

# Microsoft Excel Basics

Revised January 2021

Excel is a spreadsheet program. Its purpose is to keep track of data, and it has the capability to perform mathematical computations and display data in a variety of tables and charts to make it easier to analyze.

This class is meant for Excel beginners and will cover the essentials of the Excel program. The course will focus on the layout of the Excel screen, entering/editing data, inserting/deleting cells, and worksheets. The autofill function and formula basics will also be discussed.

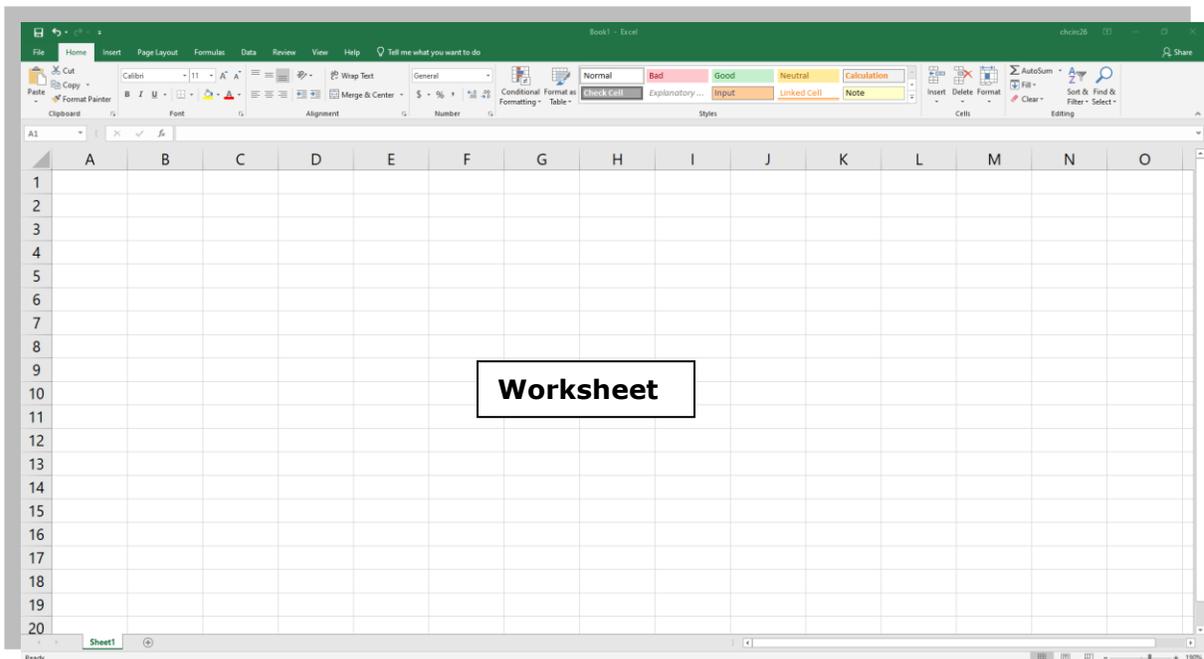
## Opening Excel in Windows

1. Click on the **Start** or **Windows** button in the task bar in the lower left corner of the screen
2. Go to **Excel**
3. An Excel start screen opens; click on **blank workbook**



## The Excel Screen

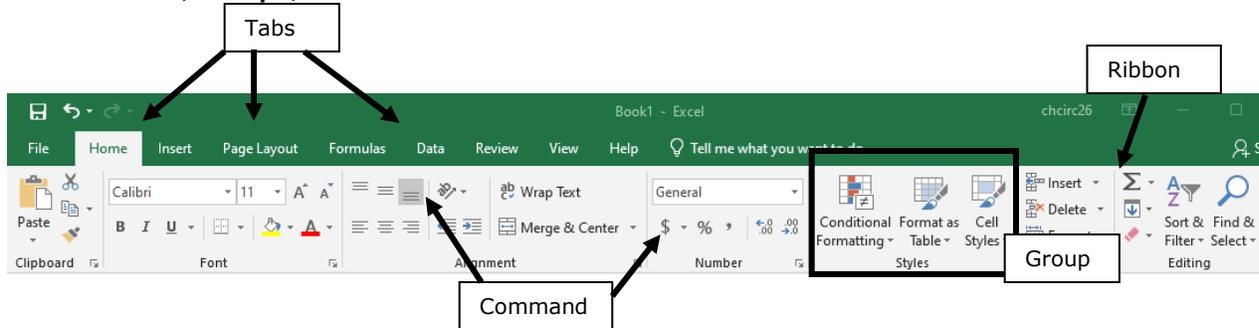
Microsoft Excel workbooks contain one **worksheet**, but more sheets can be added. Worksheets are divided into cells by columns (vertical) and rows (horizontal).



