ALLIANT HEALTH SOLUTIONS

QIN–QIO
Quality Innovation Network - Quality Improvement Organizations
CENTERS FOR MEDICARE & MEDICAID SERVICES
iQUALITY IMPROVEMENT & INNOVATION GROUP

MICROSOFT EXCEL BASICS
Excel Reference Guide

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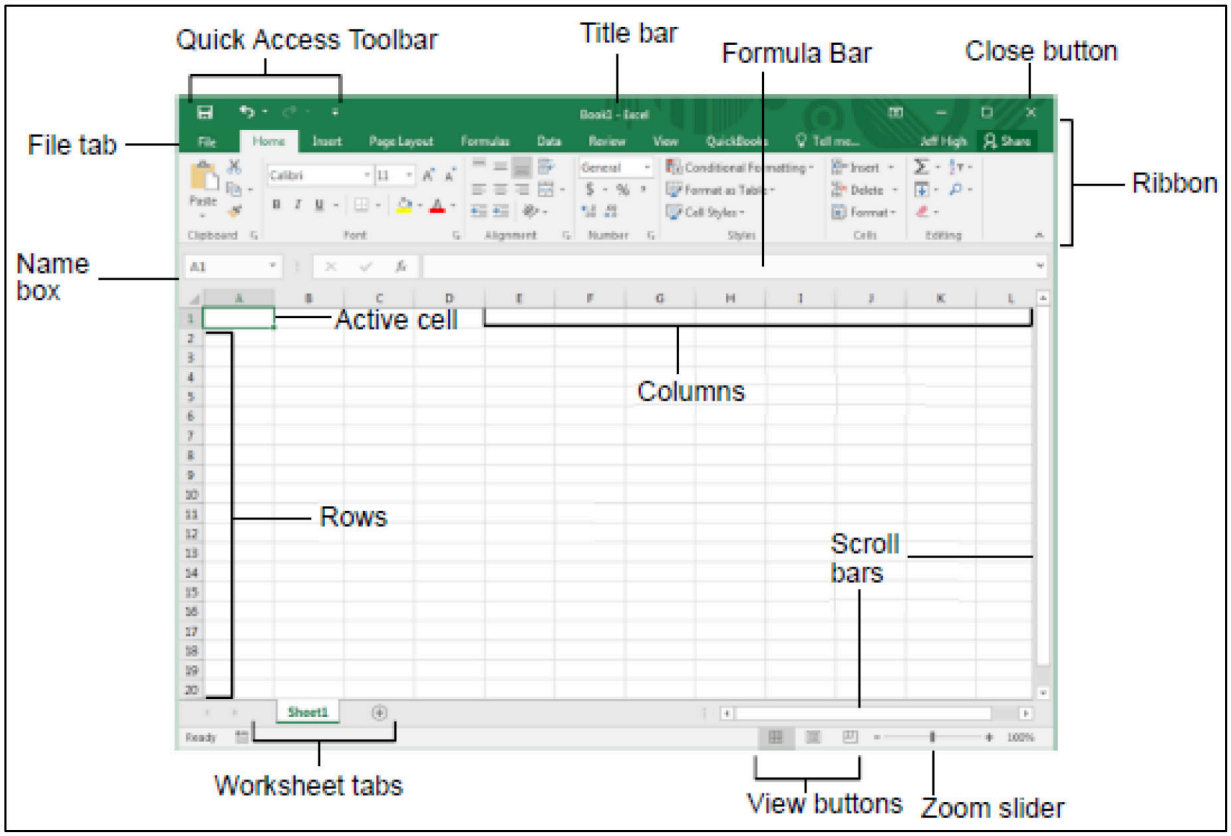
BASIC PARTS OF EXCEL SCREEN

Screen Layout

Basic anatomy of the Excel screen:



Save Button

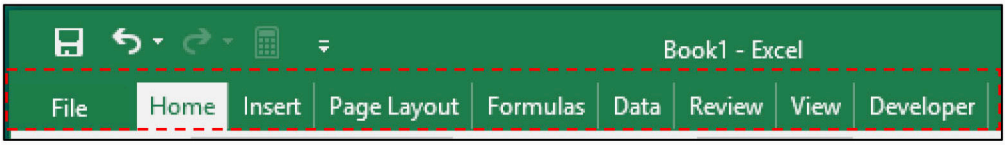
Click the save button in the Quick Access Toolbar to save the Excel file. It can be clicked at any time. You will lose your work if the Excel file is closed without saving. The save button is your friend; use it often.

Undo Button

The undo button, located in the Quick Access Toolbar, allows you to correct mistakes by reverting to a previous action. For example, if you accidentally deleted a row after building a table, click the **undo** button to restore the deleted row. Your actions are tracked in Excel, so you can press undo multiple times to reverse several actions. It's important to note that previous actions are not saved after closing the Excel file. The undo button will only work for new actions after you reopen the Excel file.

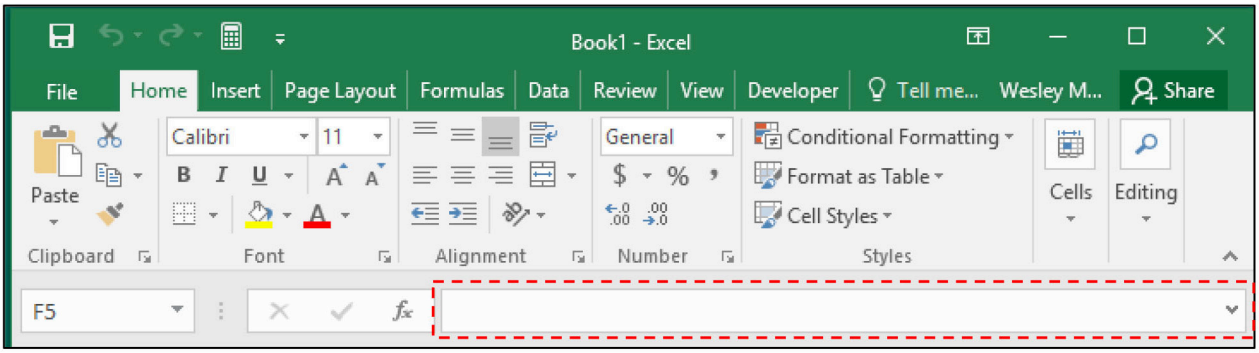
File Tabs

Each tab contains a row of buttons, and each button performs a different function. The **Home** tab is the most commonly used. Even experienced Excel users may not know the function of every button in every tab. It's best to get comfortable using some of your favorite functions and experiment with others. You can also look them up on Google or take advanced Excel classes to gradually learn more.



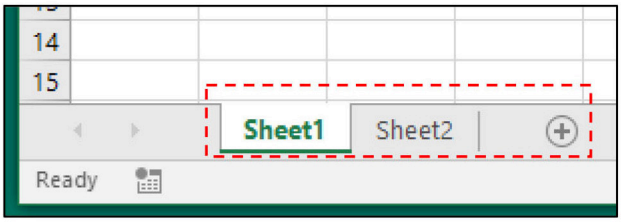
Formula Bar

This bar displays the text typed into a cell. After selecting a cell, you may find it helpful to click on the formula bar to input the contents you want to appear in the cell, especially if the contents are lengthy. This area is useful for entering long formulas, which is why it's called the formula bar.



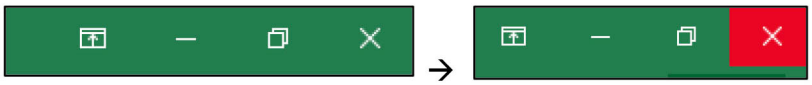
Sheet Tabs

At the bottom of the Excel grid, you'll find sheet tabs. A sheet is a new spreadsheet or grid within the same file that keeps data separate from other sheets but in the same file. For instance, a department may use different sheets to keep track of staff birthdays for each unit within the department. You can switch between sheets by clicking on the sheet name. By default, the sheet names are Sheet1, Sheet2, and so on. Clicking Sheet2 would open that sheet. To rename a sheet, double-click on the sheet name with the left mouse button and type a new sheet name. To create a new sheet, click the symbol shown below.



Close Button

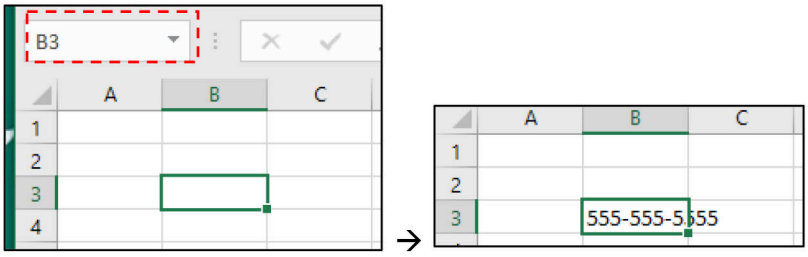
Once you're finished working on the document and saved it, you are ready to close it. The close button is located in the upper-right corner of Excel. When your mouse is near the "X" in the upper-right corner, the area will turn red. Click on the "X" to close the file.



CELLS, COLUMNS AND ROWS

Select a Cell

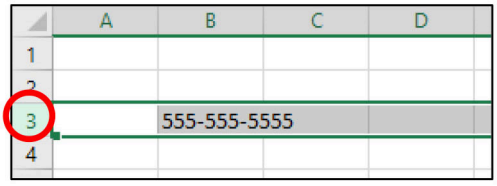
A cell is any single rectangular space in the spreadsheet grid. To select a cell, simply click on it. Once selected, a cell will have a dark green border with a tiny solid green square in the lower right corner. The address of the selected cell is displayed in the Name Box, indicated with a red dashed line below. The cell address consists of the column letter followed by the row number. You can enter data into a selected cell, such as numbers, letters, dates, times, symbols, alphanumeric codes, names, telephone numbers, paragraphs, and Excel-compatible formulas.



