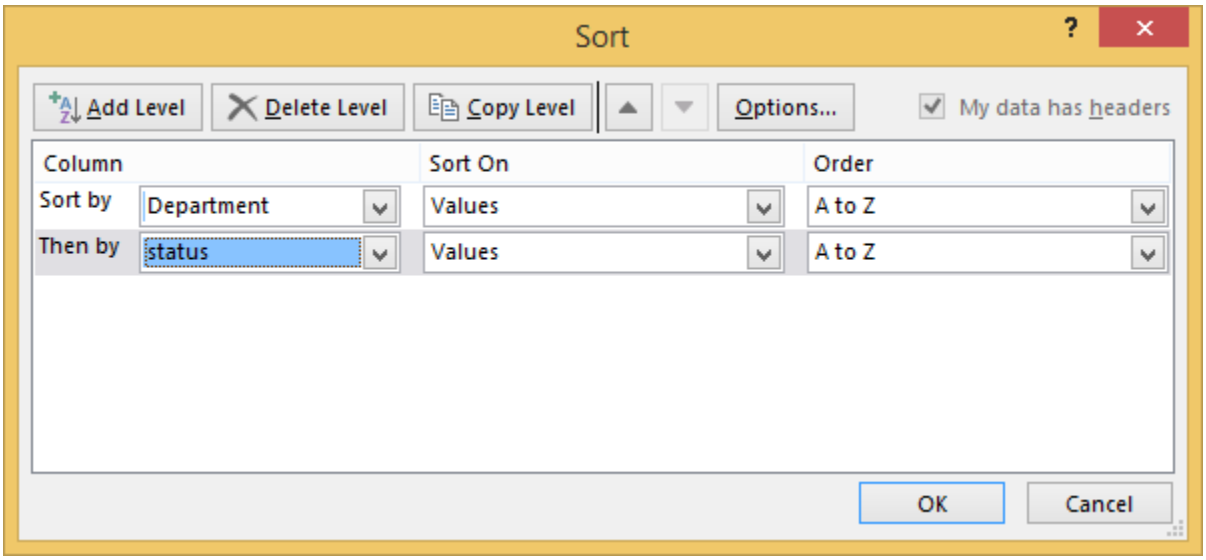
Or, select **Data** > **Sort**.



3. Select an option:
   - **Sort A to Z** - sorts the selected column in an ascending order.
   - **Sort Z to A** - sorts the selected column in a descending order.
   - **Custom Sort** - sorts data in multiple columns by applying different sort criteria.

For a Custom Sort:

1. Select **Custom Sort**.
2. Select **Add Level**.



3. For **Column**, select the column you want to **Sort by** from the drop-down, and then select the second column you **Then by** want to sort. For example, **Sort by** Department and **Then by** Status.
4. For **Sort On,** select **Values**.
5. For **Order**, select an option, like **A to Z**, **Smallest to Largest**, or **Largest to Smallest**.
6. For each additional column that you want to sort by, repeat steps 2-5.

Note: To delete a level, select **Delete Level**.

7. Check the **My data has headers** checkbox, if your data has a header row.
8. Select **OK**.

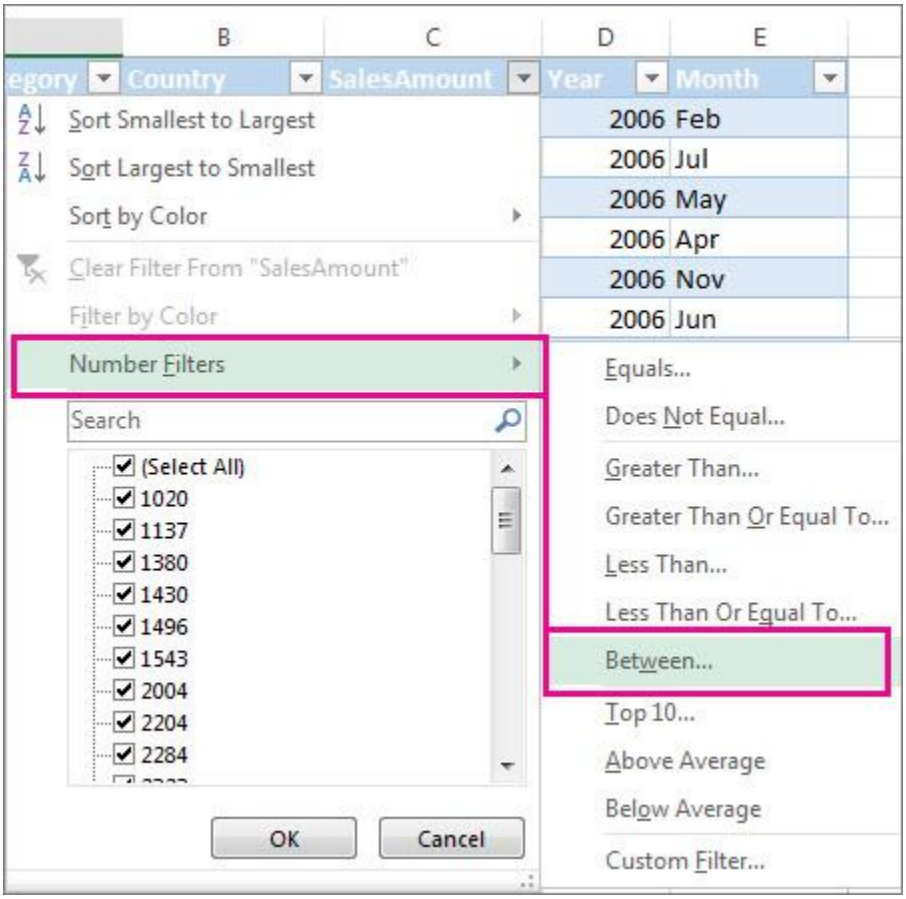
Filter data in a range or table

Use filters to temporarily hide some of the data in a table, so you can focus on the data you want to see.

