



# Hired Digital Literacy Series:

## Introduction to Microsoft Excel



hired



Created by Olivia Sauer, Sarah Sheldon, and SPNN

## Table of Contents:

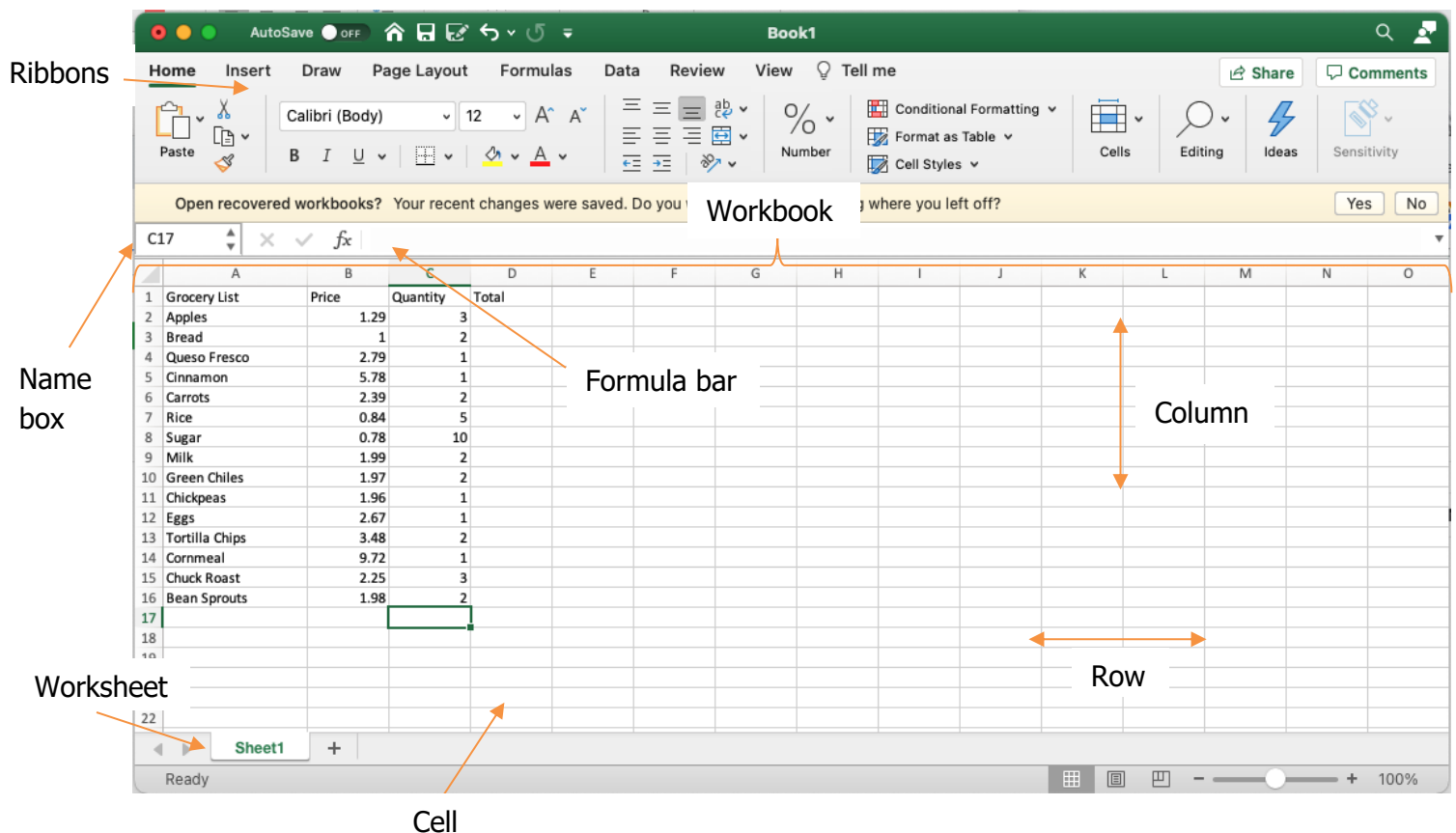
Introduction.....	3
Anatomy of a Spreadsheet.....	3
Start a New Spreadsheet.....	4
Sorting.....	5
Using Formulas.....	6
Charts.....	8
Conclusion.....	9

# Introduction

Microsoft Excel is an essential part of the Microsoft Office suite. It is a powerful app that can be used for everything from making a grocery list or sports roster to creating charts and graphs and analyzing complex sets of data. Its functionality is based in spreadsheets, which are documents with grids made of rows and columns that can be arranged and manipulated with formulas. Like any new skill, it takes time and practice to become a confident Excel user. There is a wealth of information online about different Excel functions, and you can often find a solution to your problem by Googling. For example, "How to add numbers in Excel" brings up a variety of solutions in no time.