You can select multiple cells at once by 1) clicking and holding the left mouse button on one cell, 2) dragging the mouse pointer over as many adjacent cells as you'd like, and 3) letting go of the mouse button. Selected cells (or columns or rows) are called a range.

Select a Row

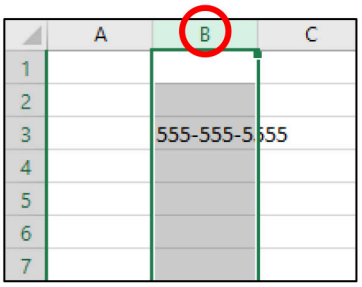
Row headings are the numbers along the left side of the spreadsheet. To select a row, click on the row number, which is circled in red below. The row is now selected.



You can select multiple rows at once by 1) clicking and holding the left mouse button on the row heading, 2) dragging the mouse pointer over as many adjacent row headings as you'd like, and 3) letting go of the mouse button.

Select a Column

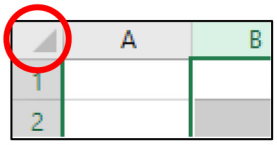
Column headings are the letters along the top of the spreadsheet. To select a column, click on the column letter.



You can select multiple columns at once by 1) clicking and holding the left mouse button on the row heading, 2) dragging the mouse pointer over as many adjacent row headings as you'd like, and 3) letting go of the mouse button.

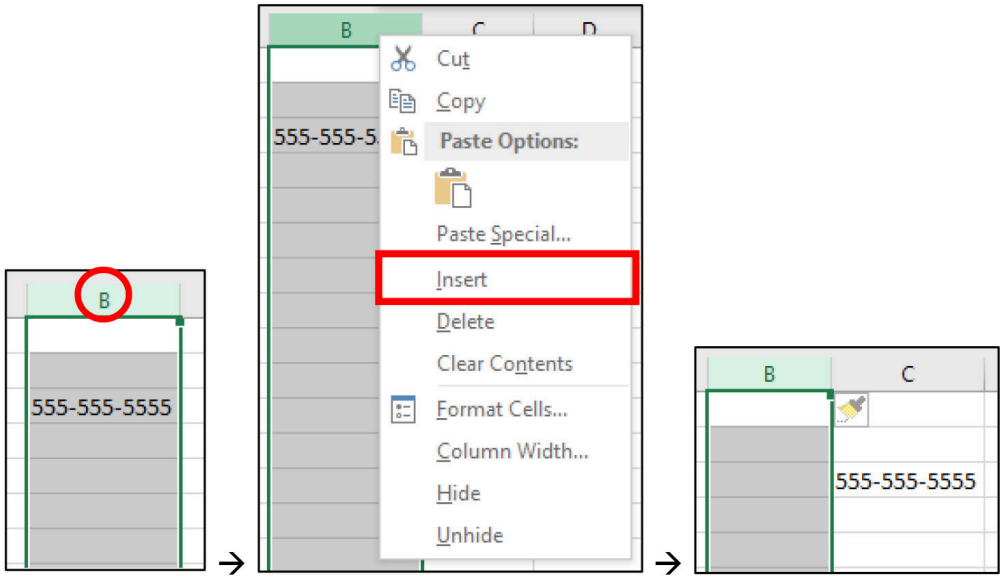
Select a Sheet

You can select the entire sheet by clicking the triangle between the column and row headings.



Insert a Column, Row or Cells

1) Right-click on the column heading.
2) Click on Insert. A new column appears to the left of the original column.

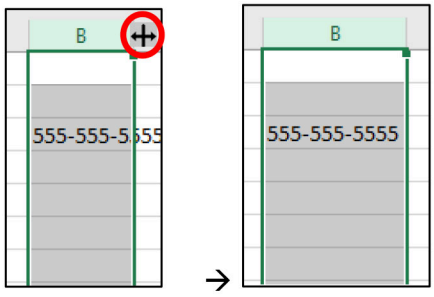


As with columns, steps 1-2 work the same to insert a row(s) and nearly the same to insert a cell(s). When inserting cells, however, you select the desired cells instead of a heading. Also, the existing cells have to move to make room for the new cells being inserted, so you have to specify whether you'd like to shift the existing cells right or down.

Resize a Column or Row

When the cell's contents are longer than the cell itself, you can resize the column to make it wider.

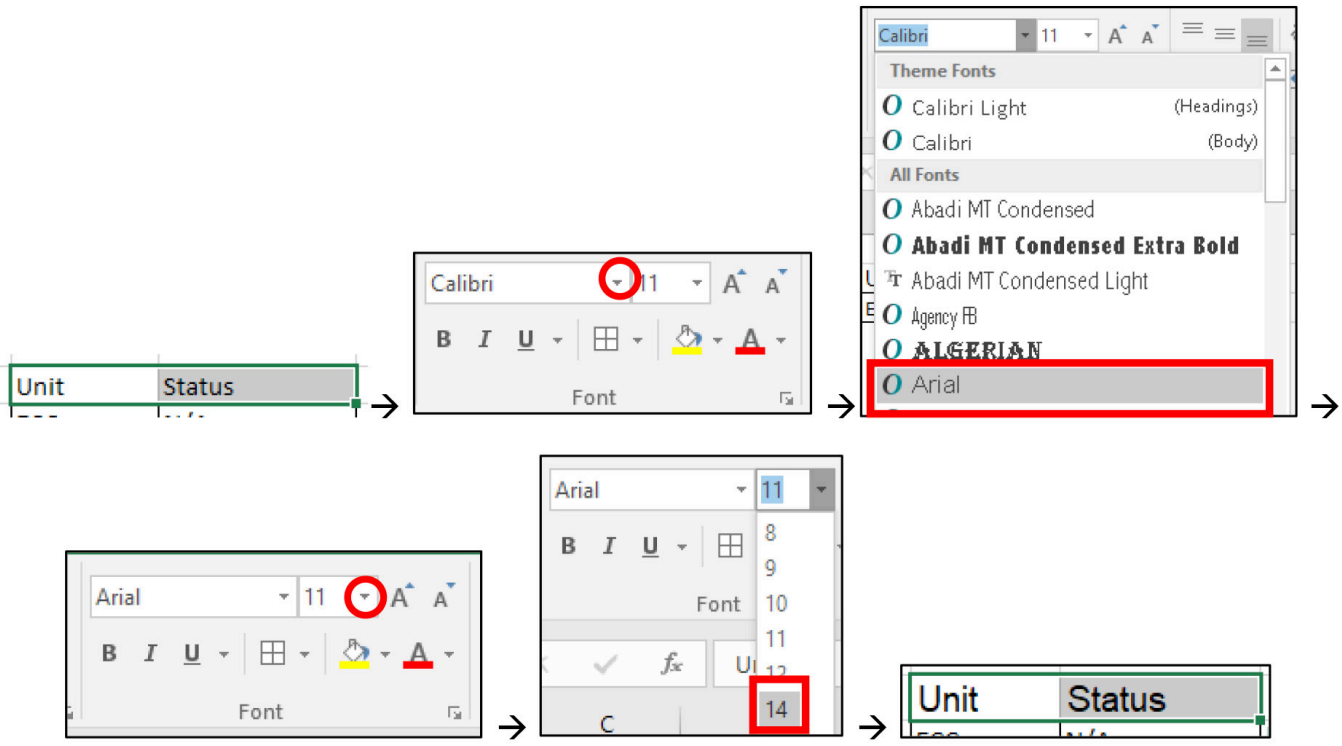
1) Select the column.
2) Place the mouse pointer near the column edge in the column heading, and it will change into a resize cursor: ⇿
3) Left-click and hold the resize cursor, then slide left or right to make the column any desired width. (Alternatively, double-click the left mouse button on the resize cursor. The column will automatically resize to fit the longest cell content in the whole column.)
4) Release the left mouse button.



As with columns, steps 1-4 work the same way with a selected row edge in row headings.

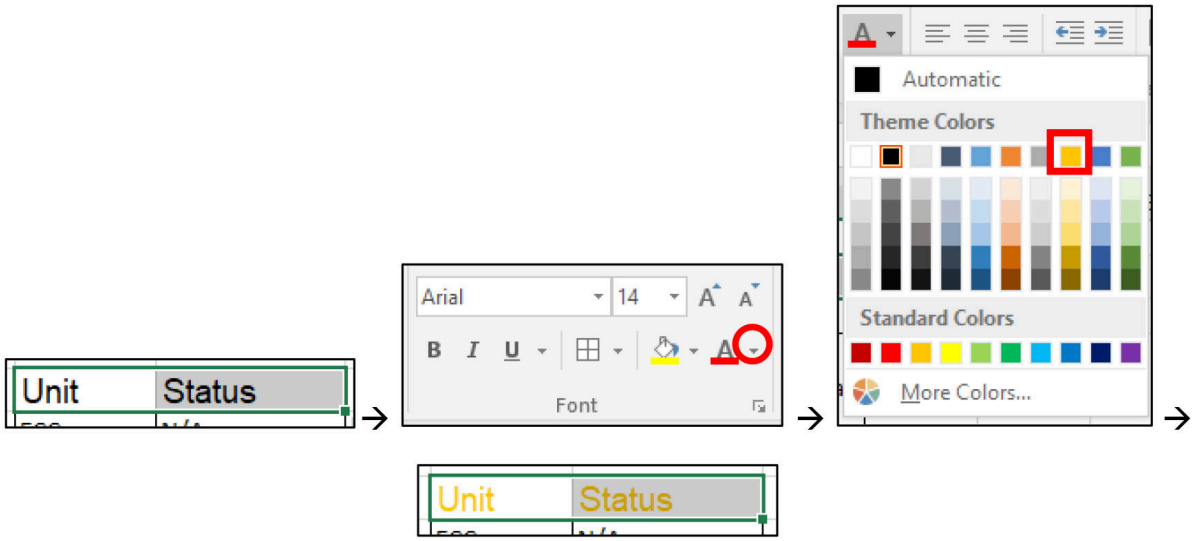
Edit Font Type & Size

1) Select the desired cell(s), row(s), column(s) or sheet.
2) On the Home file tab, click the font drop-down.
3) Click a new font.
4) Click on the font size drop-down.
5) Click on a new font size.