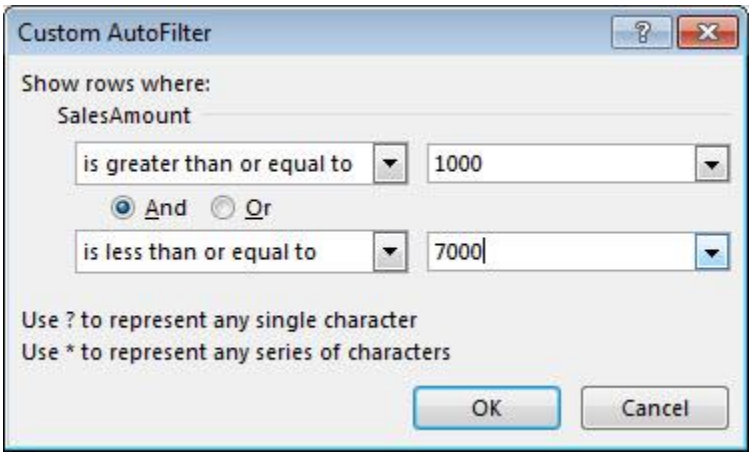
Filter a range of data

1. Select any cell within the range.
2. Select **Data** > **Filter**.

3. Select the column header arrow .
4. Select **Text Filters** or **Number Filters**, and then select a comparison, like **Between**.



5. Enter the filter criteria and select **OK**.

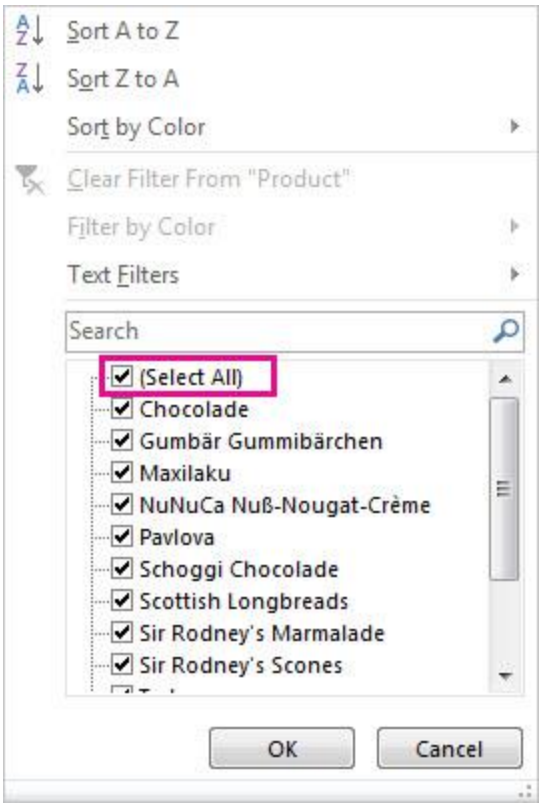


Filter data in a table

When you put your data in a table, filter controls are automatically added to the table headers.

	A	B	C	D	E	F	G
1	Product	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Grand Total	Average Sales
2	Chocolade	$ 744.60	$ 162.56	$ 68.85	$ 306.00	$ 1,282.01	$ 320.50
3	Gumbär Gummibärchen	$ 5,079.60	$ 1,249.20	$ 2,061.17	$ 2,835.68	$ 11,225.65	$ 2,806.41
4	Maxilaku	$ 1,605.60	$ 620.00	$ 835.00	$ -	$ 3,060.60	$ 765.15
5	NuNuCa Nuß-Nougat-Crème	$ 193.20	$ 865.20		$ 493.50	$ 1,551.90	$ 517.30
6	Pavlova	$ 1,685.36	$ 2,646.08	$ 1,849.70	$ 999.01	$ 7,180.15	$ 1,795.04
7	Schoggi Chocolade	$ 1,755.00	$ 5,268.00	$ 2,195.00	$ 1,756.00	$ 10,974.00	$ 2,743.50
8	Scottish Longbreads	$ 1,267.50	$ 1,062.50	$ 492.50	$ 1,935.00	$ 4,757.50	$ 1,189.38
9	Sir Rodney's Marmalade		$ 4,252.50	$ 1,360.80	$ 1,701.00	$ 7,314.30	$ 2,438.10
10	Sir Rodney's Scones	$ 1,418.00	$ 756.00	$ 1,733.00	$ 1,434.00	$ 5,341.00	$ 1,335.25
11	Tarte au sucre	$ 4,728.00	$ 4,547.92	$ 5,472.30	$ 6,014.60	$ 20,762.82	$ 5,190.71
12	Teatime Chocolate Biscuits	$ 943.89	$ 349.60	$ 841.80	$ 204.70	$ 2,339.99	$ 585.00
13	Valkoinen suklaa	$ 845.00		$ 385.94	$ 942.50	$ 2,173.44	$ 724.48
14	Zaanse koeken	$ 817.00	$ 285.95	$ 668.80	$ 1,159.00	$ 2,930.75	$ 732.69
15	**Total**	**$21,082.75**	**$22,065.51**	**$17,964.86**	**$19,780.99**	**$ 80,894.11**	**$ 1,626.42**

1. Select the column header arrow for the column you want to filter.
2. Uncheck **(Select All)** and select the boxes you want to show.



