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2016

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Excel

Level 1

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Phone: 800-605-4985
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Excel 2016 Level 1 – Introduction

Welcome to PCM Courseware! PCM Courseware is a distinctive, flexible system for an instructor-led environment that facilitates learning via auditory, visual and hands-on experiences by each student. The manual is broken down into several lessons with each lesson subdivided into several sections. Each section covers a particular skill or concept related to the main lesson topic. In each section you will find:

1. A brief introduction to the section topic.
2. Step-by-step "how to" instructions.
3. A hands-on "Let's Try It" exercise which students perform with the instructor.
4. An independent "On Your Own" activity at the end of each lesson to identify any problem areas and to ensure that learning has taken place.
5. A chapter summary at the end of the lesson, reviewing major concepts and topics discussed in the chapter.
6. Chapter quiz to ensure that learning has taken place.

Rather than having to sift through blocks of paragraphs of written text, the introductions are brief and easy to understand, illustrated with diagrams, lists, tables and screen shots to aid in comprehension and retention. The step-by-step format of the manual enables for quick scanning by the instructor during teaching time and the ability to pull out the main points quickly without having to filter the desired information from chucks of text.

Course Requirements

It is assumed that the student has a fundamental understanding of the Windows operating system and how to maneuver with a mouse.

A full installation of Microsoft Excel 2016 should be available on each desktop, with a fresh installation strongly encouraged.

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Components of the Manual

The Excel 2016 manual consists of the following components:

A Table of Contents	To allow the students to quickly find desired concepts
Introduction	Discussion of manual components, course requirements, courseware philosophy and training lab set.
Lessons	The lessons are the manual chapters, each of which is composed of several sections relating to the lesson topic or skill.
Sections	Each section begins with a brief introduction to the section topic and is followed by step-by-step instructions on how the student is to accomplish a particular task. The students then perform the task with the instructor in a "*Let's Do It!*" exercise. Each step in the **Let's Do It** exercise provides the How (step-by-step) and Why (the reason for performing the step) of each phase necessary to accomplish the task.
Lesson Summary	The sections concepts are summarized in sequential order in the Lesson Summary section, allowing for quick review.
Labs	Each section concludes with an independent "**On Your Own"** exercise called a Lab. The Lab gives the opportunity for the student to practice what he/she has learned and to discover any problem areas with the topic in the section. Each lab covers the skills taught in that particular lesson (chapter).
Chapter Summary	Each section concludes with a "**Chapter Summary**" which briefly reviews all of the topics discussed in the section.
Chapter Quiz	Each section concludes with an independent "**Chapter Quiz**" to test the level of learning that has taken place. The quiz is in multiple choice and short answer format and can be done in class together or as an end of chapter test.
Class Project	The course concludes with an independent "**Class Project**" to test the level of learning that has taken place. In this project, the student utilizes skills learned throughout the class.
Index	Allows students to quickly find desired concepts.

Training Files

Each PCM Courseware course comes with a set of Lesson Files and Lab Files designed to employ real-world situations and examples. The Lesson Files are designed to be used in the *Let's Do It* exercises that the students perform with the instructor. The Lab Files are to be used for the *On Your Own* exercises at the end of each Lesson. Both the lesson files and lab files should be stored on the each Student's Desktop in the folder **Lesson Files**.

What's New in Excel 2016?

What's New	Description of Feature
3-D Maps	Previously called Power Map, 3-D Map is a geospatial visualization tool now built into Excel.
Calendar Insights Template	You can see your calendar as a dashboard and interact with it to drill into specific time periods (365 subscribers only).
Charts	Excel 2016 includes 6 new charts: Treemap, Sunburst, Waterfall, Histogram, Pareto, Box and Whisker
Financial Templates	New financial templates for 365 subscribers: My Cashflow and Stock Analysis
Forecast Sheet	Create a forecast visualization of your data series.
Get and Transform	The Get and Transform group on the Data Ribbon allows you to find and bring in data using queries from sources such as a SQL Server database, Access database, Oracle database, MySQL database and more.
Ink Equations	You can insert complex equations into your worksheets using your finger, stylus or mouse.
PivotTable	Many PivotTable enhancements such as automatic relationship detection, creating custom measures, automatic time grouping and more.
Publish to Power BI	Publish your data analysis to BI, Microsoft's cloud-based business intelligence solution
Quick Shapes	Many new shape styles added.
Sharing	The Share button on the Ribbon allows you to share your spreadsheets with others on SharePoint, OneDrive, or OneDrive for Business.
Slicer	You can now select multiple items in an Excel slicer when using a touch device
Smart Lookup	Right-click a selected cell and choose Smart Lookup to open the Insights pane. The Insights Pane displays definitions, Wiki articles, and top related Bing searches from the web.
Tell Me	New box on the Ribbon in which you can enter words and phrases related to what you want to do next and quickly get to features or actions you need.

Lesson 1

Lesson 1 - Excel Basics

Lesson Topics:

1.1 Creating an Excel Workbook

1.2 Examining the Excel Window

1.3 Opening an Existing Workbook

1.4 Navigating a Worksheet

1.5 Creating a New Workbook

1.6 Saving a Workbook

1.7 Moving Between Workbooks

1.8 Setting Excel Options

1.9 Switching between Views

1.10 Using Tell Me to Obtain 1.11 Closing a Workbook and Exiting Excel

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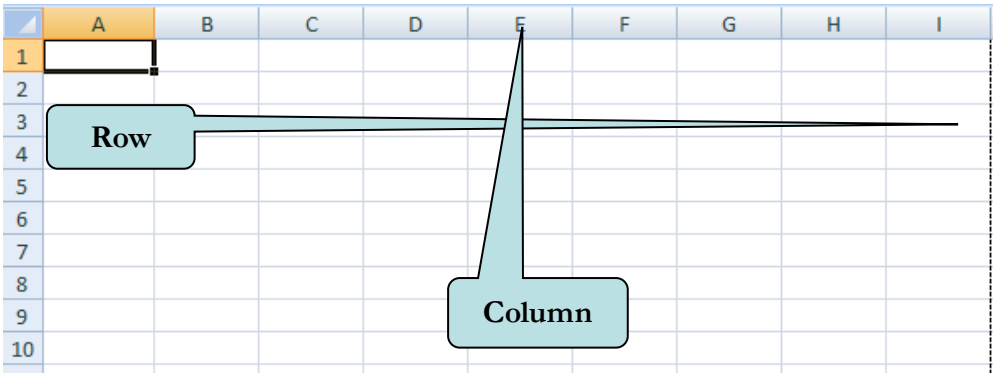
1.1 Creating an Excel Workbook

This lesson will guide you through the process of creating a new Excel workbook.

Welcome to **Microsoft Excel 2016**! Microsoft Excel is a powerful and user-friendly spreadsheet application that allows you to enter, calculate, organize and analyze data. You can use Excel for a variety of tasks, such as preparing a budget, creating invoices, tracking inventory, and preparing financial forms, just to name a few. Excel has powerful calculating and charting capabilities as well as formatting features that allow you to really jazz up your documents.

The ***cell*** is the most basic part of Excel – it is in the cell where data is entered. In Excel, data is organized in **rows** (the horizontal divisions) and **columns** (the vertical divisions) which make up an Excel ***Worksheet***. Worksheets are stored in an Excel file called a ***workbook***.



A workbook can consist of several worksheets. When Excel first launches, a blank worksheet appears and you can begin entering your data and formatting the look of your document.

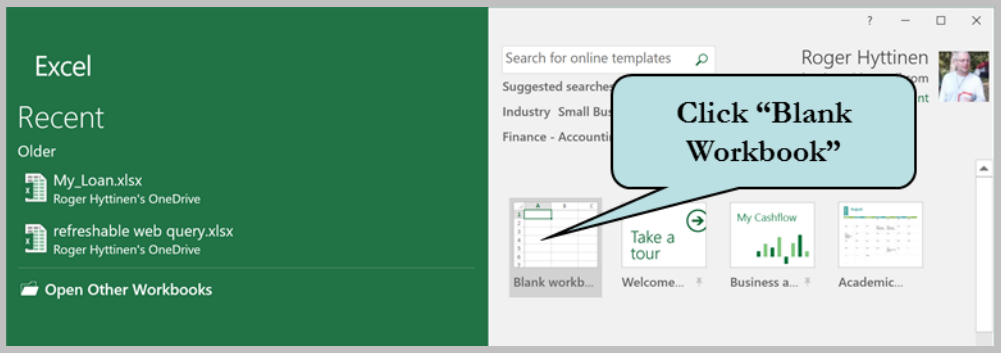
Let's begin by creating a new workbook and examining the Excel environment.

To Start Microsoft Excel

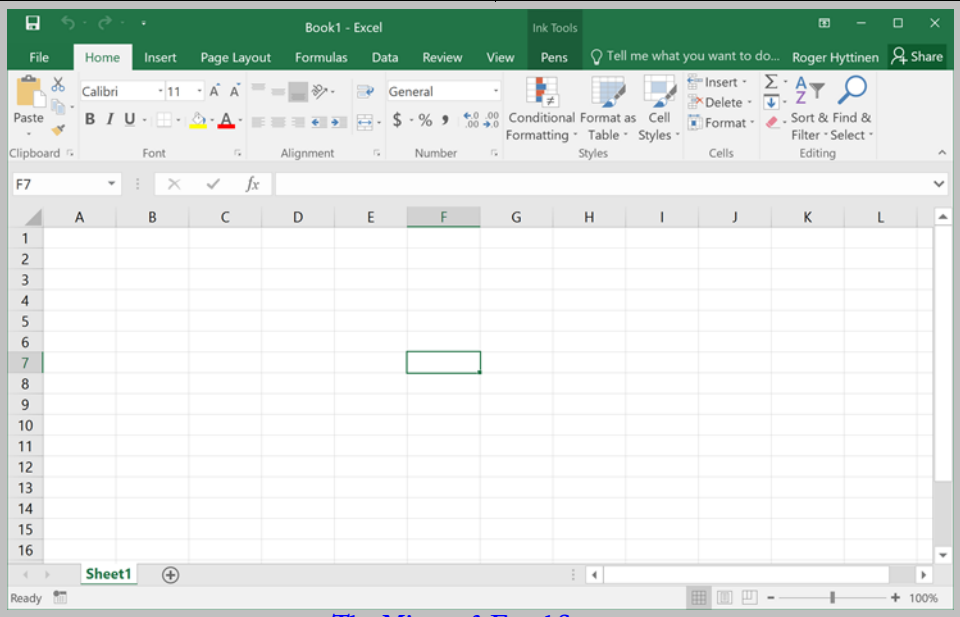
1. If you are using Windows 8 or Windows 10, click the Excel tile on the Start screen (if you don't see an Excel tile, type: Excel until the application is highlighted).
2. If using Windows 7 or before, click the **Start** button on the lower-left corner of your screen to display the Start menu, select **All Programs > Microsoft Office > Microsoft Excel 2016** from the Start Menu to launch the application (this may vary, depending on your installation).

3. Click **Blank Workbook** in the right pane of the Welcome screen.

Let's Try It!

What	Why
1. If using Windows 8, click the Excel icon on the Start Screen (if using Windows 10, you'll need to first click the Start button). If you don't see the Excel tile, click **All Apps** and then click **Excel 2016**.	Launches the Microsoft Excel Program and displays the Welcome screen.
2. If using Windows 7 or earlier, Click the **Start** button on the lower left side of your screen. Then, select **All Programs > Microsoft Office 2016 > Microsoft Office Excel 2016** from the Start Menu.	Displays the Start Menu and then launches the Microsoft Excel Program and displays the Welcome screen.
3. Click the **Blank Workbook** icon in the right pane of the Welcome screen as shown below.	Launches the Microsoft Excel Program and displays a new blank worksheet.
	
4. Observe the Excel worksheet.	Observes the new blank worksheet.

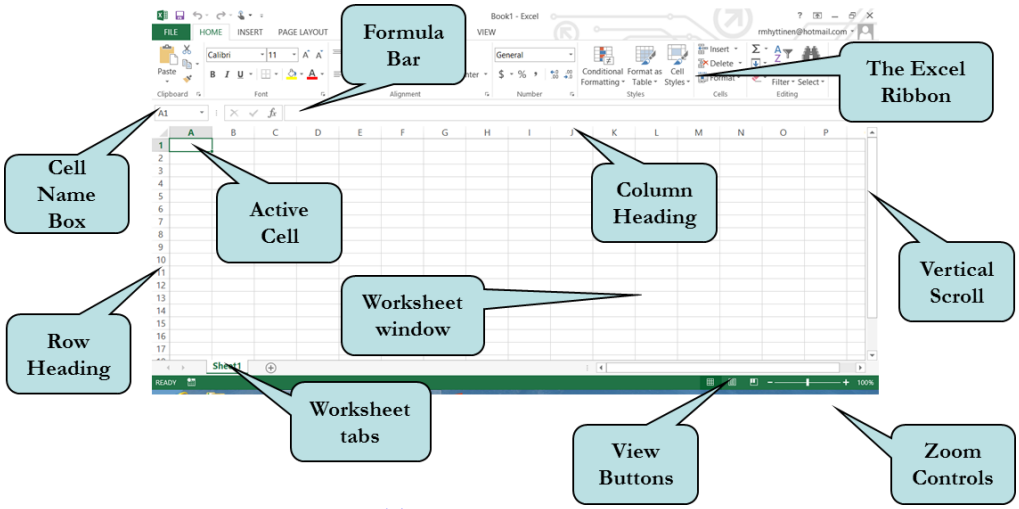
What	Why



The Microsoft Excel Screen

1.2 Examining the Excel Environment

In this lesson, we will look at the parts of an Excel worksheet.



The Excel Working Environment

When you first start Microsoft Excel, the application opens to a blank worksheet along with the parts of the Microsoft Excel screen as shown in the screen shot above. If you have worked with versions of Excel prior to Excel 2007, you will immediately notice that the user interface has been completely redesigned.

The menu and toolbar system of older Excel versions are replaced by the **Ribbon**. The Ribbon is designed to help you quickly find the commands you need in order to complete a task. On the Ribbon, the menu bar has been replaced by **Command Tabs** that relate to the tasks you wish to accomplish. The default Command Tabs in Excel are: **File, Home, Insert, Page Layout, Formulas, Data, Review** and **View**.

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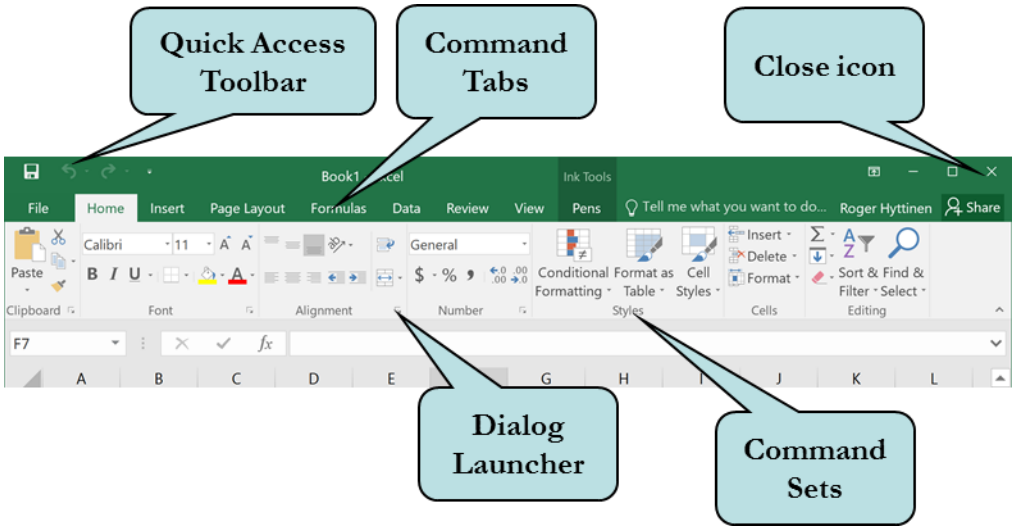
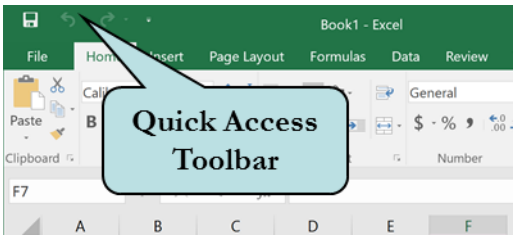


Different command icons, called **Command Sets** appear under each Command Tab. The commands that appear depend on the Command Tab that is selected. Each command set is grouped by its function. For example, the Insert tab contains commands to add tables, charts, illustrations, links and text objects into your spreadsheet. **Contextual Commands** only appear when a specific object is selected. This helps in keeping the screen uncluttered.

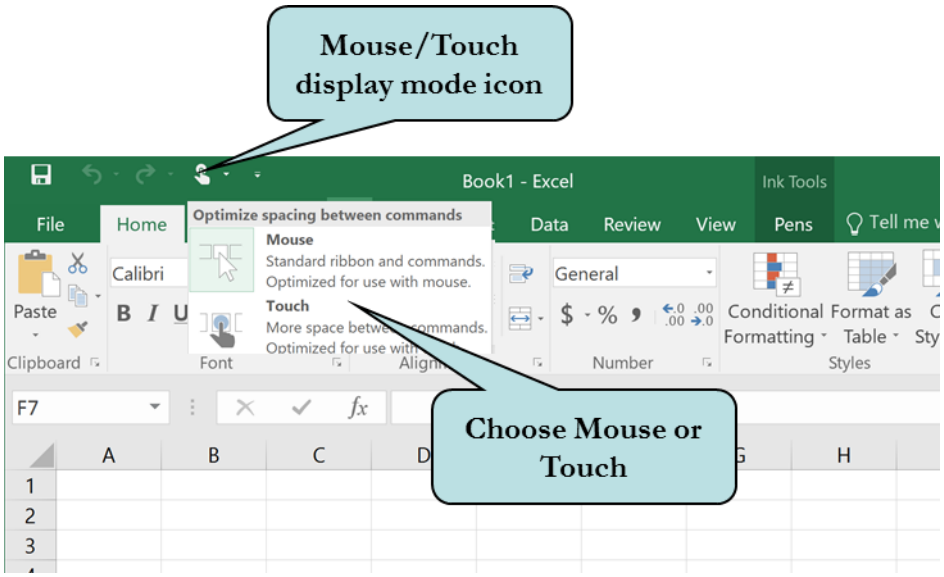
Under the File tab on the Ribbon is what Microsoft refers to as **Backstage view**. The view allows for quick access to permissions, meta-data, and common document management tasks such as opening, closing, printing and saving files. If you have worked at all with Windows 8 or Windows 10, you may notice that Backstage view is similar to many screens in these versions of Windows.

On the bottom of many of the Command Sets is a **Dialog Launcher**, which when clicked, launches a dialog box for that set of commands.

To the right of the **Excel** button (from where you access basic window options), is the **Quick Access Toolbar**. This toolbar contains by default the Save, Undo and Redo and Touch/Mouse commands. In addition, clicking the drop-down arrow to the right allows you to customize the Quick Access Toolbar and to add other tools that you use regularly. You can choose from the list which tools to display on the Quick Access Toolbar or select **More Commands** to add commands that are not in the list.



If you are using Excel on a touch device such as a tablet or smartphone, the handy **Touch display mode** makes it easier to view your data. Located by default on the Quick Access Toolbar, this view displays extra space between commands making it easier to select via touch. To display your Excel workbooks in Touch mode, click the Touch/Mouse mode icon on the Quick Access toolbar and choose Touch from the menu (if the icon isn't visible, click the arrow on the Quick Access Toolbar and choose Touch/Mouse mode from the menu). To switch back to standard mode, click the Touch/Mouse mode icon again and choose Mouse from the menu.



You can also customize the display of the Ribbon by clicking the Ribbon Display Options button on the top right of your screen and choosing the desired option. The **Auto-hide Ribbon** command completely hides the Ribbon from view. However, when you move your mouse to the top of the screen, it will temporarily appear. The **Show Tabs** command will only display the Ribbon tabs and not the commands. Click on any of the tabs to temporarily display its commands. The **Show Tab and Commands** setting shows the Ribbon in its full state, with both tabs and commands displayed.

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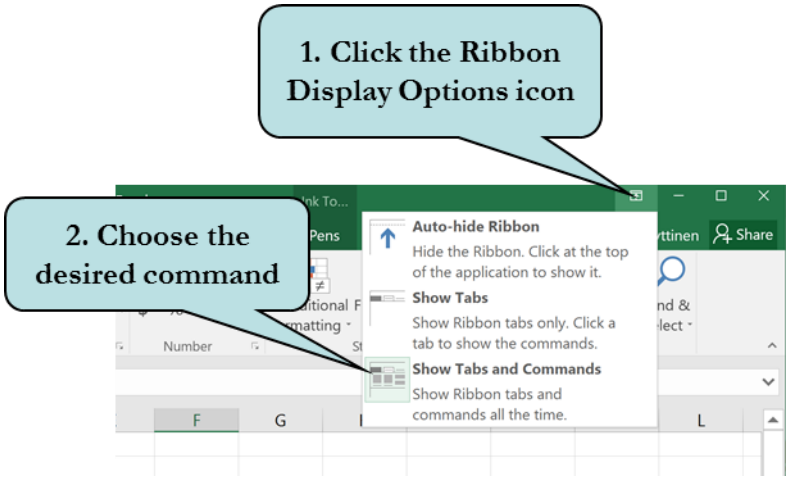

As you can see on the **worksheet window**, the columns are labeled with letters of the alphabet while the rows are numbered. These numbers and letters are very important when working with formulas as they provide a means of referring to a particular cell. This is called a ***cell reference***. For example, if you wanted to refer to the cell in the first row and the first column, the cell reference would be **A1**. You will work much more with cell references later.

The Excel Environment

Component	Description
Active Cell	The currently selected cell in which you enter or edit data. The active cell is highlighted by a black box.
Backstage View	Located under the File tab, Backstage View allows for quick access to file commands such as opening, closing, saving and printing files.
Cell Name Box	The cell address of the active cell (i.e. A5 = Column A, Row 5)
Column Headings	Sequential letters in gray boxes at the top of your worksheet. Clicking on the column heading selects the entire column.
Command Sets	Command icons, grouped by category, under each command tab.
Dialog Launcher	Launches dialog boxes or task panes for a particular set of commands.
Excel Button	Click to access basic window commands.
Formula Bar	Displays the contents (labels, values or formula) of the active cell.

