



Microsoft Excel 365: Essentials

Office 365 Training



Microsoft® Office Excel® 365: Essentials

Microsoft® Office Excel® 365 Essentials

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Microsoft® Office Excel® 365 Essentials

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ABOUT THIS COURSE

Course Prerequisites

This manual is designed for users who are comfortable using Windows and Internet Explorer or Microsoft Edge.

Course Overview

Welcome to our Microsoft Excel 365 courseware. Excel 365 Online is Microsoft's cloud-based, easy-to-use spreadsheet program.

This course is intended to help all users get up to speed with Excel 365 Online. We will cover:

- Getting started with the app
- Working with formulas and functions
- Formatting parts of a worksheet
- Using pictures, tables, charts, and PivotTables
- Finalizing workbooks

Course Objectives

By the end of this course, users should be comfortable with creating a new spreadsheet, working with basic formulas and functions, and making a spreadsheet look professional and presentable.

How to Use This Book

This course is divided into lessons. Each lesson focuses on several key topics, each of which are broken down into easy-to-follow concepts. At the end of each topic, you will be given an activity to complete. At the end of each lesson, we will summarize what has been covered and provide a few review questions for you to answer.

LESSON 1: GETTING STARTED

Lesson Objectives

In this lesson you will learn how to:

- Get started with Excel
- Describe the basic components of Excel
- Manage workbooks
- Get help in Excel

TOPIC A: Getting Started with Excel

Excel 365 Online is the cloud-based version of Microsoft's spreadsheet program. It offers many tools for managing numerical data, as well as the ability to add charts, shapes, and much more. Best of all, Excel's interface is intuitive (particularly if you have used the desktop version), so the features you need will be easily accessible.

Topic Objectives

In this section, you will learn how to:

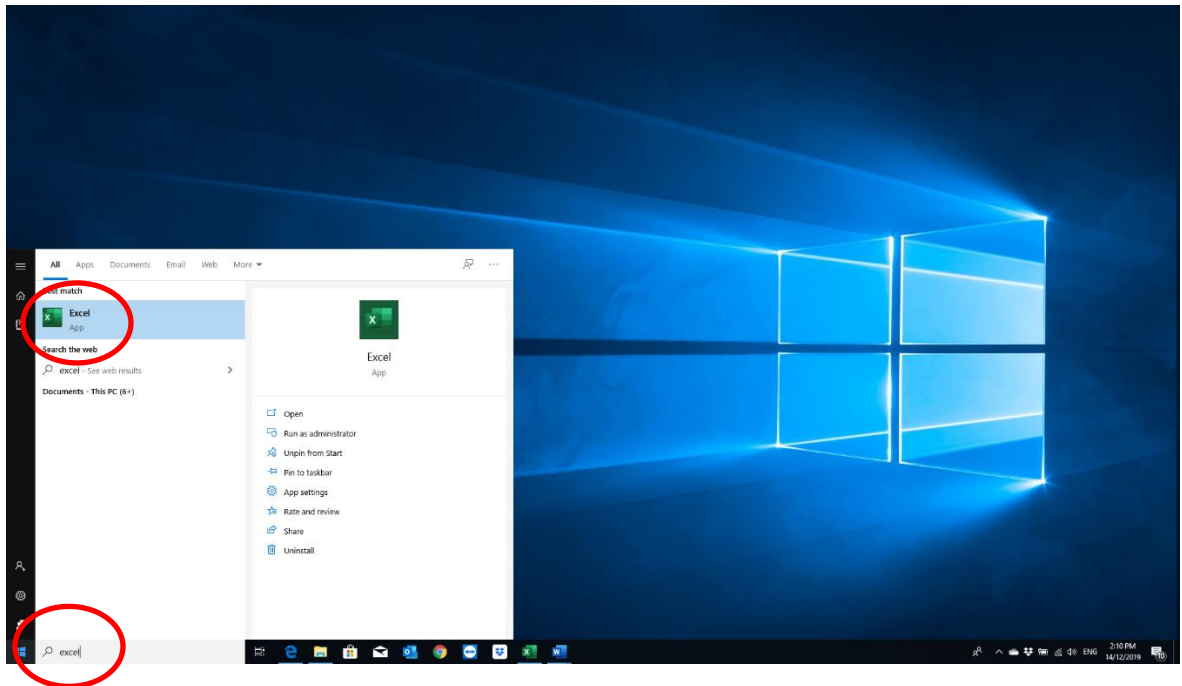
- Log into Office 365 and start Excel
- Identify the components of the Excel interface
- Create a new workbook
- Close Excel

Opening Excel in Windows 10

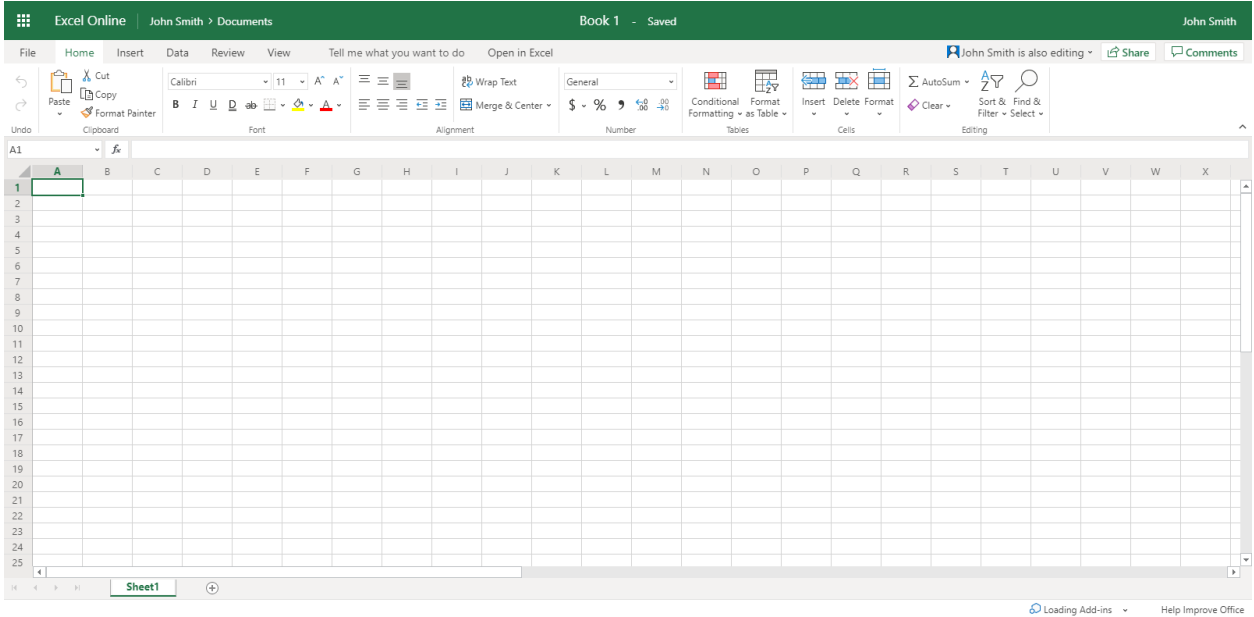
Your first step is to open a blank Excel spreadsheet. Using Windows 10 the process is simple. To start, click on the Windows button at the bottom left hand side of the screen.



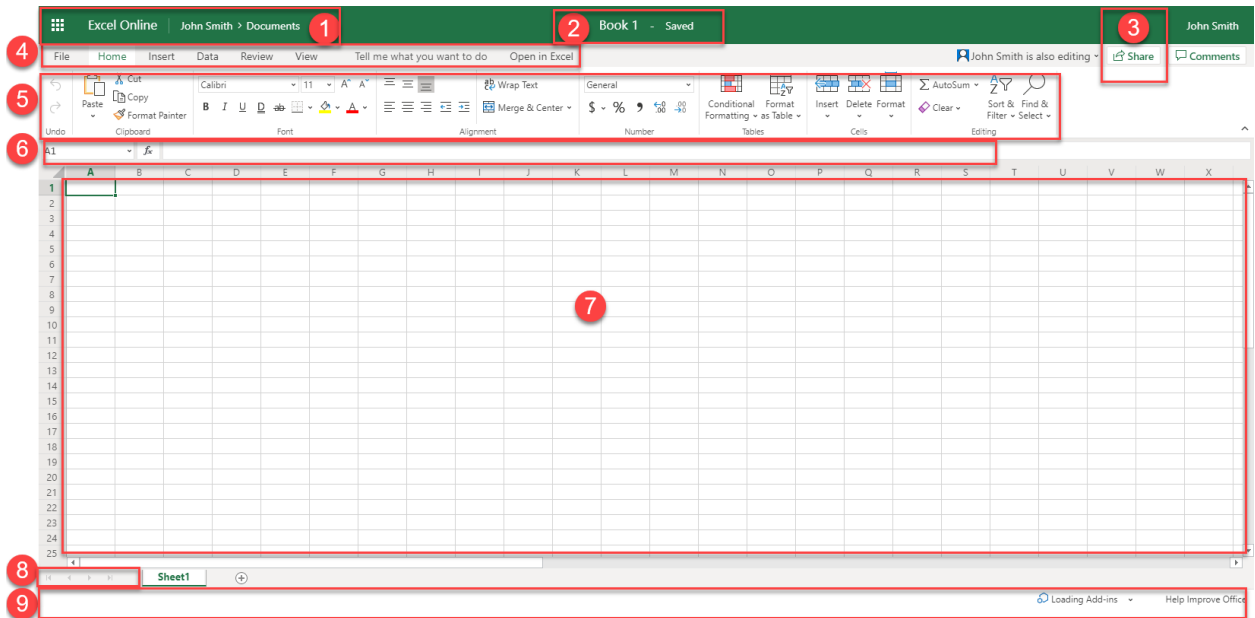
Type *Excel* and click on the App when it comes up.



Type 'Excel' into search. Then, click on the Excel App once to open a blank workbook.



The Excel Interface



Let's go over the basics of each element.

1: Navigation Commands

The top left part of the screen contains the app launcher (where you can access other Office 365 apps), the name of the app (Excel), and a breadcrumb trail (with clickable links to other parts of your Office 365 profile).

2: Title Bar

The name of the currently open file is displayed here.

3: Sharing Commands

Click this icon to share the current workbook. You can also view your Office 365 profile name here.

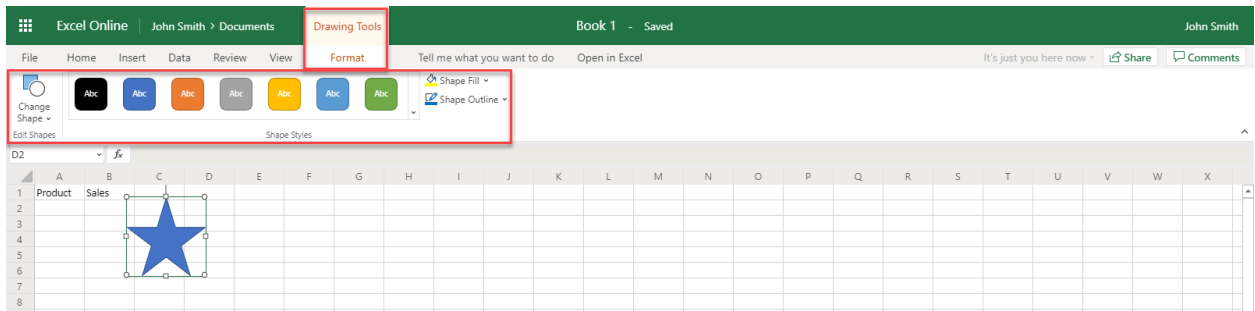
4: Tabs

Groups of like commands are organized under tab names. Click a tab to view the commands in the ribbon.

5: Ribbon Interface

Displays tab commands organized into groups. If you click the different tabs, you will see the commands change. Notice, too, that some of the commands might be grayed out. This is because those commands are only usable in certain situations.

Excel also features **contextual tabs**. These are special tabs that only appear when you are working with a specific object or group of information. For example, if you were to insert and select a shape, you would see a contextual tab offering commands for that object:



Once you switch to working with something else, this tab disappears.

6: Formula Bar

The Formula Bar allows you to enter data in a cell.

7: Working Area

The data in the current file will be shown here.

8: Worksheet Commands

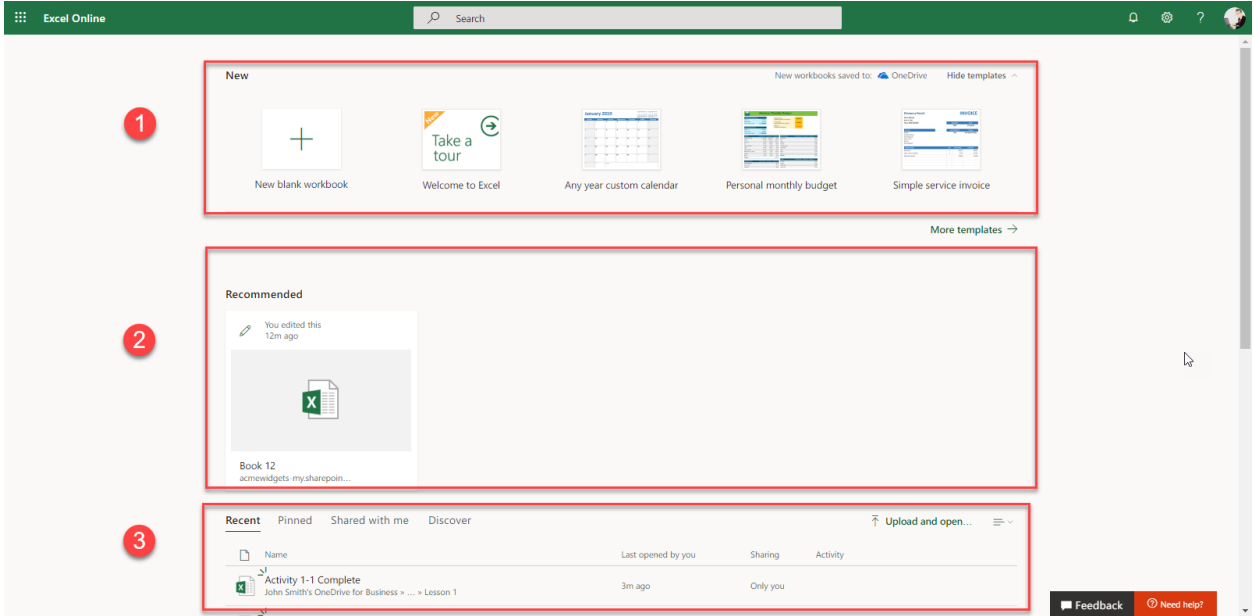
Every Excel file is properly referred to as a **workbook**, which can contain one or more **worksheets**. Click the tabs to switch between worksheets.

9: Status Bar

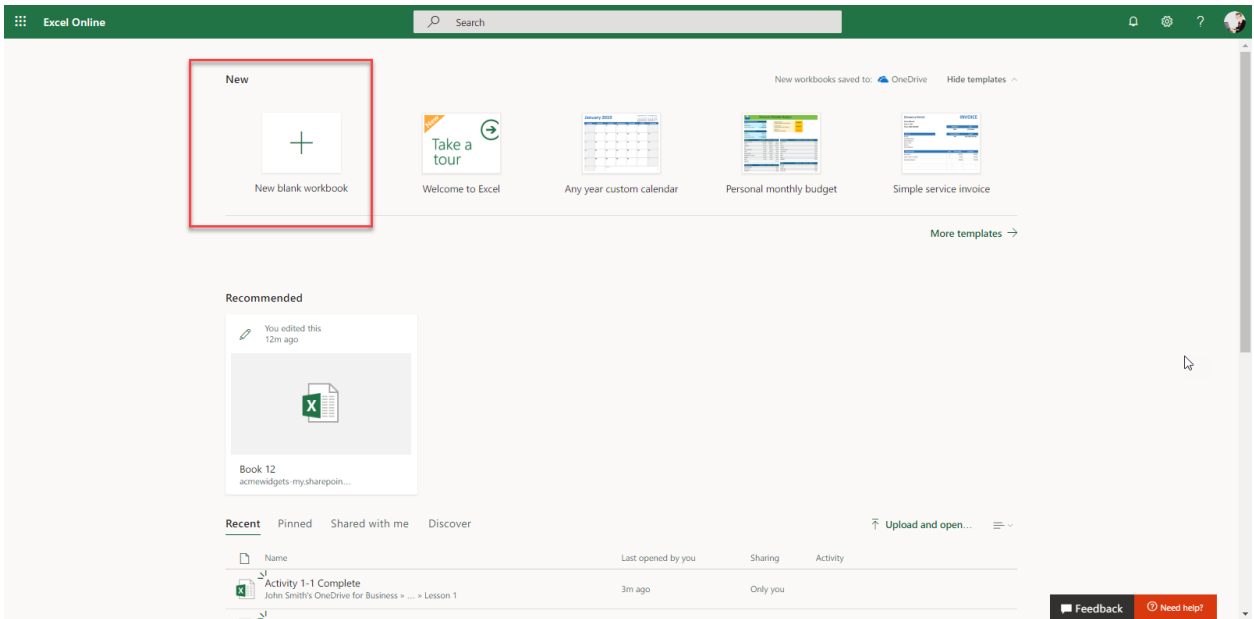
This bar displays running calculations and other information about the workbook.

Creating a New Workbook

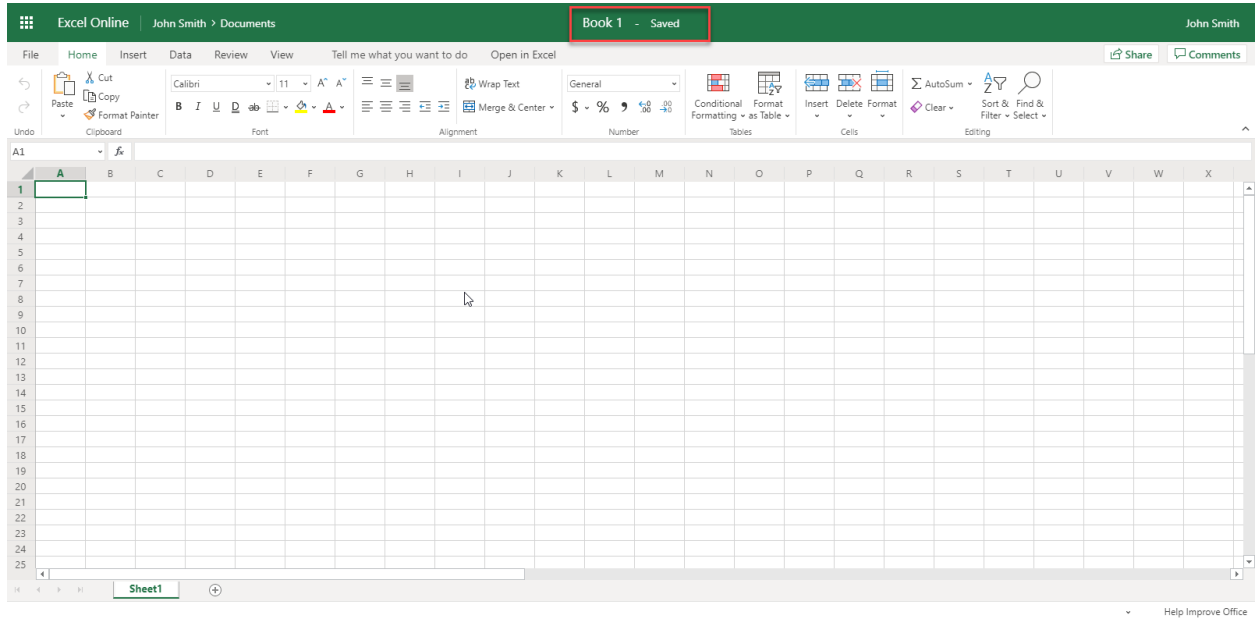
When you open Excel, you will have the following options: (1) start a New workbook, (2) Excel will recommend a file, or (3) open saved files you have recently used, pinned, or were shared with you.



For this example, let's create a new, blank workbook by clicking the related thumbnail:

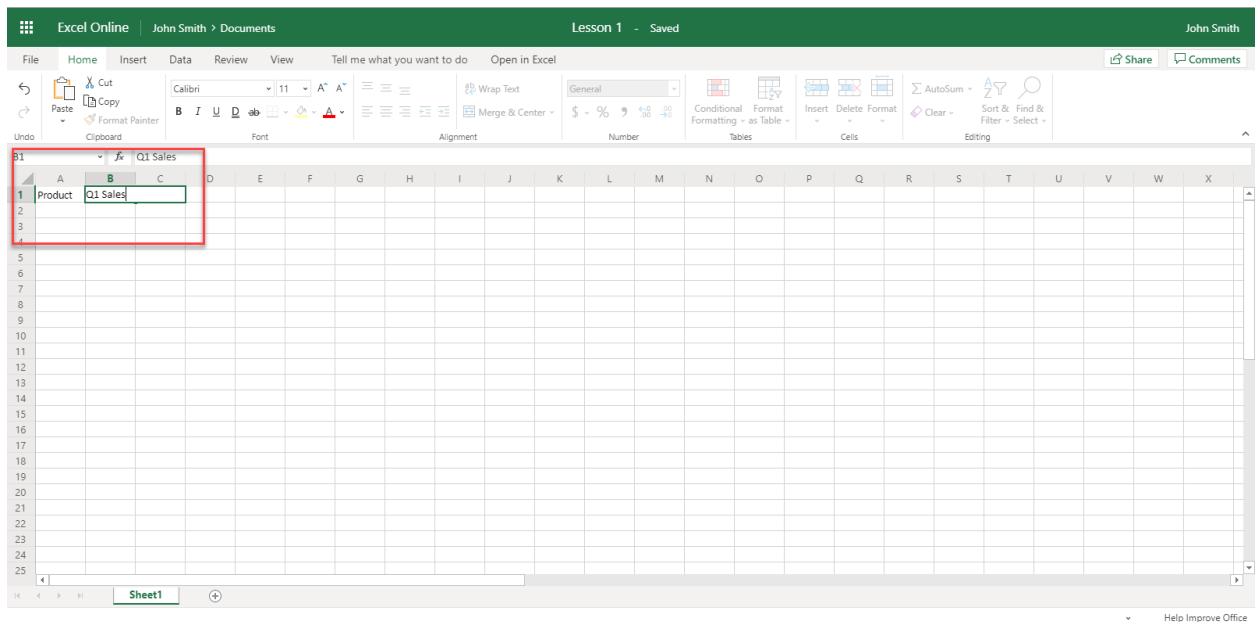


The workbook will be created:

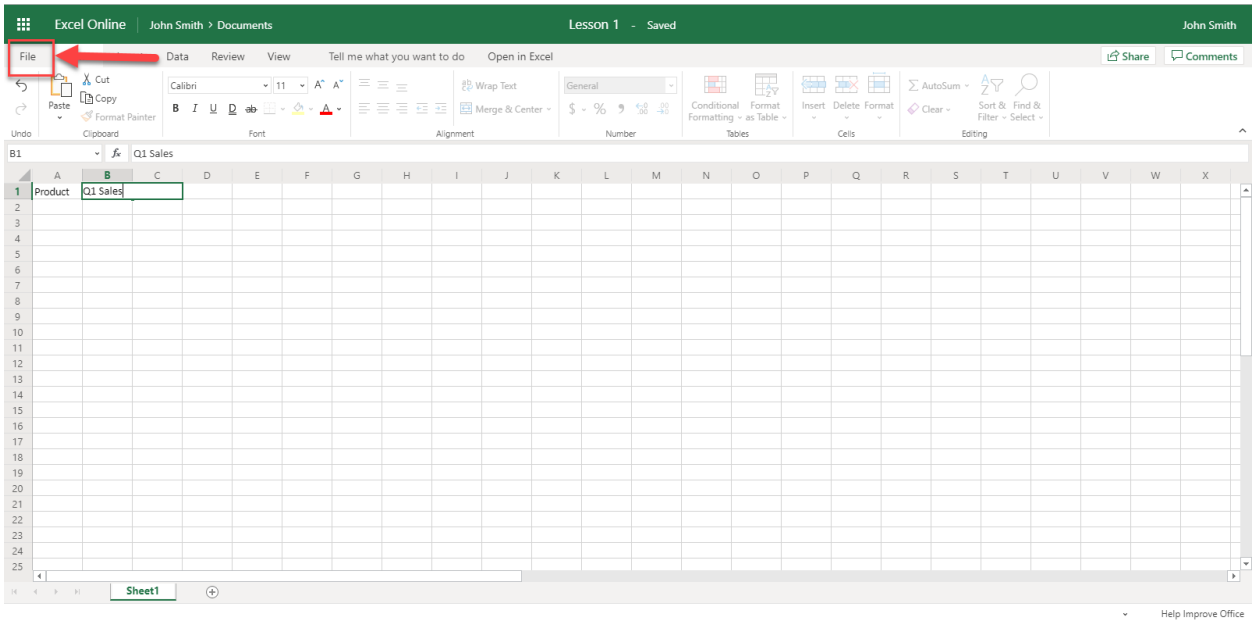


Note that this file will use “Book” as the default name. (A number may be added to the end if a workbook with the same name already exists in the save location.) To change its name, click File, Save As, Browse and choose where you would like the file to be saved. Your USB stick might be a good place for now.

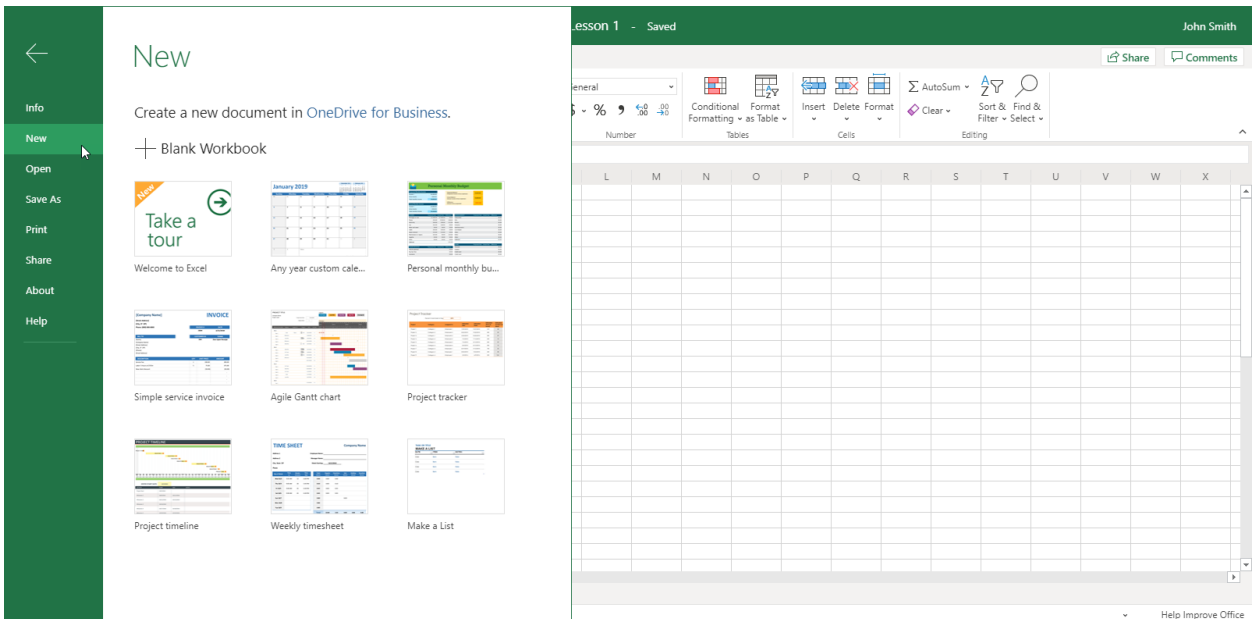
Now, you can add your data:



As you continue to work on your file, it will automatically be saved. To create a new workbook, click the File tab:



Then, click the New category and click the thumbnail for the workbook you want to create:



The new workbook will now be created and displayed in the current browser tab.

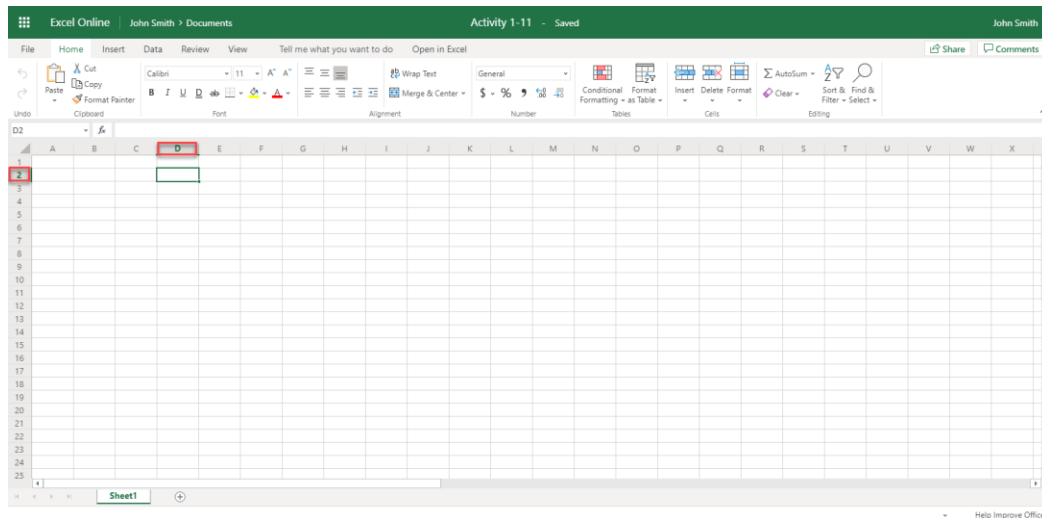
Closing Excel

Once you have finished your work, save it using either File, Save As and renaming your file and choosing where it will be saved, or if you have already named the file, by hitting the disc icon in the top left hand side of the screen. Then, close Excel by either clicking on the X in the top right hand corner of your screen, or by choosing File, Close.

Activity 1-1: Getting Started with Excel

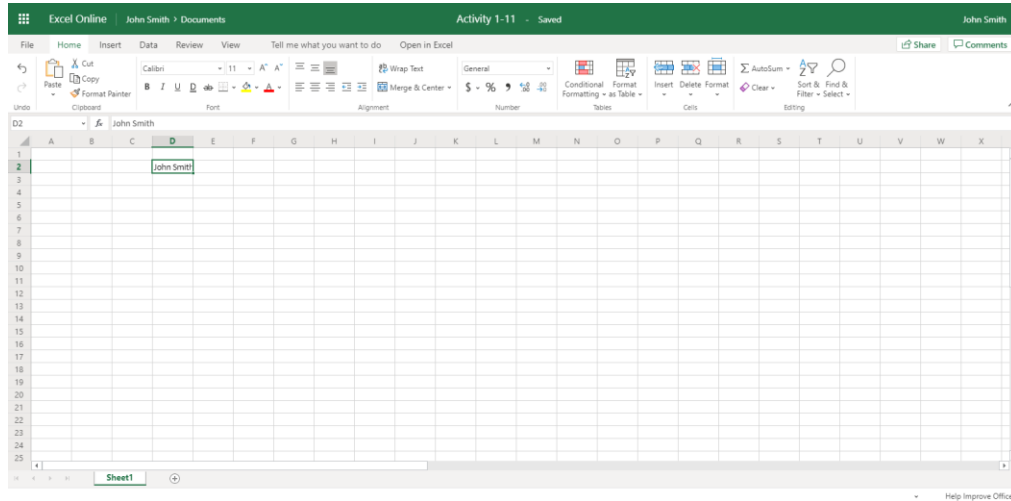
In this activity, you will launch Excel and explore its interface.

1. To begin, turn on and log into your computer.
2. Click on the Windows icon in the left hand bottom corner and type 'Excel' into the search function. Click on the Excel app to open it.
3. The Excel start screen will now be displayed. Click the "New blank workbook" thumbnail:
4. By default, this workbook will be titled "Book." Let's change this by clicking on File, Save As, and save it as "Activity 1-1" on your USB stick.
5. Click cell D2 to select it:



(Remember, this is the location where Row 2 and Column D intersect.)

6. Type your name and press “Enter” to commit it to the cell:



7. This activity is now complete. Save your file to your USB stick by clicking on the disc in the top left-hand corner. Close Excel by clicking the X in the top right-hand corner of the screen, or by choosing File, Close.

TOPIC B: Getting to Know Excel

Before we dive further into Excel's features, let's take a moment to learn about some Excel terminology and how to navigate in the app.

Topic Objectives

In this section, you will learn:

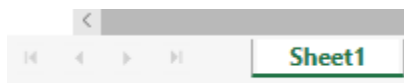
- What spreadsheets, worksheets, and workbooks are
- How to describe columns, rows, cells, ranges, and formulas
- How to navigate in Excel

What are Spreadsheets, Worksheets, and Workbooks?

Spreadsheets are paper or digital workbooks that are typically used to store, sort, and work with data. This data, while most often numerical, can also include text, shapes, and pictures. Spreadsheets consist of intersecting **rows** and **columns** that form **cells**, which contain the data.

Worksheets are a digital form of spreadsheets. Typically, worksheets display columns with alphabetical headers and rows with numerical ones.

A **workbook** is a collection of one or more worksheets. By default, new blank workbooks only include one worksheet, but you can add others if needed:



If the workbook that you are using includes more than one worksheet, you can switch between them by clicking the tabs. The name of the worksheet that you are presently working with will be in bold type on a white background. In the previous image, Sheet1 is currently active.

What are Columns, Rows, Cells, and Ranges?

Columns, rows, and cells make up the fundamental components of a worksheet. A **column** is a vertical series of adjacent cells from top to bottom. A **row** is a horizontal series of cells from left to right. A **cell** describes the intersection of a row and column:

	A	B	C	D	E
1			Column		
2					
3	Row		Cell		

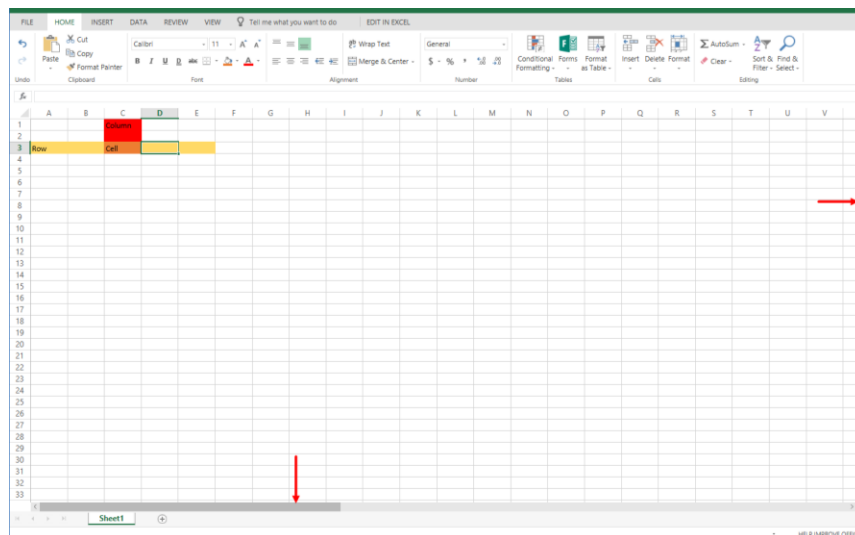
Each column has an index letter. Since there are only 26 letters, and there can be far more than 26 columns on a spreadsheet, the columns after column Z are indexed by the letters AA, AB, AC, and so on until the last column (up to XFD, more than 16,000). Each row has an index number, from 1 through 1,048,576. Each cell is given a name in the “ColumnRow” format, with the top left cell referenced as A1. (In the example above, the word “cell” is at C3.)

The **active cell** is the name given to the cell that is currently selected.

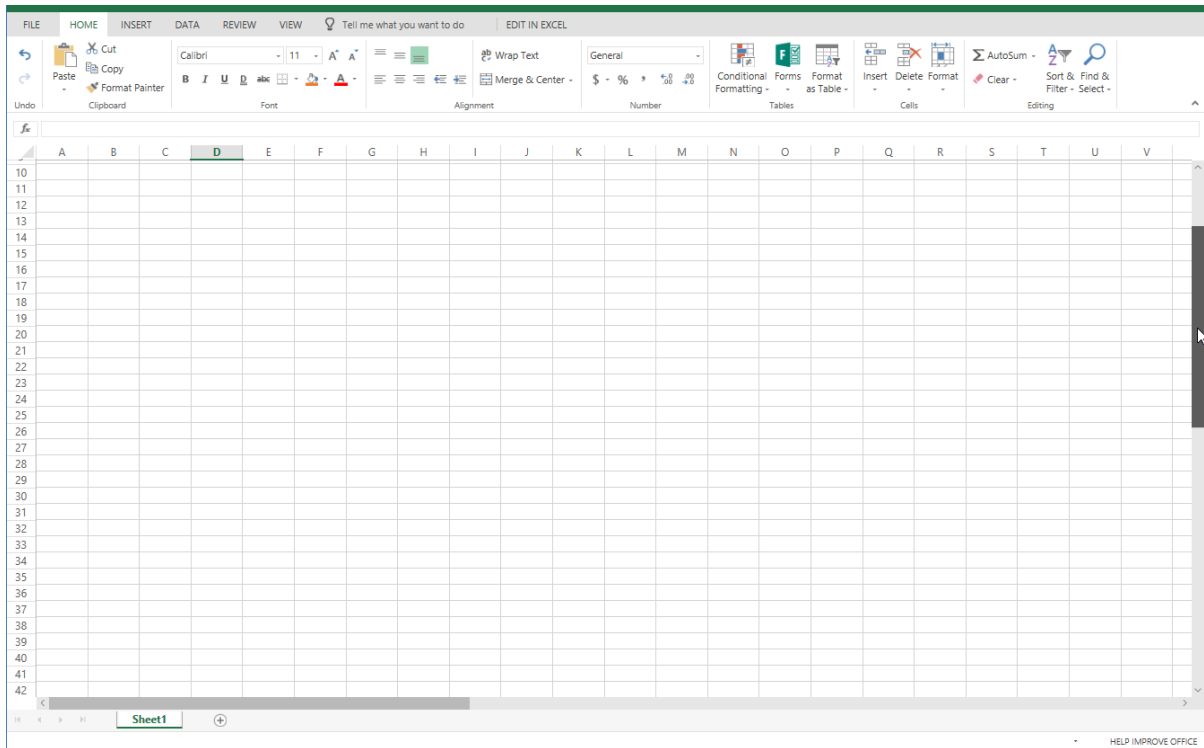
A **cell range** (or simply “range”) is defined as a series or block of adjacent cells.

Navigating in Excel

You will find scroll bars on the right and bottom sides of Excel workbooks:



To view a different part of the current worksheet, click and drag the scroll bar:



Keyboard Navigation Options

Sometimes the keyboard can be an even quicker way to navigate through worksheets.

Below are some common keyboard shortcuts that you may find useful:

Move one cell in any direction	Up, down, left, right arrow keys
Go to column A	Home
Return to cell A1	Ctrl + Home
Scroll up or down by one screen	Page Up or Page Down
Move one cell to the right	Tab
Move one cell to the left	Shift + Tab

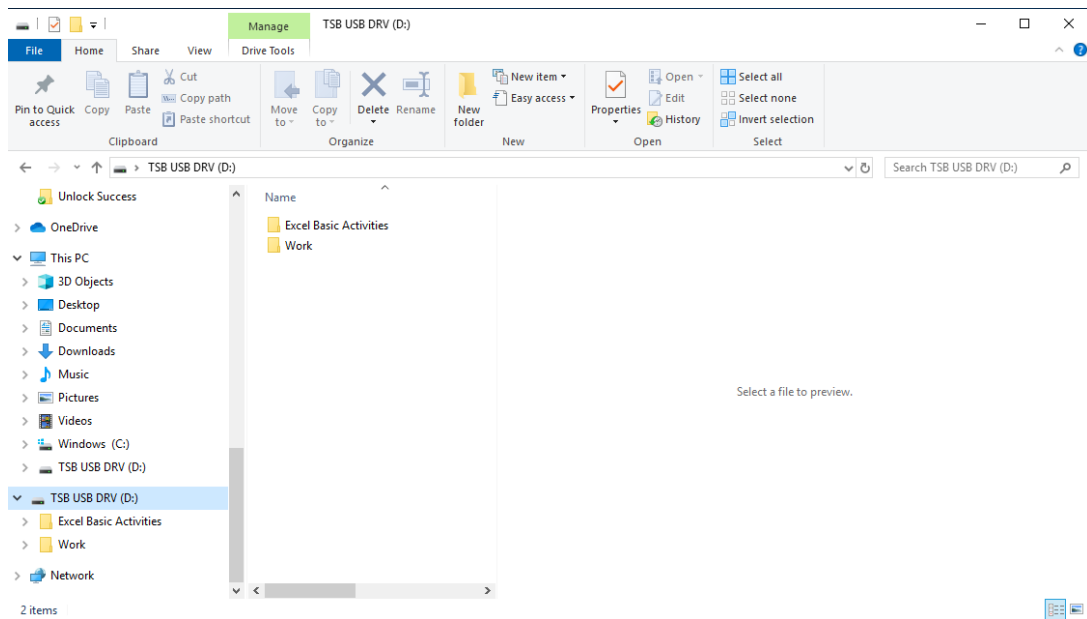
Excel Formulas

When cells contain numerical data, you can perform mathematical operations on the cell content using **formulas** and **functions**. The results of these operations will be shown in the cell that contains the formula. Formulas can be simple, such as adding two cell values, or quite complex, involving multiple mathematical operations.

Activity 1-2: Getting to Know Excel

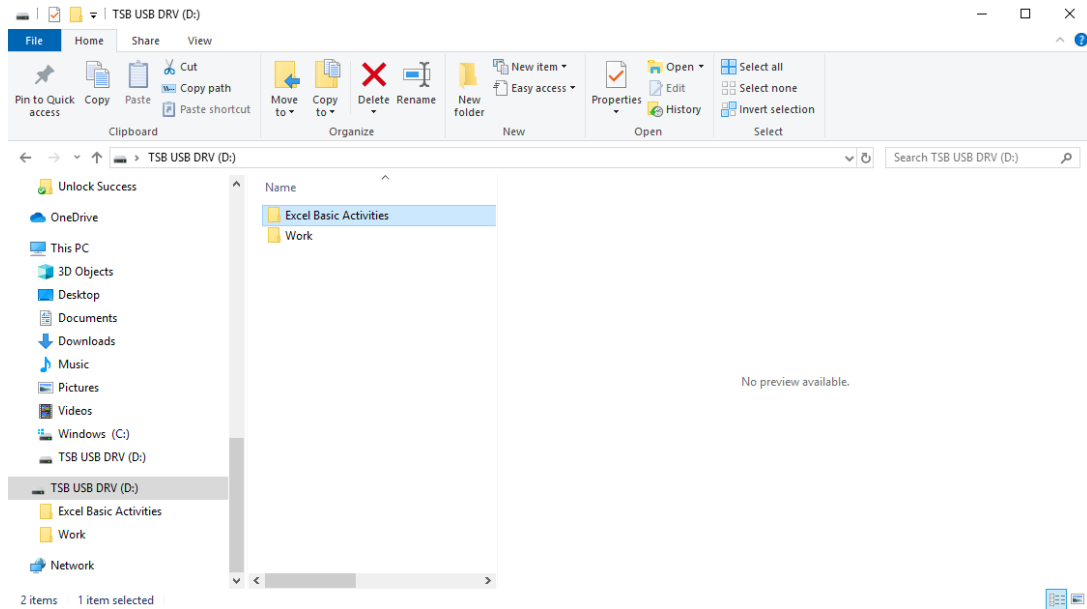
You have been given a spreadsheet that requires a basic formula to calculate the total sales based upon the number of products that were sold. You will use the tools covered in this topic to complete this task.

1. To begin, open Excel. (Refer back to Activity 1-1 if you need help.)
2. Click this course's Exercise Files folder to view its contents by clicking Open, Browse, and going to your USB drive:

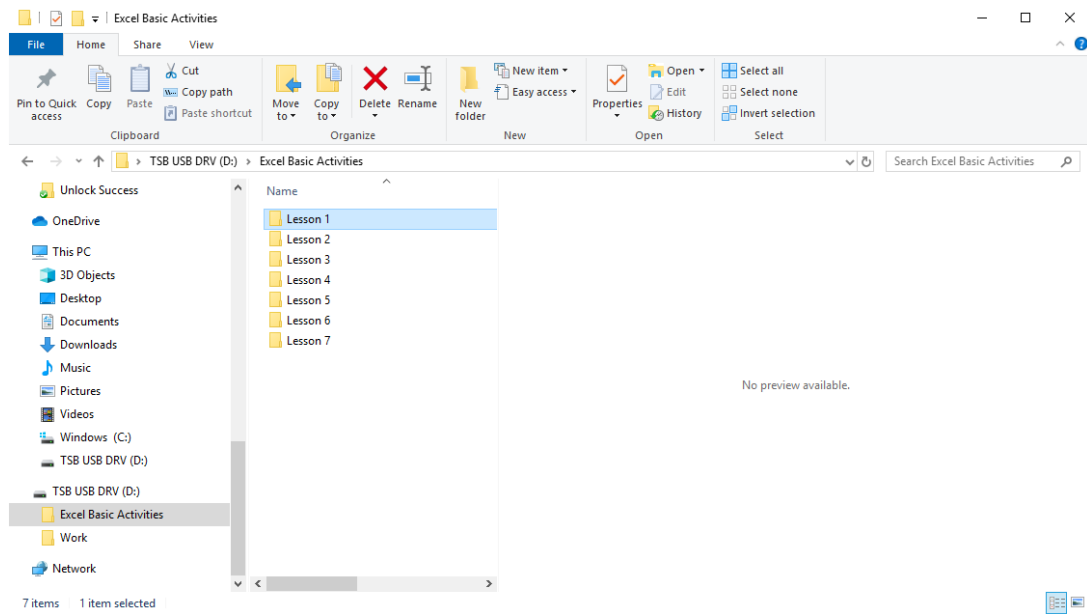


(Notice that the file we created in the last activity is also listed here.)

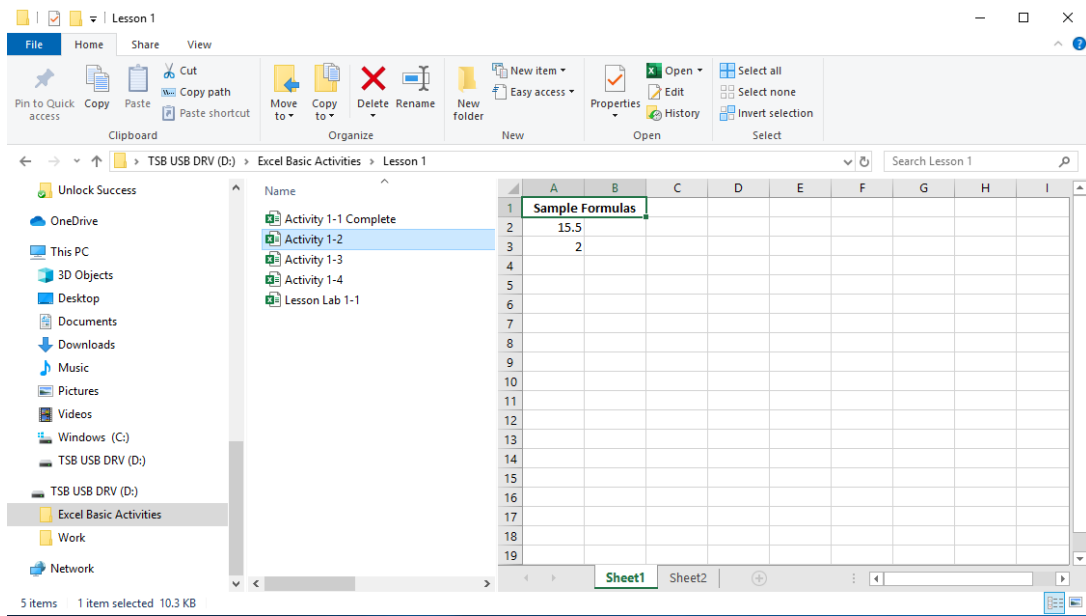
3. Next, click the “Excel Essentials Activities” folder:



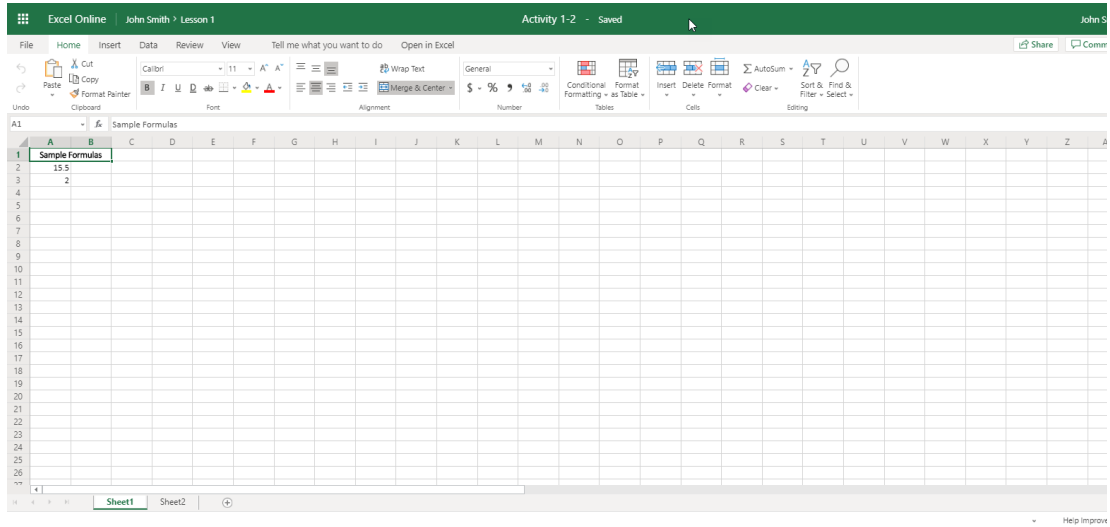
4. Click the Lesson 1 folder:



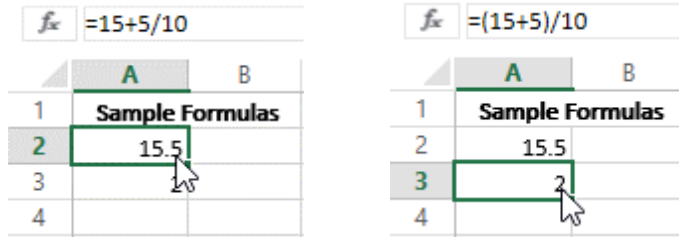
5. Click “Activity 1-2” to open it:



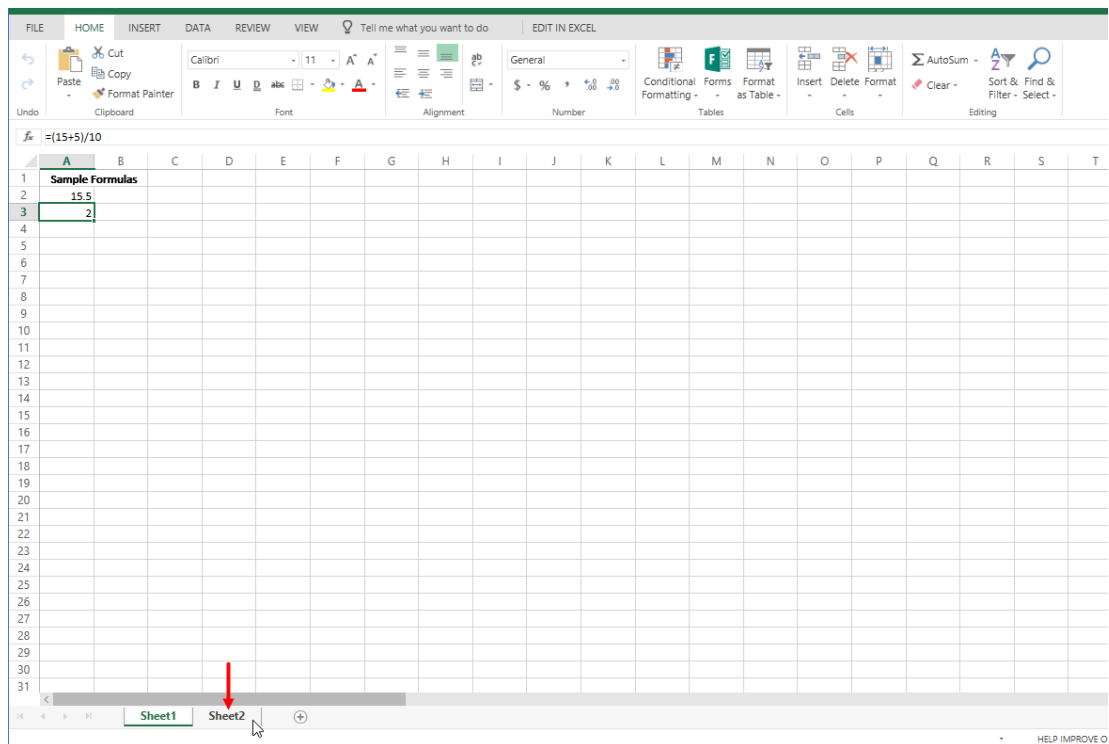
6. The workbook will now open:



- Ensure that Sheet1 is displayed. Cells A2 and A3 in this sheet have very similar formulas but display very different results. Click each cell and look in the formula bar to find the difference:



- As you can see, the parentheses completely change the result of this formula. Let's move to Sheet2 by clicking its worksheet tab:



- This sheet contains a basic table with a few formulas calculating the data. Click cell C2 to see how it is calculated:

fx **=A2*B2**

	A	B	C	D
1	Quantity Sold	Unit Price	Total Sales	
2	5	\$ 10.00	\$ 50.00	
3	19	\$ 7.00	\$ 133.00	
4	11	\$ 18.00		
5				Grand Total

- Click “cell C3” to see how it is calculated:

fx **=19*7**

	A	B	C	D
1	Quantity Sold	Unit Price	Total Sales	
2	5	\$ 10.00	\$ 50.00	
3	19	\$ 7.00	\$ 133.00	
4	11	\$ 18.00		
5				Grand Total

Which method do you think is better?

- Use the preferred method to calculate row 4. Do not forget to press “Enter” after entering the formula:

fx **=A4*B4**

	A	B	C	D
1	Quantity Sold	Unit Price	Total Sales	
2	5	\$ 10.00	\$ 50.00	
3	19	\$ 7.00	\$ 133.00	
4	11	\$ 18.00	=A4*B4	
5				Grand Total

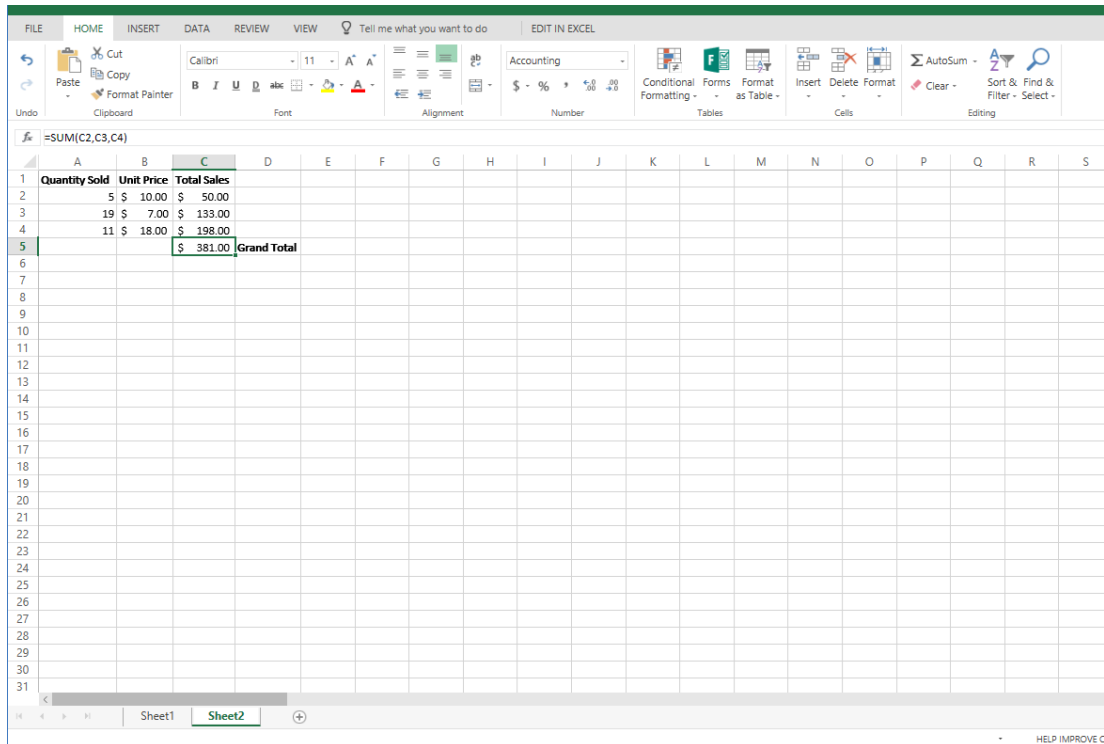
12. Now, click in cell C5 and type: =SUM(C2,C3,C4):

fx =SUM(C2,C3,C4)				
	A	B	C	D
1	Quantity Sold	Unit Price	Total Sales	
2		5 \$ 10.00	\$ 50.00	
3		19 \$ 7.00	\$ 133.00	
4		11 \$ 18.00	\$ 198.00	
5			=SUM(C2,C3,C4)	

13. Press “Enter” to calculate the formula:

fx =SUM(C2,C3,C4)				
	A	B	C	D
1	Quantity Sold	Unit Price	Total Sales	
2		5 \$ 10.00	\$ 50.00	
3		19 \$ 7.00	\$ 133.00	
4		11 \$ 18.00	\$ 198.00	
5			\$ 381.00	Grand Total

14. Save and Close Excel to complete this activity:



TOPIC C: Managing Workbooks

In the last section, you became familiar with the Excel interface. In this topic, we will look at the basic options for managing those workbooks.

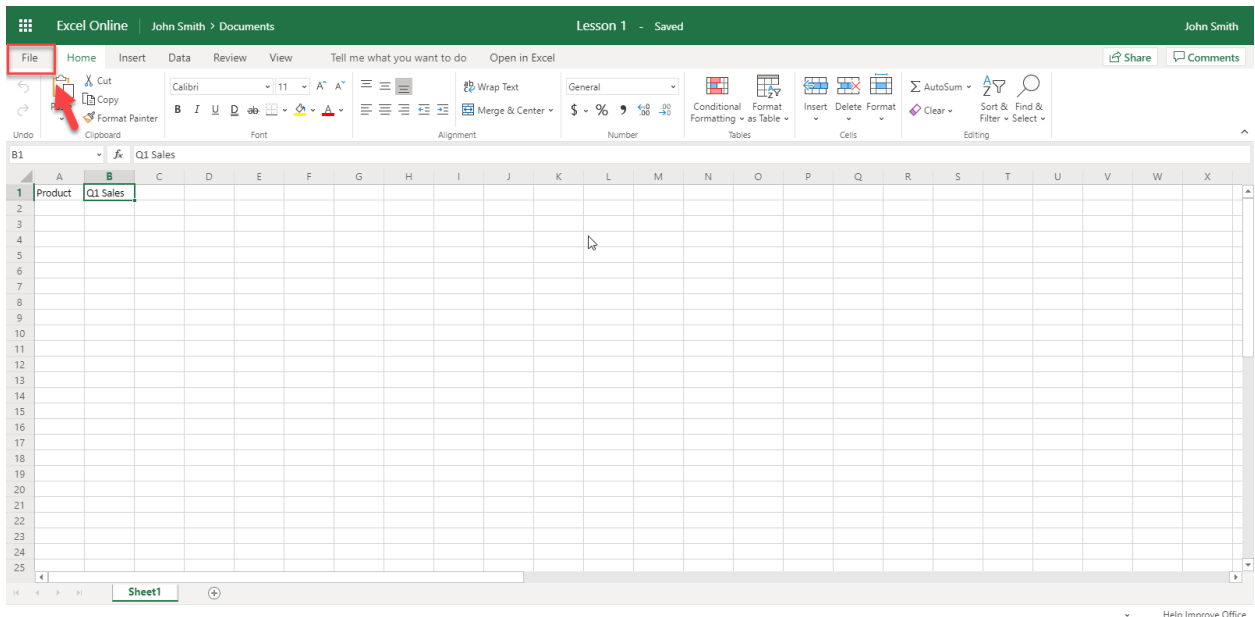
Topic Objectives

In this section, you will learn how to:

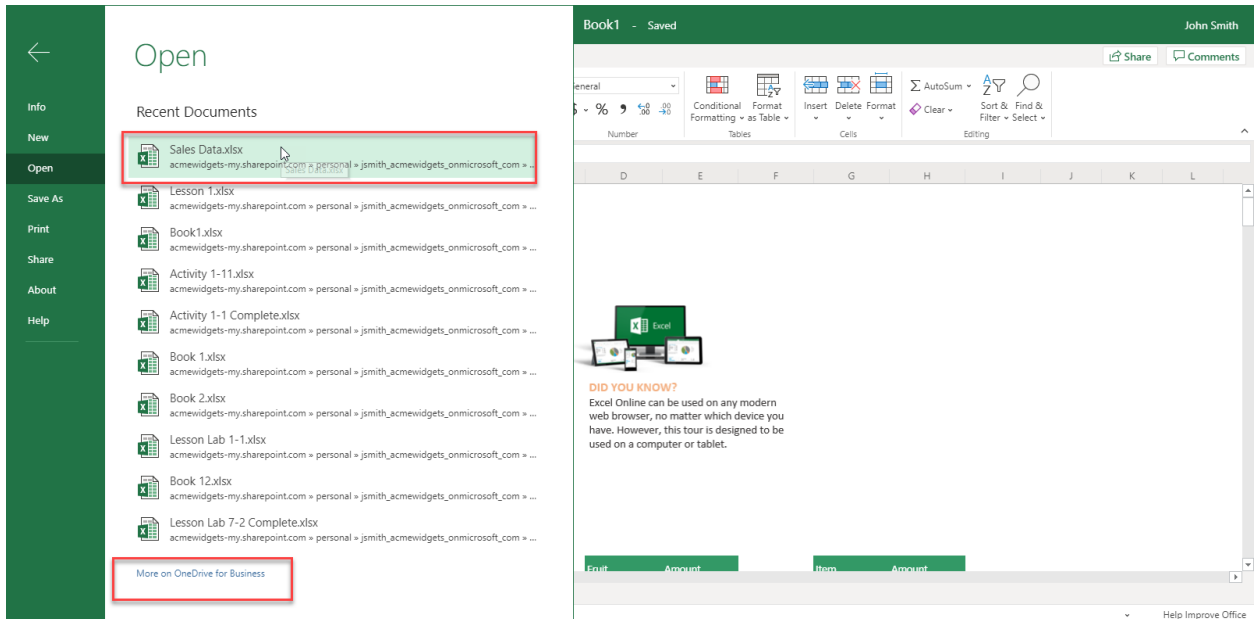
- Open, save, share, and print workbooks
- Edit a workbook in Microsoft Excel
- Use the Accessibility Checker

Opening a Workbook

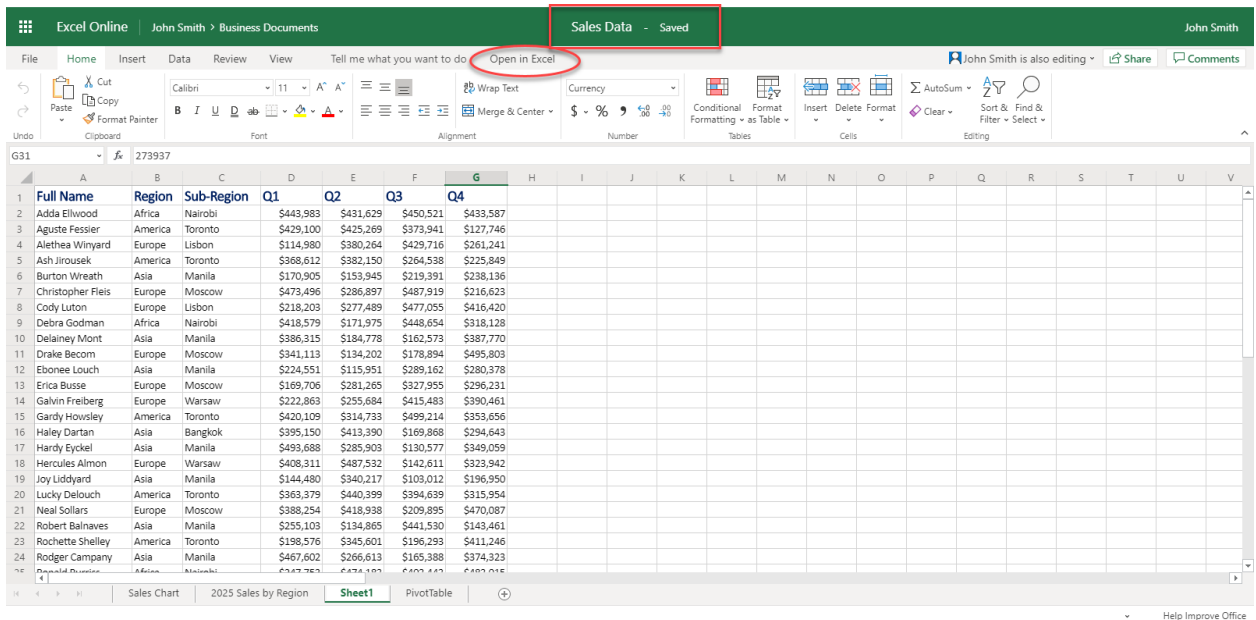
To open a workbook in Excel, click the File tab:



The Open category should be selected by default. Click the workbook you want to open:

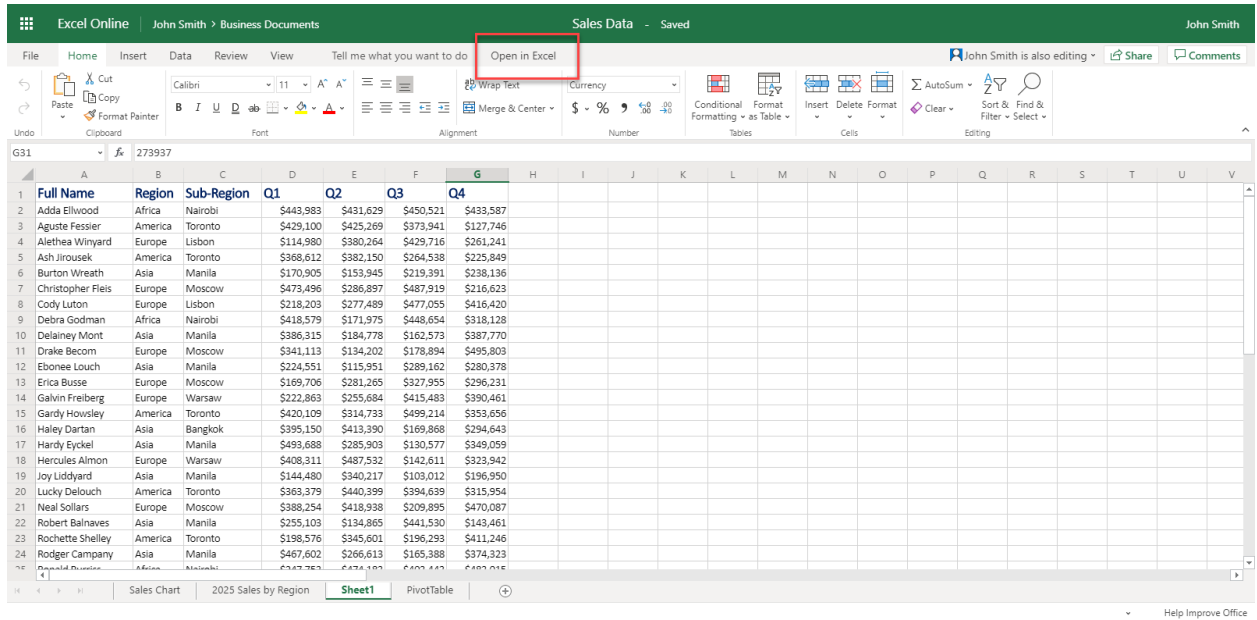


The workbook will open and is ready to edit.

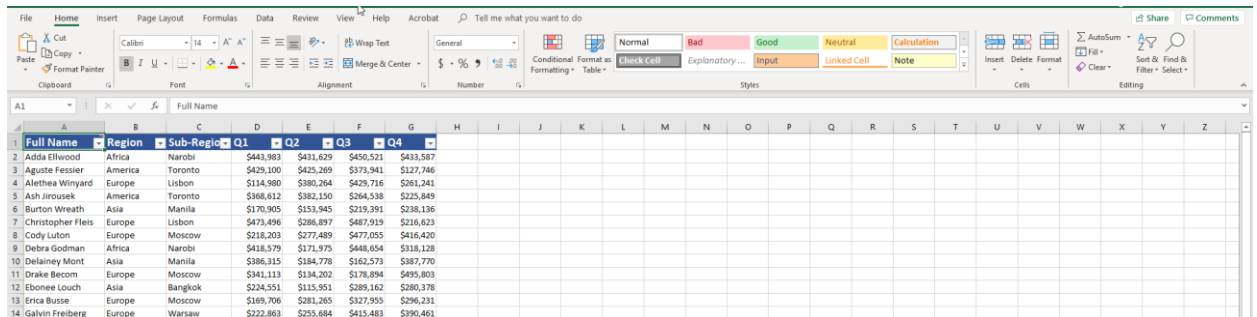


Editing Your Workbook in Excel Desktop

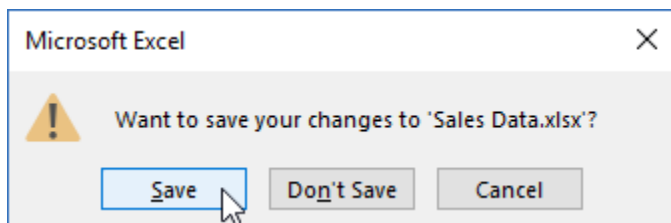
To edit the current workbook of Excel, click anywhere in the workbook and enter data.



When you are finished working with Excel, close the program:



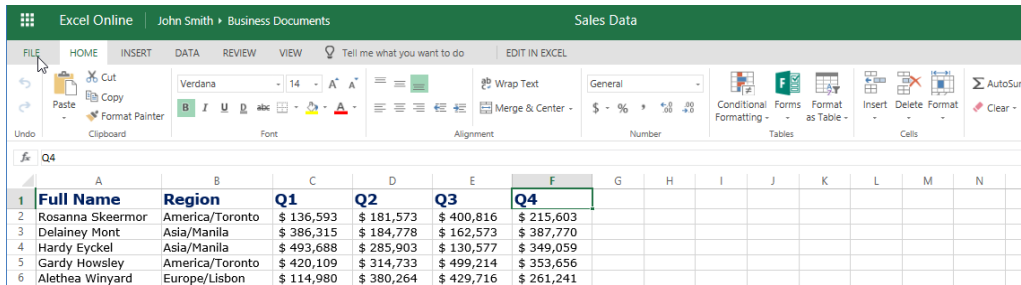
Save your changes if prompted:



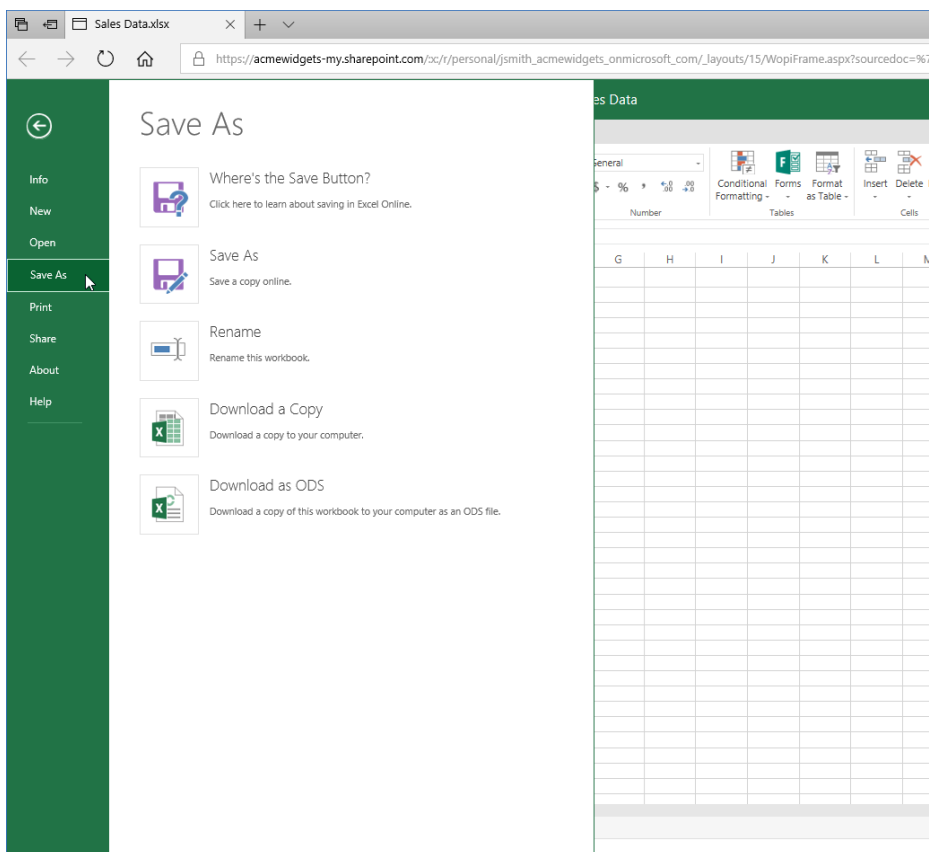
The workbook will now be updated.

Accessing Save Options

Although Excel is designed for workbooks in the cloud, you do have access to other save options. To start, click the File tab:



Now, click the Save As category:

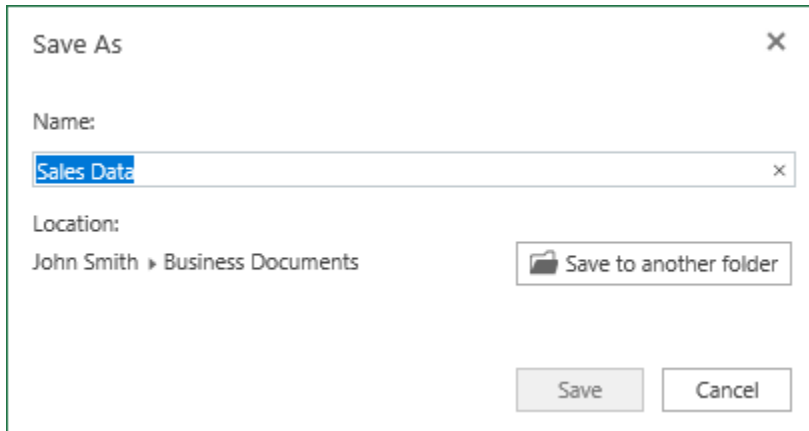


You will see a variety of save options in the right pane of the menu. Click the desired option to open the appropriate dialog box, where you can customize various save options and complete the process.

Let's look at the dialog box for each command.

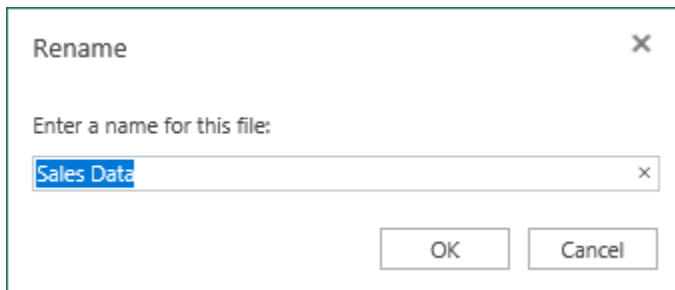
Save As

Opens the Save As dialog box, allowing you to choose the online location where you want to save the workbook and change the file name. Click "Save" to complete the process:



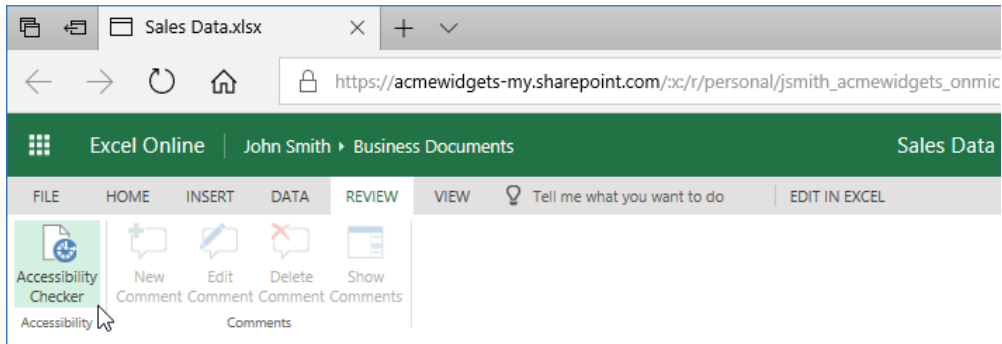
Rename

Opens the Rename dialog box. Enter the workbook's new name and click "OK" to complete the process:



Using the Accessibility Checker

To check your workbook for possible accessibility issues, click “Review → Accessibility Checker:”



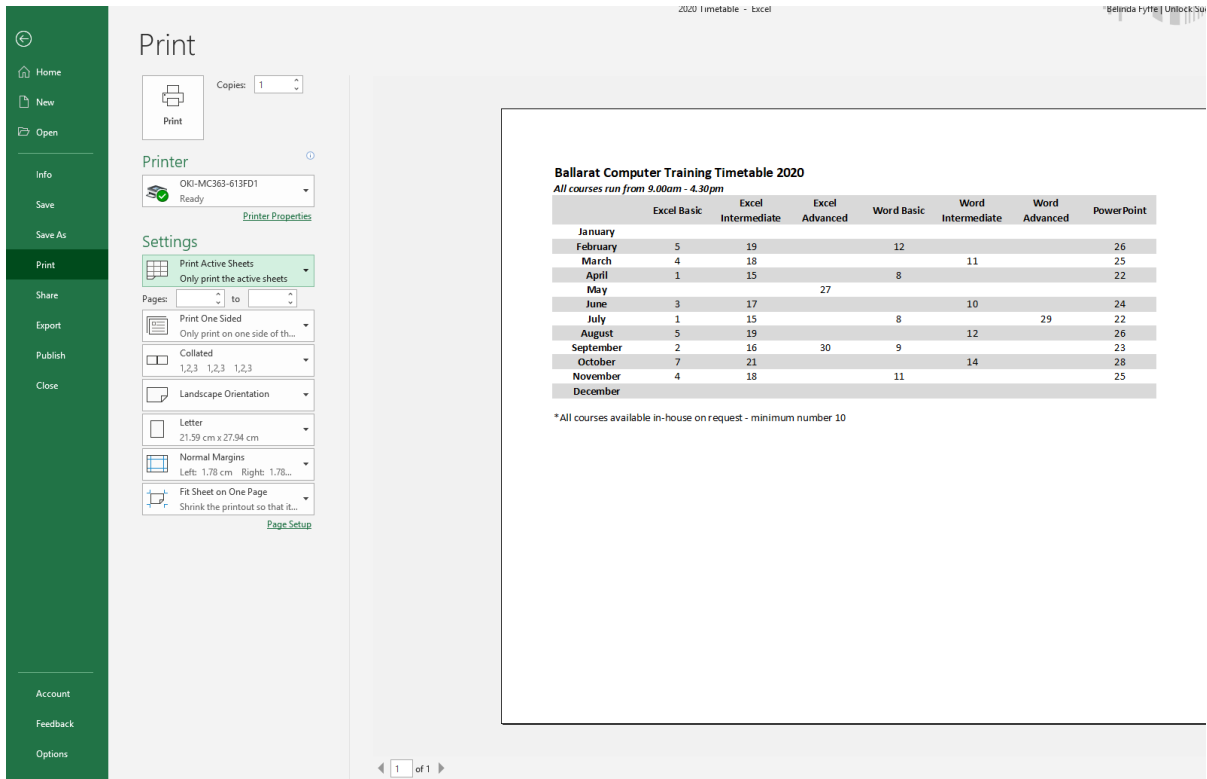
The Accessibility Checker task pane will then be displayed on the right-hand side of your screen:

	A	B	C	D	E	F	G	H	I	J	K	L
1	Full Name	Region	Q1	Q2	Q3	Q4						
2	Rosanna Skeermor	America/Toronto	\$ 136,593	\$ 181,573	\$ 400,816	\$ 215,603						
3	Delainey Mont	Asia/Manila	\$ 386,315	\$ 184,778	\$ 162,573	\$ 387,770						
4	Hardy Eyckel	Asia/Manila	\$ 493,688	\$ 285,903	\$ 130,577	\$ 349,059						
5	Gardy Howsley	America/Toronto	\$ 420,109	\$ 314,733	\$ 499,214	\$ 353,656						
6	Alethea Winyard	Europe/Lisbon	\$ 114,980	\$ 380,264	\$ 429,716	\$ 261,241						
7	Tally Leppington	Europe/Lisbon	\$ 436,769	\$ 273,361	\$ 360,605	\$ 170,697						
8	Robert Balnaves	Asia/Manila	\$ 255,103	\$ 134,855	\$ 441,530	\$ 143,461						
9	Christopher Fleis	Europe/Moscow	\$ 473,496	\$ 286,897	\$ 487,919	\$ 216,623						
10	Erica Busse	Europe/Moscow	\$ 169,706	\$ 281,265	\$ 327,955	\$ 296,231						
11	Joy Liddyard	Asia/Manila	\$ 144,480	\$ 340,217	\$ 103,012	\$ 196,950						
12	Ebonee Louch	Asia/Manila	\$ 224,551	\$ 115,951	\$ 289,162	\$ 280,378						
13	Neal Sollars	Europe/Moscow	\$ 388,254	\$ 418,938	\$ 209,895	\$ 470,087						
14	Drake Becom	Europe/Moscow	\$ 341,113	\$ 134,202	\$ 178,894	\$ 495,803						
15	Rodger Campany	Asia/Manila	\$ 467,602	\$ 266,613	\$ 165,388	\$ 374,323						
16	Cody Luton	Europe/Lisbon	\$ 218,203	\$ 277,489	\$ 477,055	\$ 416,420						
17	Tucky Habshaw	Asia/Bangkok	\$ 210,086	\$ 139,985	\$ 168,733	\$ 485,319						
18	Sylvan Eshmade	Europe/Lisbon	\$ 415,418	\$ 379,522	\$ 460,876	\$ 327,551						
19	Haley Dartan	Asia/Bangkok	\$ 395,150	\$ 413,390	\$ 169,868	\$ 294,643						
20	Adda Ellwood	Africa/Nairobi	\$ 443,983	\$ 431,629	\$ 450,521	\$ 433,587						
21	Debra Godman	Africa/Nairobi	\$ 418,579	\$ 171,975	\$ 448,654	\$ 318,128						
22	Silvano Estable	Asia/Manila	\$ 372,755	\$ 120,213	\$ 450,051	\$ 403,664						
23	Ronald Burriss	Africa/Nairobi	\$ 247,753	\$ 474,183	\$ 403,443	\$ 483,015						
24	Wanda Ratlee	Asia/Bangkok	\$ 167,342	\$ 476,637	\$ 424,504	\$ 273,937						
25	Lucky Delouch	America/Toronto	\$ 363,379	\$ 440,399	\$ 394,639	\$ 315,954						
26	Galvin Freiberg	Europe/Warsaw	\$ 222,863	\$ 255,684	\$ 415,483	\$ 390,461						
27	Burton Wreath	Asia/Manila	\$ 170,905	\$ 153,945	\$ 219,391	\$ 238,136						
28	Ash Jirousek	America/Toronto	\$ 368,612	\$ 382,150	\$ 264,538	\$ 225,849						
29	Hercules Almon	Europe/Warsaw	\$ 408,311	\$ 487,532	\$ 142,611	\$ 323,942						
30	Rochette Shelley	America/Toronto	\$ 198,576	\$ 345,601	\$ 196,293	\$ 411,246						
31	Aguste Fessler	America/Toronto	\$ 429,100	\$ 425,269	\$ 373,941	\$ 127,746						
32												
33												
34												
35												

Its contents are divided into three sections that list different types of problems. Click any item to go to that workbook object and resolve the problem.

