EXCEL BASICS: PROJECTS

Learn basic Excel tools and skills while working on three practice projects.

In this class, you will be working with three basic Excel worksheets in a practice workbook to learn a variety of foundational skills necessary for more advanced projects. This class covers:
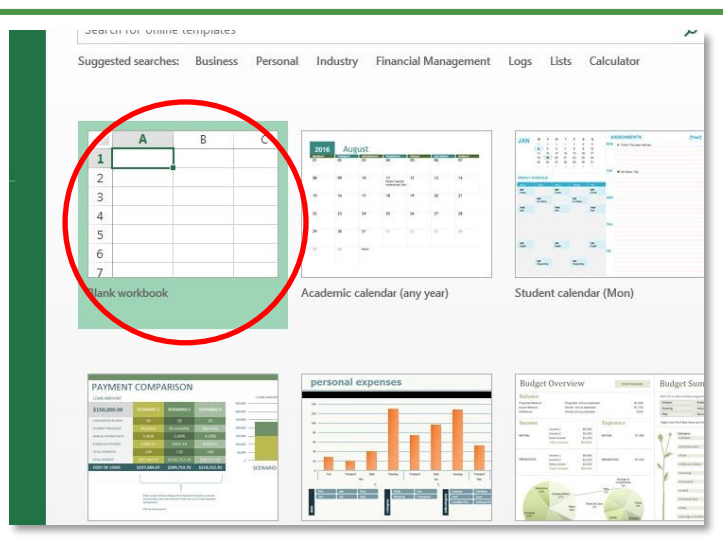
- Three Project Ideas
- Data Entry
- Basic Equations – Addition and Multiplication
- Formatting Options – Borders, Bold, Text Wrap
- Printing Worksheets

Getting Started

Before you begin working on the exercises in the practice workbook, you should learn how to open a blank workbook, understand the difference between a "workbook" and a "worksheet" and review the basic elements of a worksheet.
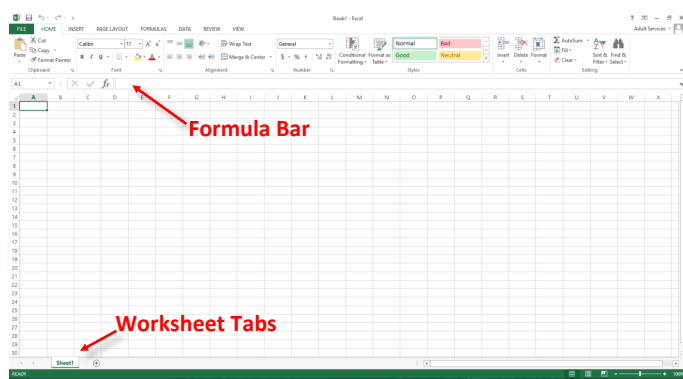
Try It!

1. Double left-click on the Microsoft Office Folder located on the desktop.

2. Then, double left-click on the icon labeled "Microsoft Excel." Once opened, you may see a number of templates that already contain basic layouts and designs.

3. Click on "Blank workbook" or simply hit the enter key to get started.

4. Once opened, you'll be on the first worksheet (Sheet 1) in the workbook.

About the Excel Worksheet

Like other Microsoft Office applications, Excel has a "ribbon" at the top that contains tabs and tools. Other features unique to Excel are the "formula bar" and the tabs at the bottom. A workbook can contain several worksheets or "sheets", and each can be named by double left-clicking the tab a typing the name.
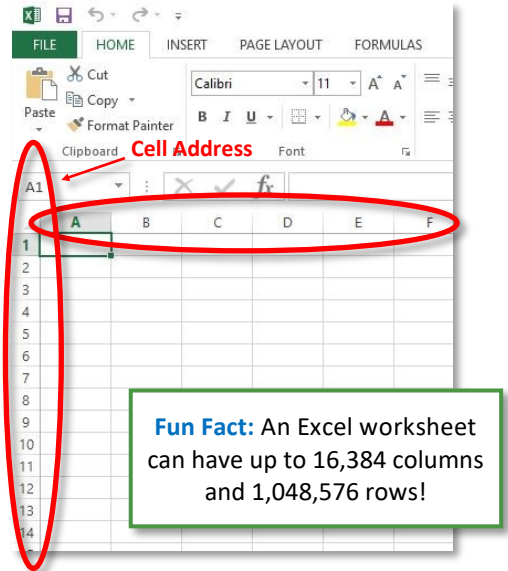
Cells, Columns and Rows