Horizontal Scroll Bar	Allows you to move horizontally in your document. To navigate horizontally, click the scroll bar with your left mouse button and drag to the left or to the right until the desired portion of the document is in view.
Quick Access Toolbar	Contains frequently used commands. You can customize it to include tools and commands that you frequently use.
Ribbon	Commands and tools organized into command sets.
Row Headings	Sequential numbers in gray boxes on the left side of the worksheet. Clicking on the row heading selects the entire row.
Status Bar	Displays information about the active worksheet.
Tabs	To access the various command sets and tools.
Title Bar	Displays the name of the application you are currently using and the name of the file (the Microsoft Excel workbook) on which you are working.
Vertical Scroll Bar	Allows you to move vertically in your document. To navigate vertically, click the scroll bar with your left mouse button and drag upward or downwards until the desired portion of the document is in view.
View Buttons	Allows you to display documents in several different document views (Normal, Page Layout, and Page Break Preview).
Worksheet Tabs	Displays the worksheets contained in the current workbook. Clicking on the worksheet tabs allows you to navigate from one worksheet to another.
Worksheet Window	The white working area where you type and edit your worksheet. Consists of columns and rows.
Zoom Slider	Allows you to increase or decrease the magnification of your document.

Let's Try It!

What	Why
1. If the **Ribbon** commands are not visible, click the Ribbon Display Options button on the top right of your screen and click **Show Tabs and Commands** as shown below.	Displays Ribbon commands and tabs.

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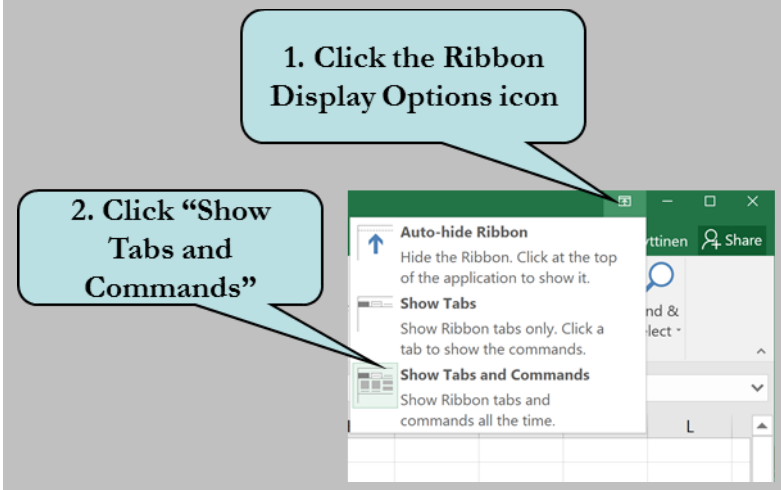
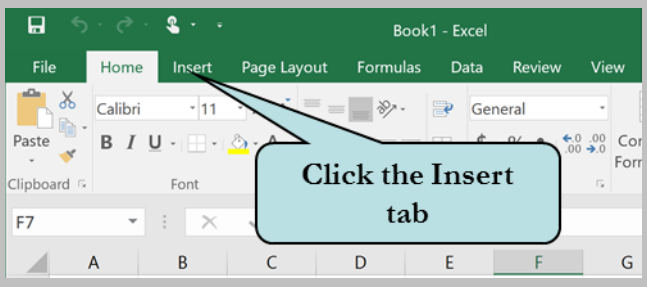
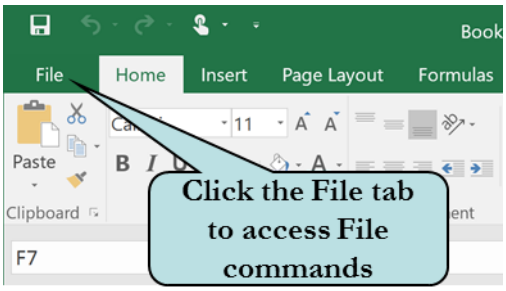
What	Why
	
2. Click the **Insert tab** on top of your screen as shown below.	Displays the commands sets for the Insert command tab.
	
3. Click the **View tab** on top of your screen.	Displays the commands sets for the View command tab.
4. Click the **Home tab** on top of your screen.	Returns us back to the Home tab.

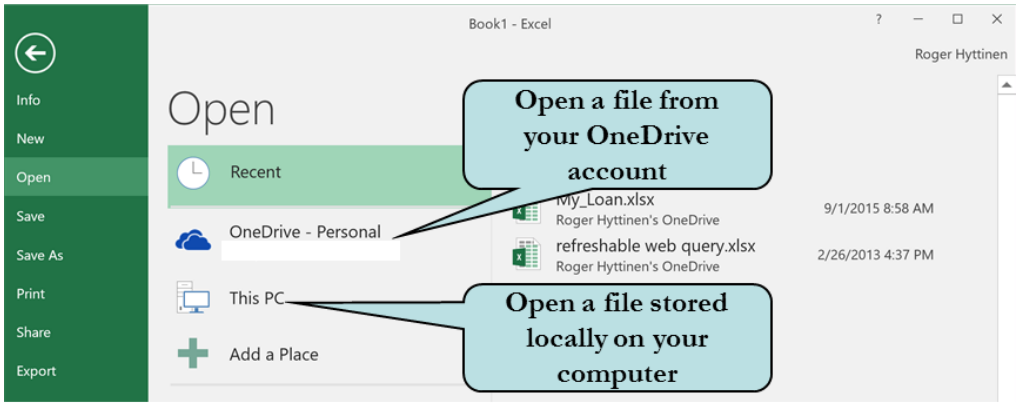
1.3 Opening an Existing Workbook

In this lesson, you will open a previously created workbook.

In Excel 2016, file management commands are located under the **File tab** on the Ribbon. This view is referred to as Backstage View. From Backstage View, you can perform many file commands such as opening, closing, saving and printing files. To open an existing document, click the **File** tab and then click **Open** to display the Open dialog box. From there, navigate to the folder that contains that Excel workbook you wish to open. If you have recently opened a workbook, it may be listed in the right pane under the **Recent Worksbooks** area. Click the workbook name in the Recent Workbooks list to quickly open it.



You can save, view and open files from your **OneDrive account** (formerly called Skydrive). In fact, when opening or saving a document, your OneDrive account is the first option on the list. Saving your items in your OneDrive cloud account ensures that you can access your document from multiple devices as well as from other computers. Because students in this class may have not have yet set up their own OneDrive account, we will be working only with files stored locally. However, you may wish to explore OneDrive on your own.



As you will quickly discover, there are several ways to accomplish the same task in Microsoft Excel. Many commands under the File Options menu have an equivalent keyboard command that will accomplish the same thing. For instance, to open an existing workbook in Microsoft Excel, you can also use the keystroke combination **Ctrl + O** to quickly jump to the Open pane in Backstage view. Another way to jump to view is to press the **Alt + F** keystroke combination rather than clicking the File tab.

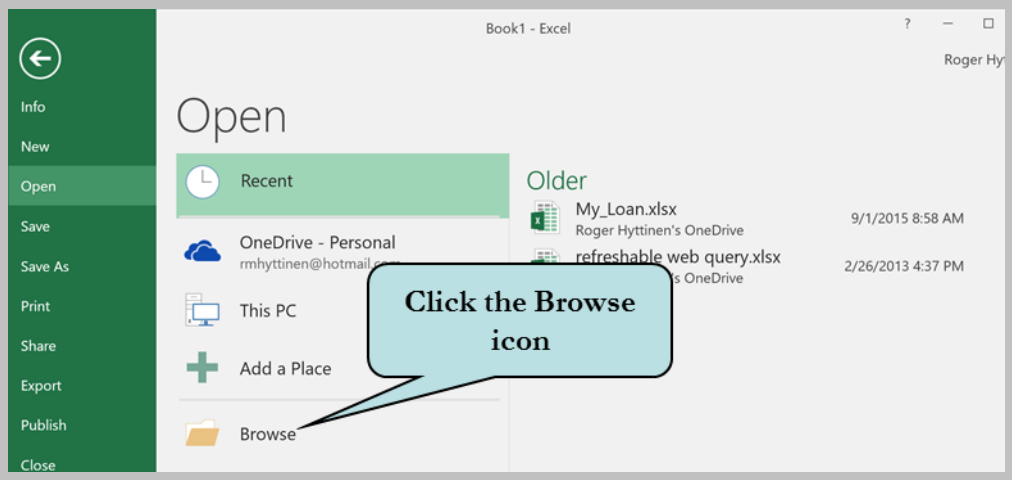
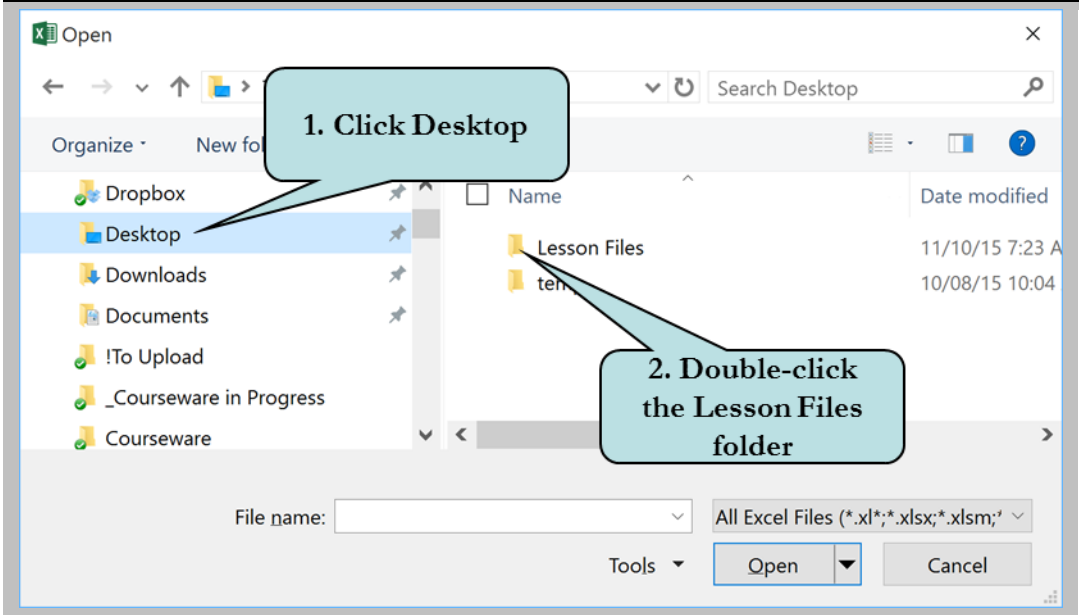
To Open an Existing Document

1. Click the **File tab** on the top left of your screen (or press Ctrl + O).
2. Click the **Open** icon in the left pane.
3. To open a file stored on your OneDrive account, click the the name of the OneDrive account under the **Open** pane and then navigate to the folder that contains the document that you wish to open.
4. To open a file stored locally on your computer or on a network, click **This PC** under the **Open** pane and then navigate to the folder you want to open from the top of the right pane.
   Or
   Click the **Browse** icon in the Open pane and then navigate to the folder you want to open.
5. Select the desired file.
6. Click **Open**.

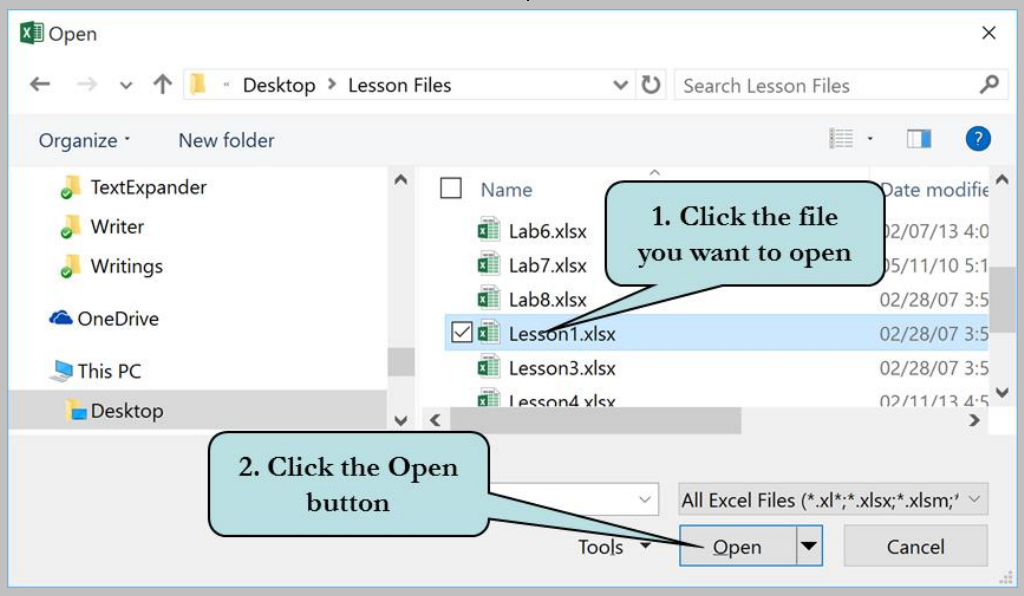
> **Tip:** To open an existing Excel document directly without creating a blank worksheet first, launch the Excel application, click the Open Other Workbooks link in the left pane and then navigate to the folder where the file is located.

Let's Try It!

What	Why
1. Click **File** tab on the top left of your screen	Displays the **File Options** menu.
2. Click **Open** in the left pane.	Displays the Open pane.
4. Click the **Browse icon** in the Open pane as shown below.	Launches File Explorer, from where you can navigate to the folder that contains your files.

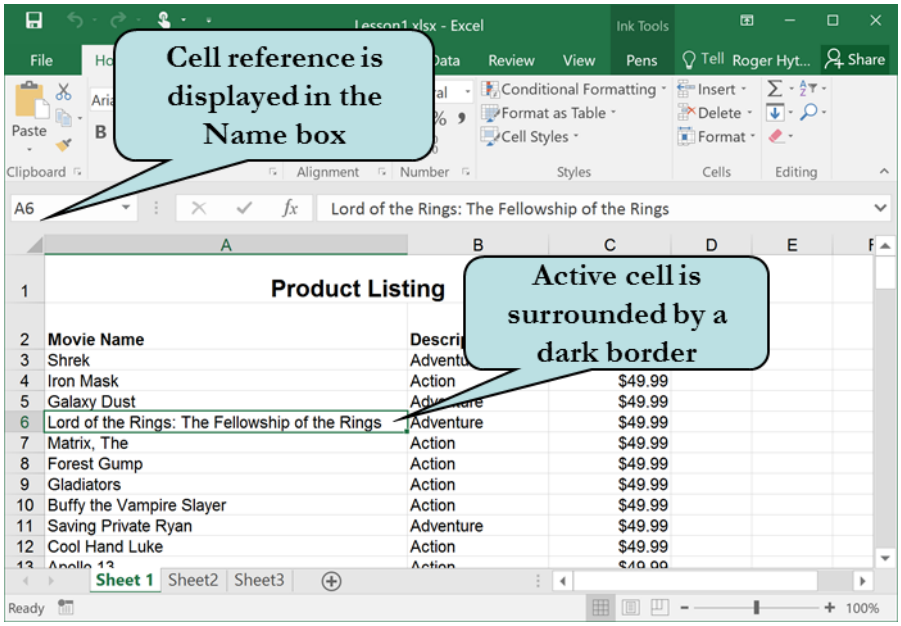
What	Why
	
5. Click **Desktop** in the left pane as shown below.	Displays the contents of the Desktop folder.
	
6. Double-click the **Lesson Files** folder as shown above.	Opens the Lesson Files folder and displays the files in that folder.
7. Click on the file named: **Lesson 1**.	Selects the Lesson1 file.

What	Why
8. Click the **Open** button as shown below.	Opens the Lesson1 file in the Microsoft Excel document window.

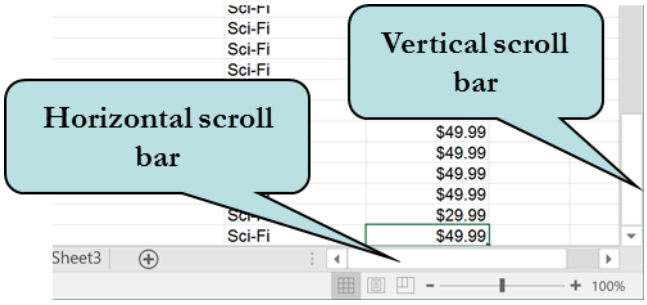


1.4 Navigating a Worksheet

In this lesson, we will practice navigating an Excel Worksheet.



To move from one location to another in Excel, click in the cell that you want to activate. That cell then becomes the **active cell**. Moving around in a worksheet becomes more challenging as the worksheet becomes larger. Luckily, Excel contains **Scroll Bars** to help you move from one area of your worksheet to another. Excel contains both **horizontal and vertical scroll bars**. Clicking and dragging the Scroll Bar moves you to the position in the workbook where you are when you release the mouse button.



In addition to changing position in the worksheet by clicking with your mouse, there are several methods for navigating a worksheet using your keyboard. Some of these are:

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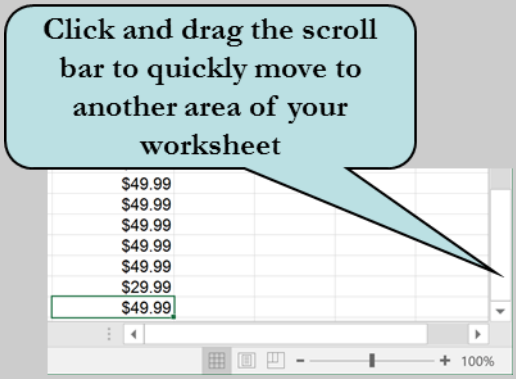
Method	Action
Move Left	Left Arrow Key or Shift + Enter
Move Right	Right Arrow Key, Tab Key or Enter Key
Move Down	Down Arrow Key
Move Up	Up Arrow Key
Move to cell A1	Ctrl + Home keys
Move to last cell containing data in worksheet	Ctrl + End keys
Move to beginning of a row	Home
Move down one screen	Page Down
Move up one screen	Page Up
Move to the next sheet in workbook	Ctrl + Page Down
Move to the previous sheet in workbook	Ctrl + Page Up

Let's Try It

What	Why
1. Click in the first cell of the worksheet, **row 1**, **column 1**.	Makes the cell A1 active.
2. Observe the **Name** box.	The name box lets us know which is the active cell. The active cell is surrounded by a dark border.
3. Press the **down arrow** key.	Changes the active cell to A2.
4. Press the **right arrow** twice.	Changes the active cell to C2.
5. Press the **Tab** key twice.	Changes the active cell to E2.
6. Press the **Ctrl + Home** keystroke combination.	Returns to cell A1.
7. Press the **Ctrl + End** keystroke combination.	Moves to the last cell containing data in the worksheet.
8. Click on the scroll bar on the right and with mouse button held down, drag the scroll bar all the way to the top.	Moves to the top of the worksheet

What	Why



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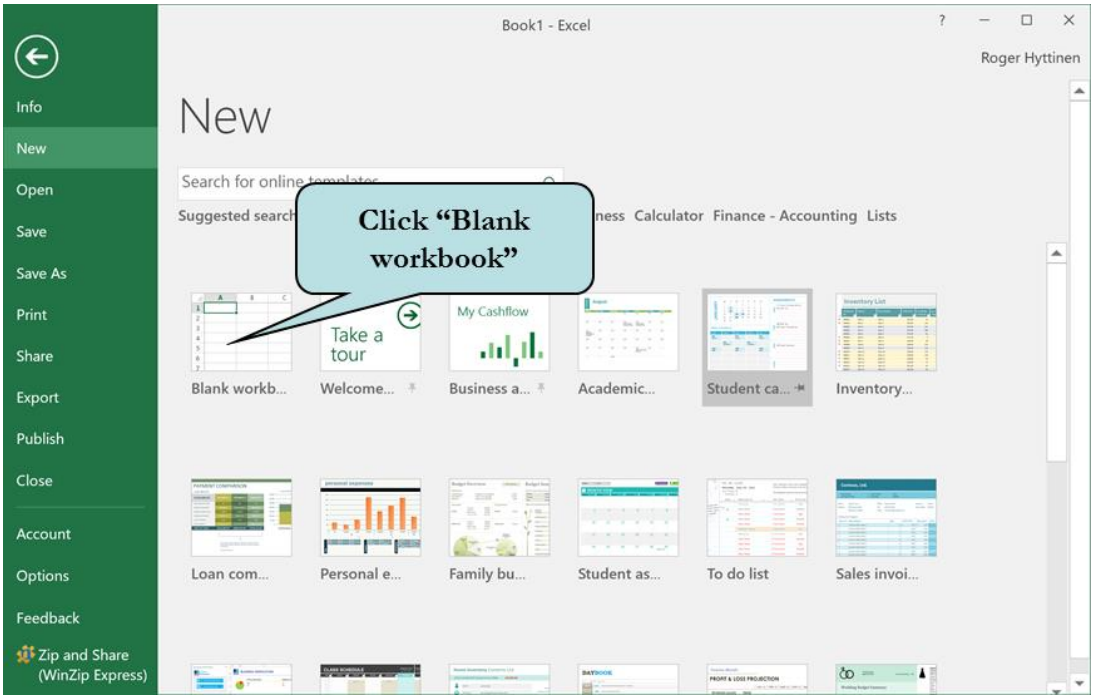
1.5 Creating a New Workbook

In this lesson, you will learn how to create a new blank workbook.

We have already seen that when you first launch Microsoft Excel, the Welcome Screen displays, from where you can create a new workbook. You can also create a new workbook from within another workbook. The new document command is located under the **File tab** menu. You can also use the keyboard shortcut **Ctrl + N** to bypass Backstage view.

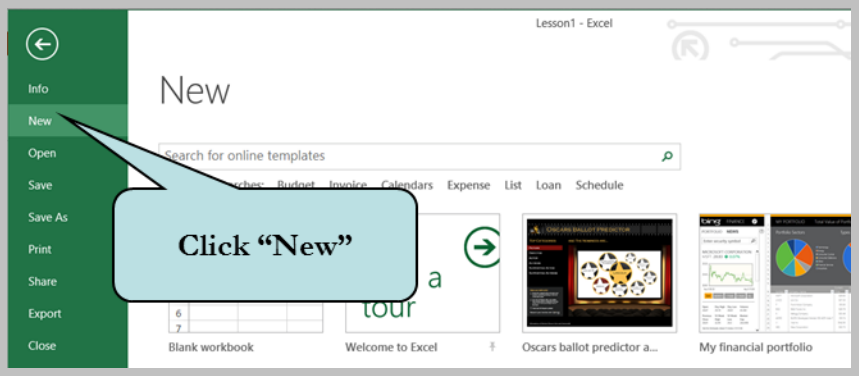


To Create a New Workbook

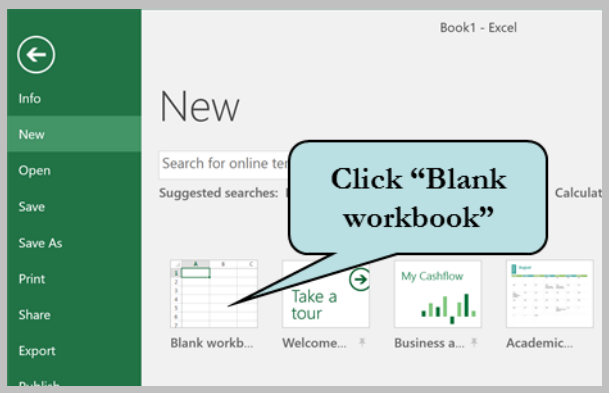
1. Click the **File** tab and then click **New** from the menu to display the **Welcome Screen**.
2. Click **Blank Workbook** in the center pane.
3. To bypass the Welcome Screen, hold down the **Ctrl** and **N** keystroke combination (**Ctrl + N)** to create a new blank workbook.
4. Begin typing in the new workbook.