## Anatomy of a Spreadsheet

Excel has its own set of terms to understand. Here are the basics you need to understand before we move on. This diagram shows where you can find features that are defined below.



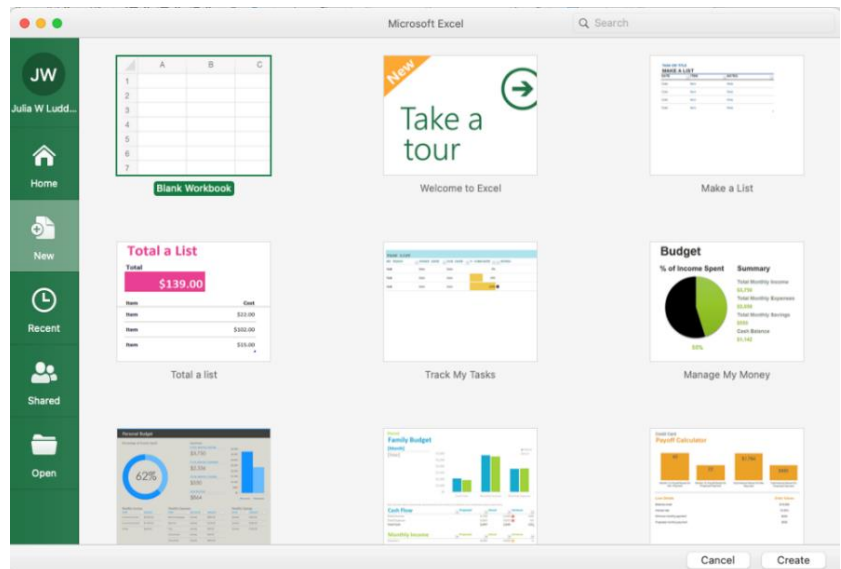
- A *workbook* is the main screen in Excel and it is what you see when you open a new document. A workbook may contain one or more *worksheets*. A workbook and a worksheet look the same, but worksheet refers to individual pages in the workbook.
- One or more *worksheets* make up a workbook. The worksheet contains cells arranged in rows (horizontal) and columns (vertical). This is the place where you will enter your data.

- A *cell* is the building block of a worksheet. When you open a workbook, the small rectangles on the page are cells. You might type numbers, words, or formulas into a cell.
- A *row* is a horizontal line of cells. In Excel, rows are labeled with numbers.
- A *column* is a vertical line of cells. Columns are labeled with letters.
- The toolbar, or *ribbon*, is where you find different editing options and tools. The home tab is the default selection and it contains several familiar text editing tools like font, type size, bold or italics, and text color.
- The *formula bar* shows the contents of a cell. If the only thing in the cell is a letter or number, then that will show in the formula bar. If the cell contains a number that is the result of a formula, the formula bar will show the formula.
- The *name box* shows name of the cell that is currently active. In the diagram above, the cell with the green border is the cell in column C, row 17 – or cell C17.

## Start a New Spreadsheet

First, open Excel. From there, you'll have to select whether you want to open a blank workbook and start from scratch or use a template to help you build what you want. Templates are workbooks that already have formulas and formatting built in: you just have to fill in the data. Some available templates include personal or household budgets, lists, or organizers.

Here's the screen where you can make that choice:



As you can see, the blank workbook is your first option. Scroll through the templates and see some of the different things you can do with Excel.

If you start with a blank workbook, it will be up to you to enter data – like grocery items – into individual cells. To do that, simply click on a cell and start typing. In most cases, you should put one piece of data in each cell. To move on to the next cell, hit enter or return on your keyboard.