With Excel, you can enter, format and manipulate data. You begin by entering data (text or numerals) into small boxes called "cells." Cells are arranged in columns and rows.
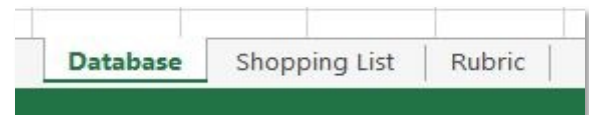
The capital letters at the top of the worksheet denote columns and the numbers on the left side of the worksheet denote rows. Rows and columns intersect at particular cells. Each cell has a unique "address." For instance, a cell at "C3" is located in the "C" column, third row. Notice how the cell address is listed in the address box above the worksheet.

A group of related data arranged in cells, usually along the X-Y axis, it is a "table." If you arrange a table in graphic form, it is a "chart."

Fun Fact: An Excel worksheet can have up to 16,384 columns and 1,048,576 rows!

Using the Practice Workbook

There are three worksheets in the practice workbook, and each sheet shows a project that is divided into two sections. The information on the left side of the sheet is the practice area, and the information on the right side is the completed version of what the project should look like when you are finished. Feel free to consult the right side of the worksheet for the correct formatting options and answers, if needed.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	Client Database 2017								*Completed* Client Database 2017					
2	Date	Last Name	First Name	Phone #	Street	City	State		Date	Last Name	First Name	Phone #	Street	City	State
3	#####	Daniels	Rick	630-555-5	15 Elk Driv	Elmhurst	IL		3/1/2017	Daniels	Rick	630-555-5555	15 Elk Drive	Elmhurst	IL
4	#####	Mahoney	Mary	630-556-5	22 W Cop	Elmhurst	IL		3/2/2017	Mahoney	Mary	630-556-5555	22 W Copper Street	Elmhurst	IL
5									3/3/2017	Lincoln	Abraham	630-557-5555	11 E Lincoln	Chicago	IL
6									3/4/2017	Washington	George	630-558-5555	22 S White House	Elmhurst	IL
7														

Practice Area   **Finished Project**

➡ **For the first project, open the "Excel Basics Projects Workbook" located on the desktop.**

Learn Everyday Essentials

I. Project Idea: Database

An Excel worksheet is very useful for compiling a list of individuals such as clients, employees, friends and family members. By using a worksheet, you can organize and sort data quickly and easily. In this project, you will work on a sample database of clients in a fictional business and learn how to enter and work with data in cells.

Cells

To work with data, you need to enter it into the cells of the worksheet. Data can be such things as words, numbers, dates, times, currency, percentages and symbols.

Selecting a Cell: Left-click on a cell with your mouse. You can use the arrow keys on your keyboard to navigate from cell to cell.

Entering Text in a Cell: Left-click on a cell and start typing. Once you are finished typing in a cell, press "Enter" to "lock" the cell's content and move downward to the next cell (press the "Tab" key to lock the content and move to the next cell to the right). To go to the beginning of the next row, click the "Home" key after you click "Enter" and move down to the next row.

Editing content in a cell: Select the cell; then double left-click to place the cursor for typing.

Replacing content in a cell: Left-click on the cell and start typing. This will automatically delete the existing content. You can also delete all the content in a cell by selecting the cell and clicking the "Delete" or "Backspace" keys on your keyboard. If you use the "Backspace" key, a cursor will start flashing in the cell and you can use it to type new content.

NOTE: *When you enter text in a cell, it is automatically left-justified; and when you enter numbers in a cell, they are automatically right-justified. This helps to keep them visually separated.*

Try It!