Let's Try It!

What	Why
1. Click the **File** tab and then click **New** from the menu as shown below.	Displays the **New Document** pane.



2. In the **Center** Pane, click on **Blank Workbook** as shown below.	Creates a new blank workbook.



3. Click in the cell of the first row, first column (cell A1) as shown below.	Activates the cell where we wish to begin typing.

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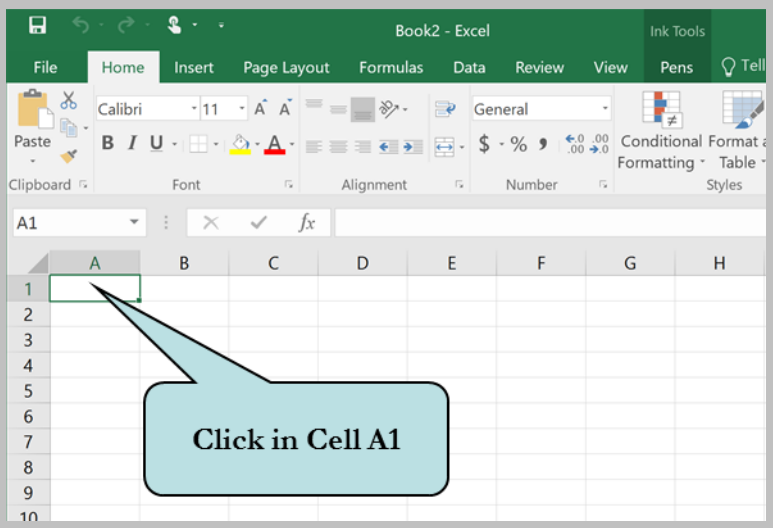
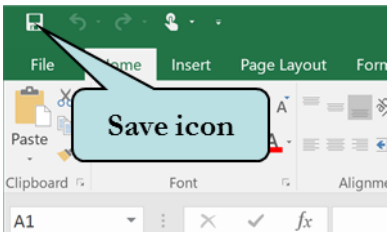
What	Why
	
4. Type: **Title** and then press **Enter**.	Enters text into the new worksheet.

1.6 Saving a New Workbook

In this lesson, you will learn how to save a workbook.

You can **save your workbook file** to your OneDrive account, to a hard disk, to a removable disk such as a zip drive or USB flash drive, or to a network drive. The first time you save a document, the **Save As Dialog pane** in Backstage view appears, prompting you for the name of the workbook and the location where you wish to save it. This only displays the first time you save a new workbook. To save a file, click the **File** tab and then click **Save** or use the keyboard shortcut **Ctrl + S**. You can also click the **Save button** on the Quick Access Toolbar, directly to the right of the Excel button. The default file format for new Excel workbooks is the .xlsx format.



To save an existing workbook with a different file name or in a different location, select **Save As** from the File Options menu (in the left pane of Backstage view), and then type the new name for the workbook in the **file name** text box. The original file will be closed and the file with the new name becomes the active workbook.

After you save a workbook, the file remains open so you can continue to work on it. You can save any subsequent changes quickly by clicking on the Save icon. It is a good idea to save your workbooks often.

To Save a New Workbook

1. Click the **File** tab and then click **Save** from the menu
   Or
   Click the **Save icon** on the Quick Access Toolbar

   Save Icon

   Or
   Hold down the **Ctrl key** and **S** keystroke combination (**Ctrl + S)**
2. Click Computer or your OneDrive account (depending on where you wish to save your file).

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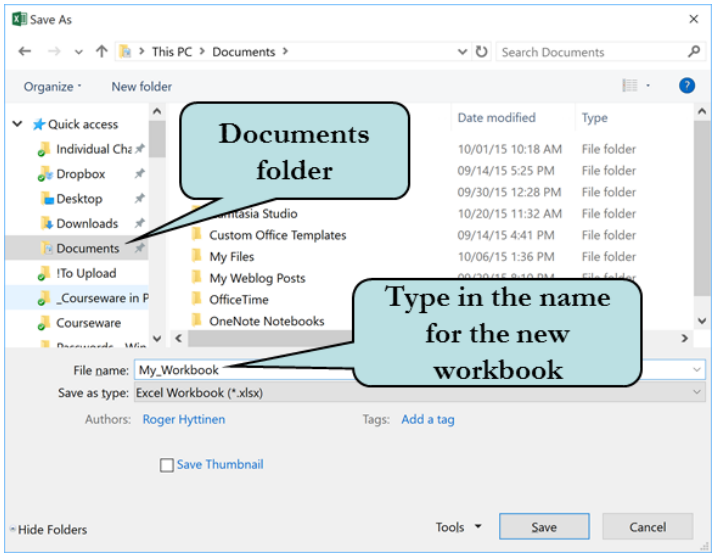
3. Click the **Browse** icon and then navigate to the folder where you want to save your file (many people prefer to save their workbooks in the **Documents** folder)
   Or
   Click the name of the folder under the **Recent Folders** list.
4. Type the desired file name in the **File name** box.
5. Click **Save**.



The Save As dialog box

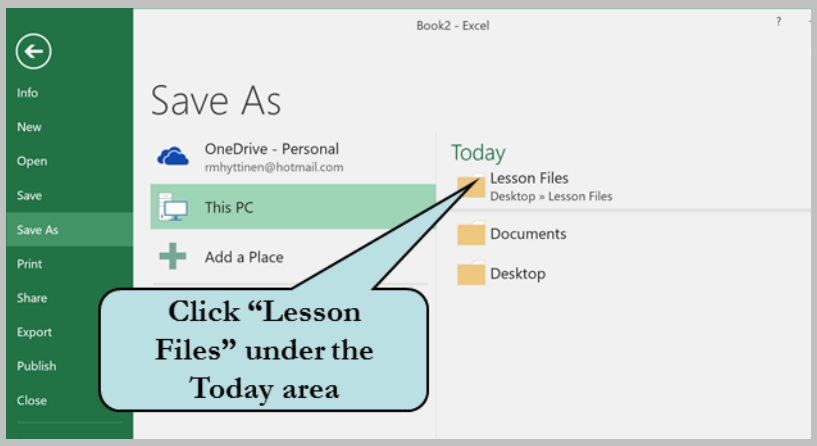
To Save a Workbook with a Different Name

1. Click the **File** tab and then click **Save As** from the menu. The Save As dialog box will appear.
2. In the **File name** box, type the new name for your workbook.
3. To save the document in a different file format, click the **Save as Type** drop-down list and choose the desired file format.
4. To save the workbook in a different folder, **navigate to the folder** you want.

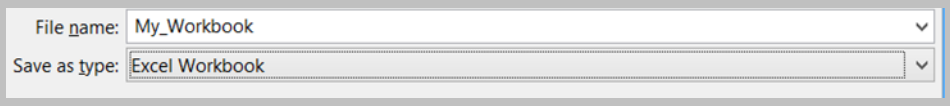
Let's Try It!

What	Why
1. Click the **Save button** on the Quick Access toolbar.	As we have not yet saved our document, the Save As pane displays, prompting us for the file name and location where we wish to save the file.

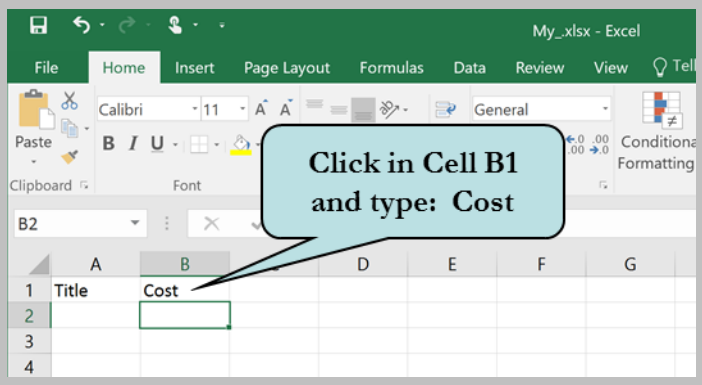
What		Why
2.	Click **This PC** in the center pane.	Specifies that you want to save the file locally on your computer.
3.	In the right pane, click **Lesson Files** under the Today area in the right pane as shown below.	Displays the contents of the Lesson Files folder.



4.	In the **File name** text box, type: **My_Workbook** as shown below.	Enters the name of the new workbook.



5.	Click the **Save** button.	Saves the workbook with the new name in the Lesson Files folder.
6.	Click in cell **B1**.	Makes cell B1 the active cell.
7.	Type: **Cost** as shown below and then press the **Enter** key.	Enters text in cell B2 and confirms the entry.

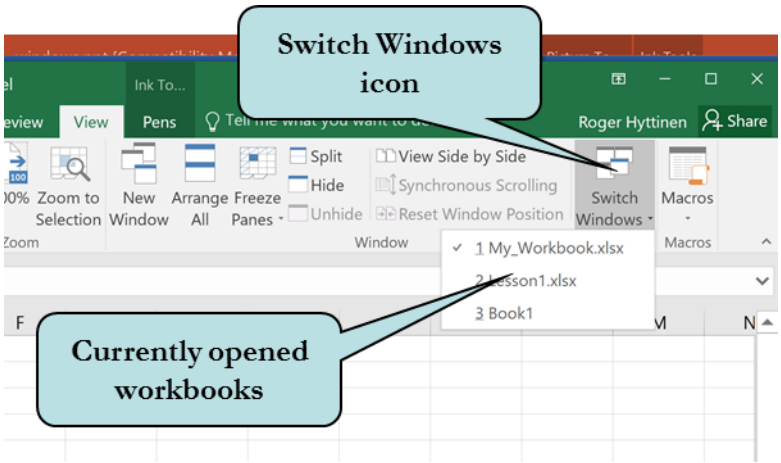
What	Why
	
8. Click the **Save** icon on the Quick Access toolbar.	Saves our changes. As we have already saved our workbook, the Save As dialog pane of Backstage view does not display.

1.7 Moving Between Workbooks

In this lesson, you will learn how to move between open workbooks.

Each new workbook that you open is represented by a button on the **Windows Taskbar**. To move between open documents, click the appropriate button on the Taskbar. You can also move between other open applications such as Word or PowerPoint by clicking on the appropriate document button on the Taskbar.

To jump to another Excel workbook, you can additionally click on the **View tab** and then click the **Switch Windows** button. The Switch Windows list displays all currently open Excel documents. Click on the document you wish to make active.



You can also use the **Alt + Tab** keystroke combination to scroll through all open documents as well as other open applications. Hold down the **Alt** key and then press **Tab**. With the Alt key held down, continue to press the Tab key until the desired document or application is highlighted.

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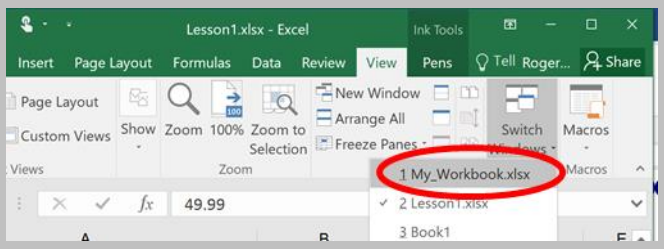
To Move between Open Workbooks

1. Click on the appropriate **Document button** on the Windows Taskbar.
   Or
   Click the **View** tab on the Ribbon, click the **Switch Windows** button, and then click on the open workbook to which you wish you wish to move.
   Or
   Hold down the **Alt** key and then press **Tab** until the document or application you want is highlighted. Release the Alt key.

Let's Try It!

What	Why
1. Click on the Document Button for the **Lesson 1** workbook on the Taskbar.	Lesson 1 becomes the active workbook.
2. Click the **View tab** on the Ribbon.	Switches to view commands and tools
3. Click the **Switch Windows** button and click **My_Workbook** in the list as shown below.	My_Workbook becomes the active workbook.



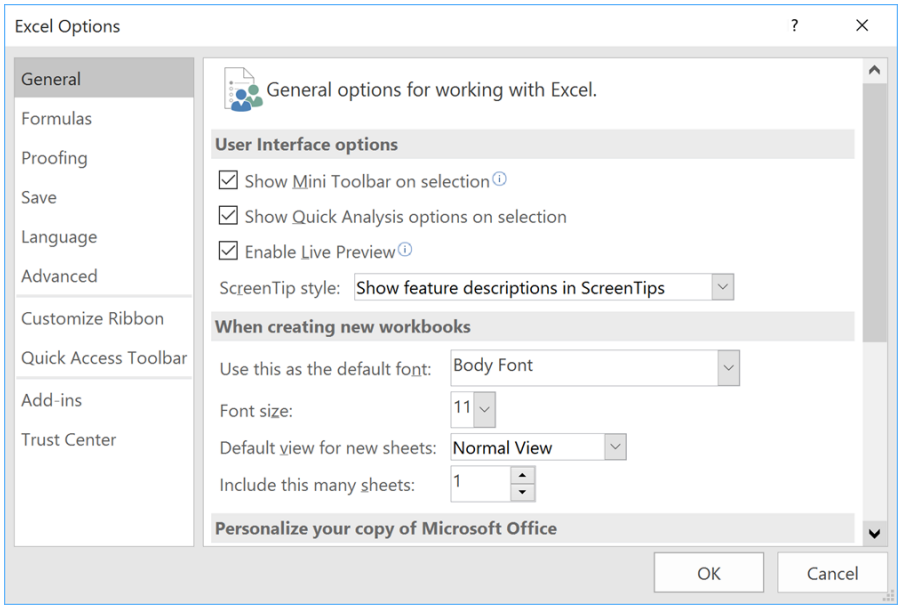
1.8 Setting Excel Options

In this lesson, we will work with Excel Options.

In older versions of Excel, you could set preferences for specific program settings from the Options dialog box. The Options command has been moved to the File Options menu in Backstage view which displays when you click the **File** tab.

From the Excel Options dialog box, you can specify such options as setting a default location to save files, setting the default file format, setting display options and much more.

You may wish to spend some time browsing through the Excel Options dialog box and set any preferences that may help you work with less effort.

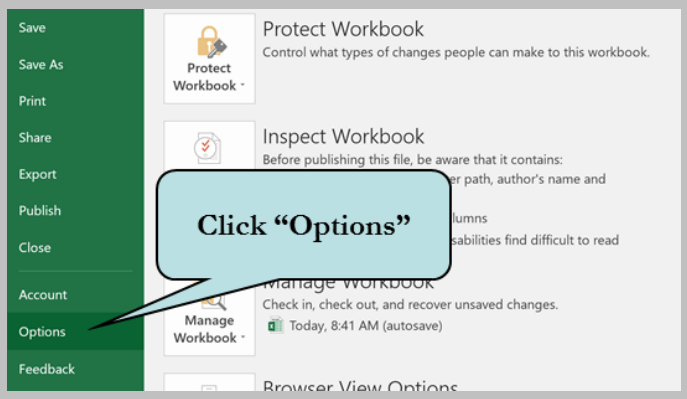
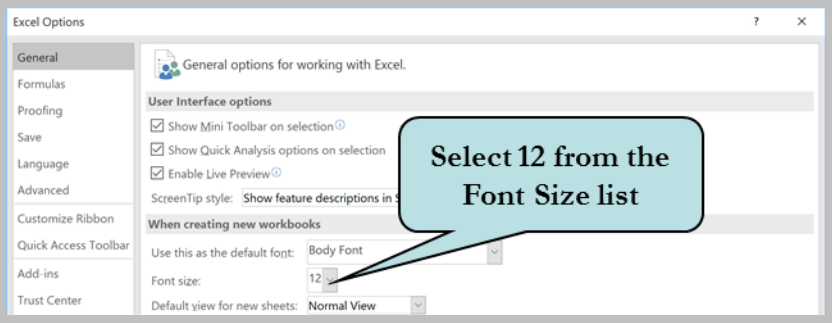


Excel Options dialog box

To Set Excel Options

1. Click the **File** tab and then click the **Options** button on the bottom of the left pane.
2. Click the desired option category in the left pane.
3. Set any options in the right pane.
4. Click **OK**.

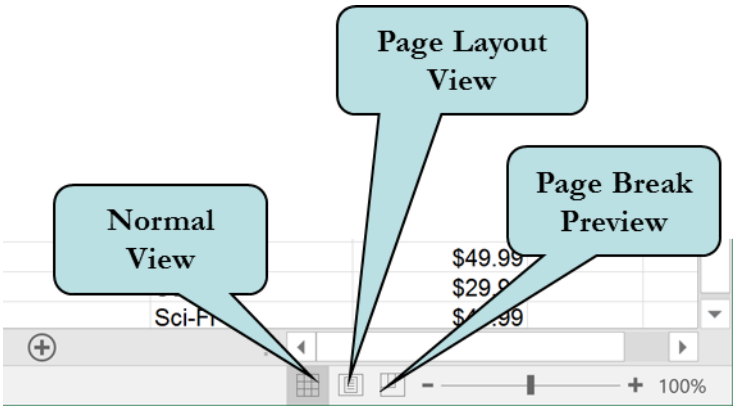
Let's Try It!

What	Why
1. Click the **File** tab.	Displays the File Options menu.
2. Click the **Options** button as shown below.	Displays the Excel Options dialog box.
	
3. Click the **General** category in the left pane.	Displays available Excel options for the General category.
4. Under the **Creating New Workbooks** area, click the **Font Size arrow** and choose **12** as shown below.	Sets a new default font size for all new Excel workbooks.
	
5. Click **OK**.	Displays a message telling you that your changes will not take effect until you close and restart Excel.
6. Click **OK**.	Closes the message box and applies our changes.

1.9 Switching between Views

In this lesson, you will learn how to switch between different views.

Views control how your document appears on the screen. You can quickly switch views by clicking on one of the **View Buttons** located on the lower right-hand corner of the document window. You can also switch between views by clicking the **View** tab and then clicking the desired View command button on the Ribbon.



The available views are:

- **Normal View** Used for entering, editing and formatting data. In Normal view, headers, footers, backgrounds and other objects are not visible.
- **Page Layout View** This view is used for entering, editing and formatting text, while displaying graphics, headers/footers, objects, margin borders, etc.
- **Page Break Preview** Displays the worksheet with marked page breaks, allowing you to change their position.
- **Custom Views** Allows you to save your current display settings and quickly apply them in the future.

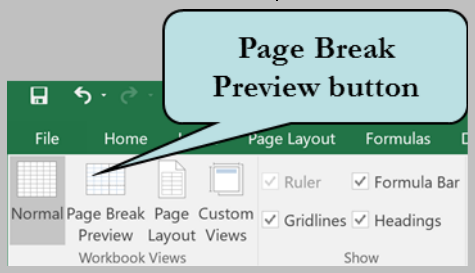
To Switch between Views

1. Click the appropriate view button on the lower right-hand corner of your screen
   Or

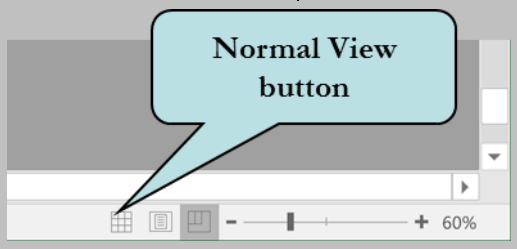
Click the **View** tab and then click the desired View command button on the Ribbon.

2. To create and use a custom view:
   a. Set up your worksheet the way you like it (title rows, print area, etc.)
   b. Click the **View tab** on the Ribbon.
   c. Click the **Custom Views button** on the Workbook Views group of the Ribbon.
   d. Click the Add button on the Custom Views dialog box.
   e. Type in a Name for your view.
   f. Choose whether to include print settings and/or hidden rows, columns & filter settings.
   g. Click OK.
   h. To apply a custom view, Custom Views button, choose the view you wish to apply and then click the **Show** button.

Let's Try It!

What	Why
1. Click the **View** button on the Ribbon.	Switches to View commands and tools.
2. Click the **Switch Windows** button and select **Lesson1** from the list.	Makes Lesson1 the active workbook.
3. Click the **Page Break Preview** button on the Workbook Views command set of the Ribbon as shown below.	Switches to Page Break Preview.
	
4. Click the **Page Layout view button** (the middle button on the lower-right side of your screen).	Switches to Page Layout view.

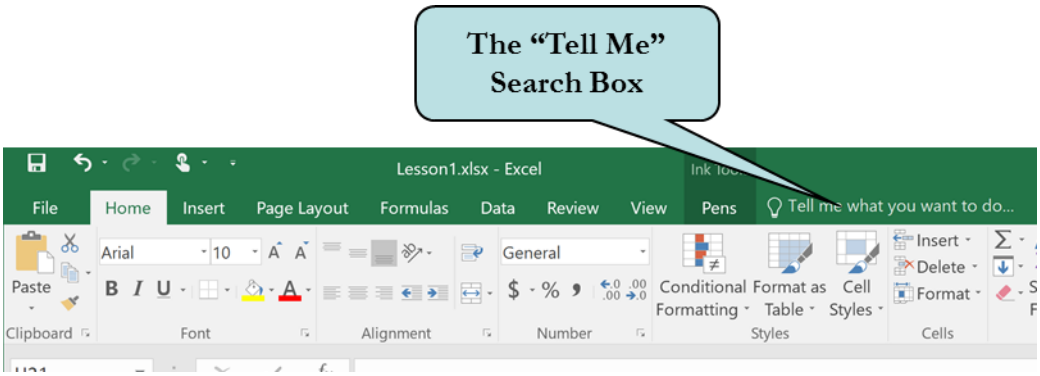
What	Why
5. Click on the **Normal** view button (the first button on the lower right-hand side of your screen) as shown below.	Switches back to Normal view.



1.10 Using Tell Me to Obtain Help

In this lesson, you will learn how to use the Tell Me help system.