Printing a Workbook

To print a workbook from Excel, click “File → Print,” or press “Ctrl + P:”



The Print Settings options are available, where you can set various print options.

Once you click “Print” to send the workbook to the printer (or click “Esc” to stop the process), you will return to the workbook.

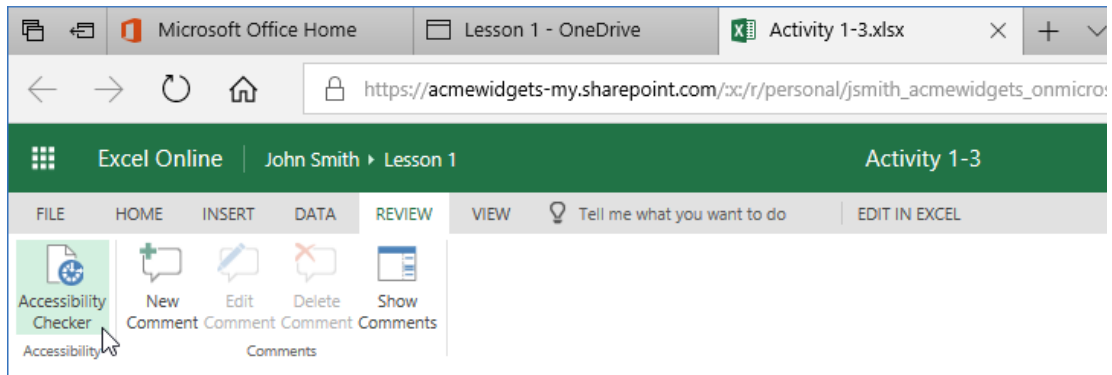
Activity 1-3: Managing Workbooks

In this activity, you will open and export a workbook. Ensure your Exercise Files have been uploaded to OneDrive before starting this activity.

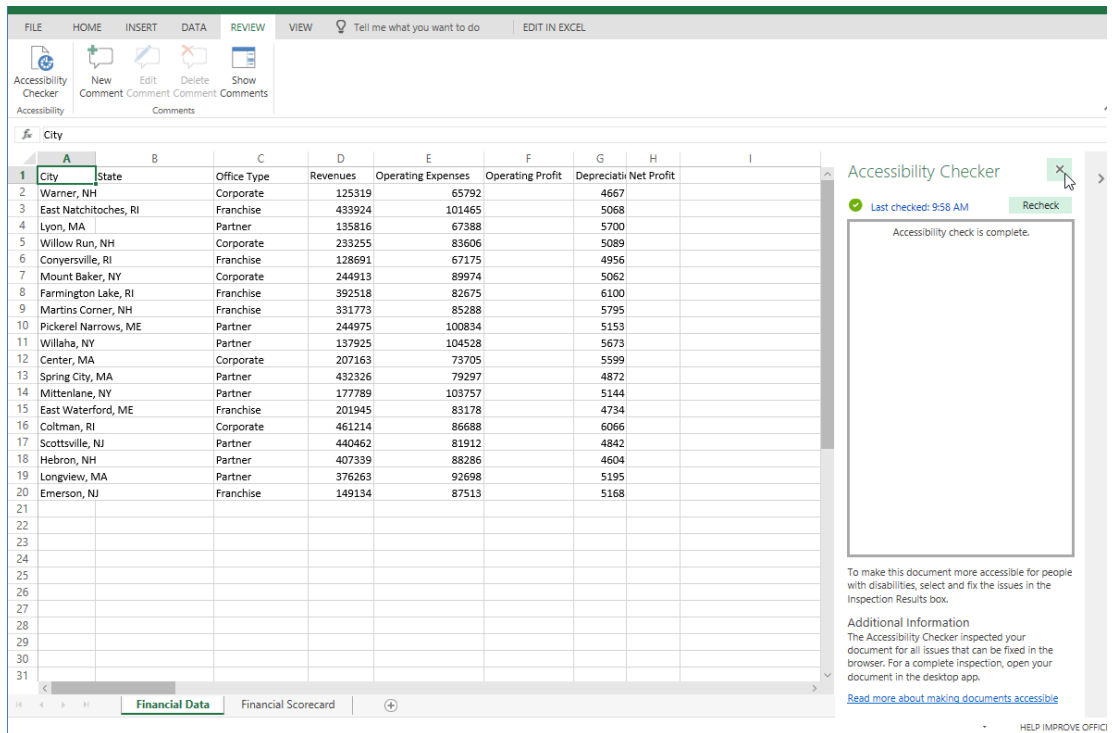
1. To begin, open Excel. (Refer back to Activity 1-1 if you need help.)
2. Navigate to Lesson 1 of your Excel Essentials Activities folder. Open Activity 1-3: (Refer back to Activity 1-2 if you need help.)
3. The workbook will now open:

City	State	Office Type	Revenues	Operating Expenses	Operating Profit	Depreciation	Net Profit	Scorecard
Warner, NH		Corporate	125319	65792		4667		Average Profit
East Natchitoches, RI		Franchise	439924	101465		5068		Highest Revenue
Lyon, MA		Partner	135816	67388		5700		Lowest Expenses
Willow Run, NH		Corporate	239255	89606		5089		
Conyersville, RI		Franchise	128691	67175		4956		
Mount Baker, NY		Corporate	244913	89974		5062		
Farmington Lake, RI		Franchise	392518	82675		6100		
Martins Corner, NH		Franchise	331773	85288		5795		
Pickereel Narrows, ME		Partner	244975	100834		5153		
Willaha, NY		Partner	137925	104528		5673		
Center, MA		Corporate	207163	73705		5599		
Spring City, MA		Partner	432326	79297		4872		
Mittenlane, NY		Partner	177789	103757		5144		
East Waterford, ME		Franchise	201945	83178		4734		
Coltman, RI		Corporate	461214	86688		6066		
Scottsville, NJ		Partner	440462	81912		4842		
Hebron, NH		Partner	407339	88286		4604		
Longview, MA		Partner	376263	92698		5195		
Emerson, NJ		Franchise	149134	87513		5168		

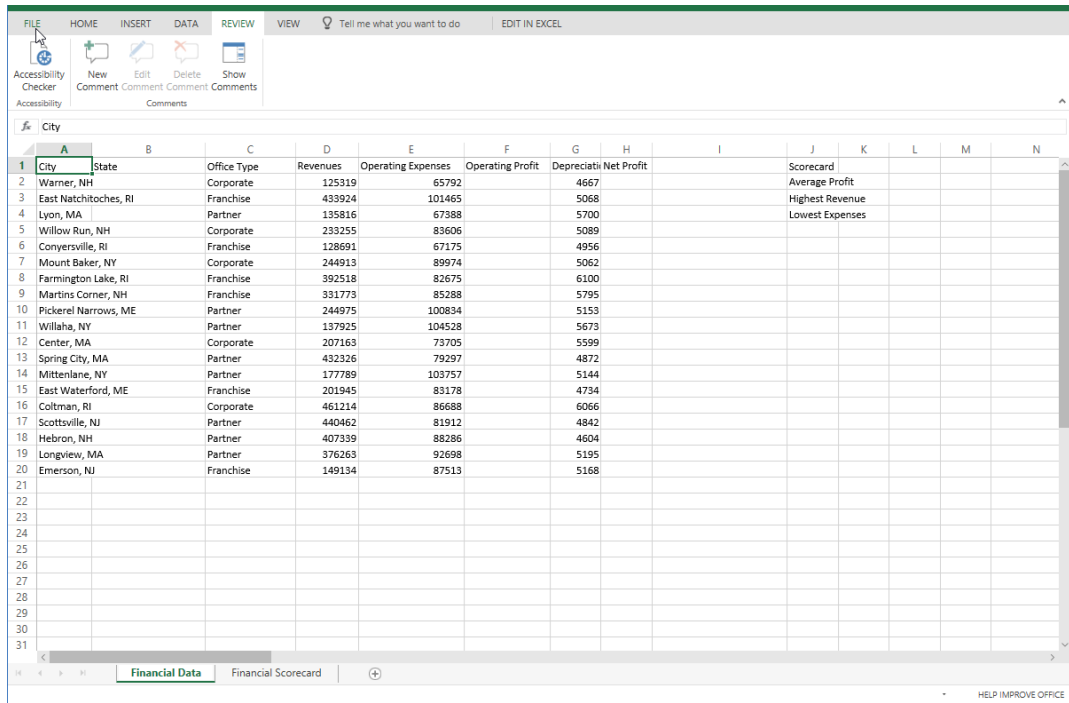
4. First, let's check the workbook for accessibility issues. Click the Review tab and click "Check Accessibility:"



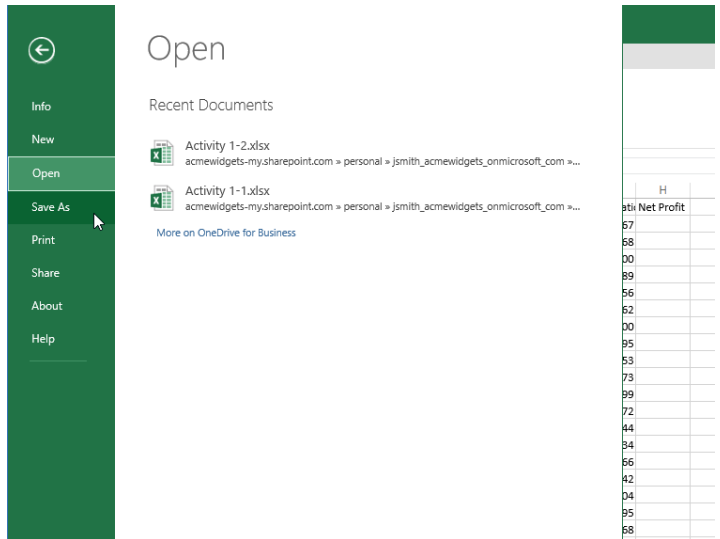
5. You should see that the workbook has no issues. Close the task pane:



6. Now, let's save a copy of the workbook. Click the File tab:



7. Click the Save As category:



8. Update the file name to read 'Activity 1-3 completed', click Save.

TOPIC D: Getting Help in Excel

By now, you will have noticed that you can do a lot of things with Excel, and we have only scratched the surface. It is virtually impossible to memorize everything it offers, and its features are constantly changing. Luckily, Excel comes with a few different help tools so that you can find answers to your questions.

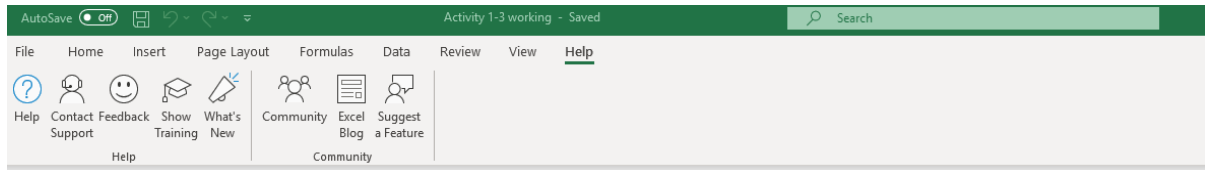
Topic Objectives

In this section, you will learn how to:

- Use Help
- Access advanced help options

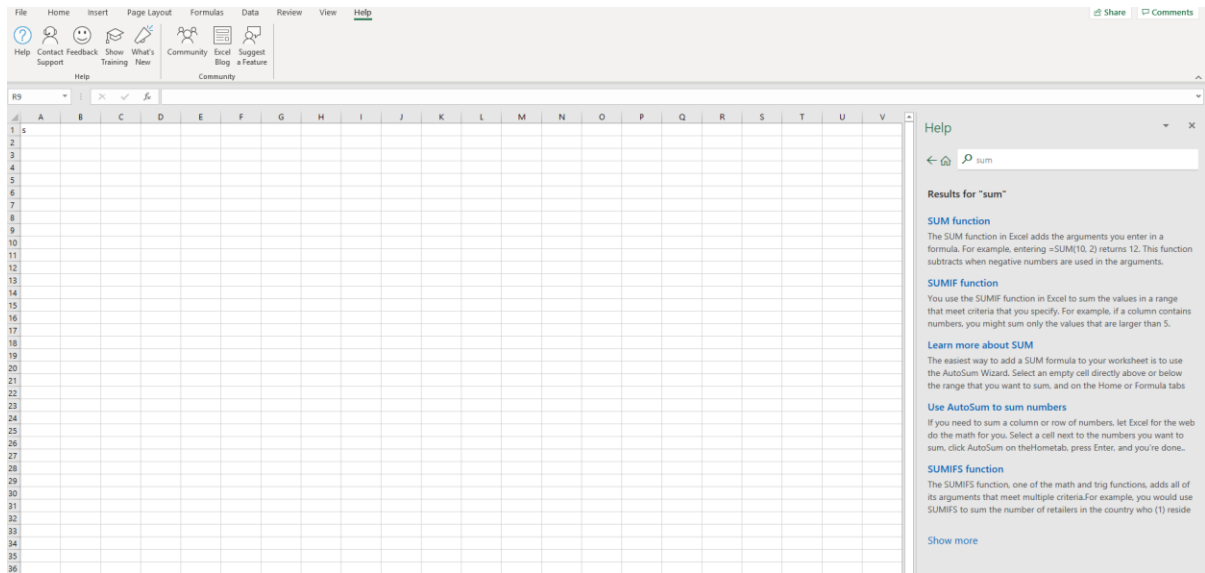
Using Help

To use Help, click on the question mark icon entitled 'Help' and type your question in the box that generates:



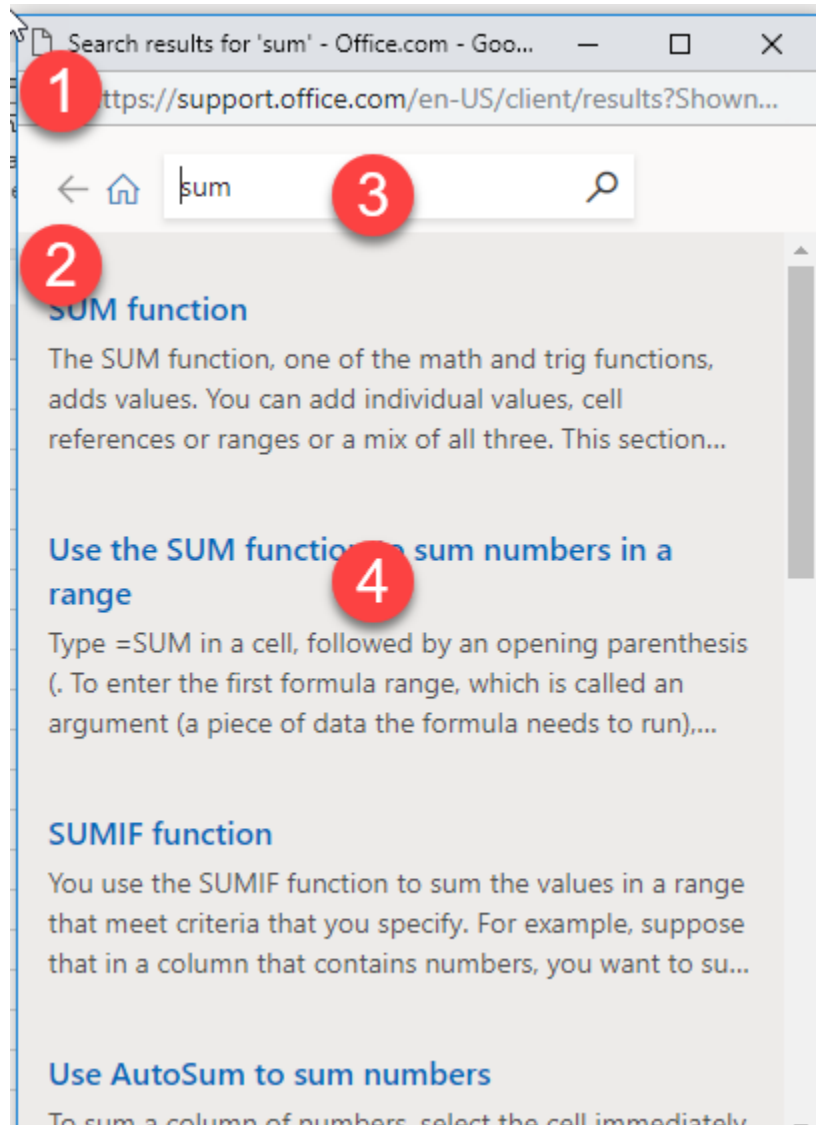
As you type, you will see links to the related topic:

Once you have typed in your query and pressed enter, you will see links to the related topic:



Accessing Advanced Help Options

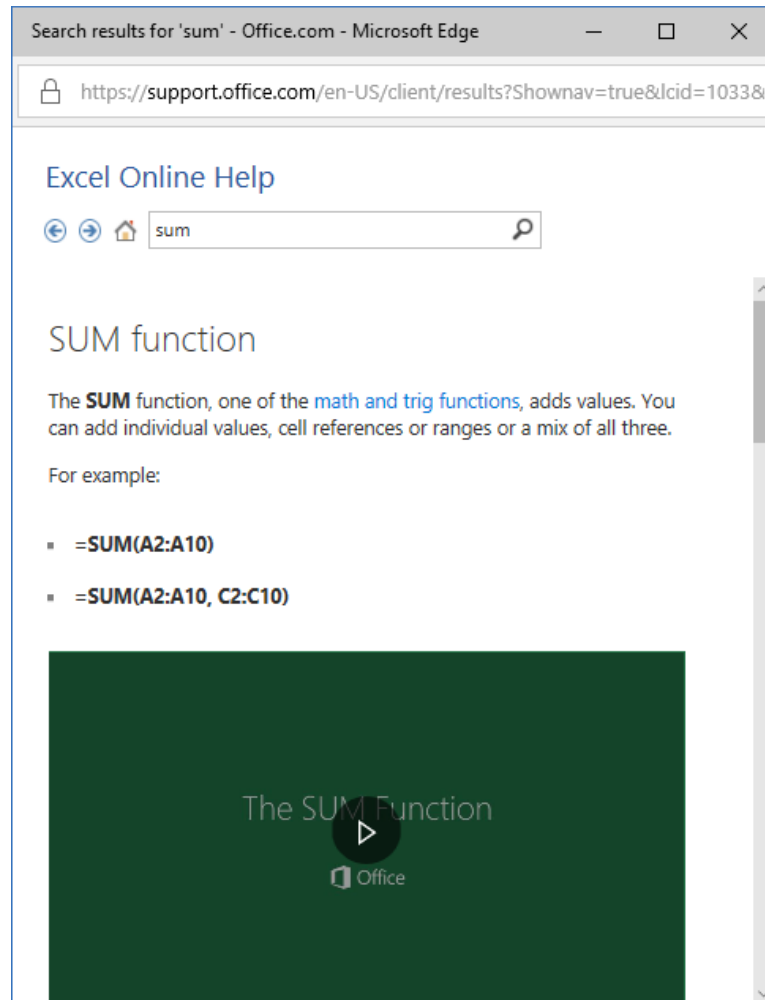
This is the traditional Help window:



(You can also click “Help → Help” to open this dialog box.)

In the top right-hand corner, you will see the **Minimize, Maximize/Restore, and Close buttons (1)**. Also, at the top is the **Help toolbar (2)** and **search bar (3)**. The main part of the window shows the **main help content (4)**. You can browse through the help content by clicking the blue text, called a **hyperlink**.

This text is linked to relevant information. For example, the “Sum function” link will show the syntax for that function and a video about using it:

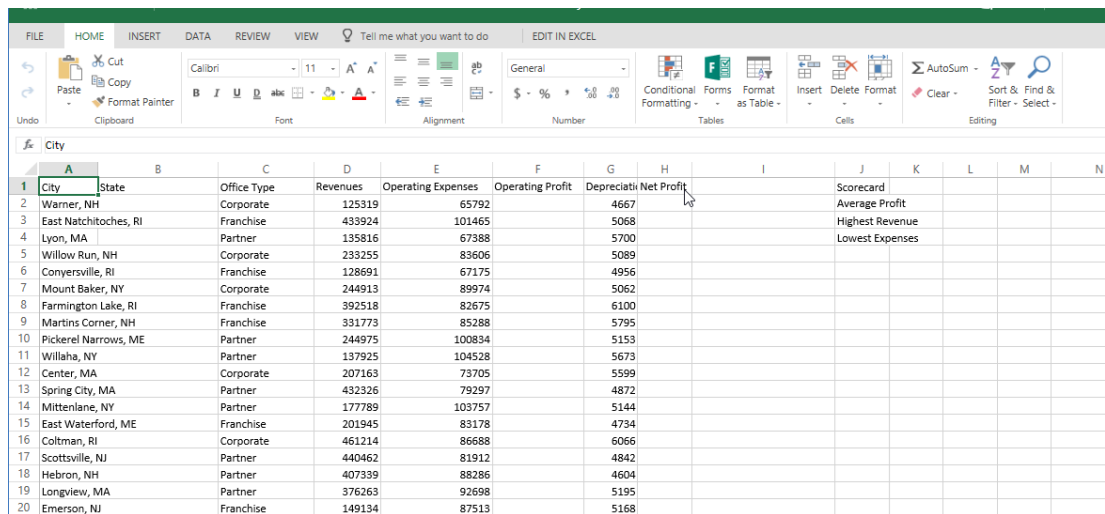


You can perform a new search for help information by typing keywords into the search bar and pressing “Enter.”

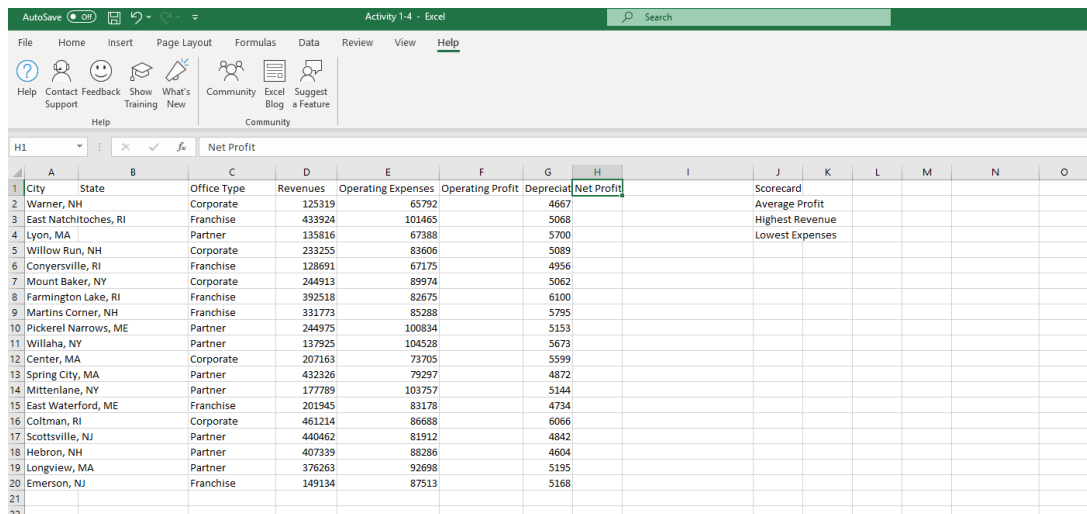
Activity 1-4: Getting Help in Excel

In this activity, you will explore Excel help features.

1. To begin, open Excel. (Refer back to Activity 1-1 if you need help.)
2. Navigate to Lesson 1 of your Excel Essentials Activities folder. Open Activity 1-4: (Refer back to Activity 1-2 if you need help.)
3. Next, we want to change the font size of cell H1. Click it to select it:



4. Click the Help function on the ribbon, click on the Help button:



5. Type “font size” into the search field and press enter. Results will automatically appear:

The screenshot shows the Microsoft Excel 365 interface. The main window displays a spreadsheet with columns for City, State, Office Type, Revenues, Operating Expenses, Operating Profit, Depreciat, Net Profit, and Scorecard. The Help pane on the right is open, showing search results for "font size". The search results include:

- Change the font size**: Under When creating new workbooks, in the Font Size box, enter the font size you want. Or, you can type in any size you want, between 1 and 409, in multiples of .5, such as 10.5 or 105.5. You can also choose
- Change the font format for hyperlinks**: Change the font format for hyperlinks. ... You can change the default hyperlink text styles in a workbook by formatting the Hyperlinks or Followed Hyperlink cell styles. Here's how: Click the cell with the
- Add and format a chart legend**: Add and format a chart legend. ... Change font or font size. Right-click the legend, and then click Font. On the Font tab, make the changes that you want to the font or font size. Change legend
- Format text in headers or footers**: Format text in headers or footers. ... You can change the font style, and size of the headers and footers that you want to print with along with contents of your worksheet. Also, there are options you can

6. Choose “change the font size” article and scroll down to “Change the size of selected text”:

The screenshot shows the Microsoft Excel 365 interface. The main window displays the same spreadsheet as in the previous screenshot. The Help pane on the right is open, showing the search results for "font size". The article "Change the size of selected text" is selected and expanded. The article content includes:

- Change the size of selected text**: To change the font size of selected text in desktop Excel, PowerPoint, or Word:
- 1. Select the text or cells with text you want to change. To select all text in a Word document, press Ctrl + A.
- 2. On the Home tab, click the font size in the Font Size box.

A screenshot of the Font Size box in the ribbon is shown, with the font size set to 11. Below the article, there is a note: "You can also type in any size you want, within the following limits:"

- Follow the directions on the screen to increase the font size of cell H1 to 14:

	A	B	C	D	E	F	G	H
1	City	State	Office Type	Revenues	Operating Expenses	Operating Profit	Depreciation	Net Profit
2	Warner, NH		Corporate	125319	65792		4667	
3	East Natchitoches, RI		Franchise	433924	101465		5068	
4	Lyon, MA		Partner	135816	67388		5700	
5	Willow Run, NH		Corporate	233255	83606		5089	
6	Conyersville, RI		Franchise	128691	67175		4956	
7	Mount Baker, NY		Corporate	244913	89974		5062	
8	Farmington Lake, RI		Franchise	392518	82675		6100	
9	Martins Corner, NH		Franchise	331773	85288		5795	
10	Pickerel Narrows, ME		Partner	244975	100834		5153	
11	Willaha, NY		Partner	137925	104528		5673	

- Save As and call the file 'Activity 1-4 completed'. Close Excel to complete the activity.

Summary

In this lesson, we learned about some of the terms used when working with Excel, and how to use the basic features of the Excel interface. We also learned how to create, view, navigate in, save, and print workbooks. We wrapped up the lesson with information on using Excel's help features.

LESSON 2: WORKING WITH DATA

Lesson Objectives

In this lesson you will learn how to:

- Use formulas and functions
- Work with data, rows, and columns
- Sort and filter data

TOPIC A: A Closer Look at Formulas

Now that we have learned about the Excel interface, it is time to learn about Excel formulas. We will start with the basics, including where and how to enter formulas in Excel.

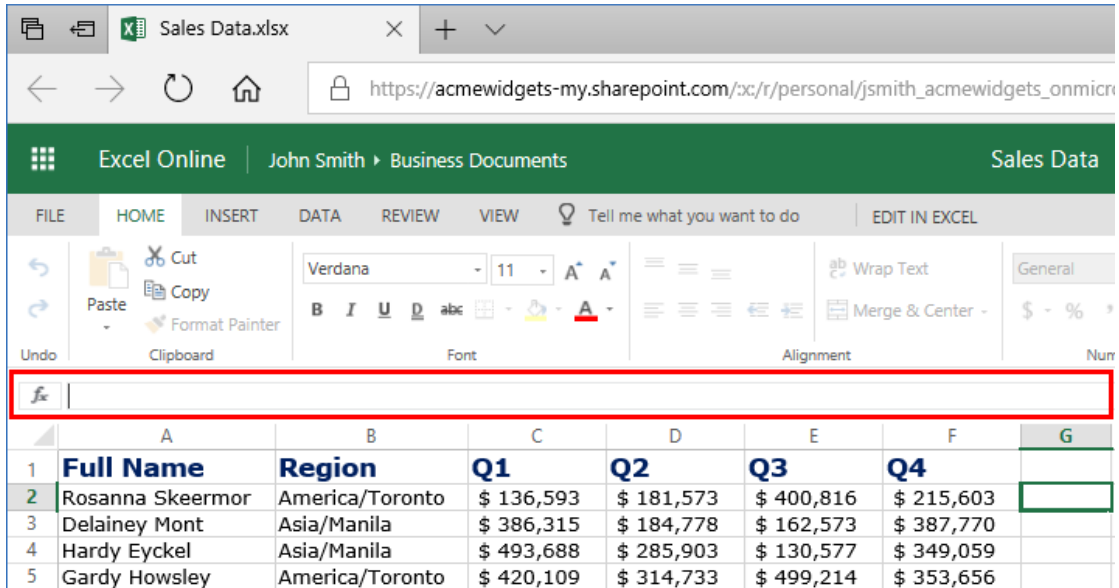
Topic Objectives

In this section, you will learn about:

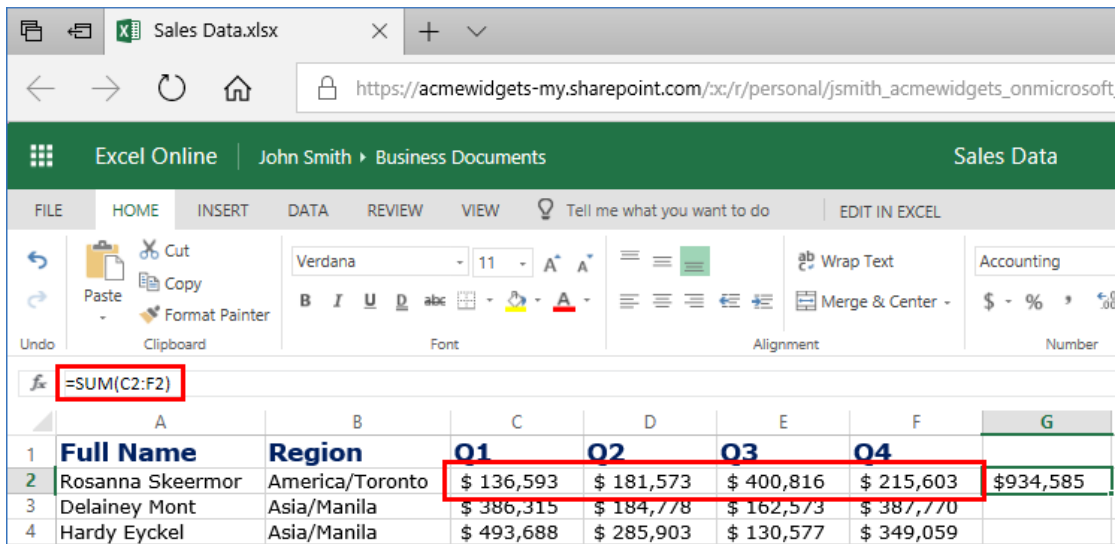
- The formula bar
- The elements of an Excel formula
- Common mathematical operators and their order of operations
- Excel cell references

The Formula Bar

You can enter functions and formulas in the formula bar, just below the ribbon:



(The “fx” button on the right side of the formula bar will open the Insert Function dialog box, which we will discuss in the next lesson.) You can tell if a cell contains a formula by making it active. If there is a formula in the active cell, it will be shown in the formula bar:

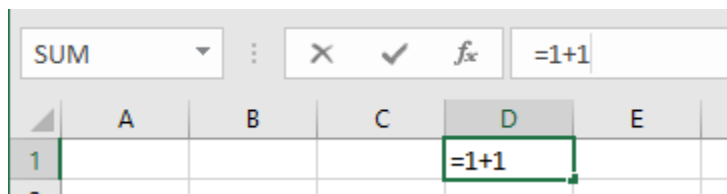


Here, the SUM function is being used to add data from cells C2 through to F2.

Elements of an Excel Formula

Here are some important things to note about formulas:

- Formulas are always preceded by an equals sign (=).
- Formulas can contain cell references (such as A1), numbers (such as 23), or functions [such as SUM(B2:B9)].
- =A1+23, =d2-c2, and =B10+b11/C6 are all valid formulas; cell references are not case-sensitive.
- You can enter a formula by typing directly into a cell or into the formula bar:



- If you include a cell reference in a formula (such as =B3*6), and that cell reference itself contains a second formula (such as =B1+B2, stored in B3), that second formula (=B1+B2) will be evaluated first, and the result will be used in =B3*6.

Mathematical Operators

Excel uses eight basic mathematical operators:

Name	Symbol	Example
Exponent	\wedge	$10^2 = 100$
Division	$/$	$10/2 = 5$
Multiplication	$*$	$10*2 = 20$
Addition	$+$	$10+2 = 12$
Subtraction	$-$	$10-2 = 8$
Equivalence	$=$	$10 = 10$
Greater Than	$>$	$10>2$
Less Than	$<$	$2<10$

The Order of Operations

The common mathematical operators shown above are listed from top to bottom in order of precedence. This means that Excel does not simply calculate expressions from left to right; certain operations are performed before others. Multiplication and division, addition and subtraction, and the greater than/less than operations each have equal precedence.

You can impose your own order of operations by enclosing expressions in parentheses ($()$). The operations inside the parentheses will be evaluated before the operations outside. If you have parentheses within parentheses, such as $((2+3)*4)$, the expression in the inner parentheses, $(2+3) = 5$, will be evaluated first, and the result will be used to evaluate the expression in the outer parentheses, $(5*4) = 20$.

One easy way to remember precedence order is to remember the word “BEDMAS,” which stands for Brackets (Parentheses), Exponents, Division, Multiplication, Addition, and Subtraction. Note that:

- Division and Multiplication have equal precedence, calculated from left to right.
- Addition and Subtraction have equal precedence, calculated from left to right.

Types of References

Relative References

In the last lesson, we learned that worksheets are composed of rows (horizontal, referenced with numbers) and columns (vertical, referenced with letters). The intersection of each row with a column forms a cell, and each cell is given a name in the “ColumnRow” format. These are called **relative references** and are typically the most commonly used type of reference in Excel. Such references are flexible in that they change depending upon the position of the formula.

Absolute References

While relative references are fine for most situations, if data is moved around or copied using AutoFill, relative cell references can create incorrect and confusing results. To avoid this, **absolute cell references** are used. These references use dollar signs (\$) to make sure a formula always references the same location, no matter where it is moved.

You can assign absolute cell references in three ways:

- **\$Column\$Row:** Both the row and column designation will not change (\$A\$1).
- **\$ColumnRow:** The column designation will not change, but the row can (\$A1).
- **Column\$Row:** The row designation will not change, but the column can (A\$1).

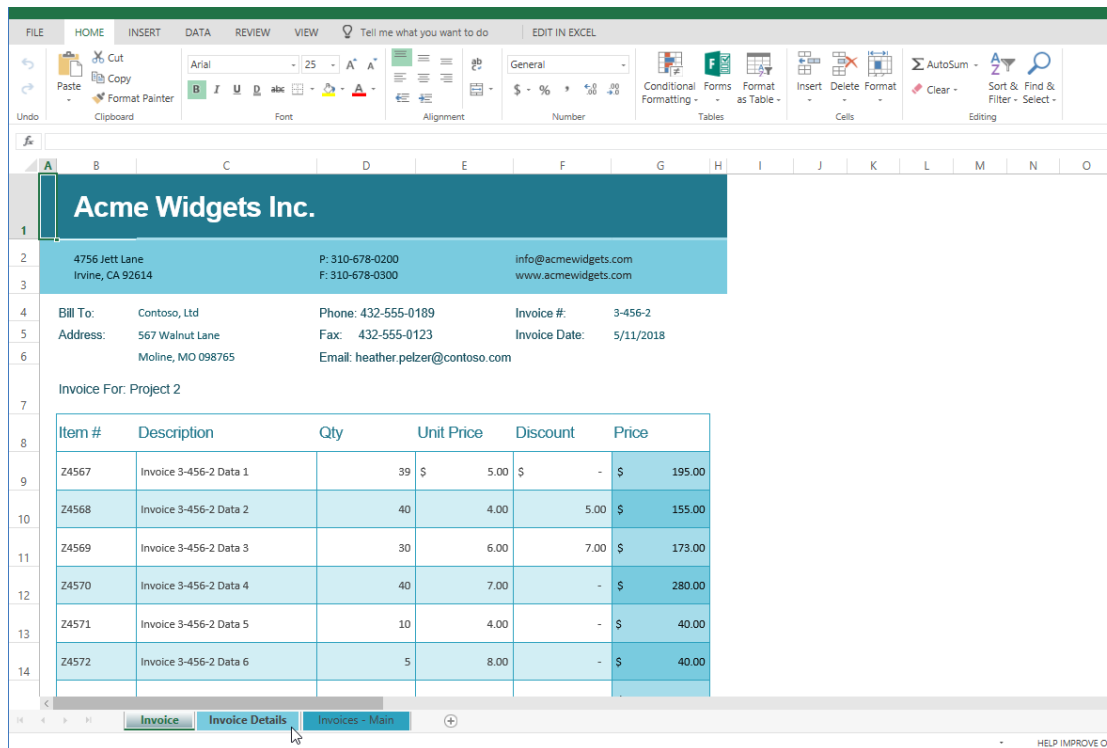
Mixed References

Mixed references include a mix of absolute and relative cell references. For example, \$ColumnRow (\$A1) is a mixed reference because while the column designation is an absolute reference, the row designation is relative. Additionally, Column\$Row (A\$1) is also a mixed reference because the row designation is an absolute reference, while the column designation is a relative reference.

Activity 2-1: A Closer Look at Formulas

Now that you know a bit more about formulas, you would like to take a closer look at the workbook your company uses to track invoices.

1. To begin, open Excel. (Refer back to Activity 1-1 if you need help.)
2. Navigate to Lesson 2 of your Excel Essentials Activities folder. Open Activity 2-1: (Refer back to Activity 1-2 if you need help.)
3. First, let's look at the Invoice Details worksheet. Click its tab to display it:



4. Look at the structure of this workbook: it shows the quantity, unit price, discount, and total cost for each item ordered. Let's take a closer look at how the Total is counted. Click cell H7 to activate it:

Description	Invoice #	Item #	Qty	Unit Price	Discount	Total
Invoice 3-456-1 Data 1	3-456-1	1	1	\$1.00	\$1.00	\$0.00
Invoice 3-456-1 Data 2	3-456-1	2	2	\$2.00	\$2.00	\$2.00
Invoice 3-456-1 Data 3	3-456-1	3	3	\$3.00	\$3.00	\$6.00
Invoice 3-456-1 Data 4	3-456-1	4	4	\$4.00	\$4.00	\$12.00
Invoice 3-456-1 Data 5	3-456-1	5	5	\$5.00	\$5.00	\$20.00
Invoice 3-456-1 Data 6	3-456-1	6	6	\$6.00	\$6.00	\$30.00
Invoice 3-456-1 Data 7	3-456-1	7	7	\$7.00	\$7.00	\$42.00
Invoice 3-456-1 Data 8	3-456-1	8	8	\$8.00	\$8.00	\$56.00
Invoice 3-456-1 Data 9	3-456-1	9	9	\$9.00	\$9.00	\$72.00
Invoice 3-456-1 Data 10	3-456-1	10	10	\$10.00	\$10.00	\$90.00
Invoice 3-456-1 Data 11	3-456-1	11	11	\$11.00	\$11.00	\$110.00

5. Now, let's look at the Invoice worksheet. Switch to it by clicking its tab:

The screenshot shows the Microsoft Excel interface with the 'Invoice' worksheet tab selected. The worksheet contains a table with the following data:

Description	Invoice #	Item #	Qty	Unit Price	Discount	Total
Invoice 3-456-1 Data 1	3-456-1	1	1	\$1.00	\$1.00	\$0.00
Invoice 3-456-1 Data 2	3-456-1	2	2	\$2.00	\$2.00	\$2.00
Invoice 3-456-1 Data 3	3-456-1	3	3	\$3.00	\$3.00	\$6.00
Invoice 3-456-1 Data 4	3-456-1	4	4	\$4.00	\$4.00	\$12.00
Invoice 3-456-1 Data 5	3-456-1	5	5	\$5.00	\$5.00	\$20.00
Invoice 3-456-1 Data 6	3-456-1	6	6	\$6.00	\$6.00	\$30.00
Invoice 3-456-1 Data 7	3-456-1	7	7	\$7.00	\$7.00	\$42.00
Invoice 3-456-1 Data 8	3-456-1	8	8	\$8.00	\$8.00	\$56.00
Invoice 3-456-1 Data 9	3-456-1	9	9	\$9.00	\$9.00	\$72.00
Invoice 3-456-1 Data 10	3-456-1	10	10	\$10.00	\$10.00	\$90.00
Invoice 3-456-1 Data 11	3-456-1	11	11	\$11.00	\$11.00	\$110.00

6. Examine the formulas in cells D9 and E9. You can see that these are very complex functions that look up and summarize information from the Invoice Details sheet:

The screenshot shows an Excel spreadsheet with the following data:

Acme Widgets Inc.

4756 Jett Lane
Irvine, CA 92614

P: 310-678-0200
F: 310-678-0300

info@acmewidgets.com
www.acmewidgets.com

Bill To: Contoso, Ltd
Address: 567 Walnut Lane
Moline, MO 098765

Phone: 432-555-0189
Fax: 432-555-0123
Email: heather.pelzer@contoso.com

Invoice #: 3-456-2
Invoice Date: 5/11/2018

Invoice For: Project 2

Item #	Description	Qty	Unit Price	Discount	Price
Z4567	Invoice 3-456-2 Data 1	39	\$ 5.00	\$ -	\$ 195.00
Z4568	Invoice 3-456-2 Data 2	40	4.00	5.00	\$ 155.00
Z4569	Invoice 3-456-2 Data 3	30	6.00	7.00	\$ 173.00
Z4570	Invoice 3-456-2 Data 4	40	7.00	-	\$ 280.00
Z4571	Invoice 3-456-2 Data 5	10	4.00	-	\$ 40.00
Z4572	Invoice 3-456-2 Data 6	5	8.00	-	\$ 40.00

The formula bar for cell E9 contains the following formula:

```
=IFERROR(INDEX(InvoiceDetails,SMALL(IF(InvoiceDetails[Invoice #]=rngInvoice,ROW(InvoiceDetails)-ROW(InvoiceDetails[#Headers])),ROW(1:1)),MATCH($E$8,InvoiceDetails[#Headers],0)), "")
```

- Now, click cell G9. This formula is easy to understand – it uses the results of those complex calculations to calculate the total price:

The screenshot shows the Microsoft Excel interface with the following content:

- Formula Bar:** `= (D9*E9)-F9`
- Worksheet Header:** Acme Widgets Inc.
- Address:** 4756 Jett Lane, Irvine, CA 92614. P: 310-678-0200, F: 310-678-0300. info@acmewidgets.com, www.acmewidgets.com
- Bill To:** Contoso, Ltd, 567 Walnut Lane, Moline, MO 098765. Phone: 432-555-0189, Fax: 432-555-0123, Email: heather.pelzer@contoso.com
- Invoice #:** 3-456-2, **Invoice Date:** 5/11/2018
- Invoice For:** Project 2
- Table:**

Item #	Description	Qty	Unit Price	Discount	Price
Z4567	Invoice 3-456-2 Data 1	39	\$ 5.00	\$ -	\$ 195.00
Z4568	Invoice 3-456-2 Data 2	40	4.00	5.00	\$ 155.00
Z4569	Invoice 3-456-2 Data 3	30	6.00	7.00	\$ 173.00
Z4570	Invoice 3-456-2 Data 4	40	7.00	-	\$ 280.00
Z4571	Invoice 3-456-2 Data 5	10	4.00	-	\$ 40.00
Z4572	Invoice 3-456-2 Data 6	5	8.00	-	\$ 40.00

8. Scroll down in the workbook and click cell G28:

	Item #	Description	Qty	Unit Price	Discount	Price
17	Z4575	Invoice 3-456-2 Data 9	5	7.00	3.00	\$ 32.00
18	Z4576	Invoice 3-456-2 Data 10	80	1.00	-	\$ 80.00
19	Z4577	Invoice 3-456-2 Data 11	65	7.00	-	\$ 455.00
20	Z4578	Invoice 3-456-2 Data 12	44	1.00	-	\$ 44.00
21						
22						
23					Invoice Subtotal	\$ 2,014.00
24					Tax Rate	8.75%
25					Sales Tax	176.23
26					Other	-
27					Deposit Received	-
28					TOTAL	\$ 2,190.23

Make all checks payable to Acme Widgets Inc..
Total due in <#> days. Overdue accounts subject to a service charge of <#>% per month.

Formula Bar: =(D9*E9)-F9

Ribbon: FILE | HOME | INSERT | DATA | REVIEW | VIEW | Tell me what you want to do | EDIT IN EXCEL

Worksheet Tabs: Invoice | Invoice Details | Invoices - Main

- This is another simple formula that uses parentheses to control the order of calculations, so that any deposit is subtracted after the total with tax is calculated:

The screenshot shows the Microsoft Excel interface. The formula bar at the top contains the formula `= (G23+G25+G26)-G27`, which is highlighted with a red box. Below the formula bar is a table representing an invoice. The table has columns for Item #, Description, Qty, Unit Price, Discount, and Price. The data rows are as follows:

	Item #	Description	Qty	Unit Price	Discount	Price
17	Z4575	Invoice 3-456-2 Data 9	5	7.00	3.00	\$ 32.00
18	Z4576	Invoice 3-456-2 Data 10	80	1.00	-	\$ 80.00
19	Z4577	Invoice 3-456-2 Data 11	65	7.00	-	\$ 455.00
20	Z4578	Invoice 3-456-2 Data 12	44	1.00	-	\$ 44.00
21						
22						
23					Invoice Subtotal	\$ 2,014.00
24					Tax Rate	8.75%
25					Sales Tax	176.23
26					Other	-
27					Deposit Received	-
28					TOTAL	\$ 2,190.23

Below the table, there is a note: "Make all checks payable to Acme Widgets Inc.. Total due in <#> days. Overdue accounts subject to a service charge of <#>% per month." The "TOTAL" row is highlighted in blue.

- Close Excel to complete this activity.

TOPIC B: Using Formulas and Functions

Functions are the next step in our examination of Excel. The purpose of a function is to provide you with an easy way to perform a complex calculation, so that you can focus on results instead of trying to remember your primary-school maths equations. In this topic, you will explore how to make the best of the functions provided in Excel.

Topic Objectives

In this section, you will learn:

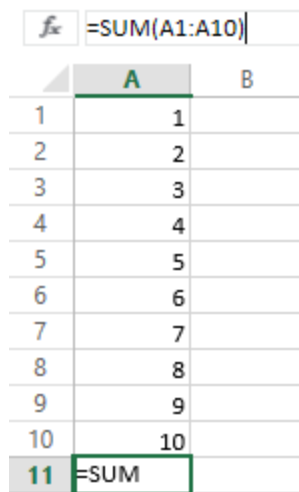
- About functions
- About formula AutoComplete
- How to use the Insert Function dialog box
- How to use AutoSum
- How to view quick calculations in the status bar

About Functions

Functions are pre-made operations that are used to perform calculations. Excel features a few functions relating to basic math, financial applications, logic, date and time, and more.

Arguments define the data to calculate. Together, functions and arguments comprise a **formula**.

For example, if you want to add a column of 10 numbers, you could type `=A1+A2+A3+...etc.`, but that would quickly become tedious and would also make the spreadsheet harder to work with. A much more efficient way of performing this calculation is to use the SUM function, followed by the range of cells you want to add:

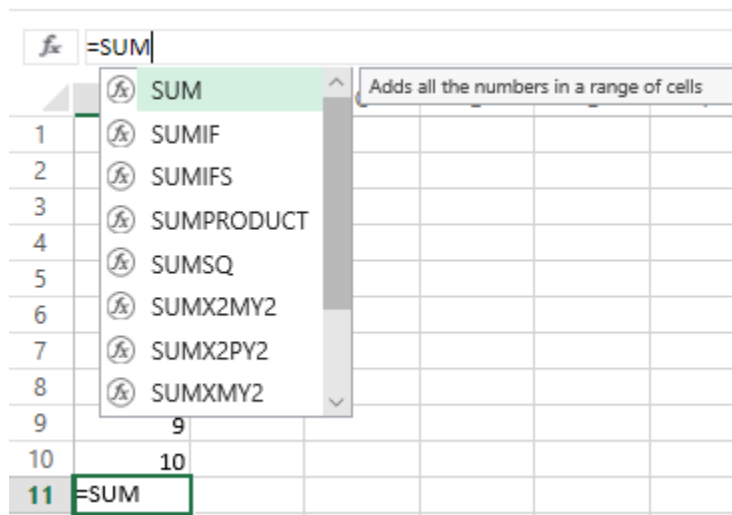


	A	B
1	1	
2	2	
3	3	
4	4	
5	5	
6	6	
7	7	
8	8	
9	9	
10	10	
11	=SUM	

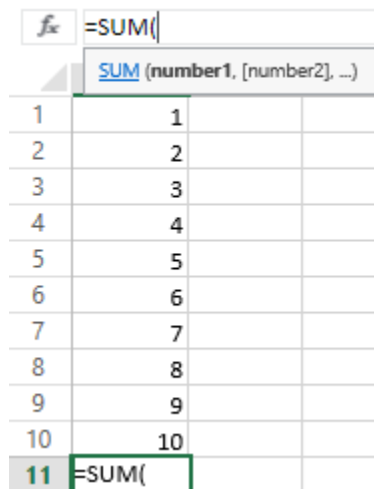
This is much easier than typing out a very long formula and allows for more flexibility if additional rows are added within the range.

Creating a Function with AutoComplete

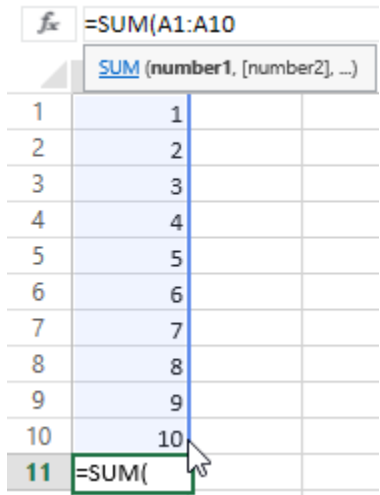
As you are typing into the formula bar, Excel will suggest functions and show a description of the top result:



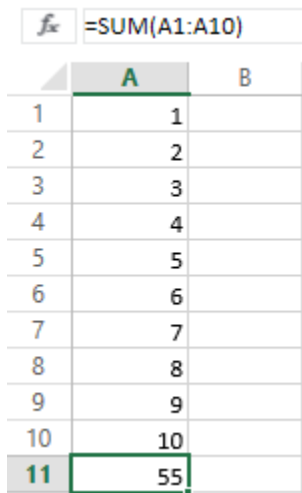
You can use your arrow keys to select the desired function and press “Tab” to apply it, or continue typing and ignore Excel’s suggestions. Once the function is entered, Excel will prompt you to enter each argument (data point) as necessary. For the SUM function, the arguments will be the values and/or cell(s) to be added:



Note that you can click and drag to add cell ranges to the formula:



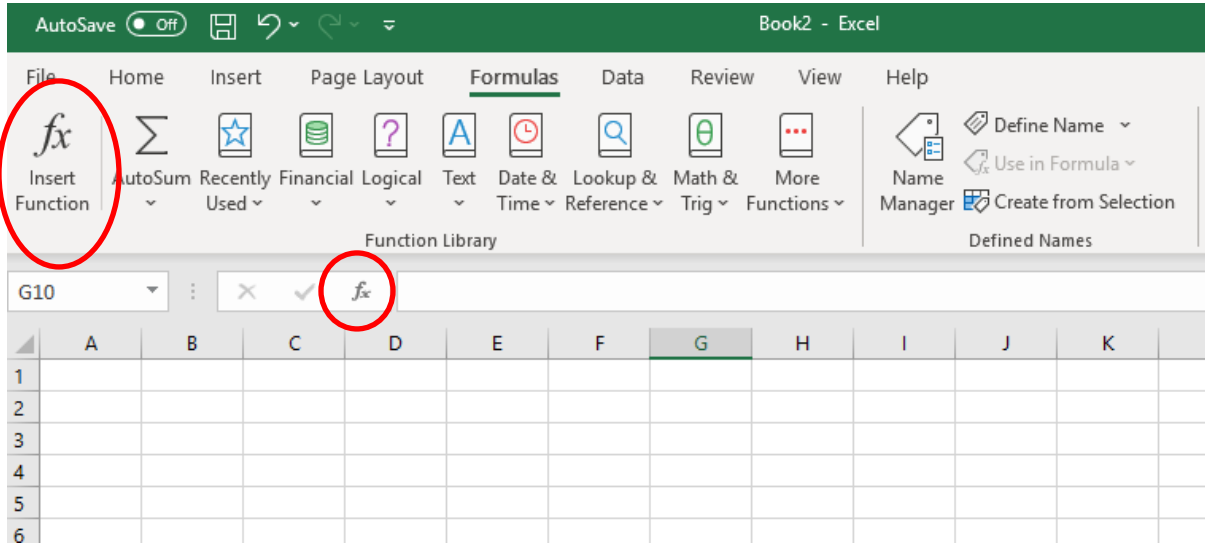
When the formula is complete, add the closing parenthesis, press “Enter,” and Excel will calculate the value:



To ensure your formula is working well, try changing some of the numbers and seeing what happens to the ‘answer’ in A11.

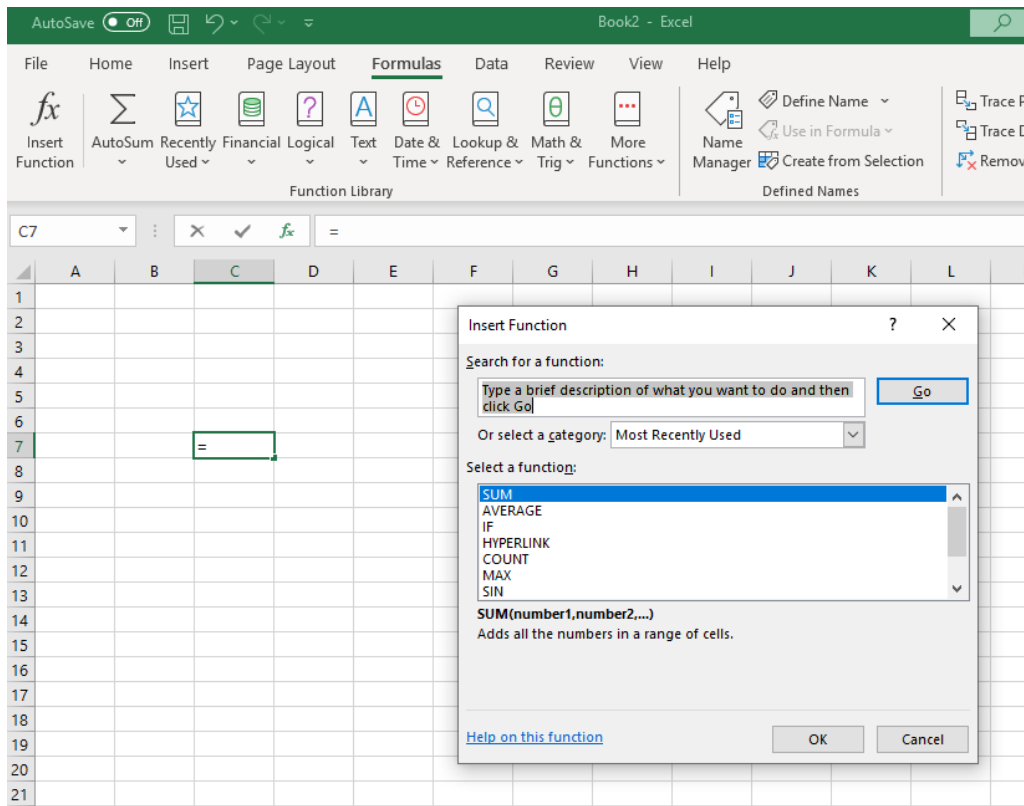
Using the Insert Function Dialog Box

In this example, we used the SUM function, which is quite easy to remember. However, you can also use the Formulas Function dialog box to create functions. To start, click the Formulas tab and click “Insert Function,” or click the Insert Function button on the formula bar:

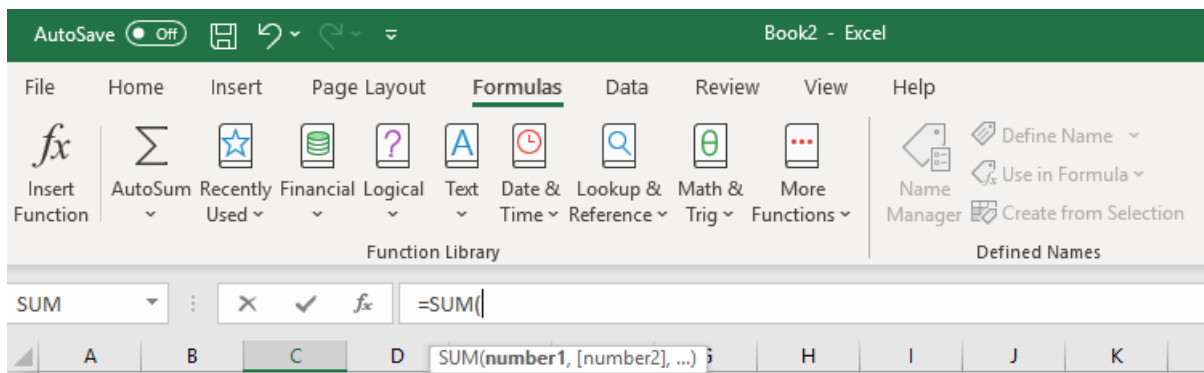


The Insert Function dialog box will open. At the top, you can search for a function:

Then, choose the desired function from the list and click “OK” to insert it:

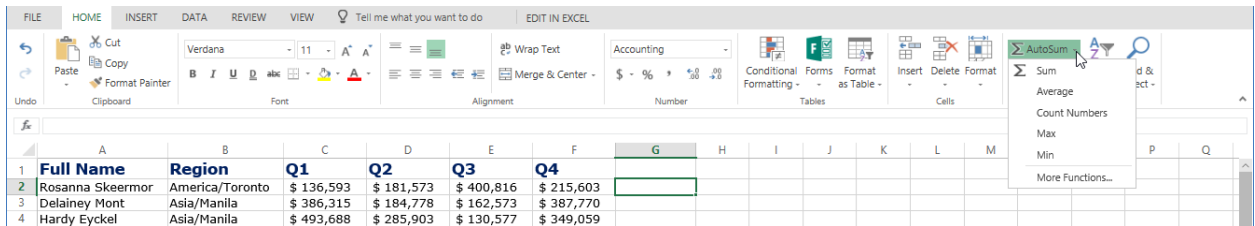


It will now be entered into the cell and the formula bar, ready for you to complete it with arguments:



Using AutoSum

You can also insert common formulas using the AutoSum command on the Home tab. First, click the cell immediately below (if summing a column of data) or to the immediate right (if summing a row of data) of the data you want to calculate. Then, click the AutoSum command to use that function, or click the drop-down arrow to choose a different one:



The function and the arguments will be inserted based on the surrounding data. As well, the column or row of data to be summed will be highlighted:

	A	B	C	D	E	F	G	H
1	Full Name	Region	Q1	Q2	Q3	Q4		
2	Rosanna Skeermor	America/Toronto	\$ 136,593	\$ 181,573	\$ 400,816	\$ 215,603	=SUM(C2:F2)	
3	Delainey Mont	Asia/Manila	\$ 386,315	\$ 184,778	\$ 162,573	\$ 387,770		
4	Hardy Eyckel	Asia/Manila	\$ 493,688	\$ 285,903	\$ 130,577	\$ 349,059		
5	Gardy Howsley	America/Toronto	\$ 420,109	\$ 314,733	\$ 499,214	\$ 353,656		

Press Enter to complete the formula:

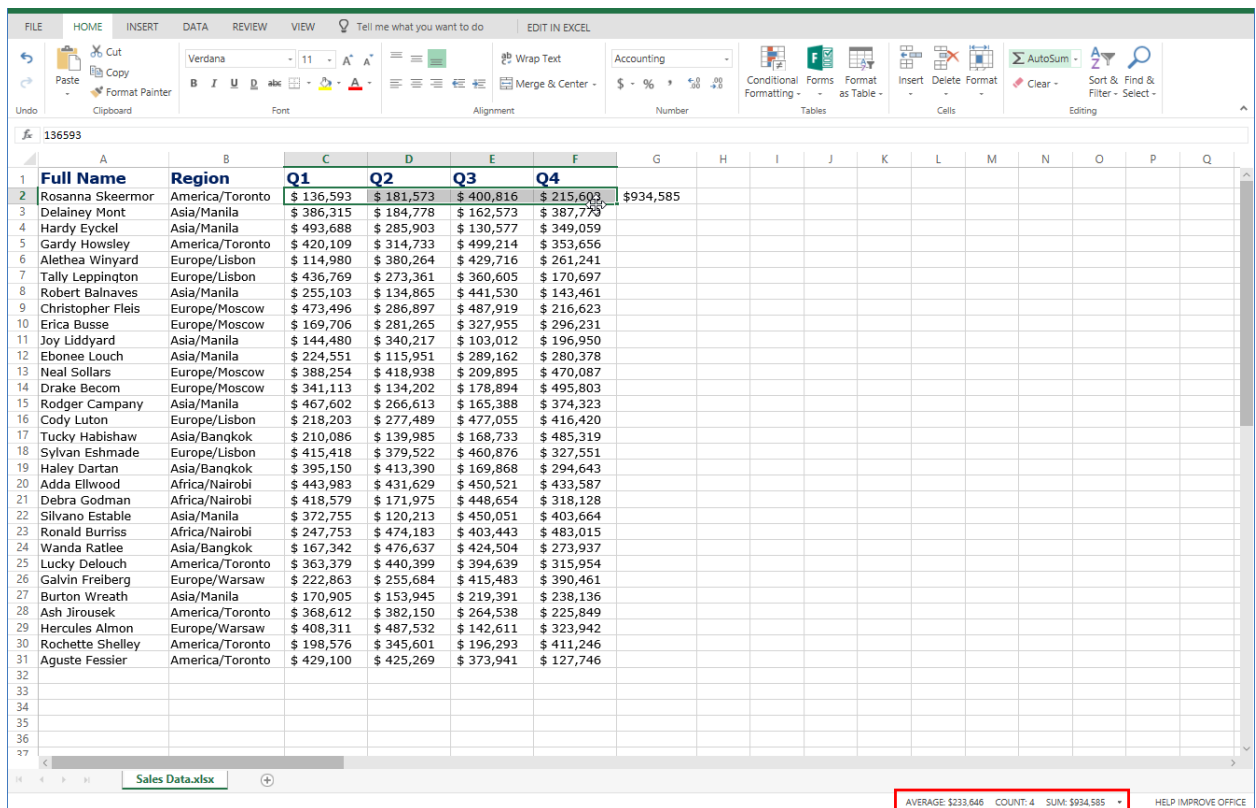
	A	B	C	D	E	F	G
1	Full Name	Region	Q1	Q2	Q3	Q4	
2	Rosanna Skeermor	America/Toronto	\$ 136,593	\$ 181,573	\$ 400,816	\$ 215,603	\$934,585
3	Delainey Mont	Asia/Manila	\$ 386,315	\$ 184,778	\$ 162,573	\$ 387,770	
4	Hardy Eyckel	Asia/Manila	\$ 493,688	\$ 285,903	\$ 130,577	\$ 349,059	
5	Gardy Howsley	America/Toronto	\$ 420,109	\$ 314,733	\$ 499,214	\$ 353,656	

Here is an overview of the functions available in the AutoSum menu.

Name	Description
Sum	Add values in a specified range.
Average	Determine the average value in a range.
Count Numbers	Determine the number of cells that contain a numeric value in a range.
Max	Find the highest value in a range.
Min	Find the lowest value in a range.

Viewing AutoSum Calculations in the Status Bar

When you select a range of data, Excel will automatically calculate the average, count, and sum of the data and display it in the status bar:



Activity 2-2: Using Formulas and Functions

In this activity, you will start working on a rough draft of a sales report.

1. To begin, open Excel. (Refer back to Activity 1-1 if you need help.)
2. Navigate to Lesson 2 of your Excel Essentials Activities folder. Open Activity 2-2: (Refer back to Activity 1-2 if you need help.)
3. Go to cell F2. Type an equals sign. Then, click cell D2:

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	City	State	Office Type	Revenues	Operating Expenses	Operating Profit	Depreciat	Net Profit			Scorecard			
2	Warner, NH		Corporate	125319	65792		4667				Average Revenue			
3	East Natchitoches, RI		Franchise	433924	101465		5068				Highest Revenue			
4	Lyon, MA		Partner	135816	67388		5700				Lowest Expenses			
5	Willow Run, NH		Corporate	233255	83606		5089							
6	Conyersville, RI		Franchise	128691	67175		4956							
7	Mount Baker, NY		Corporate	244913	89974		5062							
8	Farmington Lake, RI		Franchise	392518	82675		6100							
9	Martins Corner, NH		Franchise	331773	85288		5795							
10	Pickrel Narrows, ME		Partner	244975	100834		5153							
11	Willaha, NY		Partner	137925	104528		5673							
12	Center, MA		Corporate	207163	73705		5599							
13	Spring City, MA		Partner	432326	79297		4872							
14	Mittenlana, NY		Partner	177789	103757		5144							
15	East Waterford, ME		Franchise	201945	83178		4734							
16	Coltman, RI		Corporate	461214	86688		6066							
17	Scottsville, NJ		Partner	440462	81912		4842							
18	Hebron, NH		Partner	407339	88286		4604							
19	Longview, MA		Partner	376263	92698		5195							
20	Emerson, NJ		Franchise	149134	87513		5168							

4. Type a minus sign and click cell E2:

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	City	State	Office Type	Revenues	Operating Expenses	Operating Profit	Depreciat	Net Profit			Scorecard			
2	Warner, NH		Corporate	125319	65792	=D2-	4667				Average Revenue			
3	East Natchitoches, RI		Franchise	433924	101465		5068				Highest Revenue			
4	Lyon, MA		Partner	135816	67388		5700				Lowest Expenses			
5	Willow Run, NH		Corporate	233255	83606		5089							
6	Conyersville, RI		Franchise	128691	67175		4956							
7	Mount Baker, NY		Corporate	244913	89974		5062							
8	Farmington Lake, RI		Franchise	392518	82675		6100							
9	Martins Corner, NH		Franchise	331773	85288		5795							
10	Pickrel Narrows, ME		Partner	244975	100834		5153							
11	Willaha, NY		Partner	137925	104528		5673							
12	Center, MA		Corporate	207163	73705		5599							
13	Spring City, MA		Partner	432326	79297		4872							
14	Mittenlana, NY		Partner	177789	103757		5144							
15	East Waterford, ME		Franchise	201945	83178		4734							
16	Coltman, RI		Corporate	461214	86688		6066							
17	Scottsville, NJ		Partner	440462	81912		4842							
18	Hebron, NH		Partner	407339	88286		4604							
19	Longview, MA		Partner	376263	92698		5195							
20	Emerson, NJ		Franchise	149134	87513		5168							

5. Press “Enter” to complete the formula:

	A	B	C	D	E	F	G	H
1	City	State	Office Type	Revenues	Operating Expenses	Operating Profit	Depreciati	Net Pro
2	Warner, NH		Corporate	125319	65792	59527	4667	
3	East Natchitoches, RI		Franchise	433924	101465		5068	
4	Lyon, MA		Partner	135816	67388		5700	
5	Willow Run, NH		Corporate	233255	83606		5089	
6	Conyersville, RI		Franchise	128691	67175		4956	
7	Mount Baker, NY		Corporate	244913	89974		5062	
8	Farmington Lake, RI		Franchise	392518	82675		6100	
9	Martins Corner, NH		Franchise	331773	85288		5795	
10	Pickerel Narrows, ME		Partner	244975	100834		5153	
11	Willaha, NY		Partner	137925	104528		5673	
12	Center, MA		Corporate	207163	73705		5599	
13	Spring City, MA		Partner	432326	79297		4872	
14	Mittenlane, NY		Partner	177789	103757		5144	
15	East Waterford, ME		Franchise	201945	83178		4734	
16	Coltman, RI		Corporate	461214	86688		6066	
17	Scottsville, NJ		Partner	440462	81912		4842	
18	Hebron, NH		Partner	407339	88286		4604	
19	Longview, MA		Partner	376263	92698		5195	
20	Emerson, NJ		Franchise	149134	87513		5168	

6. We will complete the rest of the column in the next activity. For now, click cell H2 and repeat Steps 2 through 5 to create a formula that subtracts depreciation from the operating profit, to calculate the net profit:

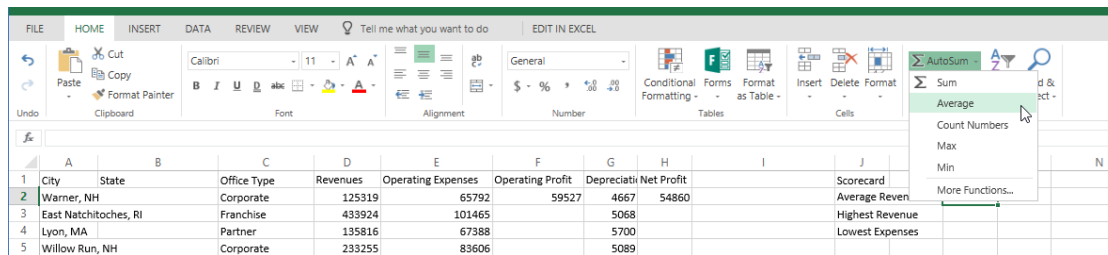
fx =F2-G2

	A	B	C	D	E	F	G	H	I	J	K
1	City	State	Office Type	Revenues	Operating Expenses	Operating Profit	Depreciati	Net Profit			
2	Warner, NH		Corporate	125319	65792	59527	4667	=F2-G2		Scorecard	
3	East Natchitoches, RI		Franchise	433924	101465		5068			Average Revenue	
4	Lyon, MA		Partner	135816	67388		5700			Highest Revenue	
5	Willow Run, NH		Corporate	233255	83606		5089			Lowest Expenses	
6	Conyersville, RI		Franchise	128691	67175		4956				
7	Mount Baker, NY		Corporate	244913	89974		5062				
8	Farmington Lake, RI		Franchise	392518	82675		6100				
9	Martins Corner, NH		Franchise	331773	85288		5795				
10	Pickerel Narrows, ME		Partner	244975	100834		5153				
11	Willaha, NY		Partner	137925	104528		5673				
12	Center, MA		Corporate	207163	73705		5599				
13	Spring City, MA		Partner	432326	79297		4872				
14	Mittenlane, NY		Partner	177789	103757		5144				
15	East Waterford, ME		Franchise	201945	83178		4734				
16	Coltman, RI		Corporate	461214	86688		6066				
17	Scottsville, NJ		Partner	440462	81912		4842				
18	Hebron, NH		Partner	407339	88286		4604				
19	Longview, MA		Partner	376263	92698		5195				
20	Emerson, NJ		Franchise	149134	87513		5168				

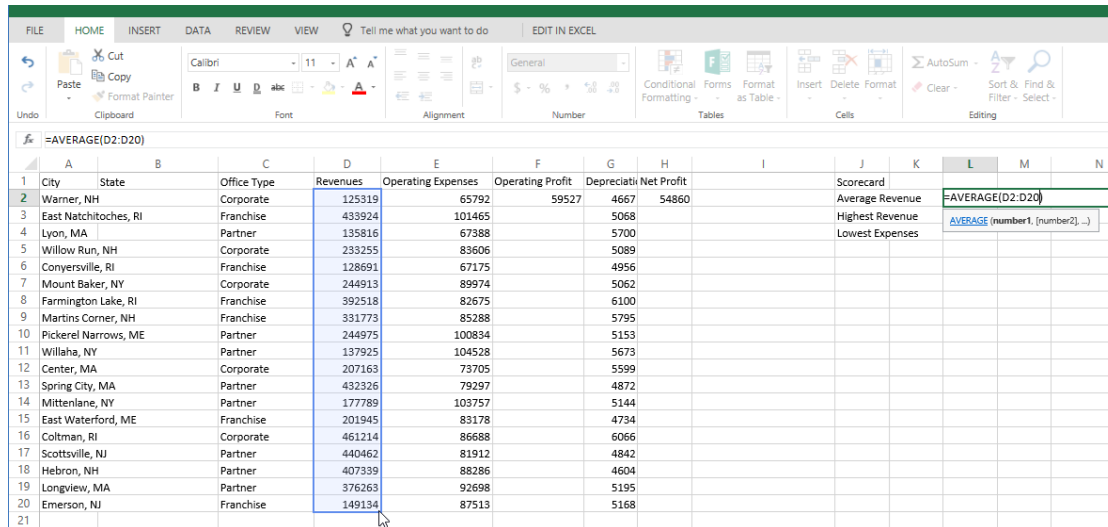
- Now, let's work on our scorecard. Click cell L2, where we want to calculate the average revenue:

	A	B	C	D	E	F	G	H	I	J	K	L
1	City	State	Office Type	Revenues	Operating Expenses	Operating Profit	Depreciat	Net Profit		Scorecard		
2	Warner, NH		Corporate	125319	65792	59527	4667	54860		Average Revenue		
3	East Natchitoches, RI		Franchise	433924	101465		5068			Highest Revenue		
4	Lyon, MA		Partner	135816	67388		5700			Lowest Expenses		
5	Willow Run, NH		Corporate	233255	83606		5089					
6	Conyersville, RI		Franchise	128691	67175		4956					
7	Mount Baker, NY		Corporate	244913	89974		5062					
8	Farmington Lake, RI		Franchise	392518	82675		6100					
9	Martins Corner, NH		Franchise	331773	85288		5795					
10	Pickrel Narrows, ME		Partner	244975	100834		5153					
11	Willaha, NY		Partner	137925	104528		5673					
12	Center, MA		Corporate	207163	73705		5599					
13	Spring City, MA		Partner	432326	79297		4872					
14	Mittenlane, NY		Partner	177789	103757		5144					
15	East Waterford, ME		Franchise	201945	83178		4734					
16	Coltman, RI		Corporate	461214	86688		6066					
17	Scottsville, NJ		Partner	440462	81912		4842					
18	Hebron, NH		Partner	407339	88286		4604					
19	Longview, MA		Partner	376263	92698		5195					
20	Emerson, NJ		Franchise	149134	87513		5168					

- Click the AutoSum arrow on the Home tab and click "Average:"



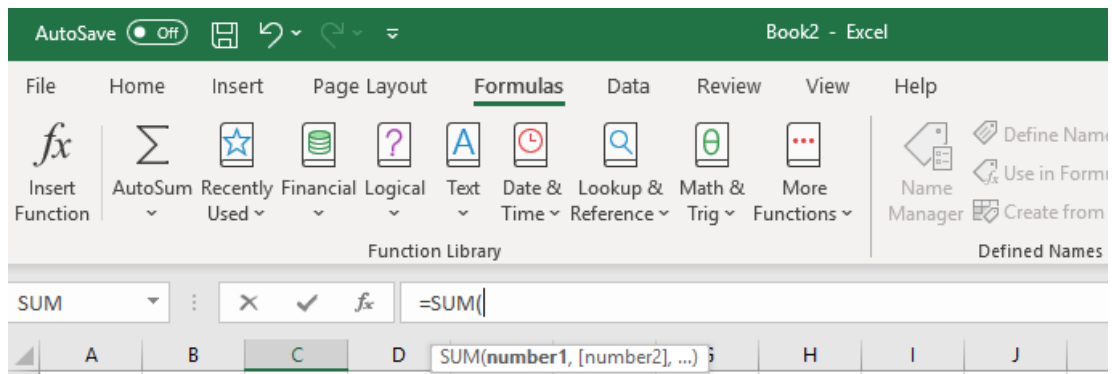
- Click and drag to select cells D2 to D20 instead:



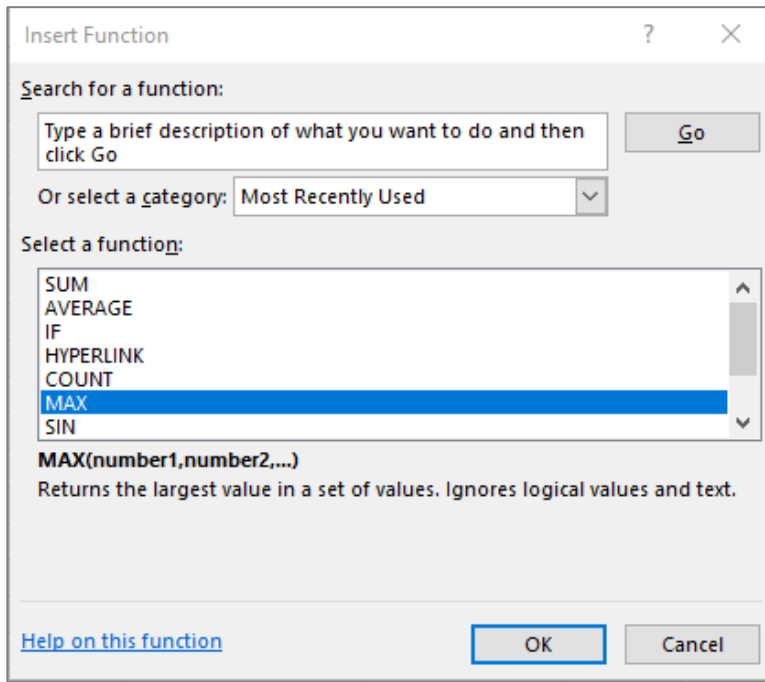
10. Press “Enter” to complete the formula and calculate the results:

J	K	L
Scorecard		
Average Revenue		276986.5
Highest Revenue		
Lowest Expenses		

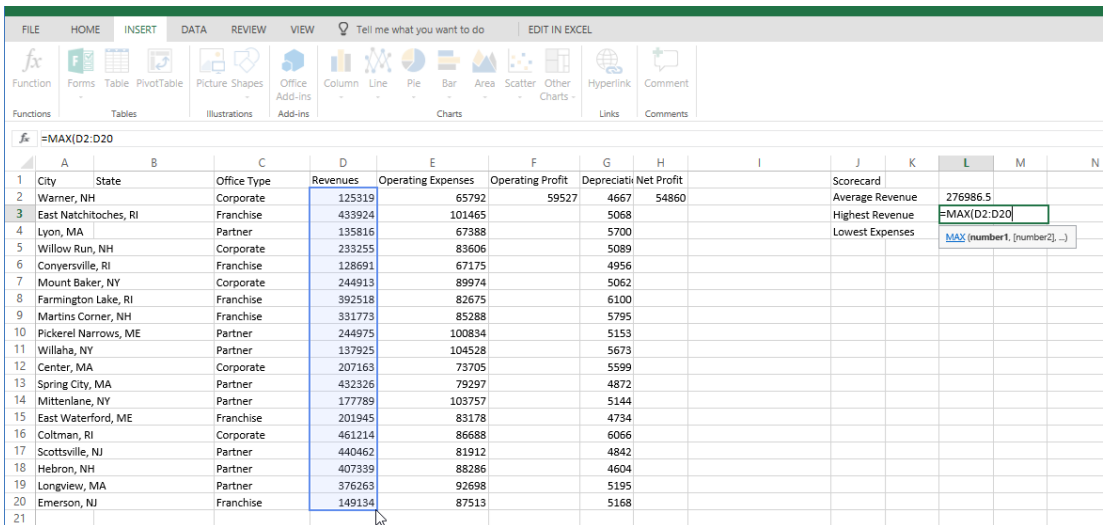
11. Cell L3 should now be selected. This is where we want to display the highest revenue. Let’s use a different method to create this formula. To begin, click “Formula → Insert Function:”



- Ensure that the Most Recently Used category is selected. Then, click the MAX function from the list. Click “OK” to insert it:



- Now, click and drag to select cells D2 to D20:



14. Press “Enter” to complete the formula and calculate the results:

J	K	L
Scorecard		
Average Revenue		276986.5
Highest Revenue		461214
Lowest Expenses		

15. Now, use either the AutoSum command or the Insert Function command to calculate the lowest value in the Expenses column with the MIN function:

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	City	State	Office Type	Revenues	Operating Expenses	Operating Profit	Depreciated	Net Profit		Scorecard			
2	Warner, NH		Corporate	125319	65792	59527	4667	54860		Average Revenue		276986.5	
3	East Natchitoches, RI		Franchise	433924	101465			5068		Highest Revenue		461214	
4	Lyon, MA		Partner	135816	67388			5700		Lowest Expenses		65792	
5	Willow Run, NH		Corporate	233255	83606			5089					
6	Conyersville, RI		Franchise	128691	67175			4956					
7	Mount Baker, NY		Corporate	244913	89974			5062					
8	Farmington Lake, RI		Franchise	392518	82675			6100					
9	Martins Corner, NH		Franchise	331773	85288			5795					
10	Pickereel Narrows, ME		Partner	244975	100834			5153					
11	Willaha, NY		Partner	137925	104528			5673					
12	Center, MA		Corporate	207163	73705			5599					
13	Spring City, MA		Partner	432326	79297			4872					
14	Mittenlane, NY		Partner	177789	103757			5144					
15	East Waterford, ME		Franchise	201945	83178			4734					
16	Coltman, RI		Corporate	461214	86688			6066					
17	Scottsville, NJ		Partner	440462	81912			4842					
18	Hebron, NH		Partner	407339	88286			4604					
19	Longview, MA		Partner	376263	92698			5195					
20	Emerson, NJ		Franchise	149134	87513			5168					

16. Let's double-check the first two values we calculated. Select cells D2 to D20:

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	City	State	Office Type	Revenues	Operating Expenses	Operating Profit	Depreciation	Net Profit						
2	Warner, NH		Corporate	125319	65792	59527	4667	54860		Average Revenue		276986.5		
3	East Natchitoches, RI		Franchise	433924	101465		5068			Highest Revenue		461214		
4	Lyon, MA		Partner	135816	67388		5700			Lowest Expenses		65792		
5	Willow Run, NH		Corporate	233255	83606		5089							
6	Conyersville, RI		Franchise	128691	67175		4956							
7	Mount Baker, NY		Corporate	244913	89974		5062							
8	Farmington Lake, RI		Franchise	392518	82675		6100							
9	Martins Corner, NH		Franchise	331773	85288		5795							
10	Pickrel Narrows, ME		Partner	244975	100834		5153							
11	Willaha, NY		Partner	137925	104528		5673							
12	Center, MA		Corporate	207163	73705		5599							
13	Spring City, MA		Partner	432326	79297		4872							
14	Mittenlana, NY		Partner	177789	103757		5144							
15	East Waterford, ME		Franchise	201945	83178		4734							
16	Coltman, RI		Corporate	461214	86688		6066							
17	Scottsville, NJ		Partner	440462	81912		4842							
18	Hebron, NH		Partner	407339	88286		4604							
19	Longview, MA		Partner	376263	92698		5195							
20	Emerson, NJ		Franchise	149134	87513		5168							
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17. Look at the average calculated in the status bar, and compare it to the average calculated using the function:

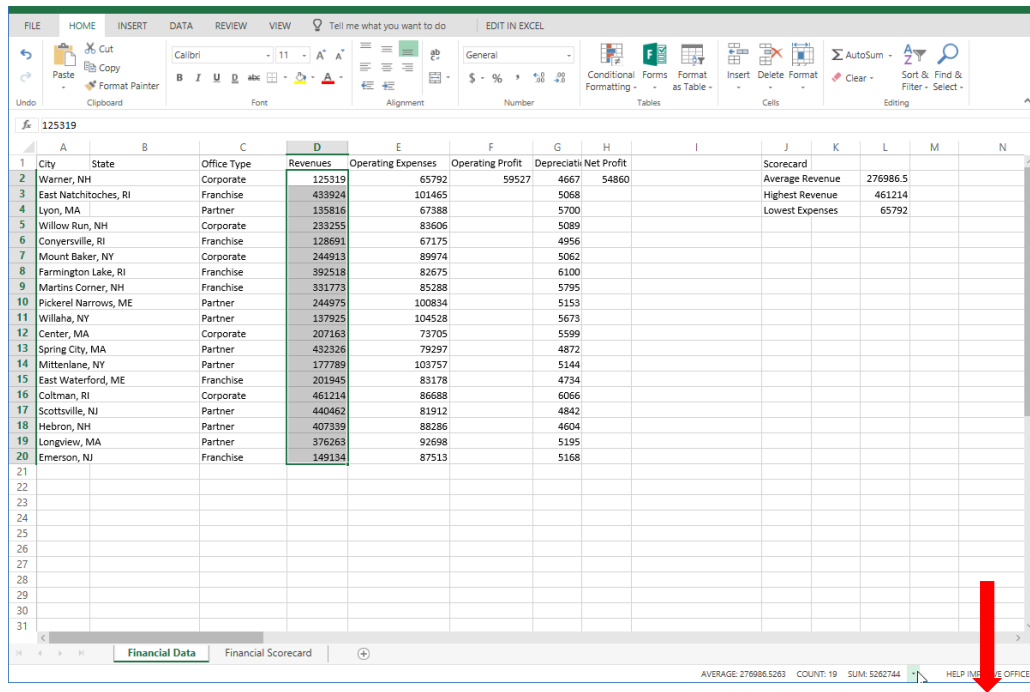
The screenshot shows the Microsoft Excel interface with a financial scorecard table. The table has columns for 'e Type', 'Revenues', 'Operating Expenses', 'Operating Profit', 'Depreciativ', and 'Net Profit'. The 'Revenues' column is highlighted in green. The status bar at the bottom right shows 'AVERAGE: 276986.5263', 'COUNT: 19', and 'SUM: 5262744'. The 'Average Revenue' cell in the table is also highlighted in red.

e Type	Revenues	Operating Expenses	Operating Profit	Depreciativ	Net Profit	Scorecard
orate	125319	65792	59527	4667	54860	Average Revenue 276986.5
:hise	433924	101465		5068		Highest Revenue 461214
er	135816	67388		5700		Lowest Expenses 65792
orate	233255	83606		5089		
:hise	128691	67175		4956		
orate	244913	89974		5062		
:hise	392518	82675		6100		
:hise	331773	85288		5795		
er	244975	100834		5153		
er	137925	104528		5673		
orate	207163	73705		5599		
er	432326	79297		4872		
er	177789	103757		5144		
:hise	201945	83178		4734		
orate	461214	86688		6066		
er	440462	81912		4842		
er	407339	88286		4604		
er	376263	92698		5195		
:hise	149134	87513		5168		

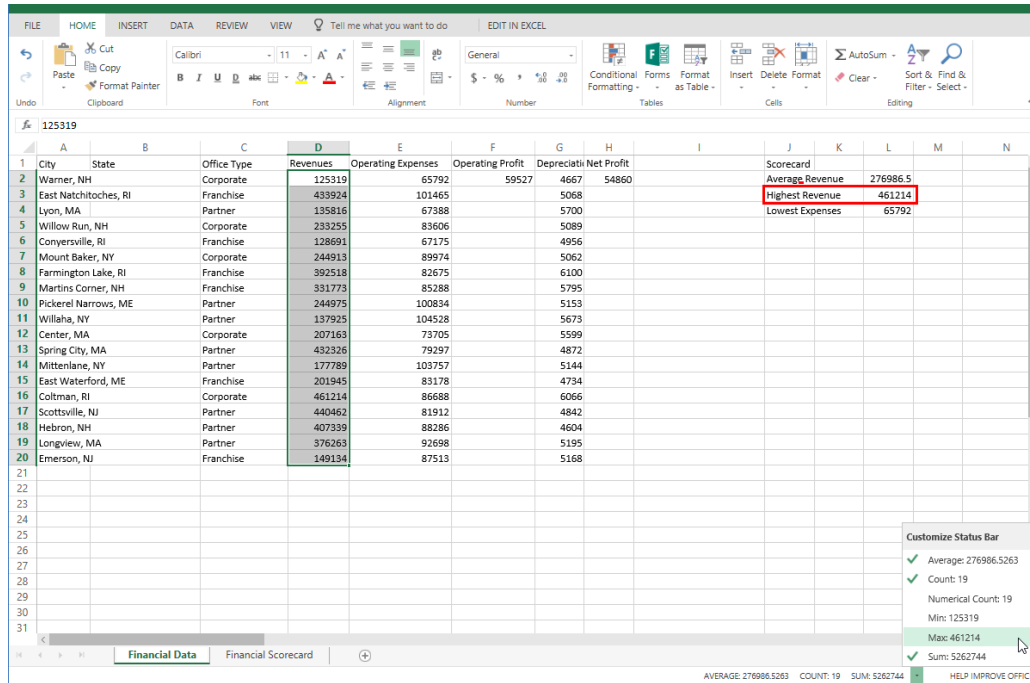
Financial Scorecard (+)

AVERAGE: 276986.5263 COUNT: 19 SUM: 5262744

18. However, the MAX function is not shown here. Right click the status bar next to the AVERAGE calculation:



19. The Max value shown here should match our MAX function:



20. Save As Activity 2-2 complete. Close Excel to complete this activity.

TOPIC C: Working with Data

Excel contains several tools to help reduce your workload and streamline tasks. This topic will introduce you to a few tools and techniques that you can use when working with formulas.