## Components of the Excel Window

### The Ribbon

Starting with Microsoft Office 2007, Microsoft Office programs like Excel have made use of the Ribbon system. The **Ribbon** is the large **graphic user interface (GUI)** that appears at the top of the Excel screen. The ribbon is divided into **Tabs**, **Groups**, and **Commands**.



Each **tab** opens with different **groups of commands**. Microsoft attempts to make the placement of the commands within both groups and tabs as intuitive as possible to make them easy to find. The **Excel 2013 Ribbon** allows users to quickly access all of the program's features and commands with a minimal number of mouse clicks.

### Quick Access Toolbar

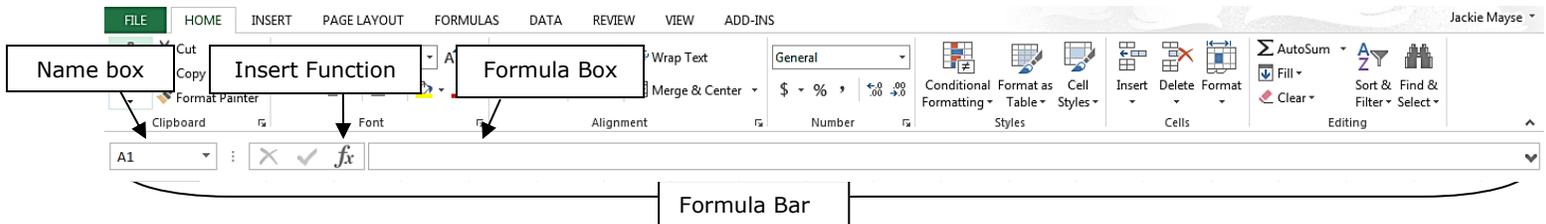
The **Quick Access Toolbar** is used to store shortcuts to frequently used command or features. By default, **Save**, **Undo**, and **Redo** are available. The toolbar can be customized to include additional commands. Click the downward-pointing arrow and chose commands by clicking on them. Click commands again to deselect.



### Formula Bar

The address of the cell in which the cursor is located, known as the **active cell**, displays in the **Name Box**, located on the left side of the **Formula Bar**. Information entered into the active cell is displayed in the **Formula Box**, located on the right side of the formula bar.

To the right of the Name Box is the **Insert Function** button, which can be used to perform simple and complex mathematical calculations on data. Functions are discussed in more detail in other Excel classes.



### Cells

Excel worksheets are divided into cells by columns and rows. The column headings go from A to Z and then continue with AA, AB, etc. On the left side of the screen are the row headers, starting with 1.

The combination of a column coordinate and a row coordinate make up a **cell address**. For example, the cell located in the upper-left corner of the worksheet is cell **A1**, meaning column A, and row 1. Cell E10 is located under column E on row 10. Data is entered into the cells on a worksheet.

**NOTE:** When identifying a cell by its address, the column letter is always listed first, followed by the row number.

## Getting Around in Excel

To move from cell to cell, use the **arrow keys** on the keyboard or the mouse to point and click on another cell. To move across larger areas, use the **Page Up** and **Page Down** keys on the keyboard. **Ctrl + Home** moves the cursor to cell **A1** of the current worksheet.

### Practice Exercise: Moving Around the Worksheet

#### Up and Down Arrow

- Press the down arrow key several times
- Press the up arrow key several times



#### Left and Right Arrow

- Press the right arrow key several times
- Press the left arrow key several times

#### Page Up and Page Down

- Press the Page Up key
- Press the Page Down key



#### Tab

- Move to cell A1
- Press the Tab key several times (The cursor moves to the right one cell at a time)

#### Enter

- Press Enter several times (The cursor moves down one row at a time)

#### Shift+Tab

Hold down the Shift key and press Tab (The cursor moves to the left one cell at a time)

#### Shift+Enter

Hold down the Shift key and press Enter (The cursor moves up one row at a time)

#### Ctrl+Home

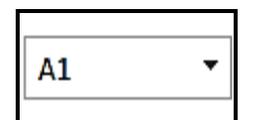
- Click on cell E10
- Hold down the Ctrl key and press the Home key (The cursor moves to cell A1)

### Practice Exercise: Moving to Cells Quickly

#### Name Box

The Name Box can be used to go to a specific cell; type the cell in the Name Box and press Enter.