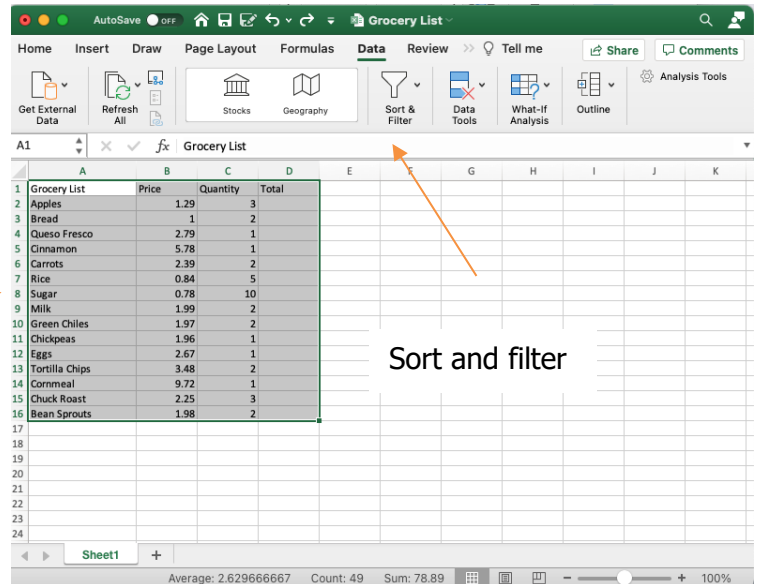
# Sorting

Excel can sort the data you enter in cells. You can use this function to alphabetize a list or sort it by a number value.

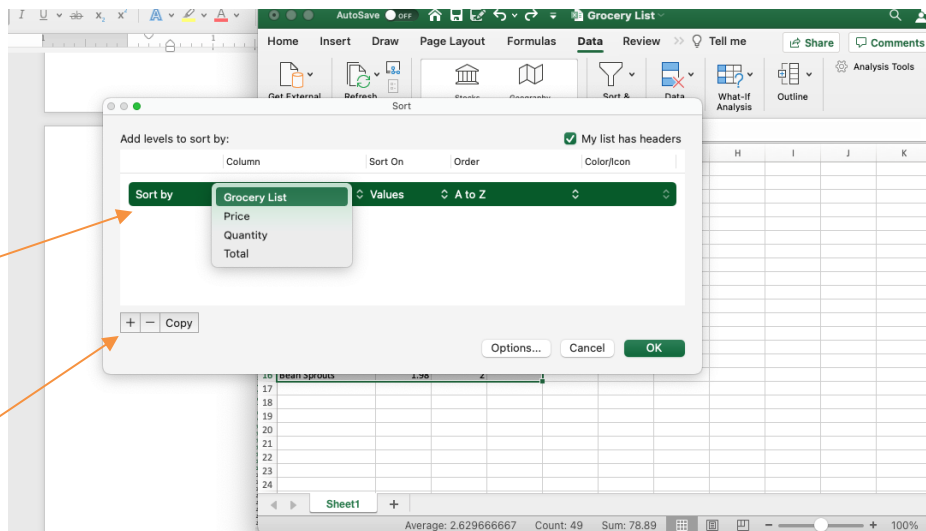
- First, highlight all the cells in your worksheet by clicking in the upper left-hand corner and dragging to the lower right-hand corner. It will look like this:

Highlight your data

- Then, click on **Data** in the ribbon and click **Sort & Filter**.
- From there, click **Sort** in the drop down and then choose what heading you want to use to sort your list. Make sure the box that says "My list has headers" is checked. In this case, you would be sorting from A-Z in based on the data in the Grocery List column. You could also choose to sort from high to low in the Quantity or Price columns.
- Click **OK** when finished and your list will be sorted.