Topic Objectives

In this section, you will learn how to:

- Select cells
- Cut, copy, and paste data
- Use paste options
- Move data with drag and drop
- Use Undo and Redo
- Use AutoFill and Flash Fill

Selecting Cells

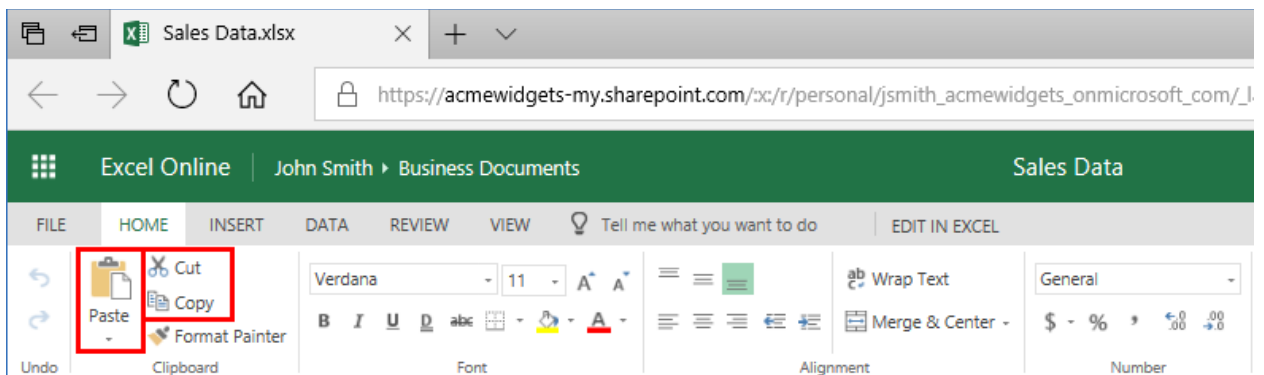
Below are some of the more common techniques that you can use to select various parts of a worksheet:

Select a cell	Click on the cell.
Select a contiguous range of cells	Click the first cell included in the range. Hold down the Shift key and then click on the last cell in the range.
Select an entire row	Click on the numerical header.
Select an entire column	Click on the alphabetic header.
Select an entire worksheet	Click the worksheet selector next to Column A () or press Ctrl + A on your keyboard.

The Cut, Copy, and Paste Commands

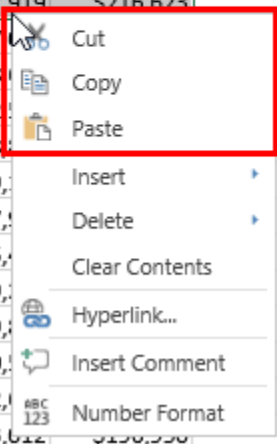
Just like many applications, Excel allows you to move and/or copy cells and their contents to other areas of the workbook or even other applications. You can move a cell's contents using the Cut and Paste commands. To copy a cell's contents, use the Copy and Paste commands.

You can find all of these commands in the Clipboard group of the Home tab:



These commands are also available on the right-click menu:

	A	B	C	D	E	F	G	H
1	Full Name	Region	Sub-Region	Q1	Q2	Q3	Q4	
2	Adda Ellwood	Africa	Nairobi	\$443,983	\$431,629	\$450,521	\$433,587	
3	Aguste Fessier	America	Toronto	\$429,100	\$425,269	\$373,941	\$127,746	
4	Alethea Winyard	Europe	Lisbon	\$114,980	\$380,264	\$429,716	\$261,241	
5	Ash Jirousek	America	Toronto	\$368,612	\$382,150	\$264,538	\$225,849	
6	Burton Wreath	Asia	Manila	\$170,905	\$153,945	\$219,391	\$238,136	
7	Christopher Fleis	Europe	Moscow	\$473,496	\$286,897	\$487,919	\$216,623	
8	Cody Luton	Europe	Lisbon	\$218,203	\$277,489	\$477,622	\$448,222	
9	Debra Godman	Africa	Nairobi	\$418,579	\$171,975	\$448,222	\$162,222	
10	Delainey Mont	Asia	Manila	\$386,315	\$184,778	\$162,222	\$178,222	
11	Drake Becom	Europe	Moscow	\$341,113	\$134,202	\$178,222	\$289,222	
12	Ebonee Louch	Asia	Manila	\$224,551	\$115,951	\$289,222	\$327,222	
13	Erica Busse	Europe	Moscow	\$169,706	\$281,265	\$327,222	\$415,222	
14	Galvin Freiberg	Europe	Warsaw	\$222,863	\$255,684	\$415,222	\$499,222	
15	Gardy Howsley	America	Toronto	\$420,109	\$314,733	\$499,222	\$169,222	
16	Haley Dartan	Asia	Bangkok	\$395,150	\$413,390	\$169,222	\$130,222	
17	Hardy Eyckel	Asia	Manila	\$493,688	\$285,903	\$130,222	\$142,222	
18	Hercules Almon	Europe	Warsaw	\$408,311	\$487,532	\$142,222	\$103,222	
19	Joy Liddyard	Asia	Manila	\$144,480	\$340,217	\$103,222	\$120,222	



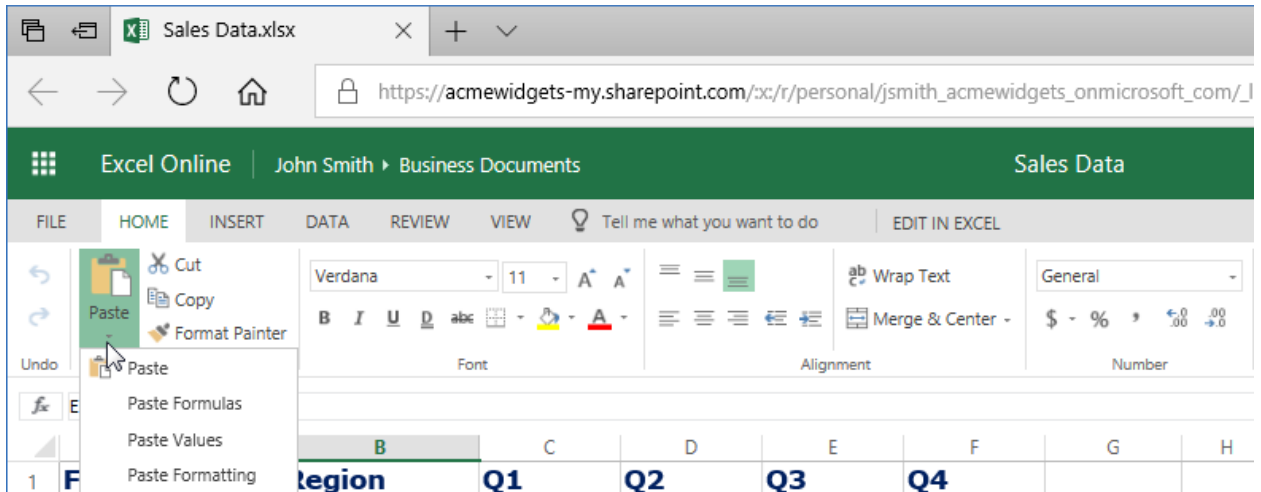
Keyboard Shortcuts

Here are the keyboard shortcuts for these commands.

- **Cut:** Ctrl + X
- **Copy:** Ctrl + C
- **Paste:** Ctrl + V

Using Paste Options

Special paste options are available under the Paste command by clicking the drop-down arrow:



The standard Paste option (at the top and available by clicking directly on the Paste button) is used to paste all formatting with the contents of the cell. You can also choose to paste only the formulas, values, or formatting by selecting one of those options from the menu.

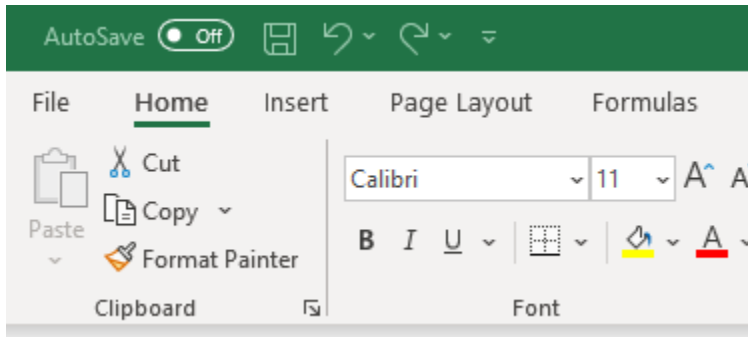
Moving Data with Drag and Drop

You can also move Excel data by selecting cell(s) and dragging and dropping them to a new location:

	A	C	D	E	F	G
1	Full Name	Region	Q1	Q2	Q3	Q4
2	Adda Ellwood	Africa/Nairobi	\$ 443,983	\$ 431,629	\$ 450,521	\$ 433,587
3	Aguste Fessier	America/Toronto	\$ 429,100	\$ 425,269	\$ 373,941	\$ 127,746
4	Alethea Winyard	Europe/Lisbon	\$ 114,980	\$ 380,264	\$ 429,716	\$ 261,241
5	Ash Jirousek	America/Toronto	\$ 368,612	\$ 382,150	\$ 264,538	\$ 225,849
6	Burton Wreath	Asia/Manila	\$ 170,905	\$ 153,945	\$ 219,391	\$ 238,136
7	Christopher Fleis	Europe/Moscow	\$ 473,496	\$ 286,897	\$ 487,919	\$ 216,623
8	Cody Luton	Europe/Lisbon	\$ 218,203	\$ 277,489	\$ 477,055	\$ 416,420
9	Debra Godman	Africa/Nairobi	\$ 418,579	\$ 171,975	\$ 448,654	\$ 318,128
10	Delainey Mont	Asia/Manila	\$ 386,315	\$ 184,778	\$ 162,573	\$ 387,770
11	Drake Becom	Europe/Moscow	\$ 341,113	\$ 134,202	\$ 178,894	\$ 495,803
12	Ebonee Louch	Asia/Manila	\$ 224,551	\$ 115,951	\$ 289,162	\$ 280,378
13	Erica Busse	Europe/Moscow	\$ 169,706	\$ 281,265	\$ 327,955	\$ 296,231
14	Galvin Freiberg	Europe/Warsaw	\$ 222,863	\$ 255,684	\$ 415,483	\$ 390,461
15	Gardy Howsley	America/Toronto	\$ 420,109	\$ 314,733	\$ 499,214	\$ 353,656
16	Haley Dartan	Asia/Bangkok	\$ 395,150	\$ 413,390	\$ 169,868	\$ 294,643
17	Hardy Eyckel	Asia/Manila	\$ 493,688	\$ 285,903	\$ 130,577	\$ 349,059
18	Hercules Almon	Europe/Warsaw	\$ 408,311	\$ 487,532	\$ 142,611	\$ 323,942
19	Joy Liddyard	Asia/Manila	\$ 144,480	\$ 340,217	\$ 103,012	\$ 196,950
20	Lucky Delouch	America/Toronto	\$ 363,379	\$ 440,399	\$ 394,639	\$ 315,954
21	Neal Sollars	Europe/Moscow	\$ 388,254	\$ 418,938	\$ 209,895	\$ 470,087
22	Robert Balnaves	Asia/Manila	\$ 255,103	\$ 134,865	\$ 441,530	\$ 143,461
23	Rochette Shelley	America/Toronto	\$ 198,576	\$ 345,601	\$ 196,293	\$ 411,246
24	Rodger Campany	Asia/Manila	\$ 467,602	\$ 266,613	\$ 165,388	\$ 374,323
25	Ronald Burriss	Africa/Nairobi	\$ 247,753	\$ 474,183	\$ 403,443	\$ 483,015
26	Rosanna Skeermor	America/Toronto	\$ 136,593	\$ 181,573	\$ 400,816	\$ 215,603
27	Silvano Estable	Asia/Manila	\$ 372,755	\$ 120,213	\$ 450,051	\$ 403,664
28	Sylvan Eshmade	Europe/Lisbon	\$ 415,418	\$ 379,522	\$ 460,876	\$ 327,551
29	Tally Leppington	Europe/Lisbon	\$ 436,769	\$ 273,361	\$ 360,605	\$ 170,697
30	Tucky Habishaw	Asia/Bangkok	\$ 210,086	\$ 139,985	\$ 168,733	\$ 485,319
31	Wanda Ratlee	Asia/Bangkok	\$ 167,342	\$ 47,000	\$ 424,504	\$ 273,937
32						

The Undo and Redo Commands

Like many other applications, the Undo command allows you to reverse the last action that you completed. The Redo command, on the other hand, will repeat the last action. Both commands are available on the top ribbon:



You can also perform the Undo command by pressing Ctrl + Z on your keyboard. The shortcut for the Redo command is Ctrl + Y.

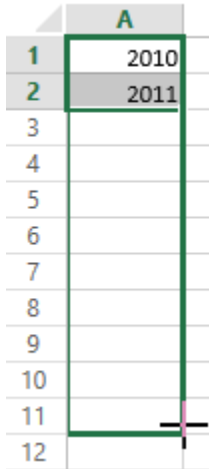
Using AutoFill

AutoFill can help you quickly enter repeated or incremental text and numbers. For example, imagine that you must enter all the years from 2010 to 2020 in a worksheet. Rather than typing each year manually, you can use AutoFill to enter the data quickly and easily.

In order to use AutoFill, you need to establish a pattern. For this example, we will type 2010 in one cell and 2011 immediately below. Then we will select both cells:

	A
1	2010
2	2011
3	

Next, we will click and drag the AutoFill handle (the small green square in the bottom right corner of cell A2 with the black cross) down the worksheet until the desired value is reached. In this case, we know there are 11 numbers in our desired range:



	A
1	2010
2	2011
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	

When you release the mouse button, Excel will automatically fill in the values:



	A
1	2010
2	2011
3	2012
4	2013
5	2014
6	2015
7	2016
8	2017
9	2018
10	2019
11	2020
12	

Excel also comes pre-programmed with some other common AutoFill sequences, including days of the week and months of the year.

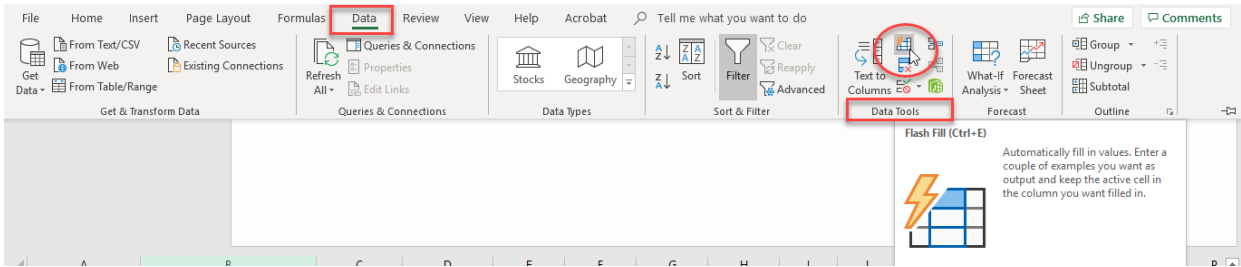
Using Flash Fill

Flash Fill is like AutoFill, but automatically extracts or combines data. Let's look at this worksheet as an example:

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	Full Name	Email Address	Region	Q1	Q2	Q3	Q4								
2	Rosanna Skeermor	r.skeermor@acmewidgets.com	America/Toronto	\$ 136,593	\$ 181,573	\$ 400,816	\$ 215,603								
3	Delainey Mont		Asia/Manila	\$ 386,315	\$ 184,778	\$ 162,573	\$ 387,770								
4	Hardy Eyckel		Asia/Manila	\$ 493,688	\$ 285,903	\$ 130,577	\$ 349,059								
5	Gardy Howsley		America/Toronto	\$ 420,109	\$ 314,733	\$ 499,214	\$ 353,656								
6	Alethea Winyard		Europe/Lisbon	\$ 114,980	\$ 380,264	\$ 429,716	\$ 261,241								
7	Tally Lappington		Europe/Lisbon	\$ 436,769	\$ 273,361	\$ 360,605	\$ 170,697								
8	Robert Balnaves		Asia/Manila	\$ 255,103	\$ 134,865	\$ 441,530	\$ 143,461								
9	Christopher Fleis		Europe/Moscow	\$ 473,496	\$ 286,897	\$ 487,919	\$ 216,623								
10	Erica Busse		Europe/Moscow	\$ 169,706	\$ 281,265	\$ 327,955	\$ 296,231								
11	Joy Liddyard		Asia/Manila	\$ 144,480	\$ 340,217	\$ 103,012	\$ 196,950								
12	Ebonee Louch		Asia/Manila	\$ 224,551	\$ 115,951	\$ 289,162	\$ 280,378								
13	Neal Sollars		Europe/Moscow	\$ 388,254	\$ 418,938	\$ 209,895	\$ 470,087								
14	Drake Becom		Europe/Moscow	\$ 341,113	\$ 134,202	\$ 178,894	\$ 495,803								
15	Rodger Campany		Asia/Manila	\$ 467,602	\$ 266,613	\$ 165,388	\$ 374,323								
16	Cody Luton		Europe/Lisbon	\$ 218,203	\$ 277,489	\$ 477,055	\$ 416,420								
17	Tucky Habishaw		Asia/Bangkok	\$ 210,086	\$ 139,985	\$ 168,733	\$ 485,319								
18	Sylvan Eshmade		Europe/Lisbon	\$ 415,418	\$ 379,522	\$ 460,876	\$ 327,551								
19	Haley Dartan		Asia/Bangkok	\$ 395,150	\$ 413,390	\$ 169,868	\$ 294,643								
20	Adda Ellwood		Africa/Nairobi	\$ 443,983	\$ 431,629	\$ 450,521	\$ 433,587								
21	Debra Godman		Africa/Nairobi	\$ 418,579	\$ 171,975	\$ 448,654	\$ 318,128								
22	Silvano Estable		Asia/Manila	\$ 372,755	\$ 120,213	\$ 450,051	\$ 403,664								
23	Ronald Burriss		Africa/Nairobi	\$ 247,753	\$ 474,183	\$ 403,443	\$ 483,015								
24	Wanda Ratlee		Asia/Bangkok	\$ 167,342	\$ 476,637	\$ 424,504	\$ 273,937								
25	Lucky Delouch		America/Toronto	\$ 363,379	\$ 440,399	\$ 394,639	\$ 315,954								
26	Galvin Freiberg		Europe/Warsaw	\$ 222,863	\$ 255,684	\$ 415,483	\$ 390,461								
27	Burton Wreath		Asia/Manila	\$ 170,905	\$ 153,945	\$ 219,391	\$ 238,136								
28	Ash Jirousek		America/Toronto	\$ 368,612	\$ 382,150	\$ 264,538	\$ 225,849								
29	Hercules Almon		Europe/Warsaw	\$ 408,311	\$ 487,532	\$ 142,611	\$ 323,942								
30	Rochette Shelley		America/Toronto	\$ 198,576	\$ 345,601	\$ 196,293	\$ 411,246								
31	Aguste Fessler		America/Toronto	\$ 429,100	\$ 425,269	\$ 373,941	\$ 127,746								
32															
33															
34															
35															
36															
37															

We know that each person's email address is their first initial with their last name, at the domain "acmewidgets.com." We have filled in the first email address as an example, but it would be quite time-consuming to manually enter each one.

Instead, let's select the column and click "Data → Flash Fill:"



Here are the results:

	A	B	C	D	E	F	G
1	Full Name	Email Address	Region	Q1	Q2	Q3	Q4
2	Rosanna Skeermor	r.skeermor@acmewidgets.com	America/Toronto	\$ 136,593	\$ 181,573	\$ 400,816	\$ 215,603
3	Delainey Mont	d.mont@acmewidgets.com	Asia/Manila	\$ 386,315	\$ 184,778	\$ 162,573	\$ 387,770
4	Hardy Eyckel	h.eyckel@acmewidgets.com	Asia/Manila	\$ 493,688	\$ 285,903	\$ 130,577	\$ 349,059
5	Gardy Howsley	g.howsley@acmewidgets.com	America/Toronto	\$ 420,109	\$ 314,733	\$ 499,214	\$ 353,656
6	Alethea Winyard	a.winyard@acmewidgets.com	Europe/Lisbon	\$ 114,980	\$ 380,264	\$ 429,716	\$ 261,241
7	Tally Leppington	t.leppington@acmewidgets.com	Europe/Lisbon	\$ 436,769	\$ 273,361	\$ 360,605	\$ 170,697
8	Robert Balnaves	r.balnaves@acmewidgets.com	Asia/Manila	\$ 255,103	\$ 134,865	\$ 441,530	\$ 143,461
9	Christopher Fleis	c.fleis@acmewidgets.com	Europe/Moscow	\$ 473,496	\$ 286,897	\$ 487,919	\$ 216,623
10	Erica Busse	e.busse@acmewidgets.com	Europe/Moscow	\$ 169,706	\$ 281,265	\$ 327,955	\$ 296,231
11	Joy Liddyard	j.liddyard@acmewidgets.com	Asia/Manila	\$ 144,480	\$ 340,217	\$ 103,012	\$ 196,950
12	Ebonee Louch	e.louch@acmewidgets.com	Asia/Manila	\$ 224,551	\$ 115,951	\$ 289,162	\$ 280,378
13	Neal Sollars	n.sollars@acmewidgets.com	Europe/Moscow	\$ 388,254	\$ 418,938	\$ 209,895	\$ 470,087
14	Drake Becom	d.becom@acmewidgets.com	Europe/Moscow	\$ 341,113	\$ 134,202	\$ 178,894	\$ 495,803
15	Rodger Campany	r.campany@acmewidgets.com	Asia/Manila	\$ 467,602	\$ 266,613	\$ 165,388	\$ 374,323
16	Cody Luton	c.luton@acmewidgets.com	Europe/Lisbon	\$ 218,203	\$ 277,489	\$ 477,055	\$ 416,420
17	Tucky Habishaw	t.habishaw@acmewidgets.com	Asia/Bangkok	\$ 210,086	\$ 139,985	\$ 168,733	\$ 485,319
18	Sylvan Eshmade	s.eshmade@acmewidgets.com	Europe/Lisbon	\$ 415,418	\$ 379,522	\$ 460,876	\$ 327,551
19	Haley Dartan	h.dartan@acmewidgets.com	Asia/Bangkok	\$ 395,150	\$ 413,390	\$ 169,868	\$ 294,643
20	Adda Ellwood	a.ellwood@acmewidgets.com	Africa/Nairobi	\$ 443,983	\$ 431,629	\$ 450,521	\$ 433,587
21	Debra Godman	d.godman@acmewidgets.com	Africa/Nairobi	\$ 418,579	\$ 171,975	\$ 448,654	\$ 318,128
22	Silvano Estable	s.estable@acmewidgets.com	Asia/Manila	\$ 372,755	\$ 120,213	\$ 450,051	\$ 403,664
23	Ronald Burriss	r.burriss@acmewidgets.com	Africa/Nairobi	\$ 247,753	\$ 474,183	\$ 403,443	\$ 483,015
24	Wanda Ratlee	w.ratlee@acmewidgets.com	Asia/Bangkok	\$ 167,342	\$ 476,637	\$ 424,504	\$ 273,937
25	Lucky Delouch	l.delouch@acmewidgets.com	America/Toronto	\$ 363,379	\$ 440,399	\$ 394,639	\$ 315,954
26	Galvin Freiberg	g.freiberg@acmewidgets.com	Europe/Warsaw	\$ 222,863	\$ 255,684	\$ 415,483	\$ 390,461
27	Burton Wreath	b.wreath@acmewidgets.com	Asia/Manila	\$ 170,905	\$ 153,945	\$ 219,391	\$ 238,136
28	Ash Jirousek	a.jirousek@acmewidgets.com	America/Toronto	\$ 368,612	\$ 382,150	\$ 264,538	\$ 225,849
29	Hercules Almon	h.almon@acmewidgets.com	Europe/Warsaw	\$ 408,311	\$ 487,532	\$ 142,611	\$ 323,942
30	Rochette Shelley	r.shelley@acmewidgets.com	America/Toronto	\$ 198,576	\$ 345,601	\$ 196,293	\$ 411,246
31	Aguste Fessier	a.fessier@acmewidgets.com	America/Toronto	\$ 429,100	\$ 425,269	\$ 373,941	\$ 127,746

Activity 2-3: Working with Data

In this activity, you will use AutoFill and Flash Fill to complete the financial data workbook.

1. To begin, open Excel. (Refer back to Activity 1-1 if you need help.)
2. Navigate to Lesson 2 of your Excel Essentials Activities folder. Open Activity 2-3: (Refer back to Activity 1-2 if you need help.)
3. Click and drag it down to cell F20. This will copy the formula from F2 to all the blank cells, adjusting the references for each row:

City	State	Office Type	Revenues	Operating Expenses	Operating Profit	Depreciation	Net Profit
Warner, NH		Corporate	125319	65792	59527	4667	54860
East Natchitoches, RI		Franchise	433924	101465		5068	
Lyon, MA		Partner	135816	67388		5700	
Willow Run, NH		Corporate	233255	83606		5089	
Conyersville, RI		Franchise	128691	67175		4956	
Mount Baker, NY		Corporate	244913	89974		5062	
Farmington Lake, RI		Franchise	392518	82675		6100	
Martins Corner, NH		Franchise	331773	85288		5795	
Pickrel Narrows, ME		Partner	244975	100834		5153	
Willaha, NY		Partner	137925	104528		5673	
Center, MA		Corporate	207163	73705		5599	
Spring City, MA		Partner	432326	79297		4872	
Mittenlane, NY		Partner	177789	103757		5144	
East Waterford, ME		Franchise	201945	83178		4734	
Coltman, RI		Corporate	461214	86688		6066	
Scottsville, NJ		Partner	440462	81912		4842	
Hebron, NH		Partner	407339	88286		4604	
Longview, MA		Partner	376263	92698		5195	
Emerson, NJ		Franchise	149134	87513		5168	

4. Observe the results:

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	City	State	Office Type	Revenues	Operating Expenses	Operating Profit	Depreciation	Net Profit						
2	Warner, NH		Corporate	125319	65792	59527	4667	54860		Scorecard				
3	East Natchitoches, RI		Franchise	433924	101465	332459	5068			Average Revenue		276986.5		
4	Lyon, MA		Partner	135816	67388	68428	5700			Highest Revenue		461214		
5	Willow Run, NH		Corporate	233255	83606	149649	5089			Lowest Expenses		65792		
6	Conyersville, RI		Franchise	128691	67175	61516	4956							
7	Mount Baker, NY		Corporate	244913	89974	154939	5062							
8	Farmington Lake, RI		Franchise	392518	82675	309843	6100							
9	Martins Corner, NH		Franchise	331773	85288	246485	5795							
10	Pickerel Narrows, ME		Partner	244975	100834	144141	5153							
11	Willaha, NY		Partner	137925	104528	33397	5673							
12	Center, MA		Corporate	207163	73705	133458	5599							
13	Spring City, MA		Partner	432326	79297	353029	4872							
14	Mittenlane, NY		Partner	177789	103757	74032	5144							
15	East Waterford, ME		Franchise	201945	83178	118767	4734							
16	Coltman, RI		Corporate	461214	86688	374526	6066							
17	Scottsville, NJ		Partner	440462	81912	358550	4842							
18	Hebron, NH		Partner	407339	88286	319053	4604							
19	Longview, MA		Partner	376263	92698	283565	5195							
20	Emerson, NJ		Franchise	149134	87513	61621	5168							
21														
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30														
31														

Financial Data | Financial Scorecard | AVERAGE: 191420.2632 | COUNT: 19 | SUM: 3636985 | HELP IMPROVE O

5. Repeat this process with column H:

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	City	State	Office Type	Revenues	Operating Expenses	Operating Profit	Depreciation	Net Profit		Scorecard				
2	Warner, NH		Corporate	125319	65792	59527	4667	54860		Average Revenue	276986.5			
3	East Natchitoches, RI		Franchise	433924	101465	332459	5068			Highest Revenue	461214			
4	Lyon, MA		Partner	135816	67388	68428	5700			Lowest Expenses	65792			
5	Willow Run, NH		Corporate	233255	83606	149649	5089							
6	Conyersville, RI		Franchise	128691	67175	61516	4956							
7	Mount Baker, NY		Corporate	244913	89974	154939	5062							
8	Farmington Lake, RI		Franchise	392518	82675	309843	6100							
9	Martins Corner, NH		Franchise	331773	85288	246485	5795							
10	Pickrel Narrows, ME		Partner	244975	100834	144141	5153							
11	Willaha, NY		Partner	137925	104528	33397	5673							
12	Center, MA		Corporate	207163	73705	133458	5599							
13	Spring City, MA		Partner	432326	79297	353029	4872							
14	Mittenlana, NY		Partner	177789	103757	74032	5144							
15	East Waterford, ME		Franchise	201945	83178	118767	4734							
16	Coltman, RI		Corporate	461214	86688	374526	6066							
17	Scottsville, NJ		Partner	440462	81912	358550	4842							
18	Hebron, NH		Partner	407339	88286	319053	4604							
19	Longview, MA		Partner	376263	92698	283565	5195							
20	Emerson, NJ		Franchise	149134	87513	61621	5168							
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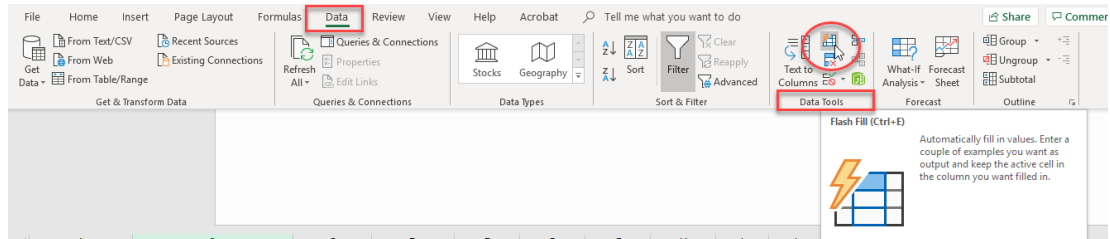
6. Now, let's use Flash Fill to separate the State abbreviations in Column A into Column B. Click in cell B2 and type "NH" as this is the State referenced in A2:

	A	B	C
1	City	State	Office Type
2	Warner, NH	NH	Corporate
3	East Natchitoches, RI		Franchise
4	Lyon, MA		Partner

7. Select Column B by clicking the column header:

	A	B	C	D	E	F	G	H
1	City	State	Office Type	Revenues	Operating Expenses	Operating Profit	Depreciat	Net Pro
2	Warner, NH	NH	Corporate	125319	65792	59527	4667	548
3	East Natch	Proches, RI	Franchise	433924	101465	332459	5068	3273
4	Lyon, MA		Partner	135816	67388	68428	5700	627
5	Willow Run	NH	Corporate	233255	83606	149649	5089	1445
6	Conyersville,	RI	Franchise	128691	67175	61516	4956	565
7	Mount Baker,	NY	Corporate	244913	89974	154939	5062	1498
8	Farmington Lake,	RI	Franchise	392518	82675	309843	6100	3037
9	Martins Corner,	NH	Franchise	331773	85288	246485	5795	2406
10	Pickereel Nar	rows, ME	Partner	244975	100834	144141	5153	1385
11	Willaha, NY		Partner	137925	104528	33397	5673	277
12	Center, MA		Corporate	207163	73705	133458	5599	1278
13	Spring City,	MA	Partner	432326	79297	353029	4872	3481
14	Mittenlane,	NY	Partner	177789	103757	74032	5144	688
15	East Waterfo	rd, ME	Franchise	201945	83178	118767	4734	114C
16	Coltman, RI		Corporate	461214	86688	374526	6066	3684
17	Scottsville,	WJ	Partner	440462	81912	358550	4842	3537
18	Hebron, NH		Partner	407339	88286	319053	4604	3144
19	Longview, MA		Partner	376263	92698	283565	5195	2783
20	Emerson, N		Franchise	149134	87513	61621	5168	564

8. Click “Data → Flash Fill:”



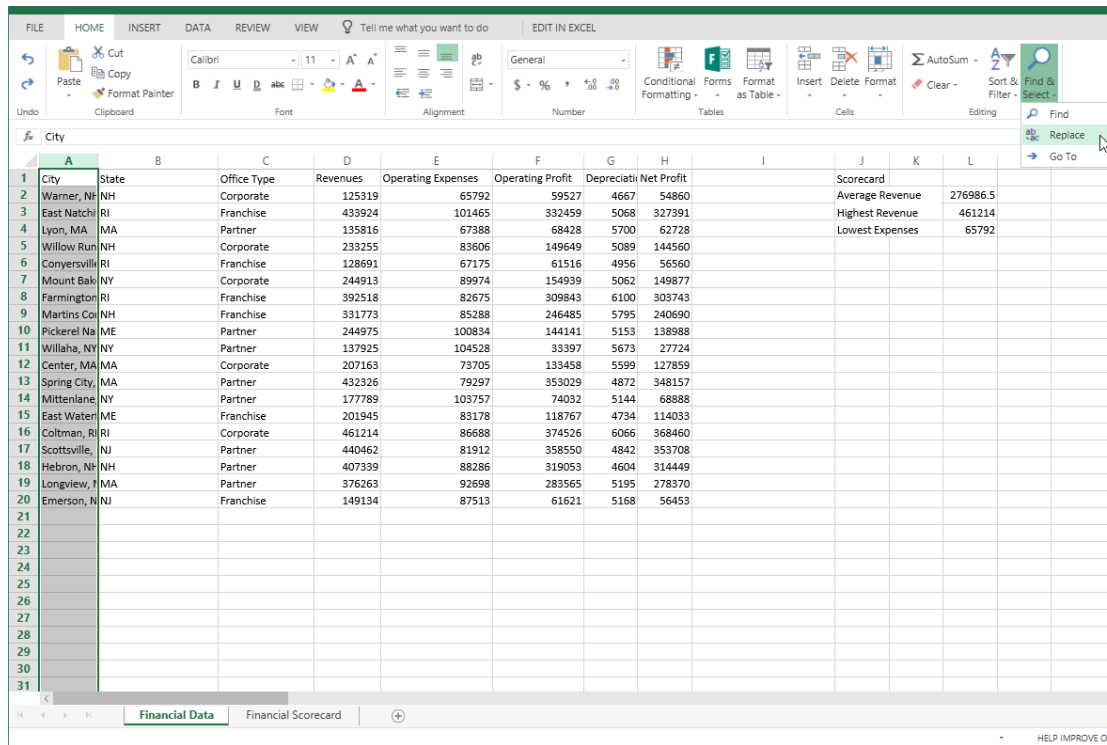
9. Observe the results:

	A	B	C	D	E	F	G	H
1	City	State	Office Type	Revenues	Operating Expenses	Operating Profit	Depreciat	Net Profit
2	Warner, NH	NH	Corporate	125319	65792	59527	4667	54860
3	East Natchi	RI	Franchise	433924	101465	332459	5068	327391
4	Lyon, MA	MA	Partner	135816	67388	68428	5700	62728
5	Willow Run	NH	Corporate	233255	83606	149649	5089	144560
6	Conyersville	RI	Franchise	128691	67175	61516	4956	56560
7	Mount Bak	NY	Corporate	244913	89974	154939	5062	149877
8	Farmington	RI	Franchise	392518	82675	309843	6100	303743
9	Martins Co	NH	Franchise	331773	85288	246485	5795	240690
10	Pickrel Na	ME	Partner	244975	100834	144141	5153	138988
11	Willaha, NY	NY	Partner	137925	104528	33397	5673	27724
12	Center, MA	MA	Corporate	207163	73705	133458	5599	127859
13	Spring City,	MA	Partner	432326	79297	353029	4872	348157
14	Mittenlane,	NY	Partner	177789	103757	74032	5144	68888
15	East Water	ME	Franchise	201945	83178	118767	4734	114033
16	Coltman, RI	RI	Corporate	461214	86688	374526	6066	368460
17	Scottsville,	NJ	Partner	440462	81912	358550	4842	353708
18	Hebron, NH	NH	Partner	407339	88286	319053	4604	314449
19	Longview, MA	MA	Partner	376263	92698	283565	5195	278370
20	Emerson, N	NJ	Franchise	149134	87513	61621	5168	56453
21								
22								
23								

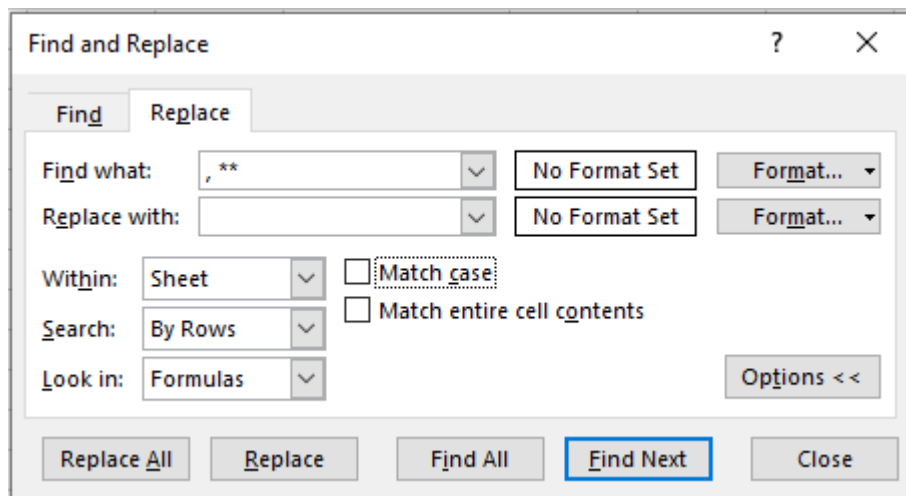
10. Let's use the Find & Replace tool to clean up Column A. Click the column header to select it:

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	City	State	Office Type	Revenues	Operating Expenses	Operating Profit	Depreciat	Net Profit						
2	Warner, NH	NH	Corporate	125319	65792	59527	4667	54860	Scorecard					
3	East Natchi	RI	Franchise	433924	101465	332459	5068	327391	Average Revenue	276986.5				
4	Lyon, MA	MA	Partner	135816	67388	68428	5700	62728	Highest Revenue	461214				
5	Willow Run	NH	Corporate	233255	83606	149649	5089	144560	Lowest Expenses	65792				
6	Conyersville	RI	Franchise	128691	67175	61516	4956	56560						
7	Mount Bak	NY	Corporate	244913	89974	154939	5062	149877						
8	Farmington	RI	Franchise	392518	82675	309843	6100	303743						
9	Martins Co	NH	Franchise	331773	85288	246485	5795	240690						
10	Pickrel Na	ME	Partner	244975	100834	144141	5153	138988						
11	Willaha, NY	NY	Partner	137925	104528	33397	5673	27724						
12	Center, MA	MA	Corporate	207163	73705	133458	5599	127859						
13	Spring City,	MA	Partner	432326	79297	353029	4872	348157						
14	Mittenlane,	NY	Partner	177789	103757	74032	5144	68888						
15	East Water	ME	Franchise	201945	83178	118767	4734	114033						
16	Coltman, RI	RI	Corporate	461214	86688	374526	6066	368460						
17	Scottsville,	NJ	Partner	440462	81912	358550	4842	353708						
18	Hebron, NH	NH	Partner	407339	88286	319053	4604	314449						
19	Longview, MA	MA	Partner	376263	92698	283565	5195	278370						
20	Emerson, N	NJ	Franchise	149134	87513	61621	5168	56453						
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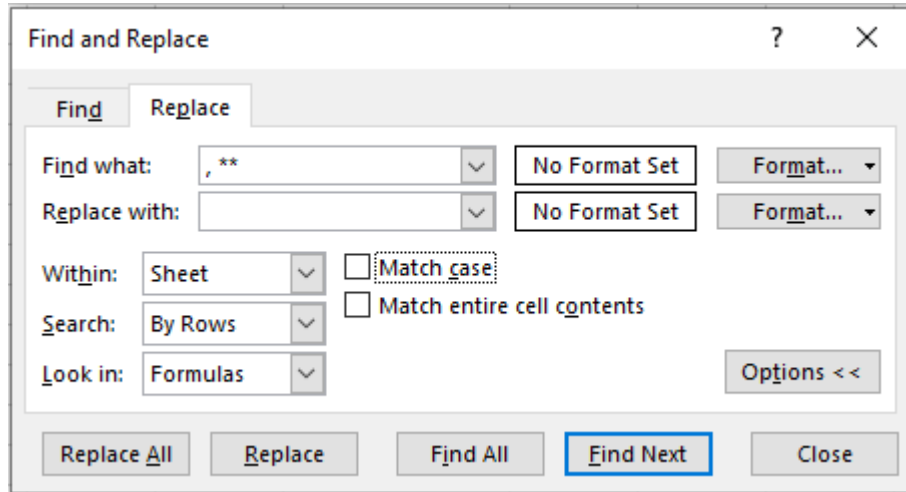
11. Click “Home → Find & Select → Replace:”



12. The Find and Replace dialog box will open. To find all state abbreviations, enter “, **” in the “Find what” field. This will find all values that contain a comma plus any two characters:



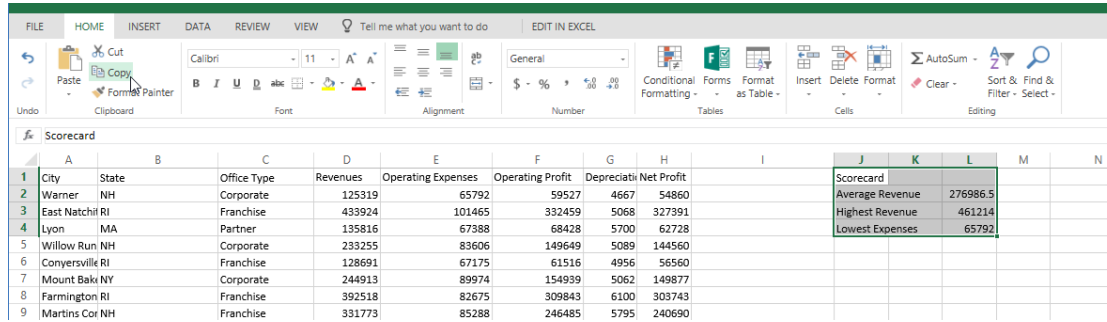
13. Leave the “Replace with” field blank. Ensure that the Within menu says “Sheet”. (If it does not, click the drop-down arrow and choose Sheet from the menu.) Then, click “Replace All:”



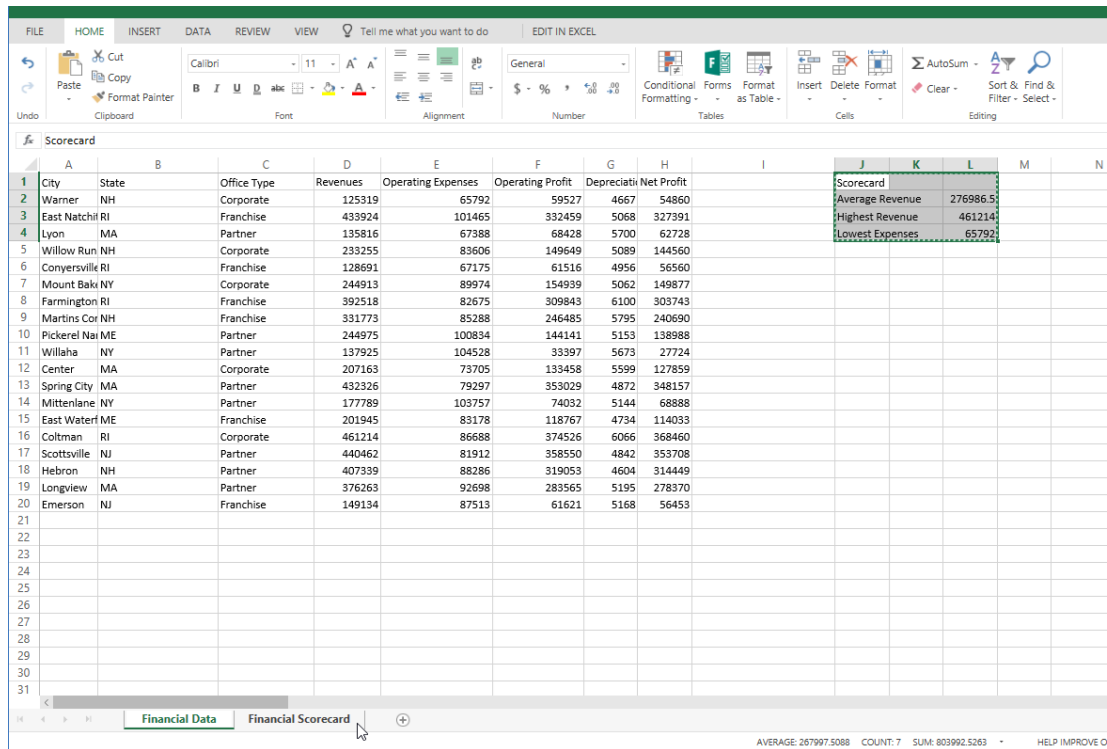
14. The replacement will now be made. Close the dialog box and observe the changes to the data
15. Finally, we need to copy the Scorecard data to its own sheet. Select cells J2 through to L4 by clicking and dragging:

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	City	State	Office Type	Revenues	Operating Expenses	Operating Profit	Depreciat	Net Profit		Scorecard				
2	Warner	NH	Corporate	125319	65792	59527	4667	54860		Average Revenue	276986.5			
3	East Natchi	RI	Franchise	433924	101465	332459	5068	327391		Highest Revenue	461214			
4	Lyon	MA	Partner	135816	67388	68428	5700	62728		Lowest Expenses	65792			
5	Willow Run	NH	Corporate	233255	83606	149649	5089	144560						
6	Conyersville	RI	Franchise	128691	67175	61516	4956	56560						
7	Mount Baki	NY	Corporate	244913	89974	154939	5062	149877						
8	Farmington	RI	Franchise	392518	82675	309843	6100	303743						

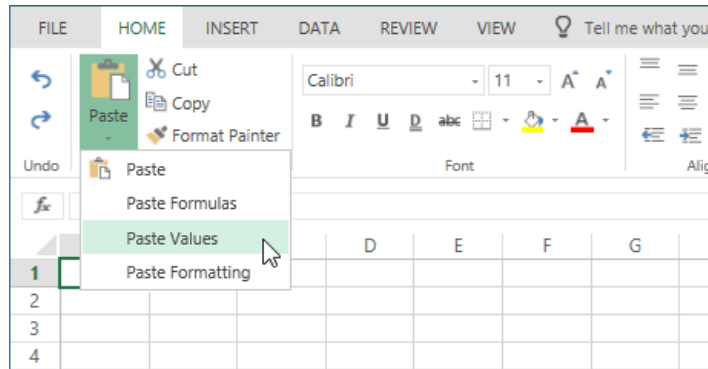
16. Click “Home → Copy:”



17. Click the Financial Scorecard worksheet tab:



18. Ensure your cursor is in cell A1. Click “Home → Paste arrow → Paste Values:”



19. The data will be pasted:

	A	B	C
1	Scorecard		
2	Average Revenue		276986.5
3	Highest Revenue		461214
4	Lowest Expenses		65792

If you select one of the cells in Column C and click in the formula bar, you will notice that the formulas have been replaced by static values. This is because we selected the Values option to prevent the formulas from breaking during the copy process.

20. Save As ‘Activity 2-3 complete’ and close Excel to complete this activity.

TOPIC D: Working with Rows and Columns

The next level of working with data in Excel is modifying entire rows and columns. In this topic, we will learn about inserting, deleting, resizing, hiding, and showing rows and columns. We will also discuss the Clear feature, which allows you to clear contents and/or formatting from cells.

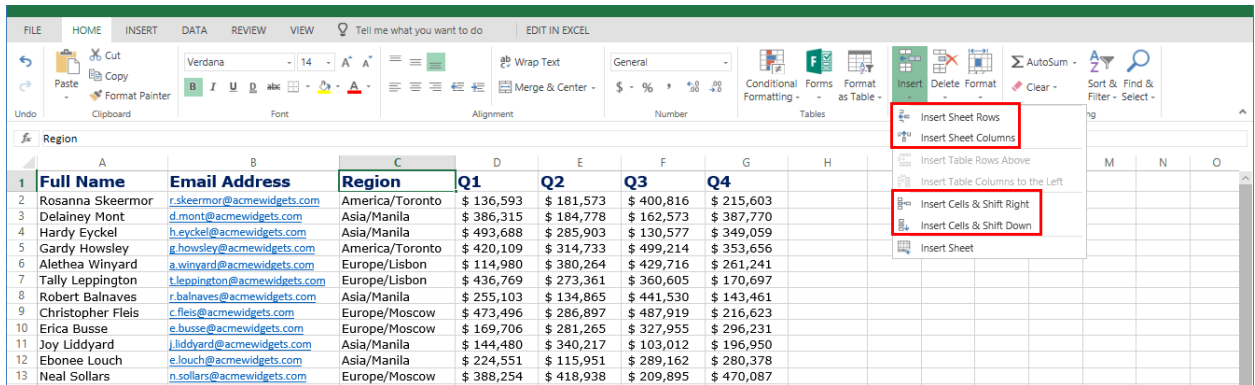
Topic Objectives

In this section, you will learn how to:

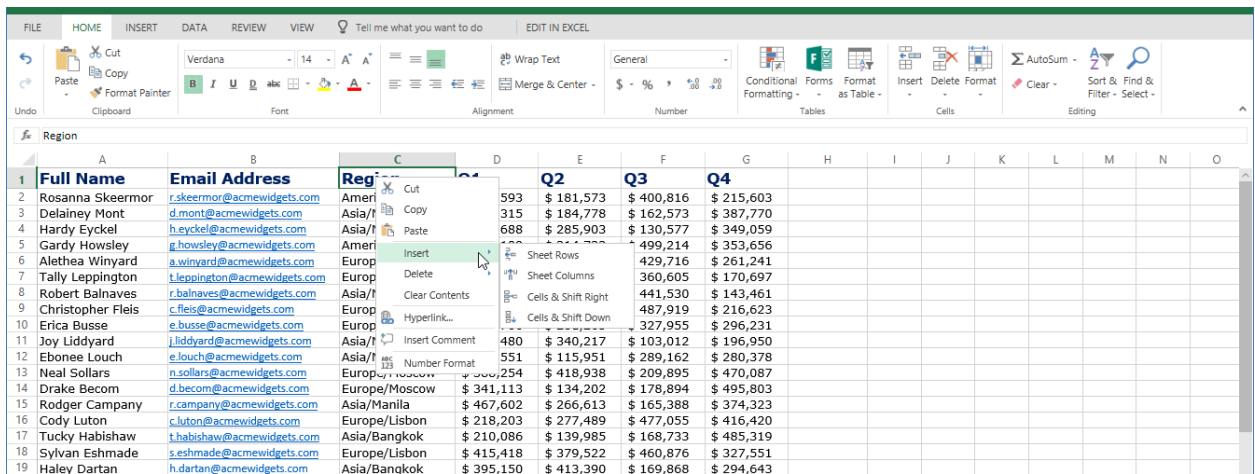
- Insert, delete, resize, hide, and unhide rows and columns
- Clear contents and formatting from cells

Inserting Rows and Columns

To insert a new column, click the column to the left of where you want the new column to appear. Or, to insert a new row, click the row above where you want the new one to appear. Then, click “Home → Insert” and choose what to insert:

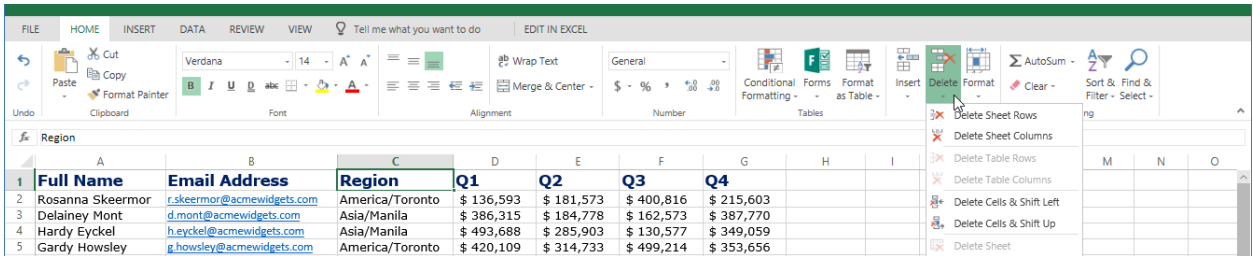


(Notice that you can also insert individual cells from this menu.) You can also access these options from the right-click menu:

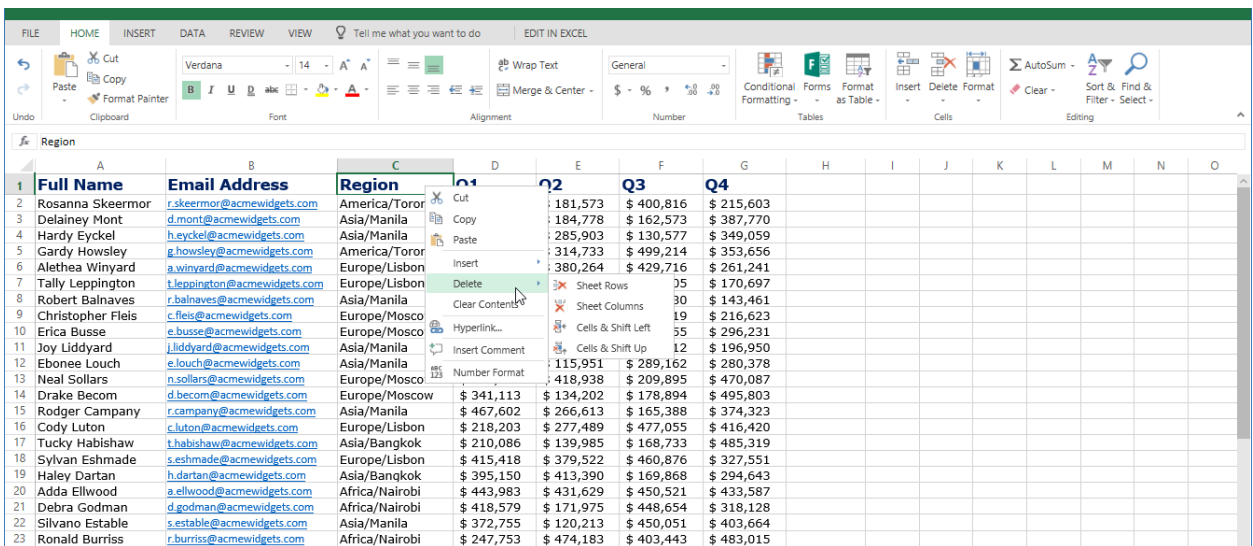


Deleting Rows and Columns

Deleting rows and columns works in the same way, with commands available on the Home tab:

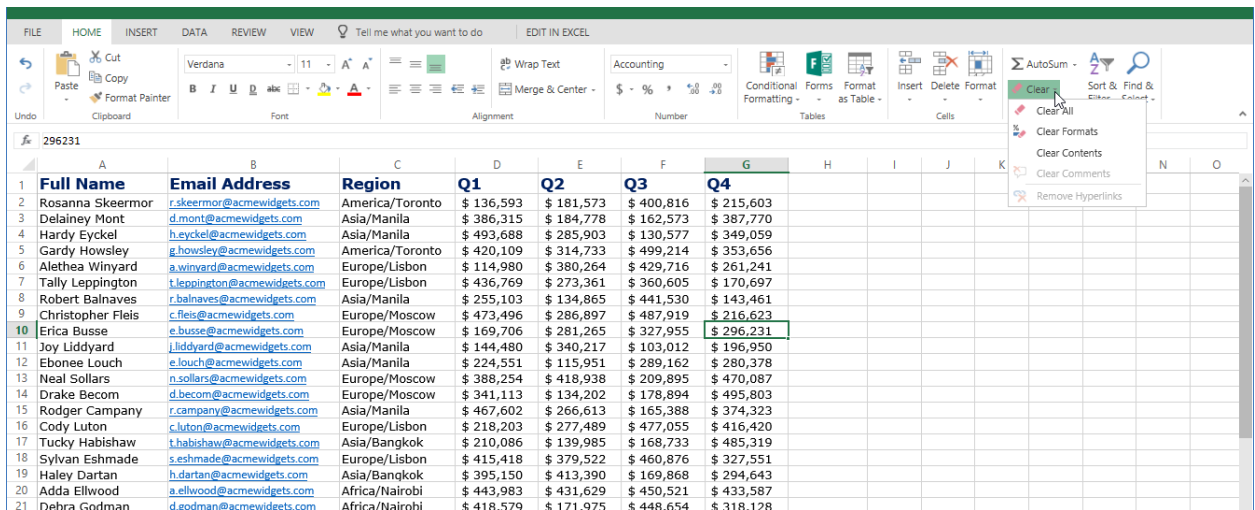


And the right-click menu:



Clearing Data from Cells

If you just want to clear the data from cells (rather than deleting the cell itself), you can do so by clicking “Home → Clear → [object type]:”

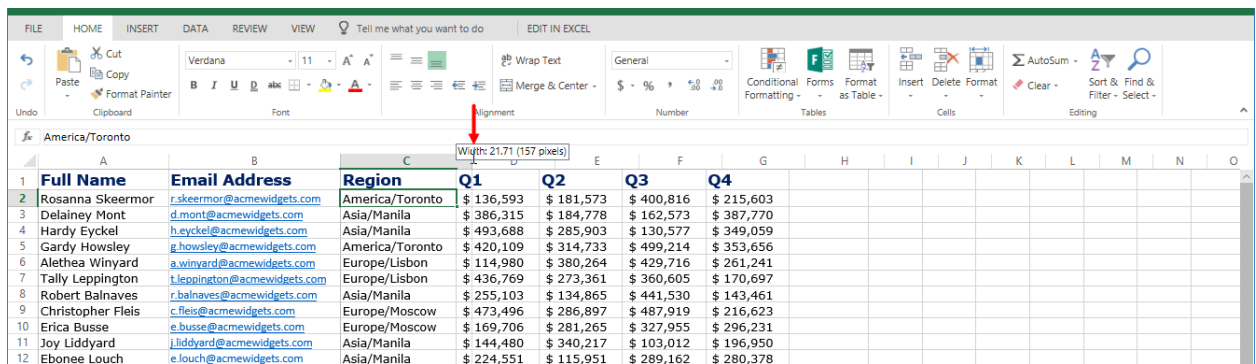


Alternatively, you can clear all of these objects at once by clicking “Home → Clear → Clear All.” As well, there is a Clear Contents command on the right-click menu.

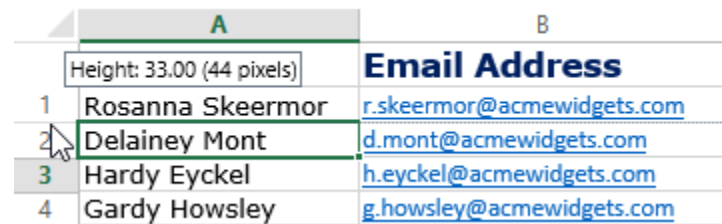
Changing Column Width and Row Height

Sometimes it will be necessary to change the size of a row or column in order to display all the data in the cell. You also might want to change the size of a row or column just for appearance. In either case, resizing a row or column is quite easy.

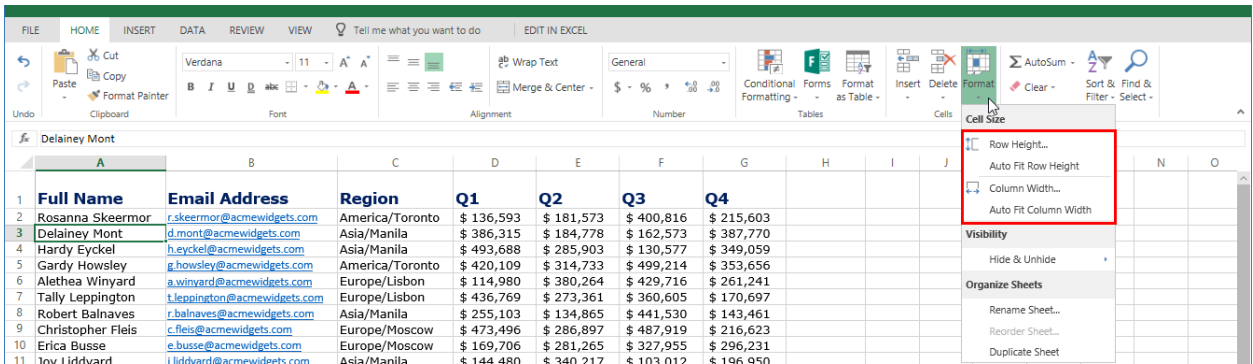
To change the size of a column, place your mouse pointer on the line that divides the column headers. (For example, if you wanted to change the size of column C, you would place your mouse pointer on the line separating C and D.) Your cursor will turn into a vertical line with a small arrow on either side. When you see this pointer, click and hold the left mouse button to drag the column edge to the left or right. As you drag, you will see the size in pixels:



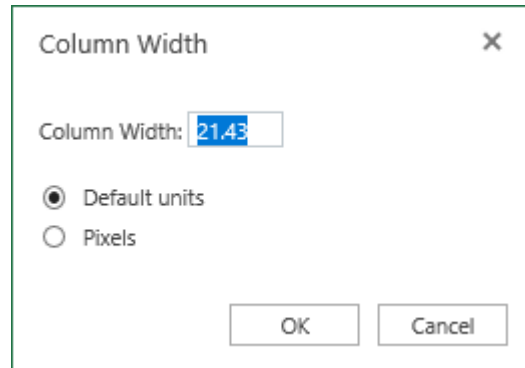
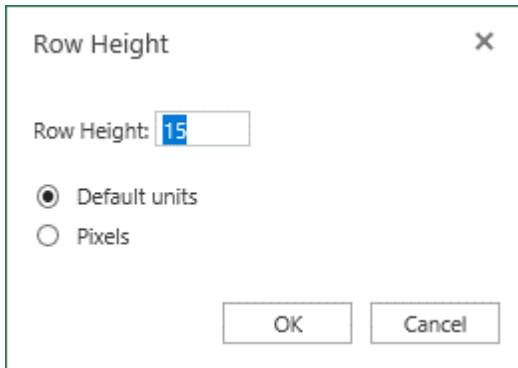
When you release your mouse, the size of the column will be changed. To change the size of a row, place your pointer on the line separating the row headers and then click and drag up or down to make the row larger or smaller:



There are more resizing commands available by clicking “Home → Format:”

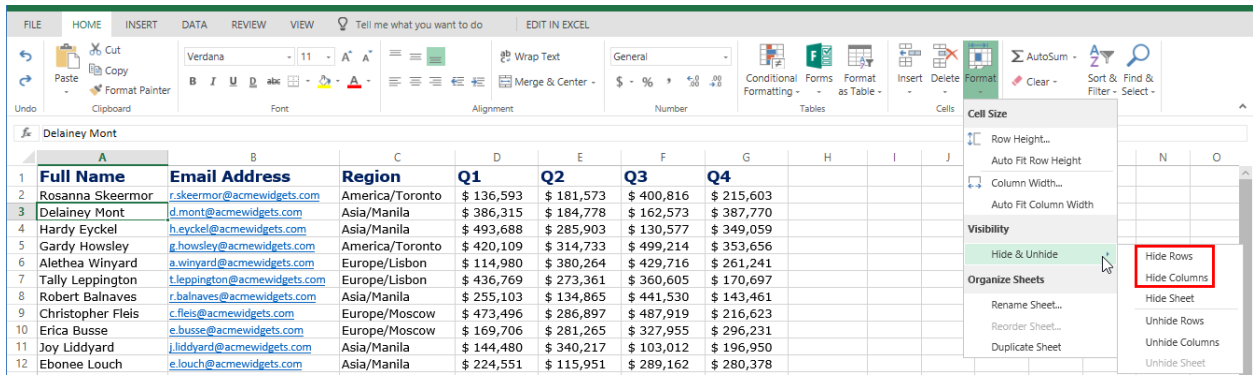


The two Auto Fit commands will automatically size the row or column to their contents. The Row Height and Column Width commands will open a dialog box where you can enter the desired dimensions:



The Hide and Unhide Options

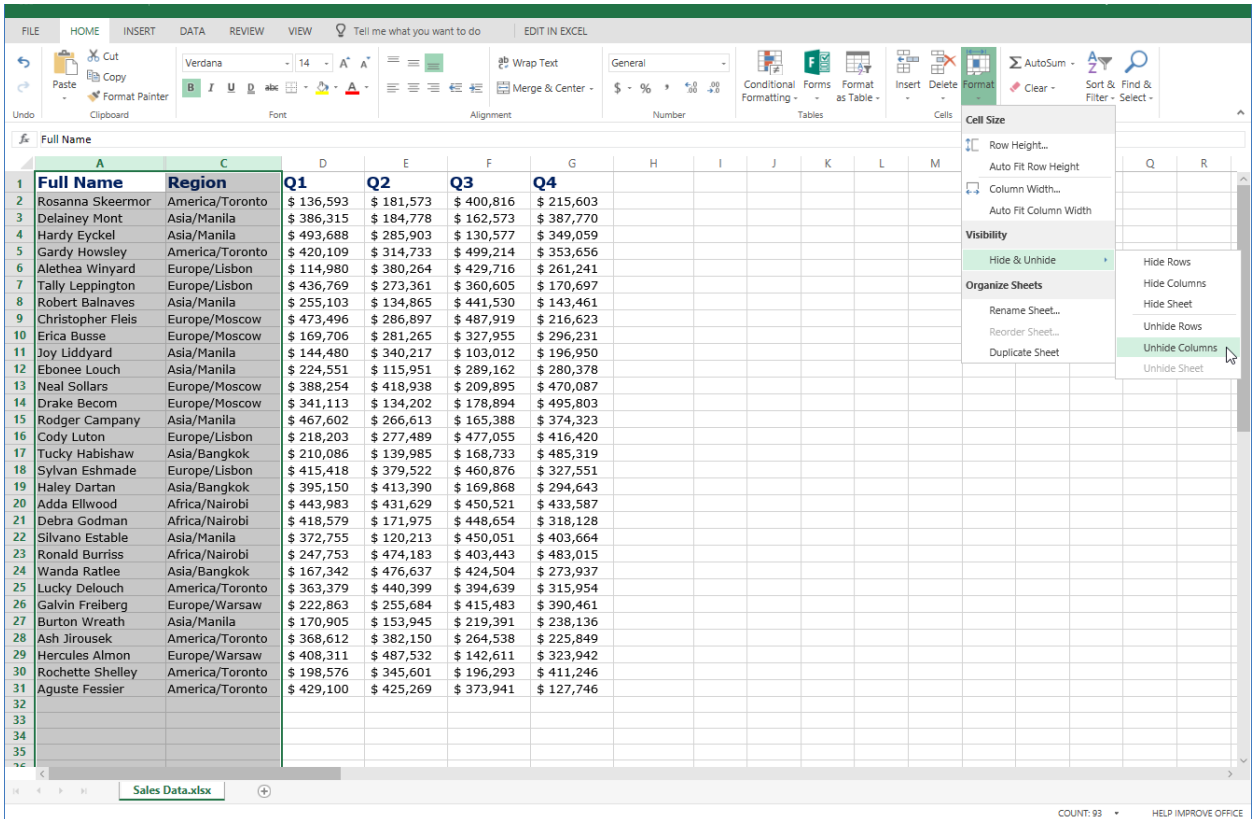
Excel also gives you the ability to temporarily hide rows and/or columns and then unhide them when necessary. To begin, select the row or column that you want to hide. Then, click “Home → Format → Hide & Unhide,” and choose the desired option:



In this example, Column B is hidden:

	A	C	D	E	F	G
1	Full Name	Region	Q1	Q2	Q3	Q4
2	Rosanna Skeermor	America/Toronto	\$ 136,593	\$ 181,573	\$ 400,816	\$ 215,603
3	Delainey Mont	Asia/Manila	\$ 386,315	\$ 184,778	\$ 162,573	\$ 387,770
4	Hardy Eyckel	Asia/Manila	\$ 493,688	\$ 285,903	\$ 130,577	\$ 349,059
5	Gardy Howsley	America/Toronto	\$ 420,109	\$ 314,733	\$ 499,214	\$ 353,656
6	Alethea Winyard	Europe/Lisbon	\$ 114,980	\$ 380,264	\$ 429,716	\$ 261,241
7	Tally Leppington	Europe/Lisbon	\$ 436,769	\$ 273,361	\$ 360,605	\$ 170,697
8	Robert Balnaves	Asia/Manila	\$ 255,103	\$ 134,865	\$ 441,530	\$ 143,461

To re-show it, we would re-select the surrounding columns and click “Home → Format → Hide & Unhide → Unhide Columns:”



The column would then reappear as normal.

Activity 2-4: Working with Rows and Columns

In this activity, you will polish the appearance of your sales report.