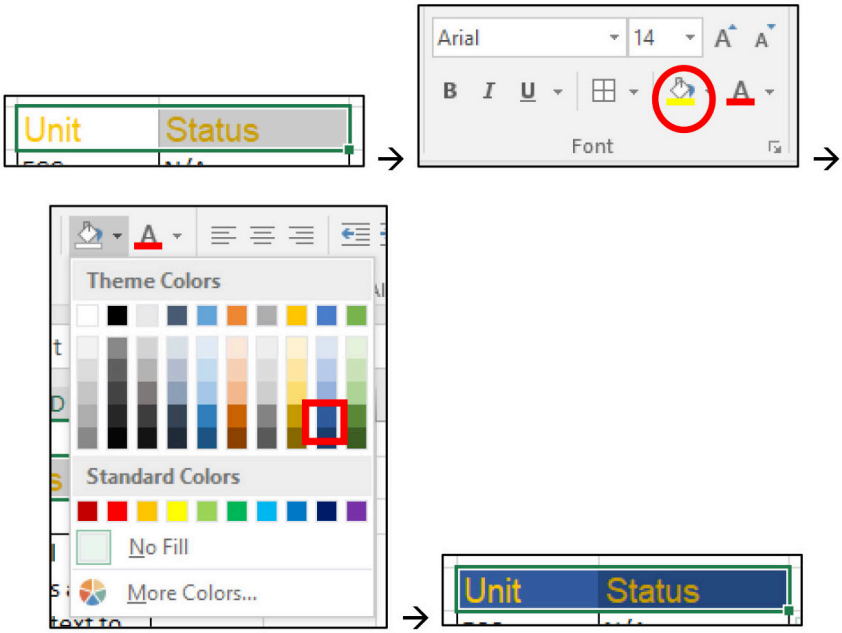
Edit Font Color

1) Select the desired cell(s), row(s), column(s) or sheet.
2) Click the Font Color drop-down.
3) Click on a new font color.



Edit Fill Color

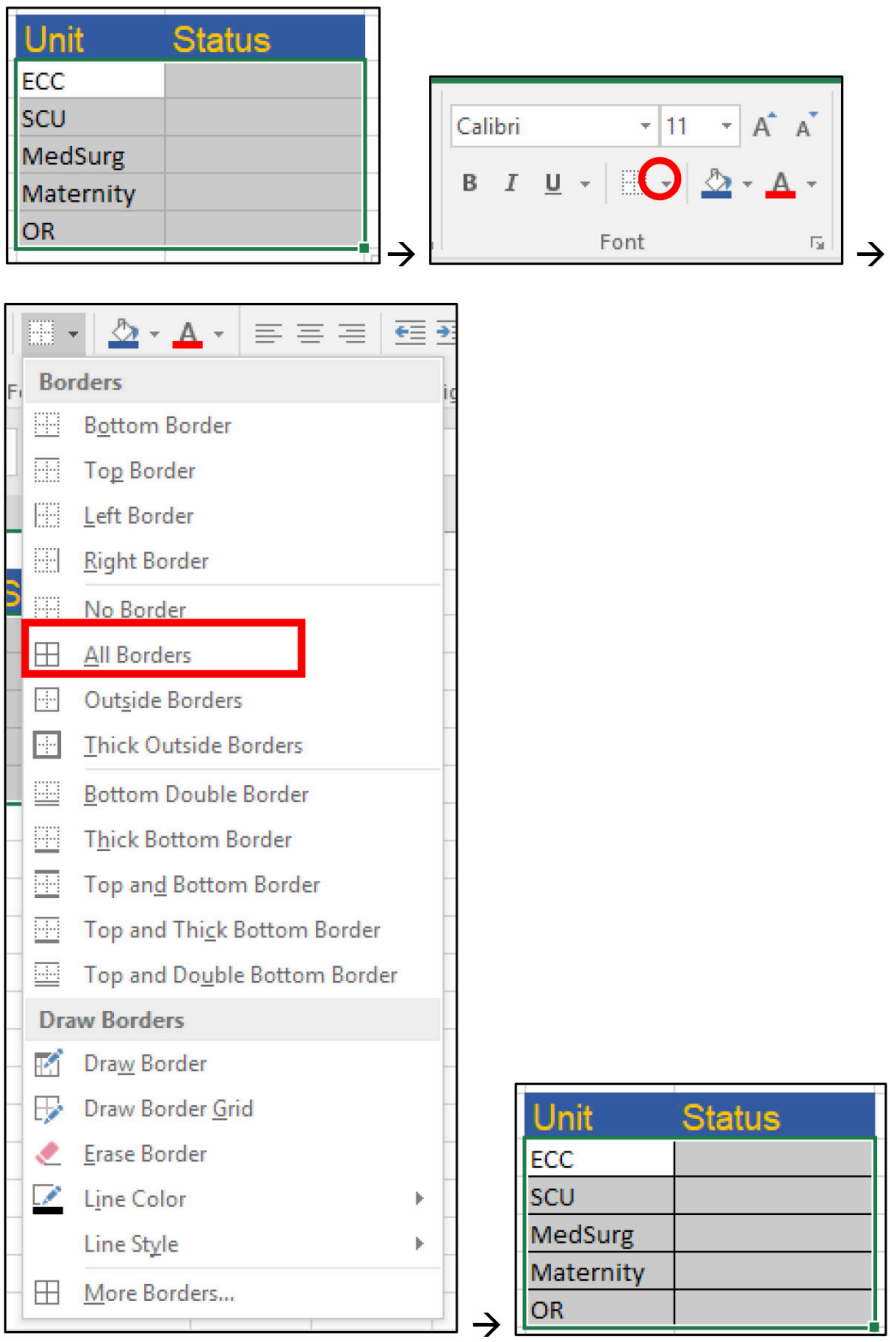
1) Select the desired cell(s), row(s), column(s) or sheet.
2) Click the Fill Color drop-down.
3) Click on a new fill color.



Create Borders

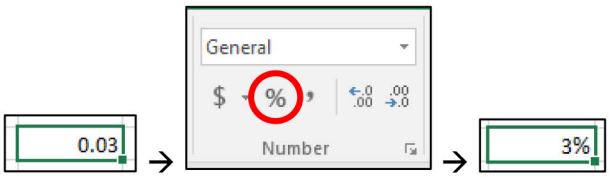
Use borders to make the lines of the spreadsheet grid visible for printing or better viewing.

1) Select the desired cell(s), row(s), column(s) or sheet.
2) Click the Borders drop-down.
3) Click on a new fill color.

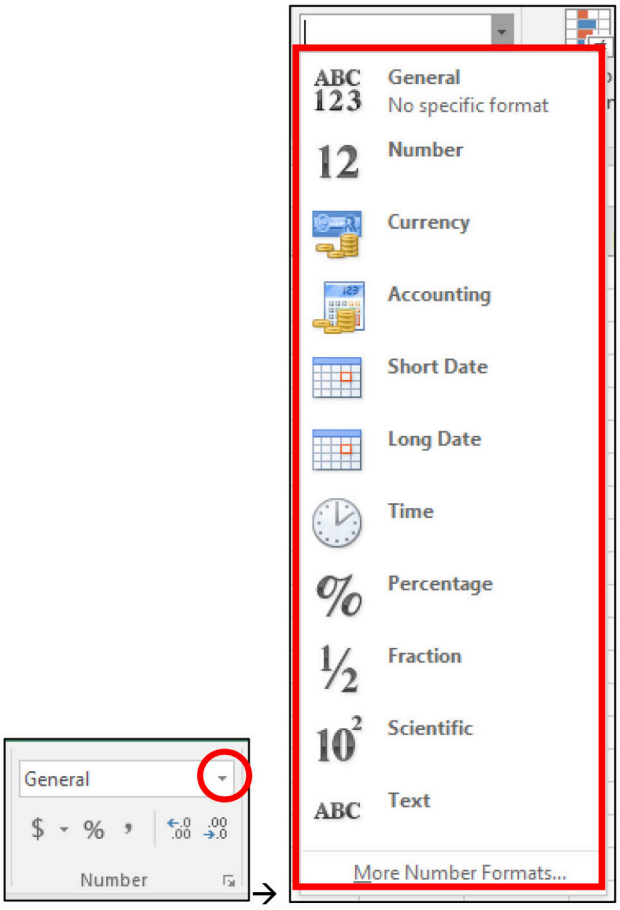


Format Numbers

There are many ways to format numbers in Excel. 1) Select the desired cell(s), row(s), column(s) or sheet. 2) Click the desired button in the Number area of the Home file tab. For this example, we'll change a decimal to a percent.

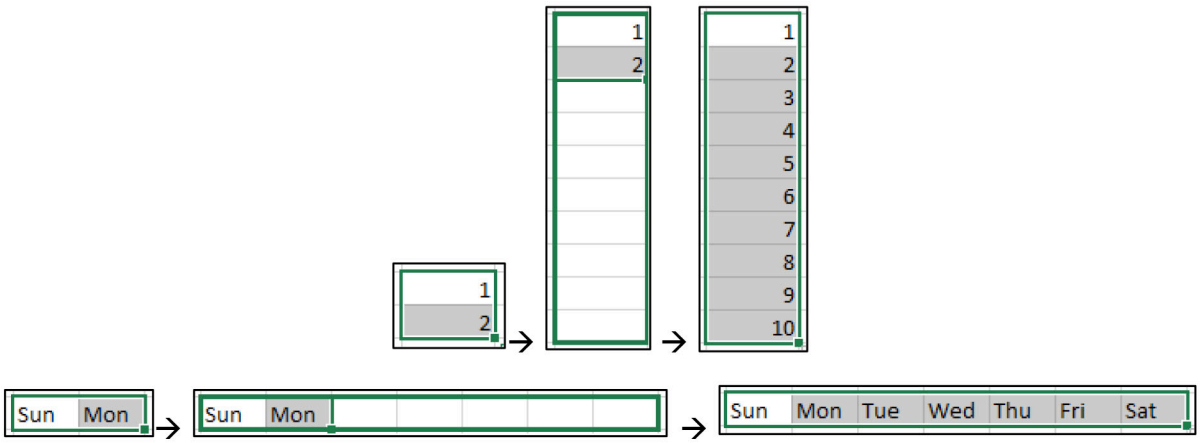


Similarly, clicking the $ button would turn a number into a dollar amount. Other options exist. 1) Click the Number Format drop-down. 2) Click the desired number format. Alternatively, if you don't see the desired number format listed, click **More Number Formats**... at the bottom of the list.