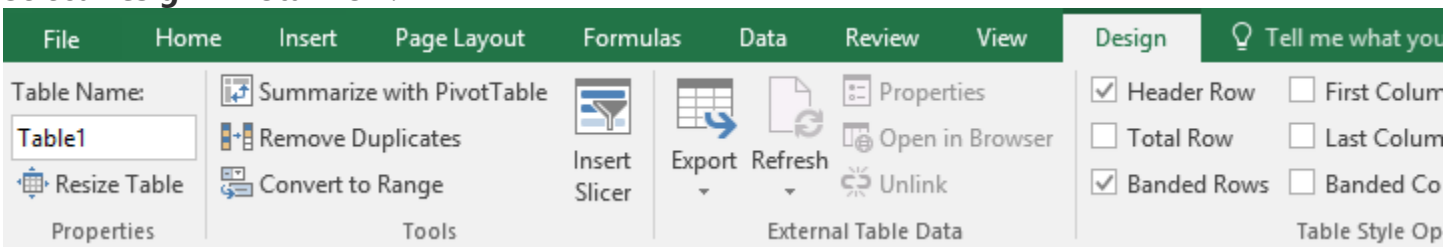
3. Click **OK**.

   The column header arrow changes to a **Filter** icon. Select this icon to change or clear the filter.

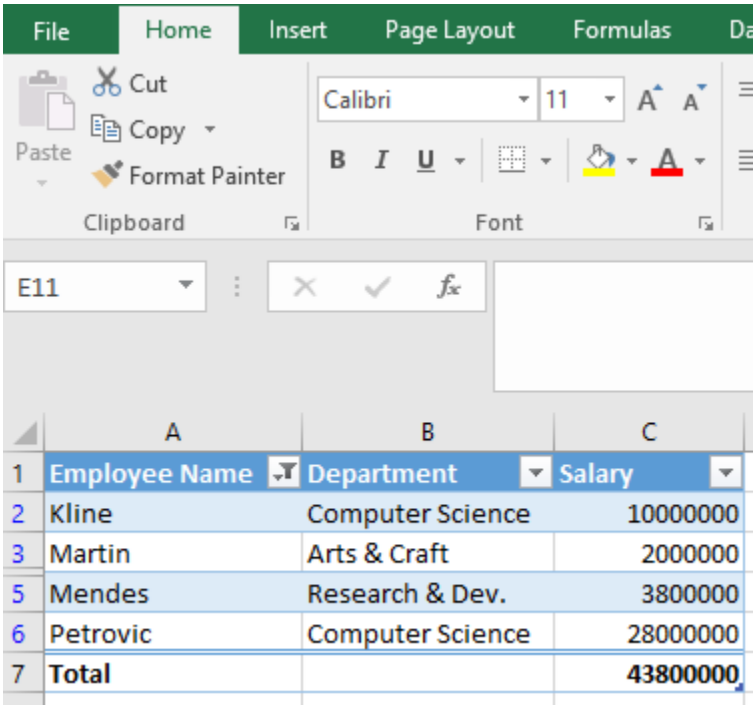
Add a Total row to a table

You can add totals to a table by selecting the **Total Row** checkbox on the **Design** tab. You can also add a function from the total row drop-down.

1. Select a cell in a table.
2. Select **Design** > **Total Row**.



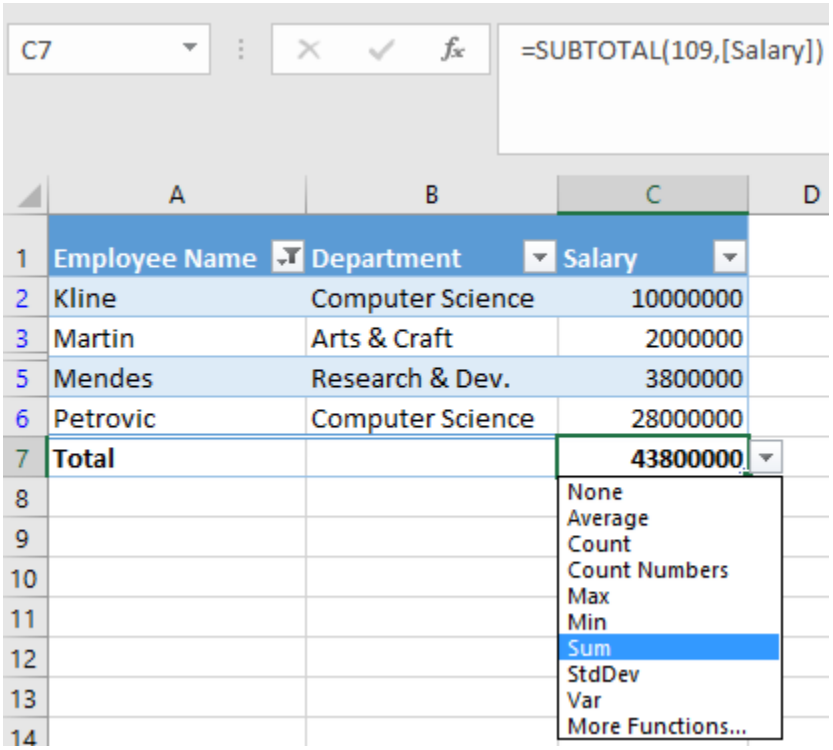
3. The **Total** row is added to the bottom of the table.