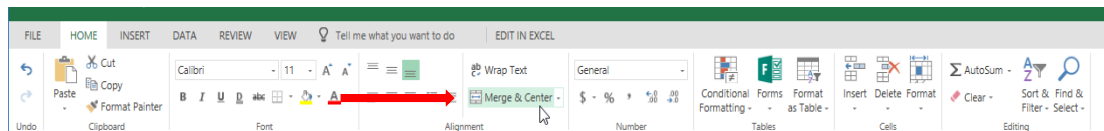
1. To begin, open Excel. (Refer back to Activity 1-1 if you need help.)
2. Navigate to Lesson 2 of your Excel Essentials Activities folder. Open Activity 2-4: (Refer back to Activity 1-2 if you need help.)
3. Now, right-click the Column B header and click “Delete:”
4. Hoover the mouse between columns A and B until you get the double arrow, then double click to resize the column to fit the content.
5. The scorecard should look like this:

	A	B
1	Scorecard	
2	Average Revenue	276986.5
3	Highest Revenue	461214
4	Lowest Expenses	65792

6. Our last task is to improve the layout of the “Scorecard” title. Select cells A1 and B1:

	A	B
1	Scorecard	
2	Average Revenue	276986.5
3	Highest Revenue	461214
4	Lowest Expenses	65792

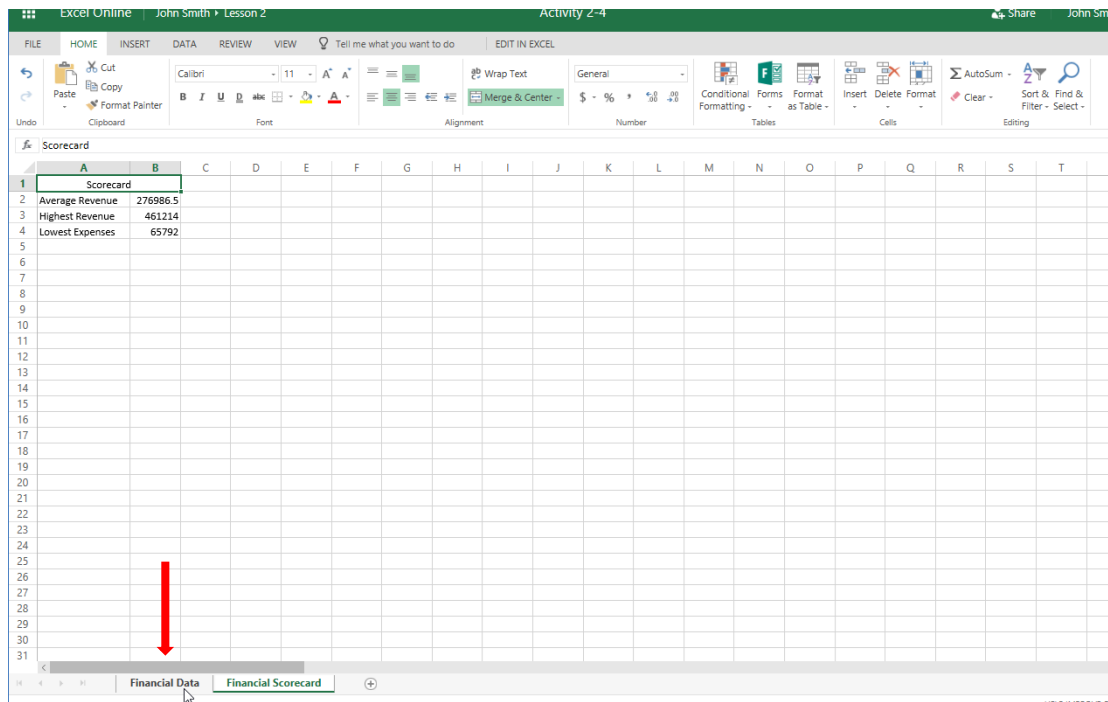
7. Click “Home → Merge & Center:”



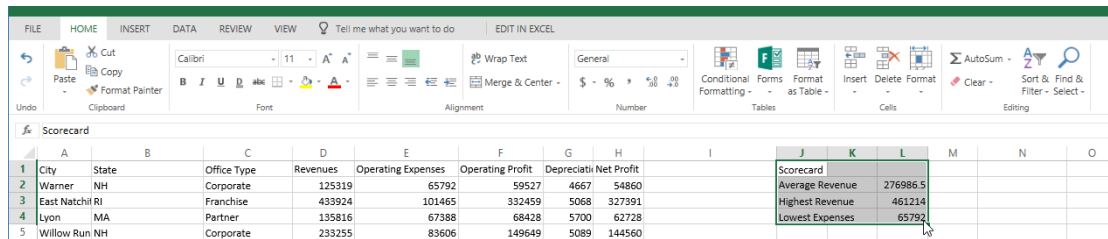
8. Cells A1 and B1 will now look like this:

	A	B
1	Scorecard	
2	Average Revenue	276986.5
3	Highest Revenue	461214
4	Lowest Expenses	65792

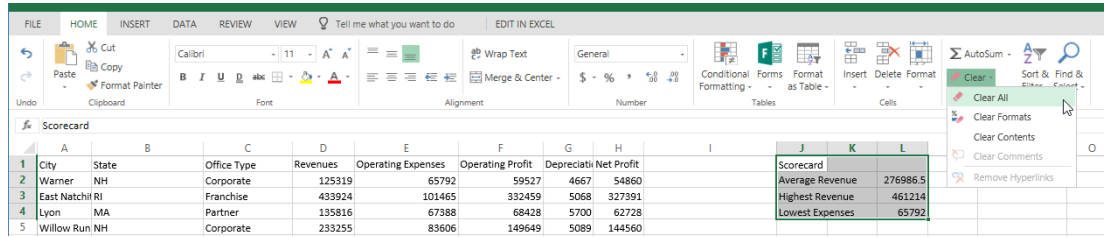
9. Now, switch to the Financial Data worksheet:



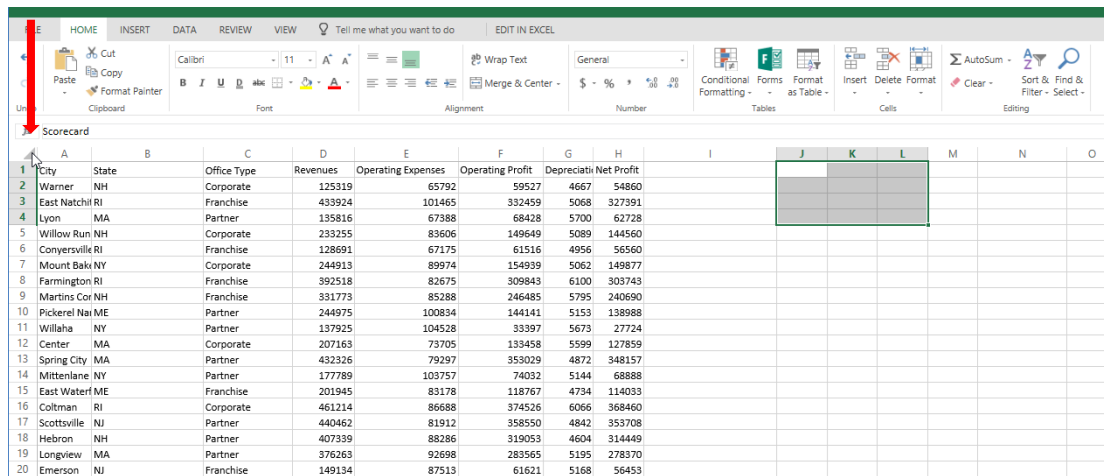
10. The scorecard data is duplicated on this sheet, so let's remove it. Select cells J1:L4:



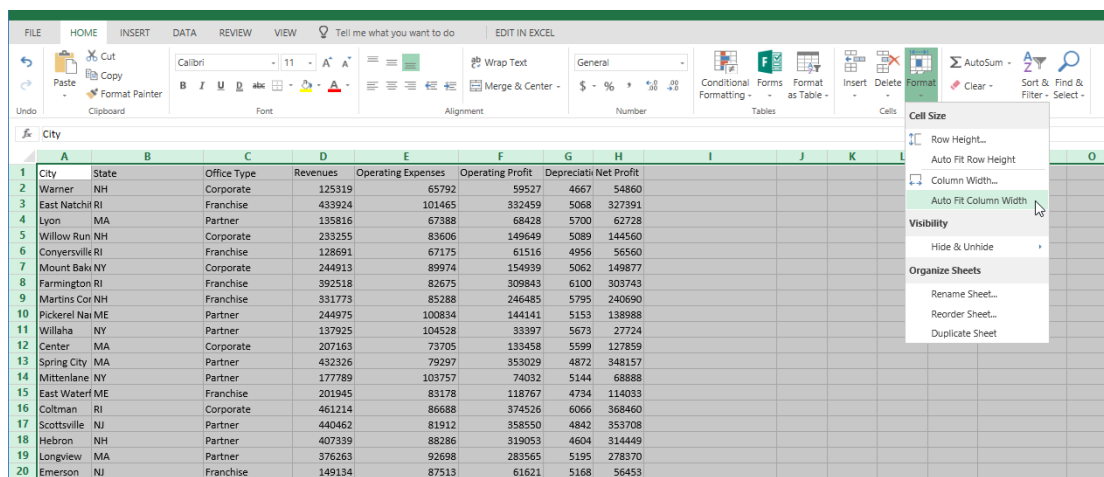
11. Click “Home → Clear drop-down arrow → Clear All:”



12. The data will now be removed. Finally, let’s resize this sheet’s columns. Since we have many columns to resize, we will use a slightly different method. Click the selector icon in the top left corner of the data to select the entire worksheet:



13. Click “Format → Auto Fit Column Width:”



14. Review the results:

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1	City	State	Office Type	Revenues	Operating Expenses	Operating Profit	Depreciation	Net Profit								
2	Warner	NH	Corporate	125319	65792	59527	4667	54860								
3	East Natchitoches	RI	Franchise	433924	101465	332459	5068	327391								
4	Lyon	MA	Partner	135816	67388	68428	5700	62728								
5	Willow Run	NH	Corporate	233255	85606	149649	5089	144560								
6	Conyersville	RI	Franchise	128691	67175	61516	4956	56560								
7	Mount Baker	NY	Corporate	244913	89974	154939	5062	149877								
8	Farmington Lake	RI	Franchise	392518	82675	309843	6100	303743								
9	Martins Corner	NH	Franchise	331779	85288	246485	5795	240690								
10	Pickrel Narrows	ME	Partner	244975	100834	144141	5153	138988								
11	Willaha	NY	Partner	137925	104528	33397	5673	27724								
12	Center	MA	Corporate	207163	73705	133458	5599	127859								
13	Spring City	MA	Partner	432326	79297	353029	4872	348157								
14	Mittenlane	NY	Partner	177789	103757	74032	5144	68888								
15	East Waterford	ME	Franchise	201945	83178	118767	4734	114033								
16	Coltman	RI	Corporate	461214	86688	374526	6066	368460								
17	Scottsville	NJ	Partner	440462	81912	358550	4842	353708								
18	Hebron	NH	Partner	407339	88286	319053	4604	314449								
19	Longview	MA	Partner	376263	92698	283565	5195	278370								
20	Emerson	NJ	Franchise	149134	87513	61621	5168	56453								
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15. Save As 'Activity 2-4 complete' and close Excel to complete this activity.

TOPIC E: Sorting and Filtering Data

Excel's sort and filter commands allow you to change the display of data, or refine the data shown. In this topic, you will learn about the differences between the two commands and how to use each feature.

Topic Objectives

In this section, you will learn how to:

- Describe the differences between sorting and filtering
- Sort data
- Enable filtering
- Use the Filter dialog box and text filters
- Clear a filter

The Difference Between Sorting and Filtering

Sorting allows you to change the order of data; text-based and numerical data can be sorted in ascending or descending order. It is important to keep in mind that when you sort data you are not changing the data in the worksheet; you are only changing how it is displayed. Additionally, the Undo command clears a sort and returns it back to its original state. Finally, if you apply a sort and then save your workbook, the sort will also be saved. This means that if you need to undo a sort, you can only do it in the same session as when the sort was applied.

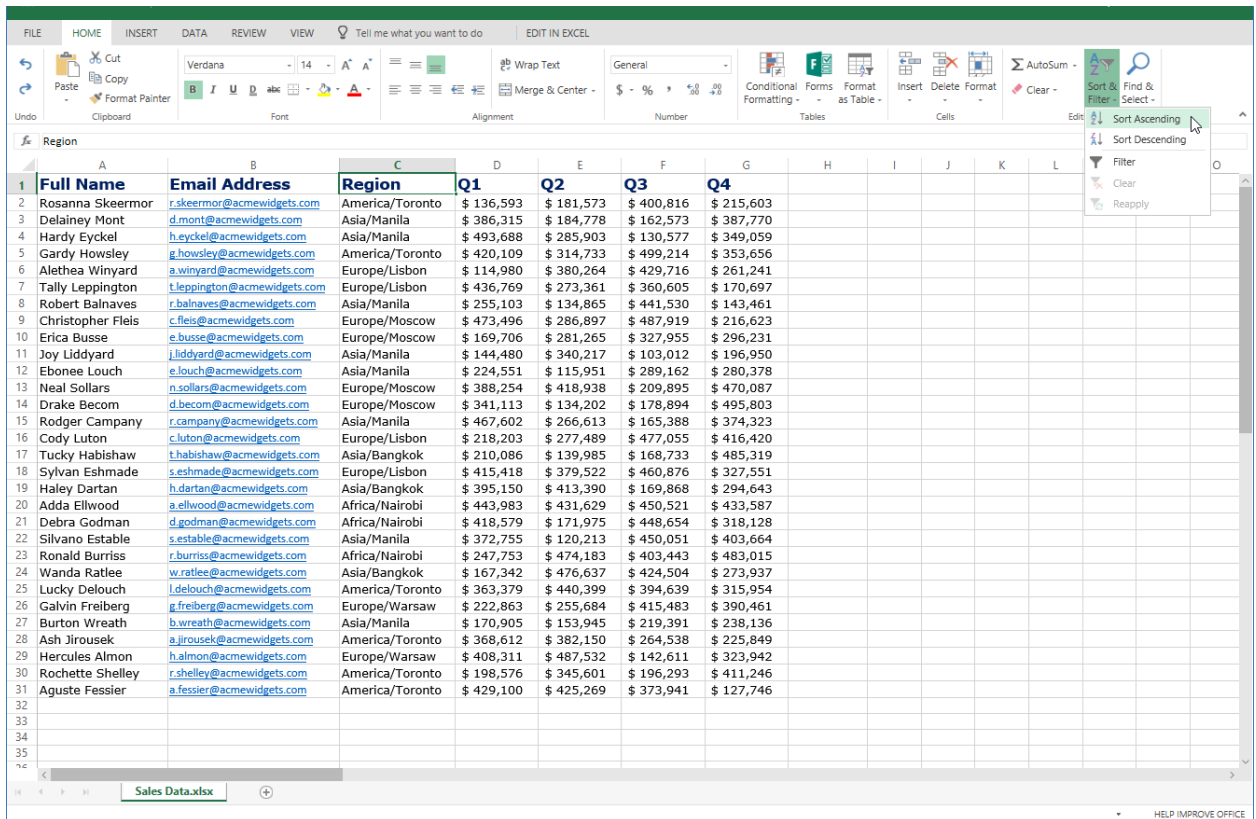
Filtering is a bit different; it allows you to customize data display based on criteria of your choosing. For example, if you only wanted to show sales results from representatives in the Northern region, you could use a filter to do that.

Sorting Data

In this example, we would like to arrange the data in alphabetical order by the Region column. Right now, it is in random order:

	A	B	C	D	E	F	G
1	Full Name	Email Address	Region	Q1	Q2	Q3	Q4
2	Rosanna Skeermor	r.skeermor@acmewidgets.com	America/Toronto	\$ 136,593	\$ 181,573	\$ 400,816	\$ 215,603
3	Delainey Mont	d.mont@acmewidgets.com	Asia/Manila	\$ 386,315	\$ 184,778	\$ 162,573	\$ 387,770
4	Hardy Eyckel	h.eyckel@acmewidgets.com	Asia/Manila	\$ 493,688	\$ 285,903	\$ 130,577	\$ 349,059
5	Gardy Howsley	g.howsley@acmewidgets.com	America/Toronto	\$ 420,109	\$ 314,733	\$ 499,214	\$ 353,656
6	Alethea Winyard	a.winyard@acmewidgets.com	Europe/Lisbon	\$ 114,980	\$ 380,264	\$ 429,716	\$ 261,241
7	Tally Leppington	t.leppington@acmewidgets.com	Europe/Lisbon	\$ 436,769	\$ 273,361	\$ 360,605	\$ 170,697
8	Robert Balnaves	r.balnaves@acmewidgets.com	Asia/Manila	\$ 255,103	\$ 134,865	\$ 441,530	\$ 143,461
9	Christopher Fleis	c.fleis@acmewidgets.com	Europe/Moscow	\$ 473,496	\$ 286,897	\$ 487,919	\$ 216,623
10	Erica Busse	e.busse@acmewidgets.com	Europe/Moscow	\$ 169,706	\$ 281,265	\$ 327,955	\$ 296,231
11	Joy Liddyard	j.liddyard@acmewidgets.com	Asia/Manila	\$ 144,480	\$ 340,217	\$ 103,012	\$ 196,950
12	Ebonee Louch	e.louch@acmewidgets.com	Asia/Manila	\$ 224,551	\$ 115,951	\$ 289,162	\$ 280,378
13	Neal Sollars	n.sollars@acmewidgets.com	Europe/Moscow	\$ 388,254	\$ 418,938	\$ 209,895	\$ 470,087
14	Drake Becom	d.becom@acmewidgets.com	Europe/Moscow	\$ 341,113	\$ 134,202	\$ 178,894	\$ 495,803
15	Rodger Campany	r.campany@acmewidgets.com	Asia/Manila	\$ 467,602	\$ 266,613	\$ 165,388	\$ 374,323
16	Cody Luton	c.luton@acmewidgets.com	Europe/Lisbon	\$ 218,203	\$ 277,489	\$ 477,055	\$ 416,420
17	Tucky Habishaw	t.habishaw@acmewidgets.com	Asia/Bangkok	\$ 210,086	\$ 139,985	\$ 168,733	\$ 485,319
18	Sylvan Eshmade	s.eshmade@acmewidgets.com	Europe/Lisbon	\$ 415,418	\$ 379,522	\$ 460,876	\$ 327,551
19	Haley Dartan	h.dartan@acmewidgets.com	Asia/Bangkok	\$ 395,150	\$ 413,390	\$ 169,868	\$ 294,643
20	Adda Ellwood	a.ellwood@acmewidgets.com	Africa/Nairobi	\$ 443,983	\$ 431,629	\$ 450,521	\$ 433,587
21	Debra Godman	d.godman@acmewidgets.com	Africa/Nairobi	\$ 418,579	\$ 171,975	\$ 448,654	\$ 318,128
22	Silvano Estable	s.estable@acmewidgets.com	Asia/Manila	\$ 372,755	\$ 120,213	\$ 450,051	\$ 403,664
23	Ronald Burriss	r.burriss@acmewidgets.com	Africa/Nairobi	\$ 247,753	\$ 474,183	\$ 403,443	\$ 483,015
24	Wanda Ratlee	w.ratlee@acmewidgets.com	Asia/Bangkok	\$ 167,342	\$ 476,637	\$ 424,504	\$ 273,937
25	Lucky Delouch	l.delouch@acmewidgets.com	America/Toronto	\$ 363,379	\$ 440,399	\$ 394,639	\$ 315,954
26	Galvin Freiberg	g.freiberg@acmewidgets.com	Europe/Warsaw	\$ 222,863	\$ 255,684	\$ 415,483	\$ 390,461
27	Burton Wreath	b.wreath@acmewidgets.com	Asia/Manila	\$ 170,905	\$ 153,945	\$ 219,391	\$ 238,136
28	Ash Jirousek	a.jirousek@acmewidgets.com	America/Toronto	\$ 368,612	\$ 382,150	\$ 264,538	\$ 225,849
29	Hercules Almon	h.almon@acmewidgets.com	Europe/Warsaw	\$ 408,311	\$ 487,532	\$ 142,611	\$ 323,942
30	Rochette Shelley	r.shelley@acmewidgets.com	America/Toronto	\$ 198,576	\$ 345,601	\$ 196,293	\$ 411,246
31	Aguste Fessier	a.fessier@acmewidgets.com	America/Toronto	\$ 429,100	\$ 425,269	\$ 373,941	\$ 127,746

To do this, we will select the column header (cell C1) and click “Home → Sort & Filter.” We can now choose an ascending or descending sort:

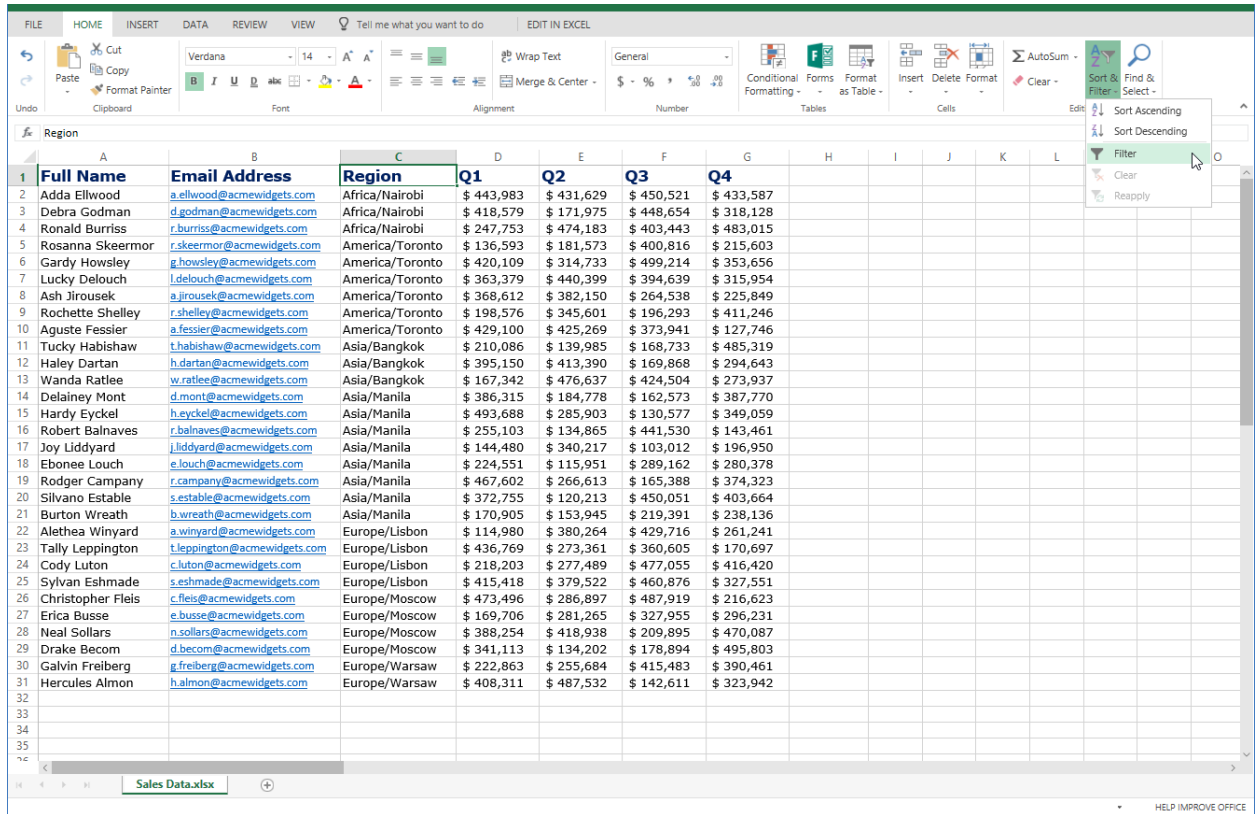


For this example, we chose an ascending (A to Z) sort. Here are the results:

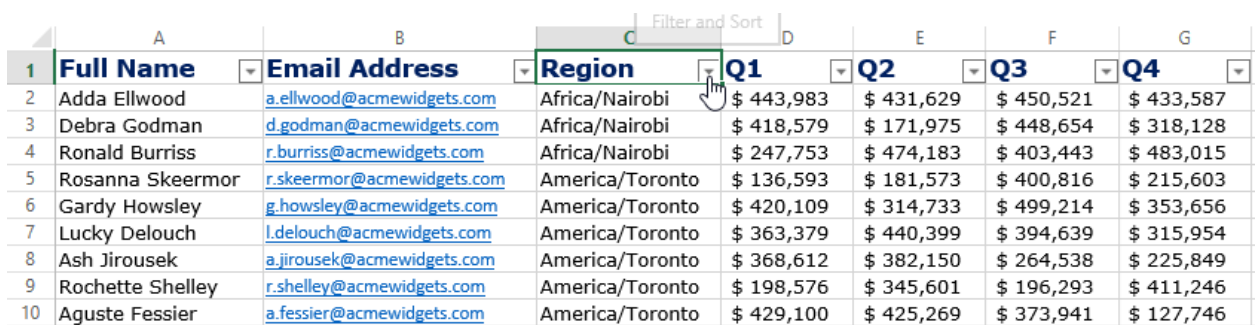
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4	Ronald Burriss	r.burriss@acmewidgets.com	Africa/Nairobi	\$ 247,753	\$ 474,183	\$ 403,443	\$ 483,015
5	Rosanna Skeermor	r.skeermor@acmewidgets.com	America/Toronto	\$ 136,593	\$ 181,573	\$ 400,816	\$ 215,603
6	Gardy Howsley	g.howsley@acmewidgets.com	America/Toronto	\$ 420,109	\$ 314,733	\$ 499,214	\$ 353,656
7	Lucky Delouch	l.delouch@acmewidgets.com	America/Toronto	\$ 363,379	\$ 440,399	\$ 394,639	\$ 315,954
8	Ash Jirousek	a.jirousek@acmewidgets.com	America/Toronto	\$ 368,612	\$ 382,150	\$ 264,538	\$ 225,849
9	Rochette Shelley	r.shelley@acmewidgets.com	America/Toronto	\$ 198,576	\$ 345,601	\$ 196,293	\$ 411,246
10	Aguste Fessier	a.fessier@acmewidgets.com	America/Toronto	\$ 429,100	\$ 425,269	\$ 373,941	\$ 127,746
11	Tucky Habishaw	t.habishaw@acmewidgets.com	Asia/Bangkok	\$ 210,086	\$ 139,985	\$ 168,733	\$ 485,319
12	Haley Dartan	h.dartan@acmewidgets.com	Asia/Bangkok	\$ 395,150	\$ 413,390	\$ 169,868	\$ 294,643
13	Wanda Ratlee	w.ratlee@acmewidgets.com	Asia/Bangkok	\$ 167,342	\$ 476,637	\$ 424,504	\$ 273,937
14	Delainey Mont	d.mont@acmewidgets.com	Asia/Manila	\$ 386,315	\$ 184,778	\$ 162,573	\$ 387,770
15	Hardy Eyckel	h.eyckel@acmewidgets.com	Asia/Manila	\$ 493,688	\$ 285,903	\$ 130,577	\$ 349,059
16	Robert Balnaves	r.balnaves@acmewidgets.com	Asia/Manila	\$ 255,103	\$ 134,865	\$ 441,530	\$ 143,461
17	Joy Liddyard	j.liddyard@acmewidgets.com	Asia/Manila	\$ 144,480	\$ 340,217	\$ 103,012	\$ 196,950
18	Ebonee Louch	e.louch@acmewidgets.com	Asia/Manila	\$ 224,551	\$ 115,951	\$ 289,162	\$ 280,378
19	Rodger Campany	r.campany@acmewidgets.com	Asia/Manila	\$ 467,602	\$ 266,613	\$ 165,388	\$ 374,323
20	Silvano Estable	s.estable@acmewidgets.com	Asia/Manila	\$ 372,755	\$ 120,213	\$ 450,051	\$ 403,664
21	Burton Wreath	b.wreath@acmewidgets.com	Asia/Manila	\$ 170,905	\$ 153,945	\$ 219,391	\$ 238,136
22	Alethea Winyard	a.winyard@acmewidgets.com	Europe/Lisbon	\$ 114,980	\$ 380,264	\$ 429,716	\$ 261,241
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24	Cody Luton	c.luton@acmewidgets.com	Europe/Lisbon	\$ 218,203	\$ 277,489	\$ 477,055	\$ 416,420
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28	Neal Sollars	n.sollars@acmewidgets.com	Europe/Moscow	\$ 388,254	\$ 418,938	\$ 209,895	\$ 470,087
29	Drake Becom	d.becom@acmewidgets.com	Europe/Moscow	\$ 341,113	\$ 134,202	\$ 178,894	\$ 495,803
30	Galvin Freiberg	g.freiberg@acmewidgets.com	Europe/Warsaw	\$ 222,863	\$ 255,684	\$ 415,483	\$ 390,461
31	Hercules Almon	h.almon@acmewidgets.com	Europe/Warsaw	\$ 408,311	\$ 487,532	\$ 142,611	\$ 323,942

Enabling Filtering

To enable filtering, click “Home → Sort & Filter → Filter:”



This will add AutoFilter drop-down arrows to the top of each column. Click the arrow for the column you want to filter:



You can now choose to create text filters or use the Filter dialog box:

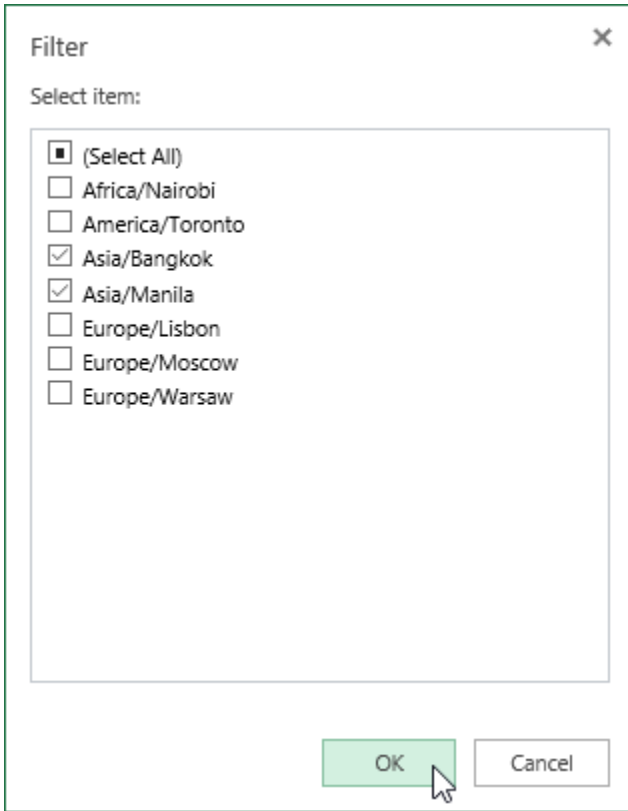
	A	B	C	D	E	F	G
1	Full Name	Email Address	Region	Q1	Q2	Q3	Q4
2	Adda Ellwood	a.ellwood@acmewidgets.com	Africa/Nairobi			\$ 450,521	\$ 433,587
3	Debra Godman	d.godman@acmewidgets.com	Africa/Nairobi			\$ 448,654	\$ 318,128
4	Ronald Burriss	r.burriss@acmewidgets.com	Africa/Nairobi			\$ 403,443	\$ 483,015
5	Rosanna Skeermor	r.skeermor@acmewidgets.com	America/Toronto			\$ 400,816	\$ 215,603
6	Gardy Howsley	g.howsley@acmewidgets.com	America/Toronto			\$ 499,214	\$ 353,656
7	Lucky Delouch	l.delouch@acmewidgets.com	America/Toronto			\$ 394,639	\$ 315,954
8	Ash Jirousek	a.jirousek@acmewidgets.com	America/Toronto			\$ 264,538	\$ 225,849
9	Rochette Shelley	r.shelley@acmewidgets.com	America/Toronto	\$ 198,576	\$ 345,601	\$ 196,293	\$ 411,246
10	Aguste Fessier	a.fessier@acmewidgets.com	America/Toronto	\$ 429,100	\$ 425,269	\$ 373,941	\$ 127,746

Using the Filter Dialog Box

First, let's look at the "Filter..." command from the AutoFilter menu:

	A	B	C	D	E	F	G
1	Full Name	Email Address	Region	Q1	Q2	Q3	Q4
2	Adda Ellwood	a.ellwood@acmewidgets.com	Africa/Nairobi			\$ 450,521	\$ 433,587
3	Debra Godman	d.godman@acmewidgets.com	Africa/Nairobi			\$ 448,654	\$ 318,128
4	Ronald Burriss	r.burriss@acmewidgets.com	Africa/Nairobi			\$ 403,443	\$ 483,015
5	Rosanna Skeermor	r.skeermor@acmewidgets.com	America/Toronto			\$ 400,816	\$ 215,603
6	Gardy Howsley	g.howsley@acmewidgets.com	America/Toronto			\$ 499,214	\$ 353,656
7	Lucky Delouch	l.delouch@acmewidgets.com	America/Toronto			\$ 394,639	\$ 315,954
8	Ash Jirousek	a.jirousek@acmewidgets.com	America/Toronto			\$ 264,538	\$ 225,849
9	Rochette Shelley	r.shelley@acmewidgets.com	America/Toronto	\$ 198,576	\$ 345,601	\$ 196,293	\$ 411,246

When you click this command, the Filter dialog box will open. This dialog box will populate with all the values from the selected column. Uncheck a set of values to hide it or check it to show it. When you are finished, click “OK” to apply your settings:



The data will then be filtered:

	A	B	C	D	E	F	G
1	Full Name	Email Address	Region	Q1	Q2	Q3	Q4
11	Tucky Habishaw	t.habishaw@acmewidgets.com	Asia/Bangkok	\$ 210,086	\$ 139,985	\$ 168,733	\$ 485,319
12	Haley Dartan	h.dartan@acmewidgets.com	Asia/Bangkok	\$ 395,150	\$ 413,390	\$ 169,868	\$ 294,643
13	Wanda Ratlee	w.ratlee@acmewidgets.com	Asia/Bangkok	\$ 167,342	\$ 476,637	\$ 424,504	\$ 273,937
14	Delainey Mont	d.mont@acmewidgets.com	Asia/Manila	\$ 386,315	\$ 184,778	\$ 162,573	\$ 387,770
15	Hardy Eyckel	h.eyckel@acmewidgets.com	Asia/Manila	\$ 493,688	\$ 285,903	\$ 130,577	\$ 349,059
16	Robert Balnaves	r.balnaves@acmewidgets.com	Asia/Manila	\$ 255,103	\$ 134,865	\$ 441,530	\$ 143,461
17	Joy Liddyard	j.liddyard@acmewidgets.com	Asia/Manila	\$ 144,480	\$ 340,217	\$ 103,012	\$ 196,950
18	Ebonee Louch	e.louch@acmewidgets.com	Asia/Manila	\$ 224,551	\$ 115,951	\$ 289,162	\$ 280,378
19	Rodger Campany	r.campany@acmewidgets.com	Asia/Manila	\$ 467,602	\$ 266,613	\$ 165,388	\$ 374,323
20	Silvano Estable	s.estable@acmewidgets.com	Asia/Manila	\$ 372,755	\$ 120,213	\$ 450,051	\$ 403,664
21	Burton Wreath	b.wreath@acmewidgets.com	Asia/Manila	\$ 170,905	\$ 153,945	\$ 219,391	\$ 238,136

Notice the icon on the Region AutoFilter menu, which indicates the data has been filtered by this column.

Using Text Filters

Next, let's explore the Text Filters sub-menu:

	A	B	C	D	E	F	G
1	Full Name	Email Address	Region	Q1	Q2	Q3	Q4
2	Adda Ellwood	a.ellwood@acmewidgets.com	Africa/Nairobi			\$ 450,521	\$ 433,587
3	Debra Godman	d.godman@acmewidgets.com	Africa/Nairobi			\$ 448,654	\$ 318,128
4	Ronald Burriss	r.burriss@acmewidgets.com	Africa/Nairobi			\$ 403,443	\$ 483,015
5	Rosanna Skeermor	r.skeermor@acmewidgets.com	America/Toronto			\$ 400,816	\$ 215,603
6	Gardy Howsley	g.howsley@acmewidgets.com	America/Toronto				
7	Lucky Delouch	l.delouch@acmewidgets.com	America/Toronto				
8	Ash Jirousek	a.jirousek@acmewidgets.com	America/Toronto				
9	Rochette Shelley	r.shelley@acmewidgets.com	America/Toronto	\$ 198,576	\$ 345,601		
10	Aguste Fessier	a.fessier@acmewidgets.com	America/Toronto	\$ 429,100	\$ 425,269		
11	Tucky Habishaw	t.habishaw@acmewidgets.com	Asia/Bangkok	\$ 210,086	\$ 139,985		
12	Haley Dartan	h.dartan@acmewidgets.com	Asia/Bangkok	\$ 395,150	\$ 413,390		
13	Wanda Ratlee	w.ratlee@acmewidgets.com	Asia/Bangkok	\$ 167,342	\$ 476,637		
14	Delainey Mont	d.mont@acmewidgets.com	Asia/Manila	\$ 386,315	\$ 184,778		
15	Hardy Eyckel	h.eyckel@acmewidgets.com	Asia/Manila	\$ 493,688	\$ 285,903	\$ 130,577	\$ 349,059

Clicking each of the commands in this sub-menu will open the Custom Filter dialog box pre-populated with the selected operator. (The Custom Filter command itself will open a blank dialog box.) You can then enter the criteria required.

For this example, let's choose "Contains" from the Text Filters menu. The Custom Filter dialog box will open:

Notice that we can still click the first drop-down menu to choose a different operator other than "contains." However, since this is the correct operator, we will just type "Asia" into the text field (since that is the region we want to view) and click "OK" to create the filter:

The results are the same – we just achieved them using a different method:

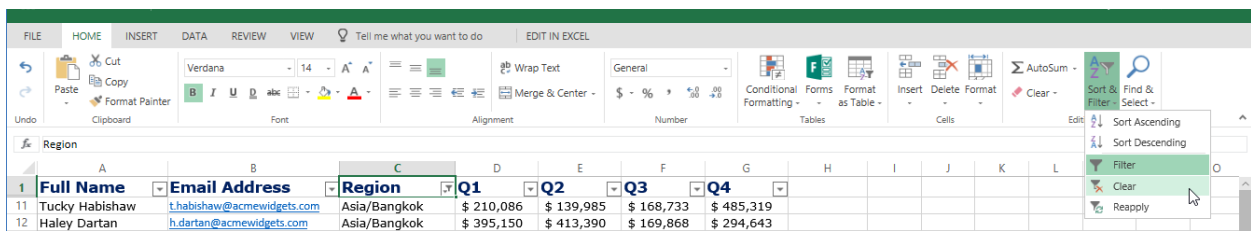
	A	B	C	D	E	F	G
1	Full Name	Email Address	Region	Q1	Q2	Q3	Q4
11	Tucky Habishaw	t.habishaw@acmewidgets.com	Asia/Bangkok	\$ 210,086	\$ 139,985	\$ 168,733	\$ 485,319
12	Haley Dartan	h.dartan@acmewidgets.com	Asia/Bangkok	\$ 395,150	\$ 413,390	\$ 169,868	\$ 294,643
13	Wanda Ratlee	w.ratlee@acmewidgets.com	Asia/Bangkok	\$ 167,342	\$ 476,637	\$ 424,504	\$ 273,937
14	Delainey Mont	d.mont@acmewidgets.com	Asia/Manila	\$ 386,315	\$ 184,778	\$ 162,573	\$ 387,770
15	Hardy Eyckel	h.eyckel@acmewidgets.com	Asia/Manila	\$ 493,688	\$ 285,903	\$ 130,577	\$ 349,059
16	Robert Balnaves	r.balnaves@acmewidgets.com	Asia/Manila	\$ 255,103	\$ 134,865	\$ 441,530	\$ 143,461
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18	Ebonee Louch	e.louch@acmewidgets.com	Asia/Manila	\$ 224,551	\$ 115,951	\$ 289,162	\$ 280,378
19	Rodger Campany	r.campany@acmewidgets.com	Asia/Manila	\$ 467,602	\$ 266,613	\$ 165,388	\$ 374,323
20	Silvano Estable	s.estable@acmewidgets.com	Asia/Manila	\$ 372,755	\$ 120,213	\$ 450,051	\$ 403,664
21	Burton Wreath	b.wreath@acmewidgets.com	Asia/Manila	\$ 170,905	\$ 153,945	\$ 219,391	\$ 238,136

Clearing a Filter

There are two ways to clear a filter and display all data once again. You can click the AutoFilter arrow and click “Clear Filter from <field name>:”

	A	B	C	D	E	F	G
1	Full Name	Email Address	Region	Q1	Q2	Q3	Q4
11	Tucky Habishaw	t.habishaw@acmewidgets.com	Asia/Bangkok	Sort Ascending		\$ 168,733	\$ 485,319
12	Haley Dartan	h.dartan@acmewidgets.com	Asia/Bangkok	Sort Descending		\$ 169,868	\$ 294,643
13	Wanda Ratlee	w.ratlee@acmewidgets.com	Asia/Bangkok	Clear Filter from 'Region'		\$ 424,504	\$ 273,937
14	Delainey Mont	d.mont@acmewidgets.com	Asia/Manila	Text Filters		\$ 162,573	\$ 387,770
15	Hardy Eyckel	h.eyckel@acmewidgets.com	Asia/Manila	Filter...		\$ 130,577	\$ 349,059
16	Robert Balnaves	r.balnaves@acmewidgets.com	Asia/Manila			\$ 441,530	\$ 143,461
17	Joy Liddyard	j.liddyard@acmewidgets.com	Asia/Manila			\$ 103,012	\$ 196,950

Or, place your cursor in the filtered column and click “Home → Sort & Filter → Clear:”

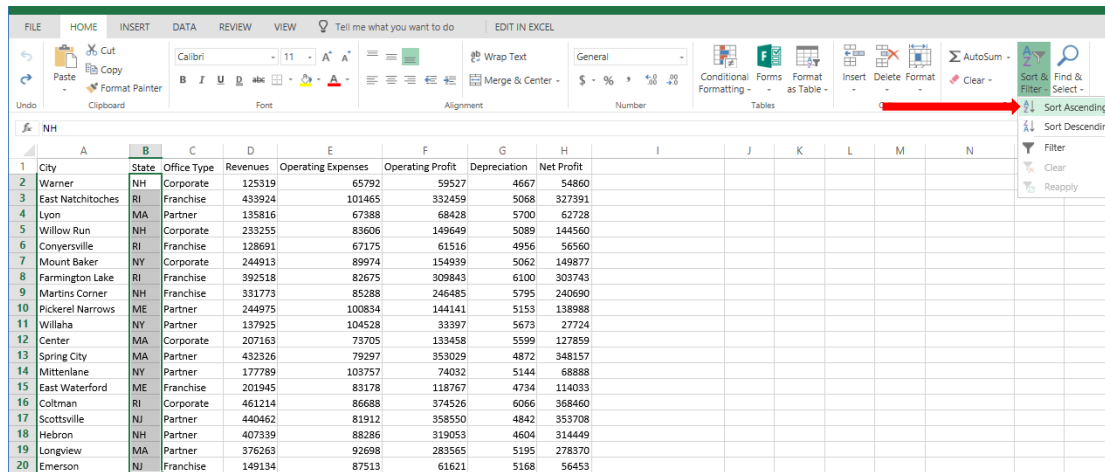


With either command, the filter will be cleared, and all data will be displayed.

Activity 2-5: Sorting and Filtering Data

You have been asked to present the sales report data by state and to exclude all corporate information. You will use Excel's sorting and filtering tools to accomplish these tasks.

1. To begin, open Excel. (Refer back to Activity 1-1 if you need help.)
2. Navigate to Lesson 2 of your Excel Essentials Activities folder. Open Activity 2-5: (Refer back to Activity 1-2 if you need help.)
3. Click on Column B to choose the 'State' content.
4. Now, click "Home → Sort & Filter → Sort A - Z:"



	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	City	State	Office Type	Revenues	Operating Expenses	Operating Profit	Depreciation	Net Profit						
2	Warner	NH	Corporate	125319	65792	59527	4667	54860						
3	East Natchitoches	RI	Franchise	439924	101465	332459	5068	327391						
4	Lyon	MA	Partner	135816	67388	68428	5700	62728						
5	Willow Run	NH	Corporate	233255	83606	149649	5089	144560						
6	Conyersville	RI	Franchise	128691	67175	61516	4956	56560						
7	Mount Baker	NY	Corporate	244913	89974	154939	5062	149877						
8	Farmington Lake	RI	Franchise	392518	82675	309843	6100	303743						
9	Martins Corner	NH	Franchise	331779	85288	246485	5795	240690						
10	Pickrel Narrows	ME	Partner	244975	100834	144141	5153	138988						
11	Willaha	NY	Partner	137925	104528	33397	5673	27724						
12	Center	MA	Corporate	207163	73705	133458	5599	127859						
13	Spring City	MA	Partner	432326	79297	353029	4872	348157						
14	Mittenlane	NY	Partner	177789	103757	74032	5144	68888						
15	East Waterford	ME	Franchise	201945	83178	118767	4734	114033						
16	Coltman	RI	Corporate	461214	86688	374526	6066	368460						
17	Scottsville	NJ	Partner	440462	81912	358550	4842	353708						
18	Hebron	NH	Partner	407339	88286	319053	4604	314449						
19	Longview	MA	Partner	376263	92698	283565	5195	278370						
20	Emerson	NJ	Franchise	149134	87513	61621	5168	56453						


5. Review the results:

	A	B	C	D	E
1	City	State	Office Type	Revenues	Operating Expenses
2	Warner	MA	Corporate	125319	657
3	East Natchitoches	MA	Franchise	433924	1014
4	Lyon	MA	Partner	135816	673
5	Willow Run	MA	Corporate	233255	836
6	Conyersville	ME	Franchise	128691	671
7	Mount Baker	ME	Corporate	244913	899
8	Farmington Lake	NH	Franchise	392518	826
9	Martins Corner	NH	Franchise	331773	852
10	Pickrel Narrows	NH	Partner	244975	1008
11	Willaha	NH	Partner	137925	1045
12	Center	NJ	Corporate	207163	737
13	Spring City	NJ	Partner	432326	792
14	Mittenlane	NY	Partner	177789	1037
15	East Waterford	NY	Franchise	201945	831
16	Coltman	NY	Corporate	461214	866
17	Scottsville	RI	Partner	440462	819
18	Hebron	RI	Partner	407339	882
19	Longview	RI	Partner	376263	926
20	Emerson	RI	Franchise	149134	875
21					
22					

6. Now we want to filter out the corporate data. Press Ctrl + A on your keyboard to select the entire worksheet. Then, click “Home → Sort & Filter → Filter:”

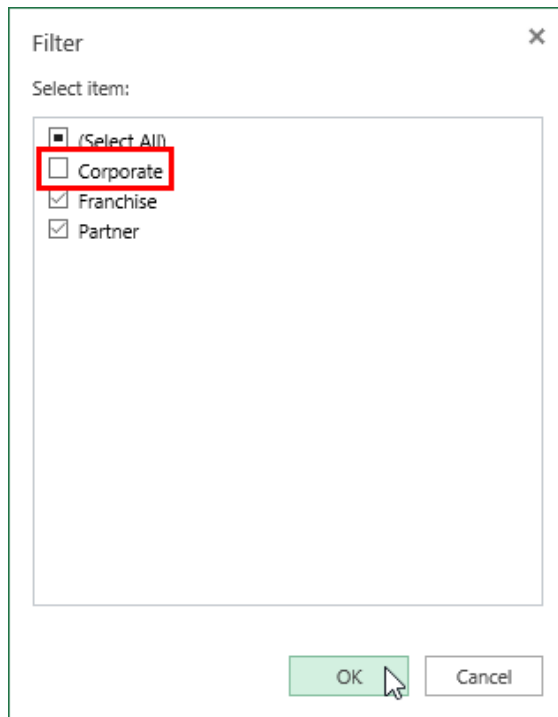
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
1	City	State	Office Type	Revenues	Operating Expenses	Operating Profit	Depreciation	Net Profit																		
2	Warner	MA	Corporate	125319	65792	59527	4667	54860																		
3	East Natchitoches	MA	Franchise	433924	101465	332459	5068	327391																		
4	Lyon	MA	Partner	135816	67388	68428	5700	62728																		
5	Willow Run	MA	Corporate	233255	83606	149649	5089	144560																		
6	Conyersville	ME	Franchise	128691	67175	61516	4956	56560																		
7	Mount Baker	ME	Corporate	244913	89974	154939	5062	149877																		
8	Farmington Lake	NH	Franchise	392518	82675	309843	6100	303743																		
9	Martins Corner	NH	Franchise	331773	85288	246485	5795	240690																		
10	Pickrel Narrows	NH	Partner	244975	100834	144141	5153	138988																		
11	Willaha	NH	Partner	137925	104528	33997	5673	27724																		
12	Center	NJ	Corporate	207163	73705	133458	5599	127859																		
13	Spring City	NJ	Partner	432326	79297	353029	4872	348157																		
14	Mittenlane	NY	Partner	177789	103757	74032	5144	68888																		
15	East Waterford	NY	Franchise	201945	83178	118767	4734	114033																		
16	Coltman	NY	Corporate	461214	86688	374526	6066	368460																		
17	Scottsville	RI	Partner	440462	81912	358550	4842	353708																		
18	Hebron	RI	Partner	407339	88286	319053	4604	314449																		
19	Longview	RI	Partner	376263	92698	283565	5195	278370																		
20	Emerson	RI	Franchise	149134	87513	61621	5168	56453																		

- Click a blank cell to de-activate the selection. Then, click the drop-down arrow in cell C1 (Office Type):



	A	B	C	D	E	F	G	H
1	City	Sta	Office Typ	Revenue	Operating Expenses	Operating Profit	Depreciatio	Net Prof
2	Warner	MA	Corporate	125319	65792	59527	4667	548
3	East Natchitoches	MA	Franchise	433924	101465	332459	5068	3273
4	Lyon	MA	Partner	135816	67388	68428	5700	627
5	Willow Run	MA	Corporate	233255	83606	149649	5089	1445
6	Conyersville	ME	Franchise	128691	67175	61516	4956	565
7	Mount Baker	ME	Corporate	244913	89974	154939	5062	1498
8	Farmington Lake	NH	Franchise	392518	82675	309843	6100	3037
9	Martins Corner	NH	Franchise	331773	85288	246485	5795	2406
10	Pickrel Narrows	NH	Partner	244975	100834	144141	5153	1389
11	Willaha	NH	Partner	137925	104528	33397	5673	277
12	Center	NJ	Corporate	207163	73705	133458	5599	1278
13	Spring City	NJ	Partner	432326	79297	353029	4872	3481
14	Mittenlane	NY	Partner	177789	103757	74032	5144	688
15	East Waterford	NY	Franchise	201945	83178	118767	4734	1140
16	Coltman	NY	Corporate	461214	86688	374526	6066	3684
17	Scottsville	RI	Partner	440462	81912	358550	4842	3537
18	Hebron	RI	Partner	407339	88286	319053	4604	3144
19	Longview	RI	Partner	376263	92698	283565	5195	2783
20	Emerson	RI	Franchise	149134	87513	61621	5168	564

- Uncheck the box for Corporate and click “OK:”



- Review the results, and note the AutoFilter icon in cell C1:

	A	B	C	D	E	F	G	H
1	City	State	Office Type	Revenue	Operating Expenses	Operating Profit	Depreciation	Net Profit
3	East Natchitoches	MA	Franchise	433924	101465	332459	5068	3273
4	Lyon	MA	Partner	135816	67388	68428	5700	627
6	Conyersville	ME	Franchise	128691	67175	61516	4956	565
8	Farmington Lake	NH	Franchise	392518	82675	309843	6100	3037
9	Martins Corner	NH	Franchise	331773	85288	246485	5795	2406
10	Pickerel Narrows	NH	Partner	244975	100834	144141	5153	1389
11	Willaha	NH	Partner	137925	104528	33397	5673	277
13	Spring City	NJ	Partner	432326	79297	353029	4872	3481
14	Mittenlane	NY	Partner	177789	103757	74032	5144	688
15	East Waterford	NY	Franchise	201945	83178	118767	4734	1140
17	Scottsville	RI	Partner	440462	81912	358550	4842	3537
18	Hebron	RI	Partner	407339	88286	319053	4604	3144
19	Longview	RI	Partner	376263	92698	283565	5195	2783
20	Emerson	RI	Franchise	149134	87513	61621	5168	564

- Save As 'Activity 2-5 complete' and close Excel to complete this activity.

Summary

This lesson introduced you to many different aspects of working with data. We started out with a look at formulas and functions. We then looked at working with data as a whole and managing rows and columns. Finally, we learned how to customize data display with sort and filter.

LESSON 3: FORMATTING A WORKSHEET

Lesson Objectives

In this lesson you will learn how to:

- Format text and cells
- Align cell contents
- Use Find & Select tools

TOPIC A: Formatting Text

Excel contains many of the text formatting tools that you might be familiar with from other Microsoft Office applications, such as Word or PowerPoint. In this topic, we will learn about different font options, as well as how to use the Format Painter and create hyperlinks.

Topic Objectives

In this section, you will learn:

- About fonts and the Font group on the Home tab
- How to use the Format Painter
- How to create hyperlinks

What is a Font?

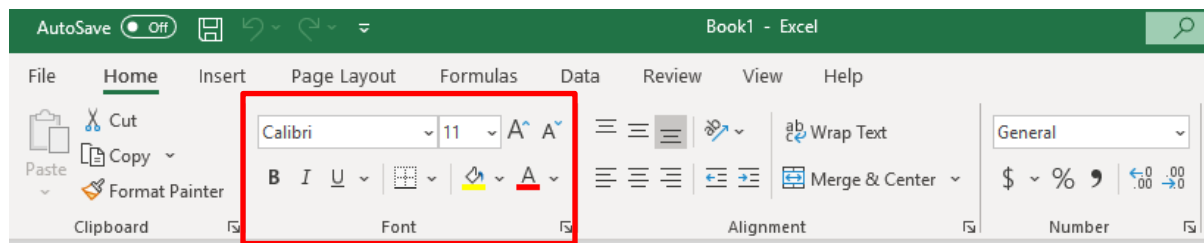
A **font** is a complete set of characters (with typeface and style) that are used to create text. Fonts are very customizable: you can change their size, type, and color to create the effect you are looking for.

Here is a sample of a few different fonts:

	A	B
1	Font Example 1	<u>Font Example 2</u>
2	<i>Font Example 3</i>	Font Example 4

The Font Group

Naturally, the Font group of the Home tab is where you will find most font commands. You can choose the font face, size, color, and effects here:



The top row of this group contains commands to:

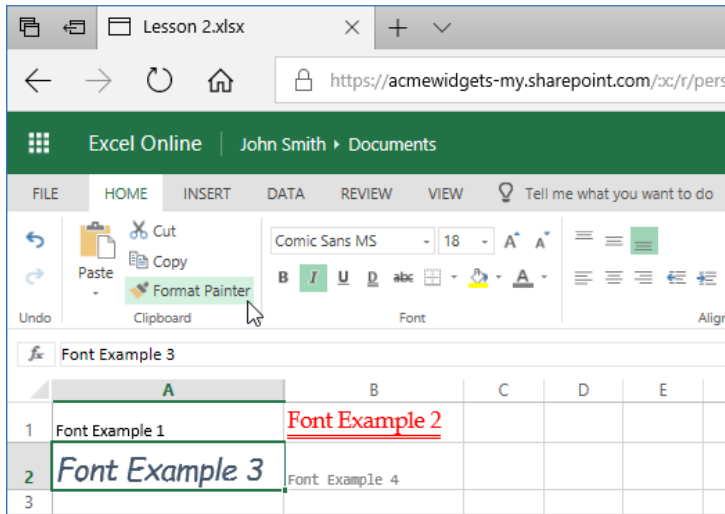
- Change the font face
- Change the font size
- Nudge the font size up or down

The bottom row of this group contains commands to:

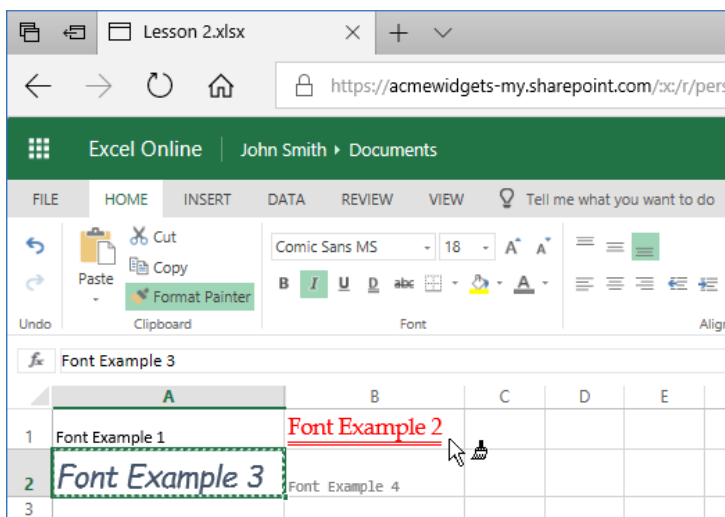
- Apply bold, italic, underline
- Format cell borders
- Add shading to cells
- Change the font color

The Format Painter

With the Format Painter, you can copy just the formatting from one cell and apply it to others in your worksheet. To use the Format Painter, select a cell and then click “Home → Format Painter:”



The cell that you selected will be identified with a scrolling dashed border and your mouse pointer will now have a paintbrush beside it. Now, any cell or range you select will assume the formatting of the cell that you selected:



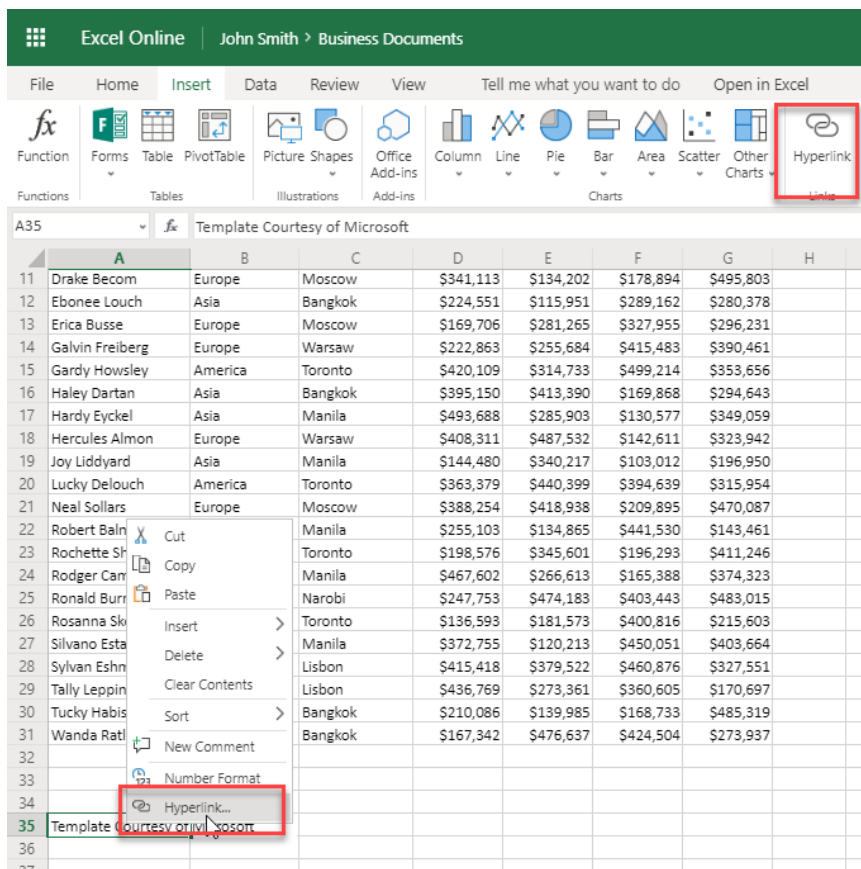
Here are the results of this example:

	A	B	C
1	Font Example 1	Font Example 2	
2	Font Example 3	Font Example 4	

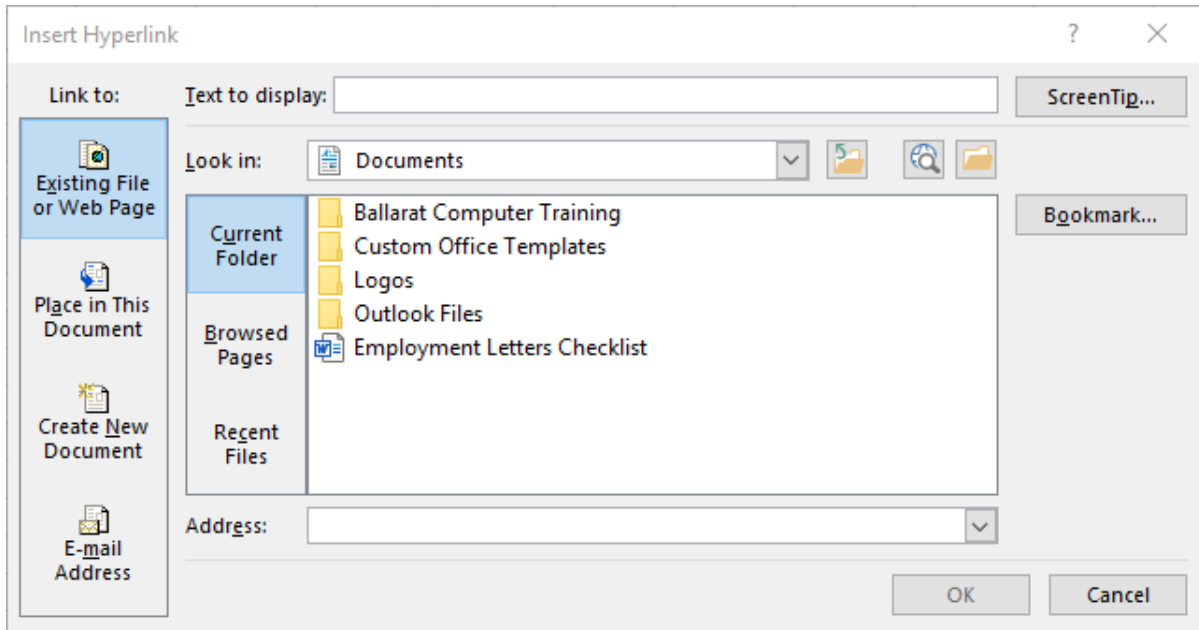
The Format Painter will then automatically turn off. You can also click the command again or press “Esc” to cancel to the process while the Format Painter is activated.

Creating Links

To create a hyperlink, select the text or object that you want to add the link to. Then, click the Link command on the Insert tab or right-click menu:

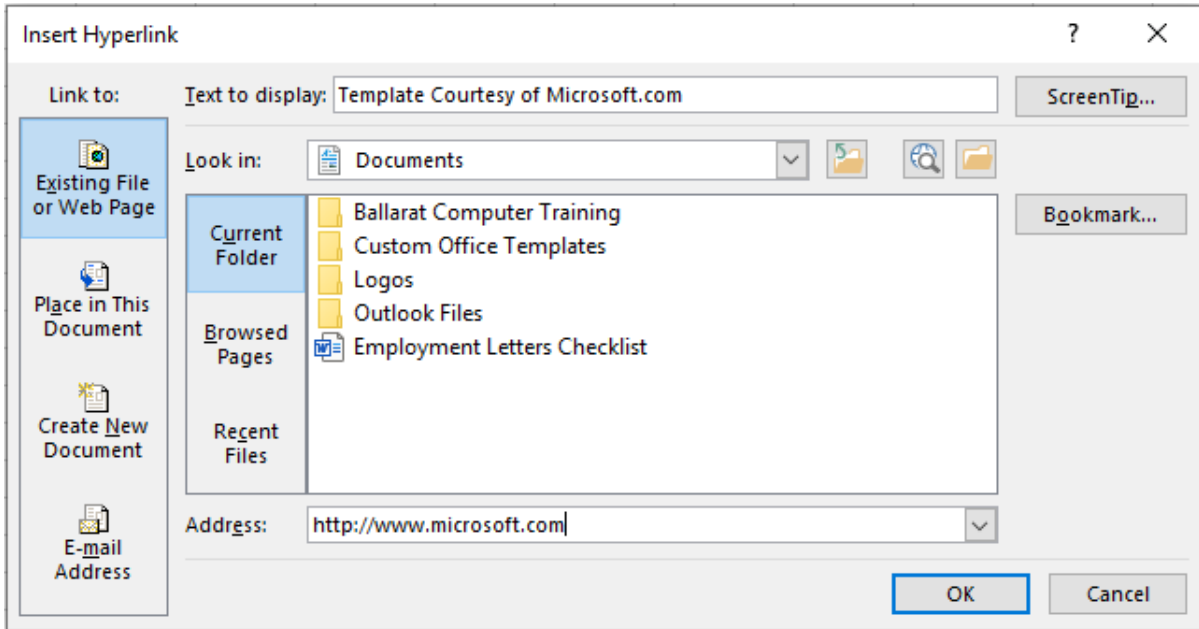


With either method, the Insert Hyperlink dialog box will open:



At the top of this dialog box, you can change the text displayed in the cell containing the link. Then, choose whether you want to link to a URL, place within the workbook, or use an email address. Finally, enter the related information in the selected field.

Here, we have linked to the URL “http://www.microsoft.com.” Click “OK” to create the link:



Your changes will be applied. You can follow the link by clicking the cell:

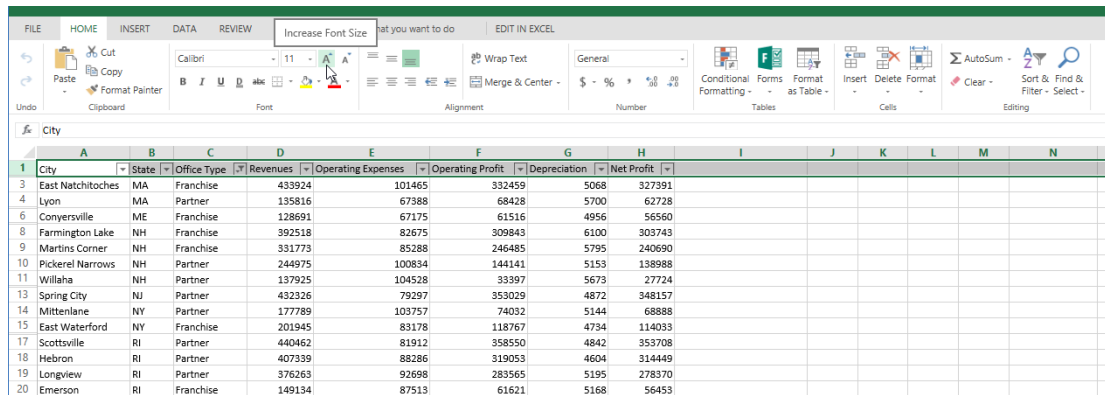
	A	C	D	E	F	G
22	Robert Balnaves	Asia/Manila	\$ 255,103	\$ 134,865	\$ 441,530	\$ 143,461
23	Rochette Shelley	America/Toronto	\$ 198,576	\$ 345,601	\$ 196,293	\$ 411,246
24	Rodger Campany	Asia/Manila	\$ 467,602	\$ 266,613	\$ 165,388	\$ 374,323
25	Ronald Burriss	Africa/Nairobi	\$ 247,753	\$ 474,183	\$ 403,443	\$ 483,015
26	Rosanna Skeermor	America/Toronto	\$ 136,593	\$ 181,573	\$ 400,816	\$ 215,603
27	Silvano Estable	Asia/Manila	\$ 372,755	\$ 120,213	\$ 450,051	\$ 403,664
28	Sylvan Eshmade	Europe/Lisbon	\$ 415,418	\$ 379,522	\$ 460,876	\$ 327,551
29	Tally Leppington	Europe/Lisbon	\$ 436,769	\$ 273,361	\$ 360,605	\$ 170,697
30	Tucky Habishaw	Asia/Bangkok	\$ 210,086	\$ 139,985	\$ 168,733	\$ 485,319
31	Wanda Ratlee	Asia/Bangkok	\$ 167,342	\$ 476,637	\$ 424,504	\$ 273,937
32						
33						
34						
35						Template Courtesy of Microsoft.com
36						

To modify the hyperlink, perform the Insert Hyperlink command again. To remove it, use the Clear command on the Home tab.

Activity 3-1: Formatting Text

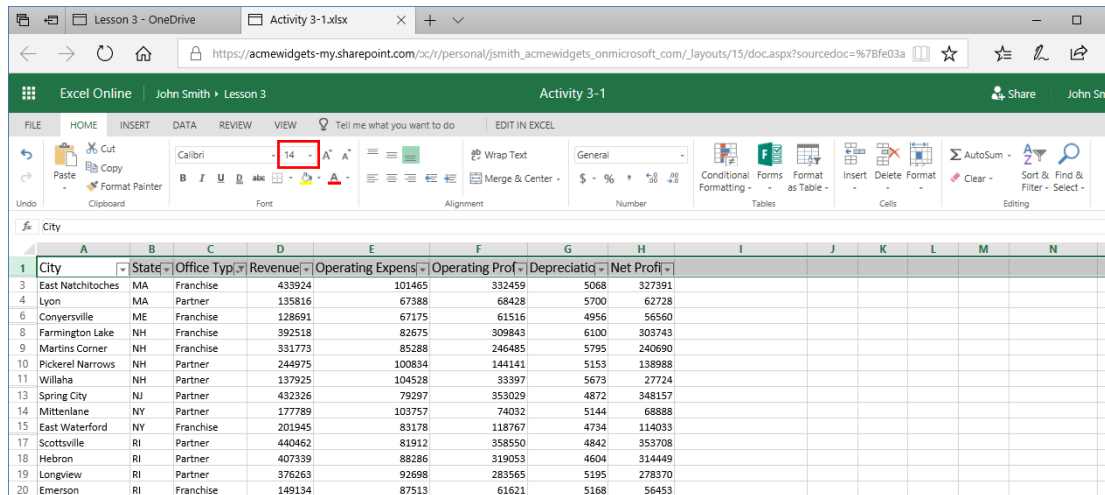
In this activity, you will format header rows and a title in your worksheet.

1. To begin, open Excel. (Refer back to Activity 1-1 if you need help.)
2. Navigate to Lesson 3 of your Excel Essentials Activities folder. Open Activity 3-1: (Refer back to Activity 1-2 if you need help.)
3. Highlight Row 1 by clicking on the number 1 in the rows on the left-hand side of the screen.
4. Click the Increase Font Size button twice:



1	City	State	Office Type	Revenues	Operating Expenses	Operating Profit	Depreciation	Net Profit
3	East Natchitoches	MA	Franchise	433924	101465	332459	5068	327391
4	Lyon	MA	Partner	135816	67388	68428	5700	62728
6	Conyersville	ME	Franchise	128691	67175	61516	4956	56560
8	Farmington Lake	NH	Franchise	392518	82675	309843	6100	303743
9	Martins Corner	NH	Franchise	331773	85288	246485	5795	240690
10	Pickrel Narrows	NH	Partner	244975	100834	144141	5153	138988
11	Willaha	NH	Partner	137925	104528	33397	5673	27724
13	Spring City	NJ	Partner	432326	79297	353029	4872	348157
14	Mittenlane	NY	Partner	177789	103757	74032	5144	68888
15	East Waterford	NY	Franchise	201945	83178	118767	4734	114033
17	Scottsville	RI	Partner	440462	81912	358550	4842	353708
18	Hebron	RI	Partner	407339	88286	319053	4604	314449
19	Longview	RI	Partner	376263	92698	283565	5195	278370
20	Emerson	RI	Franchise	149134	87513	61621	5168	56453

5. The value in the Size menu should now be 14:

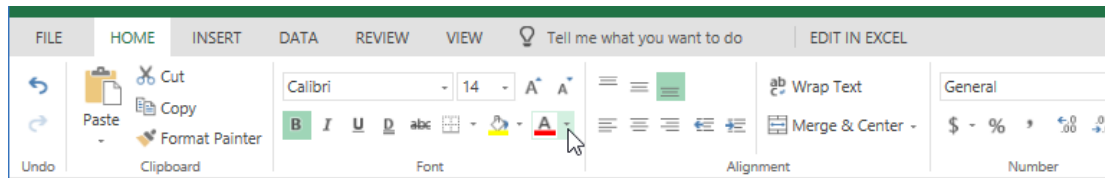


1	City	State	Office Type	Revenue	Operating Expenses	Operating Prof	Depreciatio	Net Profit
3	East Natchitoches	MA	Franchise	433924	101465	332459	5068	327391
4	Lyon	MA	Partner	135816	67388	68428	5700	62728
6	Conyersville	ME	Franchise	128691	67175	61516	4956	56560
8	Farmington Lake	NH	Franchise	392518	82675	309843	6100	303743
9	Martins Corner	NH	Franchise	331773	85288	246485	5795	240690
10	Pickrel Narrows	NH	Partner	244975	100834	144141	5153	138988
11	Willaha	NH	Partner	137925	104528	33397	5673	27724
13	Spring City	NJ	Partner	432326	79297	353029	4872	348157
14	Mittenlane	NY	Partner	177789	103757	74032	5144	68888
15	East Waterford	NY	Franchise	201945	83178	118767	4734	114033
17	Scottsville	RI	Partner	440462	81912	358550	4842	353708
18	Hebron	RI	Partner	407339	88286	319053	4604	314449
19	Longview	RI	Partner	376263	92698	283565	5195	278370
20	Emerson	RI	Franchise	149134	87513	61621	5168	56453

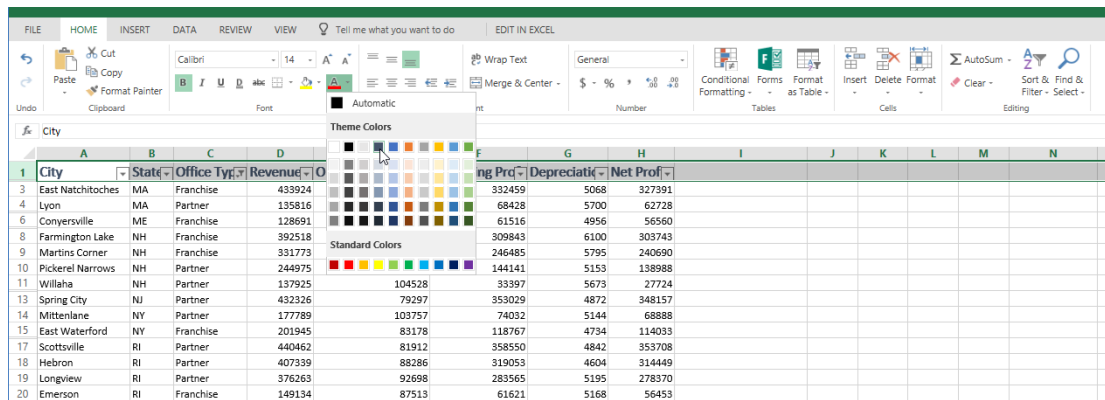
6. Apply the Bold effect:

City	State	Office Type	Revenue	Operating Expense	Operating Profit	Depreciation	Net Profit
East Natchitoches	MA	Franchise	433924	101465	332459	5068	327391
Lyon	MA	Partner	135816	67388	68428	5700	62728
Conyersville	ME	Franchise	128691	67175	61516	4956	56560
Farmington Lake	NH	Franchise	392518	82675	309843	6100	303743
Martins Corner	NH	Franchise	331773	85288	246485	5795	240690
Pickrel Narrows	NH	Partner	244975	100834	144141	5153	138988
Willaha	NH	Partner	137925	104528	33397	5673	27724
Spring City	NJ	Partner	432326	79297	353029	4872	348157
Mittenlana	NY	Partner	177789	103757	74032	5144	68888
East Waterford	NY	Franchise	201945	83178	118767	4734	114033
Scottsville	RI	Partner	440462	81912	358550	4842	353708
Hebron	RI	Partner	407339	88286	319053	4604	314449
Longview	RI	Partner	376263	92698	283565	5195	278370
Emerson	RI	Franchise	149134	87513	61621	5168	56453

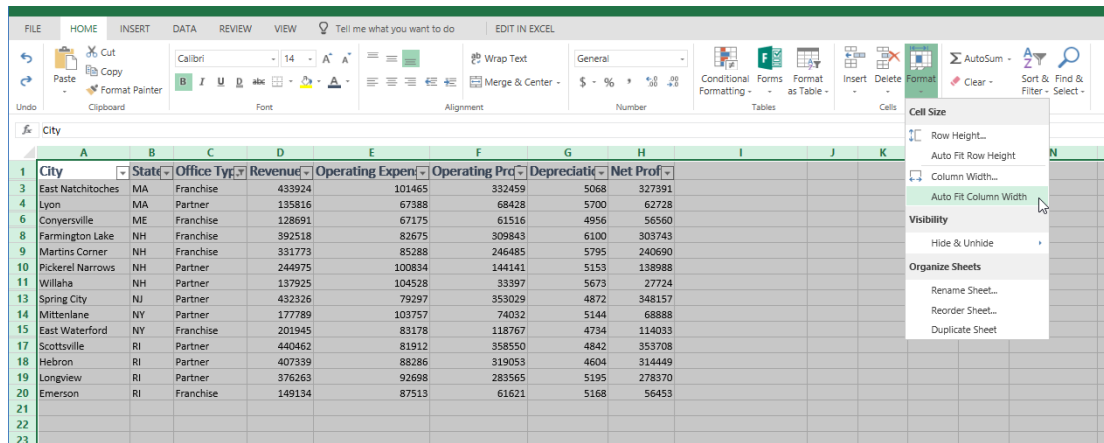
7. Click the drop-down arrow next to the Font Color command:



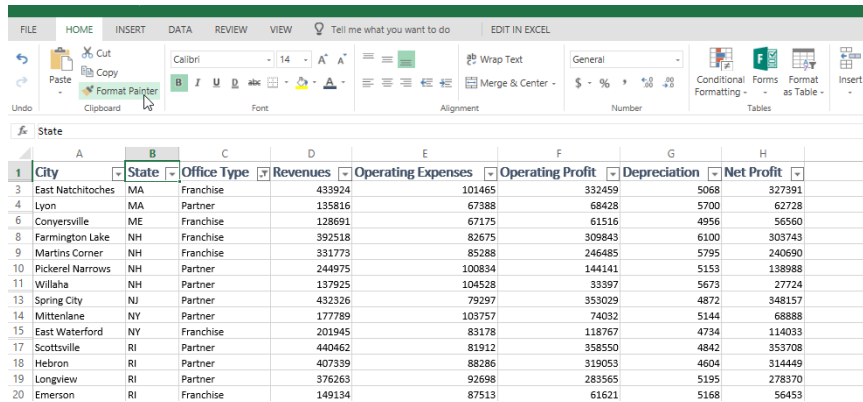
8. Click the swatch for Blue-Gray, Text 2:



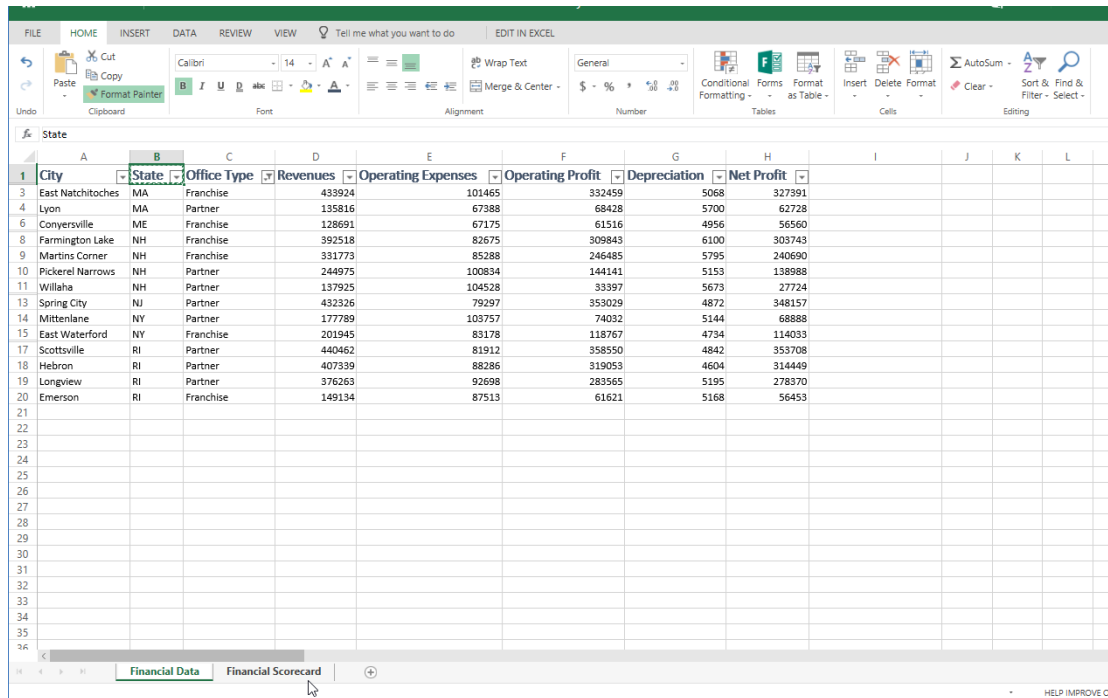
- Because of the font changes, the data no longer fits in the cells. Press **Ctrl + A** to select the entire worksheet. Click **“Home → Format → Auto Fit Column Width:”**



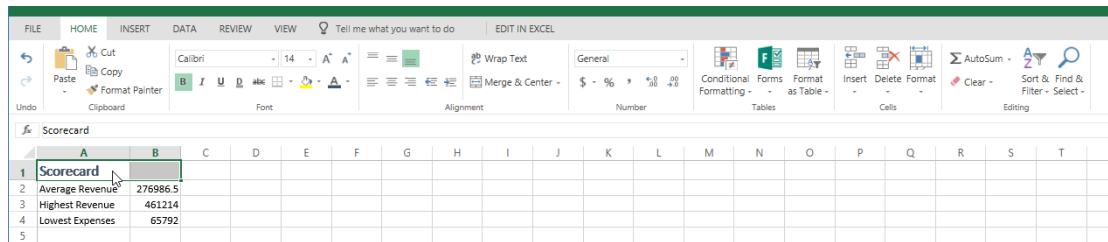
- Now, let’s copy the header row formatting to the second sheet. Click any cell in Row 1 to select it and click **“Home → Format Painter:”**



11. Click the Financial Scorecard worksheet tab:



12. Click cell A1:



The formatting will be applied; notice that the Merge & Center formatting option has been removed as part of this process. We will fix this in a later activity.

13. Save As 'Activity 3-1 complete' and close Excel to complete this activity.

TOPIC B: Formatting Cells

Like working with fonts, you can also modify the appearance of cells in a variety of ways. For example, you can change the border options, fill colors, and even the format of data.