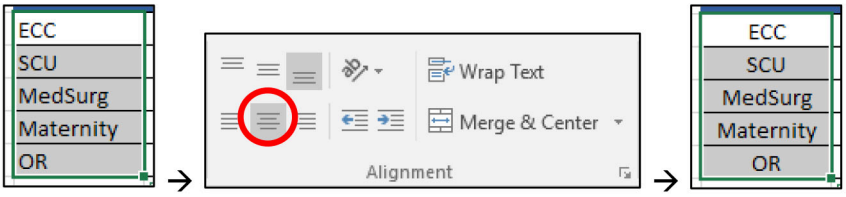
Fill Handle

The fill handle is one of the most time-saving features in Excel. Excel automatically identifies common sequences and can complete sequential patterns for you. For example, if you type “1” in one cell and then type “2” in the cell immediately below or immediately to the right of the “1” cell, Excel will list the next consecutive numbers (“3, 4, 5, 6, 7…”) in the cells that follow when using the Fill handle. The Fill handle works for days of the week, months of the year, dates, and many other patterns. It works backward and forward, horizontally across columns and vertically across rows. Manually typing a series is an inefficient use of Excel; let the program do the work for you. 1) Select the cells with the pattern. 2) Click and hold the dark green square, usually located at the lower right corner, of the selected cells. 3) Drag the Fill handle across the desired range of cells and release the mouse button. Two examples are shown below.



Align Cell Contents

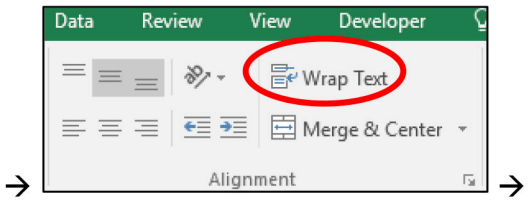
Alignment is used to make the cell contents centered or abutted against the right or left side of a cell. 1) Select the desired cell(s), row(s), column(s) or sheet. 2) Click the desired alignment button.



Wrap Text

When the cell's contents are longer than the cell itself, you may want the cell contents to adjust to fit the existing column width by expanding the row. This is especially useful when the cell contains a lot of text. 1) Select the desired cell(s), row(s), column(s) or sheet. 2) Click **Wrap Text** in the Alignment area of the Home file tab.

Unit	Status
ECC	N/A
SCU	This cell contains a great deal of text to demonstrate the wrap text feature.
MedSurg	N/A
Maternity	N/A
OR	N/A

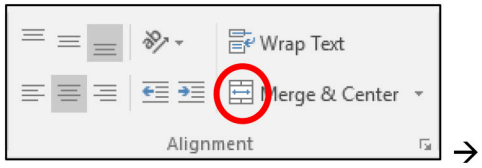


Unit	Status
ECC	N/A
SCU	This cell contains a great deal of text to demonstrate the wrap text feature.
MedSurg	N/A
Maternity	N/A
OR	N/A

Merge & Center Cells

Merge & Center is useful for center headings over a table. 1) Select the desired cell(s). 2) Click the **Merge & Center** button.

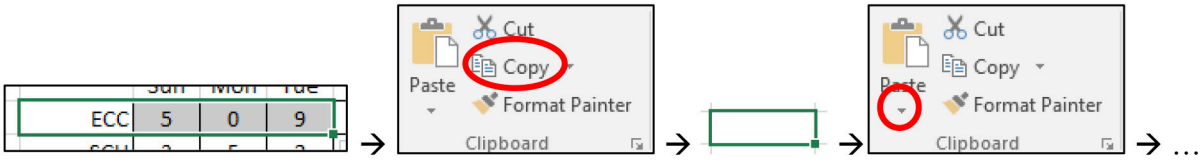
Daily Results by Unit							
	Sun	Mon	Tue	Wed	Thu	Fri	Sat
ECC	5	0	9	6	7	4	3
SCU	3	5	2	4	3	4	1

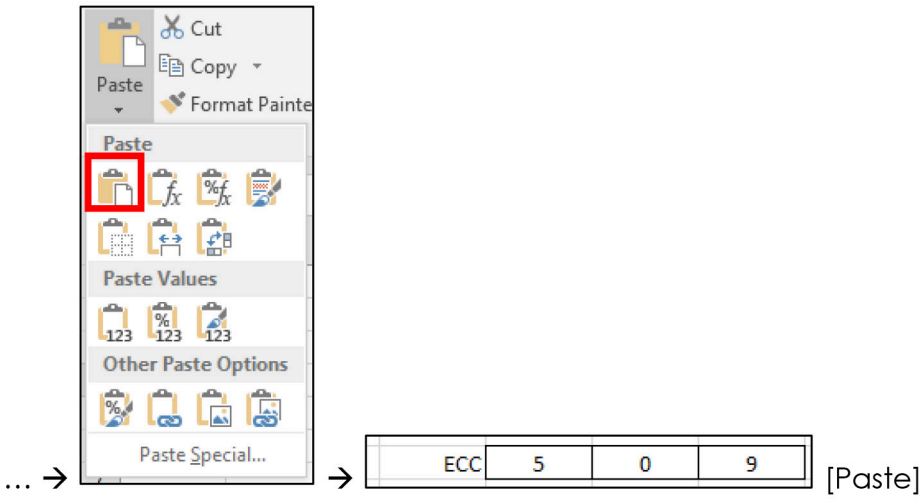


Daily Results by Unit							
	Sun	Mon	Tue	Wed	Thu	Fri	Sat
ECC	5	0	9	6	7	4	3
SCU	3	5	2	4	3	4	1

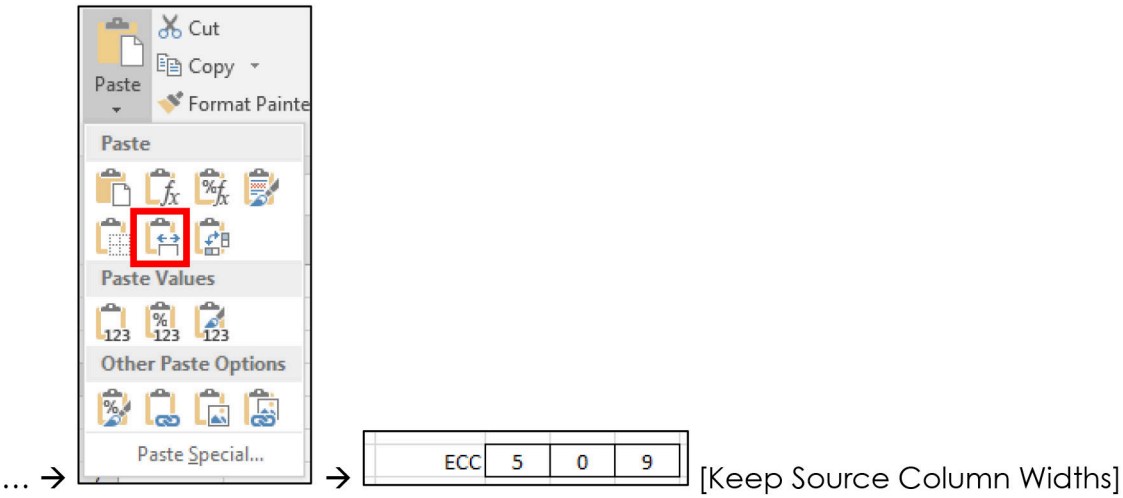
Copy and Paste

Excel offers a variety of paste options for copied cells. 1) Select the desired cell(s), row(s) or column(s) to be copied. 2) Click the **Copy** button. 3) Select the desired cell(s), row(s) or column(s) where you'd like the copied cells pasted. 4) Click the Paste drop-down. 5) Click the desired **Paste** button. A few of the more common paste options are shown below.