Tell Me is a new feature in Excel 2016 designed to provide assistance and get you up and running as quickly as possible. On the Ribbon is a text box that contains the text **Tell me what you want to do**. You can enter in keywords and phrases related to what tasks you want to accomplish to display the actions you're looking for. As you type each letter, Excel immediately begins suggesting relevant commands. This comes in especially handy if you know that there's a command for what you want to do but aren't quite sure where it's located.



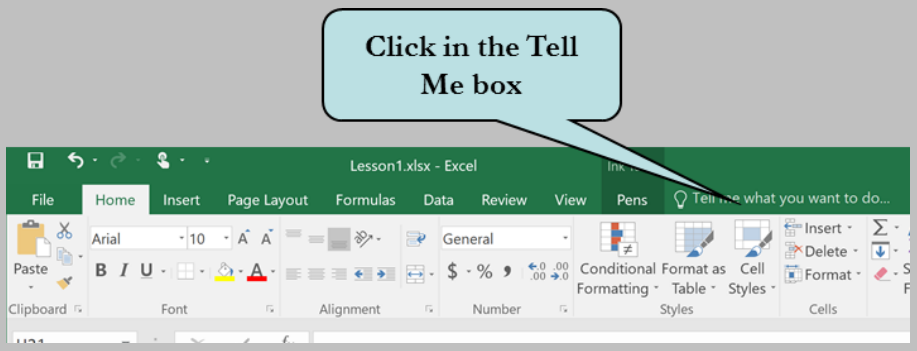
Don't worry if you don't know the exact wording for a command or action – Excel uses natural language for the search, similar to what you might use for a Bing or Google search for example. If you need additional help, there's a help link on the bottom of the Tell Me window or you can type the word: **Help** in the search box to bring up the familiar Help Screen window.

To Use the Tell Me Box to Obtain Help

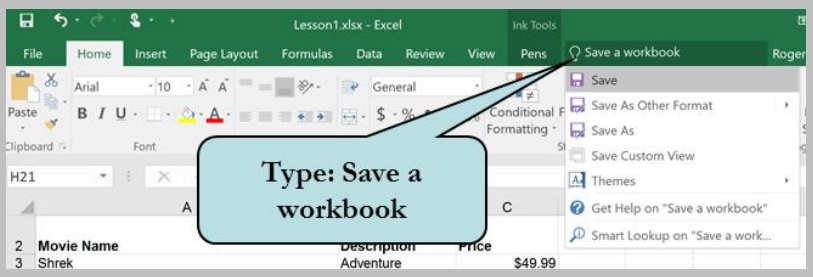
1. Click in the **Tell Me** box on the Excel Ribbon.
   Or
   Press the **Alt + Q** keystroke combination.
2. Type your search term.
3. Click the item in the results list to execute the command.
4. To obtain additional help for your search term, click the **Get Help on [search term]** in the list.

Let's Try It!

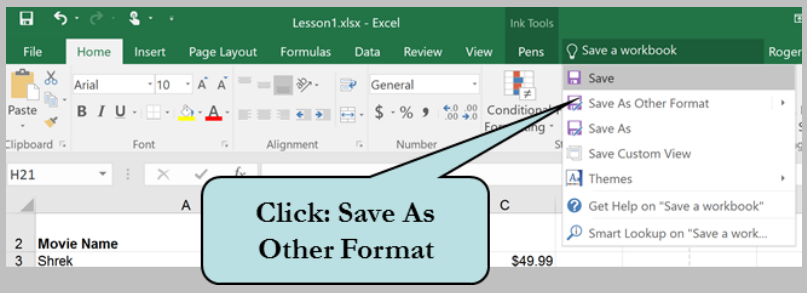
What	Why
1. Click in the **Tell Me** box as shown below.	Sets the insertion point in the Tell Me search box.



2. In the **Search box**, type: **Save a workbook** as shown below.	As you type, commands and actions relevant to your search term appear below the Tell Me box.



4. Click **Save As Other Format** as shown below.	Executes the command and displays the Save As dialog box.



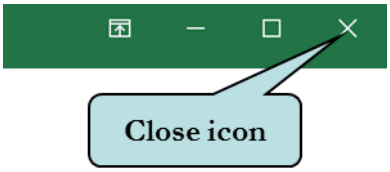
5. Click **Cancel**.	Closes the Save As window.
6. Press the **Esc** key on your keyboard.	Hides the Tell Me list.

1.11 Closing a Workbook and Exiting Excel

In this lesson, you will learn how to close existing workbooks and exit the Microsoft Excel application.

When you are finished working on your Excel document, you can close it by either choosing **Close** from the File Options menu or by clicking the **Close Window** button, which is represented by an **x** on the top right of your screen. This will close the current workbook and display the next open workbook. Don't worry if you forget to save your changes – Excel will ask you if you wish to save your recent changes before closing the workbook.

Note that the Close Window button only closes the active workbook. If you have many workbooks open, it can be a tad time-consuming to close each workbook one at a time. In earlier versions of Excel, you could close all workbooks at once and Exit Excel from Backstage view. This is no longer the case as that option has been removed from Backstage view beginning with Excel 2013. You can however, add the Exit command to the Quick Access Toolbar (File tab > Options > Quick Access Toolbar) if you prefer this method of closing Excel. Otherwise, when you close the last open workbook by clicking on the Close button, the Excel application will exit as well. You can also use the Alt + F4 keystroke combination to close the Excel application along with the last open workbook.



If you wish to close the last open workbook but keep the Excel application open, click the File tab and then click Close or use the keystroke combination Ctrl + W.

To Close a Workbook

1. Click the **File** tab and then click **Close** from the File Options menu
   Or
   Click on the **Close** button on the document window.
   Or
   Press the Ctrl + **W** keystroke combination.
2. If prompted, click **Yes** to save any changes.

To Add the Exit Command to the Quick Access Toolbar

1. Click the **File** tab and then click **Options** in the left panel.
2. Click **Quick Access Toolbar** in the left pane.
3. Click the **Choose Commands From** drop-down list and select **File Tab** from the list.
4. Click **Exit** in the left window and then click the **Add** button.
5. Click **OK**.

Let's Try It!

What	Why
1. Click the **File** tab and then click **Close** from the File Options menu. Click **Save** if asked to save your changes.	Closes the Lesson 1 document.
2. Click the **Close** button on the Document Window. Click **Save** if prompted to save your changes.	Closes the My_Workbook workbook.
3. Click the **Close** button on the Document Window.	Closes the blank workbook that we created when we opened Excel.
4. When asked if you want to save your changes, click the **Don't Save** button.	Closes the workbook without saving changes. As this was the last open workbook, the Excel application closes as well.

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Lesson Summary – Excel Basics

- In this lesson, you learned about the Microsoft Excel program and how to start the Excel application.
- Then, you examined the different components of the Excel screen, including the Command Tabs and Command Sets.
- Next, you learned how to open an existing file from the File Options menu - click the File tab and then click Open to display the Open pane. From there, navigate to the folder that contains that Excel workbook you wish to open. You learned that you can open files from your computer or from your Skydrive cloud account.
- Next, you learned how to use Scroll Bars and Scroll Buttons to navigate your worksheet. You also learned how to navigate a worksheet using keyboard shortcuts.
- Next, you leaned how to create a new document from the File Options menu - click the File tab and then click New from the menu to display the Welcome Screen.
- Next, you learned how to save a workbook by clicking the File tab and then clicking Save on the menu. You also learned that you can save a document by clicking the Save icon on the Quick Access toolbar. To save an existing document with a new name, use the Save As command.
- Next, you learned how to move between documents by clicking on an open document tab on the Taskbar to switch to that document. Another way is to click the View tab, click the Switch Windows button, and then click on the open document to which you wish to move.
- Then, you worked with Excel Options, which allow you to modify various application settings. To set Excel Options, click the File tab and then click Options on the menu.
- Next, you learned how to switch between views – Normal, Page Layout, and Page Break Preview. You also learned how to create Custom Views
- Next, you worked with the new Tell Me feature to obtain assistance while working. You learned that you can access the Tell Me feature by clicking the Tell Me box on top of your screen or by pressing Alt + Q.
- Lastly, you learned how to close document windows and exit the Excel application.

Lesson 1 Quiz

1. Microsoft Excel is:
   A. A spreadsheet program.
   B. A DVD burning program.
   C. An Operating System
   D. A word processing program

2. Name four parts of the Excel window.

3. To open an existing Excel document, you (select all that apply):
   A. Click the Open tab and then click "Open File" on the Ribbon.
   B. Select "Open Document" from the Insert tab.
   C. Click the File tab icon and then click Open from the menu.
   D. Press the Ctrl + O keystroke combination.

4. What are two ways that you can create a new document?

5. To move to the cell 5 lines above the active cell, you would (select all that apply):
   A. Press the up arrow 5 times
   B. Press the down arrow 5 times
   C. Click with your mouse in the new location
   D. Press the up scroll button 5 times

6. What three view buttons are located on the lower-right area of the Excel screen?
   A. Page Layout, Outline and Online
   B. Normal, Tabloid and Page Layout
   C. Normal, Page Layout and Page Break Preview
   D. Spreadsheet View, Normal and Page Layout

7. The Menu bar in older versions of Excel has been replaced by the:
   A. Command Tabs
   B. Getting Started Menu
   C. Dialog Launcher Menu
   D. Backstage View

8. To move to another open Excel document, you:
   A. Click the document name on the task bar.
   B. Right-click and select Move from the contextual menu.
   C. Click the File tab and then select the document name from the menu.
   D. You cannot have more than one open Excel document at a time.

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9. What are two ways that you can switch to Page Layout view?

10. To display Excel Options, you:
    A. Click the Excel Options button on bottom-right corner of your screen.
    B. Press F2
    C. Click the File tab and then click Options on the menu.
    D. Click the Tools tab and then click the Excel Options command button.

11. What is the keyboard shortcut to access the Tell Me feature?

12. What is the name of the Excel object that consists of tabs, command sets and command buttons?

LAB 1 – ON YOUR OWN

1. Start Excel.
2. Open the **Lesson1** workbook with which we worked earlier (in the **Lesson Files** folder located on your Desktop).
3. Using the **Save As** command, rename the file **Lesson1a** (Hint: type the new name in the File Name box) and save it to the Lesson Files folder.
4. Make **A16** the active cell.
5. With your arrow keys, move to cell **A22**.
6. Tab over to cell **C22**.
7. Move to the first cell of the worksheet.
8. **Save** the worksheet.
9. **Close** the worksheet.
10. Close Excel.

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Lesson 2

Lesson 2 – Working with Data

Lesson Topics:

2.1 Entering Text and Numbers

2.2 Entering Simple Formulas

2.3 Choosing Formula Cell References Manually

2.4 Using AutoSum

2.5 Changing and Deleting Data

2.6 Using Undo/Redo

2.7 Using Find and Replace

2.8 Using the Go To Command

2.9 Spell Checking Your Worksheet

2.10 Inserting Symbols

2.11 Using Smart Lookup

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2.1 Entering Text and Numbers

This lesson will guide you through the process of entering text and numbers into cells.

Data that you enter into an Excel worksheet can be either text, numbers or a formula. Text that is entered into cells is referred to as a **label** and is not included in formulas, whereas numbers can be either labels or **values**. When entering numbers into a cell, Excel automatically treats them as values and aligns them to the right edges of the cell. If you wish a numerical value to be treated as a label – that is to say, to take on the same formatting as labels (which are left-aligned), you can precede the numerical value with an apostrophe (‘). Thus, to enter the year as a label, you would type: **‘2015**.

To begin entering data, click on the cell into which you wish to enter data (this becomes the **active cell**) and begin typing. Once you are finished, press **Enter** to confirm your entry. Any time you wish to clear the contents of a cell into which you have begun typing, press the **Esc** key **or** the **X** key to the left of the formula bar.

We will begin by creating a blank new worksheet and entering sales information for a video store.

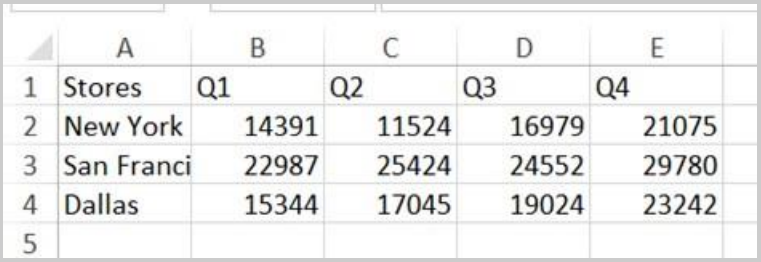
To Enter Text or Numbers into a Cell

1. Click on the cell into which you wish to enter a value.
2. Type your entry.
3. Press **Enter** to confirm your entry and move to the next cell.

Let’s Try It!

What	Why
1. Open Excel and click the **Blank Workbook** icon in the Welcome Screen.	Opens the Excel Application and creates a blank new workbook.
2. Click in cell **A1.**	Makes A1 the active cell.
3. Type **Stores** then press Tab.	Enters the first column heading, and then moves to cell B1.

What	Why
4. Type **Q1** and then press Tab.	Enters the second column heading, and then moves to cell C1.
5. Type **Q2** and then press Tab.	Enters the third column heading, and then moves to cell D1.
6. Type **Q3** and then press Tab.	Enters the fourth column heading, and then moves to cell E1.
7. Type **Q4** and then press Tab.	Enters the fifth column heading, and then moves to cell F1.
8. Click in cell **A2** and type **New York**. Press the down arrow key.	Enters the name of the first store in cell A2 and moves to cell A3.
9. Type **San Francisco** and then press the down arrow key.	Enters the name of the second store in cell A3 and moves to cell A4.
10. Type **Dallas** and then press **Enter**.	Enters the name of the third store in cell A4 and confirms the entry.
11. Click in cell **B2** and type **14391** and then press **Tab**.	Enters the value for Q1 and moves to Q2.
12. Continue entering values as shown below until your worksheet contains the data as listed below. Press **Tab** to move from one column to the next.	Enters the rest of the quarter sales for the three stores.



	A	B	C	D	E
1	Stores	Q1	Q2	Q3	Q4
2	New York	14391	11524	16979	21075
3	San Franci	22987	25424	24552	29780
4	Dallas	15344	17045	19024	23242
5					

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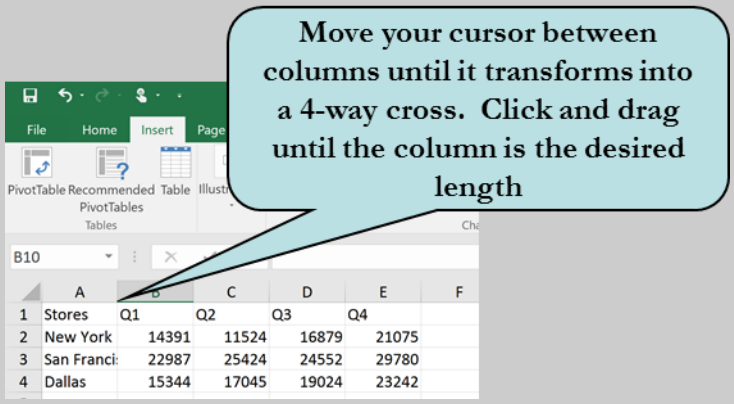
Changing Column Width:

Notice that in **cell A3**, the end of our store location is cut off as column A is not wide enough to accommodate the text. To widen the column, we must perform the following steps:

1. Move your cursor to the column heading on the right border of the column whose width you wish to change.
2. Your cursor will change into a 4-way black cross with right-pointing arrows.
3. Click with your left mouse button and drag to the right until the column is the desired width.

Let's Try It!

What	Why
1. Move your cursor to the column heading between **Column A & B** as shown below until your cursor becomes a 4-way black cross with right pointing arrows.	Places you in "drag mode"
2. Click on the line between Column A & B and **drag to the right** as shown below until all of the text in Cell A3 is visible.	Widens the column to completely accommodate the text in cell A3.



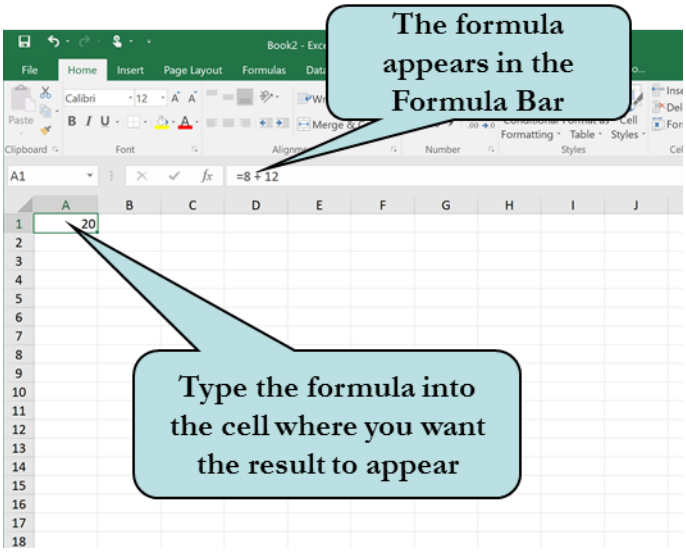
2.2 Entering Simple Formulas

This lesson will guide you through the process of entering basic mathematical formulas into a worksheet.

Formulas perform calculations such as addition, subtraction, multiplication and division on your spreadsheet. You type the formula in the cell where you wish the result to appear. The formula itself does not appear in the cell rather the result of the formula. The formula appears in the formula bar.

To tell Excel that you are about to enter a formula, you must precede it with an equal (=) sign. For instance, if you wished to find the total for the numbers 8 and 12, we would enter:

=8+12 in the active cell.



Valid mathematical operators that you can use in your formulas include:

+	Addition
-	Subtraction
*	Multiplication
/	Division

In addition to performing calculations on actual numbers (= 11 + 2 + 5), you can perform calculations on the value of cells by using **Cell References** in your formula. If you wanted to find to total of the cells A3, B6 and C7, you would enter the formula:

=A3 + B6 + C7

Excel calculates by hierarchy and order of operations. When Excel performs a calculation it does so in the following order:

1. Parenthesis
2. Exponentiation
3. Multiplication and Division
4. Subtraction and Addition

For example, if we had a formula which read:

= A2 + B3 * B7

The B3 * B7 part of the formula is calculated first, then the result is added to A2.

If a formula contained both a multiplication and a division operator Excel would calculate them from left to right. The same applies for subtraction and addition.

We can change the order in which Excel performs its calculations by enclosing the relative function in parenthesis. Let's say we had the formula **=5+10*5** the result would be **55.** If we changed this to: **=(5 + 10) * 5** the result would be **75**.

In our worksheet, we will create formulas to total the sales values across for each quarter.

To Create a Simple Formula

1. Click in the cell where you want the result of your formula to display.
2. Type: **=**
3. Type the formula using hard-coded numbers or cell references.
4. Press **Enter** to confirm the formula.

Let's Try It!

What	Why
1. Click in cell **F1** and type the word **Total**.	Creates a new column heading in cell F1.
2. Press the **Down Arrow key**.	Moves to cell F2.
3. Type **=B2 + C2 + D2 + E2**	Enters a formula that sums the sales values for the New York store.
4. Press the **Enter** key.	Confirms your entry.
5. Click in cell **F3.**	Activates cell F3.
6. Type: **=B3 + C3 + D3 + E3**	Enters a formula that sums the sales values for the San Francisco store.
7. Press the **Enter** key.	Confirms the entry.

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2.3 Choosing Formula Cell References

In this lesson, you will learn how to select cell references manually by using your mouse.

If you have a large worksheet in which you wish to create a formula that uses several different cell references, it might sometimes be easier to select your cells manually, rather than try to remember the cell addresses for each value you want to include in your formula. This can be accomplished by typing the **equal sign (=)** and then with your mouse (or stylus or finger if using a touch device), selecting the cells that you want to include in the formula.

To Choose Cell References Manually

1. Activate the cell in which you wish to enter the formula.
2. Type **=** to begin your formula.
3. Click in the first cell you wish to include in your formula.
4. Enter the appropriate mathematical operator (+, -, * or /).
5. Click in the next cell you wish to include in your formula.
6. Enter the appropriate mathematical operator.
7. Continue steps 5 & 6 until you have selected all of the cells to be included in your formula.
8. Press the Enter key to confirm the formula.

Let's Try It!

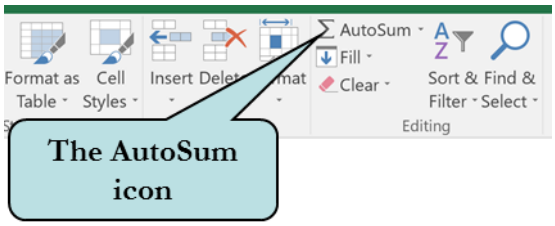
What	Why
1. Click in cell **F4**.	Makes F4 the active cell.
2. Press the **=** key.	Begins the formula.
3. Click in cell **B4**.	Selects the first cell in the formula.
4. Type **+**	Enter the addition operator in your formula.
5. Click in cell **C4**.	Selects the next cell in your formula.

What	Why
6. Type **+**	Enters the addition operator in your formula.
7. Click in cell **D4**.	Selects the next cell in your formula.
8. Type **+**	Enters the addition operator in your formula.
9. Click in cell **E4**.	Selects the last cell of your formula.
10. Press the **Enter** key.	Confirms your formula entry.
11. Click in cell **F4** and observe the formula window.	Allows you to verify the formula you have just entered.
12. Click the **Save** icon on the Quick Access toolbar.	As we have not yet saved our file, the Save As dialog box displays.
13. Click **This PC** in the center pane.	Specifies that we want to save our document locally on our computer.
14. In the right pane under the **This Week (or Today)** area, click **Lesson Files** as shown below.	Specifies that we want to save our workbook in the Lesson Files folder.
15. In the **File name** text box, type in **Lesson2**.	Enters the name we wish to give to our workbook.
16. Click the **Save** button	Saves our workbook.

2.4 Using AutoSum

This lesson will show you how to use Excel's AutoSum Feature to perform quick calculations.

If you wish to perform a common calculation such as SUM on a contiguous range of data, you can use the **AutoSum** button (located on the Home Ribbon). Clicking on the AutoSum button automatically selects a range of cells (vertical or horizontal) and calculates the total of all cells in that range. That is to say, when the cell that contains the SUM function is at the end of a row or column, Excel always uses that entire column or row in the calculation. However, if any cell in the range contains a blank row or column, the range to be totaled stops there. If Excel does not choose the range of cells you wish to use, you can choose the range manually by clicking on the first cell of the range and dragging to the last cell of your range.