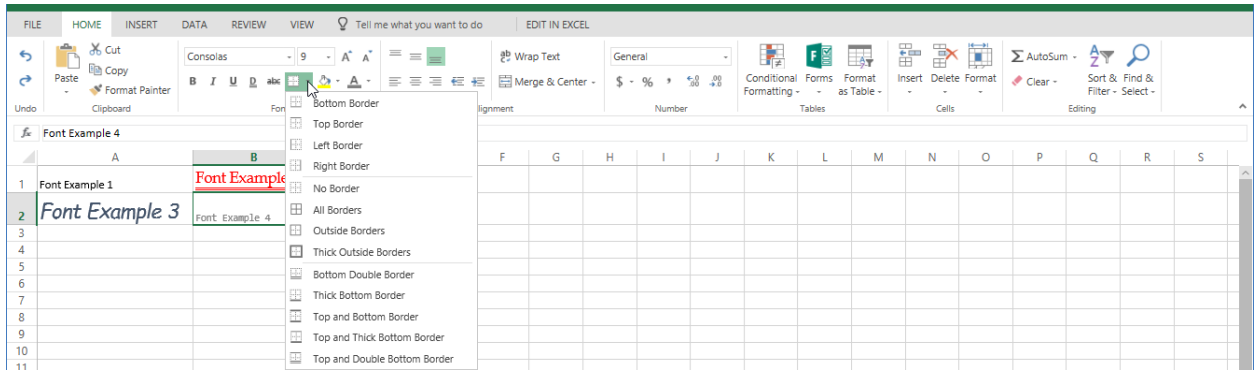
Topic Objectives

In this section, you will learn how to:

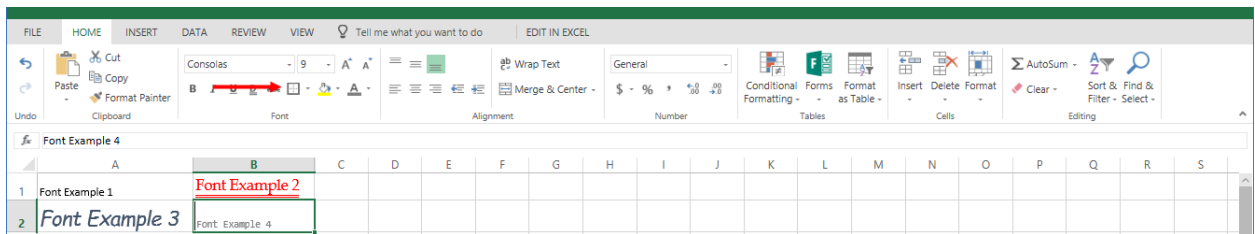
- Apply borders and fills to cells
- Change and customize number formats

Applying a Border

To add a border, select a range of data, click the arrow next to the Home → Borders button, and choose what type of border you wish to apply to the range:

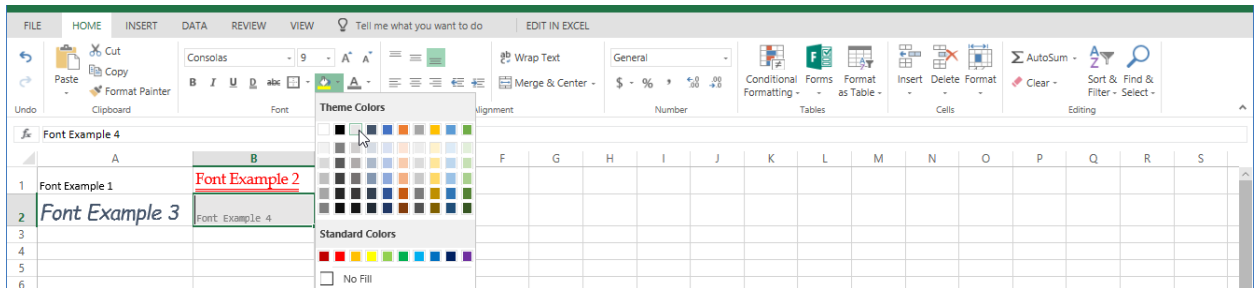


(Note that there is also a “No Border” option, which will remove an applied border.) The formatting will be applied, and the selected option will now be available by clicking the Border command directly. For example, here we applied thick outside borders to the cell, so this option is now reflected on the Border icon:

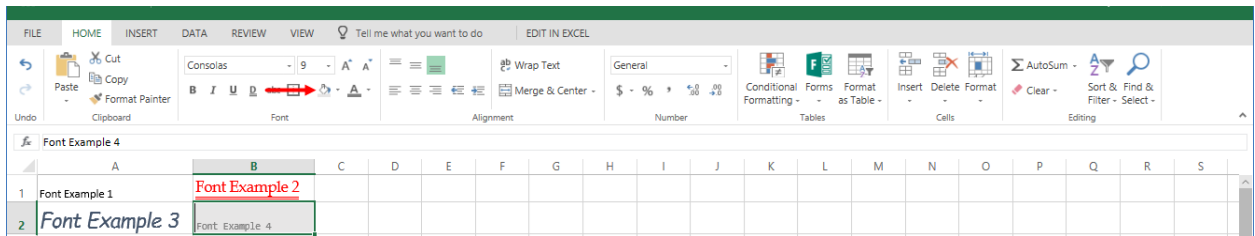


Applying a Fill

To apply a fill color, select the range of cells that you want to modify. Then, click Home → Fill Color arrow and click the desired color:

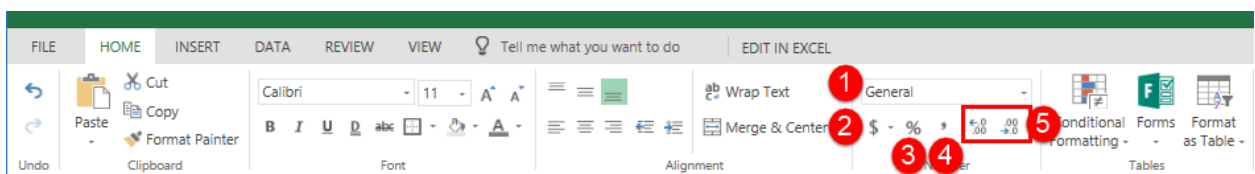


Just like the Borders command, the Fill command will show the most recently applied color. Click the icon directly to apply it:



Changing the Number Format

Number formats are used to change the appearance of data and improve its readability. You can find the related commands in the Number group of the Home tab:

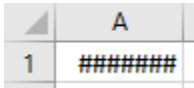


The commands in this group are:

1. Click the drop-down menu to choose a number format.
2. This icon opens a drop-down menu with various currency formats.
3. Apply the Percentage number format.
4. Apply the Accounting Comma number format (\$0,000.00).
5. Increase or decrease the decimal position.

Formatted Numbers and Cell Width

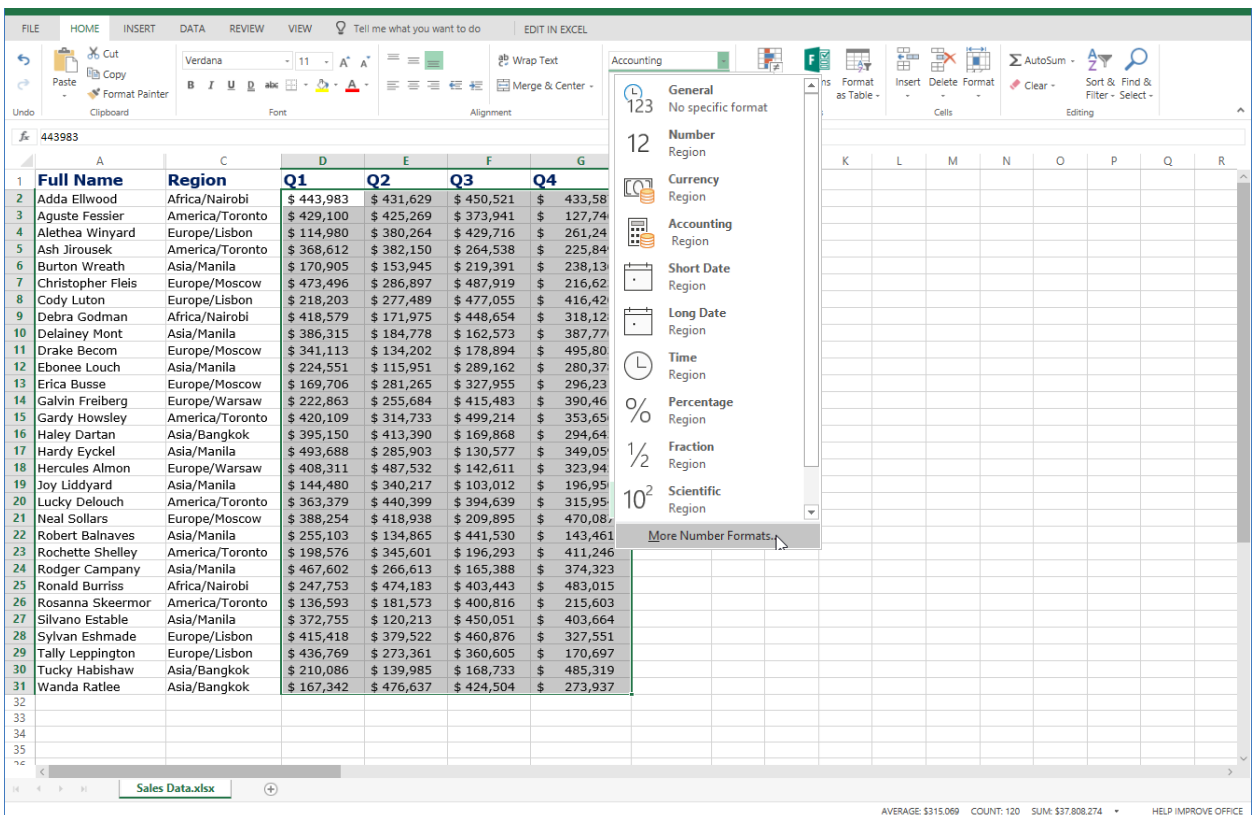
One thing to watch out for when formatting numbers is that the cell width can sometimes not provide enough room for the data and its formatting. This will cause Excel to display a series of # symbols in place of the actual data:



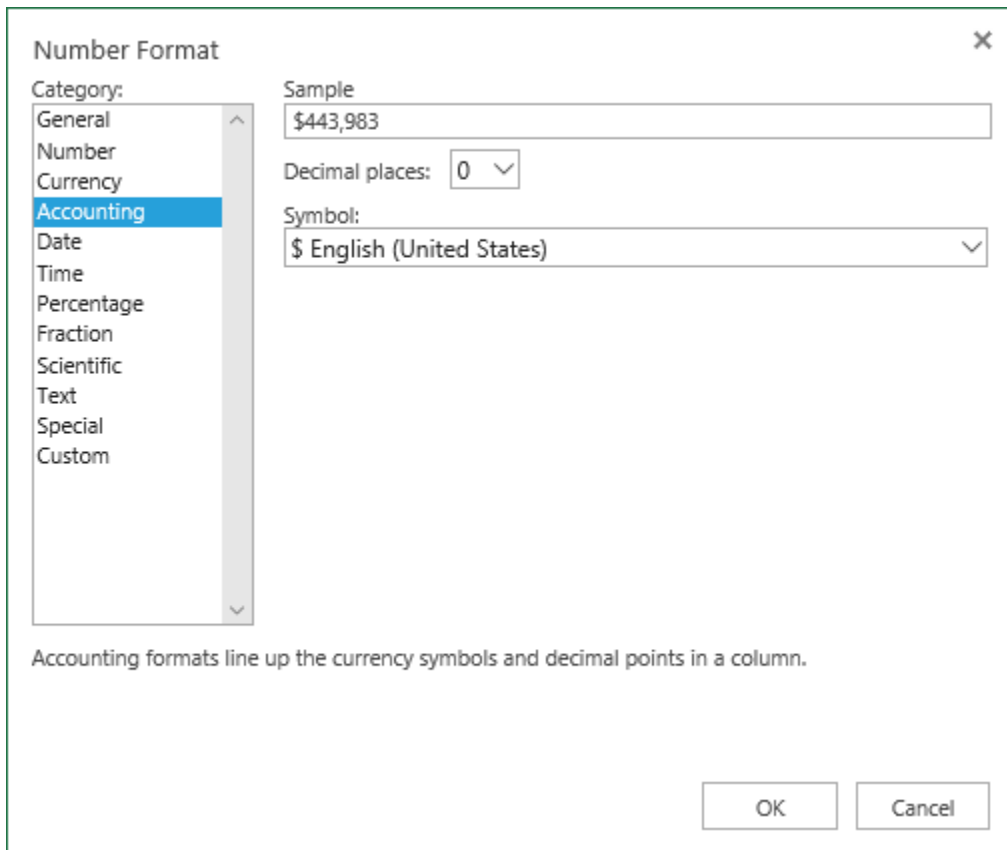
This problem can be solved by adjusting the column width or by choosing another number format.

Customizing Number Formats

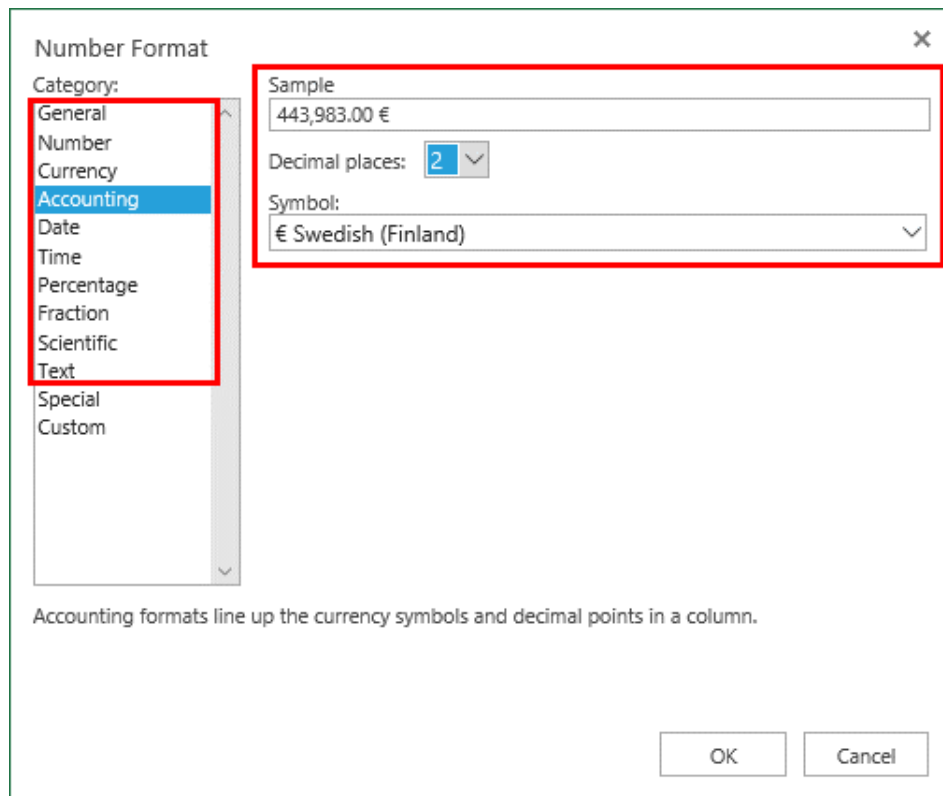
You can also create a custom number format. To begin, select the cell or cells that contain numbers you want to format. Then, click “Home → Number Format → More Number Formats:”



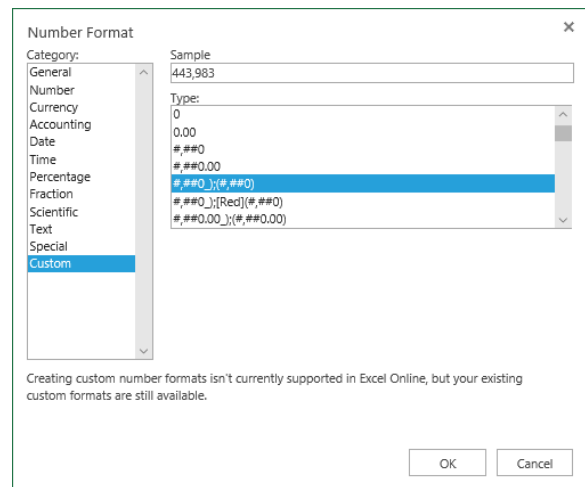
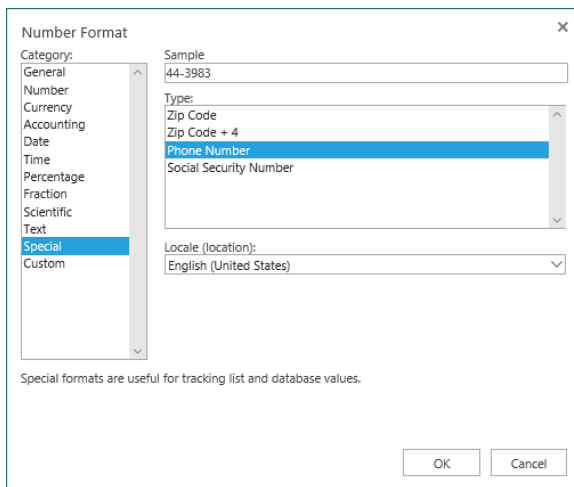
The Number Format dialog box will open:



You can use this dialog box in two ways. You can choose a category from the left and use the options in the center of the dialog box to modify that number format:



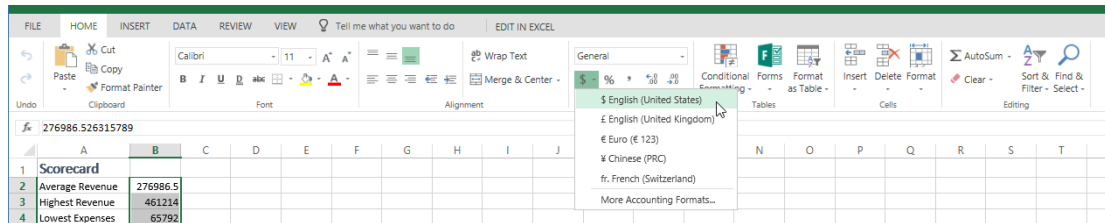
Or, create a custom format using one of the last two categories. The Special category allows you to select custom number formats based on location, while the Custom category contains miscellaneous formatting options:



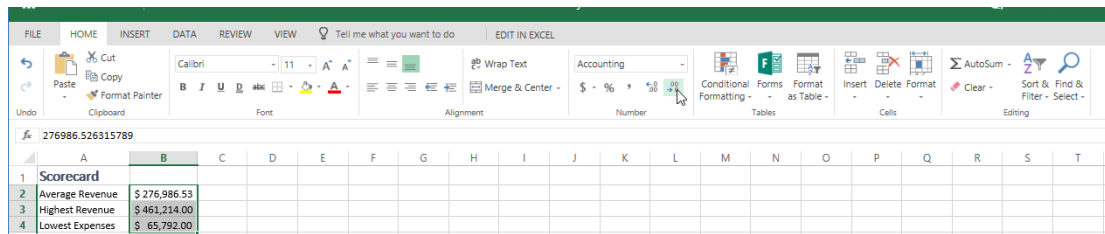
Activity 3-2: Formatting Cells

In this activity, we will add number formatting and borders to our financial data report.

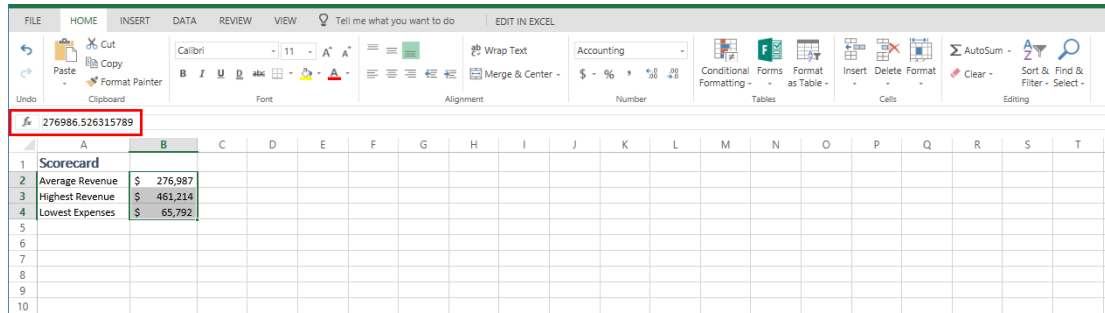
1. To begin, open Excel. (Refer back to Activity 1-1 if you need help.)
2. Navigate to Lesson 3 of your Excel Essentials Activities folder. Open Activity 3-2: (Refer back to Activity 1-2 if you need help.)
3. Highlight the range B2:B4.
4. Click the dollar icon in the Number group of the Home tab and click “\$ English (United States)”



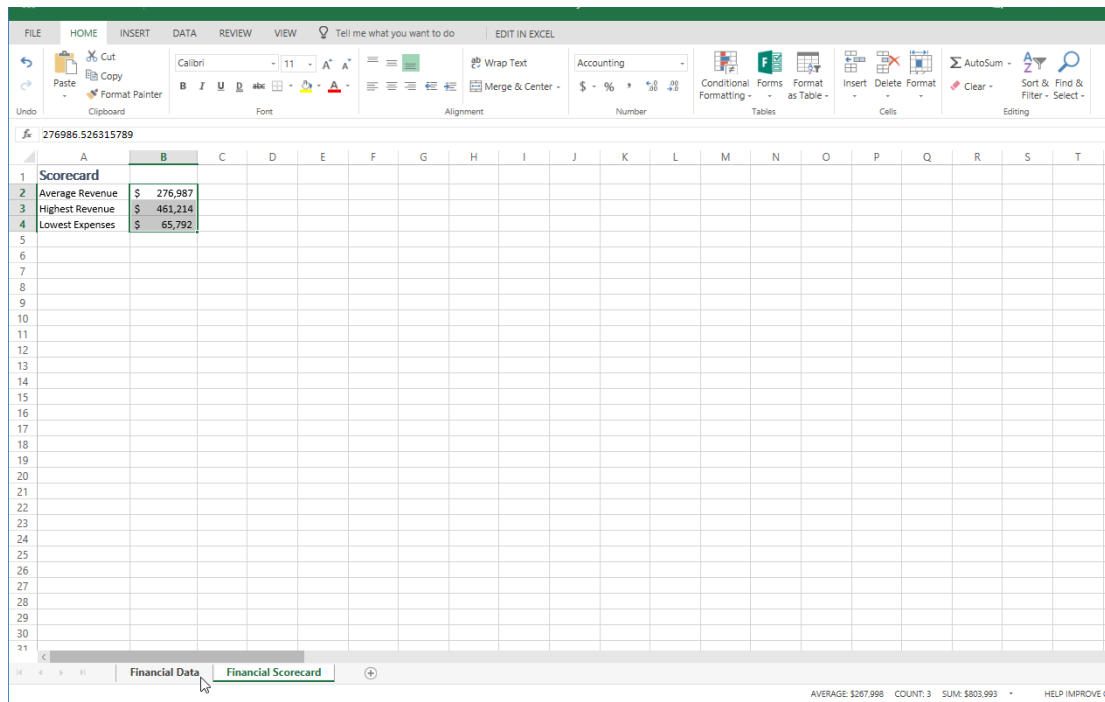
5. The formatting will be applied. However, we do not need the cents information, so click “Decrease Decimal” twice:



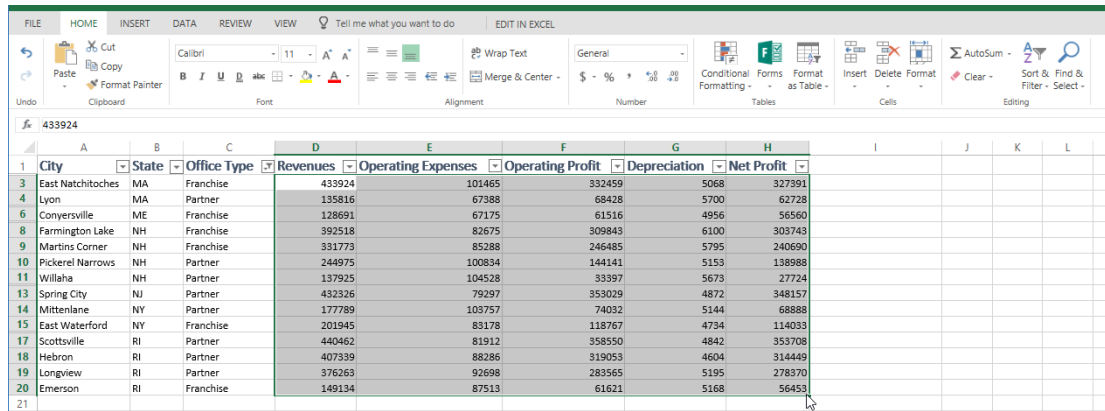
- This will remove the decimals from the numbers, but notice that the full value is still available in the formula bar:



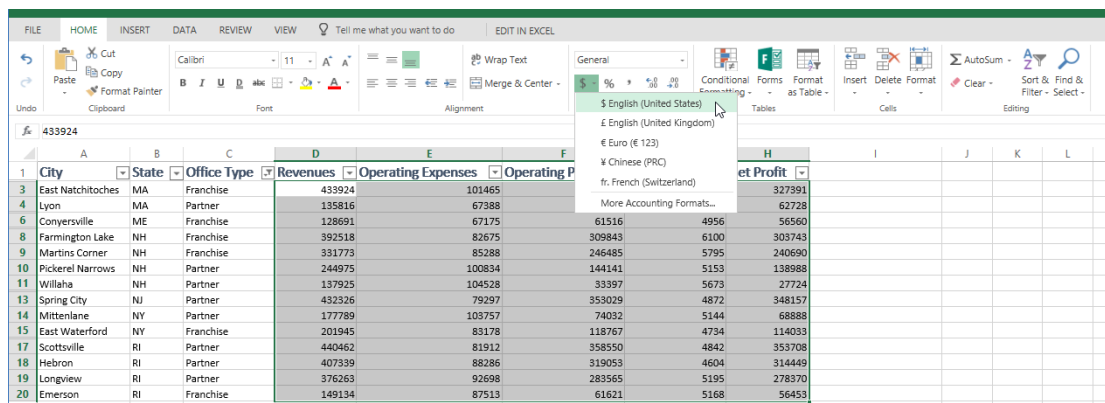
- Now, switch to the Financial Data worksheet:



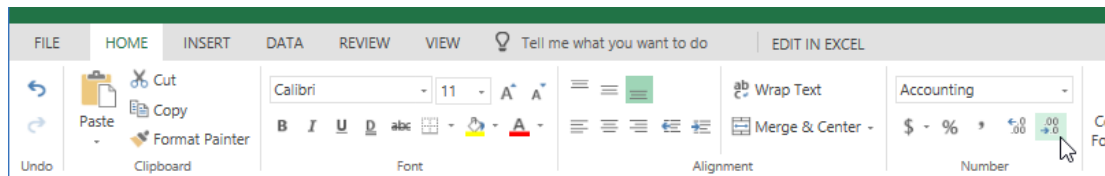
8. Select cells D3 through H20:



9. Click the dollar icon in the Number group of the Home tab and click “\$ English (Australia):”



10. Click the Decrease Decimal button twice to remove the cents values:



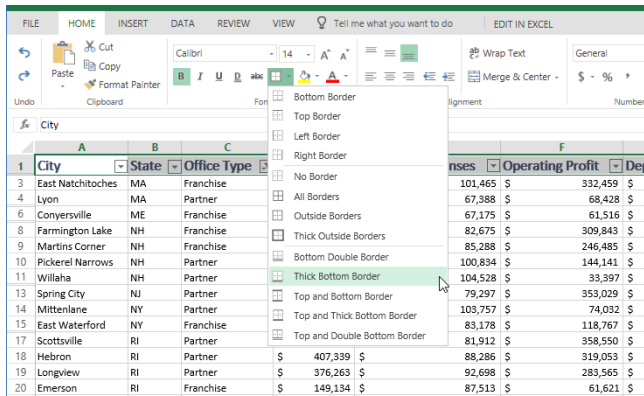
11. Review the results:

	A	B	C	D	E	F	G	H
1	City	State	Office Type	Revenues	Operating Expenses	Operating Profit	Depreciation	Net Profit
3	East Natchitoches	MA	Franchise	\$ 433,924	\$ 101,465	\$ 332,459	\$ 5,068	\$ 327,391
4	Lyon	MA	Partner	\$ 135,816	\$ 67,388	\$ 68,428	\$ 5,700	\$ 62,728
6	Conyersville	ME	Franchise	\$ 128,691	\$ 67,175	\$ 61,516	\$ 4,956	\$ 56,560
8	Farmington Lake	NH	Franchise	\$ 392,518	\$ 82,675	\$ 309,843	\$ 6,100	\$ 303,743
9	Martins Corner	NH	Franchise	\$ 331,773	\$ 85,288	\$ 246,485	\$ 5,795	\$ 240,690
10	Pickerel Narrows	NH	Partner	\$ 244,975	\$ 100,834	\$ 144,141	\$ 5,153	\$ 138,988
11	Willaha	NH	Partner	\$ 137,925	\$ 104,528	\$ 33,397	\$ 5,673	\$ 27,724
13	Spring City	NJ	Partner	\$ 432,326	\$ 79,297	\$ 353,029	\$ 4,872	\$ 348,157
14	Mittenlana	NY	Partner	\$ 177,789	\$ 103,757	\$ 74,032	\$ 5,144	\$ 68,888
15	East Waterford	NY	Franchise	\$ 201,945	\$ 83,178	\$ 118,767	\$ 4,734	\$ 114,033
17	Scottsville	RI	Partner	\$ 440,462	\$ 81,912	\$ 358,550	\$ 4,842	\$ 353,708
18	Hebron	RI	Partner	\$ 407,339	\$ 88,286	\$ 319,053	\$ 4,604	\$ 314,449
19	Longview	RI	Partner	\$ 376,263	\$ 92,698	\$ 283,565	\$ 5,195	\$ 278,370
20	Emerson	RI	Franchise	\$ 149,134	\$ 87,513	\$ 61,621	\$ 5,168	\$ 56,453

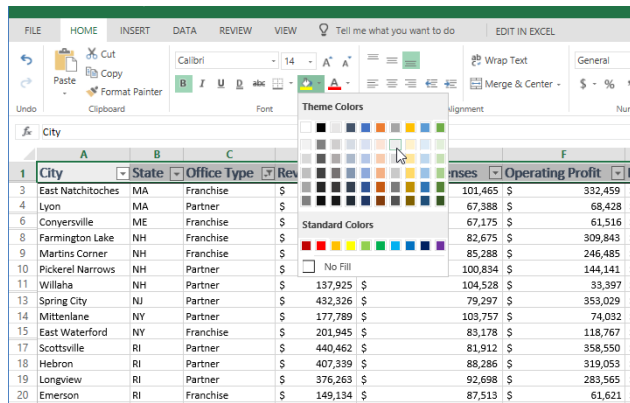
12. Finally, let's make the header row stand out a bit more. Select cells A1 to H1:

	A	B	C	D	E	F	G	H
1	City	State	Office Type	Revenues	Operating Expenses	Operating Profit	Depreciation	Net Profit
3	East Natchitoches	MA	Franchise	\$ 433,924	\$ 101,465	\$ 332,459	\$ 5,068	\$ 327,391
4	Lyon	MA	Partner	\$ 135,816	\$ 67,388	\$ 68,428	\$ 5,700	\$ 62,728
6	Conyersville	ME	Franchise	\$ 128,691	\$ 67,175	\$ 61,516	\$ 4,956	\$ 56,560
8	Farmington Lake	NH	Franchise	\$ 392,518	\$ 82,675	\$ 309,843	\$ 6,100	\$ 303,743
9	Martins Corner	NH	Franchise	\$ 331,773	\$ 85,288	\$ 246,485	\$ 5,795	\$ 240,690
10	Pickerel Narrows	NH	Partner	\$ 244,975	\$ 100,834	\$ 144,141	\$ 5,153	\$ 138,988

13. Click the Borders drop-down arrow and click "Thick Bottom Border:"



14. The border will be added. Now, click the Fill drop-down arrow and choose a color shown here:



15. Click any cell to de-select the header row. Review your formatting changes:

	A	B	C	D	E	F	G	H
1	City	State	Office Type	Revenues	Operating Expenses	Operating Profit	Depreciation	Net Profit
3	East Natchitoches	MA	Franchise	\$ 433,924	\$ 101,465	\$ 332,459	\$ 5,068	\$ 327,
4	Lyon	MA	Partner	\$ 135,816	\$ 67,388	\$ 68,428	\$ 5,700	\$ 62,
6	Conyersville	ME	Franchise	\$ 128,691	\$ 67,175	\$ 61,516	\$ 4,956	\$ 56,
8	Farmington Lake	NH	Franchise	\$ 392,518	\$ 82,675	\$ 309,843	\$ 6,100	\$ 303,
9	Martins Corner	NH	Franchise	\$ 331,773	\$ 85,288	\$ 246,485	\$ 5,795	\$ 240,
10	Pickerel Narrows	NH	Partner	\$ 244,975	\$ 100,834	\$ 144,141	\$ 5,153	\$ 138,
11	Willaha	NH	Partner	\$ 137,925	\$ 104,528	\$ 33,397	\$ 5,673	\$ 27,
13	Spring City	NJ	Partner	\$ 432,326	\$ 79,297	\$ 353,029	\$ 4,872	\$ 348,
14	Mittenlana	NY	Partner	\$ 177,789	\$ 103,757	\$ 74,032	\$ 5,144	\$ 68,
15	East Waterford	NY	Franchise	\$ 201,945	\$ 83,178	\$ 118,767	\$ 4,734	\$ 114,
17	Scottsville	RI	Partner	\$ 440,462	\$ 81,912	\$ 358,550	\$ 4,842	\$ 353,
18	Hebron	RI	Partner	\$ 407,339	\$ 88,286	\$ 319,053	\$ 4,604	\$ 314,
19	Longview	RI	Partner	\$ 376,263	\$ 92,698	\$ 283,565	\$ 5,195	\$ 278,
20	Emerson	RI	Franchise	\$ 149,134	\$ 87,513	\$ 61,621	\$ 5,168	\$ 56,

16. Save As 'Activity 3-2 complete' and close Excel to complete this activity.

TOPIC C: Aligning Cell Content

Alignment tools are another way to make your worksheet more attractive and readable. This topic will introduce you to a few key tools, including alignment, text wrapping, and cell merging.

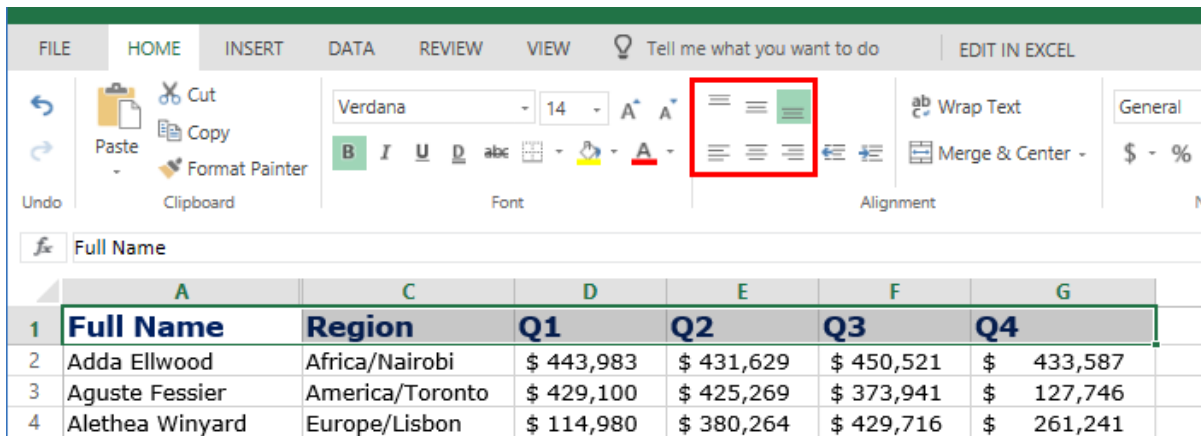
Topic Objectives

In this section, you will learn how to:

- Set alignment options
- Use indent commands
- Wrap text
- Use Merge & Center

Alignment Options

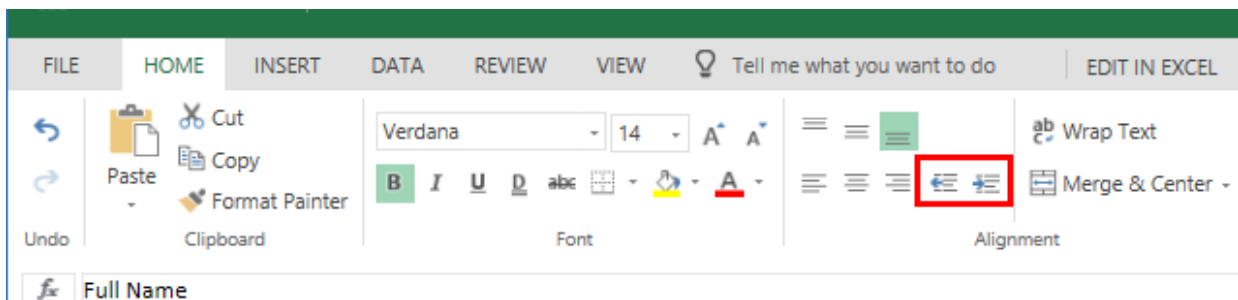
To align data within a worksheet, select the cell(s) you want to adjust and then use the commands in the Alignment group of the Home tab:



The top row of options controls vertical alignment, while the bottom row controls horizontal alignment.

The Indent Commands

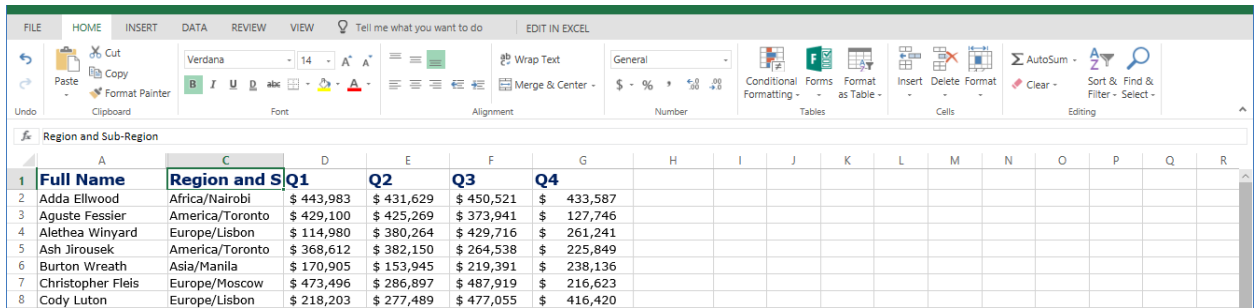
The Indent commands in the Alignment group of the Home tab allow you to adjust the space between a cell border and its contents:



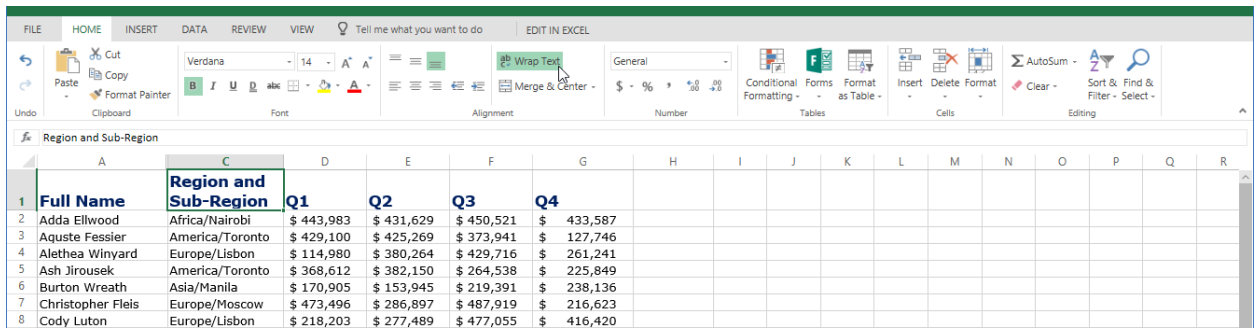
For example, if the contents of a cell are left-aligned, clicking “Increase Indent” (right arrow) will increase the space between the contents and the left border. Similarly, clicking “Decrease Indent” (left arrow) will decrease that space.

The Wrap Text Command

When you enter text into a cell and that text exceeds the cell’s dimensions, the contents will continue and overlap to the next cell if it contains no data. If the neighboring cell does contain data, the content will be truncated and hidden (although the full text will be displayed in the formula bar):



Clicking “Home → Wrap Text” with the cell selected will adjust the row height to accommodate overlapping text:

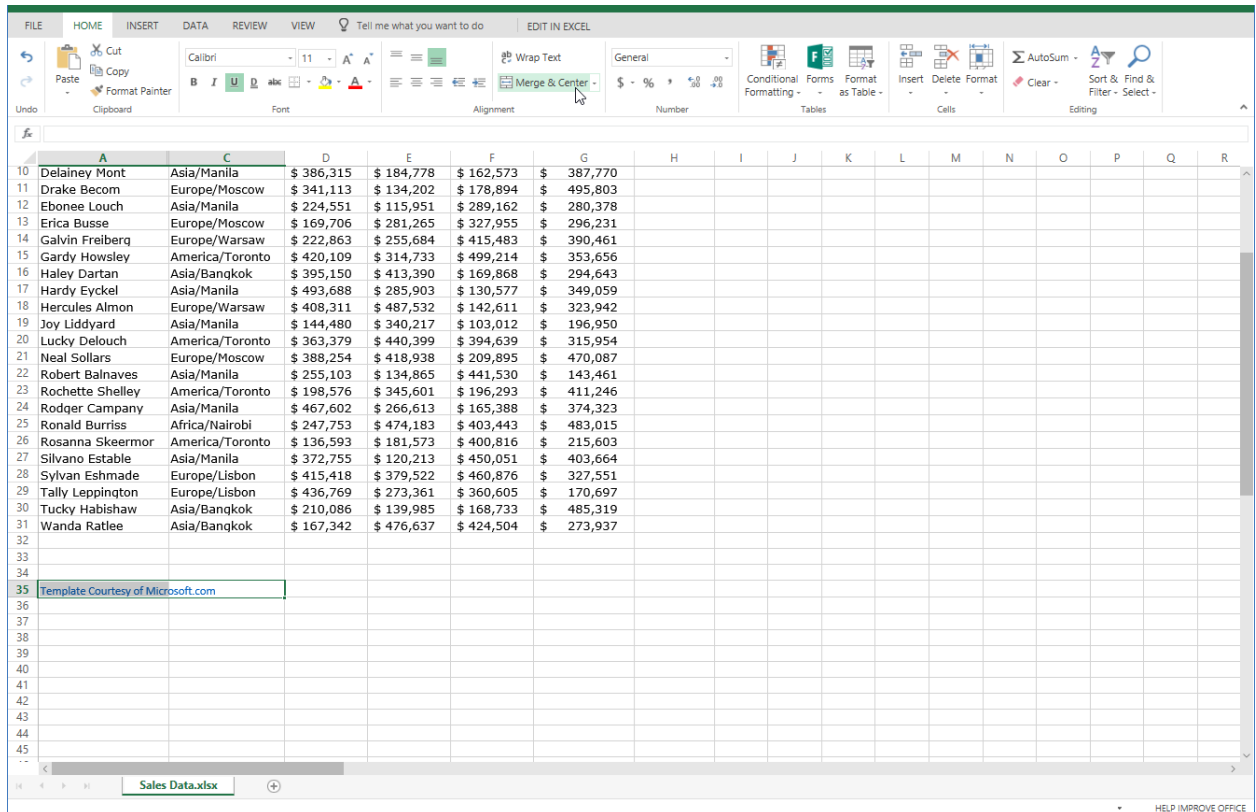


(Wrap Text can be toggled off by clicking “Home → Wrap Text” again.)

Merge & Center Options

Occasionally, you may need a long cell for a heading, or you may need to resize columns or rows so that long items can be displayed. The Merge & Center options allow you to select a group of cells, either across a row or down a column, and combine them to form one large cell.

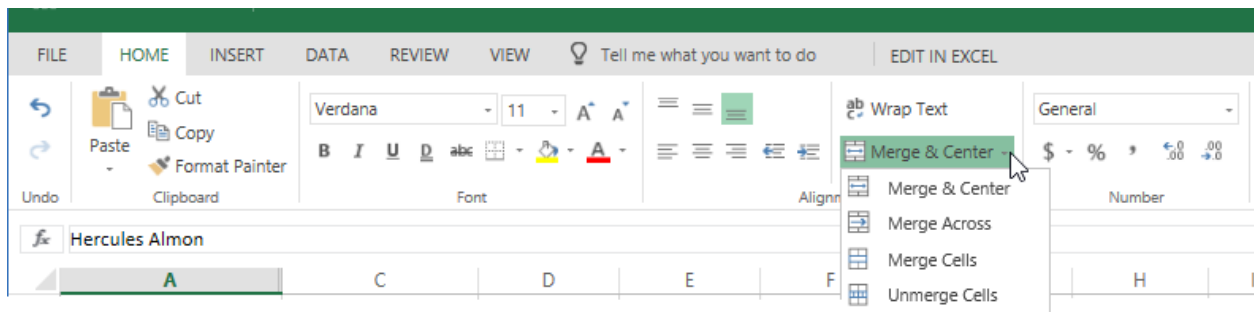
To do this, select a group of adjacent cells and click “Home → Merge & Center:”



Here are the results:

	A	C	D	E	F	G
26	Rosanna Skeermor	America/Toronto	\$ 136,593	\$ 181,573	\$ 400,816	\$ 215,603
27	Silvano Estable	Asia/Manila	\$ 372,755	\$ 120,213	\$ 450,051	\$ 403,664
28	Sylvan Eshmade	Europe/Lisbon	\$ 415,418	\$ 379,522	\$ 460,876	\$ 327,551
29	Tally Leppington	Europe/Lisbon	\$ 436,769	\$ 273,361	\$ 360,605	\$ 170,697
30	Tucky Habishaw	Asia/Bangkok	\$ 210,086	\$ 139,985	\$ 168,733	\$ 485,319
31	Wanda Ratlee	Asia/Bangkok	\$ 167,342	\$ 476,637	\$ 424,504	\$ 273,937
32						
33						
34						
35	Template Courtesy of Microsoft.com					
36						

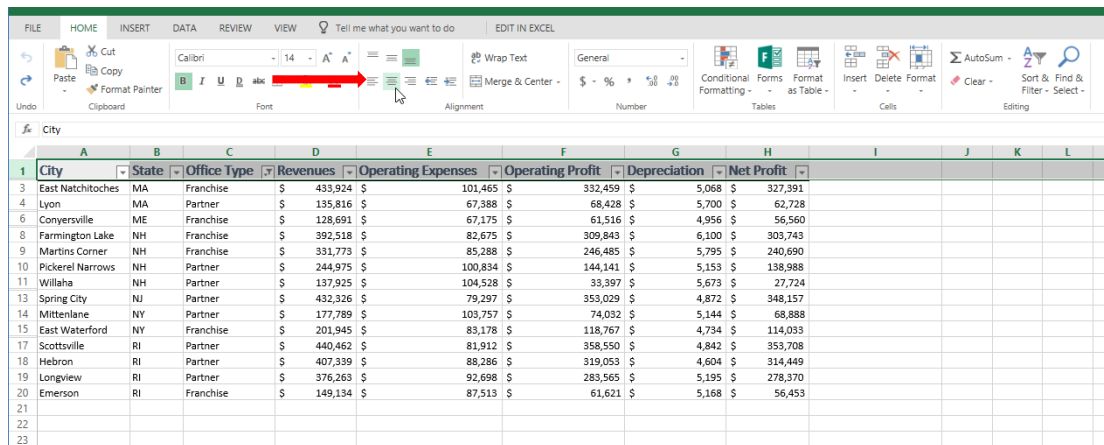
Note that you can access a few more options from the Merge & Center drop-down menu:



Activity 3-3: Aligning Cell Content

In this activity, you will use alignment tools to improve the appearance of your financial data worksheet.

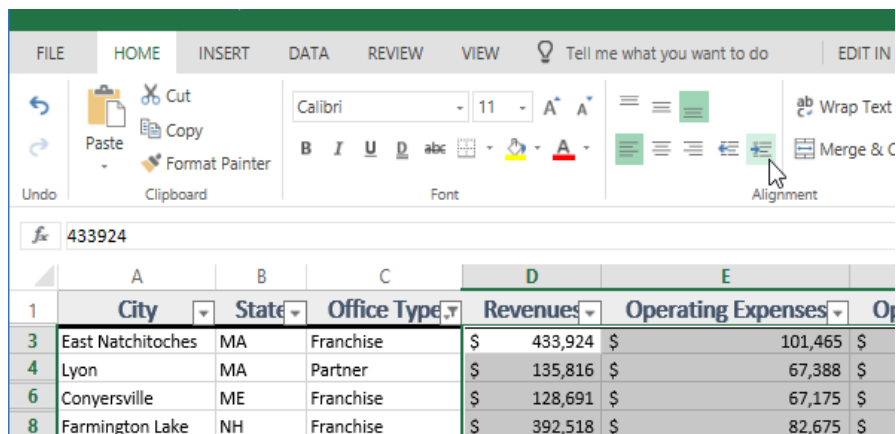
1. To begin, open Excel. (Refer back to Activity 1-1 if you need help.)
2. Navigate to Lesson 3 of your Excel Essentials Activities folder. Open Activity 3-3: (Refer back to Activity 1-2 if you need help.)
3. Highlight Row 1 by clicking on the number 1 in the rows on the left-hand side of the screen.
4. Click “Home → Align Center:”



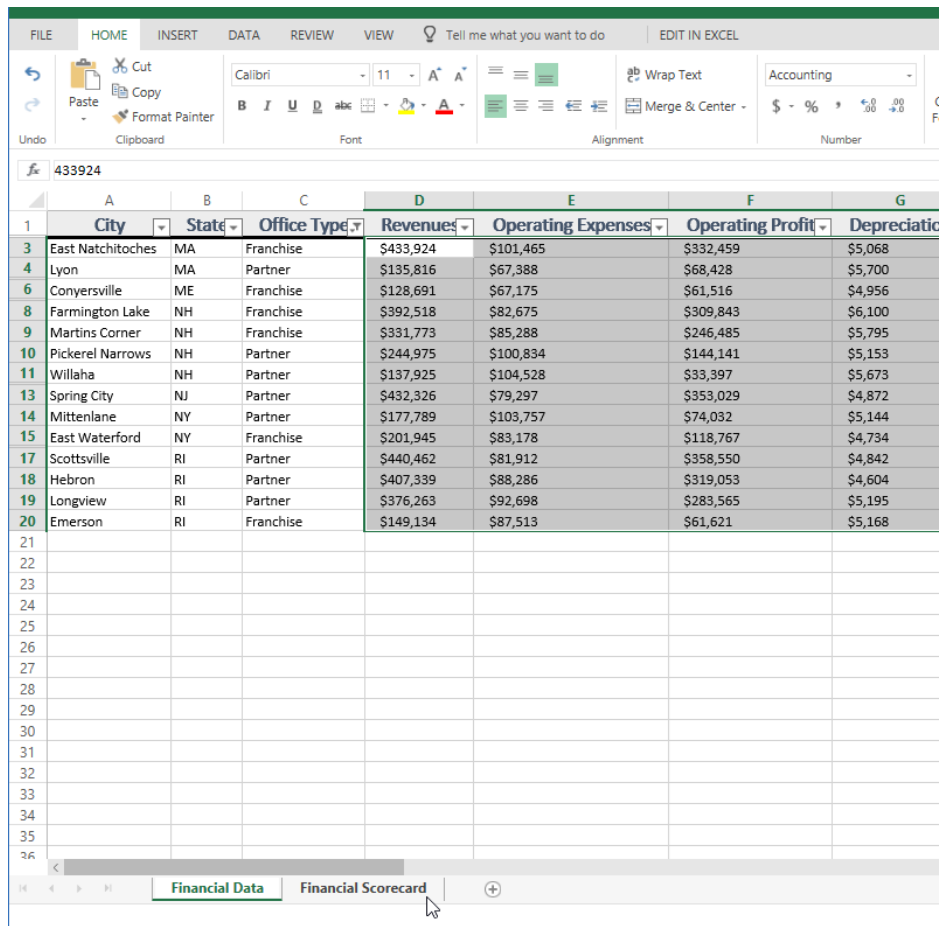
- The formatting will be applied. Now, notice how the dollar sign is separated from the numerical data. Let's fix this by modifying the indent. Select cells D3 through H20:

	A	B	C	D	E	F	G	H
1	City	State	Office Type	Revenues	Operating Expenses	Operating Profit	Depreciation	Net Profit
3	East Natchitoches	MA	Franchise	\$ 433,924	\$ 101,465	\$ 332,459	\$ 5,068	\$ 327,391
4	Lyon	MA	Partner	\$ 135,816	\$ 67,388	\$ 68,428	\$ 5,700	\$ 62,728
6	Conyersville	ME	Franchise	\$ 128,691	\$ 67,175	\$ 61,516	\$ 4,956	\$ 56,560
8	Farmington Lake	NH	Franchise	\$ 392,518	\$ 82,675	\$ 309,843	\$ 6,100	\$ 303,743
9	Martins Corner	NH	Franchise	\$ 331,773	\$ 85,288	\$ 246,485	\$ 5,795	\$ 240,690
10	Pickereel Narrows	NH	Partner	\$ 244,975	\$ 100,834	\$ 144,141	\$ 5,153	\$ 138,988
11	Willaha	NH	Partner	\$ 137,925	\$ 104,528	\$ 33,397	\$ 5,673	\$ 27,724
13	Spring City	NJ	Partner	\$ 432,326	\$ 79,297	\$ 353,029	\$ 4,872	\$ 348,157
14	Mittenlane	NY	Partner	\$ 177,789	\$ 103,757	\$ 74,032	\$ 5,144	\$ 68,888
15	East Waterford	NY	Franchise	\$ 201,945	\$ 83,178	\$ 118,767	\$ 4,734	\$ 114,033
17	Scottsville	RI	Partner	\$ 440,462	\$ 81,912	\$ 358,550	\$ 4,842	\$ 353,708
18	Hebron	RI	Partner	\$ 407,339	\$ 88,286	\$ 319,053	\$ 4,604	\$ 314,449
19	Longview	RI	Partner	\$ 376,263	\$ 92,698	\$ 283,565	\$ 5,195	\$ 278,370
20	Emerson	RI	Franchise	\$ 149,134	\$ 87,513	\$ 61,621	\$ 5,168	\$ 56,453

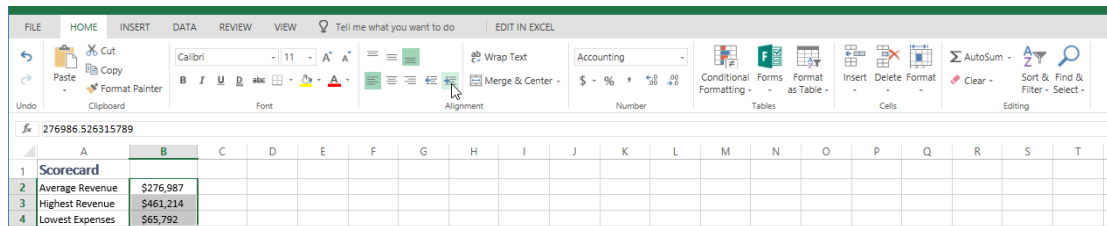
- Now, click "Home → Increase Indent" a couple of times:



7. The correct formatting will now be applied. Switch to the Financial Scorecard tab:



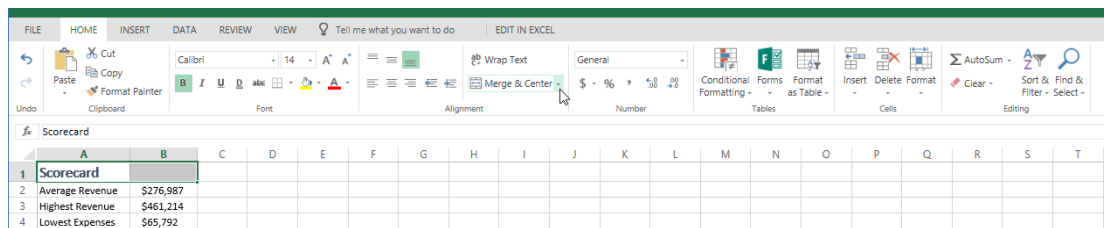
8. Select the data in cells B2 to B4. Use the Increase Indent command to fix this data display:



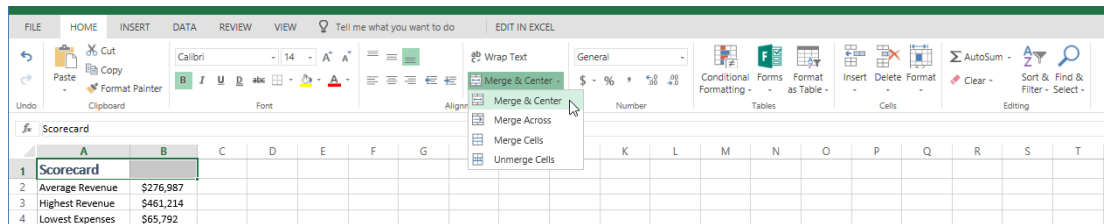
- Now, let's reapply the Merge and Center formatting to the title. Select cells A1 and B1:

	A	B
1	Scorecard	
2	Average Revenue	\$ 276,987
3	Highest Revenue	\$461,214
4	Lowest Expenses	\$ 65,792

- Click Home → Merge & Center drop-down arrow:



- Review the options. It looks like the Merge & Center command is fine for our needs. Click this option to apply it:



- Save As 'Activity 3-3 complete' and close Excel to complete this activity.

TOPIC D: Using Find & Select Tools

Excel offers several tools to help you find, replace, and navigate to data within a workbook. This topic will cover all these tools and give you an opportunity to practice using them.

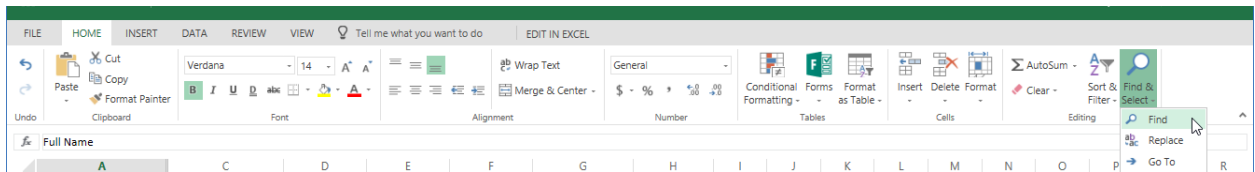
Topic Objectives

In this section, you will learn how to:

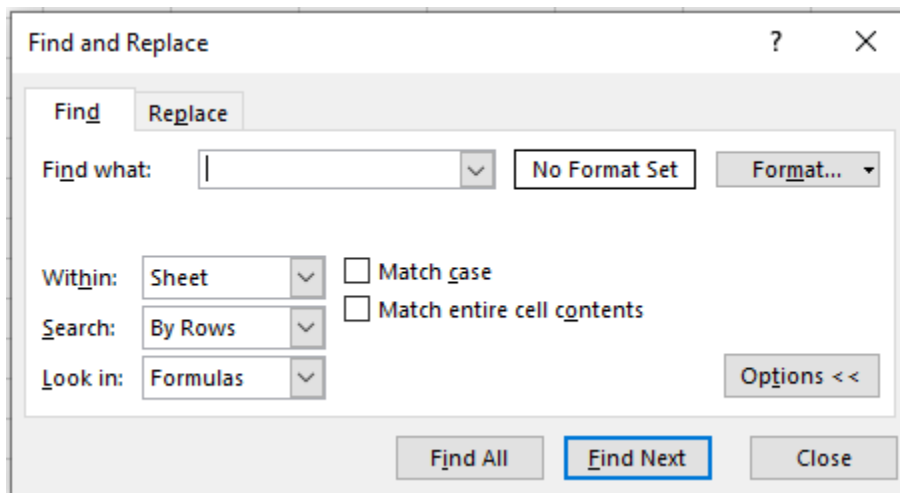
- Use the Find, Replace, and Go To commands

The Find Command

To search for data in a workbook, click “Home → Find & Select → Find,” or press Ctrl + F:



With either command, the Find dialog box will open:



Here is an overview of the options in this dialog box.

- Enter your search terms in the “**Find what**” field.
- Use the **Within** menu to choose whether you want to search within the current selection, worksheet, or workbook.
- The **checkboxes** allow you to require an exact case match and/or a match to the full cell contents.
- The **Search** menu allows you search by row or column.

The **Look in** menu allows you to choose whether you want to search formulas, values, notes or comments.

Once you have set your options, click “**Find Next**” to see the first result:

The screenshot shows the Microsoft Excel 365 interface with a data table and the Find dialog box open. The data table has the following content:

	A	C	D	E	F	G	H	I	J	K	L	M	N
1	Full Name	Region	Q1	Q2	Q3	Q4							
2	Adda Ellwood	Africa/Nairobi	\$ 443,983	\$ 431,629	\$ 450,521	\$ 433,587							
3	Aguste Fessier	America/Toronto	\$ 429,100	\$ 425,269	\$ 373,941	\$ 127,746							
4	Alethea Winyard	Europe/Lisbon	\$ 114,980	\$ 380,264	\$ 429,716	\$ 261,241							
5	Ash Jirousek	America/Toronto	\$ 368,612	\$ 382,150									
6	Burton Wreath	Asia/Manila	\$ 170,905	\$ 153,945									
7	Christopher Fleis	Europe/Moscow	\$ 473,496	\$ 286,897									
8	Cody Luton	Europe/Lisbon	\$ 218,203	\$ 277,489									
9	Debra Godman	Africa/Nairobi	\$ 418,579	\$ 171,975									
10	Delainey Mont	Asia/Manila	\$ 386,315	\$ 184,778									
11	Drake Becom	Europe/Moscow	\$ 341,113	\$ 134,202									
12	Ebonee Louch	Asia/Manila	\$ 224,551	\$ 115,951									
13	Erica Busse	Europe/Moscow	\$ 169,706	\$ 281,265									
14	Galvin Freiberg	Europe/Warsaw	\$ 222,863	\$ 255,684									
15	Gardy Howsley	America/Toronto	\$ 420,109	\$ 314,733									
16	Haley Dartan	Asia/Bangkok	\$ 395,150	\$ 413,390									
17	Hardy Eyckel	Asia/Manila	\$ 493,688	\$ 285,903									
18	Hercules Almon	Europe/Warsaw	\$ 408,311	\$ 487,532									
19	Joy Liddyard	Asia/Manila	\$ 144,480	\$ 340,217									
20	Lucky Delouch	America/Toronto	\$ 363,379	\$ 440,399									
21	Neal Sollars	Europe/Moscow	\$ 388,254	\$ 418,938									
22	Robert Balnaves	Asia/Manila	\$ 255,103	\$ 134,865									
23	Rochette Shelley	America/Toronto	\$ 198,576	\$ 345,601									
24	Rodger Campany	Asia/Manila	\$ 467,602	\$ 266,613	\$ 165,388	\$ 374,323							
25	Ronald Burriss	Africa/Nairobi	\$ 247,753	\$ 474,183	\$ 403,443	\$ 483,015							

The Find dialog box is open, showing the following options:

- Find what: Erica
- Within: Sheet
- Match case
- Match entire cell contents
- Direction: Up, Down
- Buttons: Find Next, Replace..., Cancel

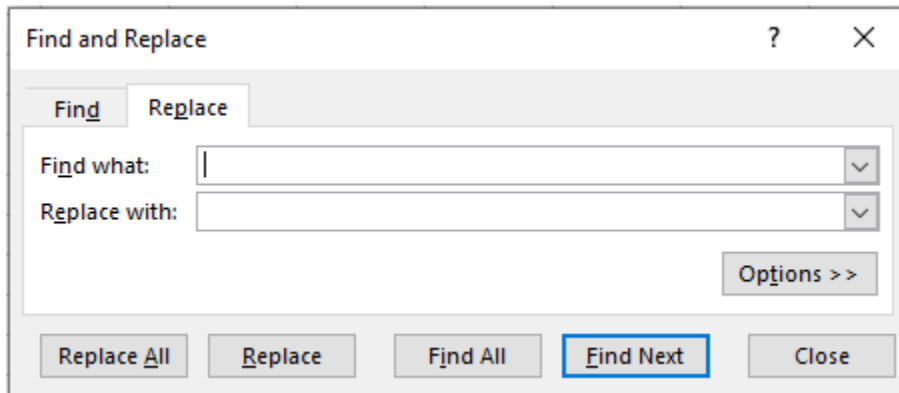
You can continue clicking “**Find Next**” to view additional results. You can also work with Excel data even while the Find dialog box is open.

The Replace Command

To replace search terms with something else, you can:

- Click the Replace command in the Find dialog box
- Click “Home → Find & Select → Replace”
- Use the Ctrl + H shortcut

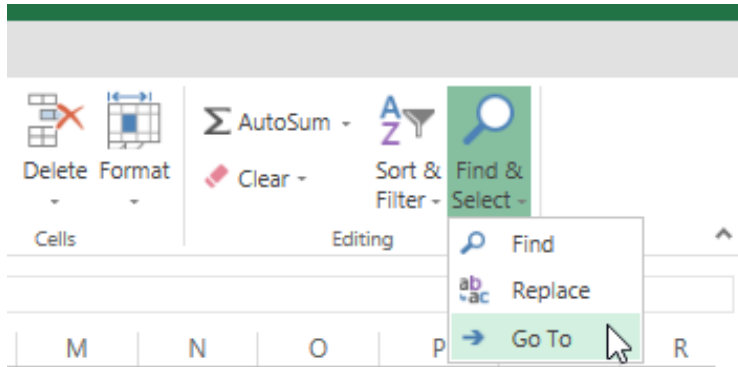
With any of these actions, the Find and Replace dialog box will open:



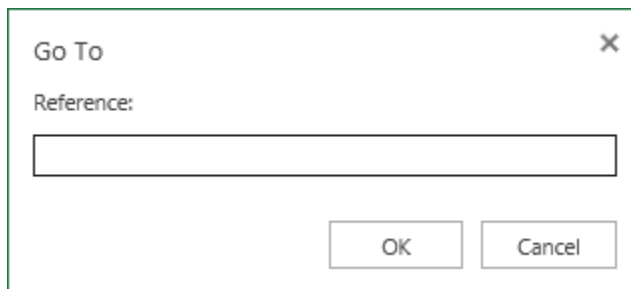
The options here are the same as in the Find dialog box, you will see them by clicking on “Options”, except there is also a field to enter replacement text for the search term(s). You can then click “Replace” to view each match and replace it or click “Replace All” to replace search terms automatically.

The Go To Command

The final command in the Find & Select menu is Go To:



(You can also use the Ctrl + G shortcut.) With this command, the Go To dialog box will open:

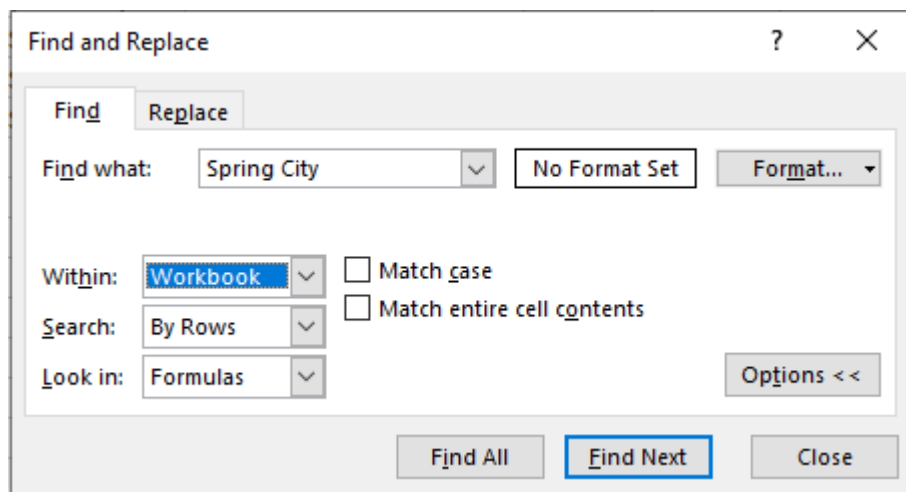


Enter the cell range you want to navigate to and click “OK.”

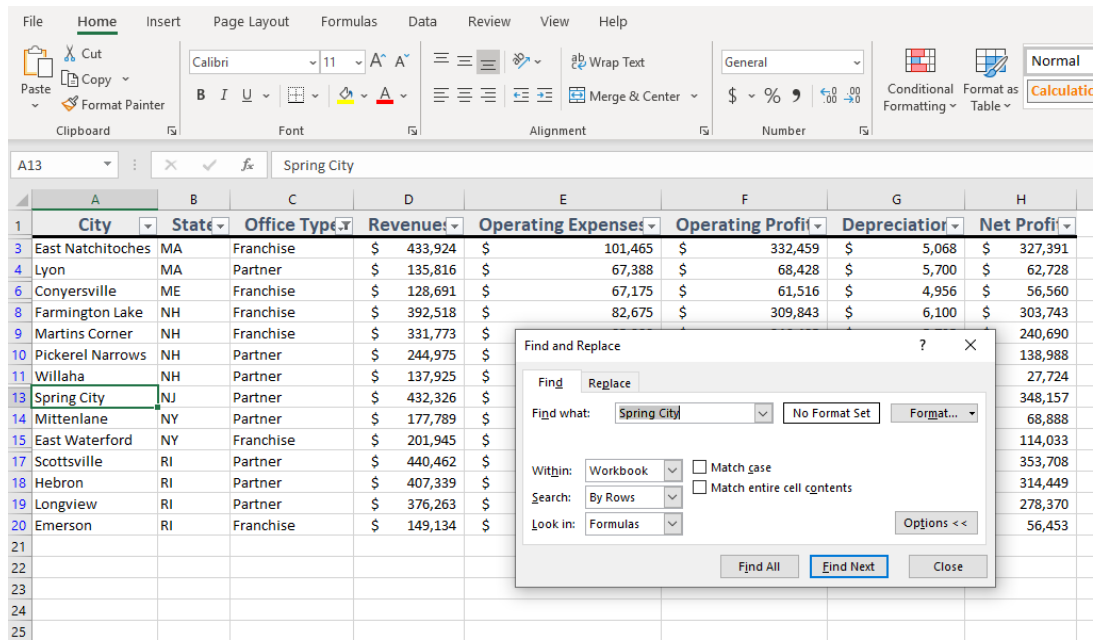
Activity 3-4: Using Find & Select Tools

You have been asked to confirm that the data for the Spring City office is included, and to make a terminology change in the financial data report.

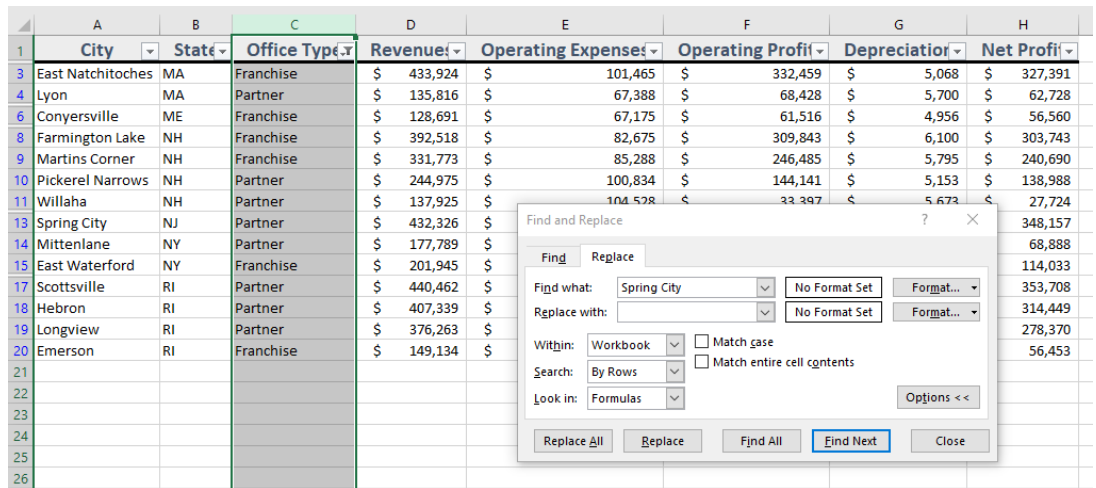
1. To begin, open Excel. (Refer back to Activity 1-1 if you need help.)
2. Navigate to Lesson 3 of your Excel Essentials Activities folder. Open Activity 3-4: (Refer back to Activity 1-2 if you need help.)
3. Click “Home → Find & Select → Find”, click on “options”.
4. Type ‘Spring City’ in the Find what box. Click the Within menu and click “Workbook”. Click “Find Next:”



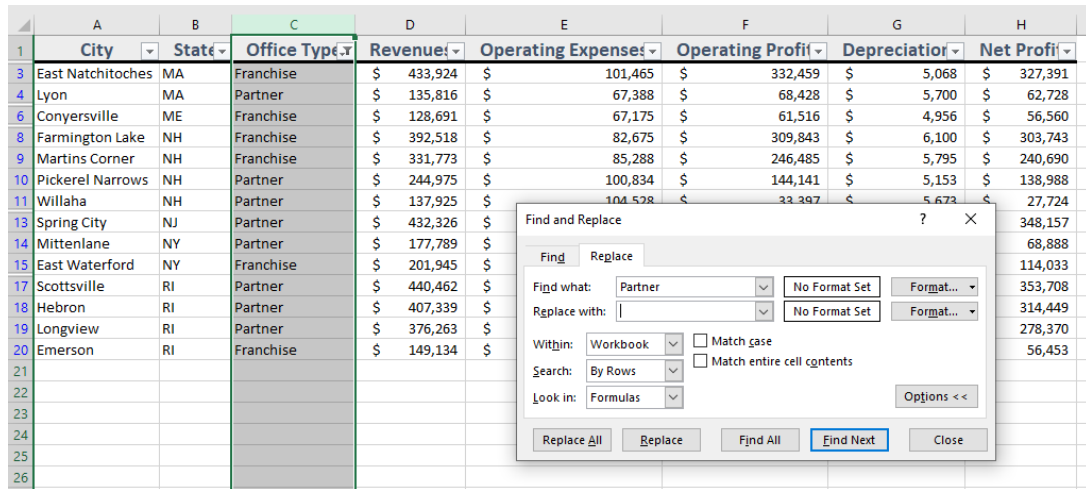
- Excel will now switch to the Financial Data sheet and select the match:



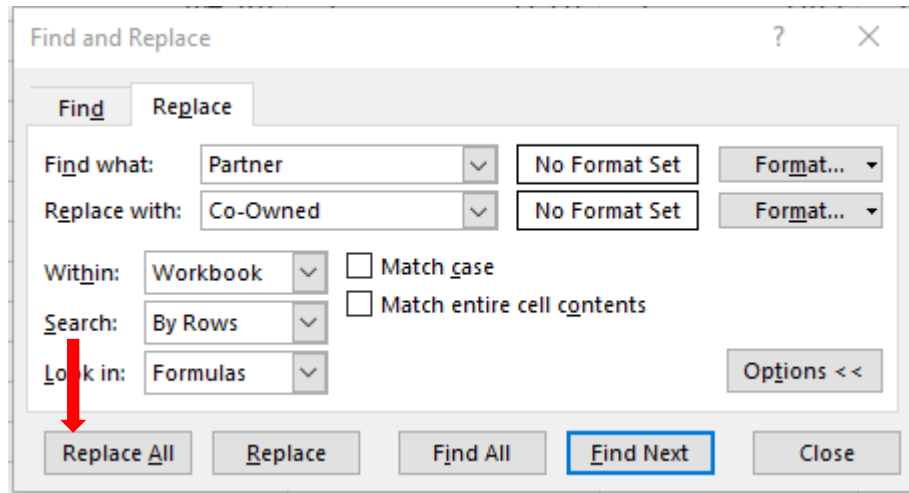
- Now we need to make the terminology change. With the Find dialog box still open, click to select Column C:



- Click the Replace tab and in the “Find what” dialog box type ‘Partner’:



- Now, fill out the “Replace with” dialog box with ‘Co-Owned’ below and click “Replace All:”



9. When the replacements are complete, close the Find and Replace dialog box:

	A	B	C	D	E	F	G	H	I
	City	State	Office Type	Revenue	Operating Expense	Operating Profit	Depreciation	Net Profit	
3	East Natchitoches	MA	Franchise	\$ 433,924	\$ 101,465	\$ 332,459	\$ 5,068	\$ 327,391	
4	Lyon	MA	Co-Owned	\$ 135,816	\$ 67,388	\$ 68,428	\$ 5,700	\$ 62,728	
6	Conyersville	ME	Franchise	\$ 128,691	\$ 67,175	\$ 61,516	\$ 4,956	\$ 56,560	
8	Farmington Lake	NH	Franchise	\$ 392,518	\$ 82,675	\$ 309,843	\$ 6,100	\$ 303,743	
9	Martins Corner	NH	Franchise	\$ 331,773	\$ 85,288	\$ 246,485	\$ 5,795	\$ 240,690	
10	Pickereel Narrows	NH	Co-Owned	\$ 244,975	\$ 100,834	\$ 144,141	\$ 5,153	\$ 138,988	
11	Willaha	NH	Co-Owned	\$ 137,925	\$ 104,528	\$ 33,397	\$ 5,673	\$ 27,724	
13	Spring City	NJ	Co-Owned	\$ 432,326	\$			\$ 348,157	
14	Mittenlana	NY	Co-Owned	\$ 177,789	\$			\$ 68,888	
15	East Waterford	NY	Franchise	\$ 201,945	\$			\$ 114,033	
17	Scottsville	RI	Co-Owned	\$ 440,462	\$			\$ 353,708	
18	Hebron	RI	Co-Owned	\$ 407,339	\$			\$ 314,449	
19	Longview	RI	Co-Owned	\$ 376,263	\$				
20	Emerson	RI	Franchise	\$ 149,134	\$				
21									
22									
23									
24									
25									
26									

10. Save As 'Activity 3-4 complete' and close Excel to complete this activity.

LESSON 4: ADDING PICTURES AND SHAPES

Lesson Objectives

In this lesson you will learn how to:

- Insert pictures and shapes
- Format shapes

TOPIC A: Inserting Pictures

Like many other Microsoft Office programs, Excel allows you to add pictures to its worksheets. Some basic editing commands are also provided.

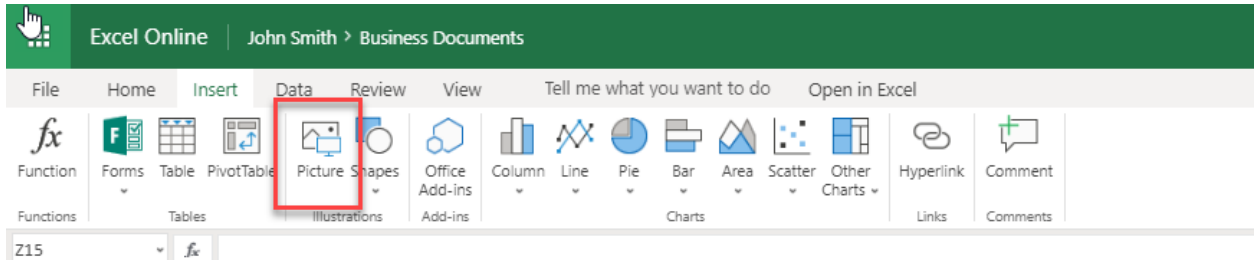
Topic Objectives

In this section, you will learn how to:

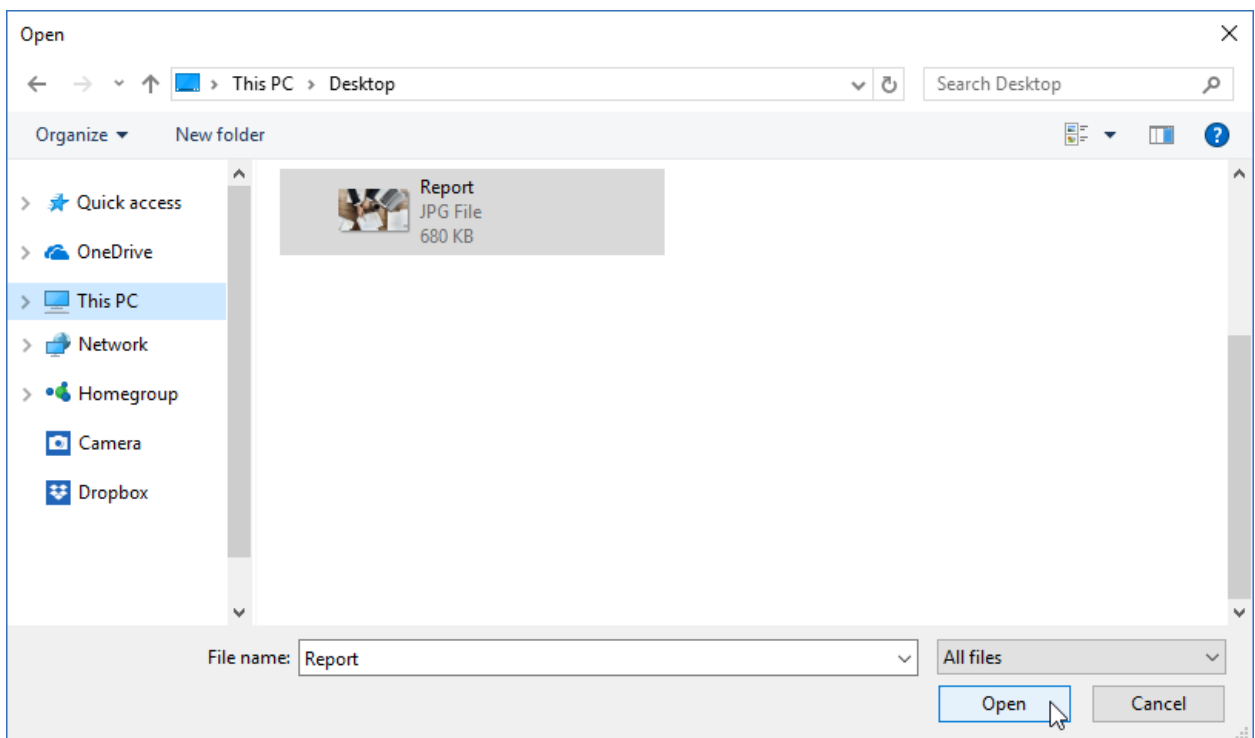
- Insert, rotate, resize, and delete pictures
- Add alternative text to pictures

Inserting Pictures

To insert a picture from a file on your computer, select the cell where you want the picture to go. Then, click “Insert → Picture:”



You will then be prompted to locate and choose the file. Click “Open” when you are ready:



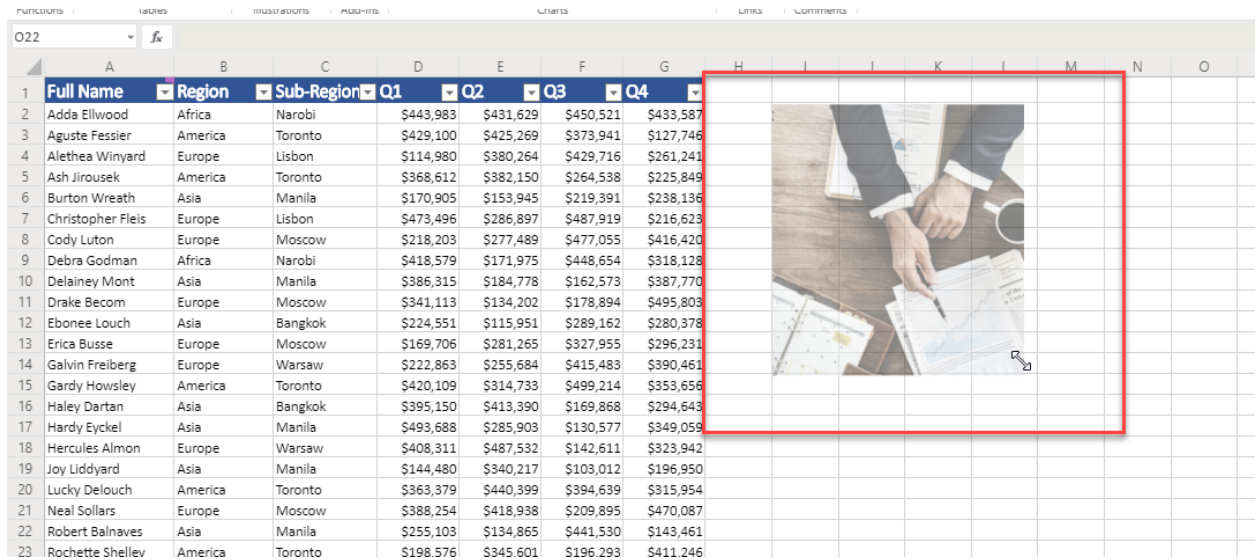
The picture will then be added to the current worksheet:

The screenshot displays the Microsoft Excel 365 interface. The ribbon is set to the 'Insert' tab, with the 'Pictures' group active. A table of sales data is visible in the worksheet, with columns for Full Name, Region, Sub-Region, and quarterly sales (Q1-Q4). An image of hands reviewing documents is inserted into the worksheet, spanning cells H2 through I10.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	Full Name	Region	Sub-Region	Q1	Q2	Q3	Q4								
2	Adda Ellwood	Africa	Narobi	\$443,983	\$431,629	\$450,521	\$433,587								
3	Aguste Fessier	America	Toronto	\$429,100	\$425,269	\$373,941	\$127,746								
4	Alethea Winyard	Europe	Lisbon	\$114,980	\$380,264	\$429,716	\$261,241								
5	Ash Jirousek	America	Toronto	\$368,612	\$382,150	\$264,538	\$225,849								
6	Burton Wreath	Asia	Manila	\$170,905	\$153,945	\$219,391	\$238,136								
7	Christopher Fleis	Europe	Lisbon	\$473,496	\$286,897	\$487,919	\$216,623								
8	Cody Luton	Europe	Moscow	\$218,203	\$277,489	\$477,055	\$416,420								
9	Debra Godman	Africa	Narobi	\$418,579	\$171,975	\$448,654	\$318,128								
10	Delainey Mont	Asia	Manila	\$386,315	\$184,778	\$162,573	\$387,770								
11	Drake Becom	Europe	Moscow	\$341,113	\$134,202	\$178,894	\$495,803								
12	Ebonee Louch	Asia	Bangkok	\$224,551	\$115,951	\$289,162	\$280,378								
13	Erica Busse	Europe	Moscow	\$169,706	\$281,265	\$327,955	\$296,231								
14	Galvin Freiberg	Europe	Warsaw	\$222,863	\$255,684	\$415,483	\$390,461								
15	Gardy Howsley	America	Toronto	\$420,109	\$314,733	\$499,214	\$353,656								
16	Haley Dartan	Asia	Bangkok	\$395,150	\$413,390	\$169,868	\$294,643								
17	Hardy Eyckel	Asia	Manila	\$493,688	\$285,903	\$130,577	\$349,059								
18	Hercules Almon	Europe	Warsaw	\$408,311	\$487,532	\$142,611	\$323,942								
19	Joy Liddyard	Asia	Manila	\$144,480	\$340,217	\$103,012	\$196,950								
20	Lucky Delouch	America	Toronto	\$363,379	\$440,399	\$394,639	\$315,954								
21	Neal Sollars	Europe	Moscow	\$388,254	\$418,938	\$209,895	\$470,087								
22	Robert Balnaves	Asia	Manila	\$255,103	\$134,865	\$441,530	\$143,461								
23	Rochette Shelley	America	Toronto	\$198,576	\$345,601	\$196,293	\$411,246								
24	Rodger Company	Asia	Manila	\$467,602	\$266,613	\$165,388	\$374,323								

Resizing Pictures

To resize a picture, click it to select it. Then, click and drag any of the handles to resize the photo in that direction. As you drag the handles, you will see the photo become larger or smaller, depending on the direction that you drag in:



Once you release your mouse, the operation will be complete.