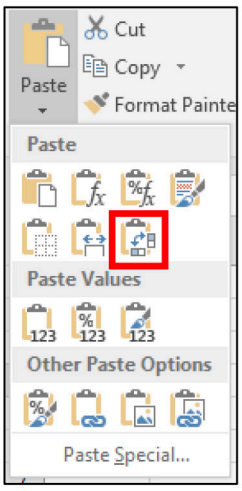


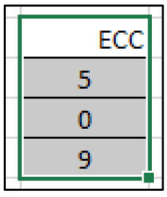


[Paste]

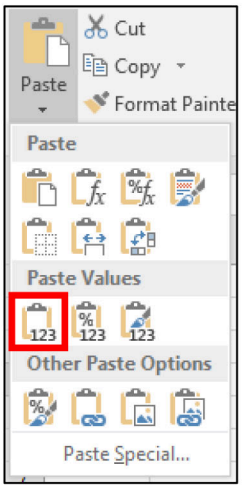


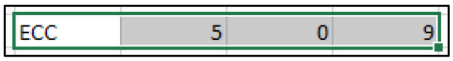
[Keep Source Column Widths]

… → 

→ 

[Transpose]

… → 

→ 

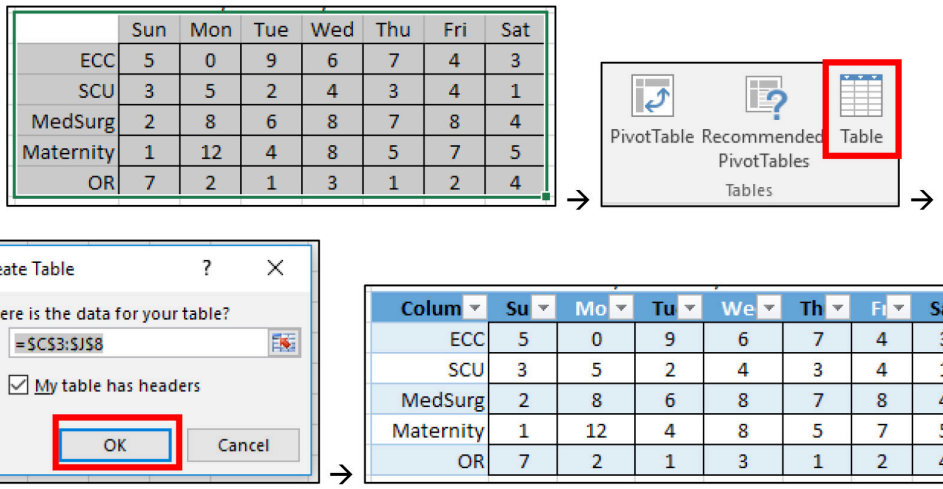
[Values]

TABLES, FUNCTIONS, CHARTS

Tables

Tables make it easier to work with data, including graphs and functions. Plus, you can select columns or rows of data by clicking on the respective table headings.

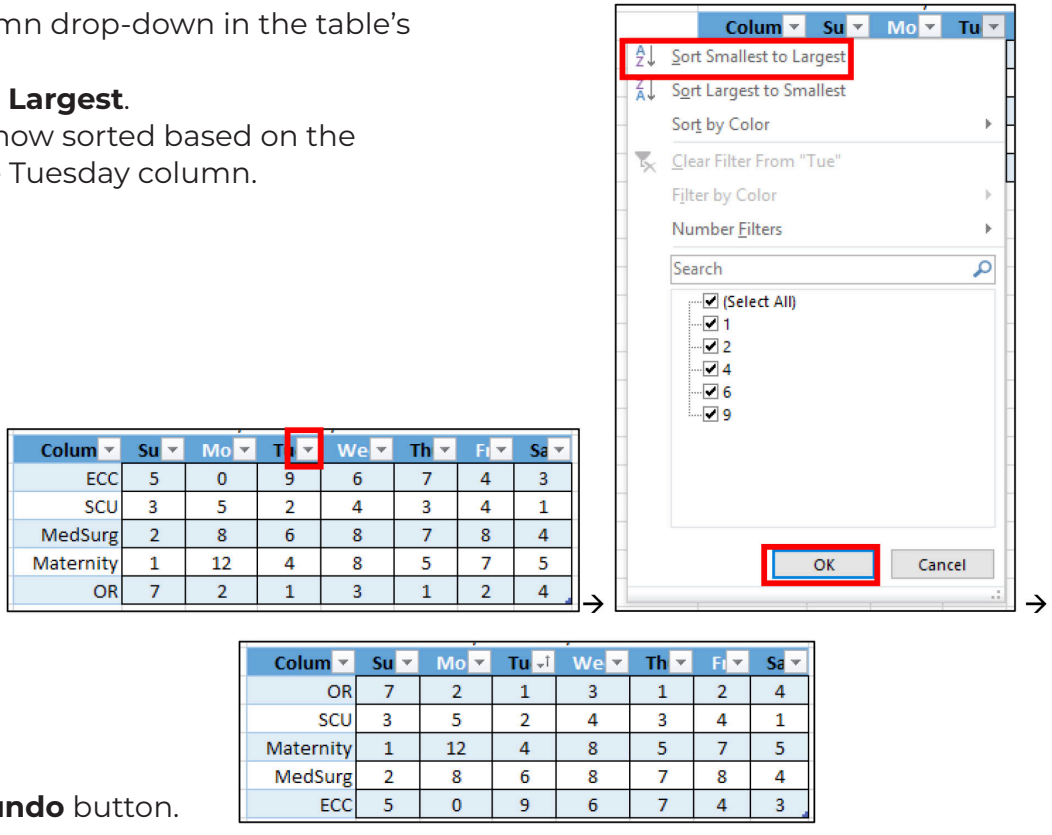
1) Select the desired cells to be turned into a table.
2) On the Insert File tab, click the **Table** button.
3) If you have column headings for your data, ensure the "My table has headers" box is checked. Click **OK**.



Sort

Sort is used to arrange data from largest to smallest or vice versa. In a table, this feature is already built into the column headings. For this example, we'll sort smallest to largest by data in the Tuesday column.

1) Click the desired column drop-down in the table's column headings.
2) Click **Sort Smallest to Largest**.
3) Click **OK**. The table is now sorted based on the re-ordered data in the Tuesday column.

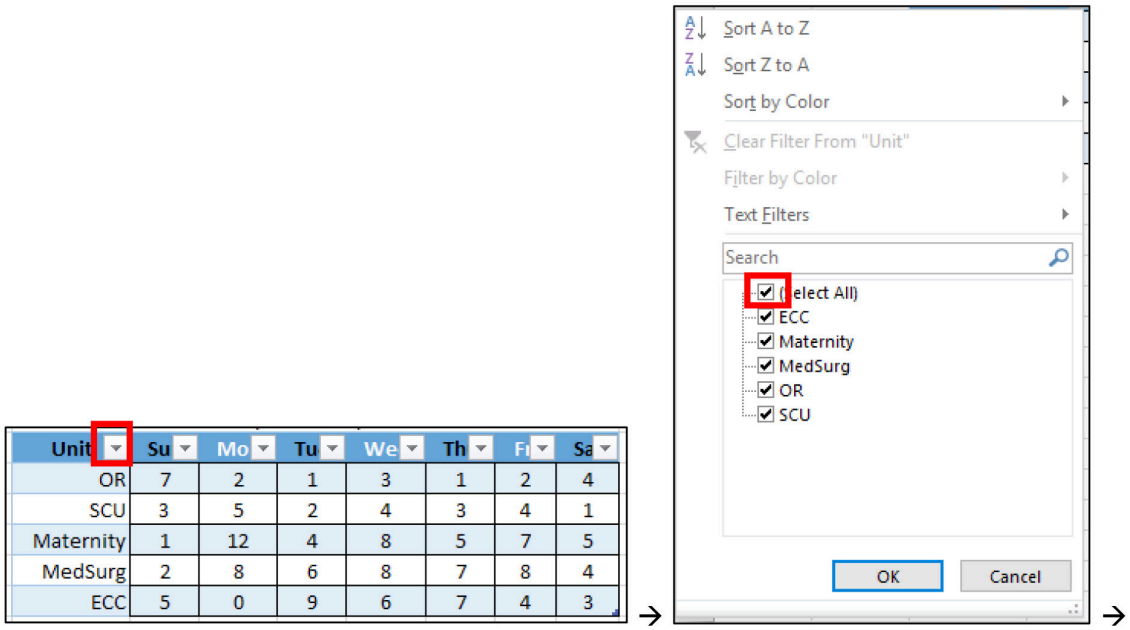


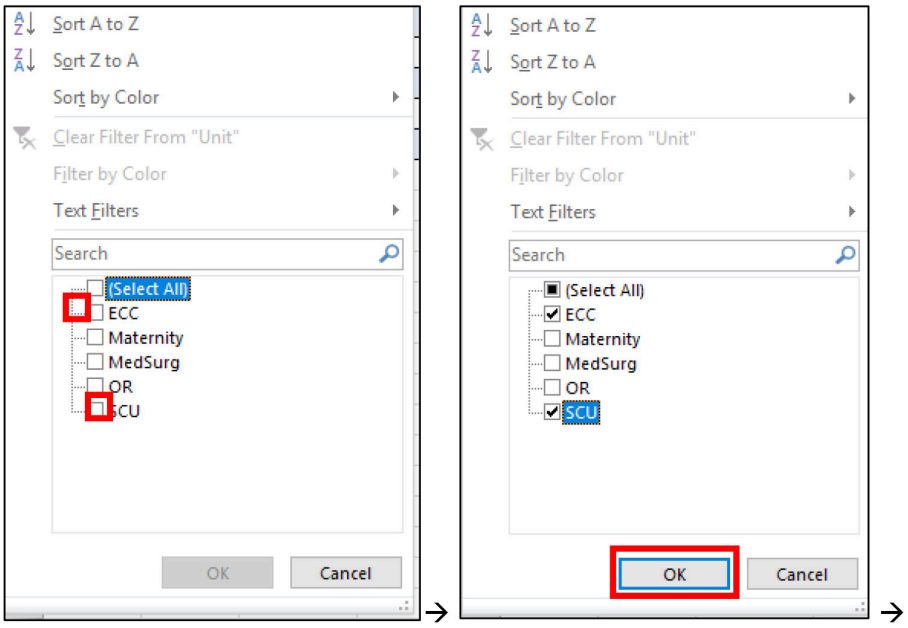
To remove a sort, click the **undo** button.

Filter

Filter is used to "filter out," e.g., remove certain data from view. When you filter data, nothing is erased; rather, the data simply becomes non-viewable as long as the filter is on. You can turn off filters at any time. In a table, this feature is already built into the column headings. For this example, we'll filter out all data from the table except for ECC and SCU rows.