If we wanted to total the values from **B3 to B18**, clicking the AutoSum button while having B19 as the active cell would automatically enter the following formula in cell B19:

=SUM(B3:B18)

This tells Excel to sum the values in the B3 to B18 range.

The AutoSum feature includes other functions in addition to the **SUM** function. By clicking on the arrow to the right of the AutoSum button, you can choose the **AVERAGE**, **COUNT NUMBERS**, **MIN**, or **MAX** functions instead of the **SUM**. These functions will be discussed in more detail in a later chapter.

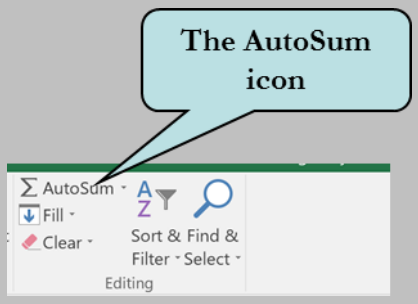
To Calculate Totals with AutoSum

1. Click in the cell where you want to display the calculation.
2. To sum only some of the numbers in the range, select the cells to be included in the formula.
3. Click the **AutoSum button** on either the Home Ribbon or the Formulas Ribbon
   Or

Press the **Alt + =** keystroke combination.

4. To perform another calculation such as Average, Count, Min, or Max, click the arrow next to the AutoSum button and choose the function that you want.
5. Press **Enter**.

Let's Try It!

What	Why
1. Click in cell **A6** and type **Total**	Enters a heading to identify that we are totaling columns.
2. Click in cell **B6** and click the **AutoSum** button on the **Home Ribbon** as shown below.	Selects the range B2 to B5. To change the range that Excel uses, you can manually select your desired range.
	
3. Press the **Enter** key	Confirms the formula.
4. Click in cell **C6** and click the **AutoSum** button on the **Home Ribbon**. Press Enter.	Selects the range C2 to C5.
5. Click in cell **D6** and then click the **AutoSum** button on the Home Ribbon.	Notice that AutoSum selected cell B6 to C6, which is not what we want. We will need to manually select the cells we want to total.
6. Press the **Esc key**.	Cancels the operation.
7. Click in cell **D2**.	Selects the first cell of our range.
8. **Click and hold down** your left mouse button and drag down to cell D6 as shown below.	Selects the cell range we want to include in the AutoSum Calculation.

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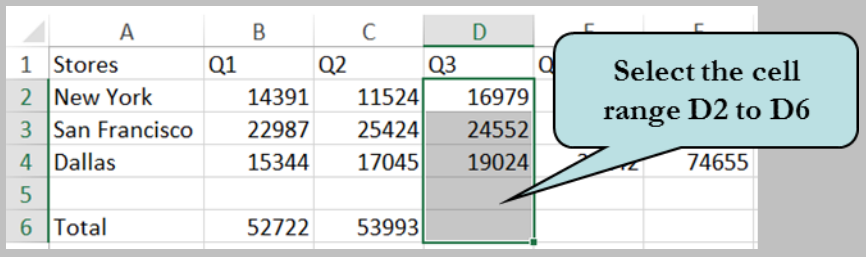
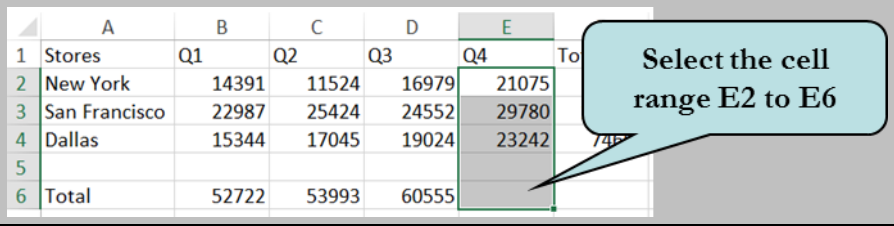
What	Why
	
9. Click the **AutoSum** button on the Home Ribbon.	Totals the cell range D2 to D5.
10. Click in cell **E2**.	Selects the first cell of our range.
11. **Click and hold down** your left mouse button and drag down to cell E6 as shown below.	Selects the cell range we want to include in the AutoSum Calculation.
	
12. Click the **AutoSum** button on the Home.	Totals the cell range D2 to D5.
13. Click in cell **F2**.	Selects the first cell of our range.
14. **Click and hold down** your left mouse button and drag down to cell F6.	Selects the cell range we want to include in the AutoSum Calculation.
15. Click the **AutoSum** button on the Home Ribbon.	Totals the cell range F2 to F5.
16. Click the **Save** icon.	Saves the active document.

2.5 Changing & Deleting Data

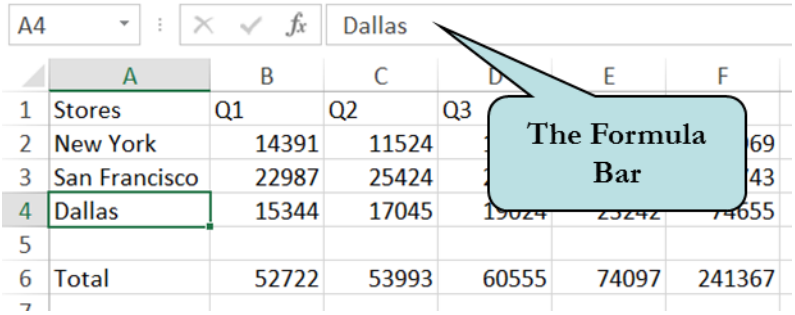
In this lesson, you will modify and delete the existing contents of cells.

To delete the contents of a cell, click in the cell to activate it and then press the **Delete** key. This erases the entire contents of that cell. If you wish to simply replace the contents of the cell, you do not need to press the Delete key — just begin typing and the contents are automatically replaced by whatever you type.

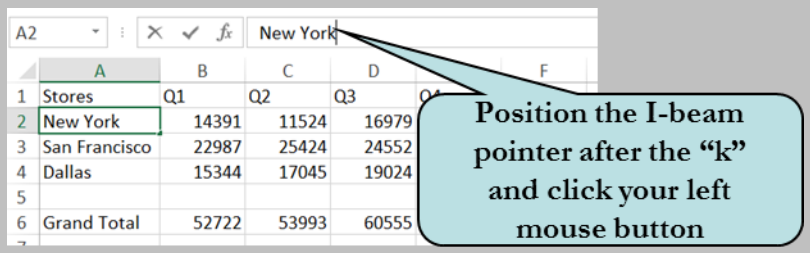
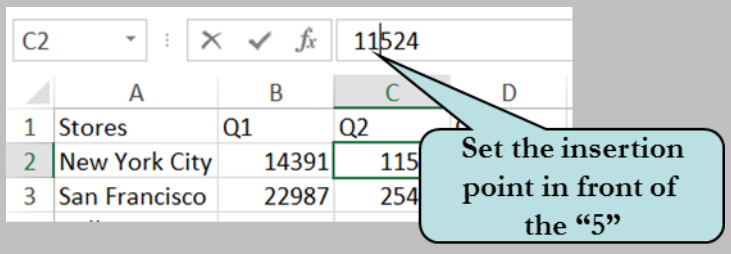
There may be times, however, when you don't want to delete the entire contents of a cell but rather, only need to change part of the cell's contents. For example, you may have discovered an error in a formula you entered and wish to modify it. Rather than retype the entire formula, it would be easier just to edit the existing formula.

To Change the Contents of a Cell

1. Activate the cell you wish to edit and then click in the formula bar.
2. Position the I-beam pointer at the location in the formula bar where you want to change or insert text.
   Or
   Double-click within the cell you wish to edit. This places you in edit mode.
3. Make your changes.



Let's Try It!

What	Why
1. Click in cell **A6**.	Makes A6 the active cell.
2. Type: **Grand Total** and then press **Enter**.	Replaces the contents of cell A6 with the words "Grand Total".
3. Click in cell **A2**.	Makes cell A2 the active cell.
4. Click in the Formula Bar after the **k** in New York as shown below.	Positions the I-beam pointer after the word New York.
	
5. Press the **spacebar** and then type **City**	Adds the word "City" after "New York".
6. Press **Enter**.	Confirms the entry.
7. Double-click in cell **C2**.	Enters edit mode in cell C2.
8. Position the I-beam pointer in front of the **5** as shown below and then press the **Backspace key**.	Deletes the 1 in front of the 5 in cell C2.
	
9. Type **2**	Enters the number 2 between the 1 and 5 in cell C2. The number in C2 now reads: 12524.
10. Press **Enter**.	Confirms the entry.
11. Click the **Save** icon.	Saves the current workbook.

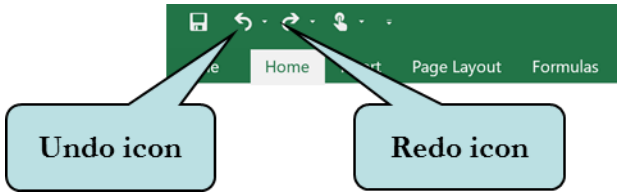
2.6 Using Undo/Redo

In this lesson, you will learn about Excel's powerful Undo/Redo feature.

Excel contains a powerful feature called **Undo/Redo** that allows you to reverse any editing action, including formatting. While entering data, you may have accidentally activated the wrong cell and inadvertently replaced the data in that cell. You can reverse this action with the **Undo** command.

Each time you initiate the Undo command, it will reverse the last action that you did; thus, clicking the Undo button 20 times will undo the last 20 actions as if they had never occurred. Rather than clicking the Undo button 20 times to undo multiple actions, clicking the arrow next to the Undo button allows you to quickly undo multiple past actions by navigating down the history list and selecting the number of actions you wish to undo.

Redo allows you to reverse the action of an Undo command.



To Use the Undo Command

1. Click the **Undo** icon on the Quick Access Toolbar.
   Or
   Press the **Ctrl + Z** keystroke combination.

To Use the Redo Command

1. Click on the **Redo** icon on the Quick Access Toolbar.
   Or
   Press the **Ctrl + Y** keystroke combination.

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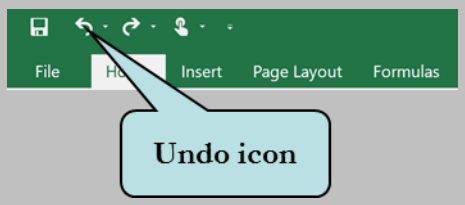
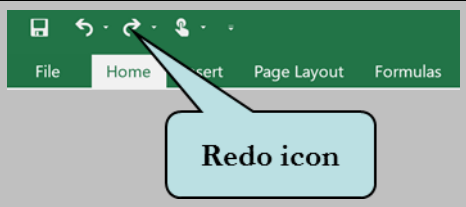
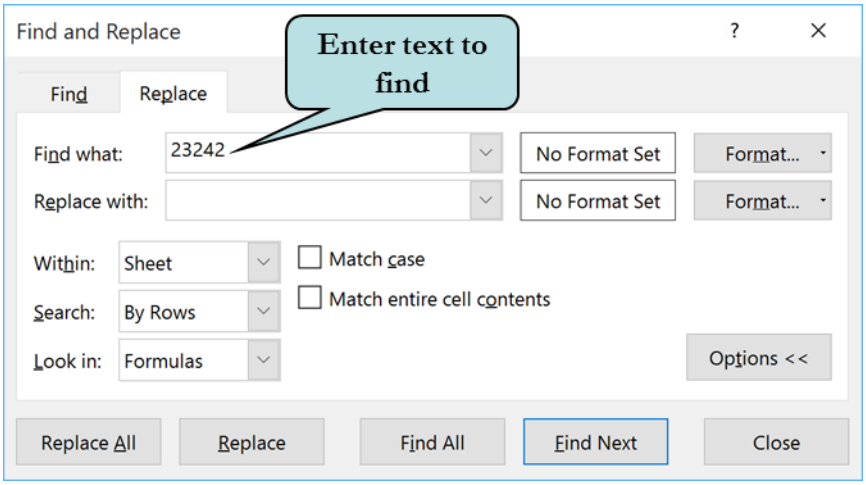
Let's Try It!

What	Why
1. Click in cell **A4** and then press the **Delete** key.	Clears the contents of cell A4.
2. Type the word **Total**	Enters the word Total in cell A4.
3. Press **Enter**.	Confirms the entry.
4. Click the **Undo** button on the Quick Access Toolbar as shown below.	Reverts to the previous action – an empty cell.
	
5. Click the **Undo** button on the Quick Access Toolbar again.	Restores the cell to its original contents.
6. Click the **Redo** button on the Quick Access Toolbar as shown below.	Reverses the last Undo command.
	
7. Click the **Undo** button on the Quick Access Toolbar.	Reverses the Redo command.

2.7 Using Find and Replace

In this lesson, you will learn how to quickly find and replace the contents of cells in a worksheet.



You can find specific information in an Excel worksheet or workbook by using Excel's **Find and Replace** feature. Once you find the entry for which you are searching, you can replace it with any desired value of text or numbers, or move on to find the next occurrence of the data.

By clicking on the **Options** button in the Find and Replace dialog box, Excel presents additional search options such as the ability to search in the active worksheet or the entire workbook as well as the choice to search in formulas, values and cell comments.

To Use Find and Replace

1. Click the **Find & Select** button on the Home Ribbon and select **Find** from the drop-down menu
   Or
   Press the **Ctrl + F** keystroke combination.
2. If you want to replace existing data with new data, click the **Replace** tab
   Or
   Press the **Ctrl + H** keystroke combination.
3. Enter the text you want to find in the **Find what:** box.
4. Enter the text with which you want to replace the existing text in the **Replace with:** text box.
5. Click on **Find Next** to search for the first instance of the text in the Find What box.

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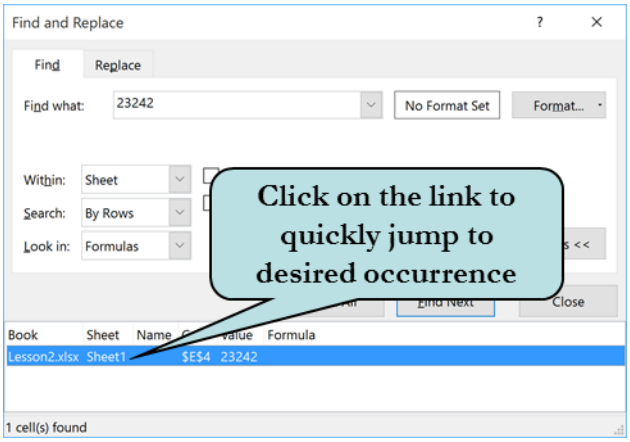
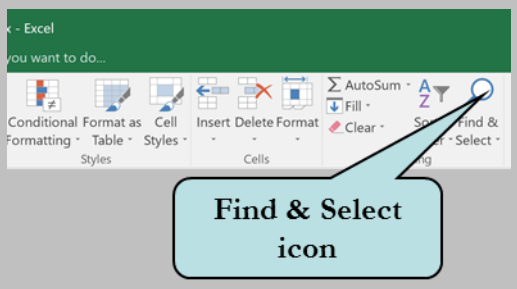
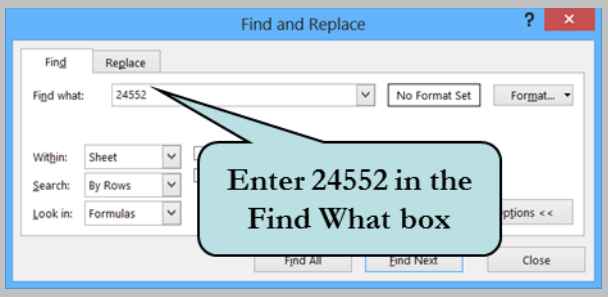
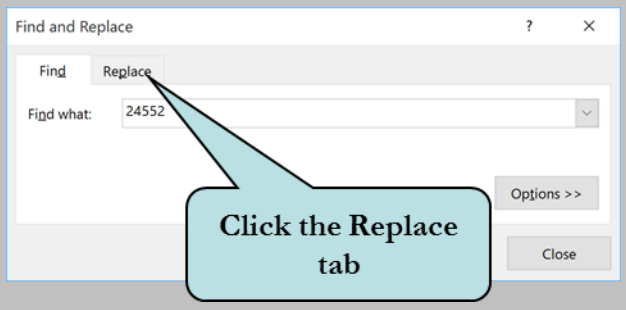
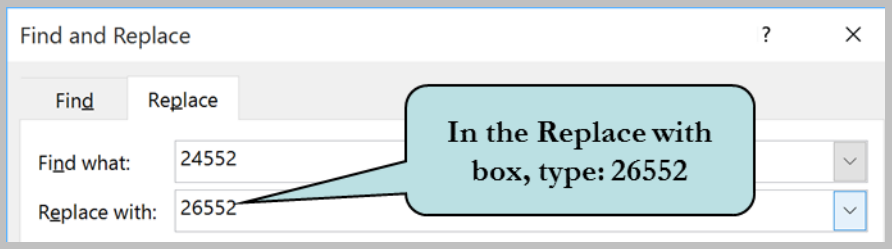
6. To search for all instances of the text, click **Find All**. The lower pane of the dialog box will expand to display all instances of the Find All command. You can quickly jump to the desired instance by clicking the data under any of the columns.



7. Click **Replace** to replace one instance at a time, clicking **Find Next** to move from one instance to another.
8. Click **Replace all** to replace all instances at once.
9. Click **Close** to close the Find and Replace dialog box.

Let's Try It!

What	Why
1. Click in cell **A1**	Makes A1 the active cell.
2. Click the **Find & Select** button on the **Editing group** of the Home Ribbon as shown below and select **Find** from the list.	Displays the Find and Replace dialog box.
	
3. Enter **24552** in the **Find what:** text box as shown below.	Establishes the value for which we wish to search.

What	Why
	
4. Click on the **Find Next** button.	Finds the first occurrence of our search value in cell D3.
5. Click on the **Replace** tab.	Switches to the Replace screen.
	
6. Enter **26552** in the **Replace with:** text box as shown below.	Enters the new value.
	
7. Click the **Replace** button.	Replaces the data in cell D3 with 26552.
8. Click the **Close** button.	Closes the Find and Replace dialog box.
9. Click the **Save** icon on the Quick Access toolbar.	Saves the current workbook.

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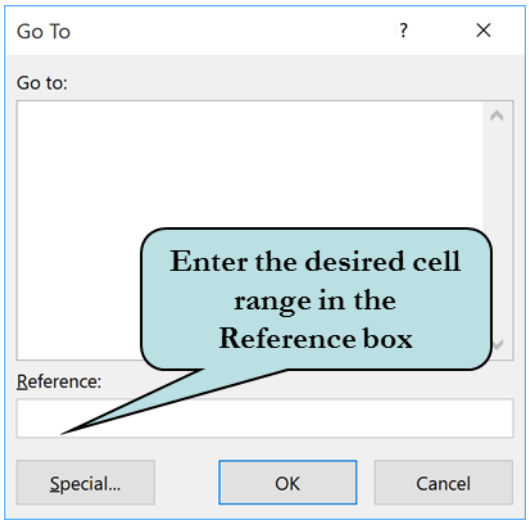
2.8 Using the Go To Command

In this lesson, you will learn how to use Excel's Go To command to navigate to a specific location of your worksheet.

Excel's **Go To** command, located under the Find & Select command button, allows you to quickly jump to and select a specific cell or cell range (including named ranges) in your worksheet. This can come in especially handy if you want to select a long range of cells in a large worksheet.

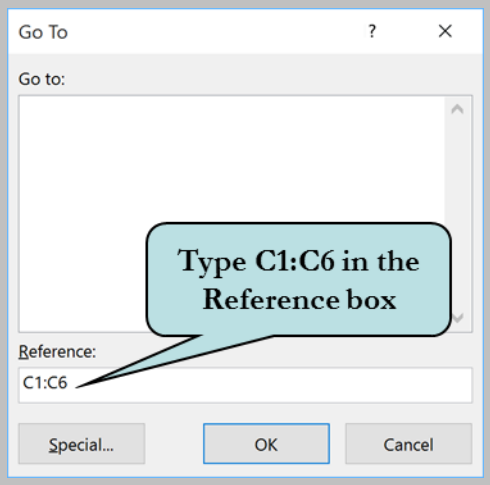
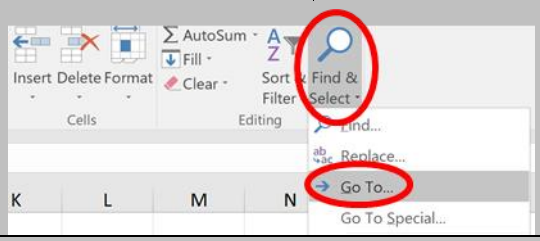


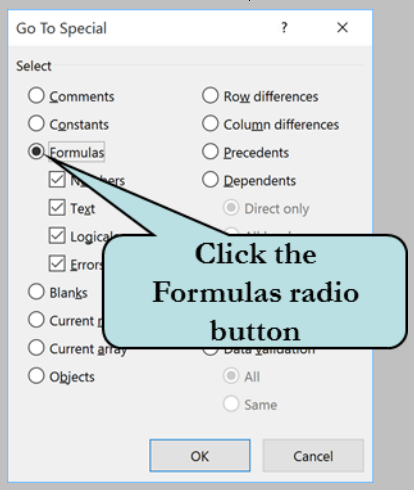
The **Special** button on the Go To dialog box also allows you to select other areas of your worksheet, such as formulas, comments, blank cells within your data range, constants (non-formula entries) and more.

To Use the Go To Command

1. Click the **Find & Select** button on the Home Ribbon and select **Go To** from the list.
   Or
   Press the **Ctrl + G** keystroke combination.
2. Enter the cell, cell range or named range you wish to find and select.
3. Click **OK**.
4. To find other worksheet items such as formulas, comments, blank cells within your data range, constants, etc., click **Special** and make your choices.

Let's Try It!

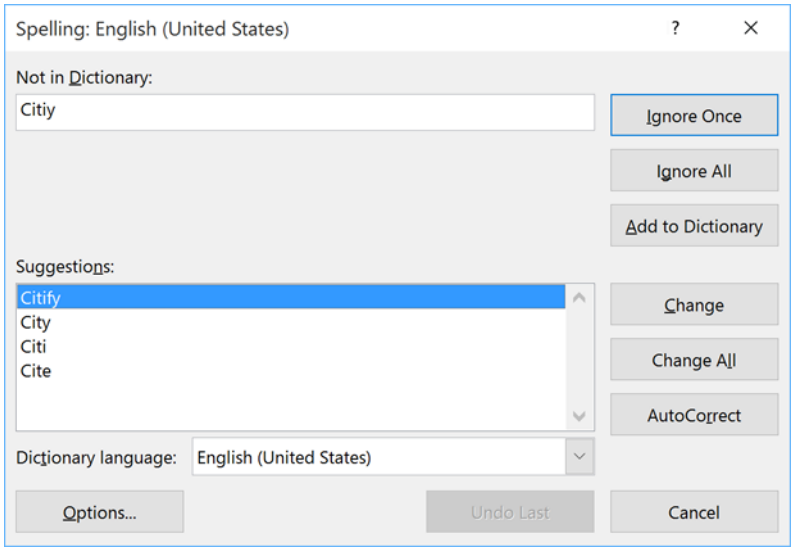
What	Why
1. Press the **Ctrl+Home** keystroke combination.	Moves to the beginning of the worksheet.
2. Press the **Ctrl + G** keystroke combination.	Displays the Go To dialog box.
3. Type: **C1:C6** in the Reference box as shown below and then click **OK**.	Selects the cell range C1:C6 in your worksheet.
	