Enter the following information into the left side of the worksheet (this data is also located on the right side of the worksheet). As you enter data, you can use the "Tab" key to go to the next cell.

3/3/2017	Lincoln	Abraham	630-557-5555	11 E Lincoln	Chicago	IL
3/4/2017	Washington	George	630-558-5555	22 S White House	Elmhurst	IL

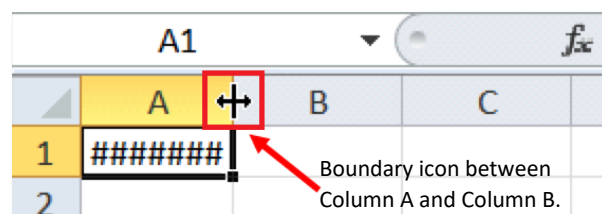## Fitting Data in Rows and Columns

Sometimes, data entered in cells (like the phone numbers and street addresses in the example on the right) looks cut off or incomplete. Text or other information that exceeds the width or height of a cell may be hidden by overlapping cells.

To adjust the width or height of a cell to match the data within, hover over the line between the letters of the two columns (or the numbers of the two rows) you'd like to adjust and when the boundary icon appears, left-click and hold; then drag left or right to adjust the column.

Boundary icon between Column A and Column B.

An even easier way is to simply point your mouse between columns or rows (between the letters or numbers) and double left-click. This will automatically size the row or column to the longest data in that column.

NOTE: A series of number signs in a cell indicates data is present, but the column is too narrow. You can see the data in the formula bar.

Wrap Text

Another option you can use is "**Wrap Text**," which will maintain the width of the column but increase the row height to show all the text within the boundaries of the cell. The "Wrap Text" button is located under the "**Home**" tab in the "Alignment" section. If you change the width of a column after the data is wrapped, it will automatically adjust and re-wrap to the new column width.

Auto-Filling Dates:

One of the major benefits of using Excel to keep track of your information is the availability of many automated features that save you time and energy. In the Database worksheet, there are chronological dates in column A on the far left. Instead of typing each date one at a time, you can use the "**Autofill Handle**" to generate additional dates automatically. First, left-click on a cell containing a date. Then use your mouse to hover over the small green square in the lower right corner of the cell. When the cursor is directly over the square, it will turn into a black plus sign (**+**). Left-click and hold; then drag the plus sign downward. Because Excel recognizes patterns, the cells will fill with dates in chronological order.

> At this point your "Database" worksheet should be completely filled out and have no overlapping text. You will be working with numbers in the next project – this is where Excel really shines!

Click on the tab "Shopping List" to open the next worksheet.

II. Project Idea: Shopping List

An Excel worksheet is also very useful as a calculator. Whether you need to make simple or more advanced calculations, once you start using Excel in this way, you may want to ditch your calculator and scratch paper! Though you will be working with a simple shopping list for this project, the exercises will provide you with some basic tools that you can take to the next level for creating projects such as annual budgets, purchase orders and savings plans.

Working with numbers in Excel

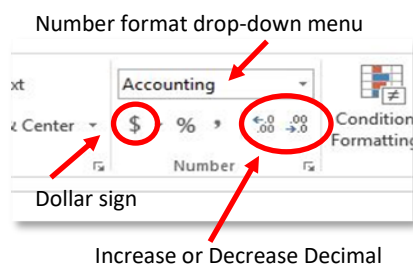Just like entering letters, simply double-click on a cell to enter numbers into it.

Try It!

Use the data shown here (or on the right side of your work-sheet) to complete the "Cost" and "Number" columns of the spreadsheet.