Sort and filter



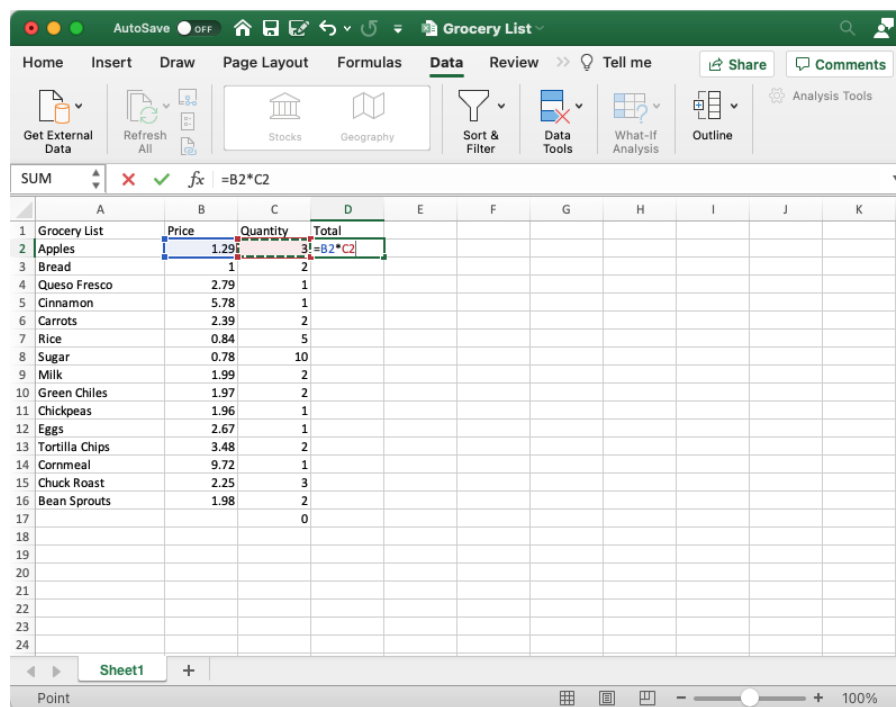
Select a column to sort by

Add or remove more sorting criteria

# Using Formulas

Excel's most powerful functionality is its ability to run complex math formulas. It could be as simple as totaling the cost of your grocery list or as complex as averaging sets of data and showing trend lines. In many cases, Excel can help you select and format a formula. You can also enter them manually.

- First, type an = sign into the cell you want to use. Formulas **always** start with the = sign. You could also click on the cell and type in the formula bar at the top. In this case, make sure the name box shows the correct cell.
- If you wanted to use Excel as a calculator, you would just type something like =4+5 into a cell and push enter. The cell would display the number 9, as that is the answer to the formula you entered.
- To really take advantage of the program, you will want to create formulas that reference data in cells in your worksheet. Let's go back to the Grocery List for an example:

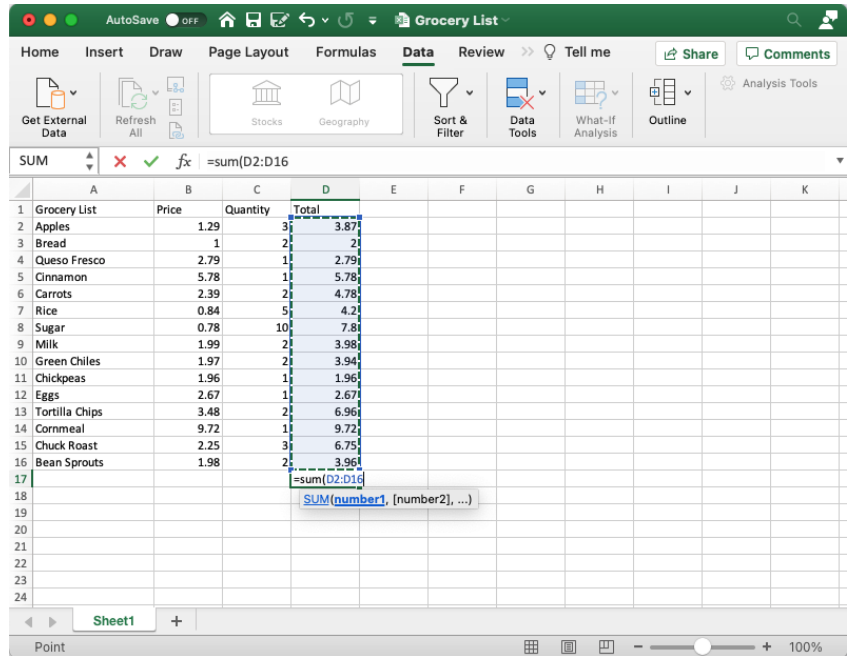


	A	B	C	D	E	F	G	H	I	J	K
1	Grocery List	Price	Quantity	Total							
2	Apples	1.29	3	=B2*C2							
3	Bread	1	2								
4	Queso Fresco	2.79	1								
5	Cinnamon	5.78	1								
6	Carrots	2.39	2								
7	Rice	0.84	5								
8	Sugar	0.78	10								
9	Milk	1.99	2								
10	Green Chiles	1.97	2								
11	Chickpeas	1.96	1								
12	Eggs	2.67	1								
13	Tortilla Chips	3.48	2								
14	Cornmeal	9.72	1								
15	Chuck Roast	2.25	3								
16	Bean Sprouts	1.98	2								
17			0								
18											
19											
20											
21											
22											
23											
24											

- In this case, we know that apples cost \$1.29 and we want to buy three of them. Rather than type =1.29\*3 in the Total column, we type the = sign, then click cell B2, enter a \* sign, and then click cell C3. The formula is =B2\*B3. This way, if we change the number of apples or the price of the apples, the formula will still be correct.