- Type B10 in the Name box
- Press Enter (The cursor moves to cell B10)
- Type Z254 in the Name box
- Press Enter (The cursor moves to cell Z254)



## Cells

### Entering Data on the Worksheet

Three types of data can be entered into a cell:

1. **Values (numbers)** – numbers are automatically right aligned in the cell
2. **Labels (text)** – any non-mathematical entry, usually a title for a row or column of data; automatically left aligned in the cell
3. **Formulas or Functions (mathematical)** – any kind of mathematical computation (calculation)

To enter data into the cells, select a cell either by clicking it with the mouse or using the arrow keys on the keyboard. Enter the number or text and hit **Enter** (cursor moves down) or **Tab** (cursor moves to the right) to record the entry and go to the next active cell.

Practice Exercise: Entering Data on the Worksheet					
On <b>Sheet1</b> , enter the following data:					
1.	In cell <b>A1</b> , type <b>CHUH Library Monthly Book Sales</b>				
2.	In cell <b>A3</b> , type <b>January</b>				
3.	In cell <b>B3</b> , type <b>February</b>				
4.	In cell <b>C3</b> , type <b>March</b>				
5.	In cell <b>D3</b> , type <b>1<sup>st</sup> QTR Totals</b>				
6.	In cells <b>A4-A7</b> , type <b>100</b>				
7.	In cells <b>B4-B7</b> , type <b>200</b>				
8.	In cells <b>C4-C7</b> , type <b>300</b>				

	A	B	C	D	E
1	<b>CHUH Library Monthly Book Sales</b>				
2					
3	January	February	March	1st QTR Totals	
4	100	200	300		
5	100	200	300		
6	100	200	300		
7	100	200	300		

### Editing Cells

To edit data in a cell:

- Click on the cell and type new data. This method erases the previous contents of the edited cell.

OR

- Double-click on the cell to edit part of the data; a blinking cursor appears. Use keyboard keys (arrows, backspace, delete, letter keys etc...) to edit the contents of the cell.

### Selecting Cells

Select a cell or multiple cells using the **click and drag** method.

To select all cells on a worksheet, use one of the following methods:

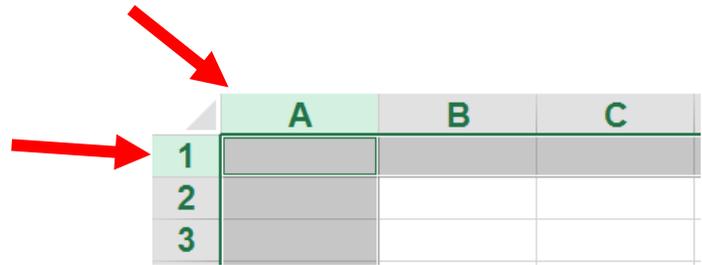
- Click the **Select All** button, the block adjacent to the **A** and the **1**
- Use the keyboard shortcut **Ctrl + A**



**NOTE:** If the worksheet contains data, Ctrl+A selects the region where the active cell is located. Pressing Ctrl+A a second time selects the entire worksheet.

## Selecting an Entire Column or Row

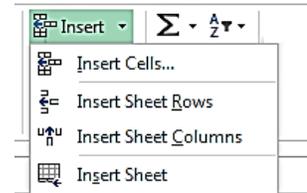
1. Click on column or row heading



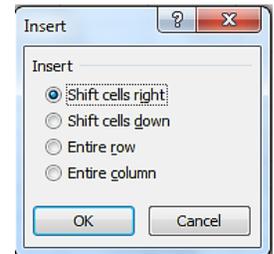
## Inserting Cells

It is often necessary to insert more cells into a worksheet.

1. Click on a cell, row, or column adjacent to where new cells will be added
2. Go to **Home** tab → **Cells** group → **Insert** command → **Insert Cells**
3. In the **Insert dialog box**, make sure the proper bullet is selected, depending on what is needed
4. Click **OK**



Insert **columns** or **rows** the same way; choose either **Insert Sheet Rows** or **Insert Sheet Columns** from the drop-down list. The last item on the list, **Insert Sheet**, inserts a new worksheet into the active document.