Lays Chips	2.50	3
Pepsi 2 Liter	2.00	1
Dish Soap	5.99	1
Avocado	0.99	2
Whole Milk Gallon	2.99	1
Chewy Bars	5.99	2
Toilet Paper	15.99	1

Changing Number Formats

If your decimals did not format correctly in the previous exercise when you entered the cost data, you will need to format the cells. For example, if you entered "2.50" for the cost of Lays Chips, and it turned into the number "2.5" when you hit the enter key, the cell was not formatted for decimals. You can format individual cells, a range of cells or a whole column or row. For our worksheet:

Number format drop-down menu

Dollar sign

Increase or Decrease Decimal

1. Select the numbers you entered in the "Cost" column (left-click and drag) starting from the cell at the top containing 2.5 (B3) and ending with the cell containing 15.99 (B9).

2. While the cells are selected, go to the "**Home**" tab and click on the dollar sign ($). This will put your numbers in the "Accounting" format. Notice how the drop-down menu changed from "General" to "Accounting."

3. When formatting numbers, you can also use "Increase Decimal" or "Decrease Decimal" or choose a format from the drop-down menu.

Another way to apply a format is to select the entire column instead of a range of cells. For instance, you can click on the letter "B" of the second column, which will highlight the whole column, and then select the format you want. Keep in mind that if you have other types of data in this column (such as text), you may need to format those cells individually.

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Formulas and Calculations

To complete the second project, you will need to perform some calculations with basic formulas.

For the first calculation, multiply each item's "Cost" by its "Number" to find out what the total is for each item on the Shopping List.

Start creating the formula in cell D3, which is the first cell under the word "Total." Mathematical equations in Excel always begin with the "equals" symbol, so enter "=" in cell D3.

Once you have entered the "=" symbol, click on cell B3. Notice how the cell receives a colored border and its address appears in the "Total" cell. These two cells are now linked together.

But wait … you want to multiply the cost by the number of items. Left-click in D3 and enter an "asterisk" (*), which is the "multiply" symbol. Then click on cell C3 to show that you are multiplying B3 by C3. Your equation should look like this:

> Always start an equation by entering the = symbol.
> --------------------
> Add   +
> Subtract   -
> Multiply   *
> Divide   /

=B3*C3

If your equation is correct, hit the enter key, and the answer will be displayed (7.50).

Try It!

Using the steps above, practice creating this formula for the next two or three remaining items.

Pro-Tip: Auto Fill for Equations
Excel not only fills in dates automatically (as you did in the first project), but it can also fill in equations automatically. Use the "**Auto Fill**" function to complete the multiplication calculations for the remaining rows in the worksheet. Select the cell containing the formula (D3), hover over the square in the lower right corner until it turns into a black "**+**" sign and then drag the handle down to cell D9. The formula is automatically entered into the cells and the calculation is performed!

	Number	Total
2.50	3	7.50
2.00	1	2.00
5.99	1	5.99
0.99	2	1.98
2.99	1	2.99
5.99	2	11.98
15.99	1	15.99

For the next calculation, find the grand total by adding all of the cells together.

Your equation should be: =D3+D4+D5+D6+D7+D8+D9

But, that is a lot of work! You can save time by using the "**AutoSum**" feature. This feature automatically combines the selected cells, adding them together and placing them in a nearby blank cell. (Turn to the next page to "Try It!")
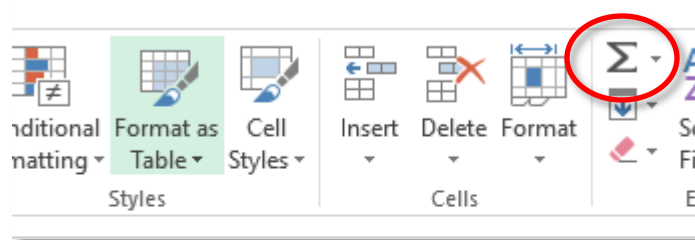
5.99	1	5.99
0.99	2	1.98
2.99	1	2.99
5.99	2	11.98
5.99	1	15.99
		=D3+D4+D5+D6+D7+D8+D9

To use **AutoSum**:

1. Highlight the cells in the range you want to add (D3 through D9).

2. While the cells are still highlighted left-click the AutoSum symbol (sigma) in the top right part of the ribbon.

With this shortcut, you get the same result without the tedious work of adding them together manually.