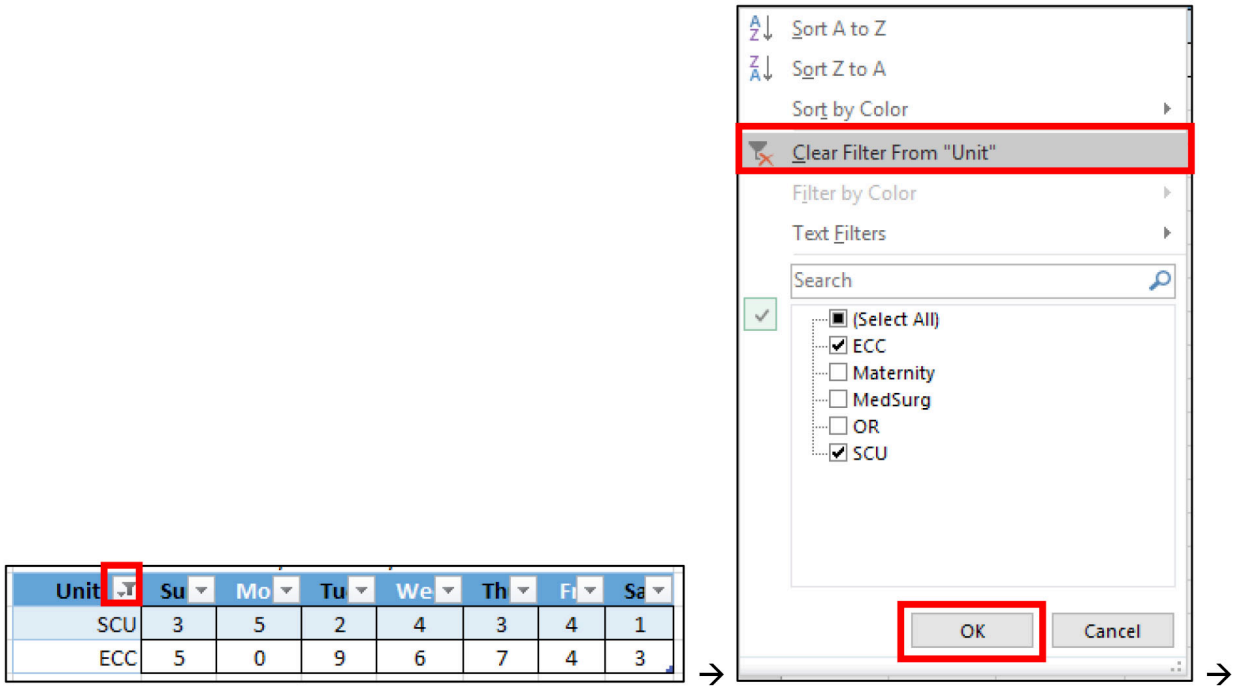
1) Click the desired column drop-down in the table's column headings.
2) Click the **(Select All)** box to uncheck it. This will uncheck all values.
3) Click the boxes for ECC and SCU.
4) Click **OK.** The whole table is now filtered of data not pertaining to the ECC and SCU.





Unit	Su	Mo	Tu	We	Th	Fr	Sa
SCU	3	5	2	4	3	4	1
ECC	5	0	9	6	7	4	3

To turn off the filter, 1) Click the column drop-down with the filter icon . 2) Click Clear Filter From "Unit." 3) Click OK. The filter is now removed from the table.



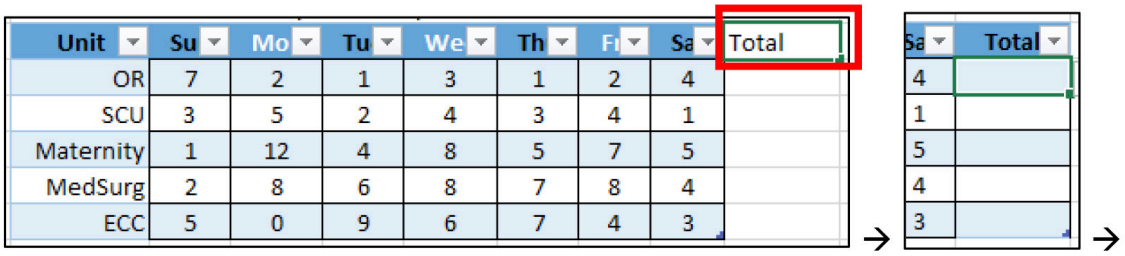
Unit	Su	Mo	Tu	We	Th	Fr	Sa
OR	7	2	1	3	1	2	4
SCU	3	5	2	4	3	4	1
Maternity	1	12	4	8	5	7	5
MedSurg	2	8	6	8	7	8	4
ECC	5	0	9	6	7	4	3

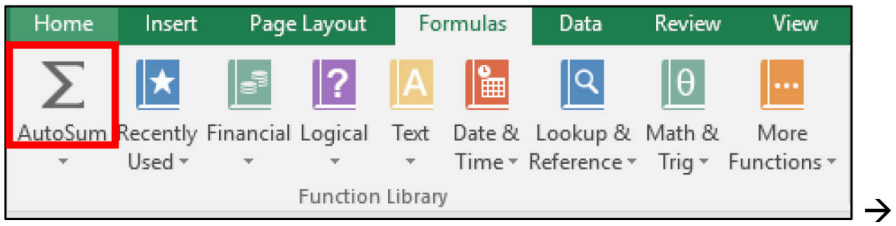
Basic Functions

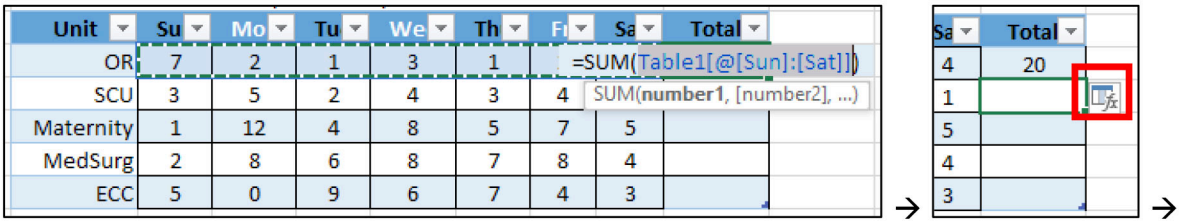
Functions make Excel powerful at making your life easier. Functions can perform math, find data in a column, use logic to determine whether to count individual values for a calculation and so much more. Excel users looking to become stronger users are advised to learn more functions. Two basic functions, SUM and AVERAGE, are shown below.

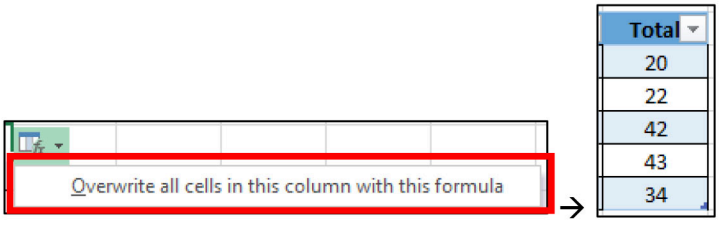
SUM

As the name implies, the SUM function is used to add the values in a selected range. A "Total" column or row in a table is the perfect location to use the SUM function. The steps below include creating a "Total" column in the table, although these steps (1 and 2) are not required to use the SUM function. 1) In the cell adjacent to the last table column heading, type "Total." 2) Press **Enter**. Excel will automatically create a new table column for you. 3) The cell below the heading is where we use the SUM function. As that cell is already selected, go to the Formulas File tab and click **AutoSum**. All row values are automatically selected, and the formula is displayed. 4) Press **Enter**. The sum of the first row values is now displayed. 5) To use the SUM function for all rows in the table, use the Fill handle, or click the **AutoCorrect** button that appeared after clicking Enter. 6) Click **Overwrite all cells in this column with this formula**. The sum of the row values is now displayed for all rows.





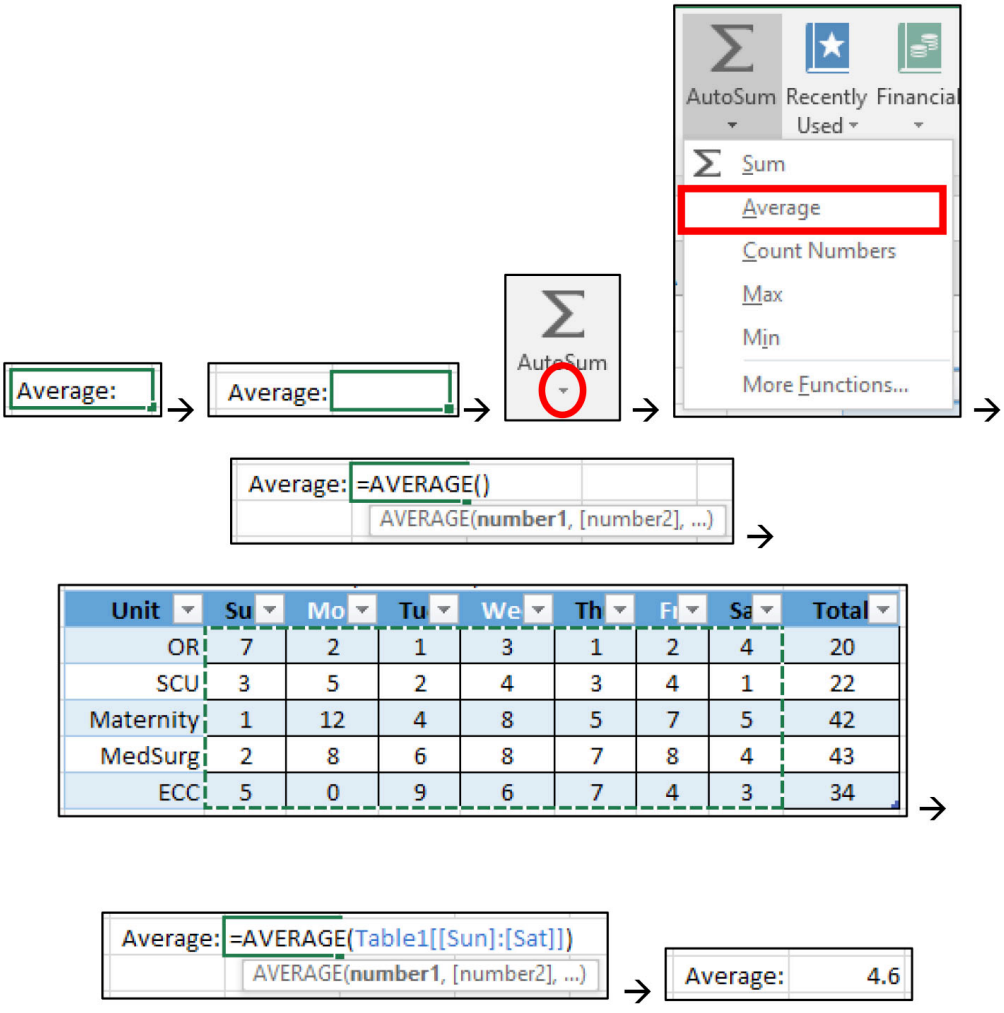




AVERAGE

The AVERAGE function displays the mean (average) of all numbers in a selected range. For this example, we'll calculate the average of all values in the table but in a cell by itself. The AVERAGE function does not need to be used separately from a table. This example is shown purely to demonstrate a different but equally common approach for using functions. Also, the steps below include creating an Average: label, although steps 1 and 2 are not required to use the AVERAGE function.