## Moving (Cutting), Copying, and Pasting Cells

To **move** cells to a new location:

1. Select the cells to be moved
2. Go to **Home** tab → **Clipboard** group → **Cut** command 
3. Click in the new location for the cells and go to **Home** tab → **Clipboard** group → **Paste** command 

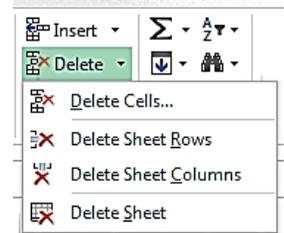
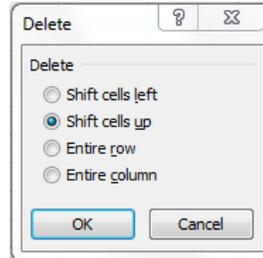
To **copy** cells to a new location:

1. Select the cells to be copied
2. Go to **Home** tab → **Clipboard** group → **Copy** command 
3. Click in the new location for the cells and go to **Home** tab → **Clipboard** group → **Paste** command

**NOTE:** The keyboard shortcuts **Ctrl+X** (cut), **Ctrl+C** (copy) and **Ctrl+V** (paste) can be used to cut, copy and paste content.

## Deleting Cells

1. Select the cells to be deleted
2. Go to **Home** tab → **Cells** group → **Delete** command down arrow
3. Choose **Delete Cells**, **Delete Sheet Rows**, or **Delete Sheet Columns**
4. If prompted, select how the remaining cells should move to fill in the deleted space

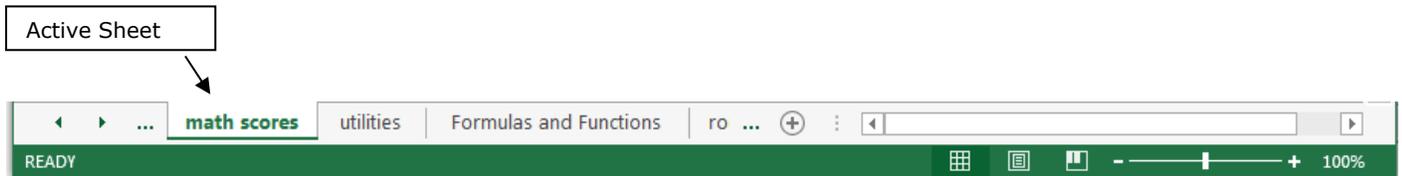


**NOTE:** Choose carefully, as the entire spreadsheet could be affected— it often makes the most sense to delete the entire row or column.

## Worksheets

Below the spreadsheet at the bottom of the window are the **sheet tabs**. By default, each Excel workbook has one sheet but more sheets can be added. The **Active Sheet** name is in bold.

## Moving Between Sheets



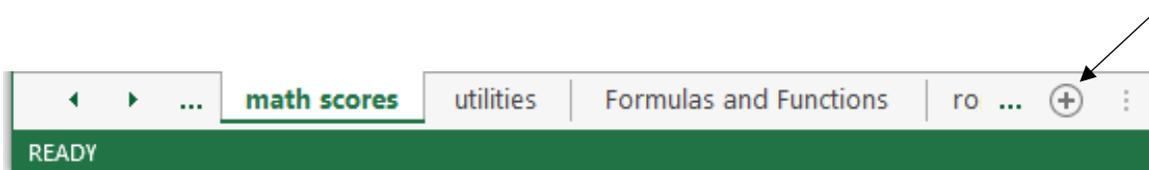
If more worksheets exist than can be displayed at one time, the arrow buttons can be used to scroll through the sheet tabs. The **Left arrow** moves one sheet at a time to the left; the **Right arrow** moves one sheet at a time to the right. To get to the first or last sheet, hold the **CTRL** key down and click either the **Left arrow** or **Right arrow**.



**NOTE:** The arrow buttons only work when all of the sheet tabs don't fit on the bottom of the screen. If all of the sheet tabs in a workbook are visible, the arrow keys do nothing.

## Creating a New Sheet

The **New Sheet** command is located on the right side of the menu, next to the last sheet.



## Renaming/Moving/Deleting a Worksheet

- To **rename** a worksheet, double-click directly on the sheet tab. When the current name is highlighted in gray, type in a new name and hit **Enter** on the keyboard.



- To **move** a worksheet, click on the tab and drag it to the new location.
- To **delete** a worksheet, right-click the tab of the sheet and choose **Delete** from the shortcut menu.

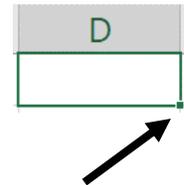
**Practice Exercise: Sheets**

1. Add a new worksheet
2. Rename the new sheet **August Budget**
3. Move the **August Budget** sheet to after the **numbers** sheet

## Auto Fill

One of Excel's nicest features is **Auto Fill**, which reduces the amount of typing needed when entering series into a spreadsheet.

Type the first entry or entries and click on the Auto Fill handle (a small green square in the lower right corner of the selected cell or cells). The cursor turns into a plus sign [+]. Hold down the mouse button, drag either down or across, and release the button when the list is complete. Excel automatically fills in the entries for the rest of the series.