Formatting Basics

You can make information easier to read and use with some simple formatting ("**Home**" tab — "Font" and "Alignment" groups).
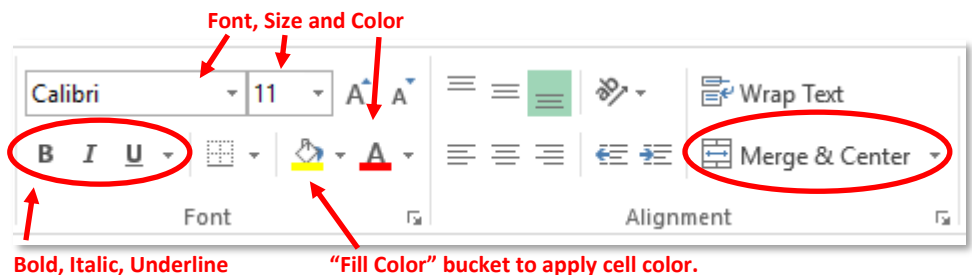

Font, Size and Color

Bold, Italic, Underline

"Fill Color" bucket to apply cell color.

Text

To change type to bold simply highlight one or more cells and select the "**B**" located in the "Font" group. You also have the option to choose italics and underline, as well as change the font and its size and color.

Merge and Center

A simple way to make a title is to select cells in a row over two or more columns (left-click and drag), and then left-click the "Merge & Center" button. If one of the cells already contains text, it will center over the columns you selected. Or, you can type text for your title after you click "Merge & Center." To "unmerge," select the cells and click the "Merge & Center" button again.

Applying Color to Cells

To change the color of a cell, select the cell or group of cells and choose a color from the "Fill Color" bucket.

Try It!

(1) Apply bold to "Shopping List," the titles on Row 2 and "Grand Total"; **(2)** Select the cells in Row 1 from Column A to Column D, click on "Merge & Center", change the text to white and fill the background with blue; **(3)** Change the font color on "Grand Total" from black to red.

FORMATTING BASICS
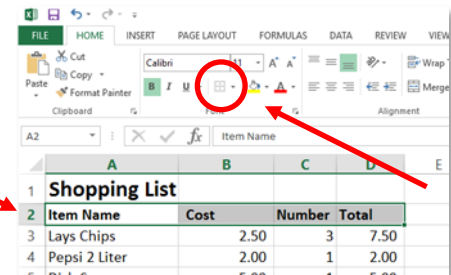
Formatting Basics, continued

Borders

To add emphasis or separate certain data, you can add borders to the cells in your worksheet. Borders can be placed around a whole set of cells or on any side (top, bottom, left or right). To do this:

1. Select the area where you want to apply the border by left-clicking your mouse on the first cell in the area and then holding down the button and dragging the mouse to the last cell to be included in the area.

2. Once the area is selected, there are two ways to add a border:

   a. Go to the "Borders" icon (▦) in the "Font" section under the "**Home**" tab, left-click on the drop-down menu arrow and select a border (left-click the mouse).

   b. Or, right-click on the highlighted area and the mini pop-up toolbar will appear. Then, left-click on the drop-down arrow next to the "Borders" icon and select a border.

Try It!

1. Add a line between Rows 2 and 3 by selecting the cells from "Item Name" to "Total" and choosing "Bottom Border," which is the first one on the drop-down menu.

Pepsi 2 Liter	2.00	1	2.00
Dish Soap	5.99	1	5.99
Avocado	0.99	2	1.98
Whole Milk Gallon	2.99	1	2.99
Chewy Bars	5.99	2	11.98
Toilet Paper	15.99	1	15.99
Grand Total			48.43

2. Add another border separating the numbers from the grand total using the "Thick Bottom | Border" like the example on the left.
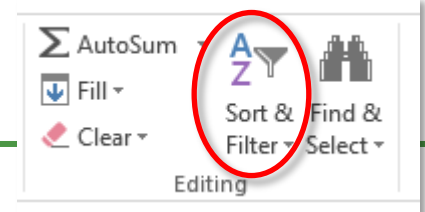
Pro-Tip: You can also add multiple borders to a selection, such as a top border and thick bottom border.