	A	B	C
1	Employee Name	Department	Salary
2	Kline	Computer Science	10000000
3	Martin	Arts & Craft	2000000
5	Mendes	Research & Dev.	3800000
6	Petrovic	Computer Science	28000000
7	**Total**		**43800000**

Note: To add a new row, uncheck the **Total Row** checkbox, add the row, and then recheck the Total Row checkbox.

4. From the total row drop-down, you can select a function, like **Average, Count, Count Numbers, Max, Min, Sum, StdDev, Var**, and more.



Use slicers to filter data

1. There are four ways to convert data into a table:

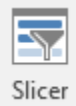
Note: In order to use a slicer, you must convert your data into a table first.

- Press **Ctrl + T**.
- Press **Ctrl + l**.
- Select **Home** > **Format as Table**.
- Select **Insert** > **Table**.

2. Select **OK**.

Use a slicer to filter data

1. Select **Insert** > **Slicer**.



2. Select the fields you'd like to filter.
3. Select **OK** and adjust your slicer preferences, such as **Columns**, under **Options**.

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

4. Select **Clear Filter** to clear the slicer filter.

6- Add and format charts.

Create charts

Charts help you visualize your data in a way that creates maximum impact on your audience. Learn to create a chart and add a trend line.

Create a chart

1. Select the data for your chart.
2. Select **Insert** > **Recommended Charts**.
3. Select a chart on the **Recommended Charts** tab, to preview the chart.

   Note: You can select the data you want in your chart and press ALT + F1 to create a chart immediately, but it might not be the best chart for the data. If you don't see a chart you like, select the **All Charts** tab to see all chart types.

4. Select a chart.
5. Select **OK**.

Add a trend line

1. Select a chart.
2. Select **Design** > **Add Chart Element**.
3. Select **Trendline** and then select the type of trendline you want, such as **Linear**, **Exponential**, **Linear Forecast**, or **Moving Average**.

Add a chart title

Add a title to your chart to make it easier to understand.

Add a chart title

1. In your chart, select the "Chart Title" box and type in a title.
2. Select the plus sign.
3. Select the arrow next to **Chart Title**.
4. Select **Centered Overlay** to lay the title over the chart, or **More Options** for additional choices.

5. Right-click the chart title to format it. with options like **Fill** or **Outline**.

Update a chart title

1. Select a chart title.
2. Add an equal sign to the formula bar.
3. Select the cell you want to link any title changes to.
4. Press Enter.

Show or hide a chart legend

Show a legend to add more context to your chart data, or hide it to give it a clean look.

Show a chart legend

1. Select a chart and then select the plus sign.
2. Select **Legend** and select the arrow next to it.
3. Choose where you want the legend to appear in your chart.
4. Select **Secondary Axis** for the data series you want to show.
5. Select the drop-down arrow and choose **Line**.
6. Select **OK**.

Hide a chart legend

1. Select a legend to hide.
2. Press Delete.

Add a secondary axis

Add a secondary axis to your chart to show different values than the original axis.

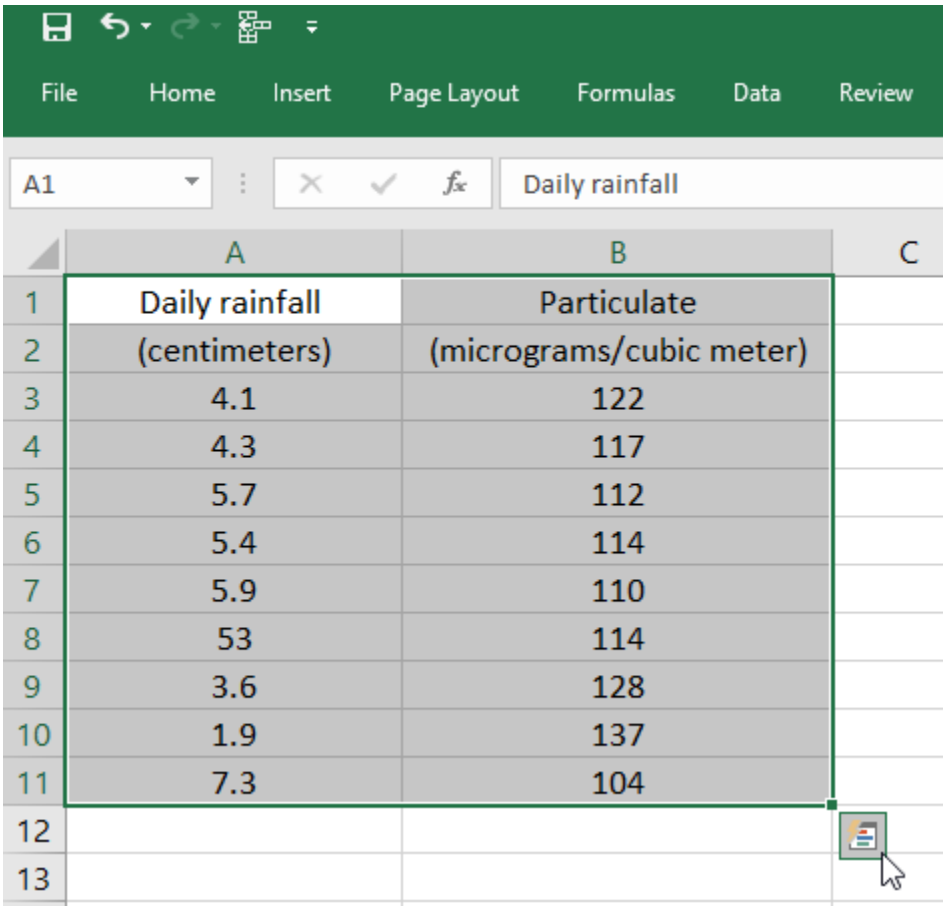
1. Select a chart to open **Chart Tools**.
2. Select **Design** > **Change Chart Type**.
3. Select **Combo** > **Cluster Column - Line on Secondary Axis**.
4. Select **Secondary Axis** for the data series you want to show.
5. Select the drop-down arrow and choose **Line**.
6. Select **OK**.