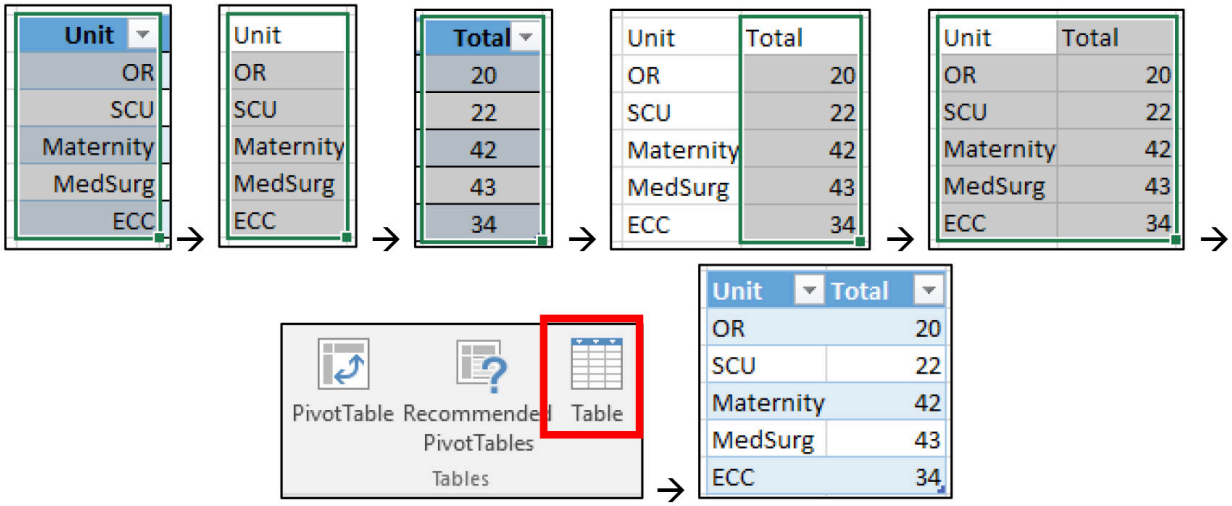
1) Click any cell that is several cells to the right of the table (so the table does not automatically try to add it as a new column or row). In the cell, type "Average:"
2) Press **Tab**. One cell to the right is now selected.
3) In the Formulas File tab, click the **AutoSum drop-down**.
4) Click A**verage**. The cell now shows the AVERAGE formula with empty parenthesis. This means that Excel is waiting for a data range to be selected.
5) Select a range of cells that contains the data. In this example, we'll use all the data in the table, excluding headings and the Total column. Simultaneously, the cell with the formula will automatically insert the range you've selected into the formula.
6) Press **Enter**. The average of all values in the table is now displayed.



Basic Charts

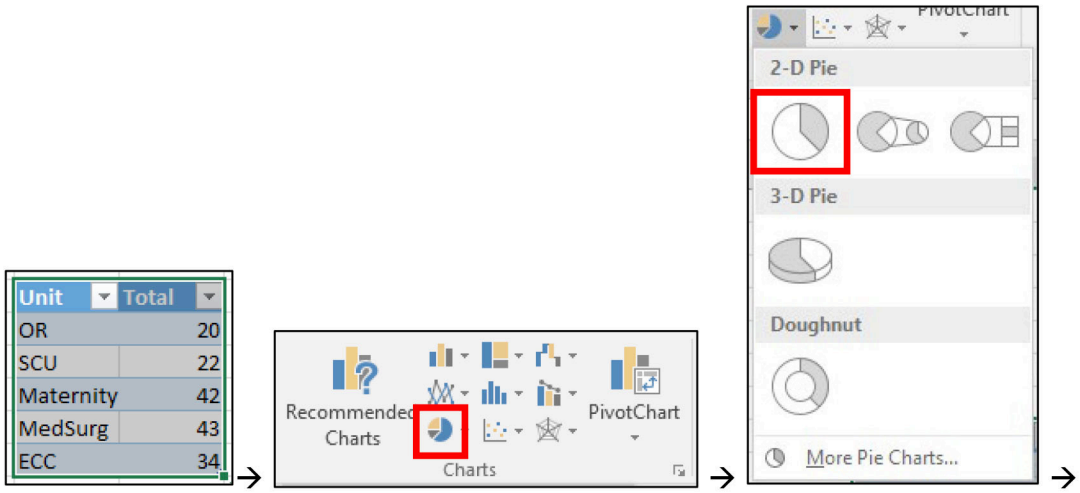
A chart is a visual representation of data. Complex data create complex charts. Simple data create simple charts. As a rule, the simpler, the better. To create a chart, first format data to be as simple as possible. Pie Chart and Bar Chart examples are shown in this section. For both examples, based on the table used in previous examples, we decided that we only want our charts to display the data in the Totals column. Plus, to ensure our data is labeled correctly, we will also use the row headings in the Unit column.

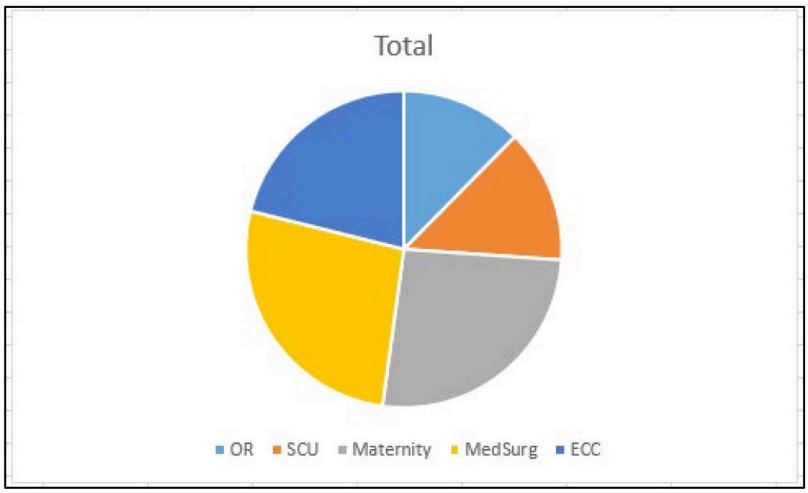
1) Copy the Unit table column and paste values several cells right of the table.
2) Copy the Total table column and paste values to the immediate right of the Unit column values.
3) Select all newly pasted cells, and click the Table button on the Insert File tab. We will now use this new table for charts in the following examples.



Pie Chart

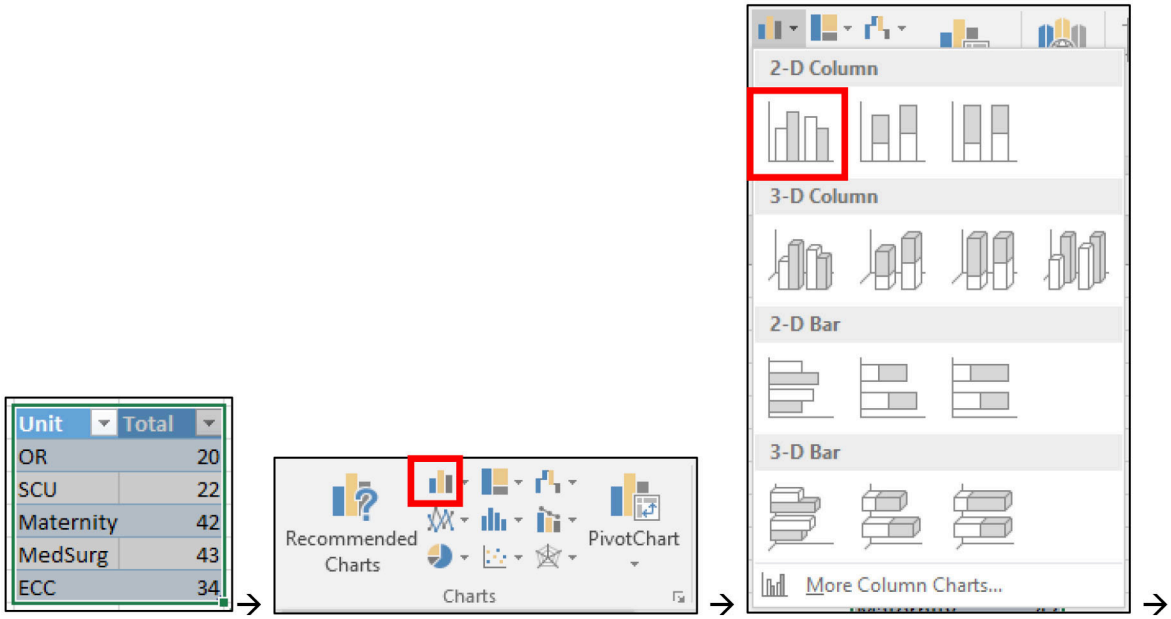
1) Select the table.
2) On the Insert File tab, click the **Insert Pie Chart** button.
3) Click on the **Pie** button. The data is now converted into a pie chart. Clicking on the chart title will allow you to change the heading. This chart may be copied and pasted, including into a Word document or a PowerPoint.