Rotating Pictures

To rotate a picture, click and drag the circular handle at the top of the picture:



Release the mouse when the picture is at the desired angle.

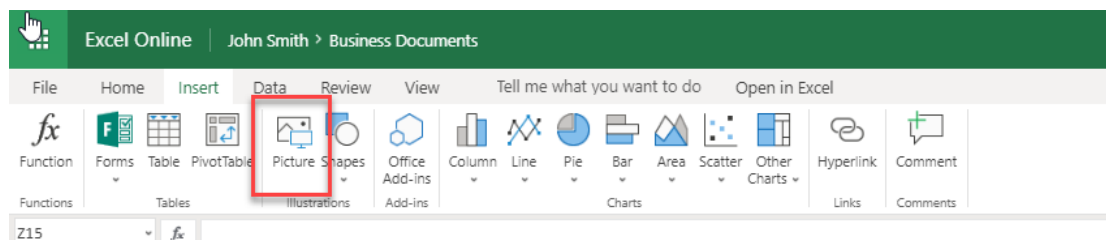
Deleting Pictures

To delete a picture, click it to select it and then press the Backspace key. The picture will immediately be removed.

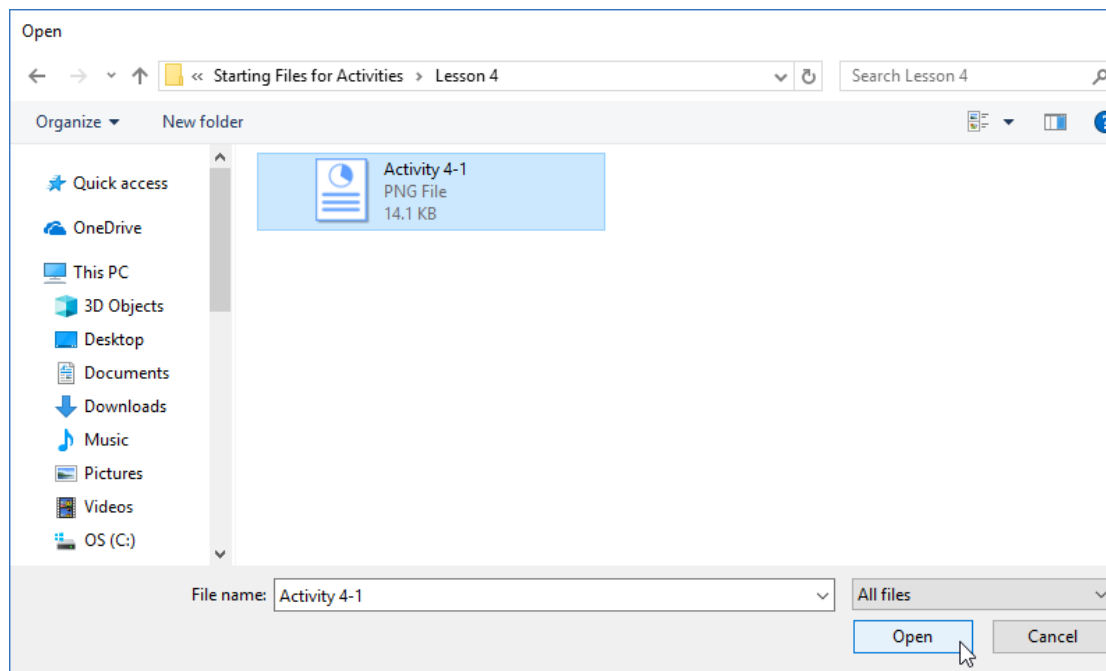
Activity 4-1: Inserting Pictures

In this activity, you will add a picture to the financial data report.

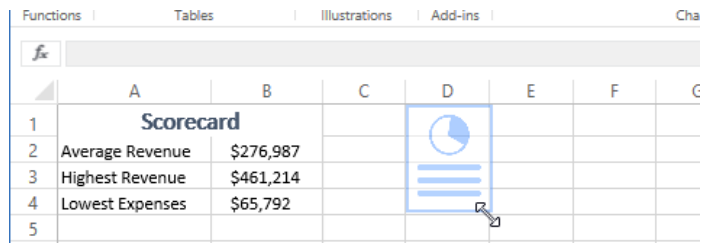
1. To begin, open Excel. (Refer back to Activity 1-1 if you need help.)
2. Navigate to Lesson 4 of your Excel Essentials Activities folder. Open Activity 4-1: (Refer back to Activity 1-2 if you need help.)
3. Click on the Financial Scorecard worksheet. Click into Cell D1.
4. Click “Insert → Picture:”




5. Navigate to the Lesson 4 folder of your Excel Essentials Activities File. Select the Activity 4-1 picture and click “Open:”



- The picture will now be inserted. Click and drag the bottom right corner up to cell D4, like this:



The screenshot shows an Excel spreadsheet with a scorecard table. The table has columns A through G and rows 1 through 5. The title 'Scorecard' is centered in row 1. The data is as follows:

	A	B	C	D	E	F	G
1	Scorecard						
2	Average Revenue	\$276,987					
3	Highest Revenue	\$461,214					
4	Lowest Expenses	\$65,792					
5							

The chart icon in cell D4 is a blue square with a white circle and a blue arc, representing a pie chart. A mouse cursor is pointing at the bottom right corner of the icon, indicating it is being dragged.

- Save As 'Activity 4-1 complete' and close Excel to complete this activity.

TOPIC B: Inserting Shapes

Excel also allows you to insert shapes into a workbook. If you have worked with shapes in other Microsoft Office programs, these commands are quite similar.

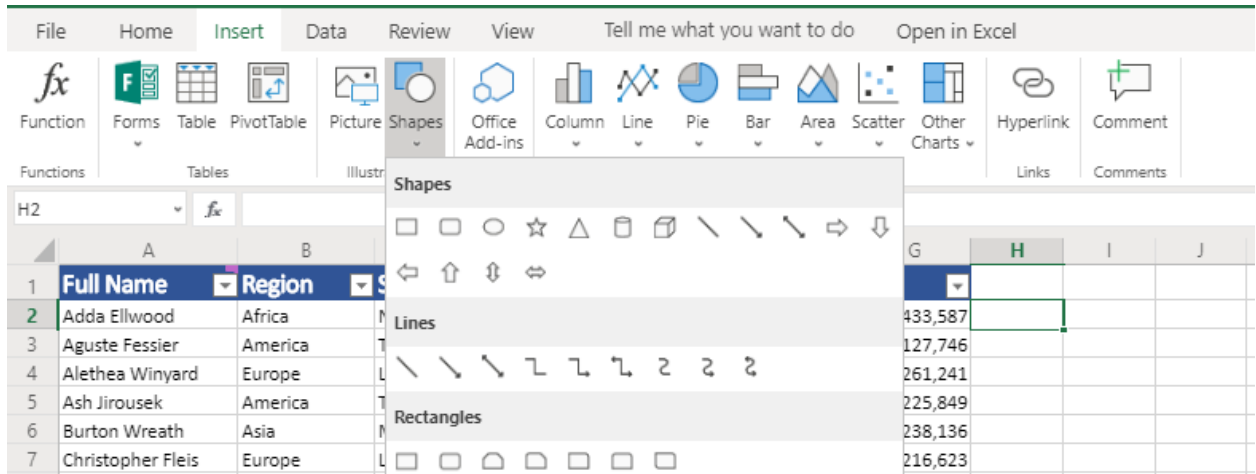
Topic Objectives

In this section, you will learn how to:

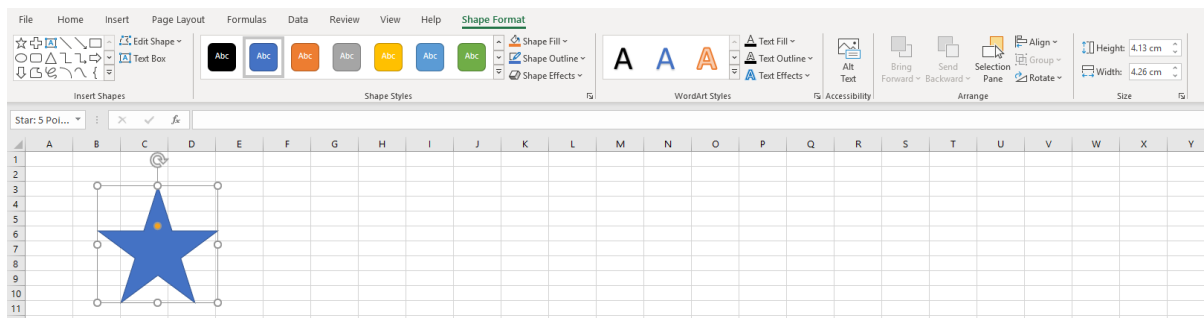
- Insert, resize, and delete shapes
- Use the Shape Format contextual tab

Inserting Shapes

To insert a shape into the current worksheet, click “Insert → Shapes” and click the shape you want to add:

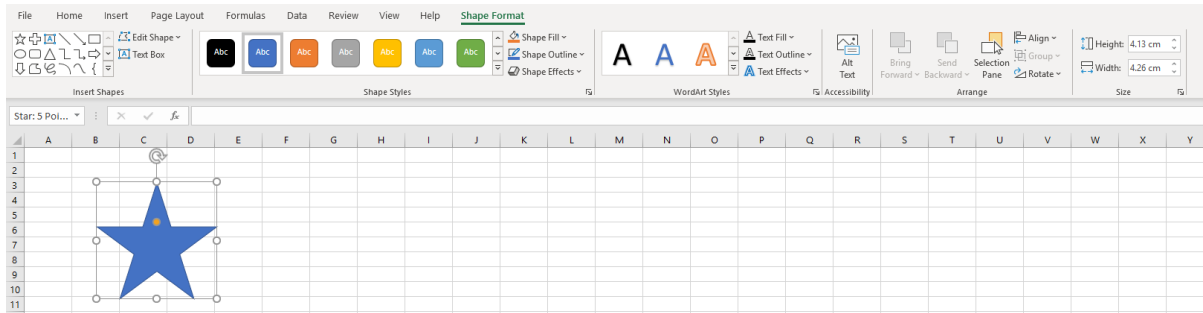


The shape will now appear on the worksheet and the Shape Format tab will become available:



The Shape Format Contextual Tab

Let's take a closer look at the Shape Format contextual tab:



There are two groups on this tab. The **Edit Shapes group** provides access to the Change Shape command. The **Shape Styles group** includes a gallery of pre-configured styles and commands to customize the shape's fill and outline.

Resizing Shapes

Resizing a shape is just like resizing a photo: click it to select it and then click and drag any of the handles.



Once you release your cursor, the shape will be resized.

Deleting Shapes

To delete a shape, click it to select it and then press the Backspace or key. The shape will immediately be deleted and can only be recovered if you undo the delete action right away.

Activity 4-2: Inserting Shapes

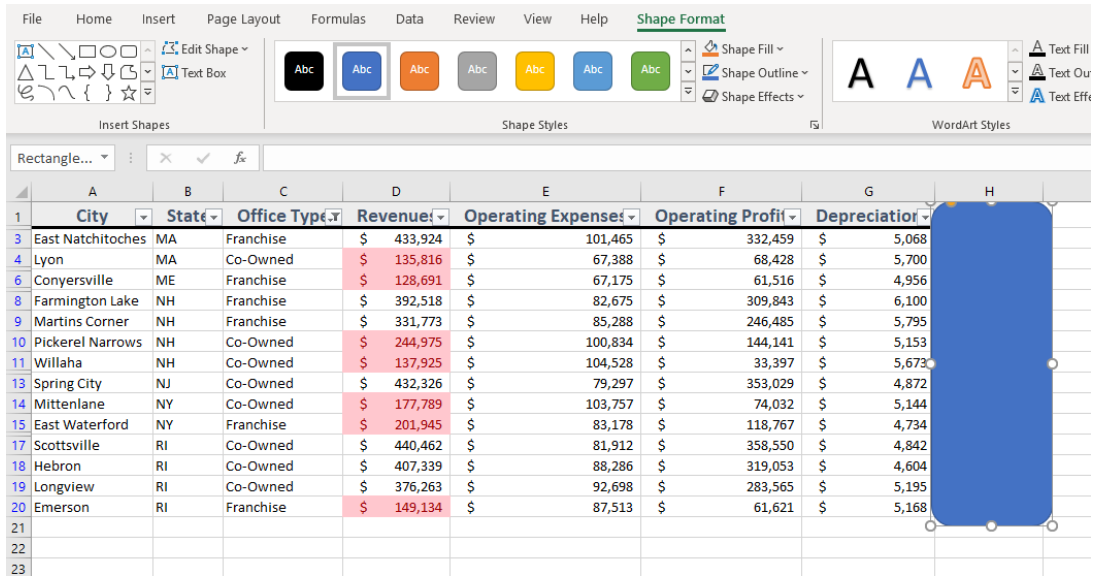
In this activity, you will add a shape to the financial data report.

- To begin, open Excel. (Refer back to Activity 1-1 if you need help.)
- Navigate to Lesson 4 of your Excel Essentials Activities folder. Open Activity 4-2: (Refer back to Activity 1-2 if you need help.)
- Insert a shape as below from “Insert → Shapes”. The shape will be inserted. Click and drag it to move it to the top of Column H:

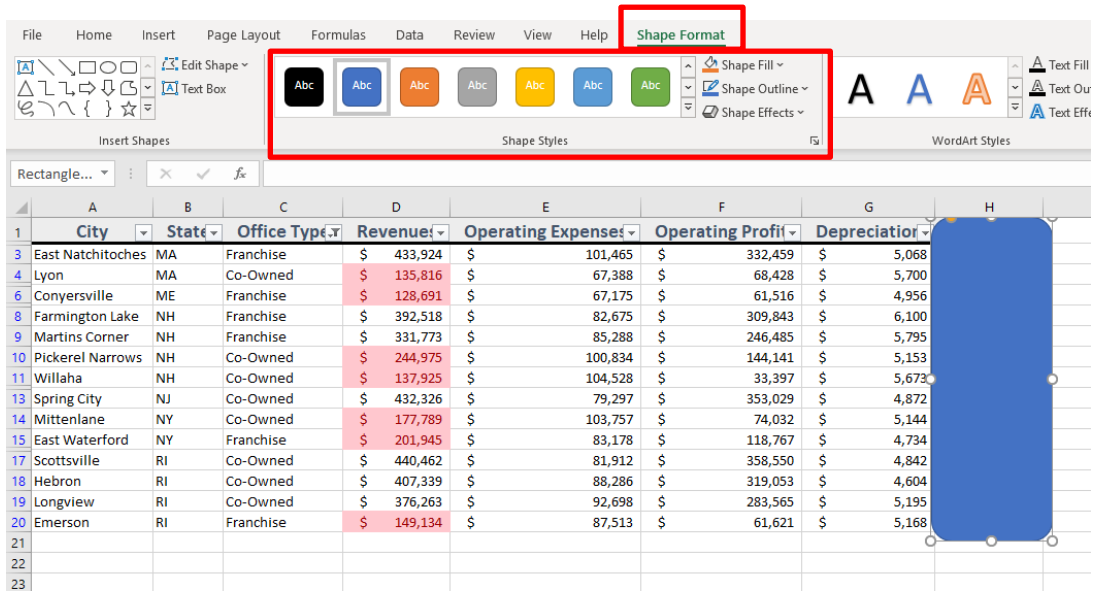
The screenshot shows the Microsoft Excel interface with the 'Shape Format' ribbon active. The ribbon includes options for 'Shape Fill', 'Shape Outline', and 'Shape Effects'. Below the ribbon, a blue rounded rectangle shape is positioned at the top of Column H, overlapping the header row and the first data row. The spreadsheet data is as follows:

	A	B	C	D	E	F	G	H
1	City	State	Office Type	Revenue	Operating Expense	Operating Profit	Depreciation	
3	East Natchitoches	MA	Franchise	\$ 433,924	\$ 101,465	\$ 332,459	\$ 5,068	
4	Lyon	MA	Co-Owned	\$ 135,816	\$ 67,388	\$ 68,428	\$ 5,700	
6	Conyersville	ME	Franchise	\$ 128,691	\$ 67,175	\$ 61,516	\$ 4,956	
8	Farmington Lake	NH	Franchise	\$ 392,518	\$ 82,675	\$ 309,843	\$ 6,100	
9	Martins Corner	NH	Franchise	\$ 331,773	\$ 85,288	\$ 246,485	\$ 5,795	
10	Pickereel Narrows	NH	Co-Owned	\$ 244,975	\$ 100,834	\$ 144,141	\$ 5,153	
11	Willaha	NH	Co-Owned	\$ 137,925	\$ 104,528	\$ 33,397	\$ 5,673	
13	Spring City	NJ	Co-Owned	\$ 432,326	\$ 79,297	\$ 353,029	\$ 4,872	\$ 348,157
14	Mittenlane	NY	Co-Owned	\$ 177,789	\$ 103,757	\$ 74,032	\$ 5,144	\$ 68,888
15	East Waterford	NY	Franchise	\$ 201,945	\$ 83,178	\$ 118,767	\$ 4,734	\$ 114,033
17	Scottsville	RI	Co-Owned	\$ 440,462	\$ 81,912	\$ 358,550	\$ 4,842	\$ 353,708
18	Hebron	RI	Co-Owned	\$ 407,339	\$ 88,286	\$ 319,053	\$ 4,604	\$ 314,449
19	Longview	RI	Co-Owned	\$ 376,263	\$ 92,698	\$ 283,565	\$ 5,195	\$ 278,370
20	Emerson	RI	Franchise	\$ 149,134	\$ 87,513	\$ 61,621	\$ 5,168	\$ 56,453
21								

- Now, click and drag the bottom right handle down and to the right so it covers all of Column H, like this:



- The Shape Format tab should be active. Take a moment to review its commands:



- Save As 'Activity 4-2 complete' and close Excel to complete this activity.

TOPIC C: Formatting Shapes

This topic will continue our exploration of shapes in Excel, with a look at the formatting commands on the Shape Format contextual tab. We will also learn how to add alternative text to shapes.

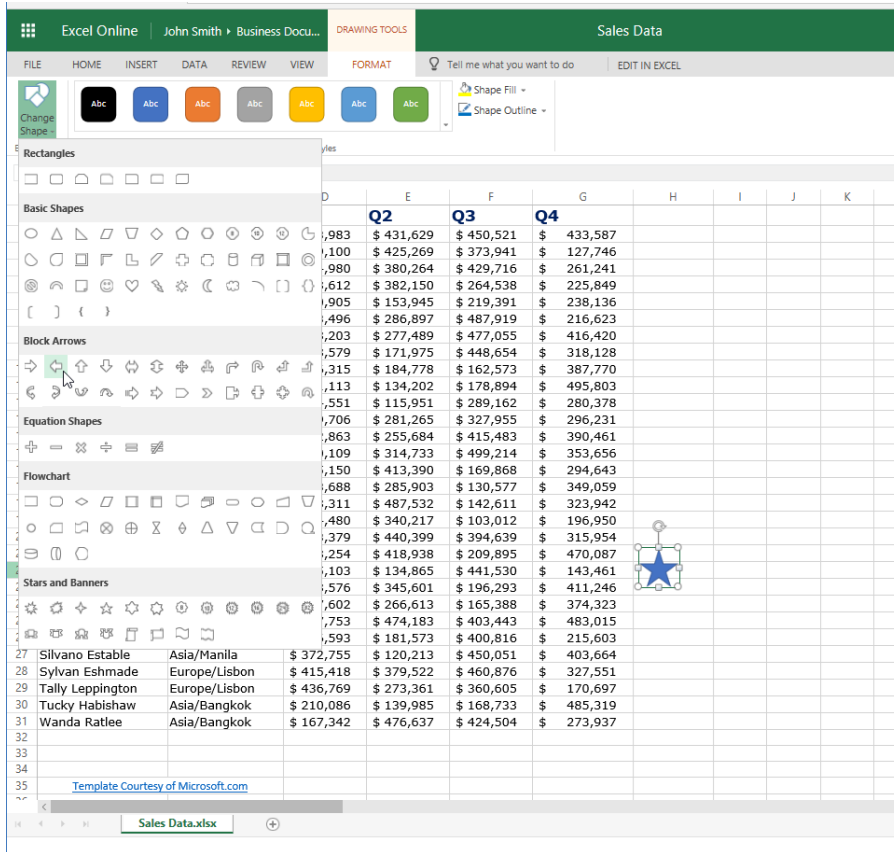
Topic Objectives

In this section, you will learn how to:

- Change a shape's type
- Apply a style to a shape
- Customize a shape's fill and outline
- Add alternative text to a shape

Changing the Shape Type

To change the type of shape, click the shape to select it. Then, click “Shape Format → Edit Shape → Change Shape” and choose the new shape type:

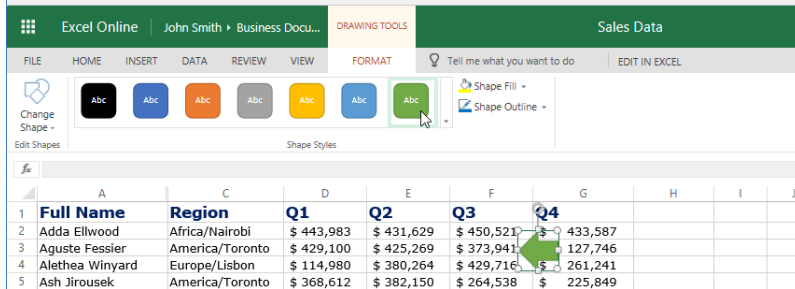


The shape type will now be changed, but its size, location, and formatting will stay the same:

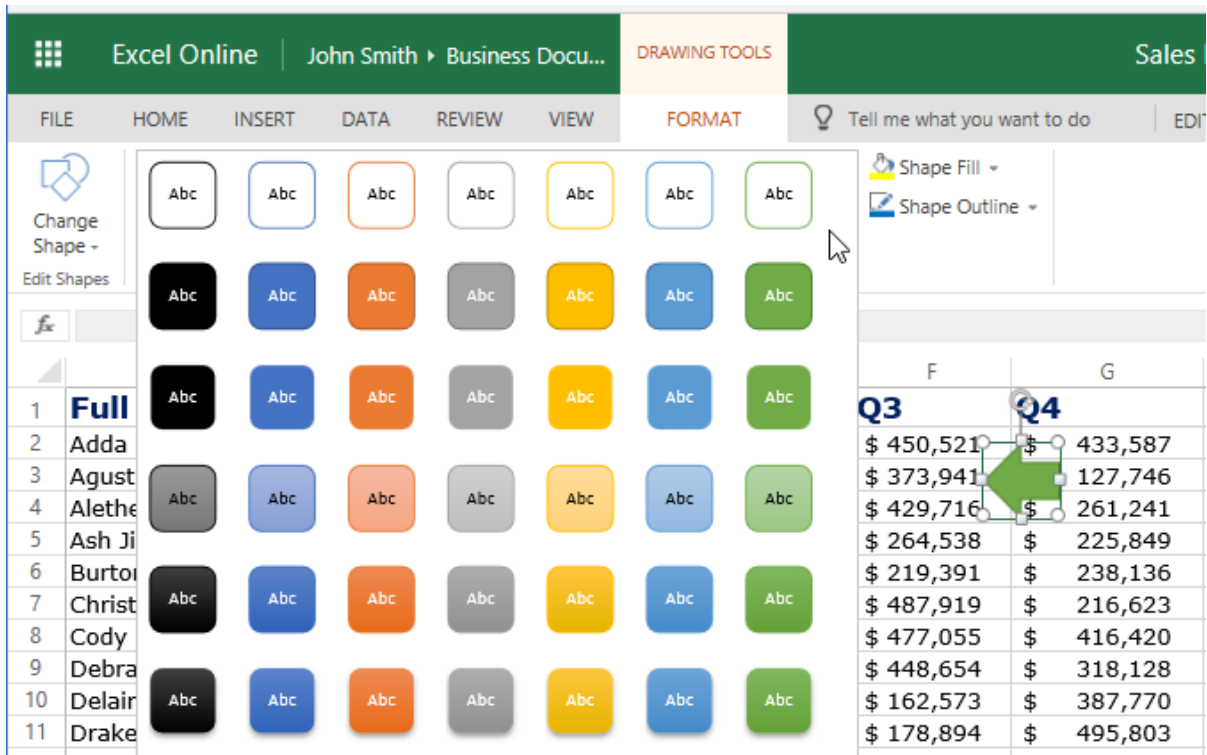


Applying a Style

To apply a pre-defined style to a shape, click it to select it and then click a thumbnail from the Shape Styles gallery on the Shape Format tab:

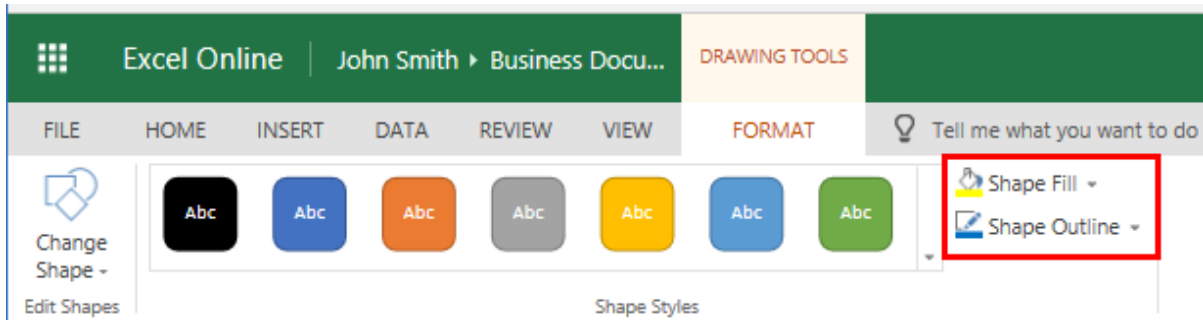


To see more options, click the drop-down arrow on the right side of the gallery:

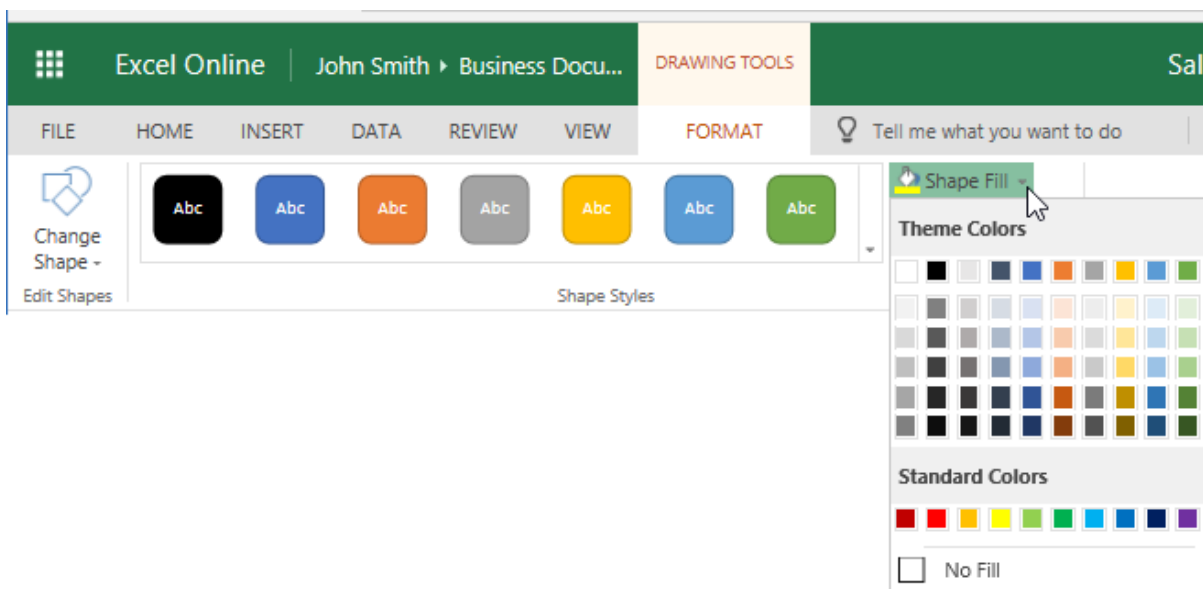


Customizing Shape Fill and Outline

The final commands on the Shape Format tab allow you to customize a shape's fill and outline colors:



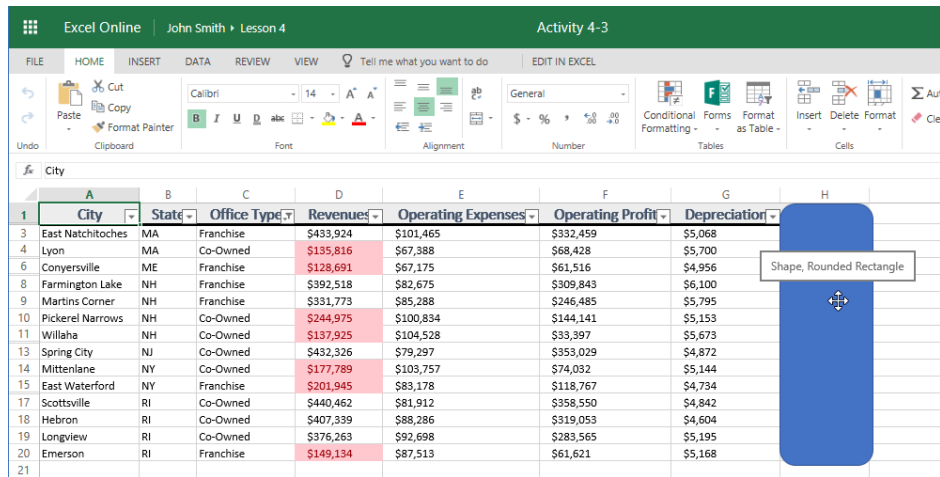
Click the button to apply the color shown on the icon, or click the drop-down arrow to choose a different color:



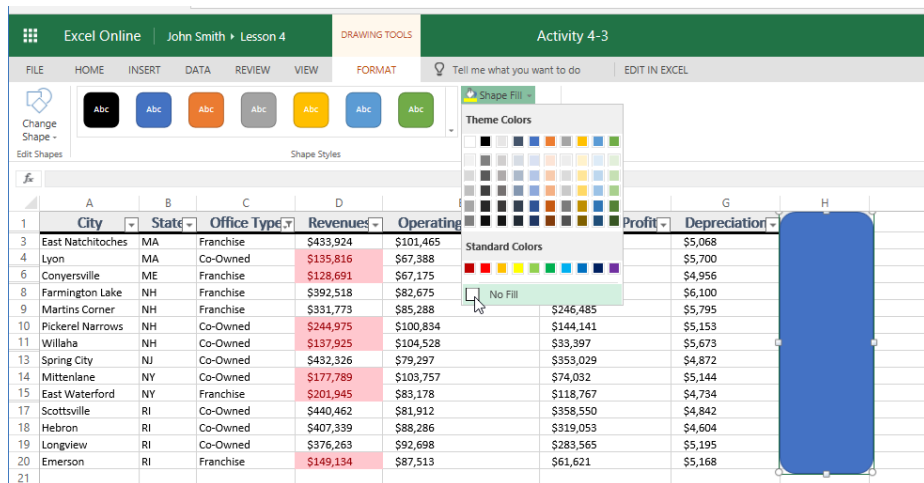
Activity 4-3: Formatting Shapes

In this activity, you will format the shape you added in the last activity.

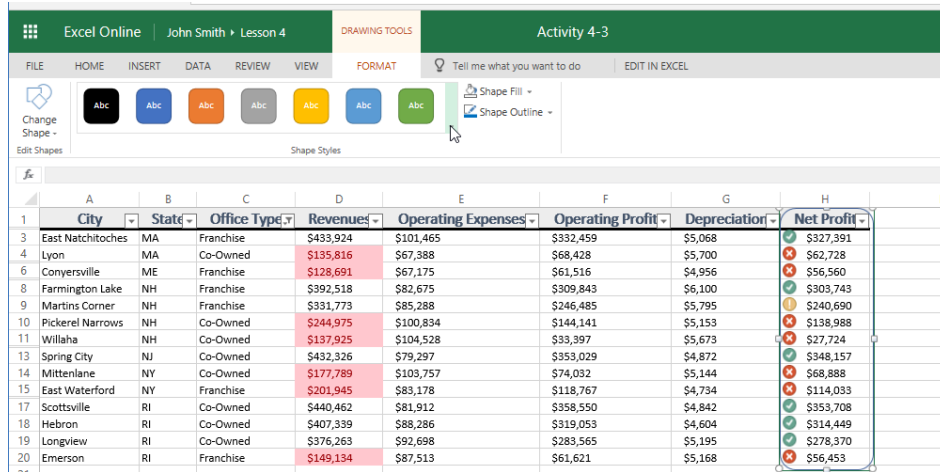
1. To begin, open Excel. (Refer back to Activity 1-1 if you need help.)
2. Navigate to Lesson 4 of your Excel Essentials Activities folder. Open Activity 4-3: (Refer back to Activity 1-2 if you need help.)
3. You can see a major problem with the shape we added in the last activity: it covers the data we want to highlight! Click it to select it:



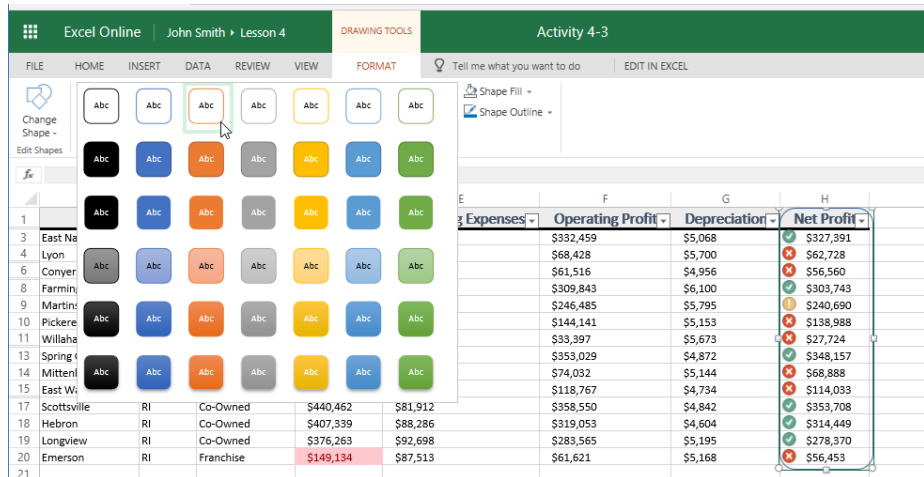
4. The Shape Format tab will open. Click the Shape Fill drop-down arrow and click “No Fill.”



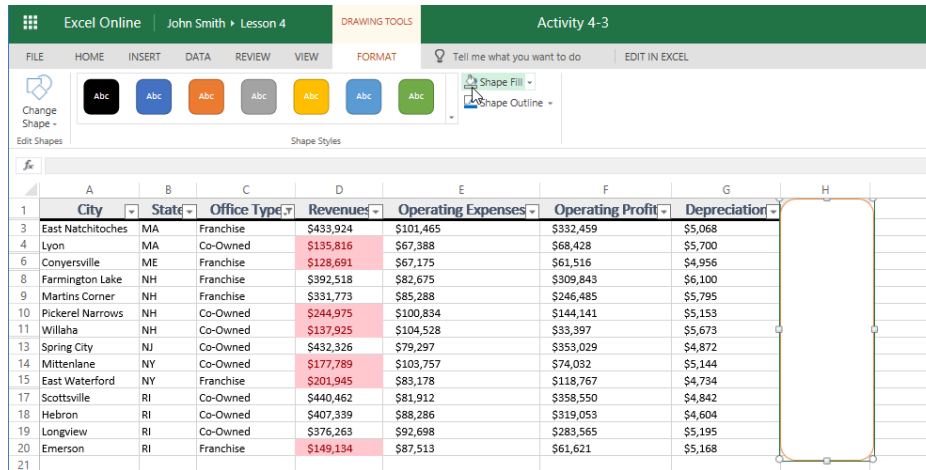
- Now we can see the data, but the highlight is not as visible as we would like it to be. Click the More arrow in the Shape Styles gallery on the Shape Format tab:



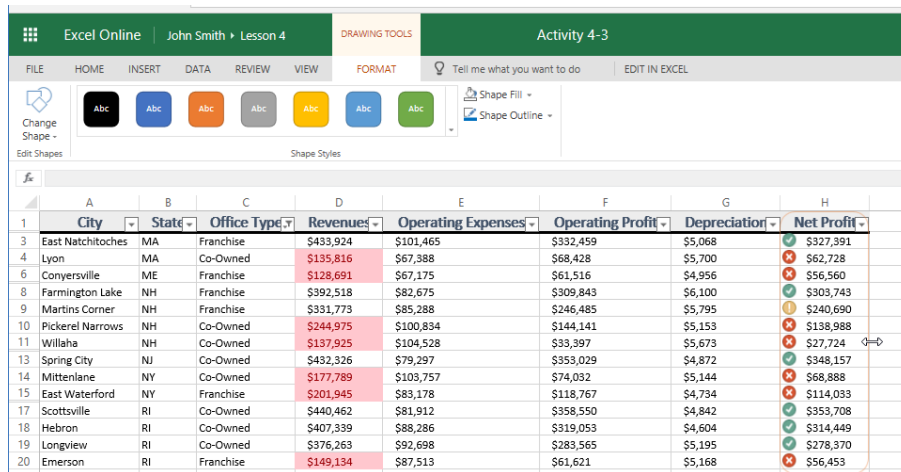
- Click the orange style:



- Click the Shape Fill icon again to re-apply the “No Fill” style:



- If necessary, use the handles to resize the shape so it fits the column:



- Save As ‘Activity 4-3 complete’ and close Excel to complete this activity.

Summary

In this lesson, we learned all about working with pictures and shapes in a workbook, including inserting, resizing, and formatting them.

LESSON 5: ORGANIZING WORKSHEET DATA WITH CHARTS

Lesson Objectives

In this lesson you will learn how to:

- Create and modify charts

TOPIC A: Inserting Charts

Charts can enhance data interpretation, make trends more obvious, and increase the visual appeal of your workbooks. In this part of the course, you will learn how to insert charts and perform some basic tasks with them.

Topic Objectives

In this section, you will learn:

- About the types of charts available in Excel and their elements
- About the Chart Design contextual tab
- How to insert, resize, and move a chart

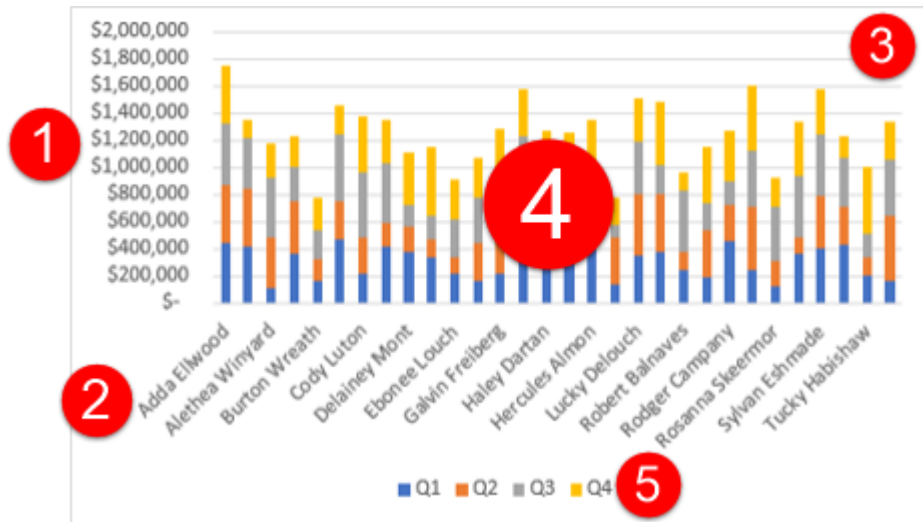
Chart Types

When creating a chart, it is important to choose the right type for your data. Below is a list of each chart type that is available in Excel and the type of data that each is best suited to display:

- **Column:** Used to display data changes over time or to compare separate data points.
- **Line:** Typically used to display data changes over a period of time.
- **Pie:** Used to compare different data points in relation to a total. For example, you could use this chart type to show the total expenses of a company broken down by department.
- **Bar:** Typically, this chart type is used to compare different data points. It is similar to the Column chart type, but instead has the X-axis as the vertical axis and the Y-axis as the horizontal axis.
- **Area:** This chart type is typically used to illustrate rates of change over a period of time, as well as include the total value in a trend.
- **X Y (Scatter):** Used to illustrate values from a variety of different trends and their relationship to one another.
- **Waterfall:** Shows the cumulative effect of a series of positive and negative values.
- **Funnel:** Shows the stages in a process.
- **Hierarchical:** Compare values across hierarchies. Also known as a **treemap**.
- **Statistical:** Includes charts for specific statistical purposes, including histogram, Pareto, and box-and-whisker.
- **Radar:** Used to compare values from multiple data sets with each separate data (category) on a separate axis. Typically, this chart type is best suited to identify outliers and commonalities between data points.

Chart Elements

Each chart type has different elements that can be customized, but most charts have the following key elements:



These items are:

1. Vertical (Y) Axis
2. Horizontal (X) Axis
3. Gridlines
4. Data Series
5. Legend

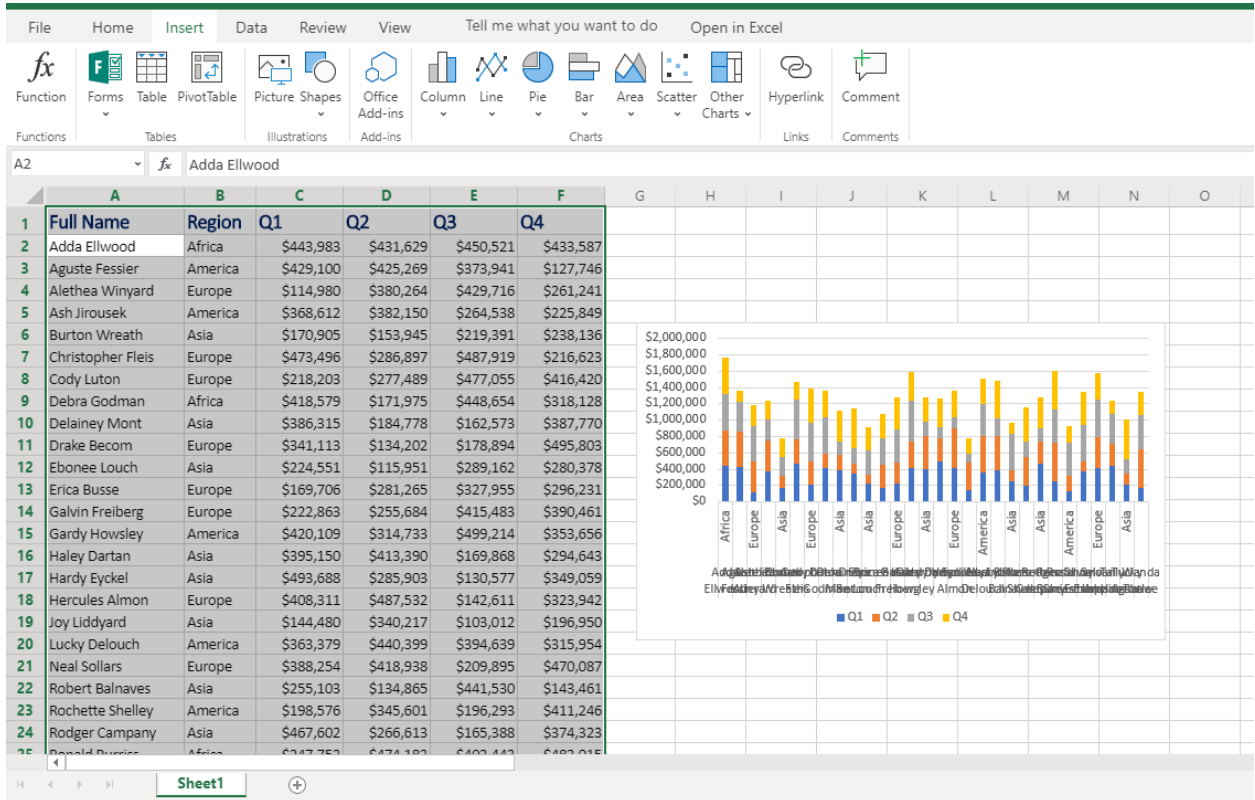
Inserting a Chart

To insert a chart, select the data you want to chart (including the header row). (This data can be organized in a table or located directly on the worksheet.) Then, click the Insert tab, choose the chart type, and choose the sub-type. Here, we are creating a stacked column chart so we can easily see each person's sales total as well as the breakdown by quarter:

	A	B	C	D
1	Full Name	Region	Q1	Q2
2	Adda Ellwood	Africa	\$443,983	\$431,629
3	Aguste Fessier	America	\$429,100	\$425,269
4	Alethea Winyard	Europe	\$114,980	\$380,264
5	Ash Jirousek	America	\$368,612	\$382,150
6	Burton Wreath	Asia	\$170,905	\$153,945
7	Christopher Fleis	Europe	\$473,496	\$286,897
8	Cody Luton	Europe	\$218,203	\$277,489
9	Debra Godman	Africa	\$418,579	\$171,975
10	Delainey Mont	Asia	\$386,315	\$184,778
11	Drake Becom	Europe	\$341,113	\$134,202
12	Ebonee Louch	Asia	\$224,551	\$115,951
13	Erica Busse	Europe	\$169,706	\$281,265
14	Galvin Freiberg	Europe	\$222,863	\$255,684
15	Gardy Howsley	America	\$420,109	\$314,733
16	Haley Dartan	Asia	\$395,150	\$413,390
17	Hardy Eyckel	Asia	\$493,688	\$285,903
18	Hercules Almon	Europe	\$408,311	\$487,532
19	Joy Liddyard	Asia	\$144,480	\$340,217
20	Lucky Delouch	America	\$363,379	\$440,399
21	Neal Sollars	Europe	\$388,254	\$418,938
22	Robert Balnaves	Asia	\$255,103	\$134,865
23	Rochette Shelley	America	\$198,576	\$345,601
24	Rodger Campany	Asia	\$467,602	\$266,613
25	Ronald Burrier	Africa	\$247,753	\$474,183

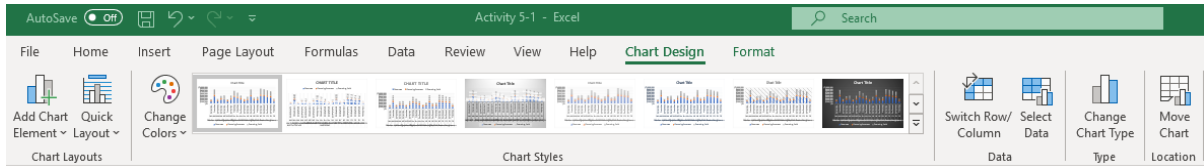
(Notice that we have hidden data, so it is not included in the chart.)

The chart will now be inserted:



The Chart Design Contextual Tab

When a chart is selected, the Chart Design and Format contextual tabs will become available on the ribbon:



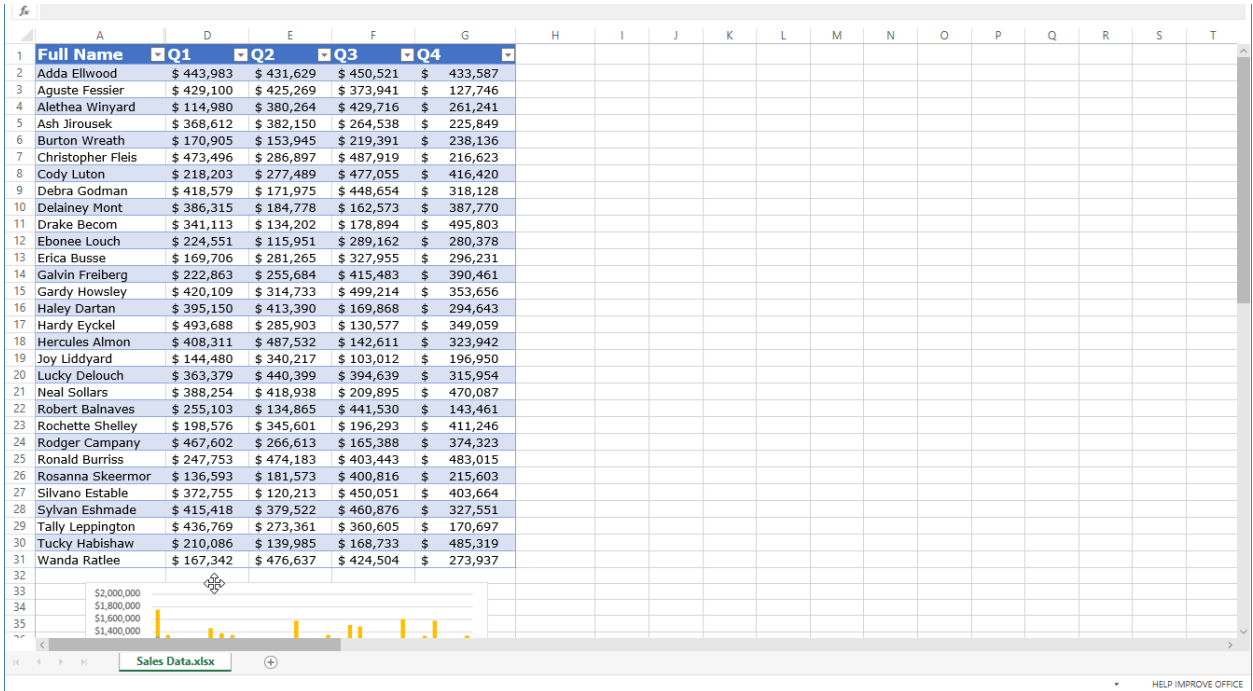
It includes four groups:

- **Chart Layouts:** Modify the chart's elements including labels, titles, gridlines.
- **Chart Styles:** Modify the visual layout and colours of the chart.
- **Data:** Provides the same commands as the Charts group on the Insert tab.
- **Labels:** Customize chart axes (plural of axis, refers to horizontal or x-axis and vertical or y-axis). Also allows you to modify the selected data fields for more accurate visual representation.
- **Type:** Allows you to change the chart type to another chart without having to redo the whole process.
- **Location:** Allows you to move the chart to a new worksheet (its own page) or for it to remain as an object on the data page.

Moving Charts

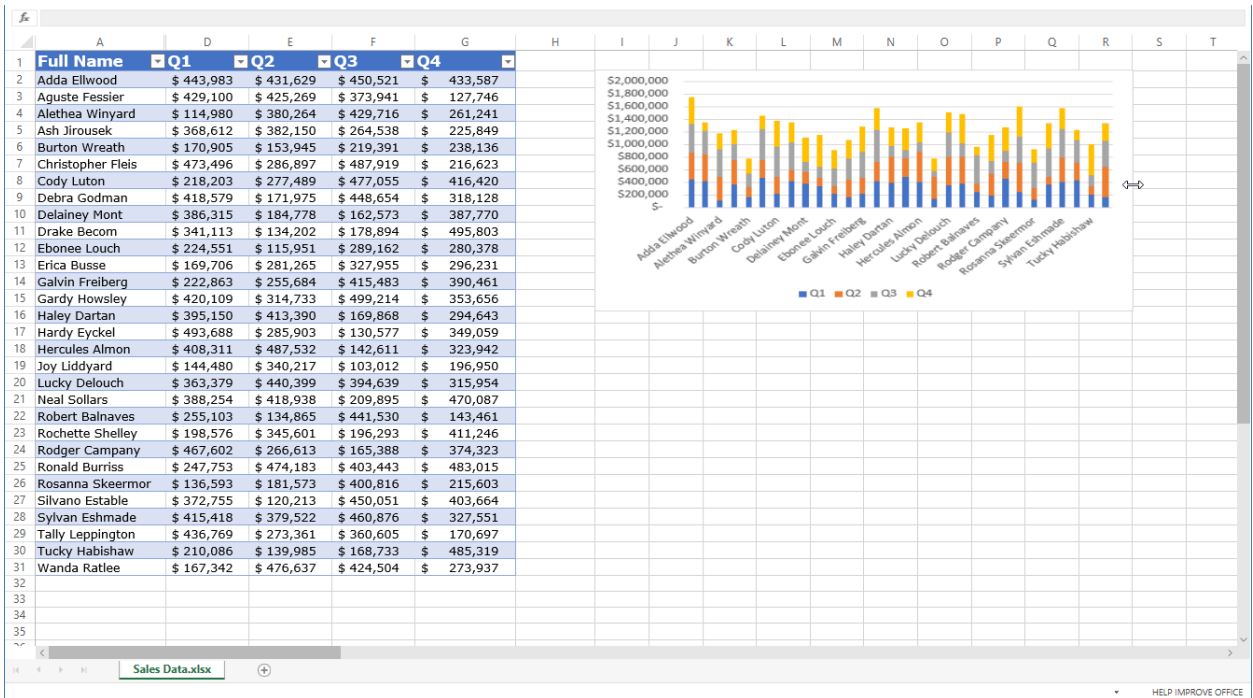
To move a chart, click to select the chart in question and then drag it to its new destination.

Release your mouse button to place it there:

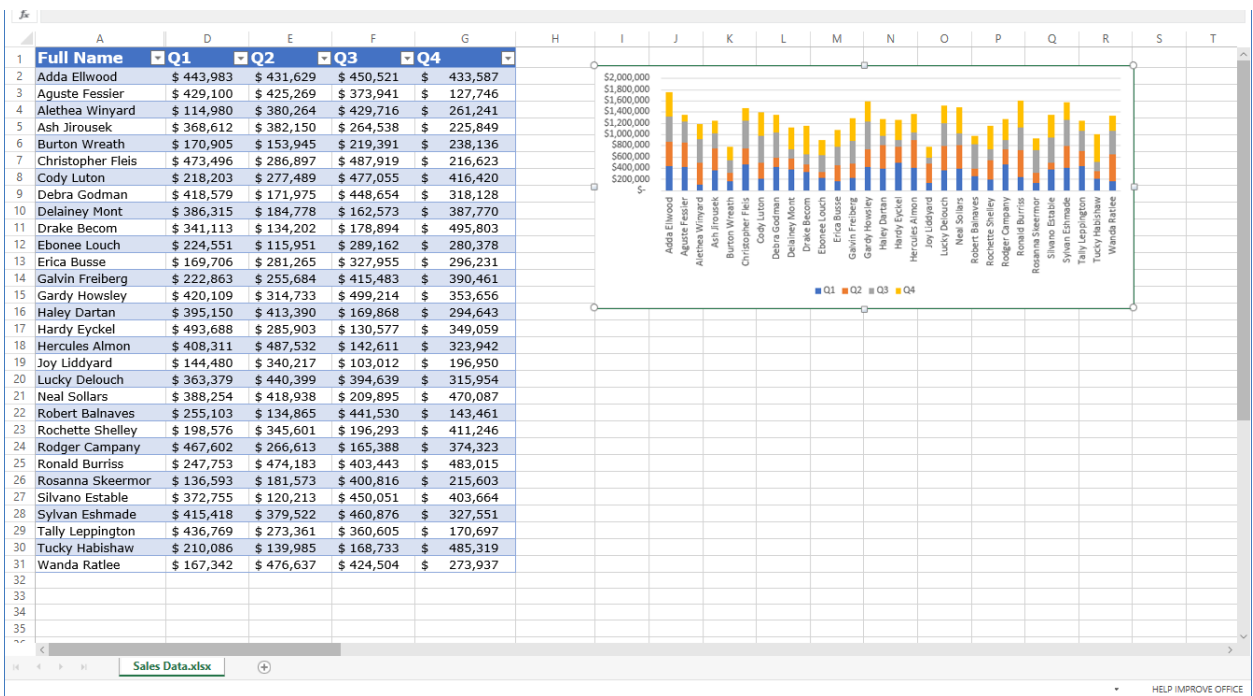


Resizing Charts

To resize a chart, click it to select it and then click and drag any of the handles:



Note that although the chart may appear skewed as you do this, it will update once you release your cursor:



Activity 5-1: Inserting Charts

In this activity, we will add a chart to our sales report.

1. To begin, open Excel. (Refer back to Activity 1-1 if you need help.)
2. Navigate to Lesson 5 of your Excel Essentials Activities folder. Open Activity 5-1: (Refer back to Activity 1-2 if you need help.)
3. We do not need the State or Office Type details in the chart, so select these two columns by clicking and dragging over the column headers:

	A	B	C	D	E	F	G	H
	City	State	Office Type	Revenues	Operating Expenses	Operating Profit	Depreciation	Net Profit
2	Warner	MA	Corporate	\$125,319	\$65,792	\$59,527	\$4,667	\$54,860
3	East Natchitoches	MA	Franchise	\$433,924	\$101,465	\$332,459	\$5,068	\$327,391
4	Lyon	MA	Co-Owned	\$135,816	\$67,388	\$68,428	\$5,700	\$62,728
5	Willow Run	MA	Corporate	\$233,255	\$83,606	\$149,649	\$5,089	\$144,560
6	Augusta	ME	Corporate	\$248,973	\$29,246	\$219,727	\$4,208	\$215,519
7	Conyersville	ME	Franchise	\$128,691	\$67,175	\$61,516	\$4,956	\$56,560
8	Mount Baker	ME	Corporate	\$244,913	\$89,974	\$154,939	\$5,062	\$149,877
9	Farmington Lake	NH	Franchise	\$392,518	\$82,675	\$309,843	\$6,100	\$303,743
10	Martins Corner	NH	Franchise	\$331,773	\$85,288	\$246,485	\$5,795	\$240,690
11	Pickarel Narrows	NH	Co-Owned	\$244,975	\$100,834	\$144,141	\$5,153	\$138,988
12	Willaha	NH	Co-Owned	\$137,925	\$104,528	\$33,397	\$5,673	\$27,724
18	Scottsville	RI	Co-Owned	\$440,462	\$81,912	\$358,550	\$4,842	\$353,708
19	Hebron	RI	Co-Owned	\$407,339	\$88,286	\$319,053	\$4,604	\$314,449
20	Longview	RI	Co-Owned	\$376,263	\$92,698	\$283,565	\$5,195	\$278,370
21	Emerson	RI	Franchise	\$149,134	\$87,513	\$61,621	\$5,168	\$56,453
22	Total							\$2,725,620

4. Click “Home → Format → Hide & Unhide → Hide Columns:”

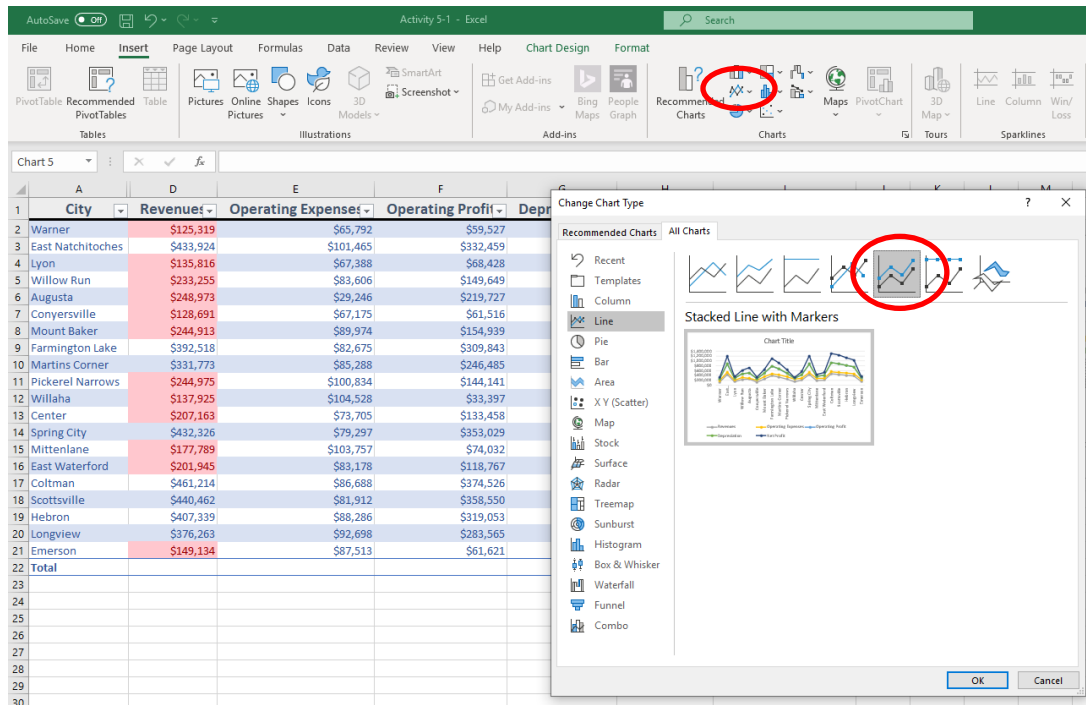
	A	B	C	D	E	F	G	H
	City	State	Office Type	Revenues	Operating Expenses	Operating Profit	Depreciation	Net Profit
2	Warner	MA	Corporate	\$125,319	\$65,792	\$59,527	\$4,667	\$54,860
3	East Natchitoches	MA	Franchise	\$433,924	\$101,465	\$332,459	\$5,068	\$327,391
4	Lyon	MA	Co-Owned	\$135,816	\$67,388	\$68,428	\$5,700	\$62,728
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7	Conyersville	ME	Franchise	\$128,691	\$67,175	\$61,516	\$4,956	\$56,560
8	Mount Baker	ME	Corporate	\$244,913	\$89,974	\$154,939	\$5,062	\$149,877
9	Farmington Lake	NH	Franchise	\$392,518	\$82,675	\$309,843	\$6,100	\$303,743
10	Martins Corner	NH	Franchise	\$331,773	\$85,288	\$246,485	\$5,795	\$240,690
11	Pickarel Narrows	NH	Co-Owned	\$244,975	\$100,834	\$144,141	\$5,153	\$138,988
12	Willaha	NH	Co-Owned	\$137,925	\$104,528	\$33,397	\$5,673	\$27,724
18	Scottsville	RI	Co-Owned	\$440,462	\$81,912	\$358,550	\$4,842	\$353,708
19	Hebron	RI	Co-Owned	\$407,339	\$88,286	\$319,053	\$4,604	\$314,449
20	Longview	RI	Co-Owned	\$376,263	\$92,698	\$283,565	\$5,195	\$278,370
21	Emerson	RI	Franchise	\$149,134	\$87,513	\$61,621	\$5,168	\$56,453
22	Total							\$2,725,620

- The columns will be hidden, and we are now ready to insert our chart. Select cells A1 to H21:

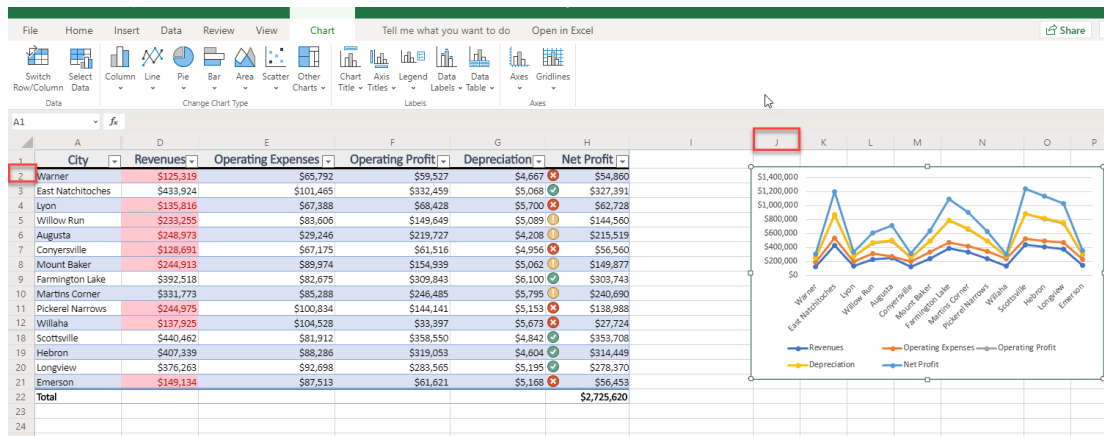
	A	D	E	F	G	H
1	City	Revenues	Operating Expenses	Operating Profit	Depreciation	Net Profit
2	Warner	\$125,319	\$65,792	\$59,527	\$4,667	\$54,860
3	East Natchitoches	\$433,924	\$101,465	\$332,459	\$5,068	\$327,391
4	Lyon	\$135,816	\$67,388	\$68,428	\$5,700	\$62,728
5	Willow Run	\$233,255	\$83,606	\$149,649	\$5,089	\$144,560
6	Augusta	\$248,973	\$29,246	\$219,727	\$4,208	\$215,519
7	Conyersville	\$128,691	\$67,175	\$61,516	\$4,956	\$56,560
8	Mount Baker	\$244,913	\$89,974	\$154,939	\$5,062	\$149,877
9	Farmington Lake	\$392,518	\$82,675	\$309,843	\$6,100	\$303,743
10	Martins Corner	\$331,773	\$85,288	\$246,485	\$5,795	\$240,690
11	Pickrel Narrows	\$244,975	\$100,834	\$144,141	\$5,153	\$138,988
12	Willaha	\$137,925	\$104,528	\$33,397	\$5,673	\$27,724
18	Scottsville	\$440,462	\$81,912	\$358,550	\$4,842	\$353,708
19	Hebron	\$407,339	\$88,286	\$319,053	\$4,604	\$314,449
20	Longview	\$376,263	\$92,698	\$283,565	\$5,195	\$278,370
21	Emerson	\$149,134	\$87,513	\$61,621	\$5,168	\$56,453
22	Total					\$2,725,620
23						
24						

(We do not want to include the total row in our chart.)

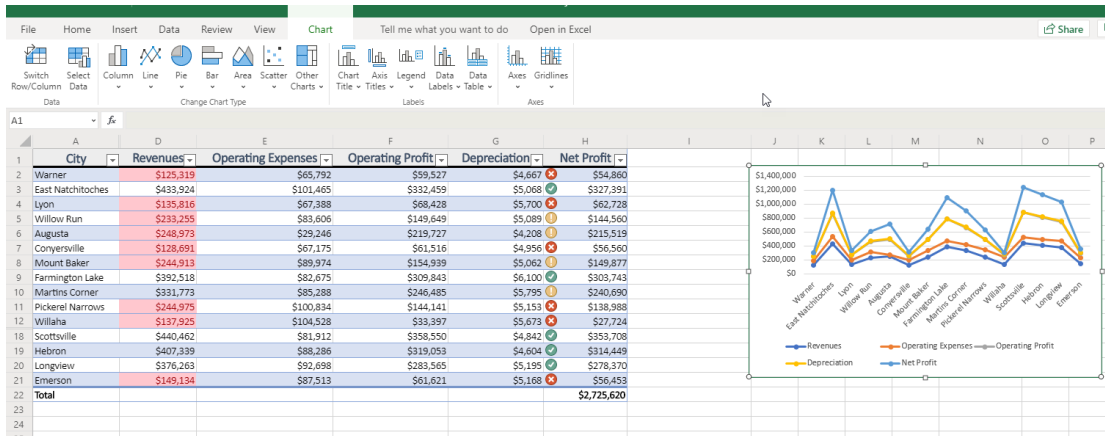
6. Now, click “Insert → Line → Stacked Line with Markers” and click “OK”:



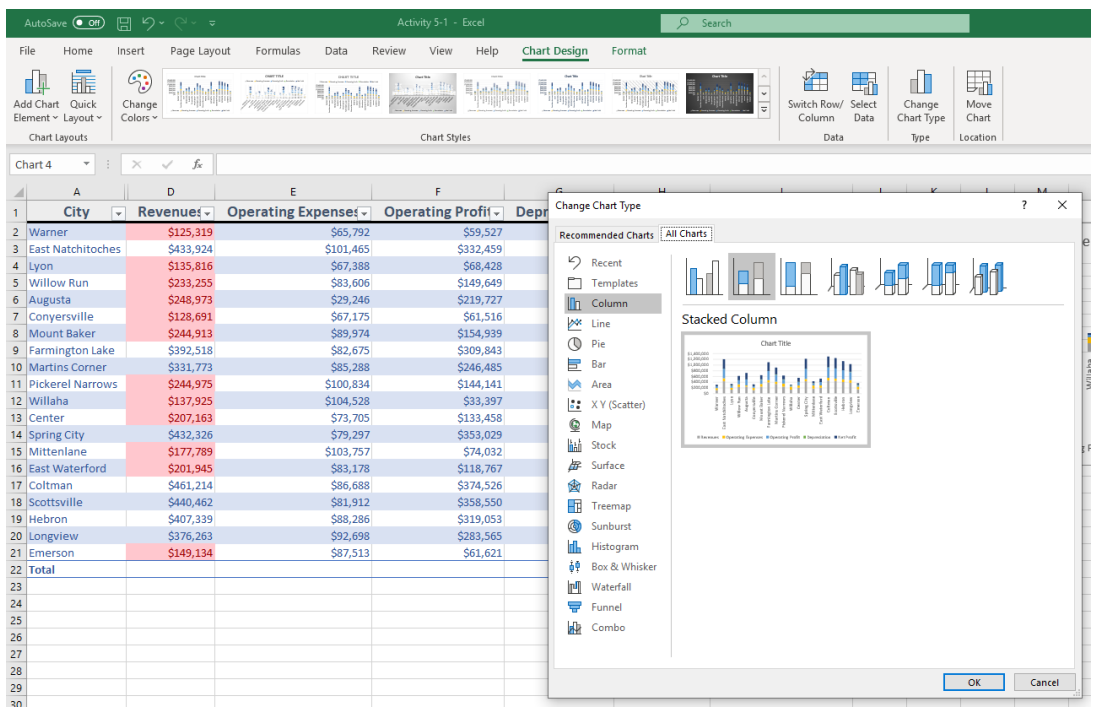
7. The chart will be inserted, but it may not be in a convenient location. Click it and drag it so the top left edge aligns with cell J2:



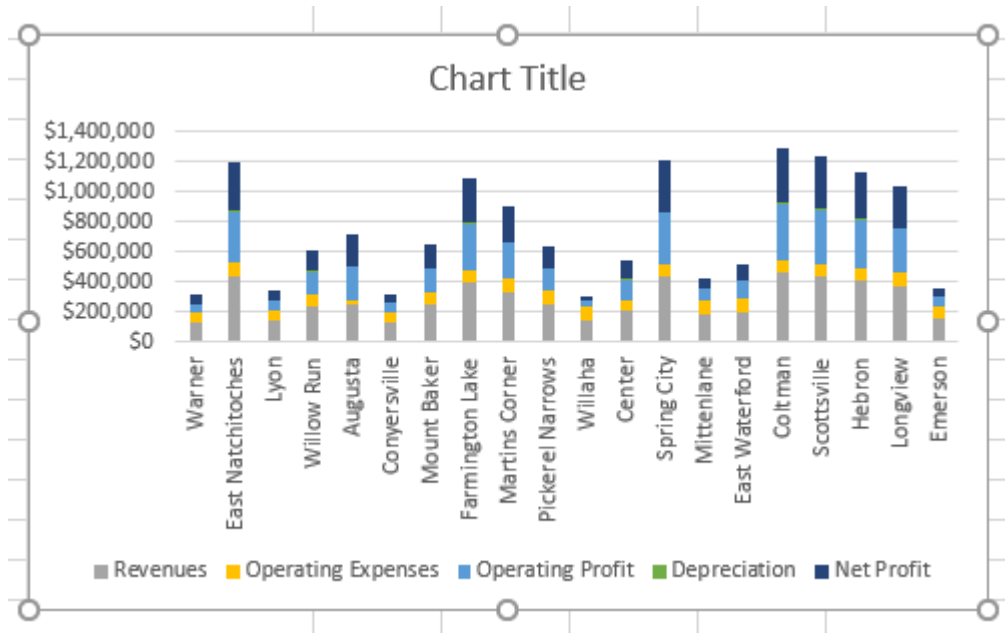
8. Scroll over to see the full chart:



9. There might be a better way to display this data. Let's try changing the chart type. Click "Chart Design → Type → Stacked Column" and click "OK":



10. Do you find the new chart easier to understand?



11. Save As 'Activity 5-1 complete' and close Excel to complete this activity.

TOPIC B: Modifying Charts

In the last topic, we saw how charts can be quickly and easily added. However, you will often need to customize this default configuration to ensure data is displayed properly. In this topic, we will learn about some of those tasks.