Anaylze your data quickly

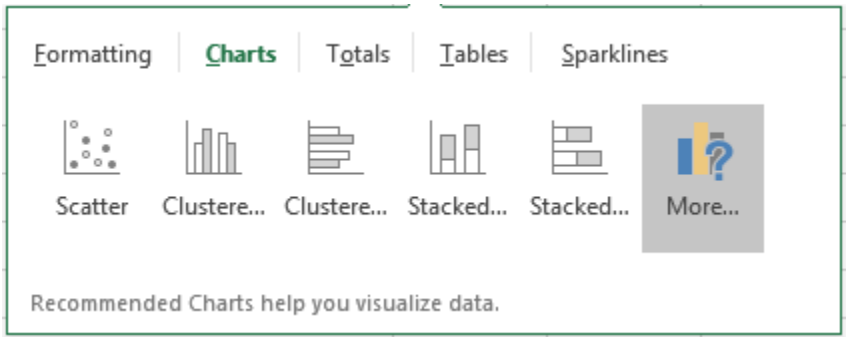
Excel's Quick Analysis button lets you instantly create different types of charts, including line and column charts, or add miniature graphs called sparklines.

1. Select a range of cells.
2. Select the **Quick Analysis** button that appears at the bottom right corner of the selected data.

   Or, press Ctrl + Q.



3. Select **Charts**.



4. Hover over the chart types to preview a chart, and then select the chart you want.

Change the source for a chart

If you need to change data in a chart, you can do it from its source.

Create a chart from a table

1. Select the cells you want to use.
2. Select **Insert** > **Recommended Charts**.
3. Select the chart type you want, and select **OK**.

Update a chart source

- With your table linked to a chart, make updates in your table and you will see the changes reflected in the chart.

Use Sparklines to show data trends

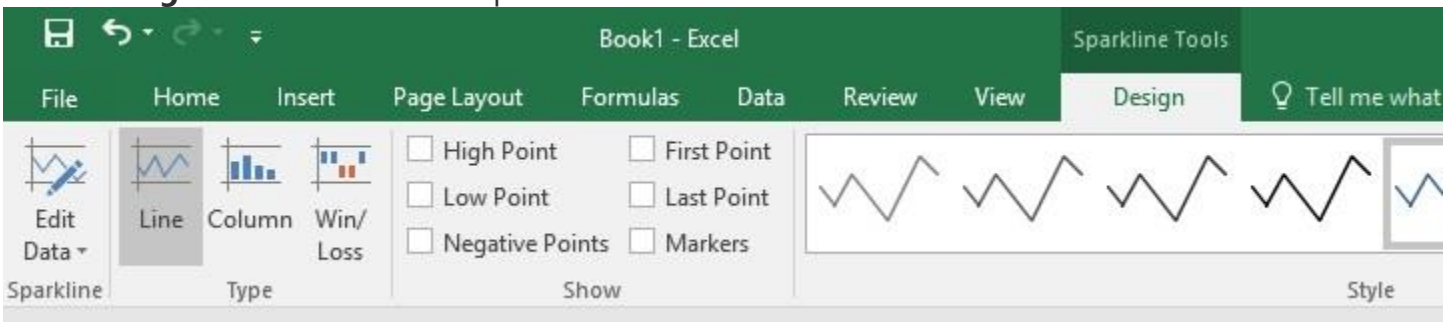
Sparklines are mini-charts placed in single cells, to show visual data trends. You can quickly add and format a Sparkline chart in your worksheet.

Add a Sparkline

1. Select a blank cell at the end of a row of data.
2. Select **Insert** and pick Sparkline type, like **Line**, or **Column**.
3. Select cells in the row and **OK** in menu.
4. More rows of data? Drag handle to add a Sparkline for each row.

Format a Sparkline chart

1. Select the Sparkline chart.
2. Select **Design** and then select an option:



- Select **Line**, **Column**, or **Win/Loss** to change the chart type.
- Check **Markers** to highlight individual values in the Sparkline chart.
- Select a **Style** for the Sparkline.
- Select **Sparkline Color** and the color.
- Select **Sparkline Color** > **Weight** to select the width of the Sparkline.
- Select **Marker Color** to change the color of the markers.
- If the data has positive and negative values, select **Axis** to show the axis.

7- Create and format PivotTables and Pivot Charts.

Create a PivotTable

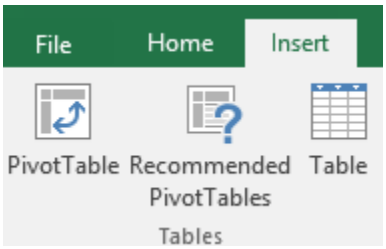
A PivotTable is a powerful tool to calculate, summarize, and analyze data that lets you see comparisons, patterns, and trends in your data.