Sorting

You can sort data alphabetically, numerically and by date or time. The "Sort" tool is located in the "Editing" group under the "**Home**" tab.
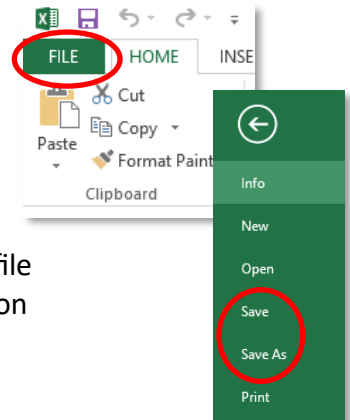
Try It!

(1) Select cells A3 though D9 (left-click and drag); **(2)** left-click on "Sort & Filter"; **(3)** choose A-Z.

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SAVING/PRINTING

Saving

To save your file, click on the green "**File**" tab (upper left) and choose either "Save" or "Save as." "Save" updates your current work and saves any changes you made since you last opened or saved your file. With "Save As," you can save a copy of your work with the same name in a different location OR you can save a copy of your work with a different name in the same location (either way is good for making a backup of your file). If you don't change the name of the file and don't browse to a different location, you will overwrite the current saved version (which is the same as just choosing "Save").
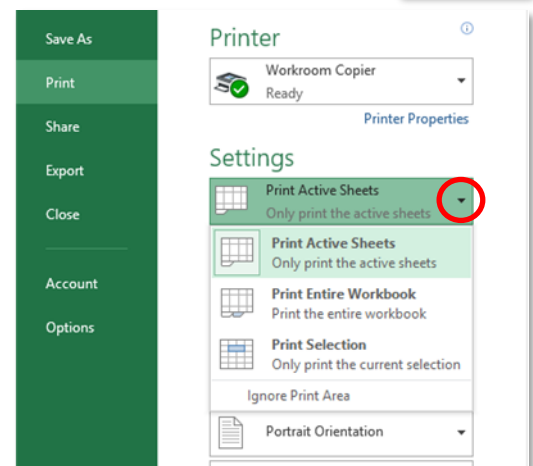
Printing

Sometimes, printing worksheets from Excel is tricky because the data doesn't always fit on a standard-sized piece of paper. However, there are several options you can try.

To start printing, left-click the green "**File**" tab (upper left) and select "Print." Under "Settings," left-click on the first drop-down menu arrow and choose one of the following:

Print Active Sheet – This choice prints the worksheet that is currently visible in Excel.

Print Entire Workbook – This choice prints *all* of the worksheets in the saved workbook.
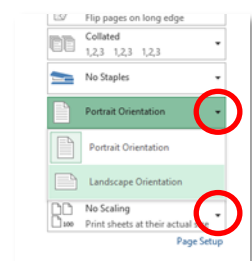
Print Selection – This choice prints an area you have selected on an active worksheet. (Select the area by left-clicking and dragging your mouse until the columns and rows you want are highlighted. Then click **File > Print > Print Selection**.)

Two other important options are **page orientation** and **page scaling**, which you can use to fit data on a page (or pages) for printing.

Page Orientation
To display more information on a page, you may want to switch the orientation from portrait to landscape (turn the page from vertical to horizontal). You can do this from the print dialog box by left-clicking on the orientation drop-down menu and selecting the one you want.