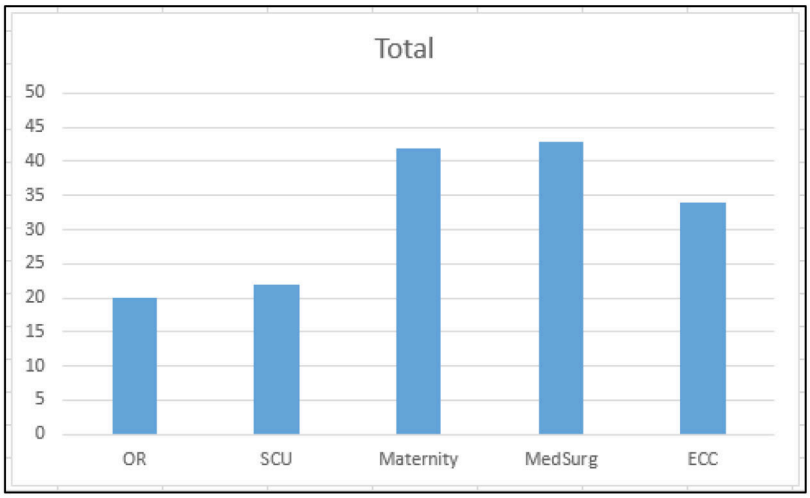




Bar Chart

1) Select the table.
2) On the Insert File tab, click the **Insert Bar Chart** button.
3) Click on the **Clustered Column** button. The data is now converted into a bar chart. Clicking on the chart title allows you to change the heading. This chart can be copied and pasted, including into a Word document or a PowerPoint.



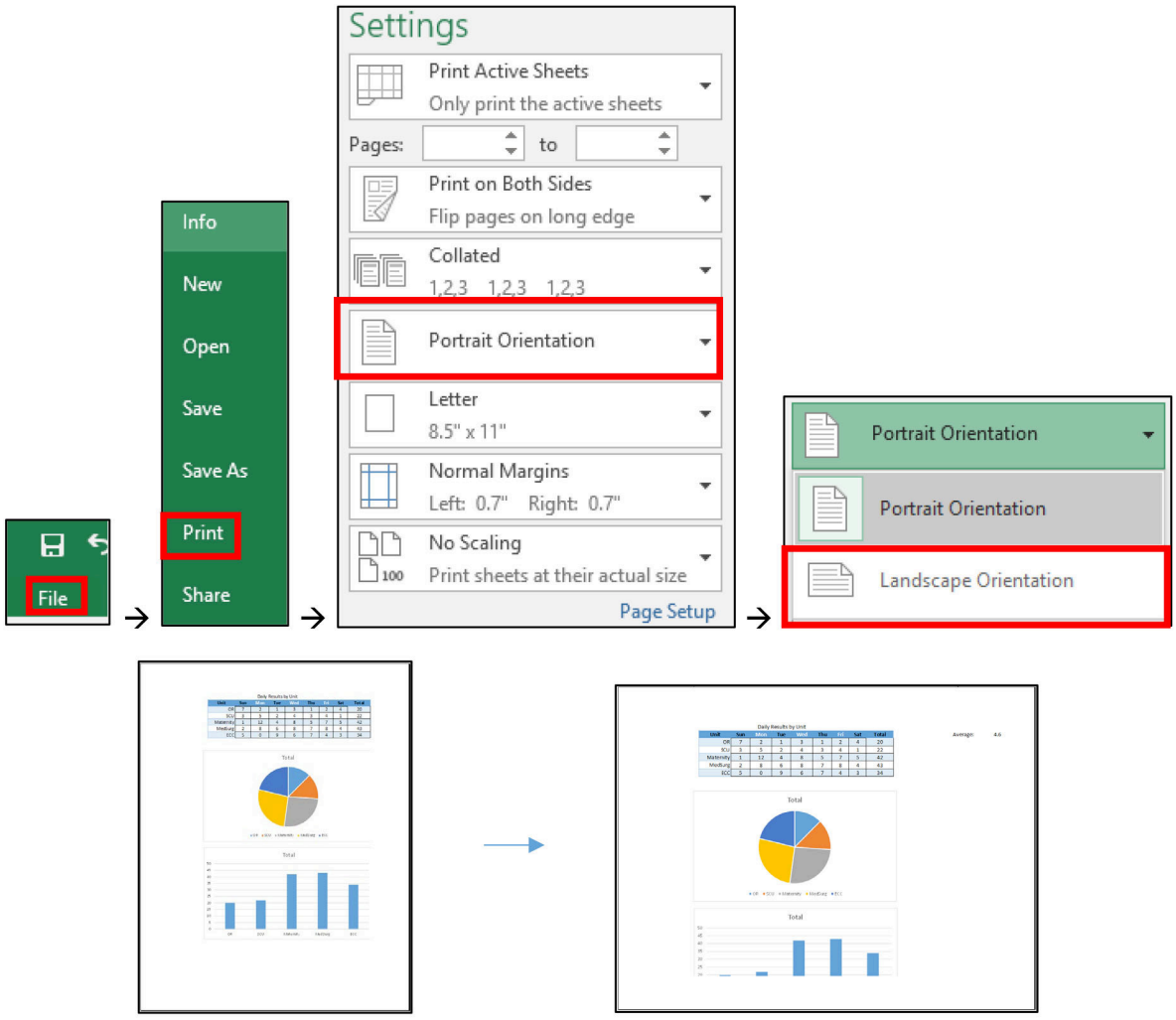


ORIENTATION & PRINT

Orientation

Orientation allows you to change how a page is arranged to print. The options are either Portrait (taller) or Landscape (longer). An Excel document will be set to Portrait by default, so use this option to change to Landscape.

1) Click the File tab named **File**.
2) Click **Print**.
3) Click **Portrait Orientation**.
4) Click **Landscape Orientation**. The page is now set to print sideways/landscape.

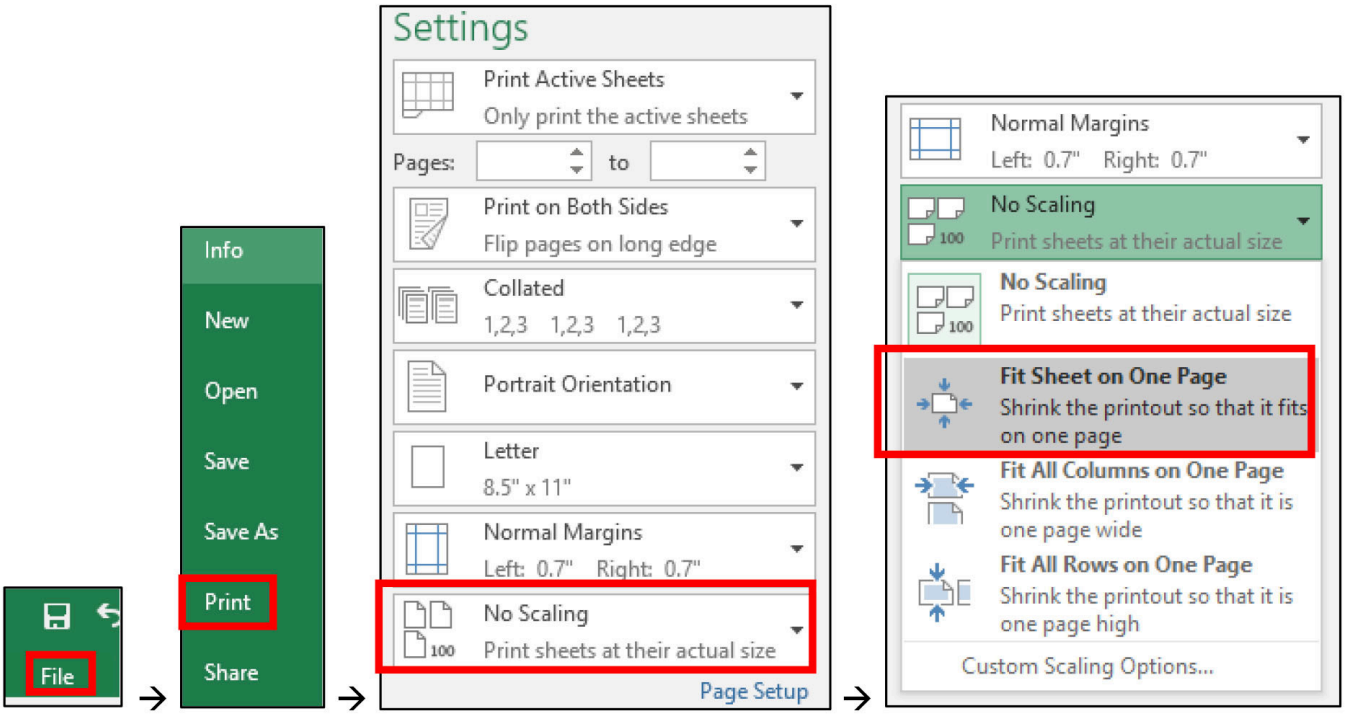


Printing on One Page

Large amounts of data often go off a single page in Excel. Luckily, you can make it fit on one page for printing.

1) Click the File tab named **File**.
2) Click **Print**.
3) Click **No Scaling**.
4) Click **Fit Sheet on One Page**. The page is now set to print on one page.

Be aware, however, that too much data squeezed onto one page may make the font so small that it becomes unreadable. In these circumstances, you may try **the Fit All Columns on One Page or Fit All Rows on One Page buttons to make a couple of** pages of readable information.



RESOURCES

The best resource is Google. Even expert Excel users do a Google search that begins with, "Excel, how do I..." If Google doesn't help, ask colleagues. If all else fails, submit a help desk ticket.