Create a PivotTable

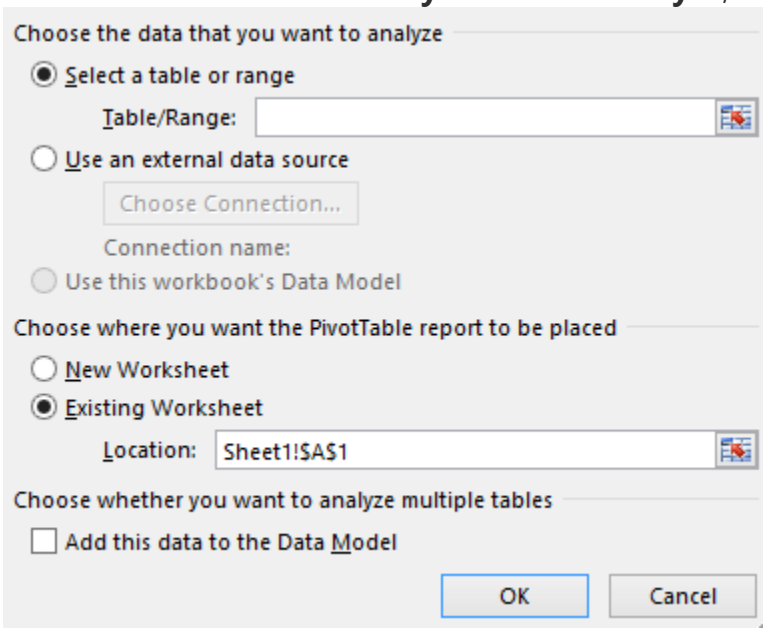
1. Select the cells you want to create a PivotTable from.

   Note: Your data shouldn't have any empty rows or columns. It must have only a single-row heading.

2. Select **Insert** > **PivotTable**.



3. Under **Choose the data that you want to analyze**, select **Select a table or range**.



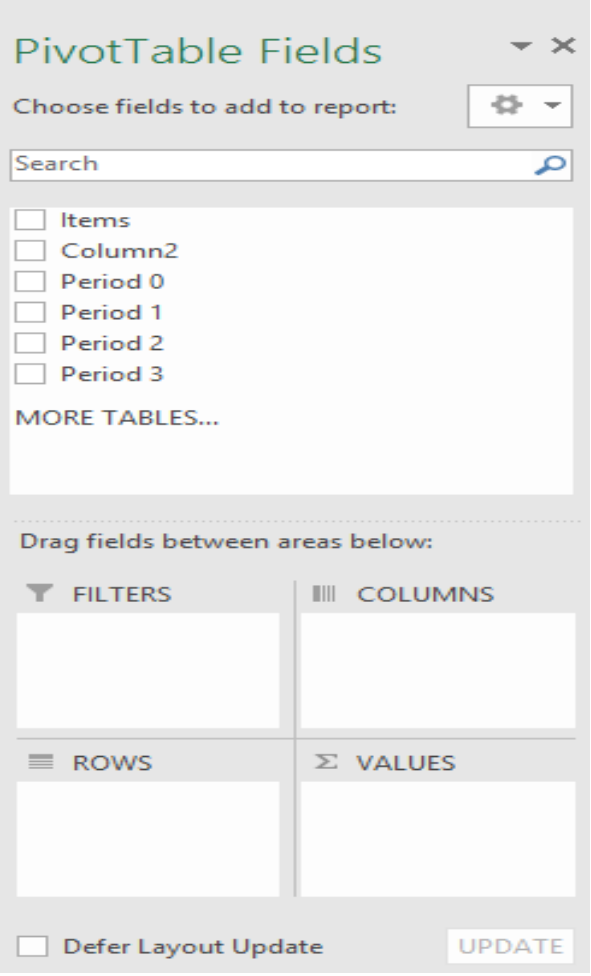
4. In **Table/Range**, verify the cell range.

5. Under **Choose where you want the PivotTable report to be placed**, select **New worksheet** to place the PivotTable in a new worksheet or **Existing worksheet** and then select the location you want the PivotTable to appear.
6. Select **OK**.

Building out your PivotTable

1. To add a field to your PivotTable, select the field name checkbox in the **PivotTables Fields** pane.

   Note: Selected fields are added to their default areas: non-numeric fields are added to **Rows**, date and time hierarchies are added to **Columns**, and numeric fields are added to **Values**.