4. Press the **Ctrl+Home** keystroke combination.	Moves to the beginning of the worksheet.
5. Click the **Find & Select** button on the Home Ribbon and select **Go To** from the list as shown below.	Displays the Go To dialog box.
	
6. Click the **Special** button.	Displays the Go To Special dialog box.
7. Click the **Formulas** radio button as shown below and then click **OK**.	Highlights all cells that contain formulas.

What	Why
	
8. Click in cell **A1**.	Activates cell A1 and deselects the highlighted cells.

2.9 Spell Checking Your Worksheet

In this lesson, you will learn how to use Excel's built-in Spell-Checker.

Excel has a built-in **spelling and grammar checker** which allows you to automatically check your worksheets for misspelled words. Microsoft Excel uses its built-in dictionary to offer suggestions for any errors it finds and you can then choose the correct spelling of the word from the Suggestions list or add the word to the dictionary so that Excel will not flag it again in the future.



Spelling dialog box

When Excel finds a questionable spelling error, a dialog box displays, prompting for a suggested action:

- **Ignore Once** – Ignores this instance of the spelling error and continues to check the rest of the document.
- **Ignore All** – Ignores all instances of the spelling error and continues to check the rest of the document.
- **Add to Dictionary** – Adds the word in question to the built-in dictionary so that it will not be flagged in the future.
- **Change** – Changes this instance of the spelling error to the selected suggestion.
- **Change All** – Changes all instances of the spelling error in the document to the selected suggestion.
- **AutoCorrect** – Adds the error and the correction to the error to Excel's AutoCorrect list so that Excel will automatically correct the error in the future.

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To Check Spelling and Grammar in a Worksheet

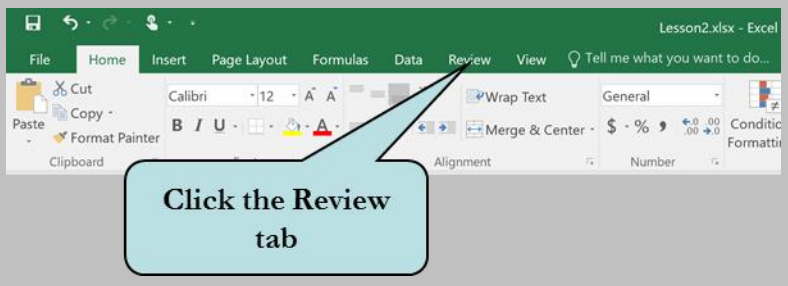
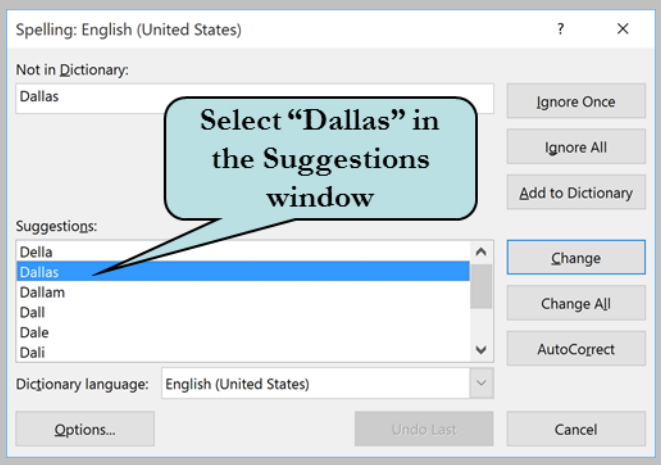
1. Move to the beginning of the worksheet.
2. Click the **Spelling icon** on the **Review** Ribbon under the Proofing group

Or
Press the **F7 key**.

3. When an error is found, highlight the desired correction from the **Suggestions List**.
4. To change an error:
   a. Choose **Change** to change this particular instance of the error to the highlighted suggestion.
   b. Choose **Change All** to change all instances of the error to the highlighted suggestion.
5. To ignore an error:
   a. Choose **Ignore** to ignore this instance of the error and continue checking the document.
   b. Choose **Ignore All** to ignore all instances of the error and continue checking the document.
6. To add the word to the built-in dictionary so it will not be flagged in the future, click **Add to Dictionary**.
7. Click **OK** when finished.

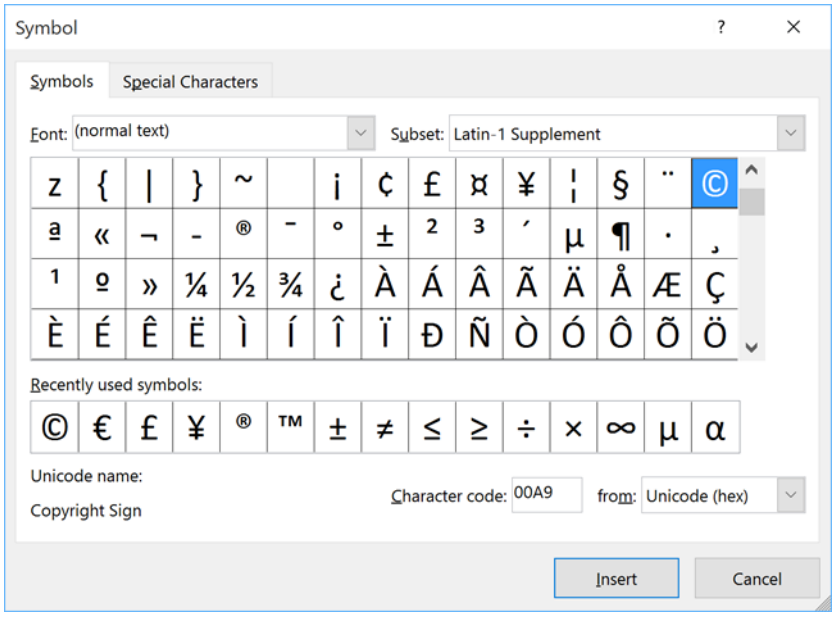
Let's Try It!

What	Why
1. **Double-click** in cell **A4**.	Enters edit mode in cell A4.
2. Delete the **s** in the word **Dallas** and then press the **Enter** key.	Misspells the word "Dallas" and confirms the entry.
3. Press the **Ctrl+Home** keystroke combination.	Moves to the beginning of the document.

What	Why
4. Click the **Review tab** on the Ribbon.	Switches to Review commands and tools.
	
5. Click the **Spelling Icon**.	Begins spell checking the worksheet.
6. Click **Dallas** in the **Suggestions list box** as shown below and then click the **Change** button.	Changes Dalla to Dallas.
	
7. Click **OK**.	Closes the spell check message box.
8. Click the **Save** icon on the Quick Access toolbar.	Saves the current workbook.

2.10 Inserting Symbols

In this lesson, you will learn how to insert special characters into an Excel worksheet.



Microsoft Excel supplies hundreds of special characters that do not appear on your keyboard that you can use in your worksheets. For example, you can insert international symbols such as **ć** or **ñ,** symbols such as a trademark symbol (®), em dash (—), copyright symbol (©) and many more.

Each font set contains its own set of symbols or characters. The **Windings** and **Monotype Sorts** contain a nice variety of useful characters.

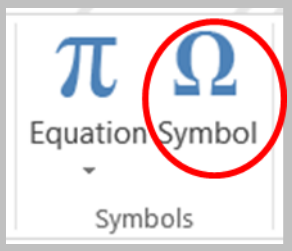
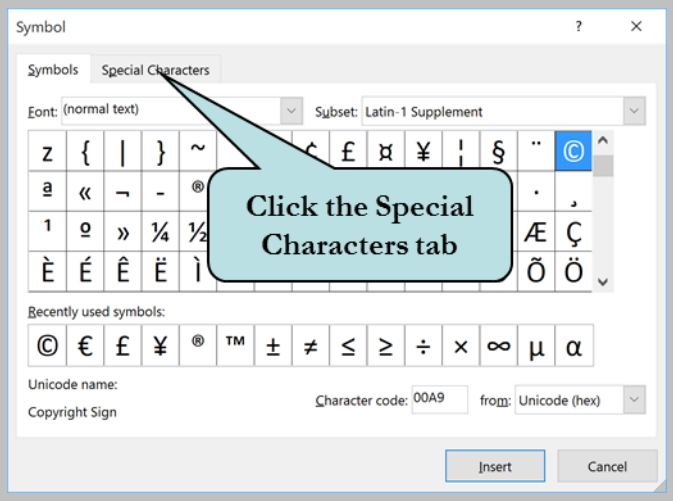
You can insert a recently used symbol by clicking the symbol in the **Recently used symbols** list in the **Symbol** dialog box. The **Special Characters** tab displays a list of common symbols such as the em dash, copyright and trademark symbols.

To Insert a Symbol into your Worksheet

1. Set the insertion point where you wish to insert a symbol.
2. Click the **Insert tab** on the Ribbon.
3. Click the **Symbol** button.
4. Select the font set you wish to use from the drop-down **Font list.**
5. If available, select the font subset from the **Subset** drop-down list.
6. To insert a commonly used symbol, click the **Special Characters** tab.
7. Click the symbol you wish to insert.

8. Click the **Insert** button.
9. Click the **Close** button.

Let's Try It!

What	Why
1. Click in **A8**.	Makes A8 the active cell.
2. Click the **Insert tab** on the Ribbon.	Displays Insert commands and tools.
3. Click the **Symbol** button on the Symbols command set as shown.	Displays the Symbol dialog box. 
4. Click on the **Special Characters** tab as shown below.	Displays commonly used symbols.
	
5. Select the **Copyright Symbol** as shown below and then click **Insert.**	Inserts the copyright symbol at the insertion point.

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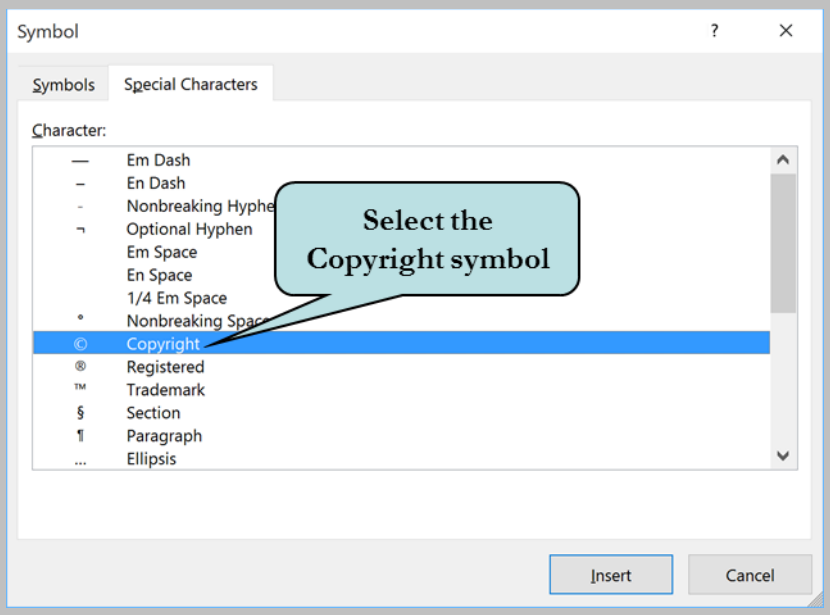
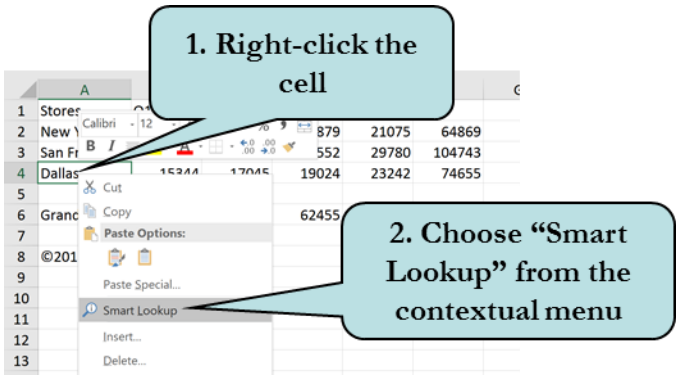
What	Why
	
6. Click **Close**.	Closes the Symbol dialog box.
7. Type: **2015 Rodney's Video** and then press **Enter.**	Enters the rest of the text into cell A8.
8. Press the **Ctrl + S** keystroke combination.	Saves our changes.

2.11 Using Smart Lookup

In this lesson, you will learn how to use Excel's Smart Lookup feature.

The **Smart Lookup** feature in Excel is a handy reference that provides contextually relevant information for selected text. Smart Lookup uses Bing search results so you will need to be connected to the Internet in order to use the feature.



To use Smart Lookup, select the cell that contains the text that you want to look up, right-click and choose **Smart Lookup** from the contextual menu. The Insights pane will then display on the right-side of your screen. Click any link in the pane to view the associated webpage in your browser. To obtain a definition of a selected word, click **Define** on top of the pane.

You can also click the **Smart Lookup icon** on the **Review** Ribbon.

To Use Smart Lookup

1. Select the word or phrase that you want to look up.
2. Click the **Smart Lookup** icon on the Review Ribbon
   Or
   Right-click the selected cell and choose **Smart Lookup** from the contextual menu.
3. When the box appears informing you that the highlighted text will be sent to Bing, click the **Got it** button.
4. To view a definition of the highlighted term, click the **Define** link on top of the Smart Lookup window.
5. To see relevant information relating to the highlighted words or phrase, click the **Explore** link on top of the window.
6. When finished, click the Close button on top of the Insights pane.

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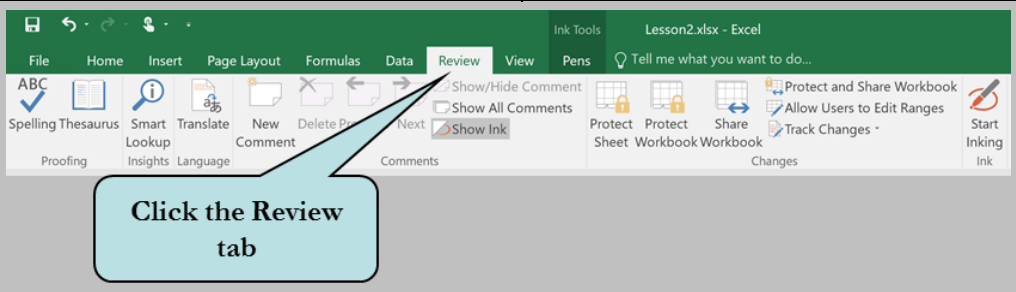
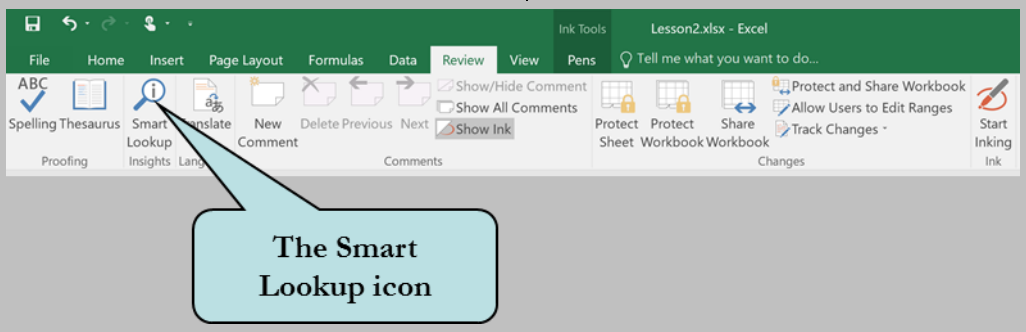
Let's Try It!

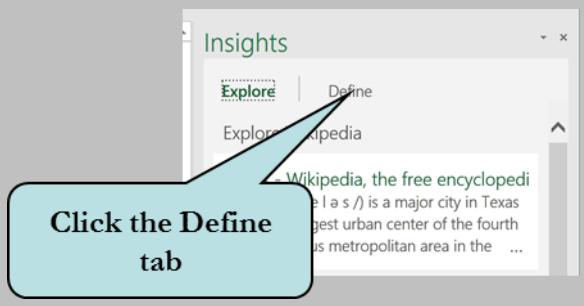
What	
1. Click in cell A4 (the cell containing Dallas).	Selects the cell containing the word we want to look up.
2. Click the **Review** tab on the Ribbon as shown below.	Ensures that the Review tab is the active tab.



3. Click the **Smart Lookup** icon on the Ribbon as shown below and then click **Got It.**	Displays the Insights pane on the right side of the window and a Wikipedia entry for the word "Dallas".



4. Click **Define** on top of the Smart Lookup pane as shown below.	Displays a definition of "reorganization".

What	
	
5. Click **Explore** on top of the Smart Lookup window.	Displays information related to the highlighted word.
6. Click the **Close button** on top of the Smart Lookup window.	Closes the Insights pane.
7. Click the **File tab** and then click **Close**.	Closes the active workbook.

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Lesson Summary – Working with Data

- In this lesson, you learned how to enter text and numbers into cells by directly typing them into the desired cell. You learned that pressing the Return key confirms cell entries. You also learned how to change column width so that the data completely displays in its own cell.
- Then, you learned how to type in simple formulas by preceding the formula with an equal (=) sign and typing your formula. You also learned that in addition to typing in actual numbers, you can use cell references in your formulas.
- Next, you learned how to select cell references manually when entering formulas, rather than typing out the cell references.
- Next, you learned how to perform a calculation such as sum, average, count numbers, etc. on a contiguous range of cells by using the AutoSum button.
- Next, you learned how to delete data by clicking in the cell and pressing the Delete key. You also learned how to change existing cell contents using the Formula Bar or by double-clicking the cell to enter edit mode.
- Next, you used the Undo button to reverse a previous action. You also learned how to use the Redo button to reverse an Undo action.
- Next, you learned how to quickly find and replace the contents of cells using the Find and Replace command.
- Next, you learned how to jump to and select a specific cell range in your worksheet by using the Go To command.
- Next, you learned how to spell check your worksheet using the Excel's Spell-Checker.
- Next, you learned how to insert symbols into your document – that is to say, hundreds of special characters that do not appear on your keyboard, using the Symbol command on the Insert Ribbon.
- Lastly, you learned how to use the new Smart Lookup feature which allows you to search for contextually relevant information for data in selected cells.

Lesson 2 Quiz

1. You notice that one of your cell entries is cut off or continues in the next cell. What is the **best** way to solve this problem?
   A. Click the Fit to Cell button on the Home Ribbon.
   B. Change the width of the column by dragging the right border of the column until all of the data is displayed.
   C. Keep making the font smaller until you can see all of the cell contents.
   D. Click in the cell and press the Enter key.

2. Which of these formulas is not formatted correctly?
   A. =4+3+5+15
   B. =A3 + B4 +C2
   C. 7+3+8+9
   D. = A6 * B14

3. What are two ways that you can edit the contents of a cell?

4. Instead of typing in actual numbers, you can reference a cell by:
   A. Clicking the Cell Reference button under the Reference tab and choosing the cell from the available cells drop-down list.
   B. Triple-clicking a cell.
   C. Typing the cell row number and column number (A4) in a formula.
   D. Clicking the Cell Reference button on the Insert Menu.

5. Instead of typing in each cell reference in a formula, you can:
   A. Choose the cells from the drop-down list on the Home Ribbon.
   B. Select the cells manually by clicking with your mouse button.
   C. Select the cells manually by using the right arrow key until you find the cell you want.
   D. Double-click the Formula bar.

6. You want to quickly total a list of cells. You can:
   A. Click the Insert Total button on the Formula Ribbon.
   B. Click in an empty cell below the list and click the AutoSum button.
   C. Click in an empty cell below the list and click the Total button.
   D. Click in an empty cell below the list and type: Sum

7. What is the symbol that tells Excel that the contents of the cell are a formula?
   A. +
   B. *
   C. =
   D. #

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8. What is the symbol that tells Excel that the number in a cell is to be treated as a label?
   A. +
   B. =
   C. #
   D. ‘

9. What does the Undo feature do?
   A. Reverses any editing action, including formatting.
   B. Unsaves your workbook.
   C. Removes all formulas from the worksheet.
   D. Converts values to labels.

10. A salesperson has resigned from your company. How do you change all instances of the former salesperson’s name to the new salesperson’s name in your worksheet?
   A. Click the Exchange Text button on the Ribbon and type in the old salesperson’s name in the Find What box, the new salesperson’s name in the Replace with box and click Replace All.
   B. Click the Find & Select button on the Ribbon, click Find, click the Replace tab, and type in the old salesperson’s name in the Find What box, the new salesperson’s name in the Replace with box and then click Replace All.
   C. Click the Spelling and Grammar option from the menu and type in the old salesperson’s name in the Find What box, the new salesperson’s name in the Replace with box and click Replace All.
   D. You will have to change each instance of the former salesperson’s name manually.

11. What is the formula bar used for (select all that apply)?
   A. Entering formulas
   B. Formatting cells
   C. Modifying the contents of cells
   D. Spell-checking your worksheet

12. Which of the following is not a label (select all that apply):
   A. January 15, 2006
   B. ‘236
   C. A3 + A4 + A5
   D. 5,235

LAB 2 – ON YOUR OWN

1. Create a new blank workbook

2. Beginning with cell A1, enter the following data into the worksheet.

	A	B	C	D	E
1	Quarter	France	Spain	Finland	US
2	Q1	42322	24255	64333	87244
3	Q2	53433	53422	73255	56743
4	Q3	78078	25664	25344	64355
5	Q4	54664	43533	45379	87355

3. Change the value in cell **C4** to **35664**.

4. Type a formula in cell **F2** that **totals** the values from **B2 to E2**.

5. Type a formula in cell **F3** that **totals** the values from **B3 to E3**.

6. Type a formula in cell **F4** that **totals** the values from **B4 to E4**.

7. Type a formula in cell **F5** that **totals** the values from **B5 to E5**.

8. Click in cell **B6** and use the **AutoSum** feature to total the values from B2 to B5 (France).

9. **Repeat** for Spain, Finland and the United States.