*Note:* For an example like the grocery list above, you can click the small square in the lower right corner of the box with the formula and drag it straight down until each cell in the Total column is highlighted. This will carry the formula all the way down the column and automatically change the cell references correctly to total each row.

- In this example, we're using an Excel formula to tell us the total cost of the items on our grocery list. After following the directions in the previous note and dragging the formula into each cell in the Total column, we now have the price for the number of each item we want to buy.



- To find the total cost of all the items, use the SUM formula. For the grocery list, the formula looks like this: =SUM(D2:D16). That means we want the sum of all the cells between D2 and D16. You can type that formula manually or type =SUM( and then click on the first value and drag to the final value. The text of the formula will populate automatically.

- Here are the basic keyboard symbols for math operations:

### Basic Operations

Mathematical Operation	Symbol	Example
Equivalence	=	=B3
Addition/Plus	+	=A1+B1
Subtraction/Minus	-	=C23-C14
Multiplication	*	=D15*0.5
Division	/	=(A1+B1)/2

*Note:* This section covered the basic fundamentals of formulas. To learn more, explore the program help or search the internet with specific questions.

# Charts

Excel is a great tool for creating charts to visualize your data. Much like formulas, charts can be simple or complex, depending on your needs and experience. Sticking with the grocery list example, we can create a chart to show which items make up the majority of the total cost.

- First, highlight your data. Then click on **Insert** on the ribbon and choose a type of chart. We're going to make a 2D pie chart. Note in this diagram I have only selected the names of the items and the total cost of those items. If you select all the data then your chart will not turn out correctly.

## Types of charts

Insert

The screenshot shows the Excel interface with the 'Insert' ribbon selected. The 'Charts' group is expanded, showing options for 2-D Pie, 3-D Pie, and Doughnut. A 2-D Pie chart is highlighted with a green box, and an arrow points to it with the label 'Selected chart'. The background shows a spreadsheet with columns for 'Grocery List', 'Price', 'Quantity', and 'Total'. The 'Total' column contains values for various items, with a grand total of 71.16.

Grocery List	Price	Quantity	Total
Apples	1.29	3	3.87
Bread	1	2	2
Queso Fresco	2.79	1	2.79
Cinnamon	5.78	1	5.78
Carrots	2.39	2	4.78
Rice	0.84	5	4.2
Sugar	0.78	10	7.8
Milk	1.99	2	3.98
Green Chiles	1.97	2	3.94
Chickpeas	1.96	1	1.96
Eggs	2.67	1	2.67
Tortilla Chips	3.48	2	6.96
Cornmeal	9.72	1	9.72
Chuck Roast	2.25	3	6.75
Bean Sprouts	1.98	2	3.96
			71.16

- From here, Excel will automatically generate a chart based on your data. Double click on "Chart Title" to add your own title. You can drag this chart wherever you want to in your worksheet.

The screenshot shows the Excel interface with the 'Chart5' task pane open. The 2-D Pie chart is displayed on the worksheet, titled 'Chart Title'. The chart is a 2-D pie chart with 16 slices, each representing a different item from the grocery list. The legend below the chart lists the items: Apples, Bread, Queso Fresco, Cinnamon, Carrots, Rice, Sugar, Milk, Green Chiles, Chickpeas, Eggs, Tortilla Chips, Cornmeal, Chuck Roast, and Bean Sprouts.



## Conclusion

This guide has introduced you to the basic functions of a very powerful app. Excel is used in many workplaces and a working knowledge of its functions can be a valuable asset in your career. Take some time to explore the workings and to search tutorial videos online. Don't be afraid to play around with different tools.



Thank you for reading Hired's  
**Digital Literacy Series:**  
Introduction to Microsoft Excel



Visit [www.hired.org](http://www.hired.org) for more information