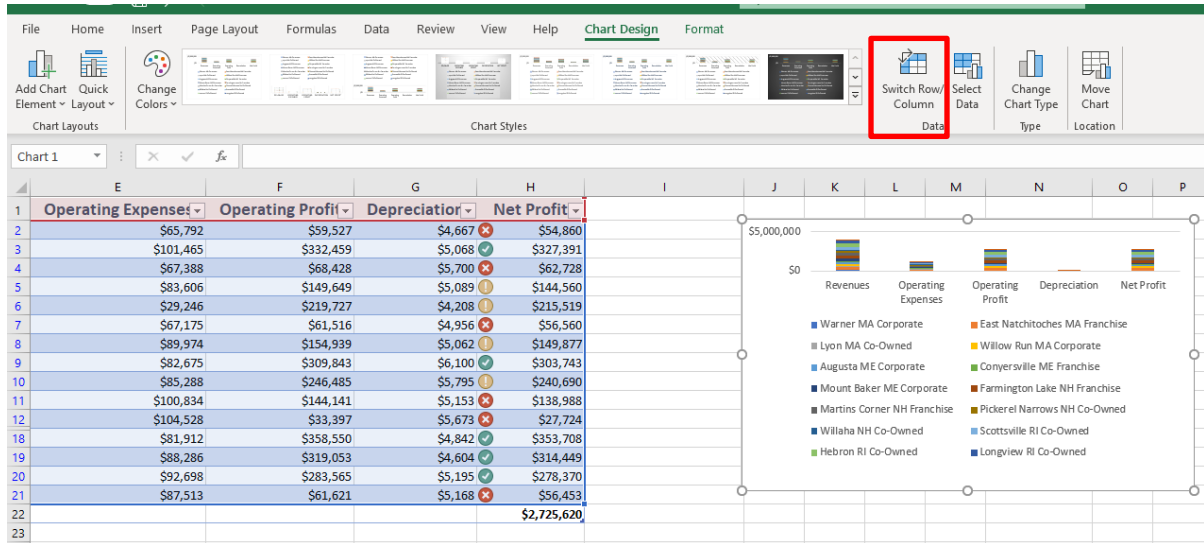
Topic Objectives

In this section, you will learn how to:

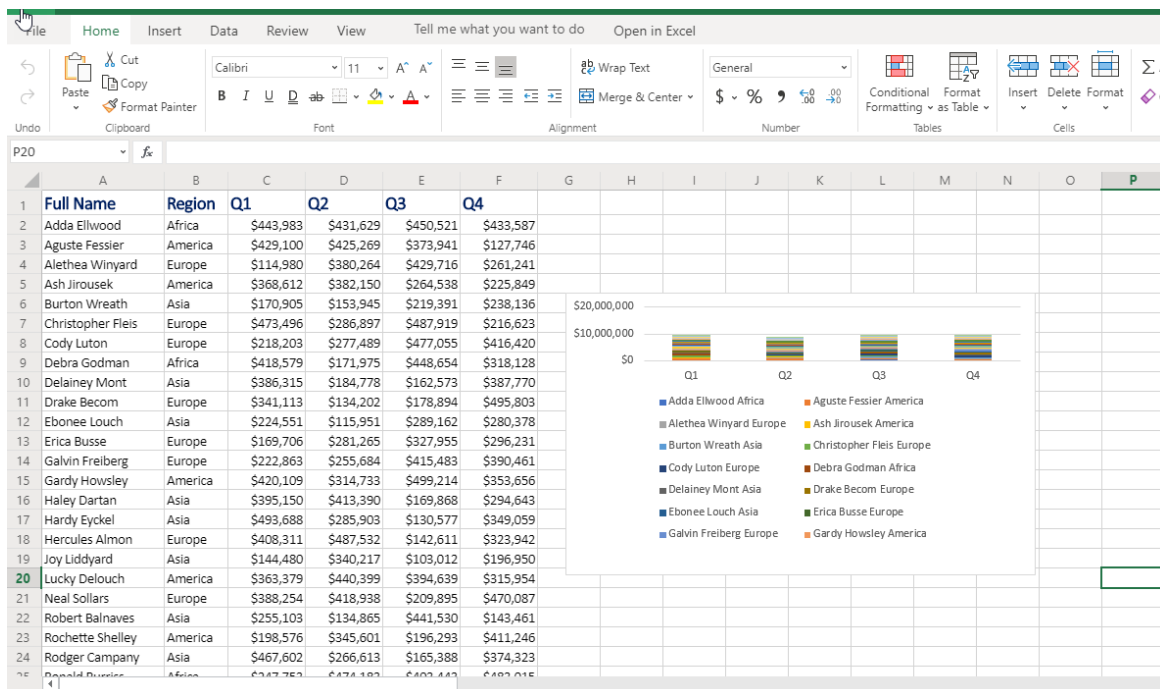
- Switch row and column display
- Select what data to display in the chart
- Change the chart type
- Add a title to a chart
- Modify chart labels and axes

Switching Row and Column Display

Occasionally, you may find the need to transpose rows and columns so that your chart represents the data differently. To do this, click “Chart Design → Switch Row/Column:”



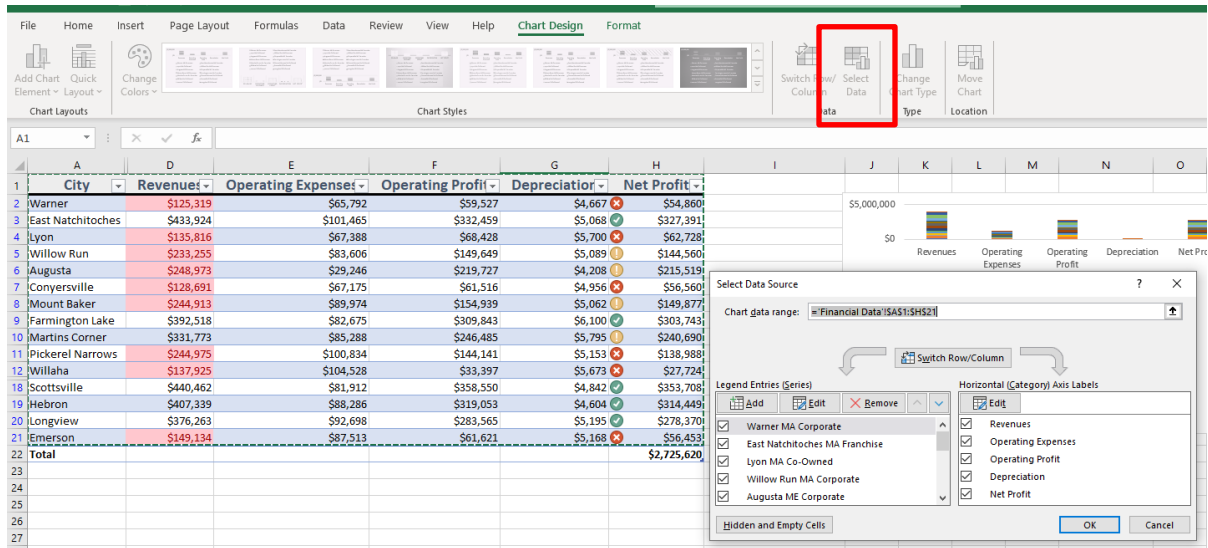
The chart will now be updated:



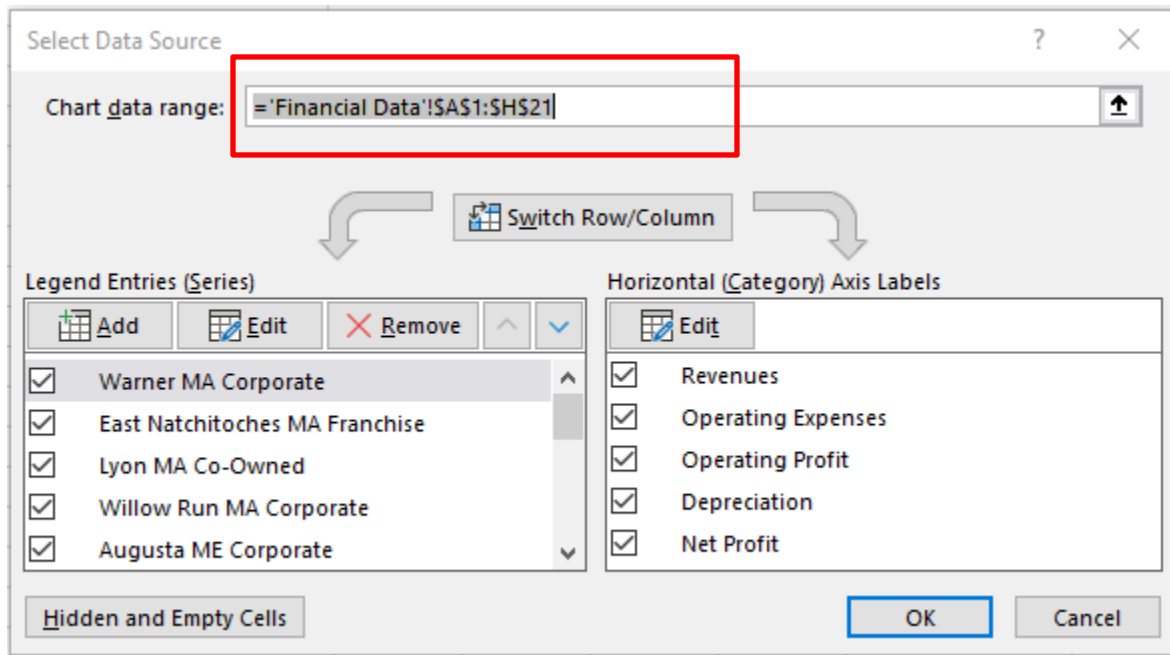
Note that the extraneous data that had been hidden is now displayed.

Using the Select Data Command

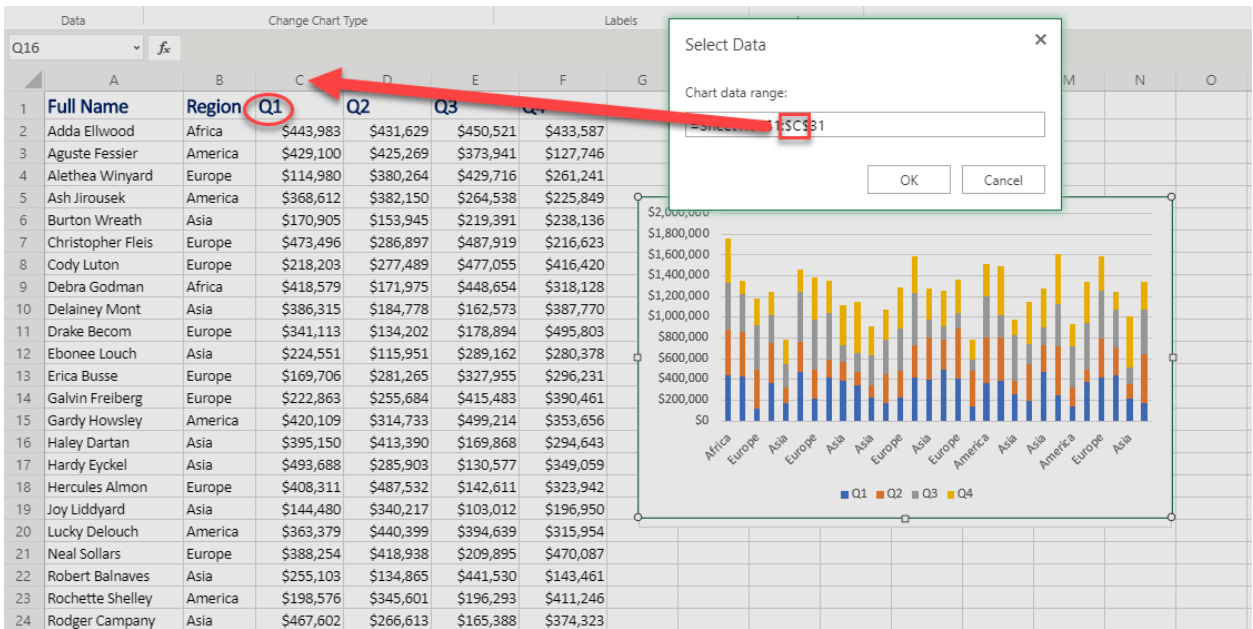
Once a chart has been created, you can add or remove information from the data range, and the chart will immediately reflect those changes. To start, click “Chart Design → Select Data:”



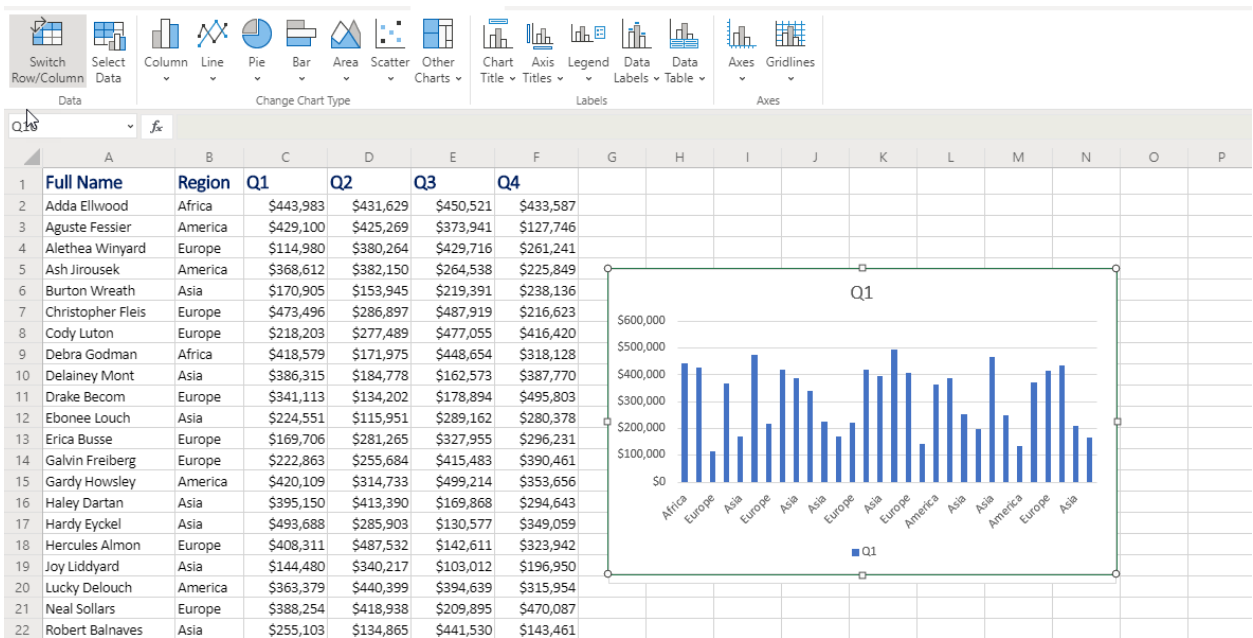
Now, the Select Data dialog box will open. Here, you can modify the data range:



In this example, we only want the first quarter in the chart, so we will change the end point of the range and click “OK:”



The chart will now be updated:



Changing the Chart Type

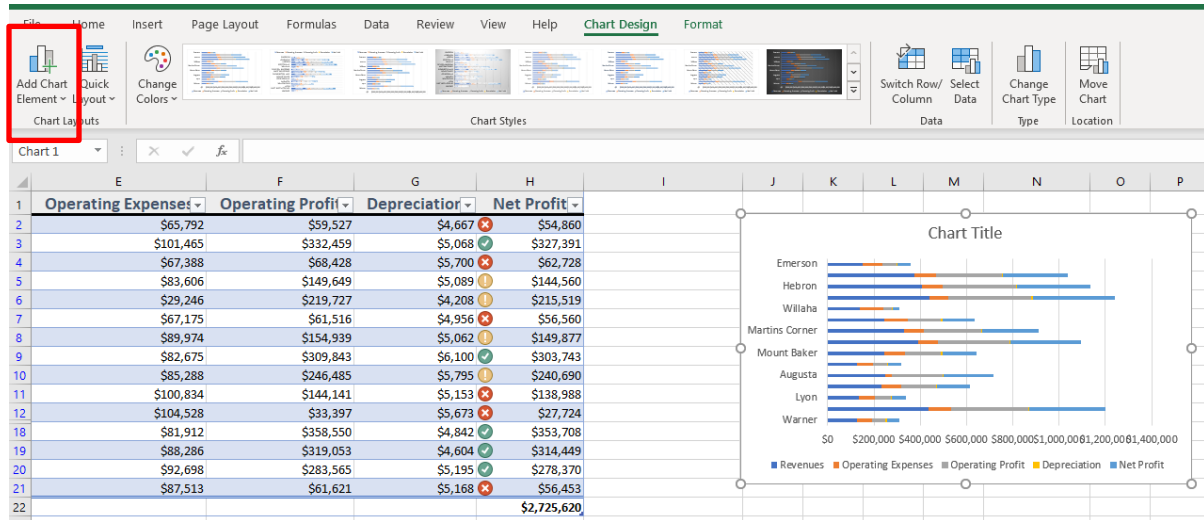
To change the type of chart, select the chart, click the Chart Design tab, click the “Change Chart Type” icon and choose the new specific chart type. Here, we are changing a column chart into a bar chart:

The screenshot shows the Microsoft Excel 365 interface with the Chart Design tab selected. The 'Change Chart Type' icon in the ribbon is highlighted with a red box. Below the ribbon, a data table is visible with columns for Operating Expenses, Operating Profit, Depreciation, and Net Profit. The 'Change Chart Type' dialog box is open, showing a list of chart types on the left and a preview of a 'Stacked Bar' chart on the right. The 'Bar' chart type is selected and highlighted with a red box in the 'All Charts' section.

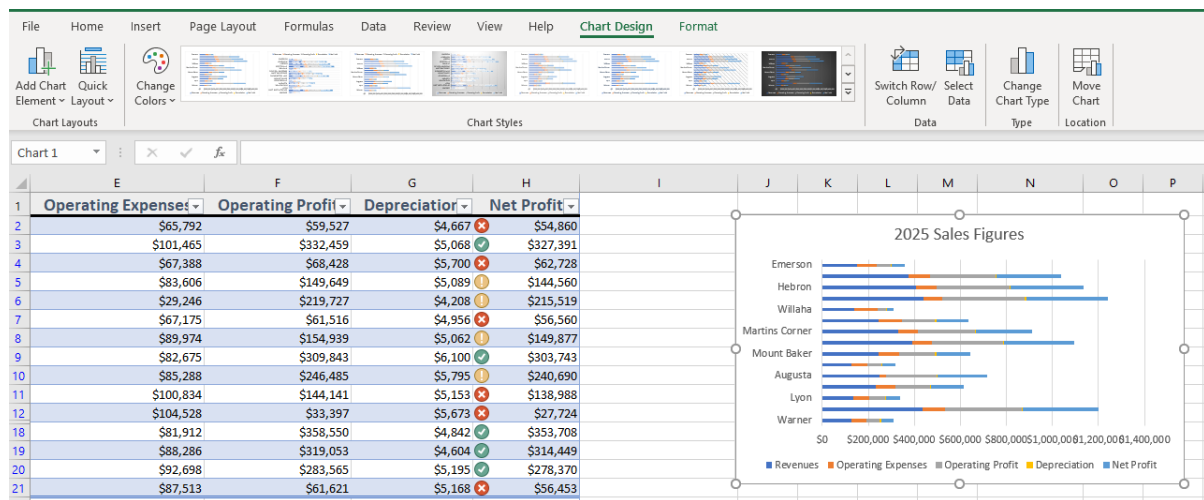
	Operating Expenses	Operating Profit	Depreciation	Net Profit
1				
2	\$65,792	\$59,527	\$4,667	\$54,860
3	\$101,465	\$332,459	\$5,068	\$327,391
4	\$67,388	\$68,428	\$5,700	\$62,728
5	\$83,606	\$149,649	\$5,089	\$144,560
6	\$29,246	\$219,727	\$4,208	\$215,519
7	\$67,175	\$61,516	\$4,956	\$56,560
8	\$89,974	\$154,939	\$5,062	\$149,877
9	\$82,675	\$309,843	\$6,100	\$303,743
10	\$85,288	\$246,485	\$5,795	\$240,690
11	\$100,834	\$144,141	\$5,153	\$138,988
12	\$104,528	\$33,397	\$5,673	\$27,724
18	\$81,912	\$358,550	\$4,842	\$353,708
19	\$88,286	\$319,053	\$4,604	\$314,449
20	\$92,698	\$283,565	\$5,195	\$278,370
21	\$87,513	\$61,621	\$5,168	\$56,453
22				\$2,725,620
23				
24				
25				
26				
27				
28				
29				
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32				
33				
34				
35				

Adding a Chart Title

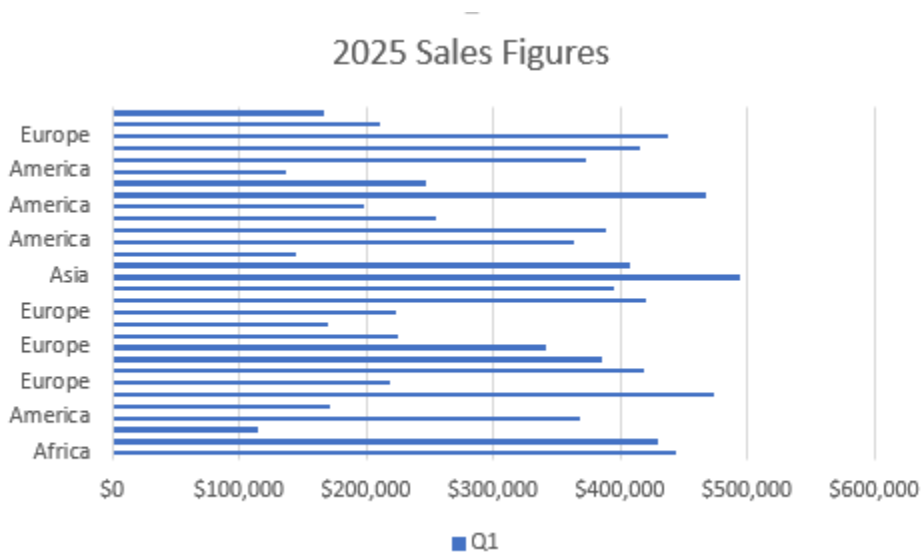
To add a title to a chart, click “Chart Design → Add Chart Element → Chart Title,” and choose the desired position:



Note that you can choose “None” to turn the chart title off. If you choose one of the other three options, the Chart Title dialog box will appear in your chart. Double click within the Chart Title to edit it.



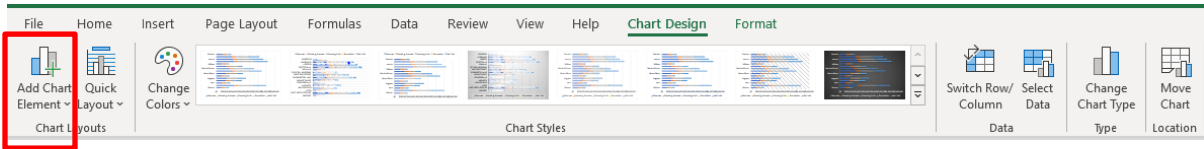
The title will now be added:



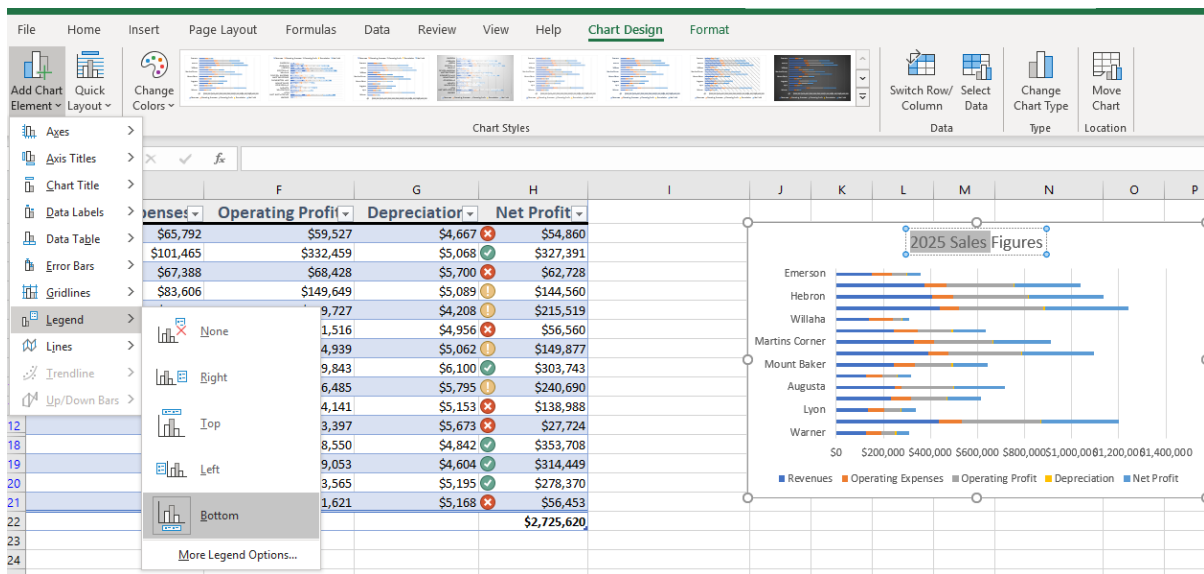
Remember, you can edit it by clicking double clicking on the Chart Title at any time.

Modifying Chart Labels

The other commands in the Add Chart Elements group allow you to turn different elements on or off and control their position:

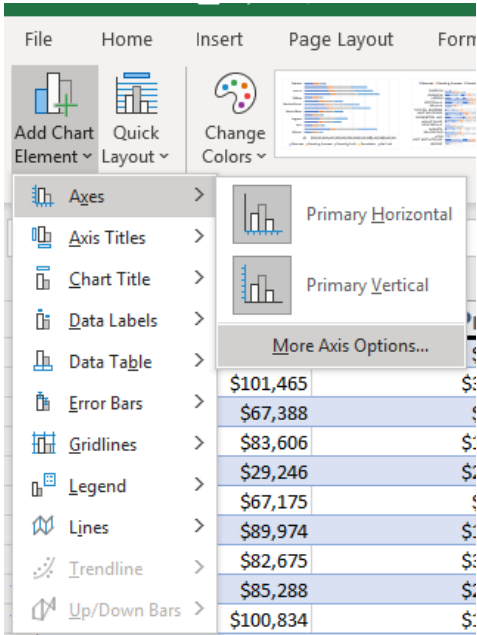


For example, here are the options for positioning the legend:



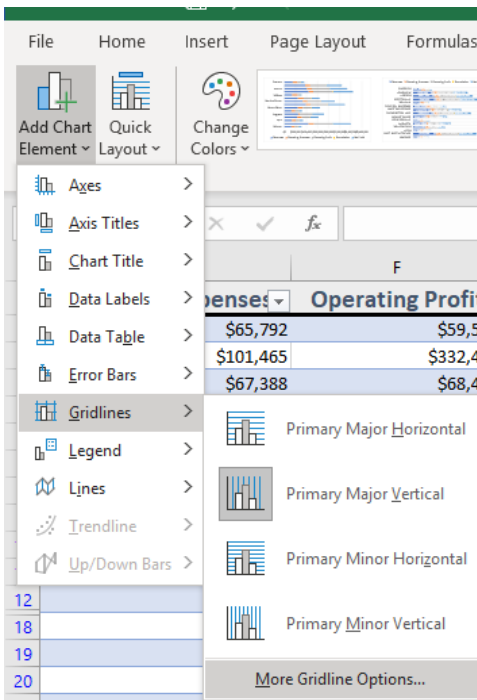
Modifying Chart Axes

The final group, Axes, contains two commands:



The Axes command allows you to customize the display of both the horizontal and vertical axes.

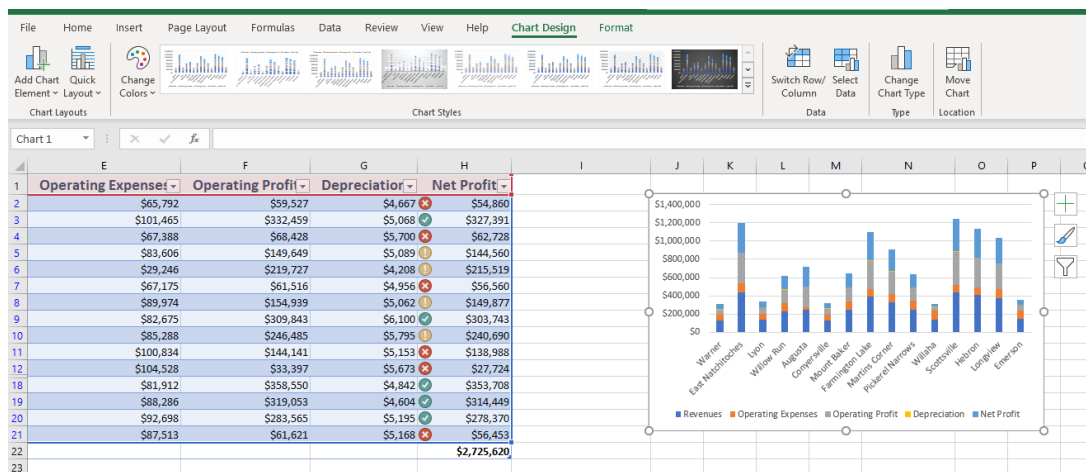
The Gridlines command allows you to customize the appearance of both types of gridlines:



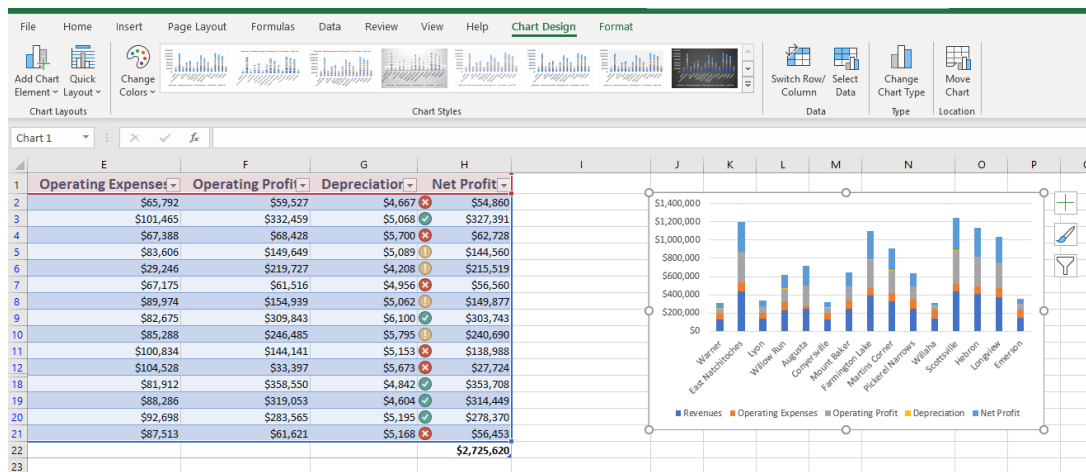
Activity 5-2: Modifying Charts

In this activity, we will modify the chart in our sales data report.

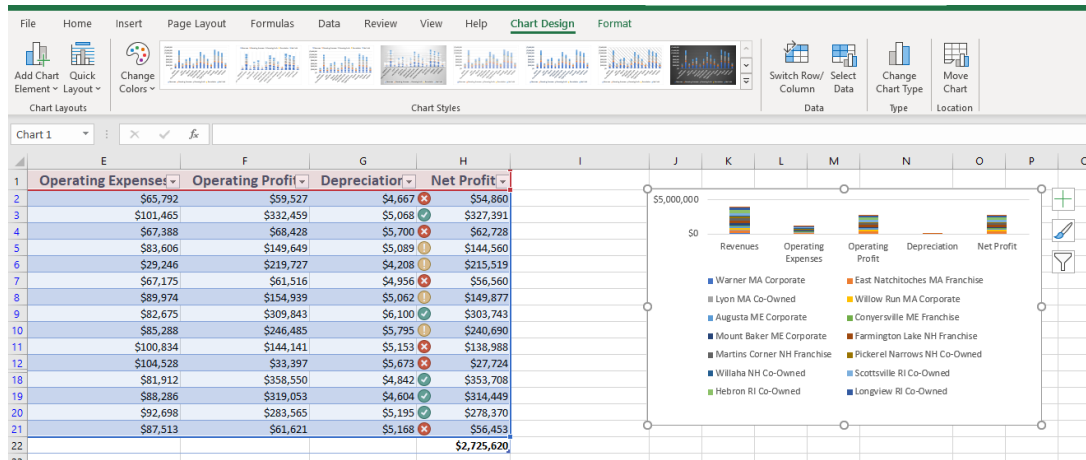
1. To begin, open Excel. (Refer back to Activity 1-1 if you need help.)
2. Navigate to Lesson 5 of your Excel Essentials Activities folder. Open Activity 5-2: (Refer back to Activity 1-2 if you need help.)
3. Ensure the Financial Data worksheet is active, and the chart is selected:



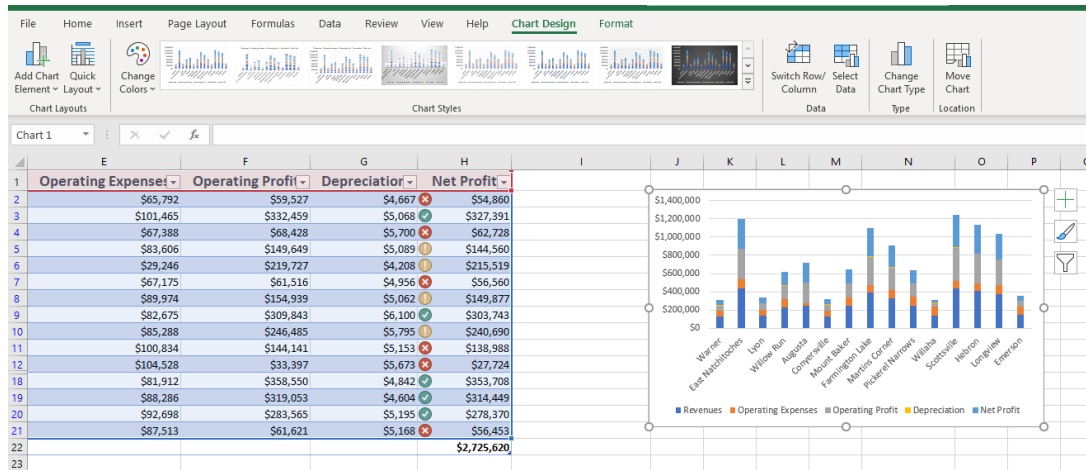
4. Let's try switching the row and column data. Click "Chart Design → Switch Row/Column:"



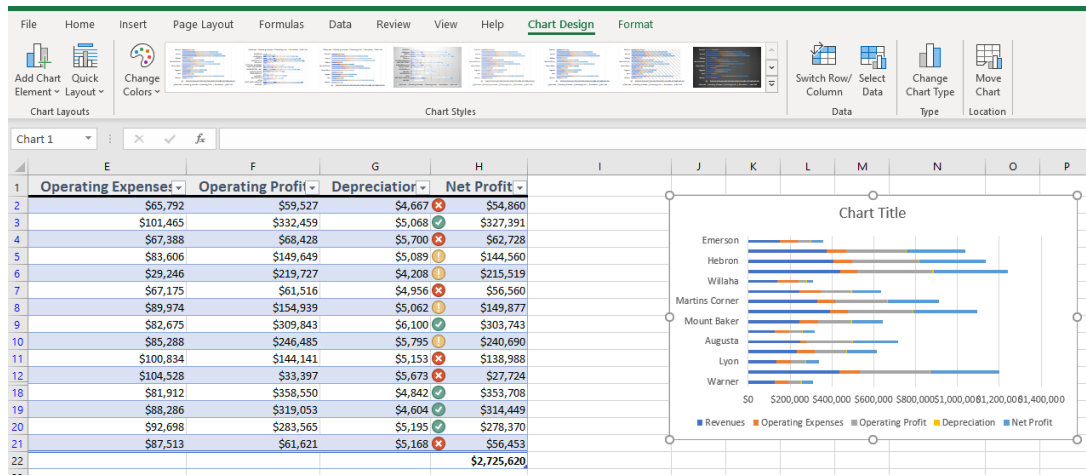
5. Now we can see an overall picture of each of the financial data points:



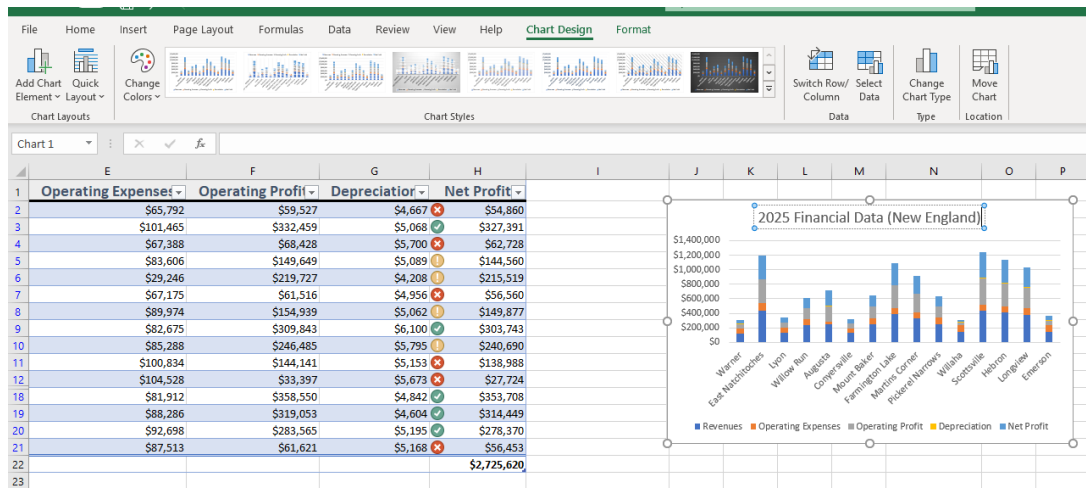
6. Click “Switch Row/Column” again to return to the previous configuration:



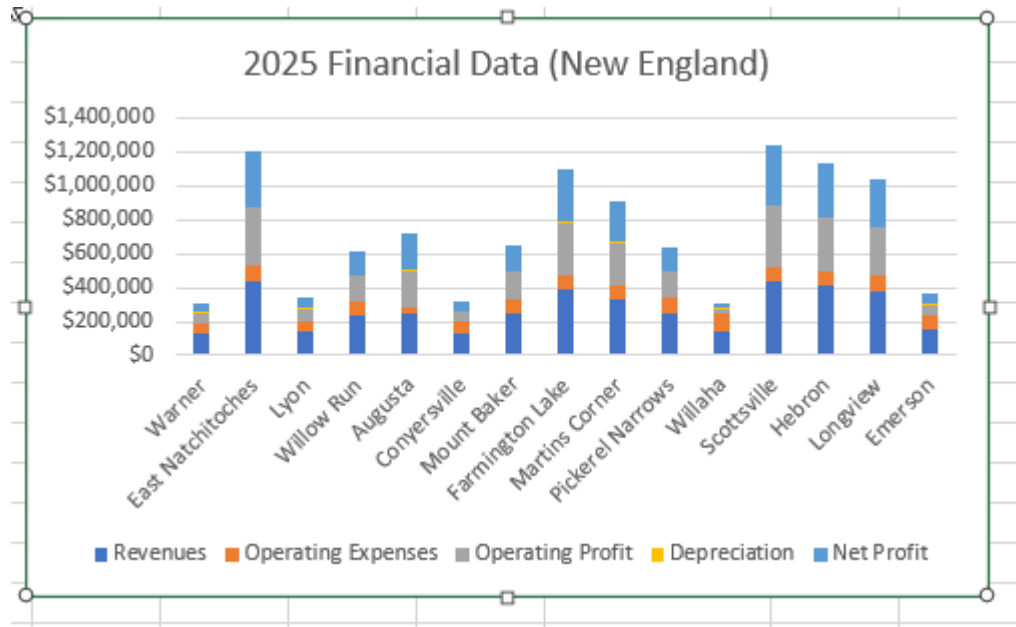
- Now let's add a title to the chart. The Chart Design tab should still be open. Click "Chart Design → Add Chart Element → Chart Title":



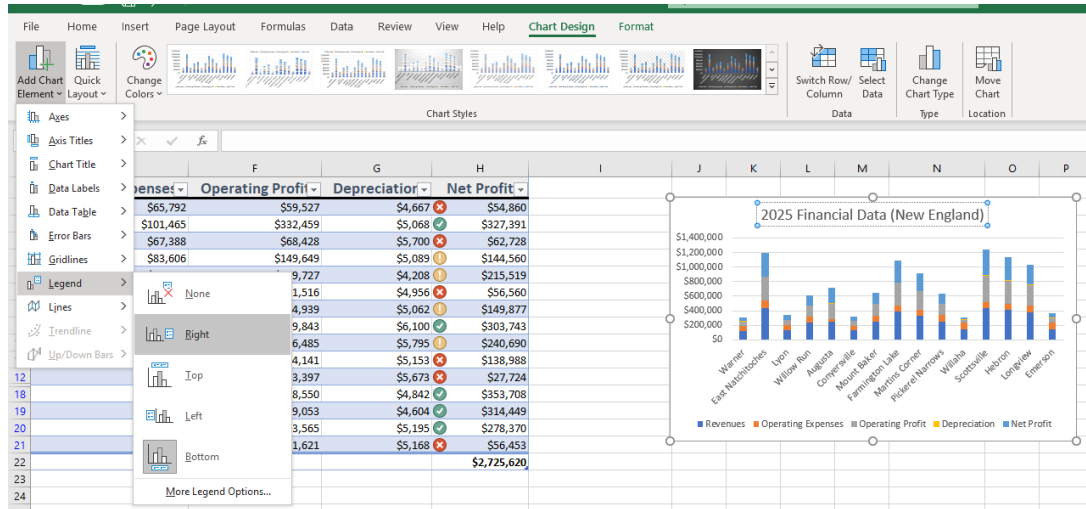
- Double Click on the Chart Title and type, "2025 Financial Data (New England)" and click "OK:"



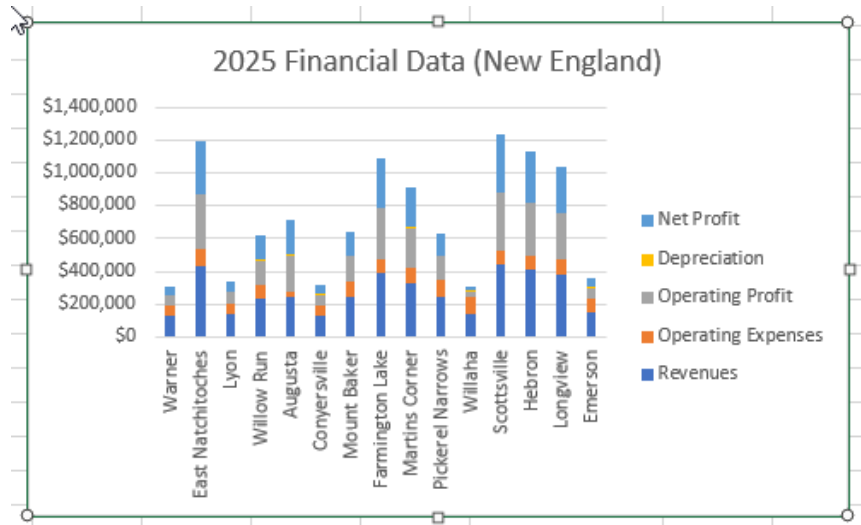
9. The title will be added:



10. Now, let's move the legend. Click "Chart Design → Add Chart Element → Legend → Right:"



11. Review the changes:



12. Save As 'Activity 5-2 complete' and close Excel to complete this activity.

Summary

In this lesson, you learned how to organize worksheet data with tables and charts. With these tools, you will be able to take your workbooks a few steps further and learn more about your data than ever before.

LESSON 6: FINALIZING WORKBOOKS

Lesson Objectives

In this lesson you will learn how to:

- Use comments
- Manage worksheets
- Change view options

TOPIC A: Using Comments

Comments are a key part of Excel. In this topic, we will learn all about comments, including how to insert, edit, reply to, navigate through, and delete them.

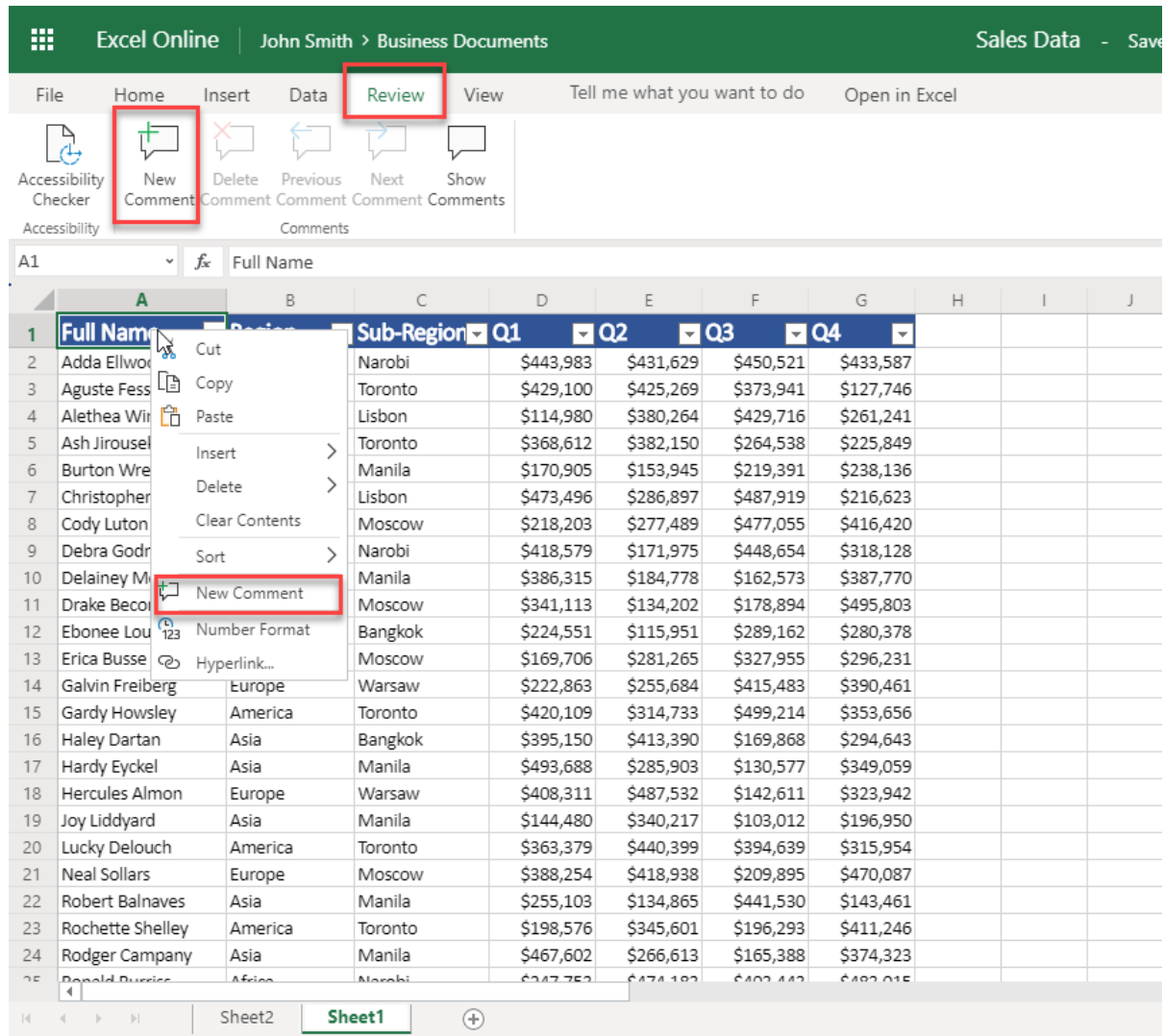
Topic Objectives

In this section, you will learn how to:

- Insert, edit, and delete comments
- Show and hide the Comments pane

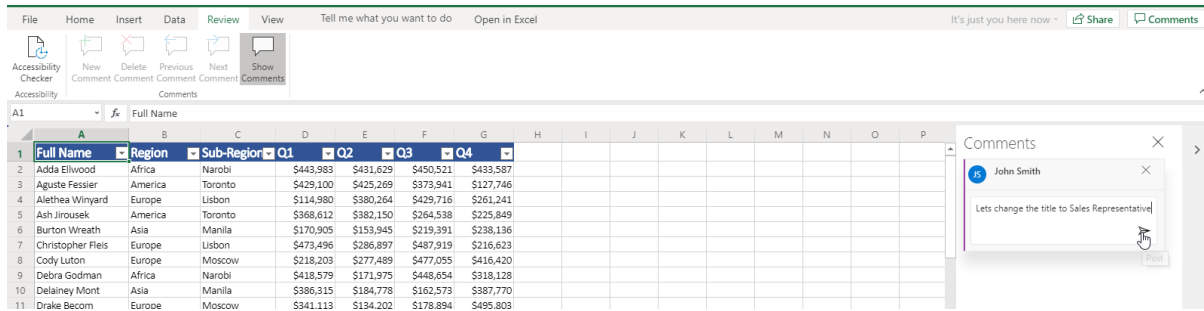
Inserting Comments

To insert a comment, select the cell on which you want to comment. Then, click “Review → New Comment” or use the Insert Comment command on the right-click menu:

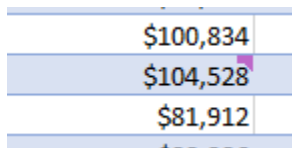


(This command is also available on the Insert tab.)

The Comments pane will open. Type your comment into the text field and click “Post:”



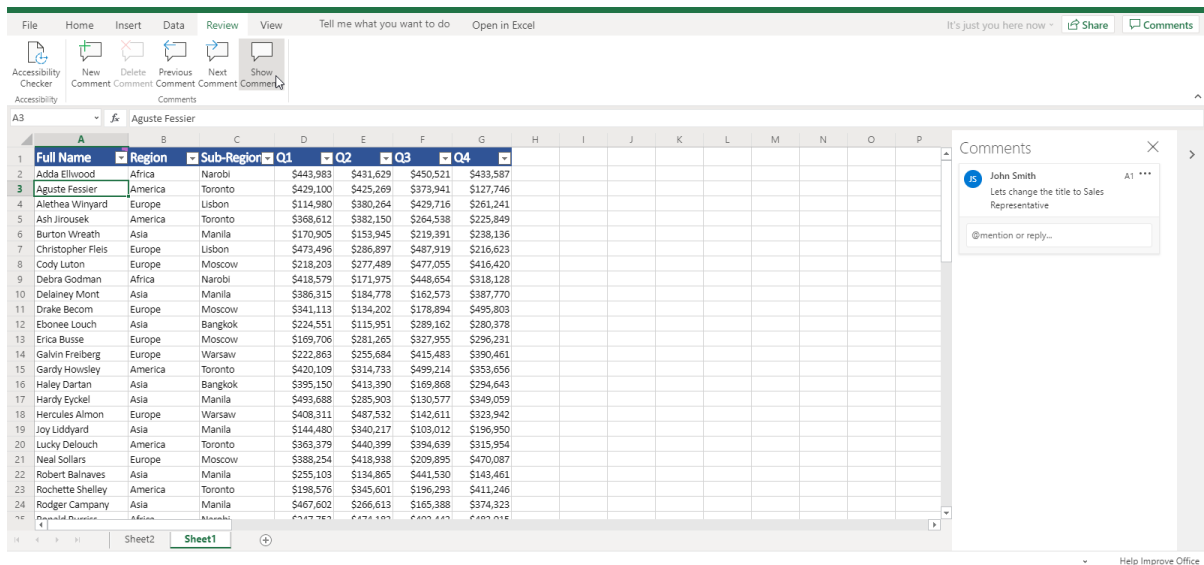
The comment will then be added and indicated with a triangle in the workbook. When the cell is selected, a speech bubble icon will also appear:



The comment can be viewed by clicking the speech bubble icon.

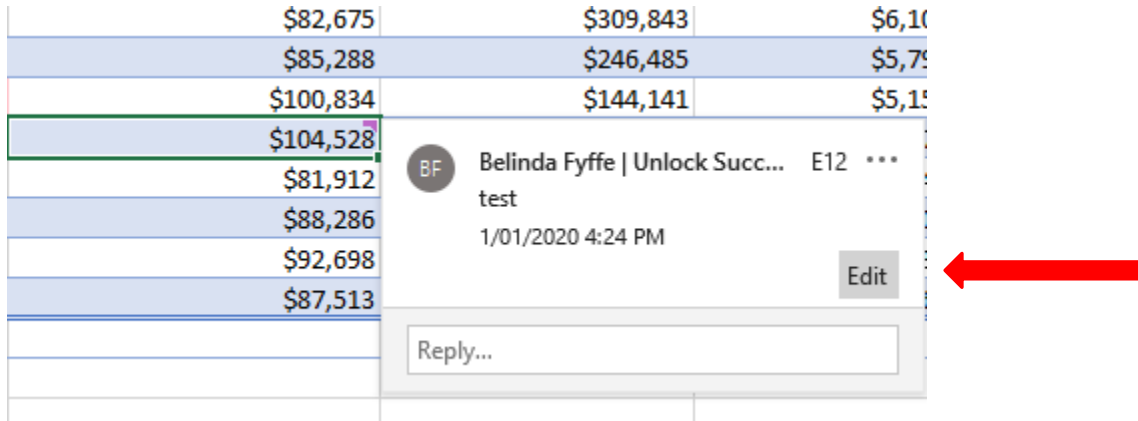
Showing and Hiding the Comments Pane

The Comments pane will automatically be displayed when you create a comment. You can toggle it on or off with the Review tab:

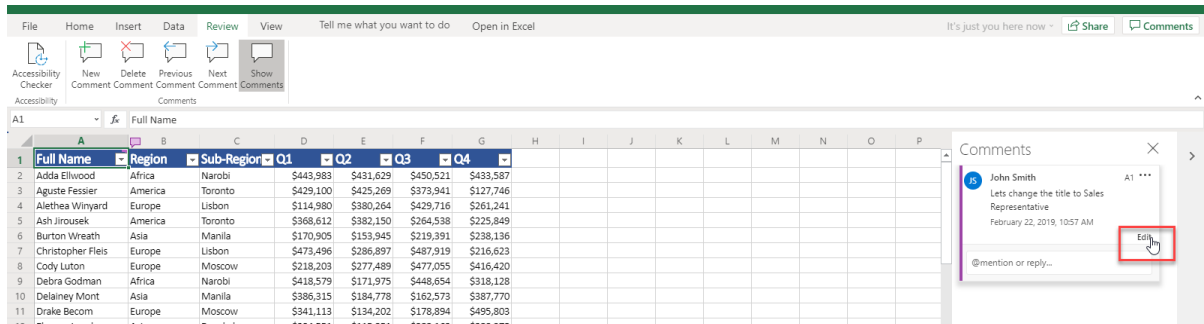


Editing Comments

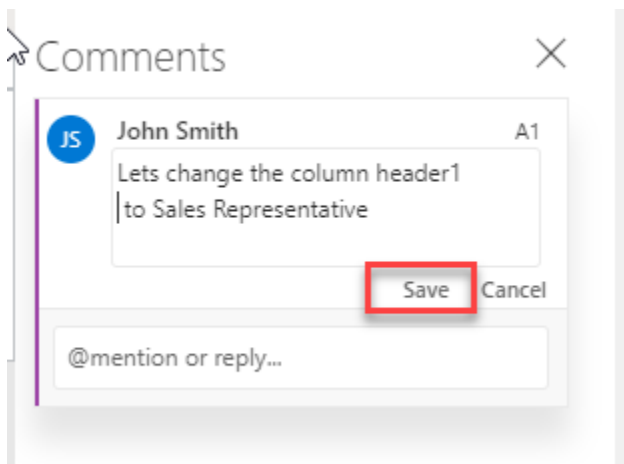
To edit a comment, click the cell to which it is attached and then click the edit button:



The comment will be selected and displayed in the Comments pane. Click “Review → Show Comment” and then choosing the edit button:



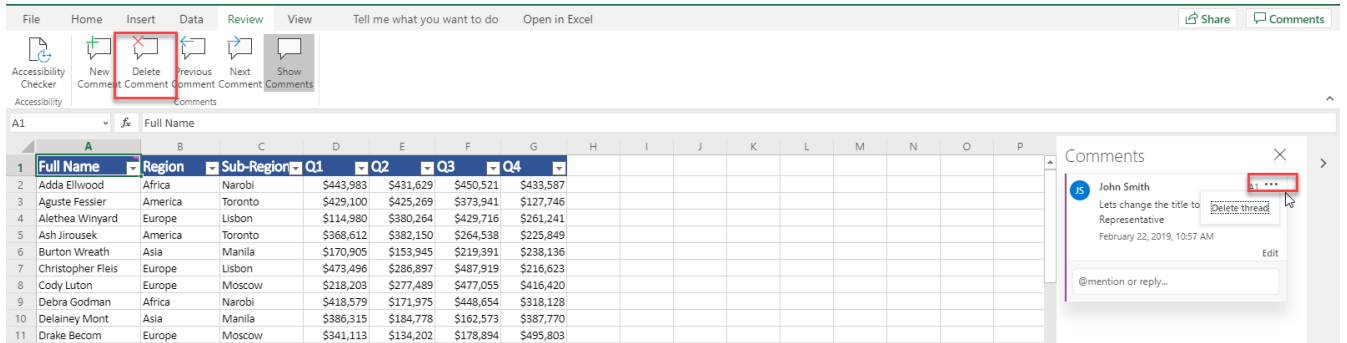
Now, the Comments pane will open with the comment ready for editing. Make your changes and click “Save”:



The original comment will now be updated.

Deleting Comments

To delete a comment, open the comment for editing by clicking its icon in the workbook when the cell is selected. Then, click the Delete Comment command on the Review tab or in the comment itself:



The comment will immediately be deleted.

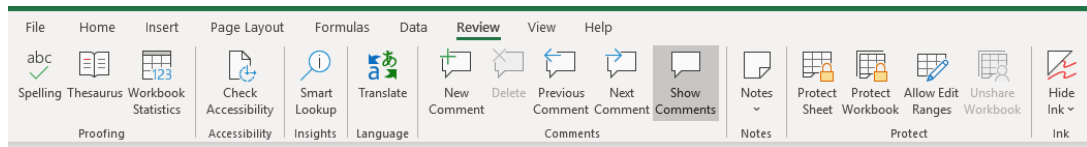
Activity 6-1: Working with Comments

In this activity, you will review comments in a workbook, and add comments of your own.

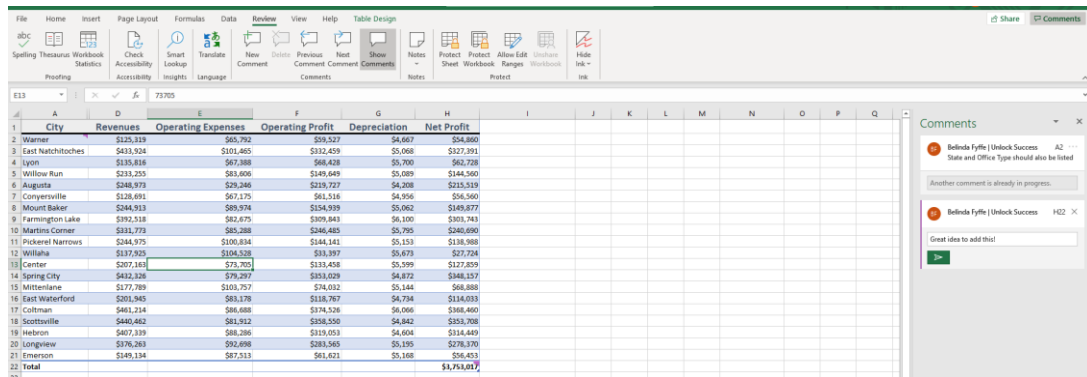
1. To begin, open Excel. (Refer back to Activity 1-1 if you need help.)
2. Navigate to Lesson 6 of your Excel Essentials Activities folder. Open Activity 6-1:
(Refer back to Activity 1-2 if you need help.)
3. The Financial Data sheet should be active. Look closely at cells A2 and H22. You will see a red triangle that denotes a comment:

	A	D	E	F	G	H
1	City	Revenues	Operating Expenses	Operating Profit	Depreciation	Net Profit
2	Warner		\$65,792	\$59,527	\$4,667	\$54,860
3	East Natchitoches	\$433,924	\$101,465	\$332,459	\$5,068	\$327,391
4	Lyon	\$135,816	\$67,388	\$68,428	\$5,700	\$62,728
5	Willow Run	\$233,255	\$83,606	\$149,649	\$5,089	\$144,560
6	Augusta	\$248,973	\$29,246	\$219,727	\$4,208	\$215,519
7	Conyersville	\$128,691	\$67,175	\$61,516	\$4,956	\$56,560
8	Mount Baker	\$244,913	\$89,974	\$154,939	\$5,062	\$149,877
9	Farmington Lake	\$392,518	\$82,675	\$309,843	\$6,100	\$303,743
10	Martins Corner	\$331,773	\$85,288	\$246,485	\$5,795	\$240,690
11	Pickereel Narrows	\$244,975	\$100,834	\$144,141	\$5,153	\$138,988
12	Willaha	\$137,925	\$104,528	\$33,397	\$5,673	\$27,724
13	Center	\$207,163	\$73,705	\$133,458	\$5,599	\$127,859
14	Spring City	\$432,326	\$79,297	\$353,029	\$4,872	\$348,157
15	Mittenlane	\$177,789	\$103,757	\$74,032	\$5,144	\$68,888
16	East Waterford	\$201,945	\$83,178	\$118,767	\$4,734	\$114,033
17	Coltman	\$461,214	\$86,688	\$374,526	\$6,066	\$368,460
18	Scottsville	\$440,462	\$81,912	\$358,550	\$4,842	\$353,708
19	Hebron	\$407,339	\$88,286	\$319,053	\$4,604	\$314,449
20	Longview	\$376,263	\$92,698	\$283,565	\$5,195	\$278,370
21	Emerson	\$149,134	\$87,513	\$61,621	\$5,168	\$56,453
22	Total					\$3,753,017

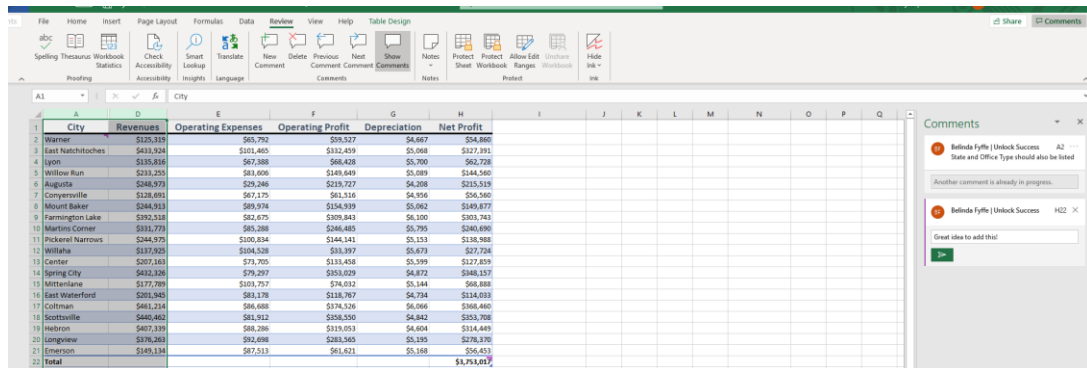
- Let's take a closer look at these comments. Click "Review → Show Comments" to open the Comments task pane:



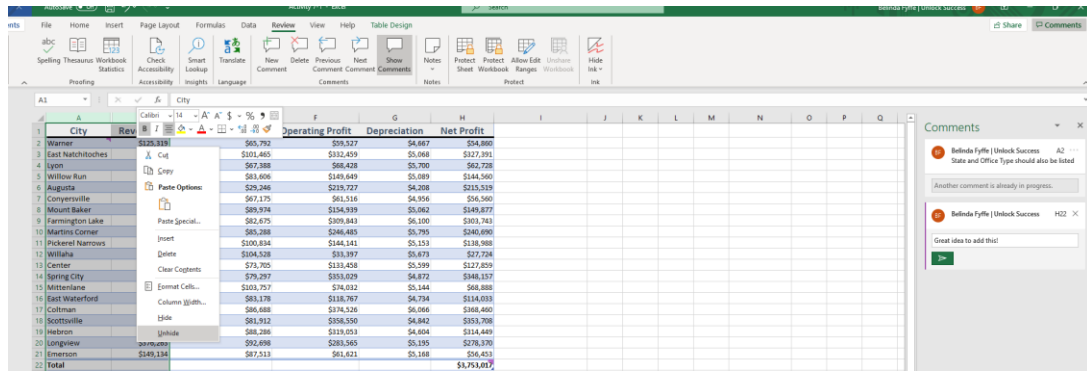
- Read the first comment, associated with cell A2:



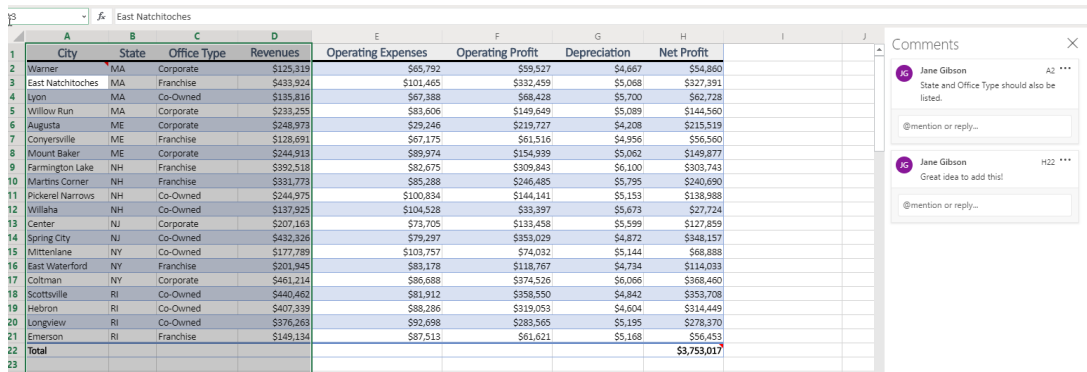
- Belinda has asked for data about the state and office type for each row. This data is present, but we hid it during a previous activity. Let's unhide it. To start, select columns A and D:



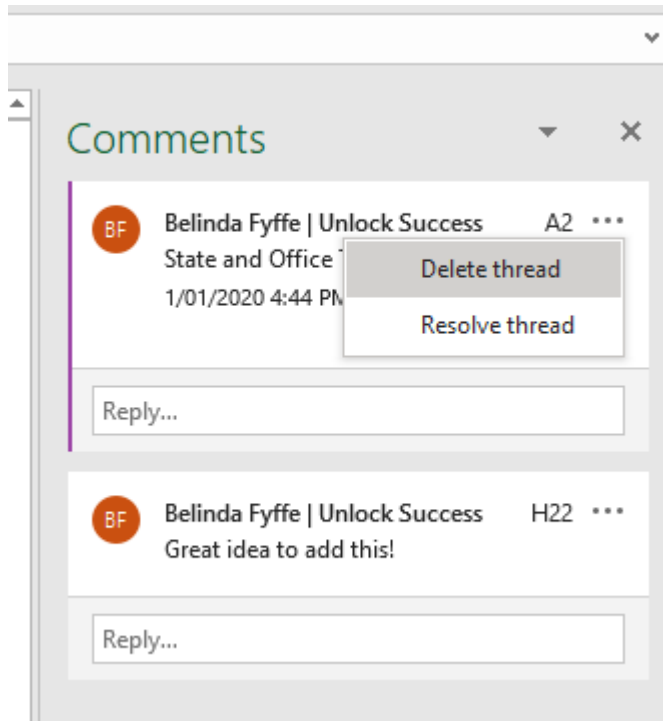
7. Right-click the column headers and click “Unhide Columns:”



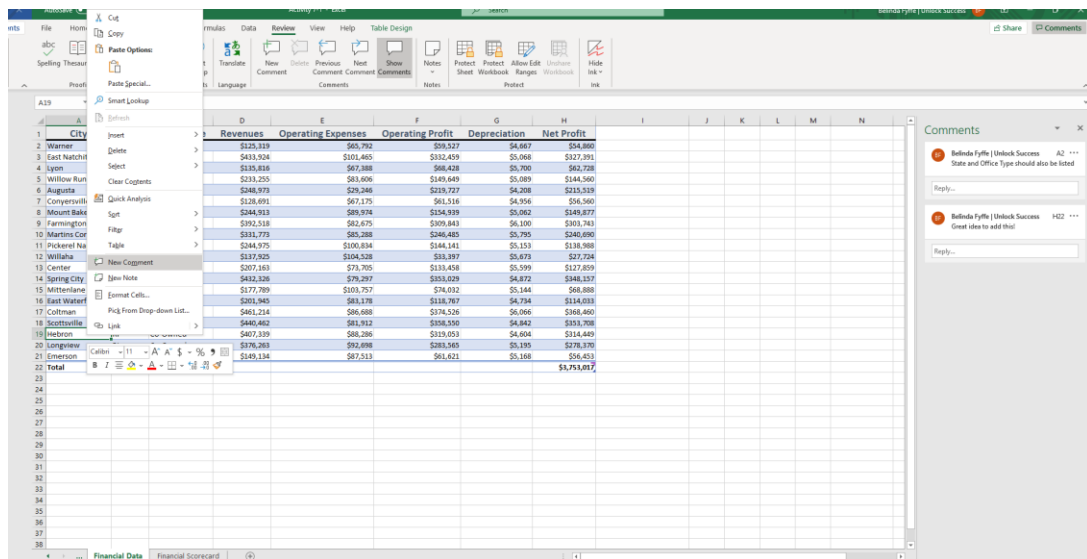
8. The data will now be shown. Since we have addressed Belinda’s comment, let’s delete it. Click the comment to select it:



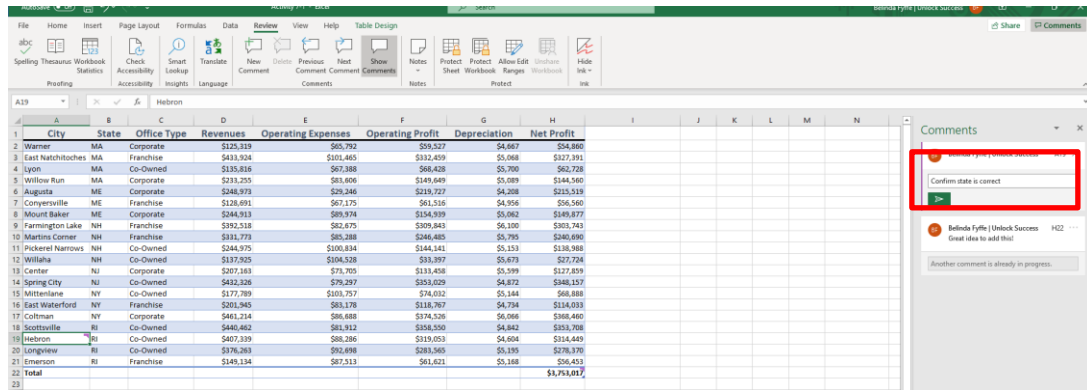
- Click the ... then Delete thread:



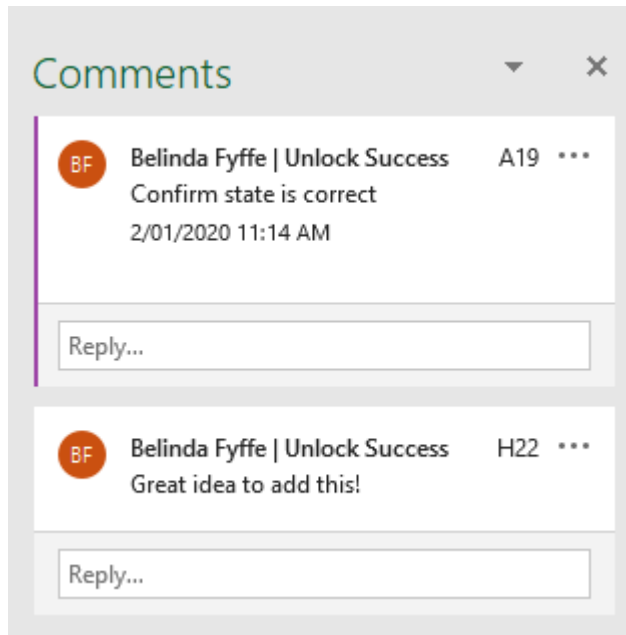
- Finally, you think that Hebron might have the wrong state entered, so you want to add a note to remind you to double-check the data. Right-click cell A19 and click “New Comment:”



11. In the Comments pane, type, “Confirm state is correct” and click “Post:”



12. Your comment will be created:



13. Save As 'Activity 6-1 complete' and close Excel to complete this activity.

TOPIC B: Managing Worksheets (Part One)

So far, we have worked with single worksheets within a workbook. However, Excel allows you to create and customize additional worksheets. In fact, there are so many customization options we will explore them in two sections.

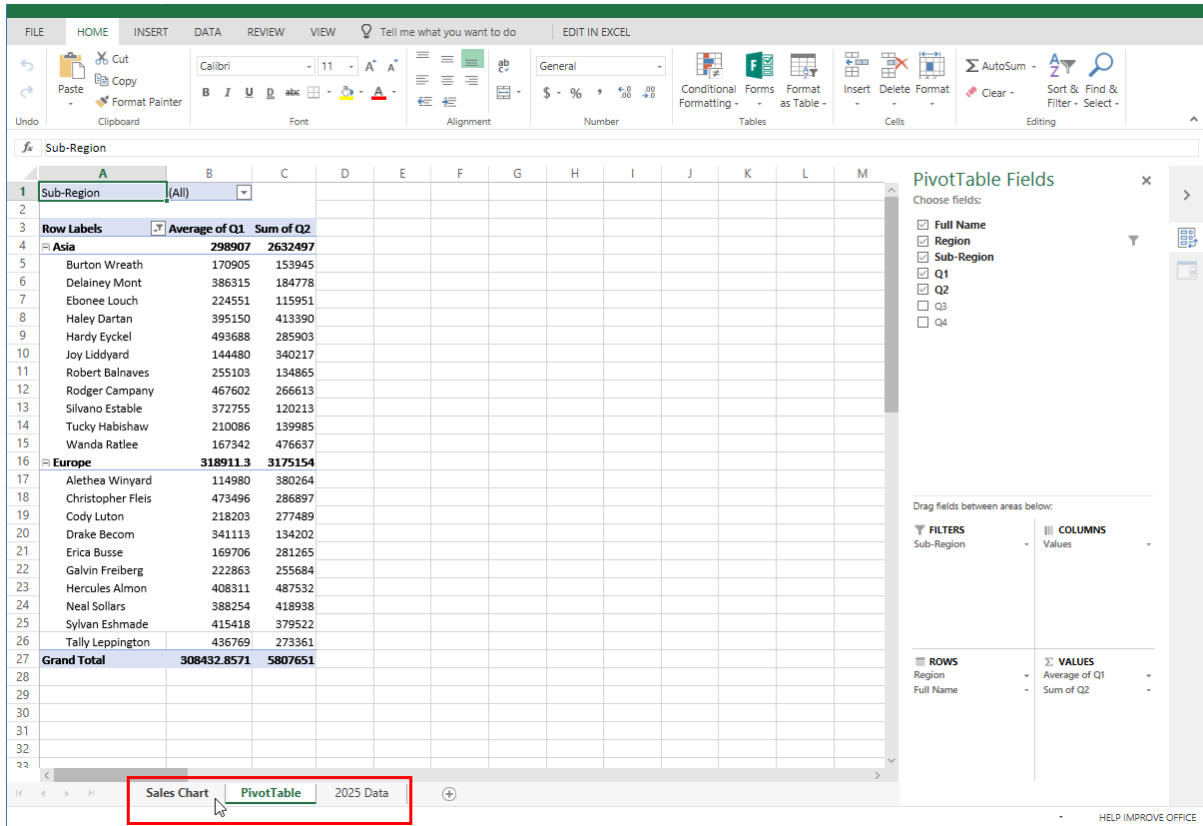
Topic Objectives

In this section, you will learn how to:

- View, insert, duplicate, and delete worksheets
- Use worksheet references in formulas

Viewing Worksheets

To view a worksheet, click its tab:

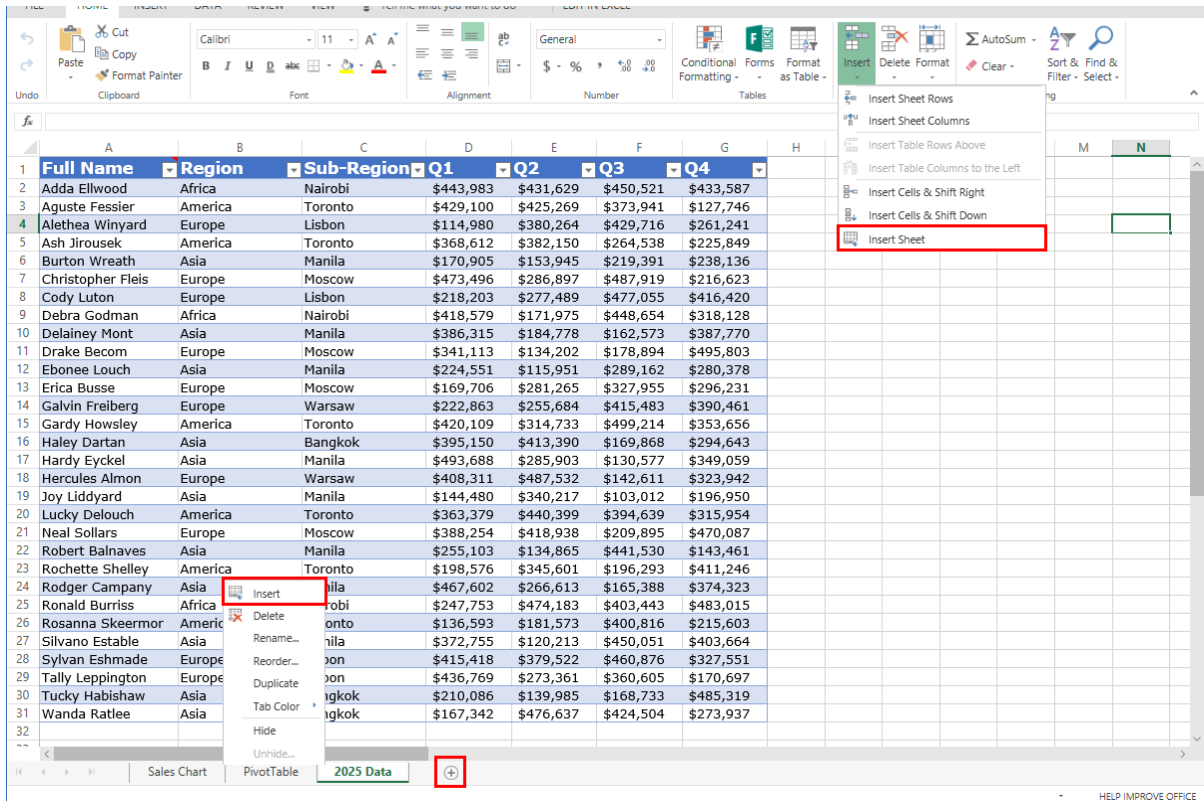


Its data will then be displayed in the main window.

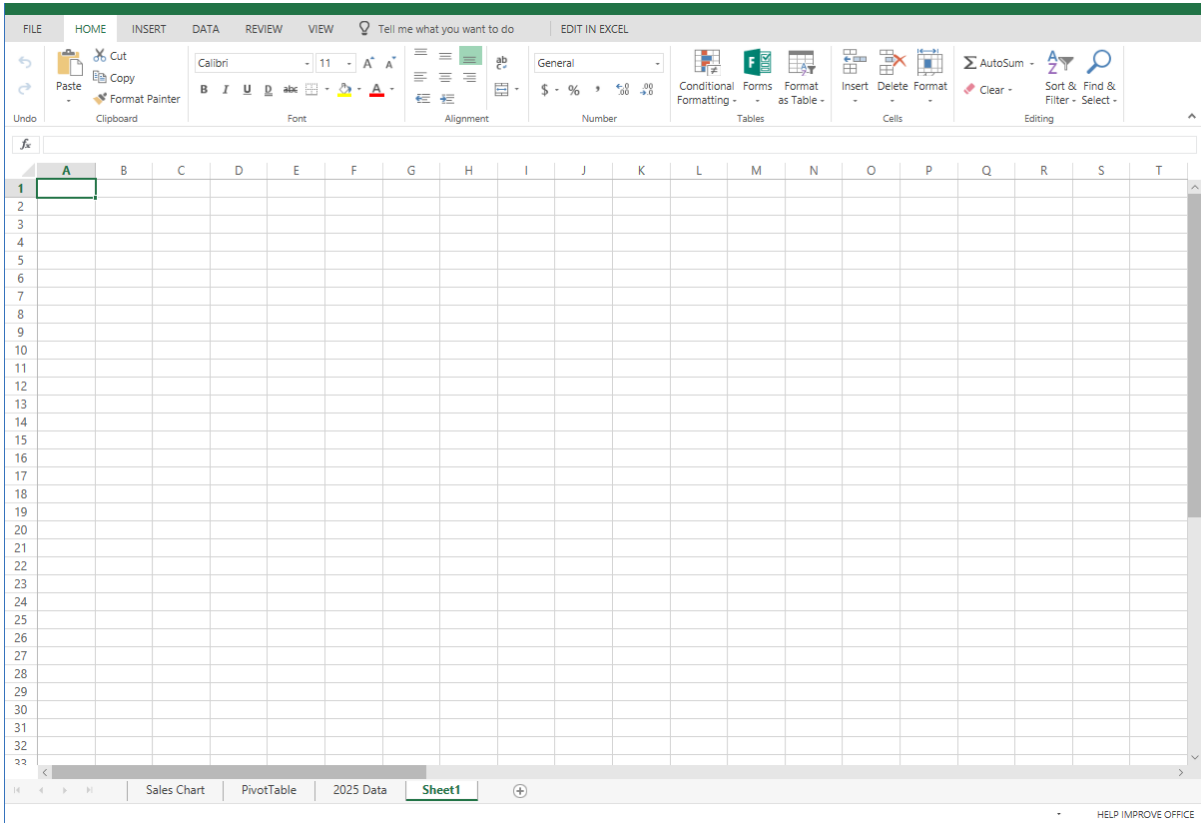
Inserting Worksheets

To insert a new worksheet, perform one of the following commands:

- Click “Home → Insert → Insert Sheet”
- Click the New Worksheet (+) icon on the row of sheet tabs
- Right-click a worksheet tab and click “Insert”

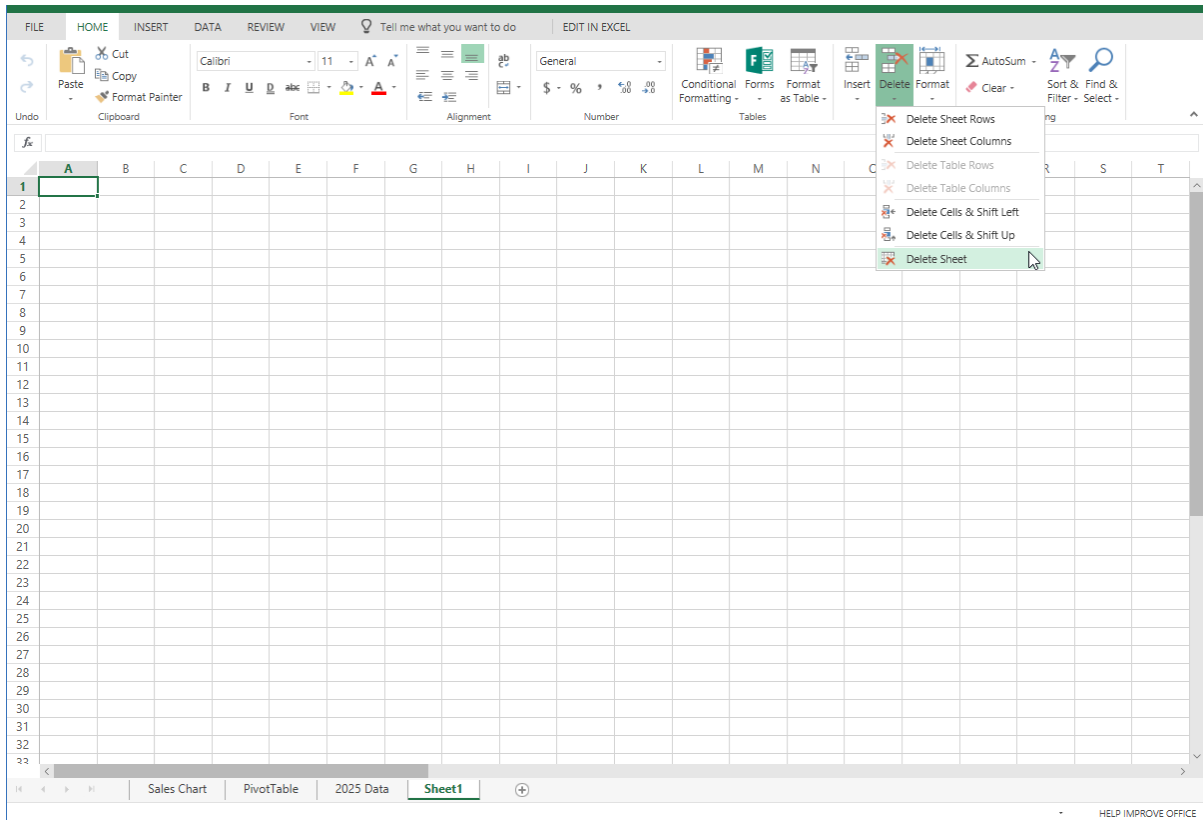


The new worksheet will be inserted, ready for your content:

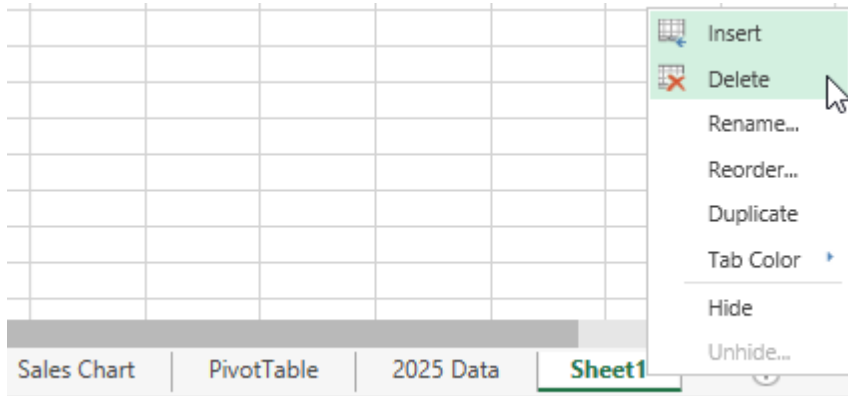


Deleting Worksheets

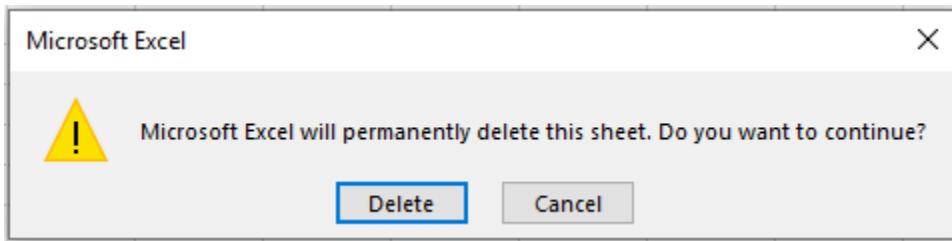
To delete a worksheet, ensure that the worksheet that you would like to delete is open and then click “Home → Delete → Delete Sheet:”



Or, right-click the tab for the worksheet in question and click “Delete.”