10. Use the **Find and Replace** feature to change every instance of **45379 to 65379**.

11. Save the workbook as **Lab2**

12. Close the workbook.

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Lesson 3

Lesson 3 – Editing a Worksheet

Lesson Topics:

3.1 Working with Ranges

3.2 Copying and Pasting Data

3.3 Using the Office Clipboard

3.4 Cutting and Pasting Data

3.5 Copying and Moving Cells Using Drag-and-Drop

3.6 Changing Column Width

3.7 Changing Row Height

3.8 Inserting and Removing Rows and Columns

3.9 Copying Data and Formulas with Auto-Fill

3.10 Filling in Cells Using Flash Fill

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3.1 Working with Ranges

In this lesson, you will be introduced to working with groups of cells.

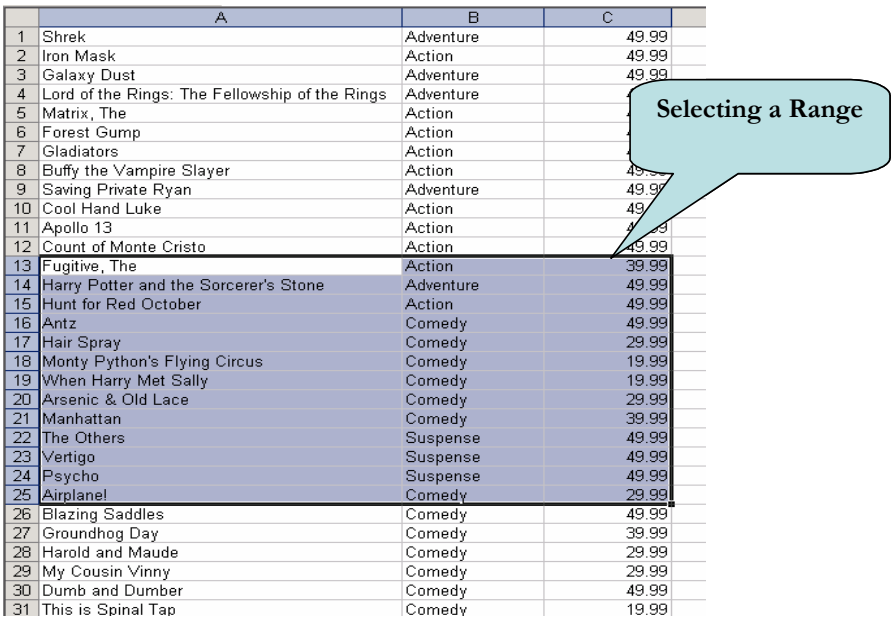
A **range** is a related group of cells. In Chapter 2, we looked at the SUM function where Excel totals a group of cells. If we wanted to retrieve a total for the cells B2 to B15, the formula would be written as:

=SUM(B2:B15)

Here, the formula B2:B15 designates all cells in the **B2 to B15 range**. This is an example of a **contiguous** range; that is to say, a group of cells that are next to each other in the same row or column.

There are several reasons why you might want to select a range in Excel:

- Apply the same formatting quickly to a group of cells
- Use the range in a function such as SUM or AVERAGE
- Apply a function or formula to several columns/rows at once
- Designate a group of cells as a print area
- Designate a group of cells for sorting



	A	B	C
1	Shrek	Adventure	49.99
2	Iron Mask	Action	49.99
3	Galaxy Dust	Adventure	49.99
4	Lord of the Rings: The Fellowship of the Rings	Adventure	
5	Matrix, The	Action	
6	Forest Gump	Action	
7	Gladiators	Action	
8	Buffy the Vampire Slayer	Action	
9	Saving Private Ryan	Adventure	49.99
10	Cool Hand Luke	Action	49
11	Apollo 13	Action	
12	Count of Monte Cristo	Action	49.99
13	Fugitive, The	Action	39.99
14	Harry Potter and the Sorcerer's Stone	Adventure	49.99
15	Hunt for Red October	Action	49.99
16	Antz	Comedy	49.99
17	Hair Spray	Comedy	29.99
18	Monty Python's Flying Circus	Comedy	19.99
19	When Harry Met Sally	Comedy	19.99
20	Arsenic & Old Lace	Comedy	29.99
21	Manhattan	Comedy	39.99
22	The Others	Suspense	49.99
23	Vertigo	Suspense	49.99
24	Psycho	Suspense	49.99
25	Airplane!	Comedy	29.99
26	Blazing Saddles	Comedy	49.99
27	Groundhog Day	Comedy	39.99
28	Harold and Maude	Comedy	29.99
29	My Cousin Vinny	Comedy	29.99
30	Dumb and Dumber	Comedy	49.99
31	This is Spinal Tap	Comedy	19.99

You can select a range in a variety of ways:

To Select a Contiguous Group of Cells

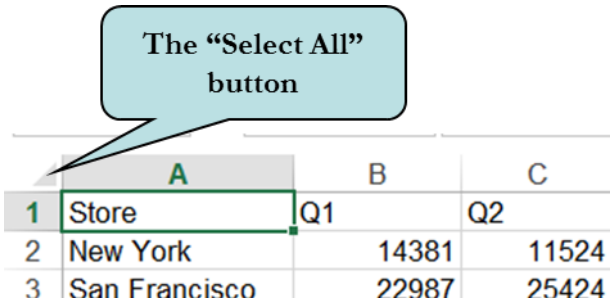
1. Click in the first cell in the group.
2. With the left mouse button held down, drag in the desired direction to select the range.

To Select an entire Row or Column

1. Click the column heading or row heading.
2. To select additional rows or columns, hold down the left mouse button and drag in the desired direction.

To Select an entire Worksheet

1. Click the **Select All** button (above row 1 and to the left of column A).



To Select a Non-contiguous range of cells

1. Click in the first cell you wish to select.
2. Hold down the **Ctrl** key.
3. With the Ctrl key held down, select any additional non-adjacent cells.

To Select a Large Area of Contiguous Cells

1. Click in the first cell in the upper left of the range.
2. Hold down the **Shift** key.
3. With the Shift key held down, click in the last cell of the lower right of the range.

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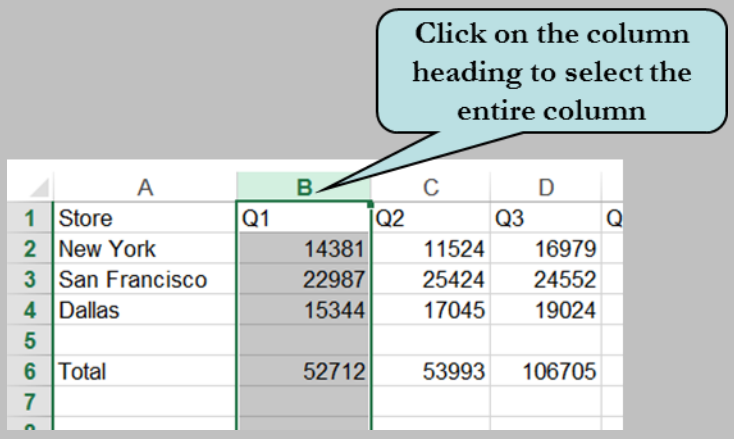
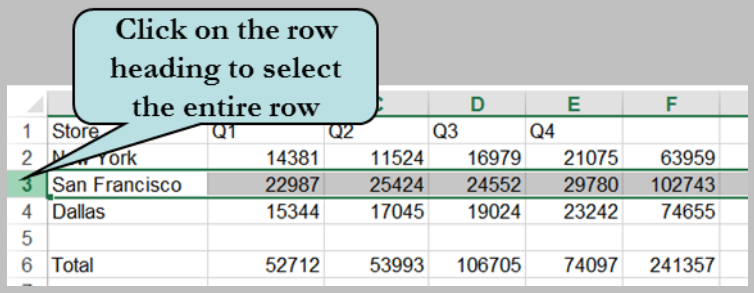
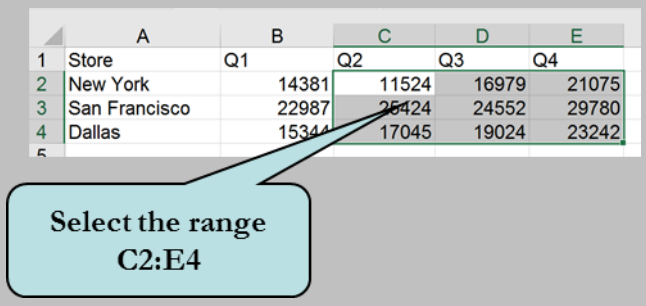
Let's Try It!

What	Why
1. Click the **File** tab and then click **Open.**	Displays the Open pane in Backstage view.
2. Click the **Browse** icon in the center pane.	Displays the Open window.
3. Click **Desktop** in the left pane.	Displays the files and folders in the Desktop folder.
4. Double-click the **Lesson Files** folder.	Displays the files and folders in the Lesson Files folder.
5. Click the **Lesson3** workbook file and then click **Open.**	Opens the Lesson 3 practice file.
6. Click on the **Column Heading** for Column B as shown below.	Selects Column B entirely.



7. Click on the **Row Heading** for **Row 3** as shown below.	Selects Row 3 entirely.

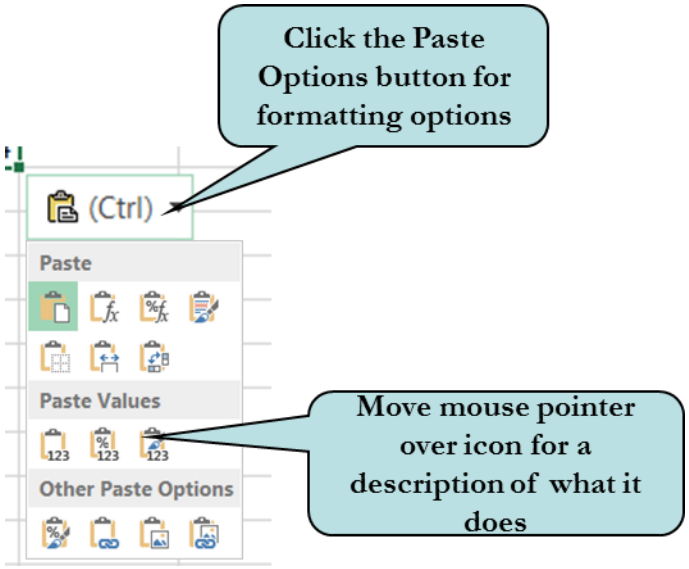
What	Why
	
8. Click in **cell C2**.	Makes C2 the active cell.
9. Press and hold down the left mouse button and drag to **cell E4** to select the range C2:E4 as shown below.	Drag-selects the range of cells C2:E4.
	
10. Select **cell B2**.	Makes B2 the active cell.
11. Press and hold down the Ctrl key. Click on **cells C4, D2, E6 and F4**.	Selects a non-contiguous range of cells.
12. Click on the **Select All** button to the left of the A and above the 1.	Selects the entire worksheet.
13. Click in **cell A1**.	Deselects the selected cells.

3.2 Copying and Pasting Data

In this lesson, you will learn how to copy data from one location of your worksheet to another.

When you want to **duplicate data** in several locations, whether it be another worksheet, another workbook or another application entirely, you can save time by using Excel's **copy command** rather than retyping the data you want to duplicate. When you copy data, it is placed on the **clipboard**, an area in memory that holds copied items. You can then insert the selection into another location by using the **Paste** command.

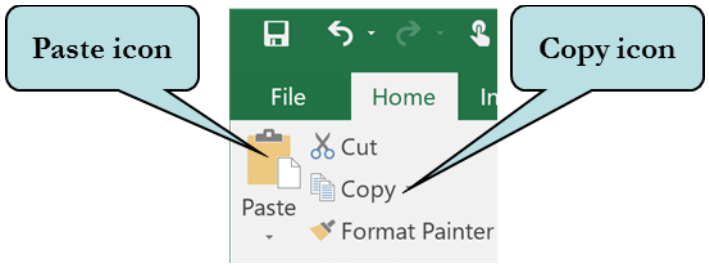
When you paste the contents of the clipboard into your worksheet, the **Paste Options Button** appears. When you click the button, a drop-down box displays, allowing you to decide how the information is to be pasted into your document. For instance, if pasting from another document, you could choose to change the formatting of the pasted text to match that of the current document.



To Copy and Paste One Item of Data

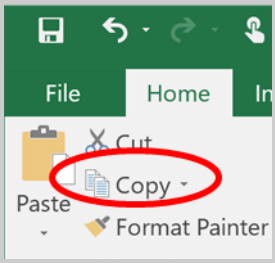
1. Select the cell range you wish to copy.
2. Press the **Ctrl** and **C** keystroke combination (**Ctrl + C**).
   Or
   Click the **Copy button** on the Home Ribbon.
3. Select the cell range to receive the data.

4. Press the **Ctrl** and **V** keystroke combination (**Ctrl + V).**
   Or
   Click the **Paste button** on the Home Ribbon



Tip: You can also **right-click** on selected text and then choose Copy from the contextual menu. Right-click and choose Paste after you have set the insertion point where you want to insert the copied text.

Let's Try It!

What	Why
1. Click the **Home tab** on the Ribbon.	Ensures that the Home Ribbon is active.
2. Click in Cell **A1**.	Makes A1 the active cell.
3. Press and hold down the left mouse button and drag to cell **B6**.	Selects the cell range A1:B6.
4. Click the **Copy icon** in the Clipboard group on the Home Ribbon.	Places a copy of the selection on the Windows clipboard. 
5. Click on the **Q1** worksheet tab on the bottom of the screen as shown below and then click in cell **A1**.	Switches to the Q1 worksheet and makes A1 the active cell.

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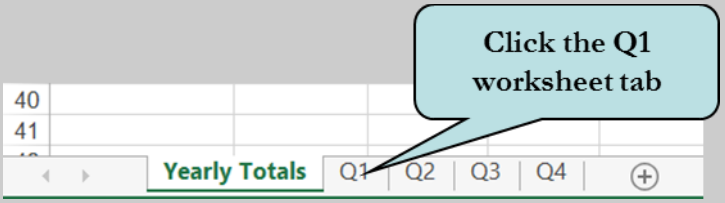
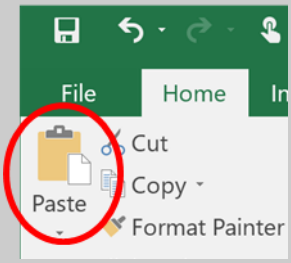
What	Why
	
6. Click the **Paste icon** on the Home Ribbon as shown.	Inserts the copied text in the Q1 worksheet. 
7. Widen column **A** to accommodate the text.	Makes all text in column A visible.
8. Click on the **Yearly Totals** worksheet tab and press the **Escape** key.	Returns to the original worksheet and clears the worksheet of the copy range.
9. Select the cell range **A1:A6**.	Selects the first row of data.
10. Press and hold the **Ctrl** key. Select cell range **C1:C6**.	Selects a non-contiguous range of cells.

	A	B	C	D	E	F
1	Store	Q1	Q2	Q3	Q4	
2	New York	14381	11524	16979	21075	63959
3	San Francisco	22987	25424	24552	29780	102743
4	Dallas	15344	17045	19024	23242	74655
5						
6	Total	52712	53993	106705	74097	241357
7						

A1:A6 and C1:C6 non-contiguous ranges

11. Click the **Copy** button on the Ribbon.	Places the selection on the clipboard.

What	Why
12. Click on the **Q2** worksheet tab on the bottom of the screen and click in cell **A1**.	Switches to the Q2 worksheet and makes A1 the active cell.
13. Click the **Paste** button on the Ribbon.	Pastes the data into the blank worksheet.
14. Click on the **Yearly Totals** worksheet tab and then press the **Escape** key.	Return to the original worksheet and clears the worksheet of the copy range.

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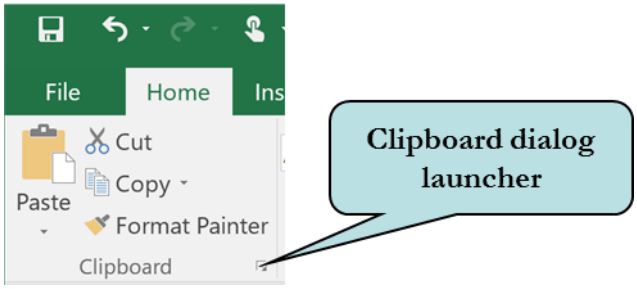
3.3 Using the Office Clipboard

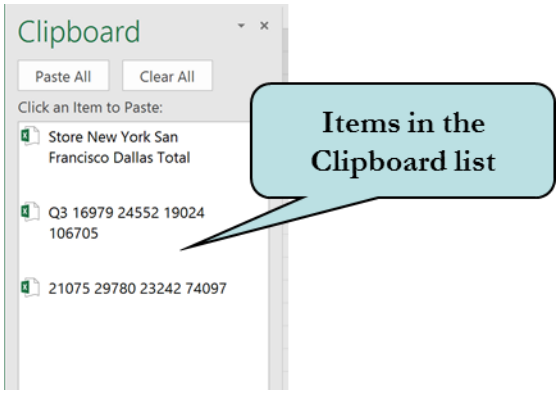
In this lesson, you will learn how to copy and paste multiple items using the Office Clipboard.

The Office Clipboard allows you to assemble data from several locations in the same document or from different Office documents, and then paste the items one at a time into any Microsoft Office document. Unlike the Windows clipboard which holds only one item, the Office Clipboard can store up to 24 items that you have cut or copied.

To use the Office Clipboard feature, ensure that the Clipboard Task Pane is visible by clicking the **Clipboard Dialog Launcher** on the bottom right corner of the Clipboard command group. Then, use the standard copy or cut commands. Each item, up to 24, that you copy or cut will be individually placed in the Clipboard for your later use.



Once you exit Excel, all items from the Office Clipboard are removed.

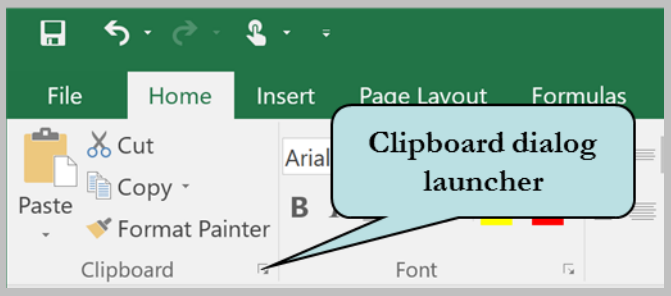


To Use the Office Clipboard

1. On the **Home** tab in the **Clipboard** command group, click the **Clipboard Dialog Box Launcher**.

2. Select the item you wish to copy or cut.
3. Click the **Copy** or **Cut** button.
4. Repeat steps two and three for any additional items you want to place on the Clipboard.
5. Set the insertion point in the document where you wish to paste one of the items from the Office Clipboard.
6. Click the item in the Clipboard list that you want to paste or click **Paste All** to paste all of the Clipboard items at once.
7. When finished, click **Clear All** to remove all items from the Office Clipboard.
8. To turn off the Office Clipboard, click the **Close** button on the Clipboard task pane.

Let's Try It!

What	Why
1. On the **Home** tab in the **Clipboard** command group, click the **Clipboard Dialog Box Launcher** as shown below.	Displays the Microsoft Office Clipboard task pane on the left side of your screen.
	
2. Click the **Clear All** button.	Removes any existing items from the Office Clipboard.
3. Select the cell range **D1:D6**.	Selects the first range of cells.
4. Click the **Copy** button on the Ribbon.	Places the selection on the Office Clipboard.
5. Select the cell range **E1:E6**.	Selects the second range of cells.

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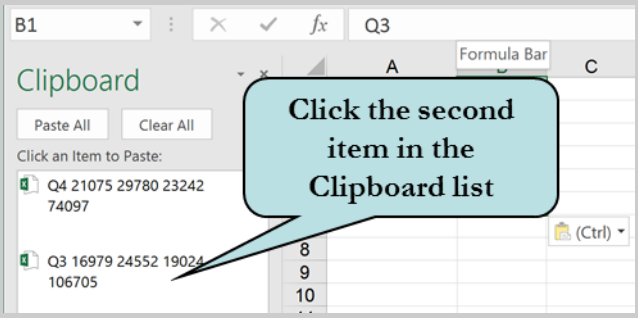
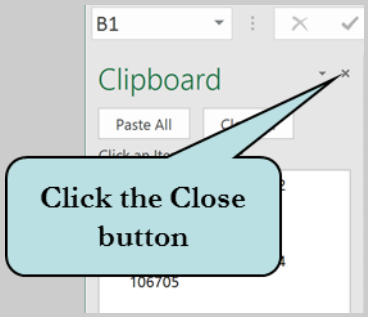
What	Why
6. Click the **Copy** button on the Ribbon.	Places the selection on the Office Clipboard above the previous entry.
7. Click on the Q3 worksheet tab on the bottom of the screen and then click in **cell B1**.	Switches to the Q3 worksheet and makes B1 the active cell.
8. Click the second item in the Office Clipboard as shown below	Pastes the Q3 data into the Q3 worksheet.
	
9. Click on the **Q4** worksheet tab on the bottom of the screen and then click in **cell B1**.	Switches to the Q4 worksheet and makes B1 the active cell.
10. Click the first item in the Office Clipboard.	Pastes the Q4 data into the Q4 worksheet.
11. Click the **Clear All** button in the Office Clipboard Task Pane.	Removes the copied items from the Office Clipboard Task Pane. If you wish to only remove a specific item from the Office Clipboard, move your mouse pointer over the item to be deleted, click the arrow that appears next to the item and select **Delete** from the list.
12. Click on the **Yearly Totals** worksheet tab and hit the escape key.	Returns to the original worksheet and clears the worksheet copy range.
13. Click the **Close button** on the Office Clipboard pane as shown below.	Closes the Office Clipboard.

What	Why
	
14. Click the **Save** button on the Quick Access toolbar.	Saves our changes.

3.4 Cutting and Pasting Data

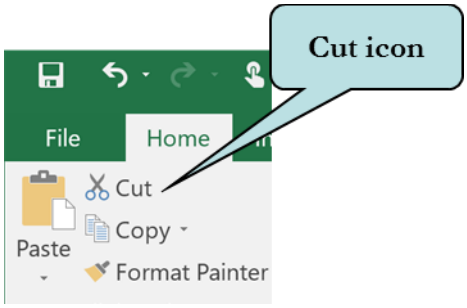
In this lesson, you will learn how to move data from one location of your worksheet to another using the Cut and Paste commands.

When you wish to move data from one location to another rather than duplicate it like we did in the previous lesson, use Excel's **Cut and Paste** commands. Using the Cut and Paste commands, the data is deleted from its original location and moved to the new location. Like the copy command, the data is stored temporarily on the Windows clipboard.