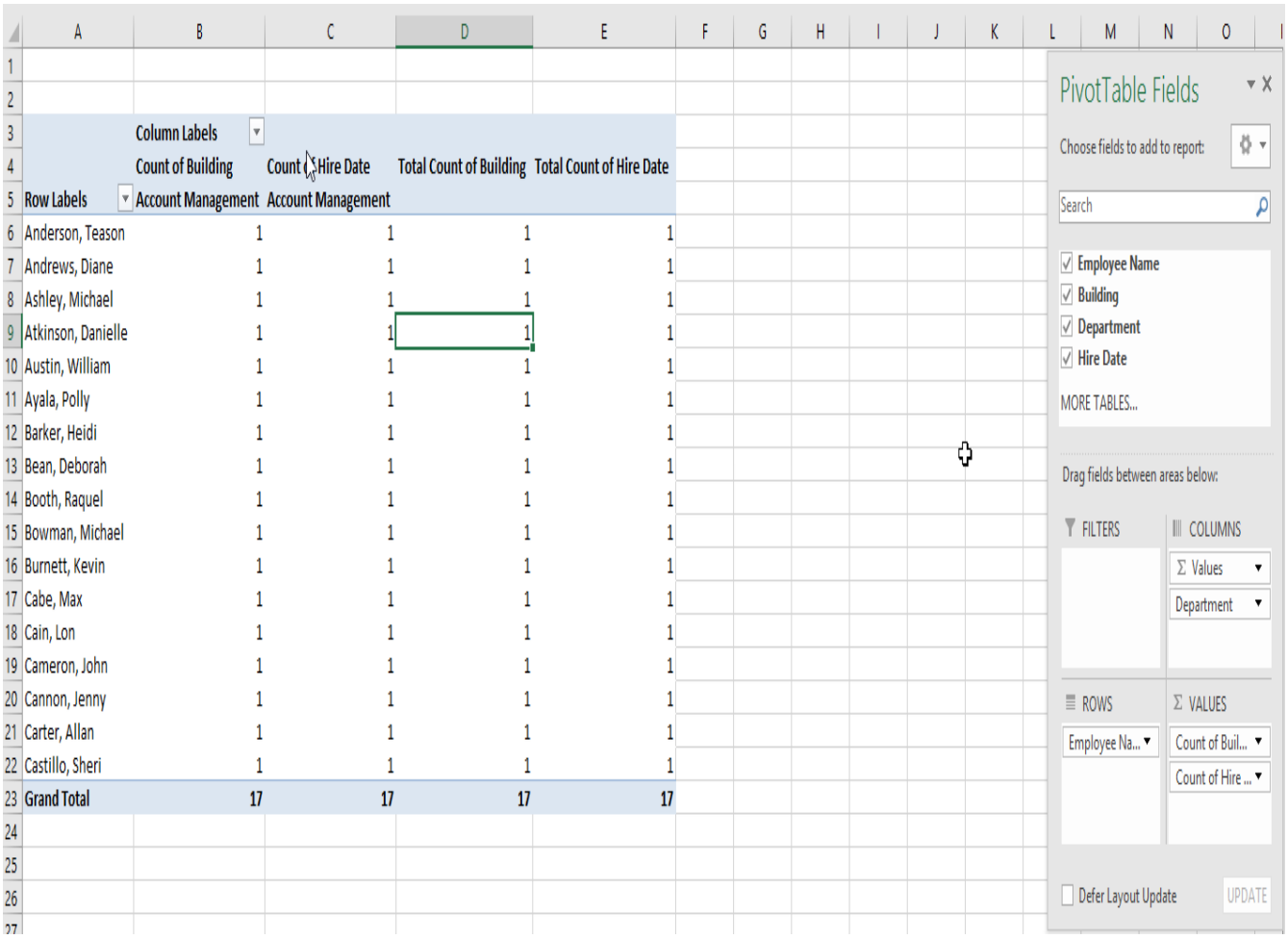


2. To move a field from one area to another, drag the field to the target area.

Work with PivotTables

When you have a large amount of data, you may want to rearrange the data in your PivotTable to make it easier to work with. You can also add or change the fields in a PivotTable.

1. Select a cell anywhere in the PivotTable.
2. Select **Analyze** > **Field List**.
3. In the **PivotTable Fields** pane, select the fields you want to show in your PivotTable.



Row Labels	Column Labels: Count of Building: Account Management	Count of Hire Date: Account Management	Total Count of Building	Total Count of Hire Date
Anderson, Teason	1	1	1	1
Andrews, Diane	1	1	1	1
Ashley, Michael	1	1	1	1
Atkinson, Danielle	1	1	1	1
Austin, William	1	1	1	1
Ayala, Polly	1	1	1	1
Barker, Heidi	1	1	1	1
Bean, Deborah	1	1	1	1
Booth, Raquel	1	1	1	1
Bowman, Michael	1	1	1	1
Burnett, Kevin	1	1	1	1
Cabe, Max	1	1	1	1
Cain, Lon	1	1	1	1
Cameron, John	1	1	1	1
Cannon, Jenny	1	1	1	1
Carter, Allan	1	1	1	1
Castillo, Sheri	1	1	1	1
Grand Total	17	17	17	17

Typically, non-numeric fields are added to **Rows**, numeric fields are added to **Values**, and Online Analytical Processing (OLAP) date and time hierarchies are added to **Columns**.

4. To rearrange fields, drag the fields to the areas you want them to be.
   - **Filters** are the top-level report filters, above the PivotTable.
   - **Columns** are shown at the top of the PivotTable.

   Note: Depending on the hierarchy of the fields, columns may be nested inside higher-level columns.

   - **Rows** are shown on the left side of the PivotTable.

   Note: Depending on the hierarchy of the fields, rows may be nested inside higher-level rows.

   - **Values** are the summarized numeric values in the PivotTable.

   Note: If you have more than one field in an area, you can rearrange their order by dragging them. To delete a field from the PivotTable, drag the field out of its area. Any changes to the data in the PivotTable do not change the source data.

Group data in PivotTables

PivotTables are a great way to summarize, analyze, explore, and present your data. You can even group the data in a PivotTable to enhance the layout and format of your PivotTable reports.

Group data

1. In the PivotTable, right-click a value and select **Group**.
2. In the **Grouping** box, select the **Starting at** and **Ending at** checkboxes, and edit the values if needed.
3. Under **By**, select a time period. For numerical fields, enter a number that interval for each group.
4. Select **OK**.

Group selected items

1. Hold Ctrl and select two or more values.
2. Right-click and select **Group**.

Name a group

1. Select the group.
2. Select **Analyze** > **Field Settings**.
3. Change the **Custom Name** to something you want and select **OK**.