Page Scaling
Another option for fitting your information on a page is to scale the page to fit. You can do this from the print dialog box by left-clicking on the scaling drop-down menu (the bottom-most box under "Settings") and choosing to fit the whole page, or all the columns or all the rows on one page.
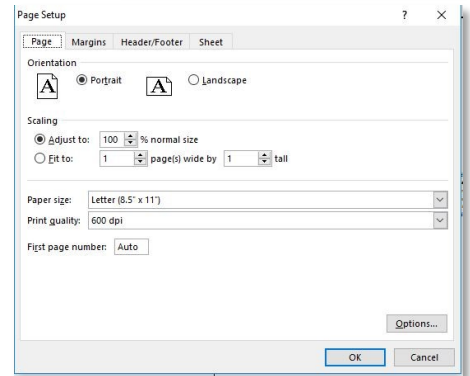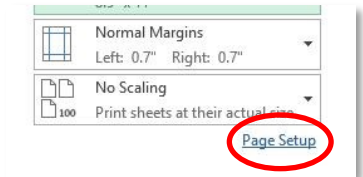
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PRINTING

Page Setup Box

Another way to adjust orientation and scaling is to use the "Page Setup" box, which you can access by left-clicking on "Page Setup" at the bottom of the print dialog box (**File > Print > Page Setup**).

Under the "Page" tab, in the "Scaling" section, you can fit a page by adjusting the percentage or you can set your worksheet to fit one page wide by one page tall (or any other variation).

You can make other page setup adjustments by selecting the other tabs in the Page Setup dialog box.

Pro Tips:

- Click on the "Page" tab and use the scaling feature to increase or decrease the size of a print selection.

- Click on the "Sheet" tab and select "Gridlines" to print the gridlines of your worksheet or print selection.
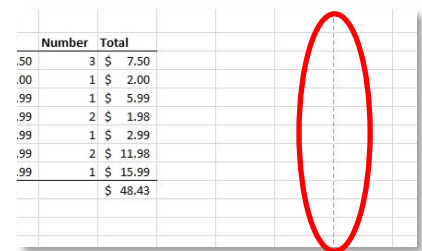

Try It!

(1) Select the completed shopping list by highlighting (left-clicking and dragging) all of cells that contain data; **(2)** Left-click the green "**File**" tab, left-click "Print" and choose "Print Selection" in the print dialogue box (the print preview appears on the right); **(3)** Left-click on the "Page Setup" link at the bottom of the print dialogue box; **(4)** Make sure the "Page" tab is selected; **(5)** Change the scaling from 100 percent to 150 percent; **(6)** Click on the "Sheet" tab and check the "Gridlines" box ; **(7)** Click "OK" at the bottom to apply your choices.

Pro Tip: Page Break Lines

Once you select your printing options and close the print dialog box, tiny dashed lines may appear on the worksheet. These lines indicate the location of the page breaks you created.

You can also check and adjust page breaks under the "**View**" tab by left-clicking on "Page Break Preview."

(Left-click "Normal" to close Page Break Preview.)

> ➡ **Now that you have completed the first two projects, you have the basics for working on the final worksheet on your own! (Click on the "Rubric" tab to open the final worksheet.)**

III. Project Idea: Rubric

An Excel worksheet can also be used as a means for assessing information such as grading students' work, evaluating candidates for an open position or comparing a list of new cars. Setting up a "rubric" in Excel is an easy and useful way to do this.

Try It!

In the previous two projects, you formatted text, performed basic math calculations and worked with page layout features. You can use these skills to complete the third project. Keep in mind that you can always refer to the right side of the practice worksheet for the correct formatting options and answers. The instructions for completing the worksheet are also on the right side. To complete the project you will need to:

- Enter the missing pieces of information.
- Use the AutoSum function to total students' grades.
- Divide a student's grade by the total possible grade.
- Change number format to percentage for "End Grade."
- Format borders and text.

Want to Learn More?

The library offers Excel classes regularly. Check the *Fine Print* or the web site for dates and times.

Online Excel classes are available through the library's web site at Lynda.com (you must have an Elmhurst library card number and PIN).

eLibrary > eLearning > Lynda.com

Classes include:

Excel Essential Training
Advanced Formulas and Functions
Excel Tips and Tricks
And, many more

lynda.com
You can learn it.

Image Sources:
http://www.acuitytraining.co.uk/wp-content/uploads/2015/12/Excel-For-SEO-Appendix-1-5-cursor-over-right-margin.png
http://colfinder.net/materials/Supporting_Distance_Education_Through_Policy_Development/skill/e2000/autofill.jpg