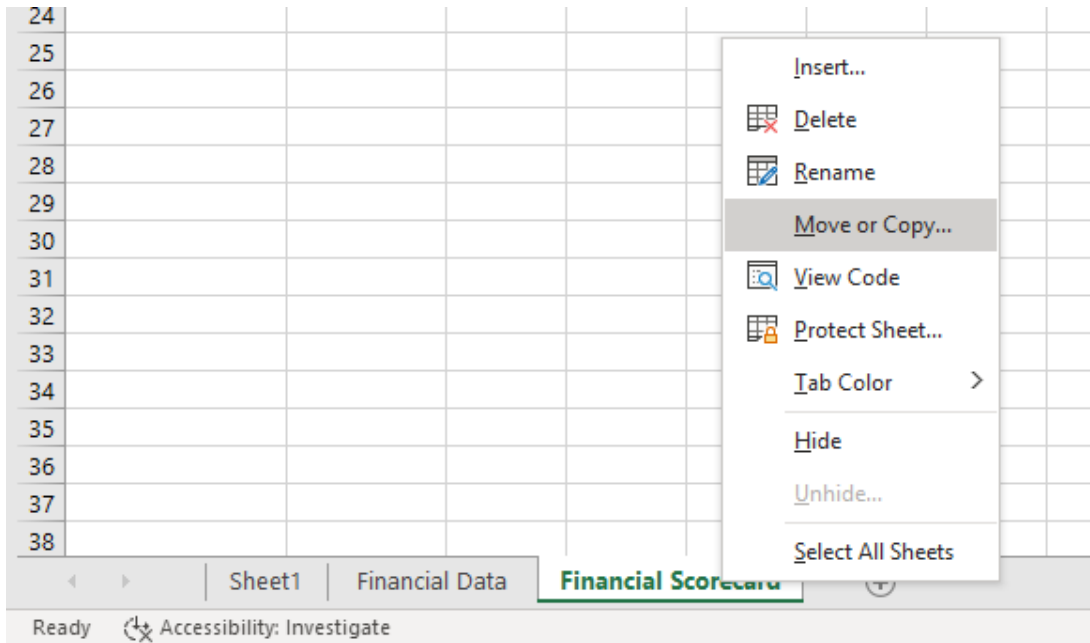


In either case a warning dialog box will appear asking for confirmation to delete the selected worksheet. Click “Delete” to complete the process:

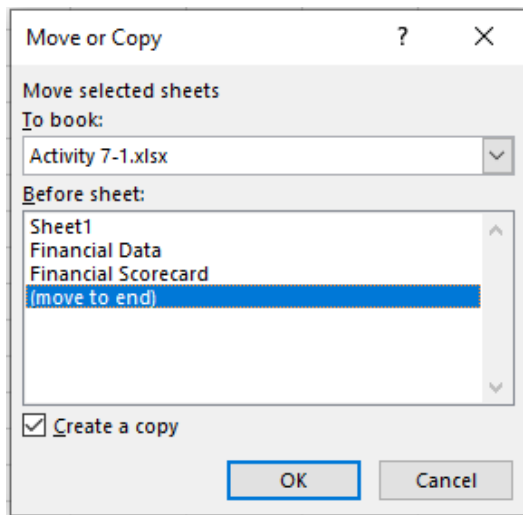


Duplicating Worksheets

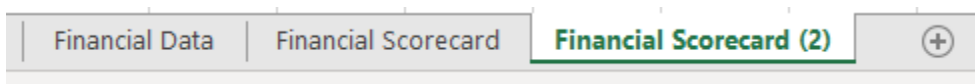
To create a copy of a worksheet, right-click its tab and click “Move or Copy”:



You will need to tick the checkbox to Create a copy, and then tell Excel where you want the new sheet to appear, then click “OK”:

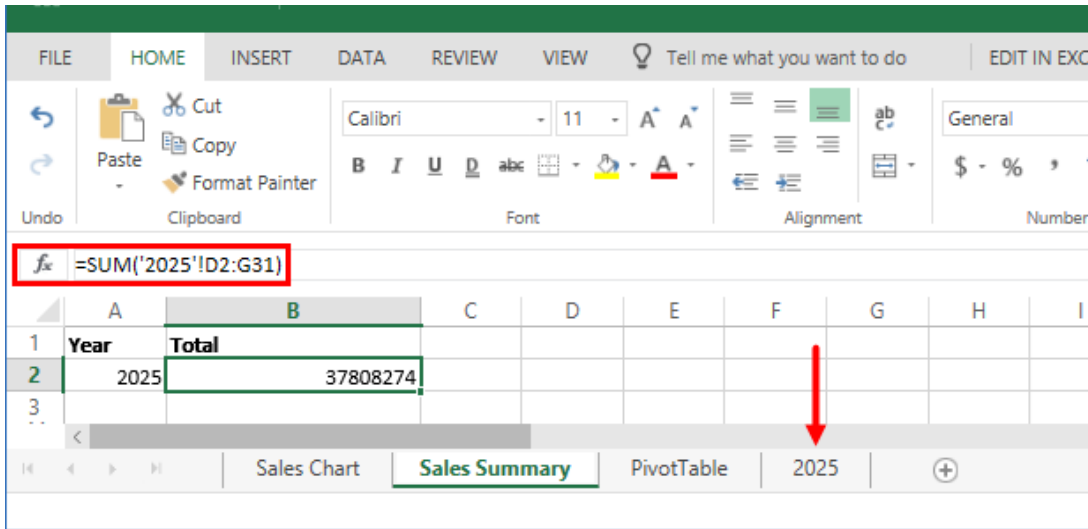


A copy of the worksheet will be created:



Worksheet References in Formulas

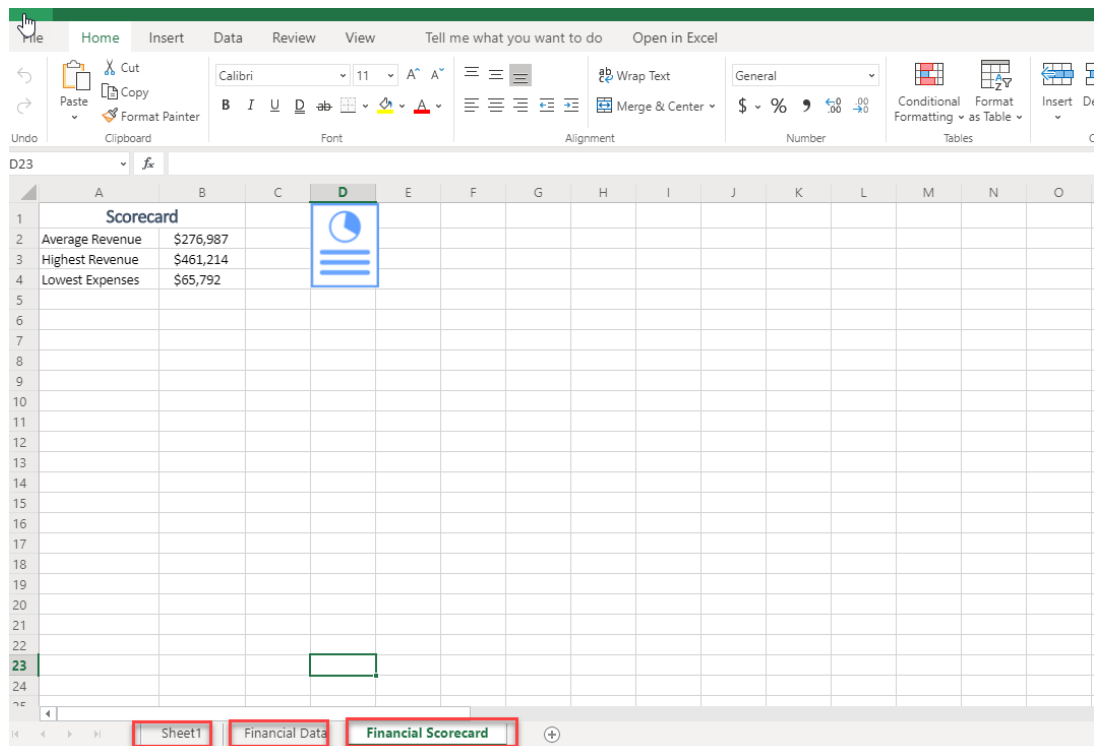
Formulas can contain references to any cell within any worksheet in the current workbook. They use the format 'Sheet Name'!, followed by the cell or cell range. Here, a formula is used to reference the sum of data from the 2025 worksheet:



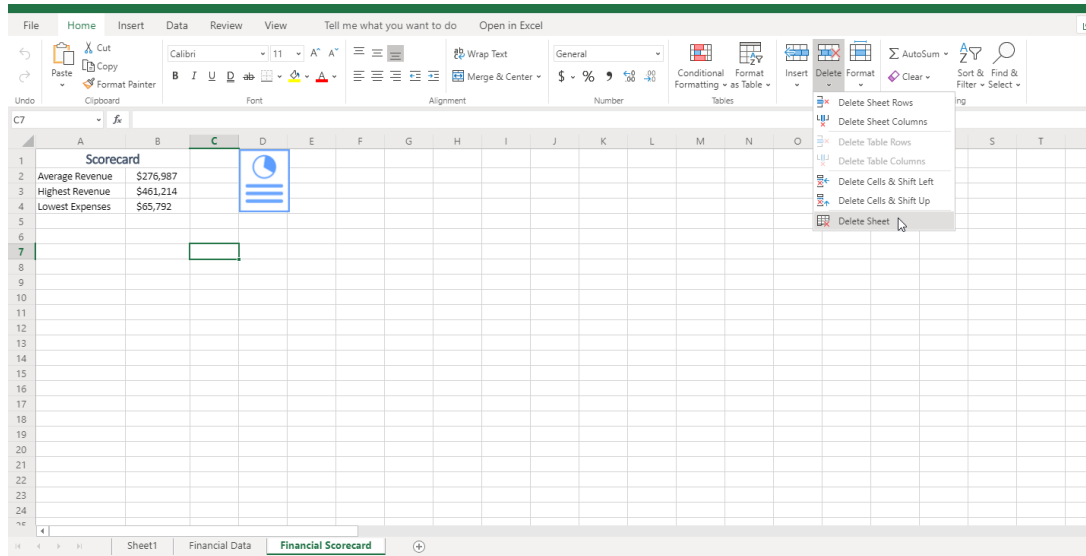
Activity 6-2: Managing Worksheets (Part One)

In this activity, you will update the structure of your financial data workbook so that more information can be included.

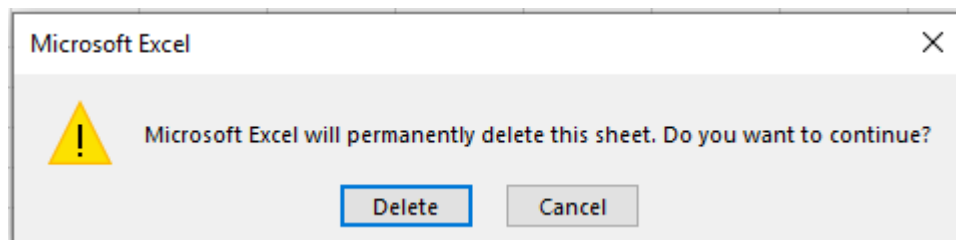
1. To begin, open Excel. (Refer back to Activity 1-1 if you need help.)
2. Navigate to Lesson 6 of your Excel Essentials Activities folder. Open Activity 6-2: (Refer back to Activity 1-2 if you need help.)
3. First, click each worksheet tab and review the data in the workbook:



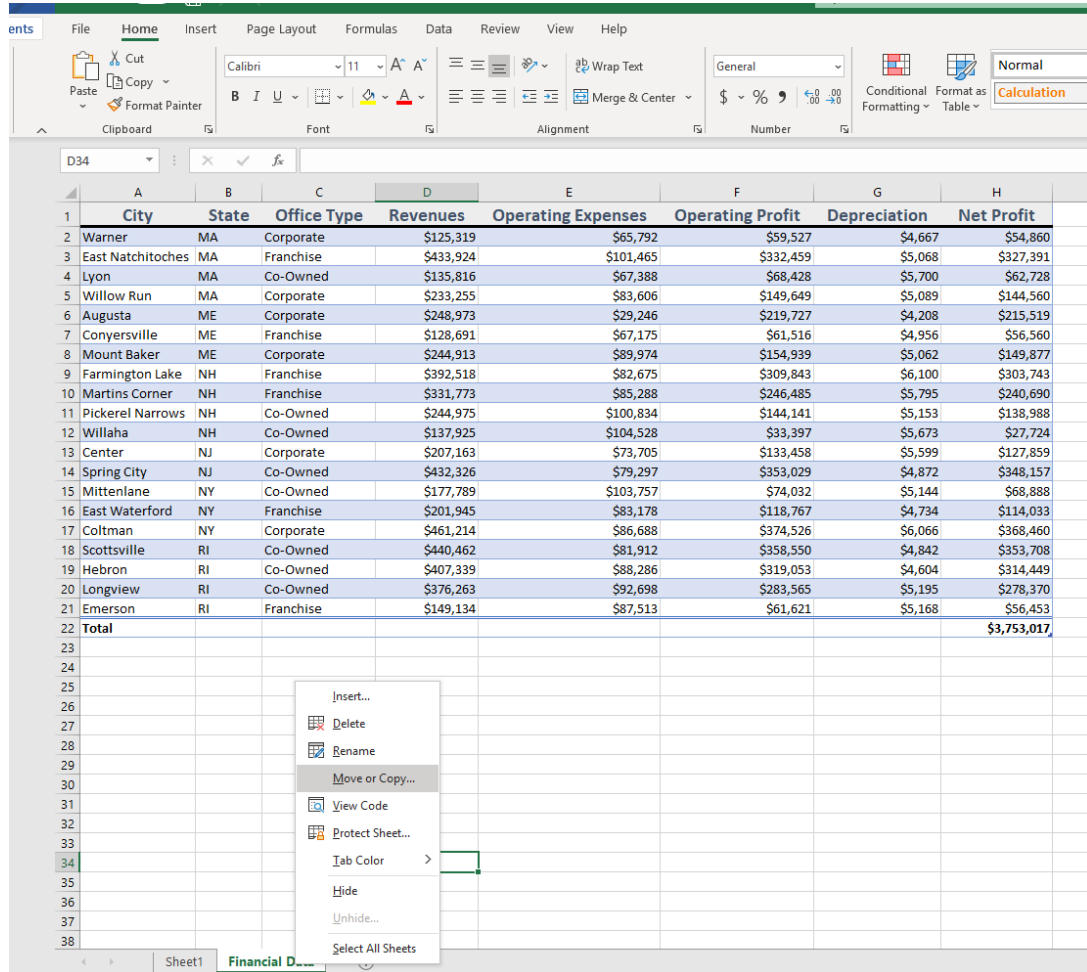
- The metrics on the Financial Scorecard tab are no longer required, so let's delete this worksheet. Ensure that this worksheet is active and click "Home → Delete → Delete Sheet:"



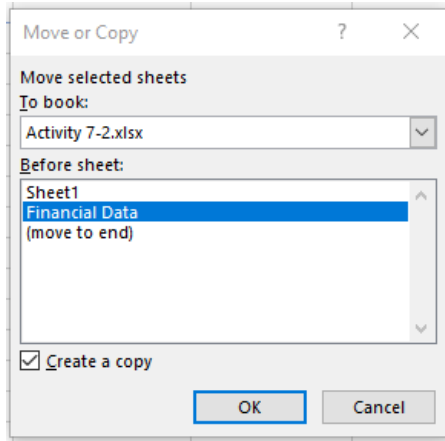
- Click "Delete" to confirm the operation:



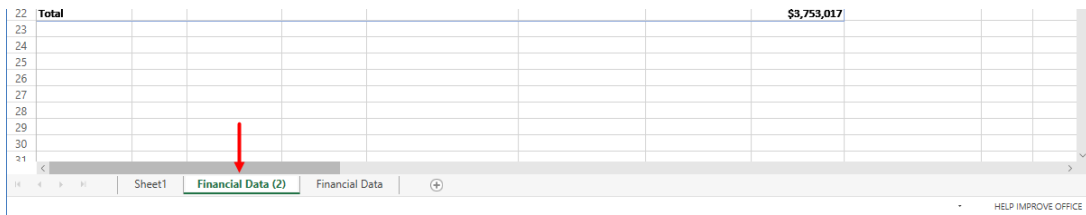
- Now, the Financial Data sheet should be displayed. Let's create a copy of it to use as a template for future years. Right-click the worksheet tab and click "Move or Copy:"



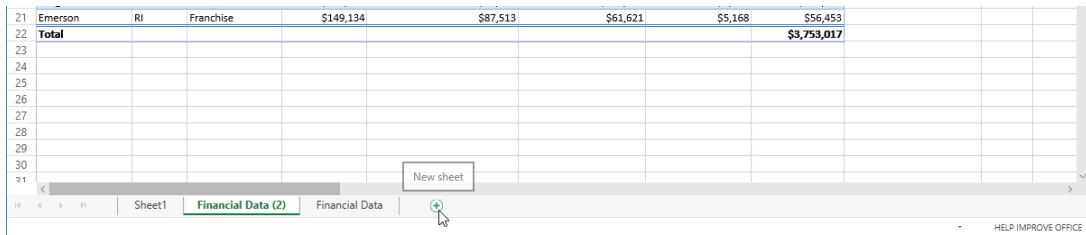
7. Tick the 'Create a copy' checkbox and choose where you want Excel to put the copy.



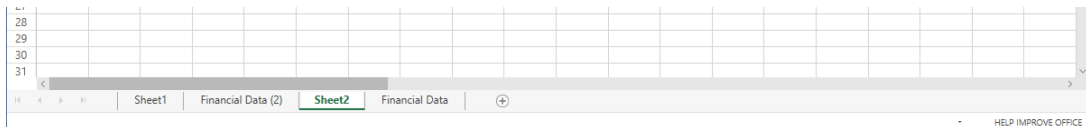
8. A copy of the worksheet will be created:



9. Finally, we need to add a new, blank worksheet that will contain a regional directory. Click the plus sign at the end of the worksheet tab list:



10. The new sheet will be added:



11. Save As 'Activity 6-2 complete' and close Excel to complete this activity.

TOPIC C: Managing Worksheets (Part Two)

In this section, we will conclude our exploration of managing worksheets with a look at hiding, showing, reordering, and renaming worksheets. We will also learn how to change the worksheet tab color.

Topic Objectives

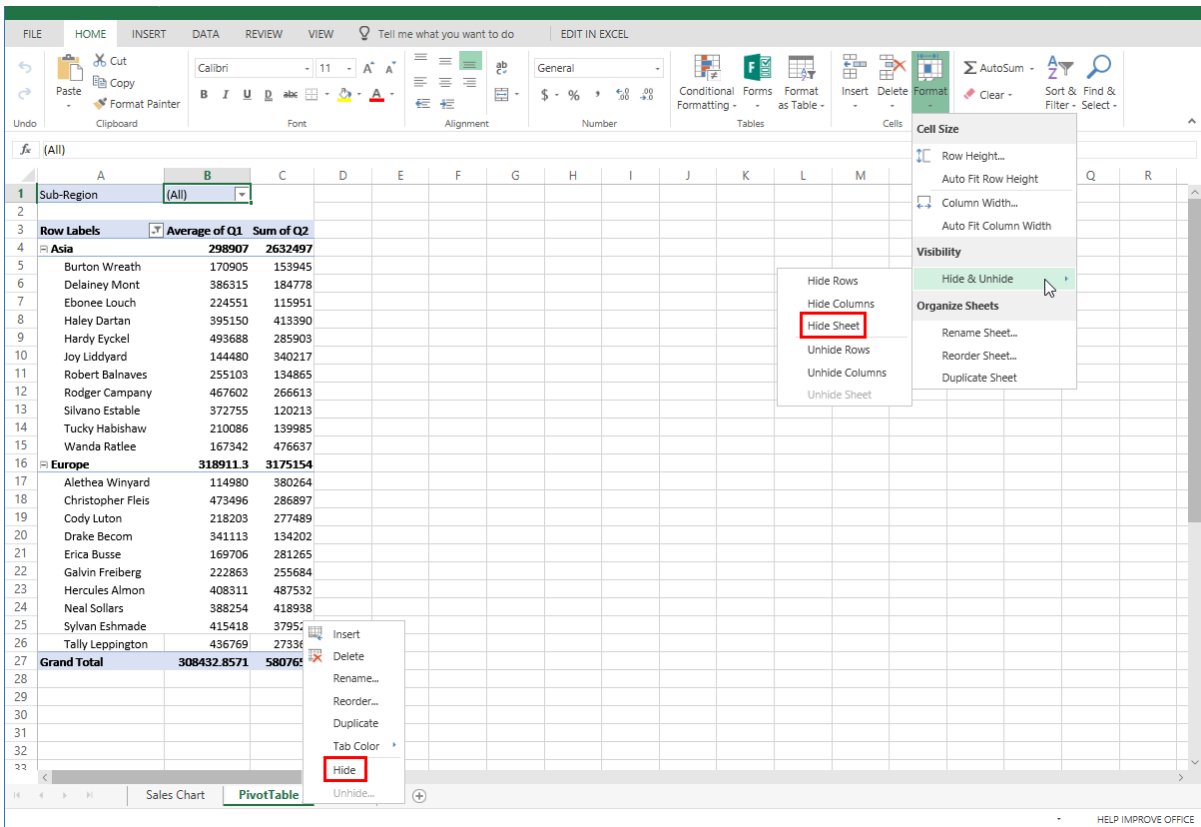
In this section, you will learn how to:

- Hide and unhide worksheets
- Reorder and rename worksheets
- Change the color of a worksheet tab

Hiding and Unhiding Worksheets

If you are working with a workbook that includes a lot of worksheets, it can quickly become cluttered. To focus on the worksheets that matter, you can choose to hide selected worksheets. Hidden worksheets are not deleted and still operate normally; they are just hidden from view.

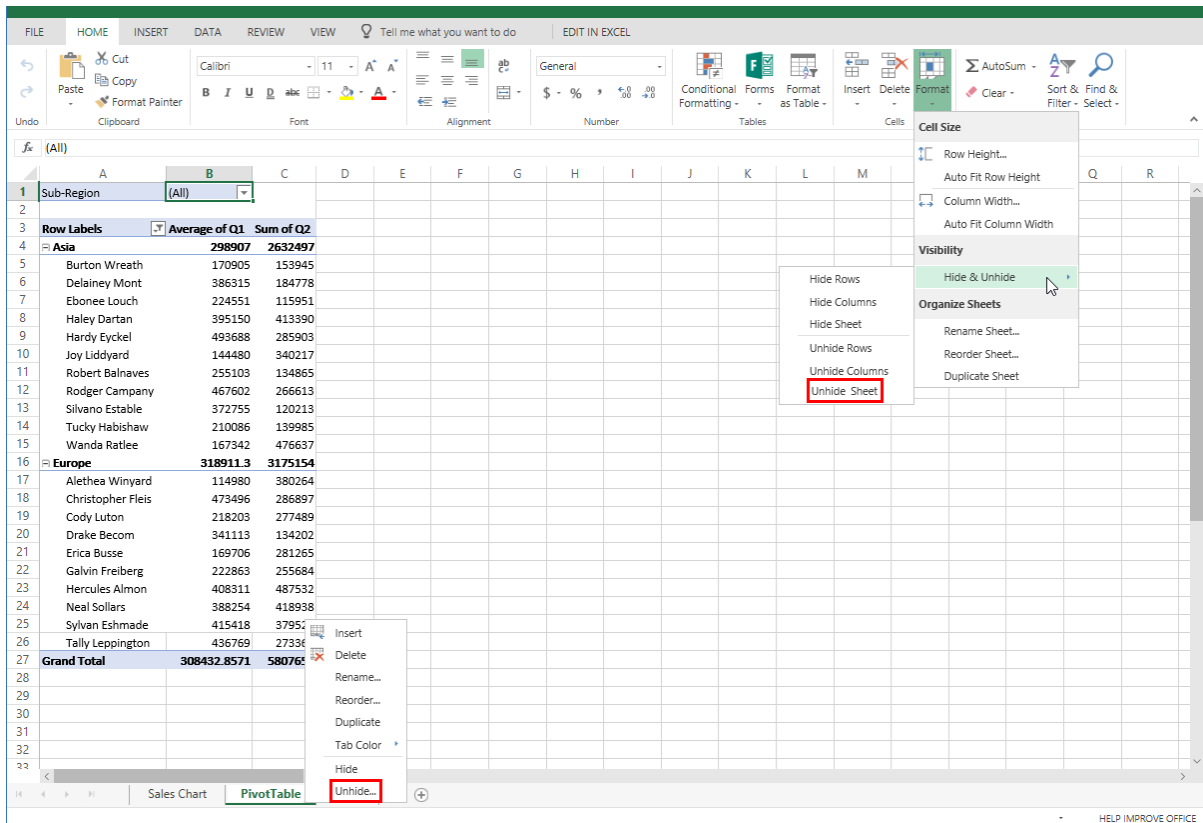
To hide the currently active worksheet, click “Home → Format → Hide & Unhide → Hide Sheet,” or right-click the tab and click “Hide:”



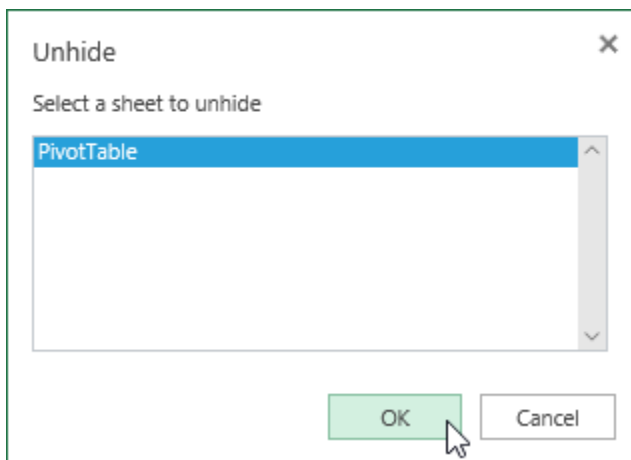
Once a worksheet has been hidden, you will no longer be able to see or select its worksheet tab:



To unhide a worksheet, click “Home → Format → Hide & Unhide → Unhide Sheet,” or click the “Unhide” command on any tab’s right-click menu:



The Unhide dialog box will open. Click to select the sheet that you would like to unhide and then click “OK:”



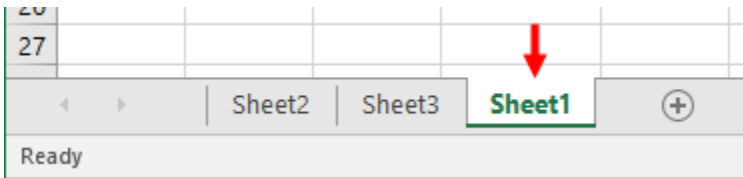
The sheet will now be visible, and its tab will be displayed in its previous position.

Reordering Worksheets

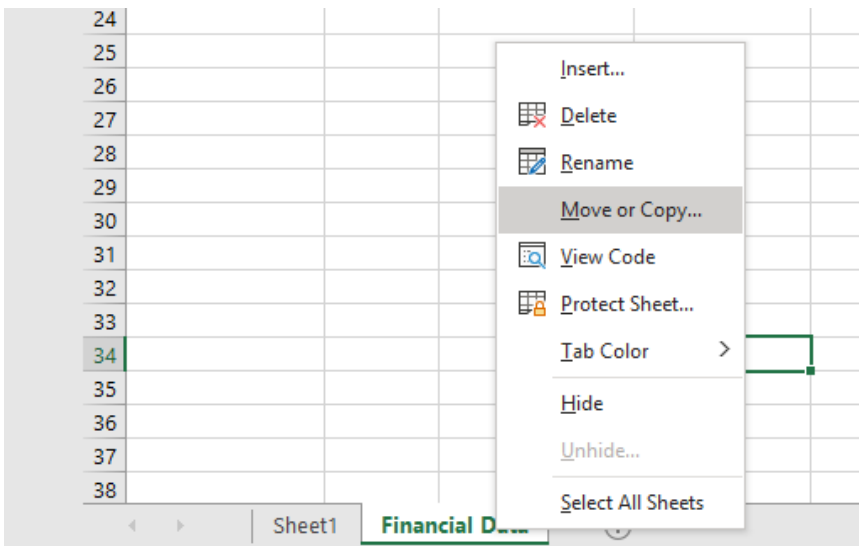
The quickest way to reposition a worksheet is to click and drag the worksheet tab:



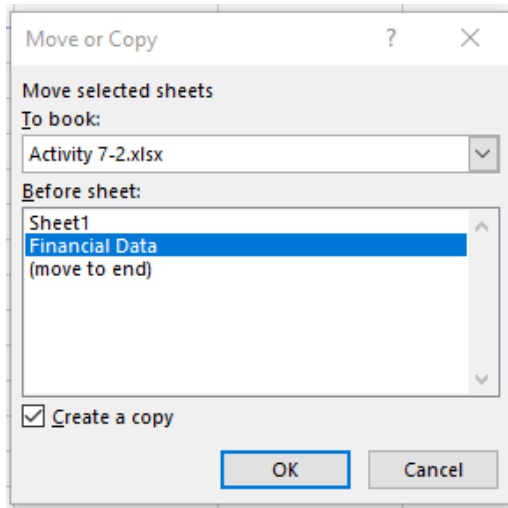
(Notice the small gray arrow that indicates positioning.) Once your mouse is in position, release your mouse button to complete the operation:



You can also right-click the worksheet tab and click “Move or Copy:”



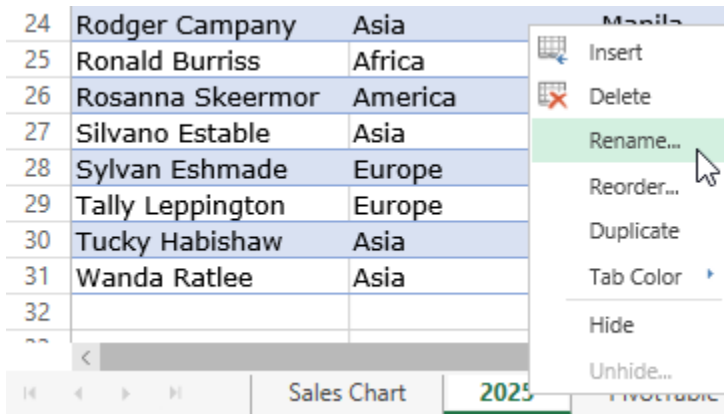
With either command, the “Move or Copy” dialog box will open. Choose the sheet before which you want to place the selected sheet, and click “OK:”



The worksheet will now be moved.

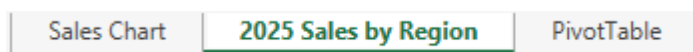
Renaming Worksheet Tabs

To rename a worksheet tab, right-click it and click “Rename” (or simply double-click it):



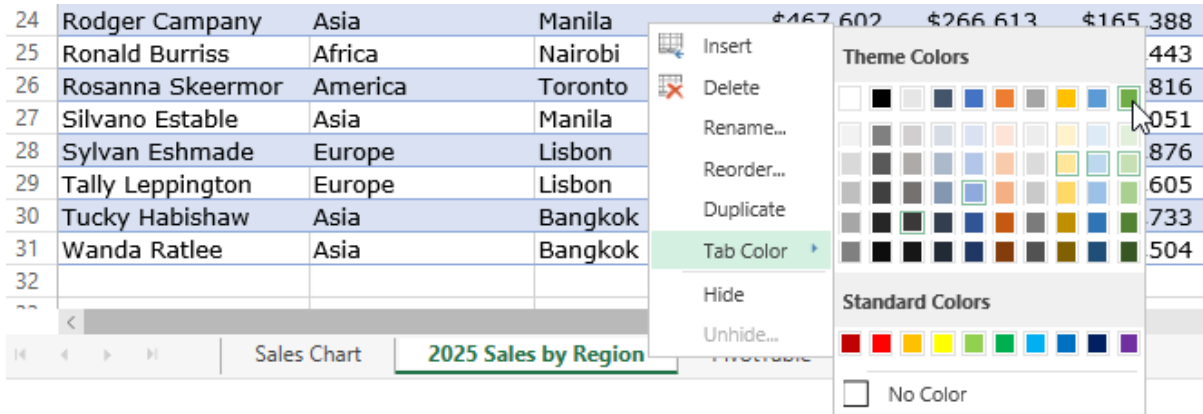
Enter the new name and click off the tab when complete.

The change will be applied:



Changing Tab Color

To change the color of a worksheet tab, right-click the tab, click “Tab Color,” and choose the desired color:



The new color will now be applied:

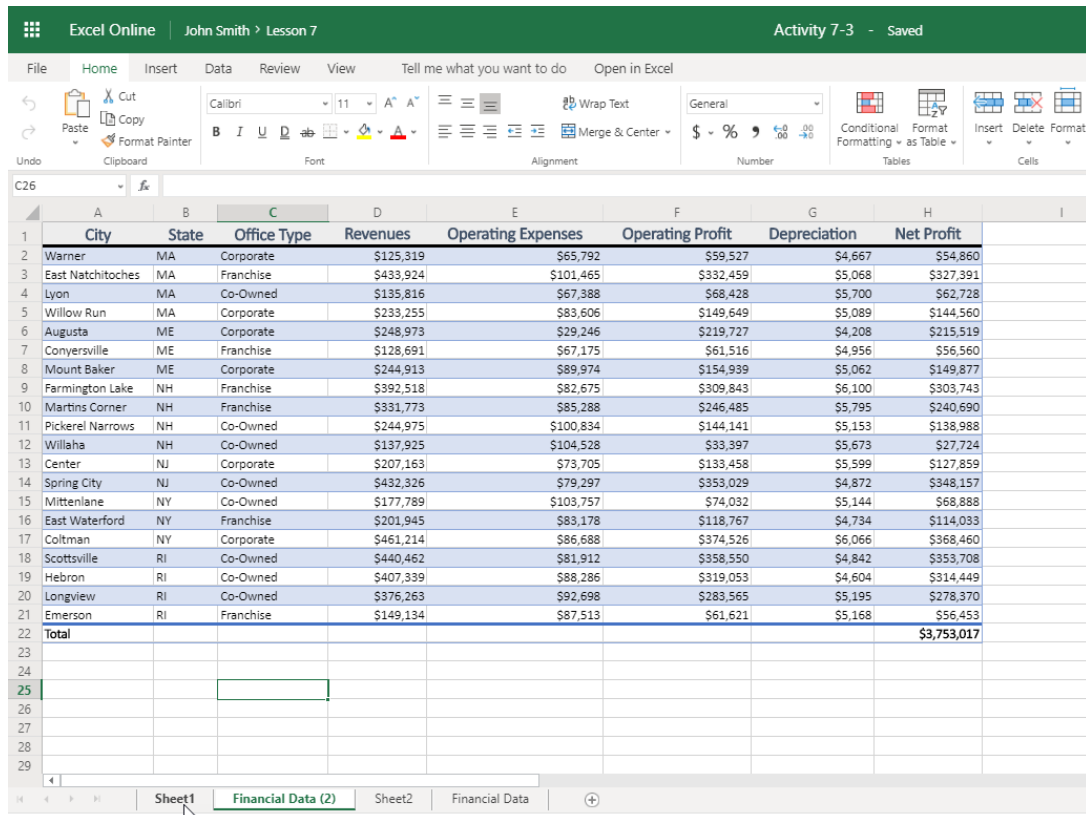


To remove the color, choose “No Color” from the Tab Color menu.

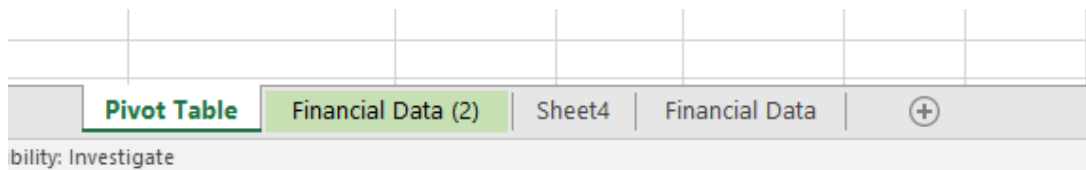
Activity 6-3: Managing Worksheets (Part Two)

In this activity, you will finish setting up your financial data workbook structure.

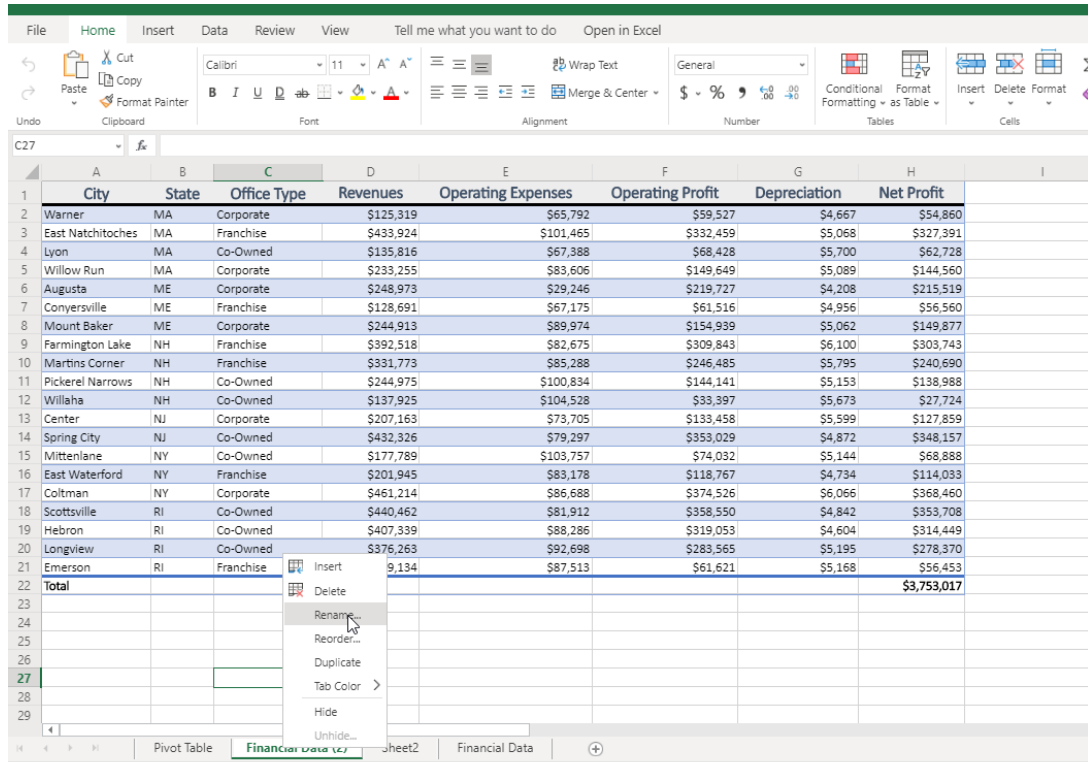
1. To begin, open Excel. (Refer back to Activity 1-1 if you need help.)
2. Navigate to Lesson 6 of your Excel Essentials Activities folder. Open Activity 6-3: (Refer back to Activity 1-2 if you need help.)
3. First, let's ensure all the worksheets are properly named. Double-click the first worksheet tab (Pivot Table):



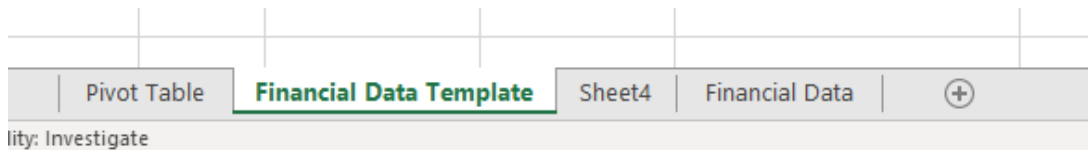
4. The worksheet will be displayed. Type, "Pivot Table":



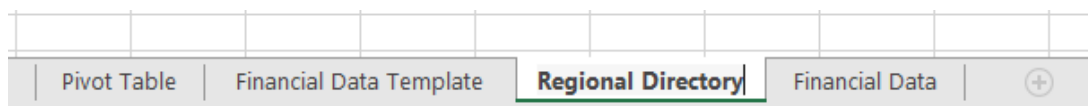
- The worksheet will be renamed. Now, right-click the Financial Data (2) tab and click “Rename:”



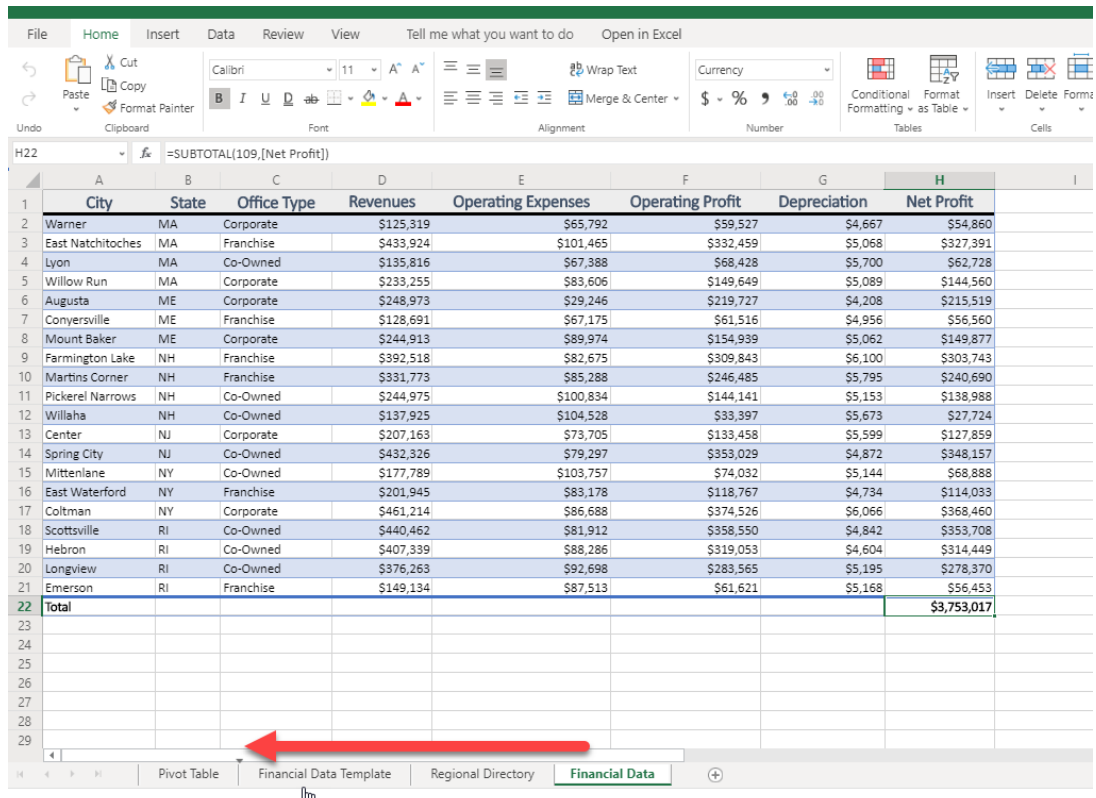
- The Rename Sheet dialog box will open. Delete “(2)” from the text field and type, “Template.” Click “OK:”



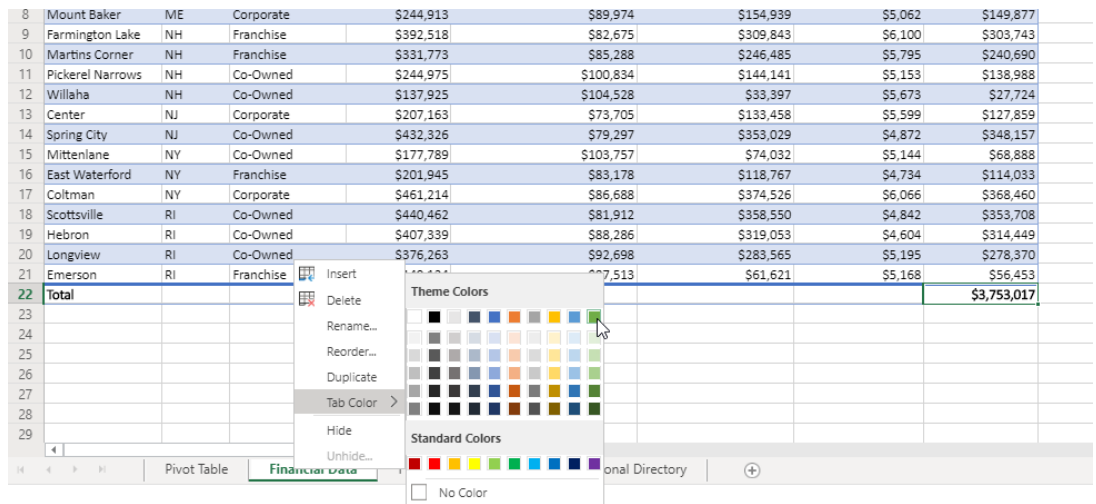
- The worksheet will now be renamed. Finally, open the Rename Sheet dialog box for the blank worksheet by double-clicking its tab or using the right-click menu. When the Rename Sheet dialog opens, enter “Regional Directory” for the name and click “OK:”



- Now that the sheets are renamed, let's update the order. Drag the Financial Data tab to the second position in the list:



- Let's update its color, too, since it is the most important sheet in the workbook. Right-click the worksheet tab, click "Tab Color," and choose any shade of green or blue:



10. The change will be applied:

10	Martins Corner	NH	Franchise	\$351,775	\$85,288	\$246,487	\$5,735	\$240,752
11	Pickereel Narrows	NH	Co-Owned	\$244,975	\$100,834	\$144,141	\$5,153	\$138,988
12	Willaha	NH	Co-Owned	\$137,925	\$104,528	\$33,397	\$5,673	\$27,724
13	Center	NJ	Corporate	\$207,163	\$73,705	\$133,458	\$5,599	\$127,859
14	Spring City	NJ	Co-Owned	\$432,326	\$79,297	\$353,029	\$4,872	\$348,157
15	Mittenlana	NY	Co-Owned	\$177,789	\$103,757	\$74,032	\$5,144	\$68,888
16	East Waterford	NY	Franchise	\$201,945	\$83,178	\$118,767	\$4,734	\$114,033
17	Coltman	NY	Corporate	\$461,214	\$86,688	\$374,526	\$6,066	\$368,460
18	Scottsville	RI	Co-Owned	\$440,462	\$81,912	\$358,550	\$4,842	\$353,708
19	Hebron	RI	Co-Owned	\$407,339	\$88,286	\$319,053	\$4,604	\$314,449
20	Longview	RI	Co-Owned	\$376,263	\$92,698	\$283,565	\$5,195	\$278,370
21	Emerson	RI	Franchise	\$149,134	\$87,513	\$61,621	\$5,168	\$56,453
22	Total							\$3,753,017
23								
24								
25								
26								
27								
28								
29								

↓

Financial Data

11. Save As 'Activity 6-3 complete' and close Excel to complete this activity.

TOPIC D: Changing View Options

There are many ways to customize the view of each workbook.

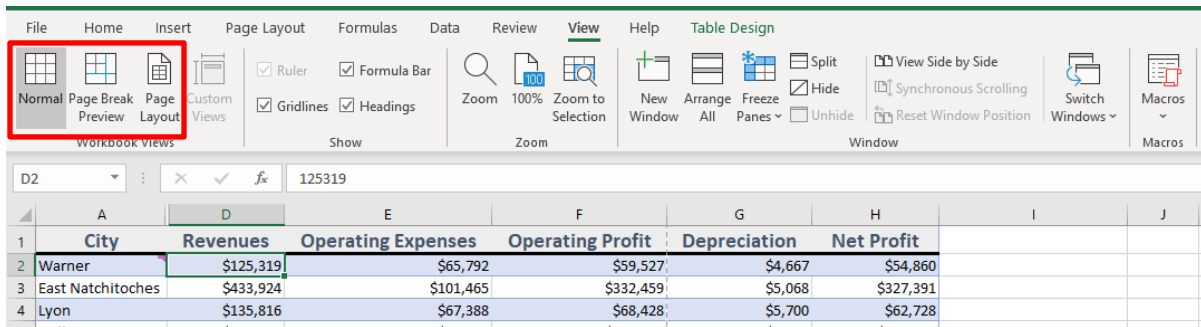
Topic Objectives

In this section, you will learn how to:

- Apply different workbook views
- Show and hide workbook elements
- Freeze and unfreeze panes

Using the Workbook Views Group

There are various workbook views, which can be accessed by clicking the View tab:



To switch to a different view, click the related icon. The options are:

- **Normal View:** Full-featured view that provides access to all Excel commands. What we have been using in the course so far.
- **Page Break Preview:** A full-screen view designed to make reading a workbook easy.
- **Page Layout View:** A view to show the printed page breaks and current set print area.

Page Break View

The screenshot shows the Excel interface with the 'View' ribbon selected. The 'Page Break' button is highlighted. Below the ribbon, a data table is displayed with a vertical page break between columns D and E. The table contains financial data for various cities, including revenues, operating expenses, operating profit, depreciation, and net profit.

City	Revenues	Operating Expenses	Operating Profit	Depreciation	Net Profit
Warner	\$125,319	\$65,792	\$59,527	\$4,667	\$54,860
East Natchitoches	\$433,924	\$101,465	\$332,459	\$5,068	\$327,391
Lyon	\$135,816	\$67,388	\$68,428	\$5,700	\$62,728
Willow Run	\$233,255	\$83,606	\$149,649	\$5,089	\$144,560
Augusta	\$248,973	\$29,246	\$219,727	\$4,208	\$215,519
Conyersville	\$128,691	\$67,175	\$61,516	\$4,956	\$56,560
Mount Baker	\$244,913	\$89,974	\$154,939	\$5,062	\$149,877
Farmington Lake	\$392,518	\$82,675	\$309,843	\$6,100	\$303,743
Martins Corner	\$331,773	\$85,288	\$246,485	\$5,795	\$240,690
Pickrel Narrows	\$244,975	\$100,834	\$144,141	\$5,153	\$138,988
Willaha	\$137,925	\$104,528	\$33,397	\$5,673	\$27,724
Center	\$207,163	\$73,705	\$133,458	\$5,599	\$127,859
Spring City	\$432,326	\$79,297	\$353,029	\$4,872	\$348,157
Mittenlane	\$177,789	\$103,757	\$74,032	\$5,144	\$68,888
East Waterford	\$201,945	\$83,178	\$118,767	\$4,734	\$114,033
Coltman	\$461,214	\$86,688	\$374,526	\$6,066	\$368,460
Scottsville	\$440,462	\$81,912	\$358,550	\$4,842	\$353,708
Hebron	\$407,339	\$88,286	\$319,053	\$4,604	\$314,449
Longview	\$376,263	\$92,698	\$283,565	\$5,195	\$278,370
Emerson	\$149,134	\$87,513	\$61,621	\$5,168	\$56,453
Total					\$3,753,017

Page Layout View

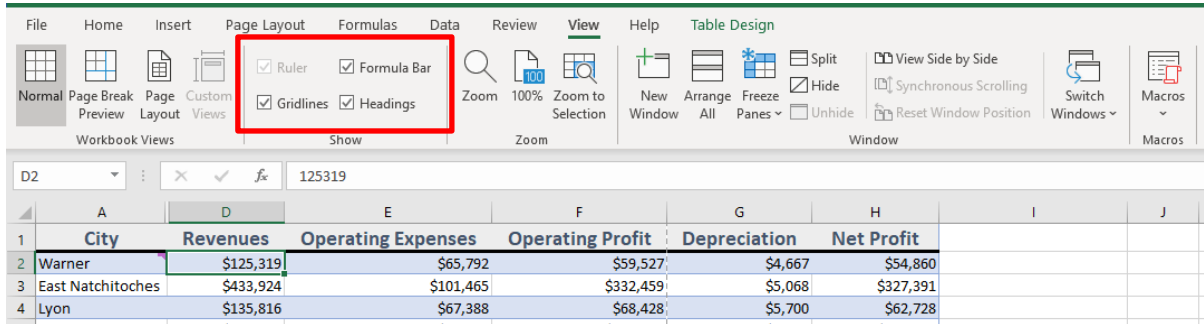
The screenshot shows the Excel interface with the 'Page Layout' ribbon selected. The 'Page Layout' button is highlighted. Below the ribbon, the data table is shown in a split-screen view. The left pane shows the table with headers added, and the right pane shows the table with headers added. The total value is \$3,753,017.

City	Revenues	Operating Expenses	Operating Profit
Warner	\$125,319	\$65,792	\$59,527
East Natchitoches	\$433,924	\$101,465	\$332,459
Lyon	\$135,816	\$67,388	\$68,428
Willow Run	\$233,255	\$83,606	\$149,649
Augusta	\$248,973	\$29,246	\$219,727
Conyersville	\$128,691	\$67,175	\$61,516
Mount Baker	\$244,913	\$89,974	\$154,939
Farmington Lake	\$392,518	\$82,675	\$309,843
Martins Corner	\$331,773	\$85,288	\$246,485
Pickrel Narrows	\$244,975	\$100,834	\$144,141
Willaha	\$137,925	\$104,528	\$33,397
Center	\$207,163	\$73,705	\$133,458
Spring City	\$432,326	\$79,297	\$353,029
Mittenlane	\$177,789	\$103,757	\$74,032
East Waterford	\$201,945	\$83,178	\$118,767
Coltman	\$461,214	\$86,688	\$374,526
Scottsville	\$440,462	\$81,912	\$358,550
Hebron	\$407,339	\$88,286	\$319,053
Longview	\$376,263	\$92,698	\$283,565
Emerson	\$149,134	\$87,513	\$61,621
Total			

Depreciation	Net Profit
\$4,667	\$54,860
\$5,068	\$327,391
\$5,700	\$62,728
\$5,089	\$144,560
\$4,208	\$215,519
\$4,956	\$56,560
\$5,062	\$149,877
\$6,100	\$303,743
\$5,795	\$240,690
\$5,153	\$138,988
\$5,673	\$27,724
\$5,599	\$127,859
\$4,872	\$348,157
\$5,144	\$68,888
\$4,734	\$114,033
\$6,066	\$368,460
\$4,842	\$353,708
\$4,604	\$314,449
\$5,195	\$278,370
\$5,168	\$56,453
	\$3,753,017

Showing and Hiding Workbook Elements

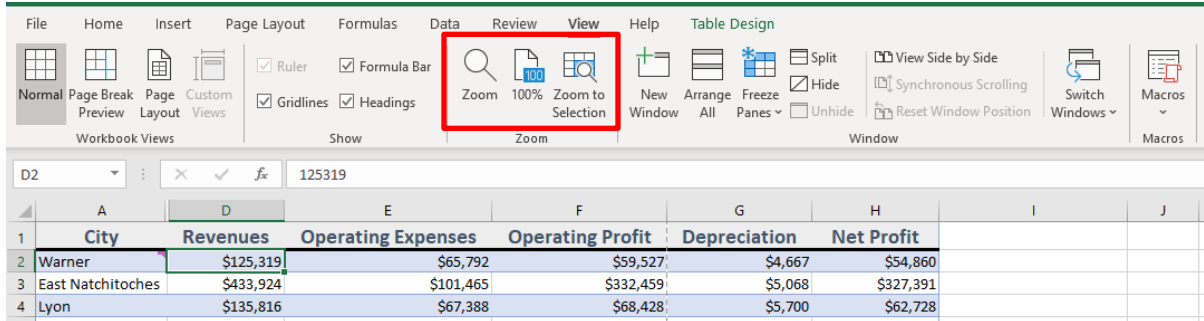
The next group on the View tab is Show:



This group allows you to show or hide different workbook elements by toggling the related icon on or off.

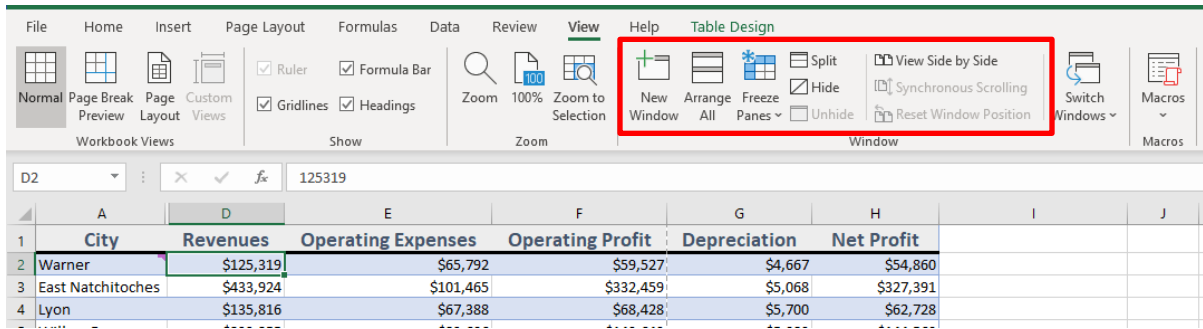
Zoom Features

The next group on the View tab is Zoom:



This group allows you to zoom in or out on a worksheet to better view the contents, return the view to 100% (the size the contents would be if printed) and to zoom into just a selection of the contents as set out in a range.

Window Features



New Window

New Window merely brings you back to the Home screen.

Arrange All

Arrange all allows you to view multiple Excel Workbooks at the same time on the same screen – vertically, horizontally, tiled or cascade. This can be useful when working across multiple excel workbooks.

The top screenshot shows a single Excel workbook with the following data:

	A	B	C	D	E	F	G	H
1	City	State	Office Type	Revenues	Operating Expenses	Operating Profit	Depreciation	Net Profit
2	Warner	MA	Corporate	\$125,319	\$65,792	\$59,527	\$4,667	\$54,860
3	East Natchitoches	MA	Franchise	\$433,924	\$101,465	\$332,459	\$5,068	\$327,391
4	Lyon	MA	Co-Owned	\$135,816	\$67,388	\$68,428	\$5,700	\$62,728
5	Willow Run	MA	Corporate	\$233,255	\$83,606	\$149,649	\$5,089	\$144,560
6	Augusta	ME	Corporate	\$248,973	\$29,246	\$219,727	\$4,208	\$215,519
7	Conyersville	ME	Franchise	\$128,691	\$67,175	\$61,516	\$4,956	\$56,560
8	Mount Baker	ME	Corporate	\$244,913	\$89,974	\$154,939	\$5,062	\$149,877
9	Farmington Lake	NH	Franchise	\$392,518	\$82,675	\$309,843	\$6,100	\$303,743
10	Martins Corner	NH	Franchise	\$331,773	\$85,288	\$246,485	\$5,795	\$240,690
11	Pickereel Narrows	NH	Co-Owned	\$244,975	\$100,834	\$144,141	\$5,153	\$138,988
12	Willaha	NH	Co-Owned	\$137,925	\$104,528	\$33,397	\$5,673	\$27,724

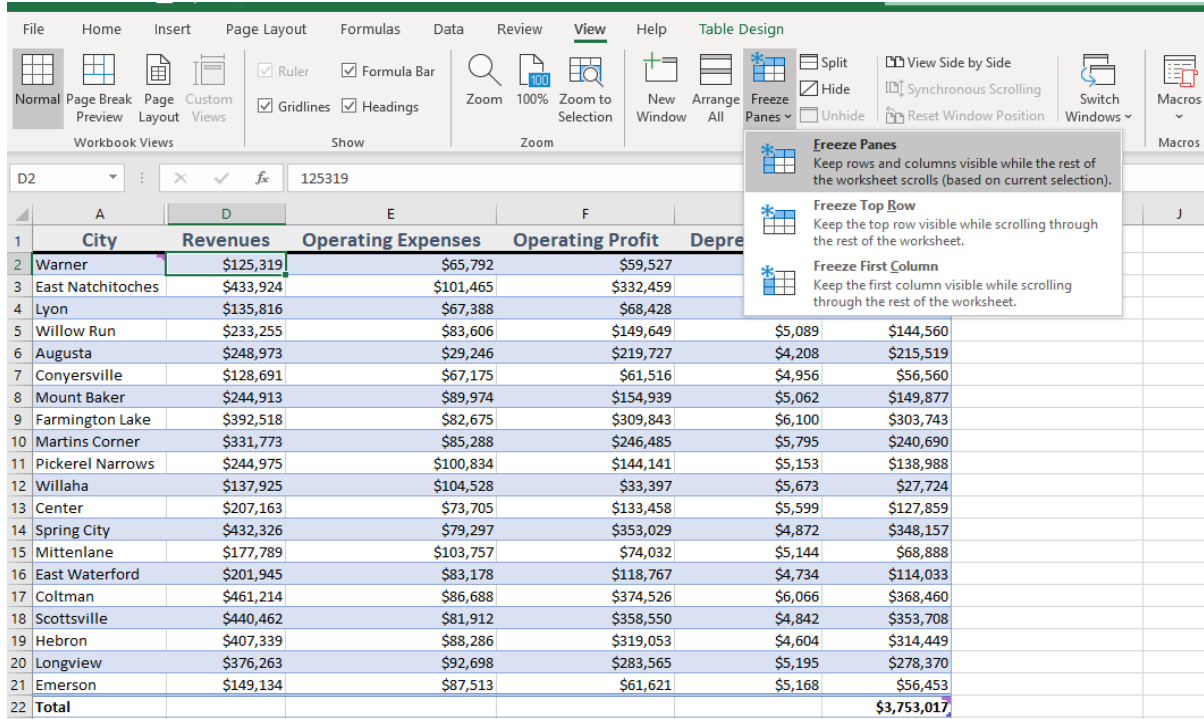
The bottom screenshot shows two workbooks side-by-side. The left workbook shows columns A-H and rows 1-12. The right workbook shows columns D-J and rows 1-12.

	A	D	E	F	G	H
1	City	Revenues	Operating Expenses	Operating Profit	Depreciation	Net Profit
2	Warner	\$125,319	\$65,792	\$59,527	\$4,667	\$54,860
3	East Natchitoches	\$433,924	\$101,465	\$332,459	\$5,068	\$327,391
4	Lyon	\$135,816	\$67,388	\$68,428	\$5,700	\$62,728
5	Willow Run	\$233,255	\$83,606	\$149,649	\$5,089	\$144,560
6	Augusta	\$248,973	\$29,246	\$219,727	\$4,208	\$215,519
7	Conyersville	\$128,691	\$67,175	\$61,516	\$4,956	\$56,560
8	Mount Baker	\$244,913	\$89,974	\$154,939	\$5,062	\$149,877
9	Farmington Lake	\$392,518	\$82,675	\$309,843	\$6,100	\$303,743
10	Martins Corner	\$331,773	\$85,288	\$246,485	\$5,795	\$240,690
11	Pickereel Narrows	\$244,975	\$100,834	\$144,141	\$5,153	\$138,988
12	Willaha	\$137,925	\$104,528	\$33,397	\$5,673	\$27,724

The Freeze Panes Options

It is sometimes convenient to be able to keep an eye on one part of a spreadsheet while simultaneously viewing other parts of the same spreadsheet. You can do this using the Freeze feature.

To use Freeze, open a workbook window and click “View → Freeze Panes:”



The following options will be displayed:

Freeze Panes	If you select cells before clicking this option, everything to the left of and above the selection will remain frozen.
Freeze Top Row	This will freeze the top row. Use this option to keep column headings visible while scrolling vertically through the data.
Freeze First Column	This will freeze the first column. Use this option to keep row headings visible while scrolling horizontally through the data.

Split Function

The split function works the same way as “View → Freeze Panes → Freeze Panes”, it just provides a one click option instead of two clicks.

Hide Function

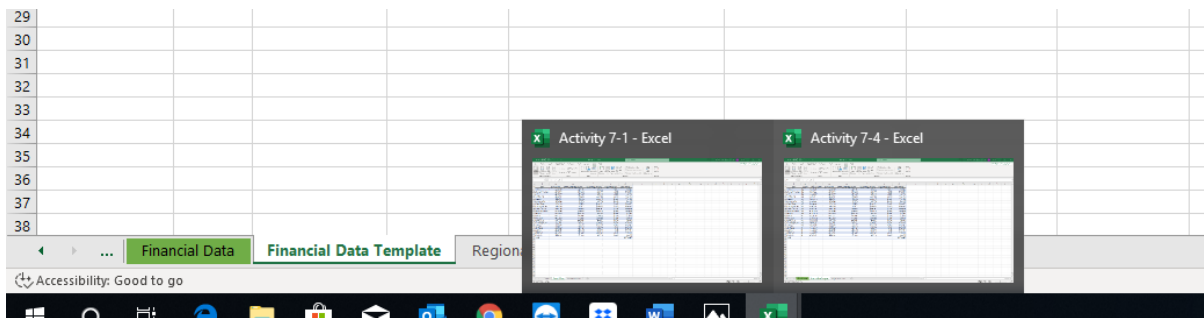
The hide function hides the entire workbook from view, it does not close it down, but just takes it off the view area. It can be unhidden using the Unhide button.

View Side by Side

This function allows you to view multiple workbooks at the same time on the same screen, it will split the screen to show two or more workbooks that are open. Once this function is enabled, it can have synchronous scrolling enabled which can be useful, or you can Reset the Window Position.

Switch Windows

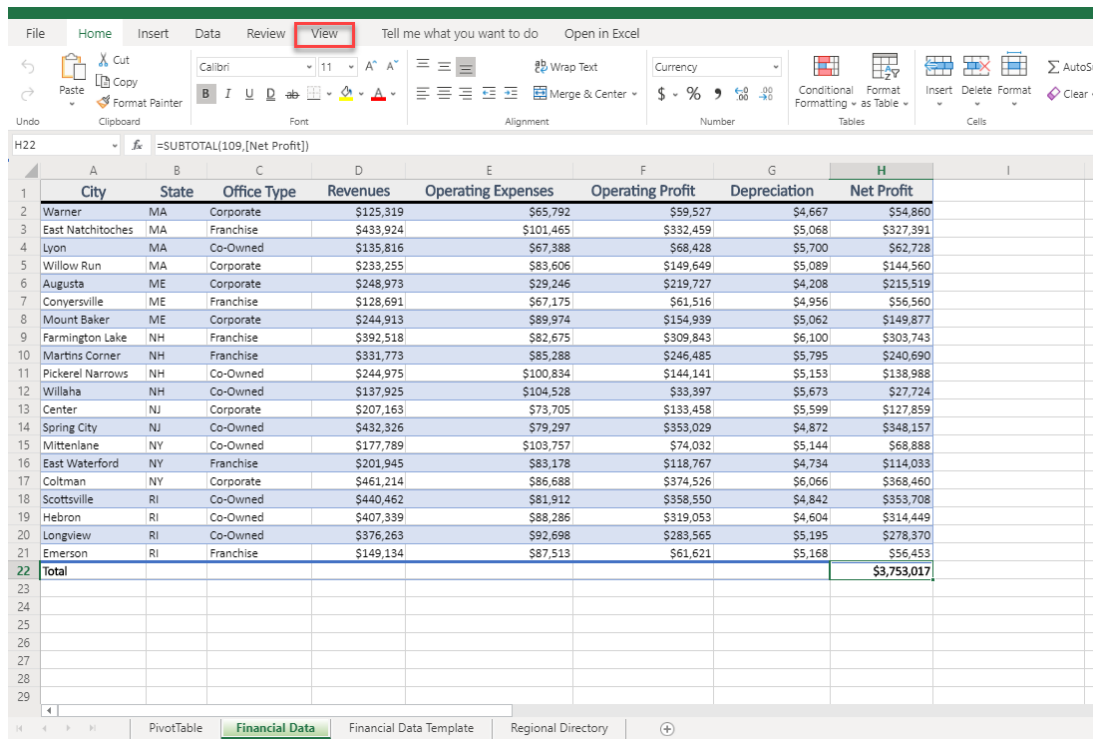
Allows you to move between open Workbooks easily. Please note that clicking on the Taskbar at the bottom of the screen also allows you to move between open Workbooks.



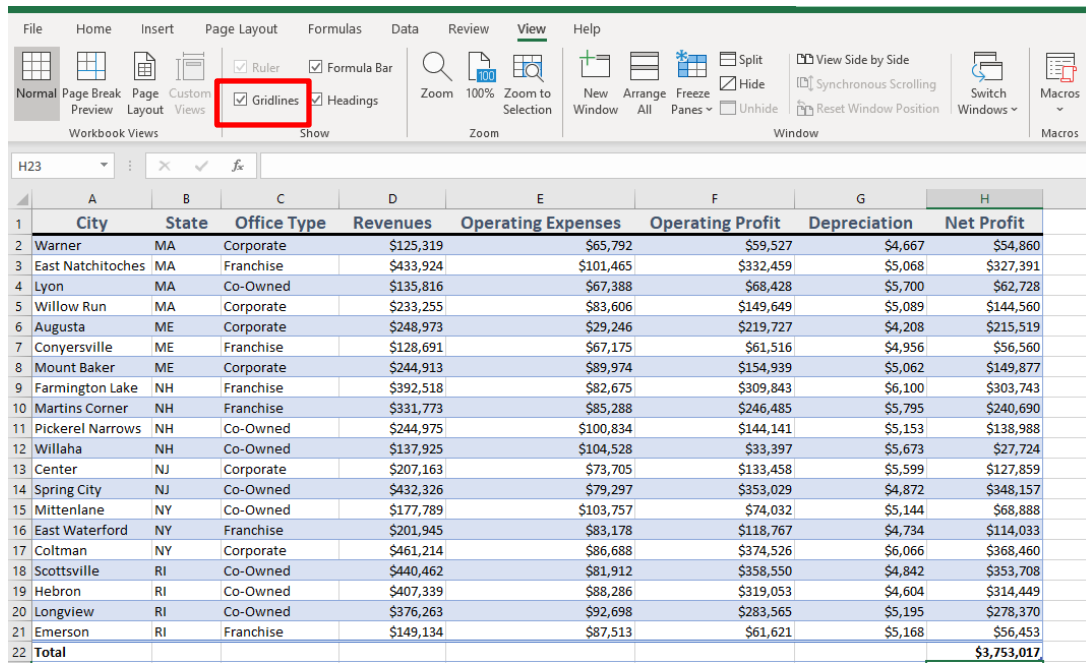
Activity 6-4: Changing View Options

In this activity, we will explore the view options in Excel 365 Online.

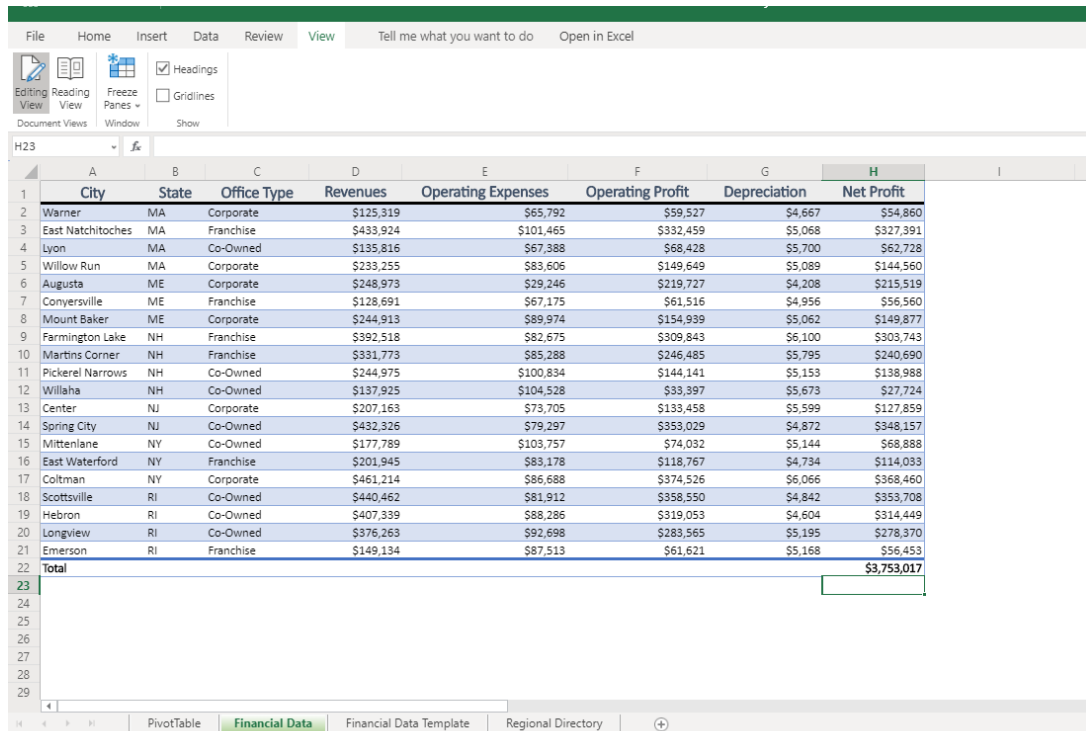
1. To begin, open Excel. (Refer back to Activity 1-1 if you need help.)
2. Navigate to Lesson 6 of your Excel Essentials Activities folder. Open Activity 6-4: (Refer back to Activity 1-2 if you need help.)
3. Ensure you are on the Financial Data worksheet and click the View tab:



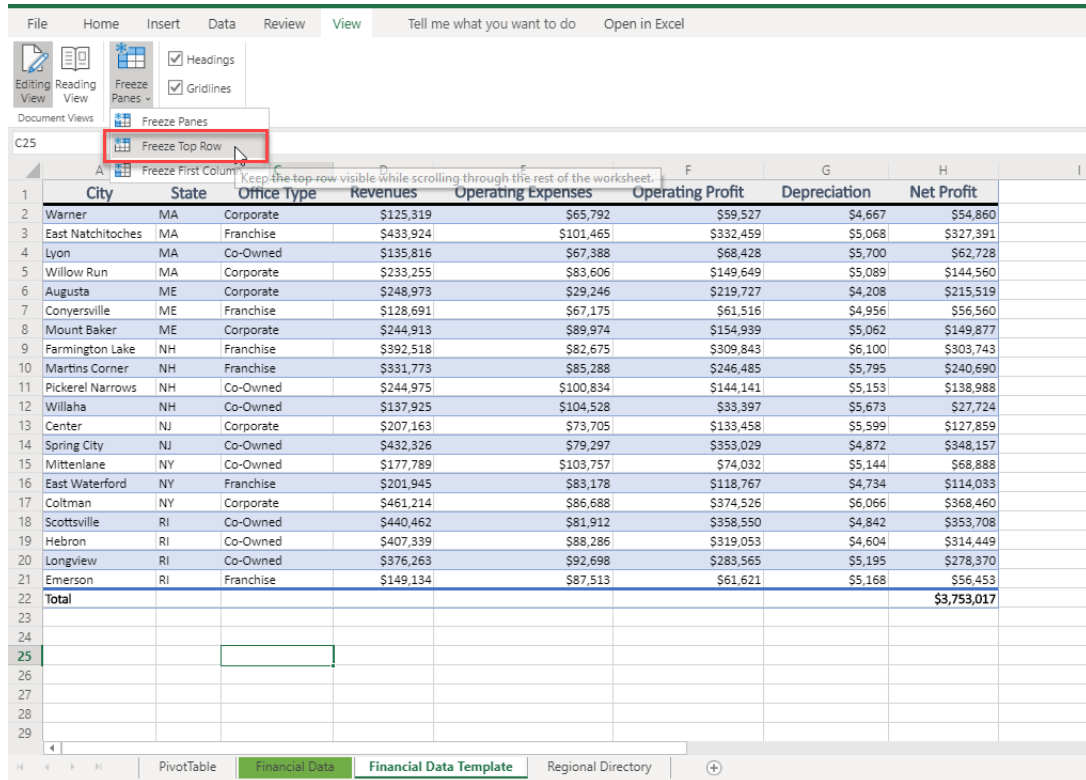
- Since our Financial Data worksheet is complete, let's turn off the gridlines by unchecking that box:



- Review the changes. Now, switch to the Financial Data Template sheet:



- Notice that the gridlines are still visible here. However, we want to freeze the header row on this sheet as more data may be added to future reports. Click “Freeze Panes → Freeze Top Row:”



- Scroll down in the workbook. Notice that the first row remains in place.
- Save As ‘Activity 6-4 complete’ and close Excel to complete this activity.

Please note that Macros are not covered in the Excel Essentials Course, these are covered in Excel Advanced.

Summary

In this lesson, we learned about finalizing workbooks. You should now be able to use comments, manage worksheets, and change view options.

Course Summary

Congratulations on completing Microsoft Excel Essentials training. During this course, you learned how to:

- Get started with Excel and describe its basic components
- Manage workbooks
- Get help in Excel
- Use formulas and functions
- Work with data, rows, and columns
- Sort and filter data
- Format text and cells
- Align cell contents
- Use Find & Select tools
- Insert pictures and shapes
- Format shapes
- Create and modify tables and charts
- Use comments
- Manage worksheets
- Change view options

You should now feel comfortable creating a new spreadsheet, working with basic formulas and functions, and making a spreadsheet look professional and presentable.

APPENDICES

Keyboard Shortcut Quick Reference Sheet

Editing Commands	Cut	Ctrl + X
	Copy	Ctrl + C
	Paste	Ctrl + V
	Undo	Ctrl + Z
	Redo	Ctrl + Y
	Start a new line in the same cell	Alt + Enter
	Print worksheet	Ctrl + P
Select Commands	Select a range of cells	Shift + Arrow keys
	Select a column	Ctrl + Spacebar
	Select a row	Shift + Spacebar
	Open the Find dialog	Ctrl + F
	Open the Replace dialog box	Ctrl + H
	Open the Go To dialog box	Ctrl + G

Formatting Commands	Apply bold	Ctrl + B
	Apply italics	Ctrl + I
	Applying underlining	Ctrl + U
	Increase font size	Ctrl + Shift + >
	Decrease font size	Ctrl + Shift + <
	Clear formatting	Ctrl + D
Navigation Commands	Move up one cell	Up Arrow Shift + Enter
	Move down one cell	Down Arrow Enter
	Move right one cell	Right Arrow Tab
	Move left one cell	Left Arrow Shift + Tab
	Go to the beginning of the row	Home
	Go to cell A1	Ctrl + Home
	Go to the last cell of used range	Ctrl + End
	Move down one screen (28 rows)	Page Down

	Move up one screen (28 rows)	Page Up
	Move to the edge of the current data region	Ctrl + Right Arrow or Ctrl + Left Arrow
	Switch to next sheet	Alt + Ctrl + Page Down
	Switch to previous sheet	Alt + Ctrl + Page Up
Insert Commands	Insert new worksheet	Shift + F11
	Insert hyperlink	Ctrl + K
	Follow hyperlink	Ctrl + Enter
	Insert table	Ctrl + L
	Open/close Comments pane	Shift + F2
Calculate Data	Calculate workbook (refresh data)	F9
	Insert AutoSum function	Alt + Equals (=)
	Open Insert Function dialog box	Shift + F3

Glossary

absolute reference

A type of reference that will not change even if it is moved or copied to another location.

arguments

Data used by functions to complete calculations.

AutoFill

A feature that is used to automatically fill sequential data into a range of cells.

cell

The intersection of a row and column on a worksheet.

charts

Visual representation of numeric data.

conditional formatting

Formatting that will highlight cells whose data satisfies certain criteria.

filtering

Customizing the data view based upon set criteria.

fill

Formatting that adds background color to cell(s).

fill handle

The small black box that appears in the bottom right-hand corner of a selected

cell or cell range. Used to activate the AutoFill feature.

Flash Fill

Feature that will automatically extract or combine data based on a pattern.

font

A set of type face.

Format Painter

A tool that is used to copy formatting from one selection of text to another.

formula

A mathematical relationship expressed through symbols.

formula bar

A part of the Excel interface that displays the cell name, contents, and/or formulas in a selected cell.

function

Pre-made operations that are used to perform calculations.

mixed references

Cell references that include both relative and absolute references.

PivotTable

A data analysis tool that dynamically allows you to pivot columns and rows of raw data without altering it.

relative reference

A cell reference that will change relative to its positioning in a worksheet.

spreadsheet

Either a paper or electronic file that is used to store and work with data (mostly numbers) in a tabular fashion.

table

A dataset that is comprised of rows and columns but is treated as one object (unlike regular data ranges).

Tell Me

Natural language help feature accessed directly on the ribbon interface.

workbook

An Excel file that stores multiple worksheets.

worksheet

An electronic spreadsheet.

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