Ungroup grouped data

1. Right-click any item that is in the group.
2. Select **Ungroup**.

Filter data in a PivotTable

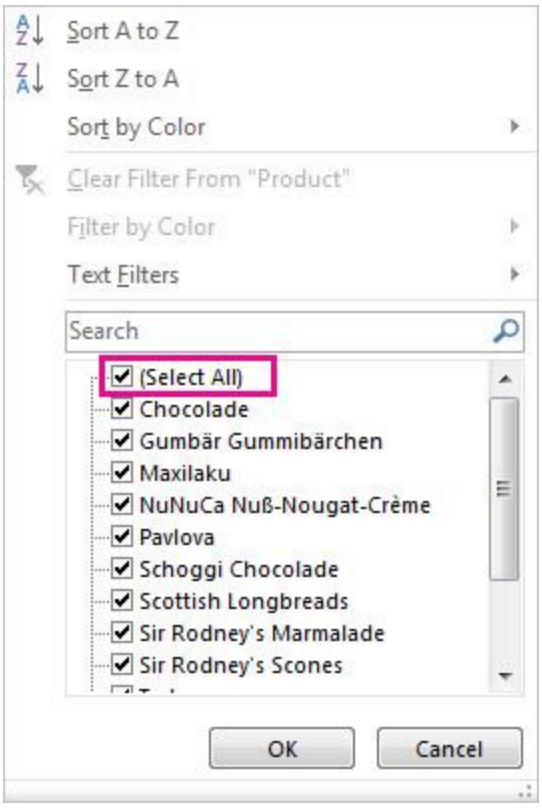
Filter the data to focus on a smaller portion of your PivotTable for an in-depth analysis.

Filter data in a PivotTable

1. Select a cell in the PivotTable.
2. Select **Analyze** > **Insert Slicer** .
3. Select the fields you want to create slicers for.
4. Select **OK**.
5. Select the items you want to show in the PivotTable.

Filter data manually

1. Select the column header arrow for the column you want to filter.
2. Uncheck **(Select All)** and select the boxes you want to show.


Sort A to Z
Sort Z to A
Sort by Color
Clear Filter From "Product"
Filter by Color
Text Filters
Search
(Select All)
Chocolade
Gumbär Gummibärchen
Maxilaku
NuNuCa Nuß-Nougat-Crème
Pavlova
Schoggi Chocolade
Scottish Longbreads
Sir Rodney's Marmalade
Sir Rodney's Scones
OK
Cancel

3. Select **OK**.

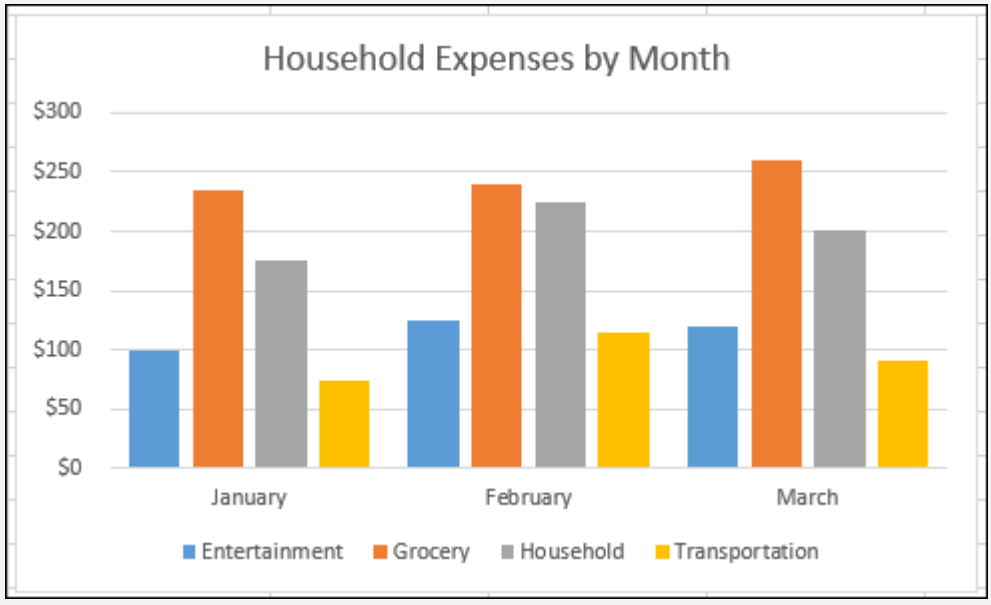
Create a PivotChart

Create a PivotTable to summarize and analyze your data in a structured format. PivotCharts are a great way to add data visualizations to your data.

Household expense data

	A	B	C
1	MONTH	CATEGORY	AMOUNT
2	January	Transportation	$74.00
3	January	Grocery	$235.00
4	January	Household	$175.00
5	January	Entertainment	$100.00
6	February	Transportation	$115.00
7	February	Grocery	$240.00
8	February	Household	$225.00
9	February	Entertainment	$125.00
10	March	Transportation	$90.00
11	March	Grocery	$260.00
12	March	Household	$200.00
13	March	Entertainment	$120.00

Corresponding PivotChart



Create a PivotChart

1. Select a cell in your table.
2. Select **Insert** > **PivotChart**

.
3. Select **OK**.

Create a chart from a PivotTable

1. Select a cell in your table.
2. Select **PivotTable Tools** > **Analyze** > **PivotChart**

.
3. Select a chart.
4. Select **OK**.

8- Password-protect workbooks.

Protect a workbook with a password to prevent others from adding, moving, deleting, hiding, or renaming the worksheets in the workbook.

Require a password to open an Excel file

1. Select **File** > **Info**.
2. Select the **Protect Workbook** box and choose **Encrypt with Password**.
3. Enter a password in the **Password** box, and then select **OK**.
4. Confirm the password in the **Reenter Password** box, and then select **OK**.