**Practice Exercise: Auto Fill**

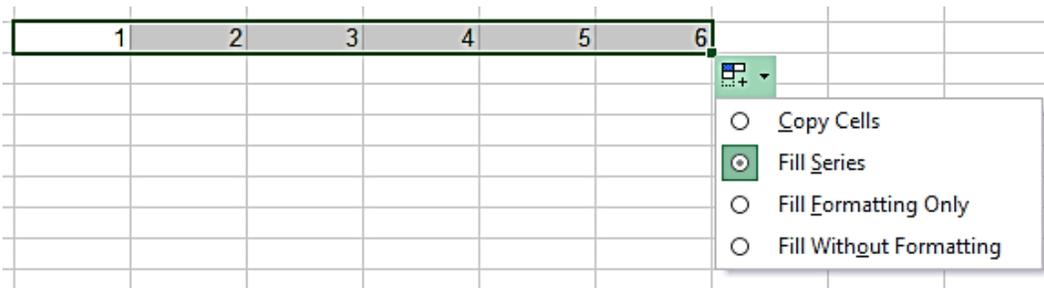
1. Click on the **Auto Fill** sheet to make it the active worksheet
2. In cell A1, type **Sun**
3. In cell A2, type **January**
4. In cell A3, type **2014**
5. In cell A4, type **Qtr1**
6. Select cells **A1** through **A4**
7. Place the cursor in the bottom right corner of the selection until the fill handle turns into a small dark plus sign
8. Click and drag the fill handle to the right to column **L**; Excel automatically fills the cells

	A
1	Sun
2	January
3	2014
4	Qtr1

	A	B	C	D	E	F	G	H	I	J	K	L
1	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu
2	January	February	March	April	May	June	July	August	September	October	November	December
3	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
4	Qtr1	Qtr2	Qtr3	Qtr4	Qtr1	Qtr2	Qtr3	Qtr4	Qtr1	Qtr2	Qtr3	Qtr4
5												

9. To choose how to fill the selection, click **Auto Fill Options** button and click the desired options 

**NOTE:** When using **Auto Fill** with numbers, select the **Auto Fill options** button to either copy the cells or fill the series. Selecting **Fill Series** produces a series of numbers, e.g. 1, 2, 3... Selecting **Copy Cells** will copy the original data etc.



## Formulas

A formula allows you to perform calculations on numbers. Only the cell addresses—not the values (numbers)—should be entered in the formula.

Formulas must always begin with an equals sign (=). The formula should be entered immediately following the equal sign (no spaces).

Enter the formula either into the cell in which you want the answer to appear or the formula bar after clicking on the cell. For example, to add the values in cells A1 and A2 and have the answer appear in A3, in cell **A3** type **=A1+A2**.

	A	B
1	35	
2	75	
3	=A1+A2	

## Using Basic Arithmetic operators

For performing basic mathematical operations such as addition, subtraction, or multiplication; combining numbers; and producing numeric results, use the following arithmetic operators:

**When A1=8 and A2=2:**

Arithmetic operator	Meaning	FORMULA	RESULT
+ (plus sign)	Addition	=A1+A2	10
- (minus sign)	Subtraction or Negation	=A1-A2	6
* (asterisk)	Multiplication	=A1*A2	16
/ (forward slash)	Division	=A1/A2	4
^ (caret)	Exponentiation	=A1^A2	64

### Practice Exercise: Using Arithmetic Operators

Open the **excel\_practice\_file** and go to the **Formulas and Functions** worksheet to enter the formulas in the **highlighted cells** for each column:

1. In cell **B9**, type the **Addition** formula **=B4+B5+B6+B7+B8**
2. In cell **D9**, type the **Subtraction** formula **=D7-D8**
3. In cell **F9**, type the **Multiplication** formula **=F7\*F8**
4. In cell **H9**, type the **Division** formula **=H7/H8**

### AutoSum

The AutoSum feature is a shortcut to using Excel's SUM function. It provides a quick way to add columns or rows of numbers in a spreadsheet. The AutoSum icon is the Greek letter Sigma, which looks like an E or sideways M.



### Practice Exercise: AutoSum

1. Go to the **Book Sales** worksheet
2. Click in cell **B9**
3. Go to **Home** tab → **Editing** group → **AutoSum** command to insert the AutoSum formula for January
4. Click on **C9** and **D9** and repeat above steps to calculate the February and March sales
5. Insert the AutoSum function in cells **E5** through **E8** to calculate the 1<sup>st</sup> quarter totals