Using the **Cut and Paste commands** allows you to rearrange worksheet cells, rows and columns with ease.

To Cut and Paste Data

1. Select the cell range you wish to delete.
2. Press the **Ctrl** and **X** keystroke combination (**Ctrl + X).**
   Or
   Click the **Cut button** on the Home Ribbon.
3. Select the cell range to receive the data.
4. Press the **Ctrl** and **V** keystroke combination (**Ctrl + V).**
   Or
   Click the **Paste button** on the Home Ribbon



Tip: You can also **right-click** on selected text and then choose Cut from the contextual menu. Right-click and choose Paste after you have set the insertion point where you want to insert the copied text.

Let's Try It!

What	Why
1. Select the cell range **A1:F6**.	Selects the entire range of data.
2. Press the **Ctrl + X** keystroke combination.	Places a marquee border around the range to be cut.
3. Click in cell **B8**.	Activates the cell where we will paste our data.
4. Press the **Ctrl + V** keystroke combination.	Removes the data from the original location and places it in the new location.

	A	B	C	D	E	F	G	H
1								
2								
3								
4								
5								
6								
7								
8		Store	Q1	Q2	Q3	Q4		
9		New York	14381	11524	16979	21075	63959	
10		San Francisco	22987	25424	24552	29780	102743	
11		Dallas	15344	17045	19024	23242	74655	
12								
13		Total	52712	53993	106705	74097	241357	
14								
15								

The Pasted Data

5. Click the **Save** icon.	Saves the active workbook.

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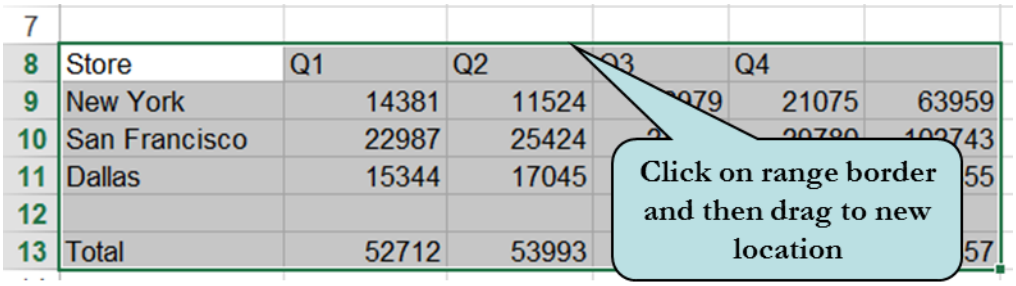
3.5 Copying and Moving Cells using Drag-And-Drop

In this lesson, you will learn how to manually move and copy cells using the drag-and-drop method.

Instead of using the Cut/Copy and Paste commands, you can also move and copy cells or ranges of cells using the **drag-and-drop** method. That is to say, you can manually move the contents of cells to another location by first selecting the cell range and then dragging the cells with your mouse to the new location. To copy cells instead of moving, hold down the **Ctrl** key as you drag.

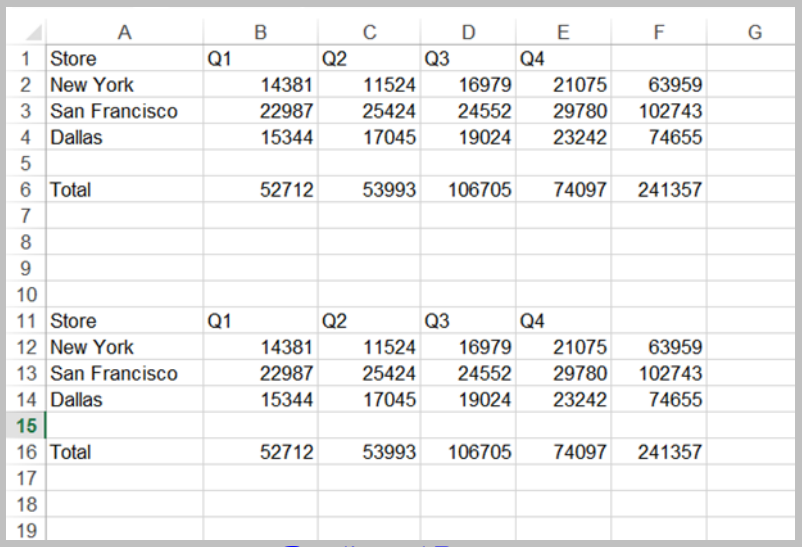
To Copy or Move a Range using Drag-and-Drop

1. Select the range of cells to be copied or moved.
2. Position your mouse pointer over **the dark border** of the selection until the pointer becomes a black 4-way arrow.
3. To move the range, **click** with your left mouse button and **drag** to the new location.
4. To copy the range, press and hold the Ctrl key as you drag.



Let's Try It!

What	Why
1. Select the range **B8:G13**.	Selects the entire range of data.
2. Move your mouse pointer over the **top border of the range** until the pointer changes to a 4-way black arrow.	Enters drag mode.
3. Click and drag until the top left corner rests in cell **A1**.	Moves the range to its new location, beginning in cell A1.
4. Release the mouse button.	Completes the move process.
5. With the range still selected, move your mouse pointer over the **bottom border of the range** until the pointer changes to a 4-way black arrow.	Enters drag mode.
6. Press and hold the **Ctrl** key, then **click and drag** until the top left corner rests in cell **A11**.	Duplicates the range in cells A11:F16.



	A	B	C	D	E	F	G
1	Store	Q1	Q2	Q3	Q4		
2	New York	14381	11524	16979	21075	63959	
3	San Francisco	22987	25424	24552	29780	102743	
4	Dallas	15344	17045	19024	23242	74655	
5							
6	Total	52712	53993	106705	74097	241357	
7							
8							
9							
10							
11	Store	Q1	Q2	Q3	Q4		
12	New York	14381	11524	16979	21075	63959	
13	San Francisco	22987	25424	24552	29780	102743	
14	Dallas	15344	17045	19024	23242	74655	
15							
16	Total	52712	53993	106705	74097	241357	
17							
18							
19							

Duplicated Range

7. Release the Ctrl key and the mouse button **at the same time**.	Completes the copy process.
8. Click the **Undo** button.	Reverses the copy procedure.
9. Click the **Save** icon.	Saves the current workbook.

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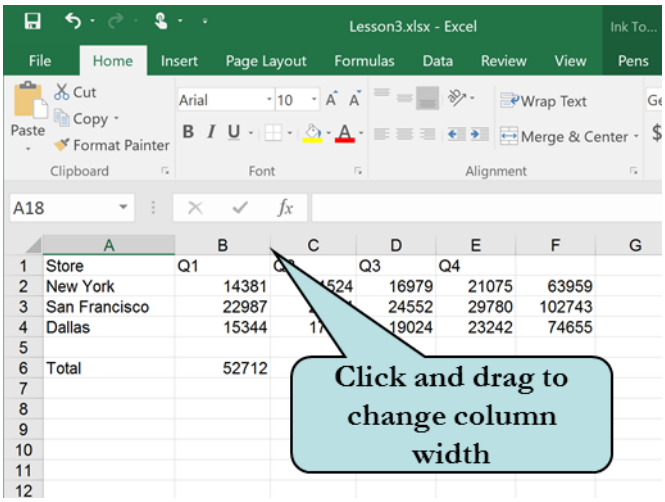
3.6 Changing Column Width

In this lesson, you will learn how to modify the width of columns to accommodate text.

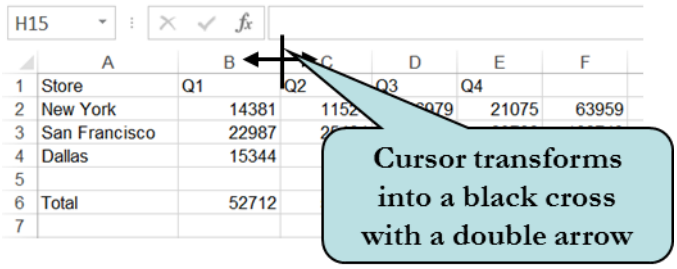
When typing data into a cell, we often find that the column is not wide enough to accommodate the text and sometimes the end of our text will be either cut off or will continue into the next cell. In such a case, we will want to **adjust the column width** by clicking on the boundary of the right side of the column heading and dragging until the column is the desired width.



Rather than change the size of a column manually, you can use Excel's **Column Width** commands in which you enter **precise values** for the column width.

To Change the Width of a Column

1. Move your mouse pointer over the **boundary** of the right side of the column heading until the mouse pointer changes into a black cross with a double arrow.
2. Click and hold the mouse button down and **drag** until the column is the desired width.

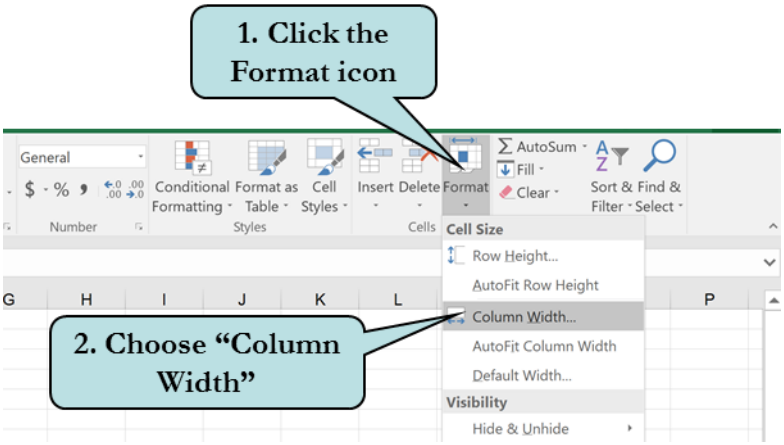


To Change the Width of Multiple Columns

1. Select the columns you wish to change by selecting the column headings.
2. Move your mouse pointer over the **boundary** of the right side of any column heading until the mouse pointer changes into a black cross with a double arrow (To change the columns widths of **All** columns or rows in the worksheet, click the **Select All Button**).
3. Click and hold the mouse button down and **drag** until the columns are the desired width.

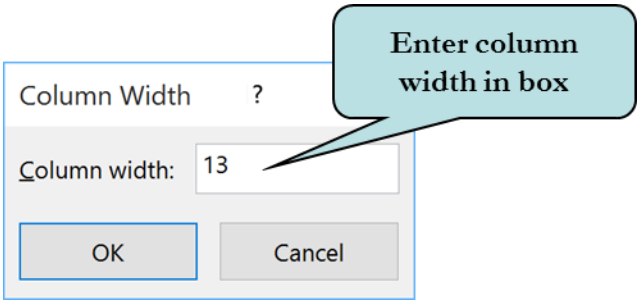
To Change the Size of a Column using the Column Width Command

1. Highlight the column(s) you wish to change.
2. **Right-click** and choose **Column Width** from the contextual menu
   Or
   Click the **Format** button on the Cells group on the Home Ribbon and choose **Column Width** from the drop-down menu.



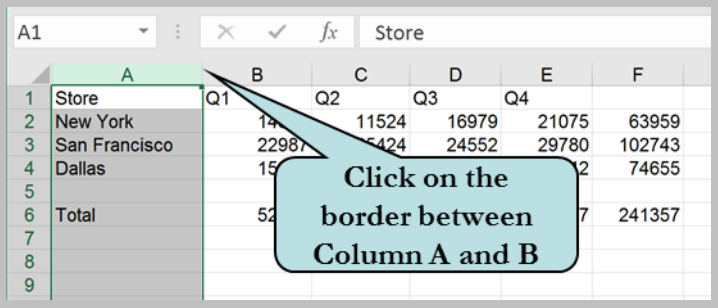
3. Enter the appropriate value in the pop-up dialog box. The value is expressed by average number of digits which the row or cell can accommodate using the

default font. For example, a column width of 13 should be able to accommodate 13 digits in that cell.



4. Click **OK**.

Let's Try It!

What		Why
1.	Click on the column heading for **Column A**.	Selects Column A.
2.	Click on the border between **Column A and Column B** as shown below.	Enters drag mode.
		
3.	Click and drag until Column A is about **2 inches wide**.	Adjusts the width of Column A.
4.	Click the **Save** icon.	Saves our changes.

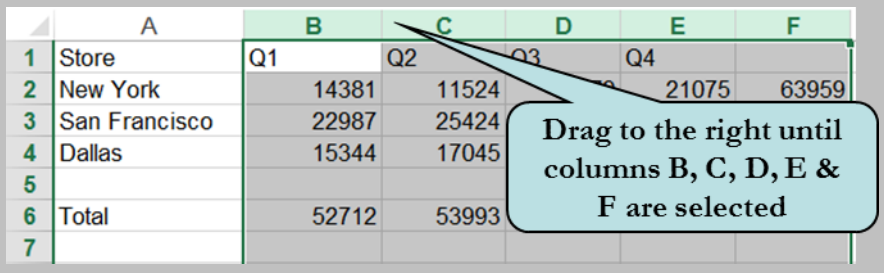
Autofit

You can also use Excel's **Autofit** feature. This allows you to automatically change the width of a column or height of a row to accommodate the widest or tallest entry.

To Change the Size of a Column or Row using Autofit:

1. For **Columns**, double-click on the **right border** of the column heading. The column width will adjust to accommodate the largest entry in that column.
2. For **Rows**, double-click on the **bottom border** of the row heading. The row height will adjust to accommodate the tallest entry in that row.

Let's Try It!

What		Why
1.	Click on the column heading for **Column B**.	Selects Column B.
2.	Click and drag to the right until **Columns B, C, D, E & F** are selected.	Selects columns B through F.
		
3.	Double-click on the border between **Columns C & D** in the column heading.	Autofits all selected columns.
4.	Click the **Save** icon.	Saves the active workbook.

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3.7 Changing Row Height

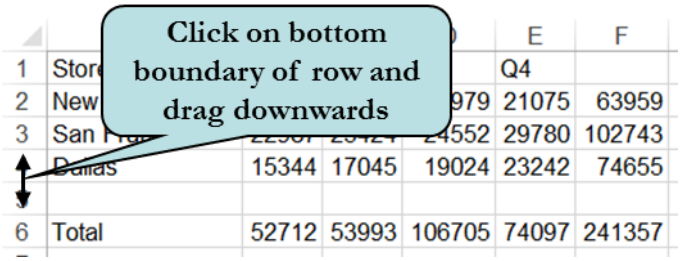
In this lesson, you will learn how to modify the height of rows.

At times, you may wish a particular row to stand out by increasing the font size such as in a worksheet title heading. In this case, you would also need to adjust the row height to accommodate the taller text of the increased font size. The process for changing the width of columns works the same way for changing the height of rows – click on the boundary of the bottom of the row heading and drag until the row is the desired height.

Just as we saw with changing column width, you also change the size of a row (rather than dragging manually) by using Excel's **Row Height** command in which you enter **precise values** for row height.

To Change the Height of a Row

1. Move your mouse pointer over the bottom border of the row heading until the mouse pointer changes into a black cross with a double arrow.
2. Click and hold down the mouse button and **drag downwards** until the row is the desired height.



To Change the Height of Multiple Rows

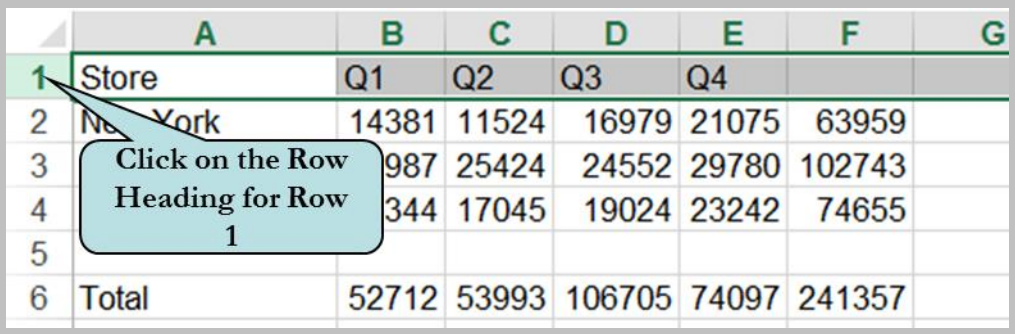
1. Select rows you wish to change by clicking on the row headings.
2. Move your mouse pointer over the **boundary** on the bottom of any row heading until the mouse pointer changes into a black cross with a double arrow (to change the row heights of **All** rows in the worksheet, click the **Select All button**).
3. Click and hold the mouse button down and **drag** until the rows are the desired height.

To Change the Height of a Row using the Row Height Commands

1. Highlight the row(s) you wish to change.
2. Right-click and choose **Row Height** from the contextual menu
   Or
   Click the **Format** button on the Cells group on the Home Ribbon and choose **Row Height** from the drop-down menu.
3. Enter the appropriate value in the pop-up dialog box. The value represents height measurements in points (1 point is equal to 1/72 of an inch).

Let's Try It!

What	Why
1. Click on the row heading for **Row 1** as shown below.	Selects Row 1.



	A	B	C	D	E	F	G
1	Store	Q1	Q2	Q3	Q4		
2	N York	14381	11524	16979	21075	63959	
3		987	25424	24552	29780	102743	
4		344	17045	19024	23242	74655	
5							
6	Total	52712	53993	106705	74097	241357	

2. Click and then drag downwards until **Rows 1-6** are selected.	Selects Rows 1-6.
3. Click on the border between **Rows 2 and 3** in the row heading and drag downwards about **1/4 of an inch** as shown below.	Adjusts all selected rows.

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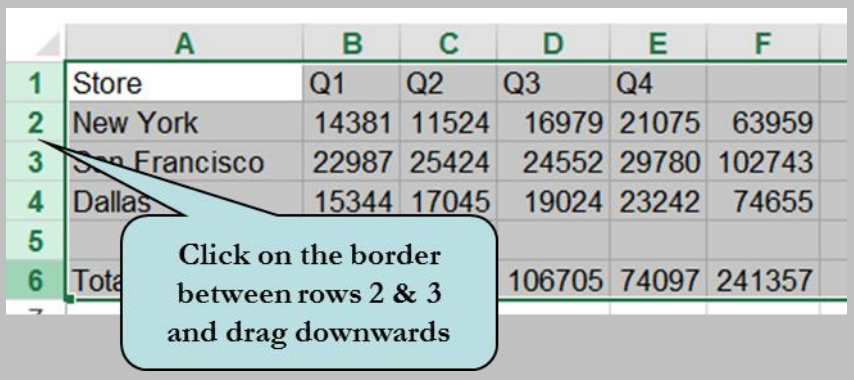
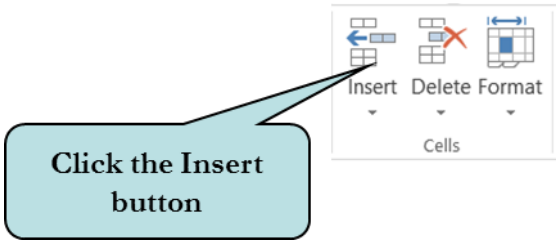
What	Why
	
4. Click the **Save** icon.	Saves the active workbook.

3.8 Inserting and Removing Rows and Columns

In this lesson, you will learn how to insert new rows and columns and delete existing rows and columns in your worksheet.

To change the appearance of your worksheet, you can insert additional columns and rows or delete existing ones. When you insert a new column into your worksheet, existing columns shift to the right. When inserting new rows, existing rows shift down.



To Insert a Column

1. Select the column where you would like to insert a new column. If you wish to insert more than one column, select as many columns as you would like to insert.
2. In the **Home Ribbon**, click the **Insert** button on the **Cells group**.
   Or
   Right Click and choose **Insert** from the contextual menu.

To Insert a Row

1. Select the row where you would like to insert a new row. If you wish to insert more than one row, select as many rows as you would like to insert.
2. In the **Home Ribbon**, click the **Insert** button on the **Cells group.**
   Or
   Right Click and choose **Insert** from the contextual menu.

To Remove a Row or Column

1. Select the column or row that you wish to remove.
2. Click the **Delete** button on the Cells group

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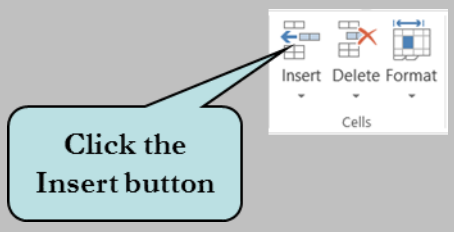
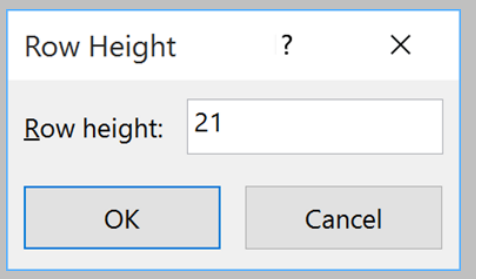
Or
Right-click and choose **Delete** from the contextual menu.

3. To clear only the **contents** of a row or column, highlight the row or column and press the **Delete** key.

Let's Try It!

What	Why
1. Click on the Row Heading for **Row 4**.	Selects Row 4.
2. **Right-click** and then choose **Insert** from the contextual menu.	Inserts a new row above row 4.
3. Click in cell **A4** and type: **Milwaukee**	Enters data into cell A4.
4. Press the **Tab** key and type: **41224**	Enters Q1 data for Milwaukee.
5. Press the **Tab** key and type: **42655**	Enters Q2 data for Milwaukee.
6. Press the **Tab** key and type: **38972**	Enters Q3 data for Milwaukee.
7. Press the **Tab** key and type: **45268** and then press **Enter**.	Enters Q4 data for Milwaukee and confirms the entry.
8. Select the **Row Headings** for **Rows 1 and 2**.	Selects the first two rows.
9. Click the **Insert button** on the Cells group on the Ribbon as shown below.	Inserts two new rows above row 1.
	
10. Click the **Row Heading** for Row 1.	Selects Row 1.

What	Why
11. **Right-Click** and choose **Row Height** from the contextual menu.	Displays the Row Height dialog box.
12. Enter **21** in the Row Height dialog box as shown.	Enters a row height of 21 for Row 1. 
13. Click **OK**.	Closes the Row Height dialog box.
14. Click in cell **A1**.	Makes cell A1 the active cell.
15. Type**: Quarterly Sales for FY 2015**.	Enters our worksheet title.
16. Press **Enter**.	Confirms the entry.
17. Click the Row Heading for **row 4** and click the **Delete** button on the Cells group of the Ribbon.	Deletes row 4 from the worksheet.
18. Press the **Ctrl + Z** keystroke combination.	Reverses the last action.
19. Click the **Save** icon.	Saves the current worksheet.

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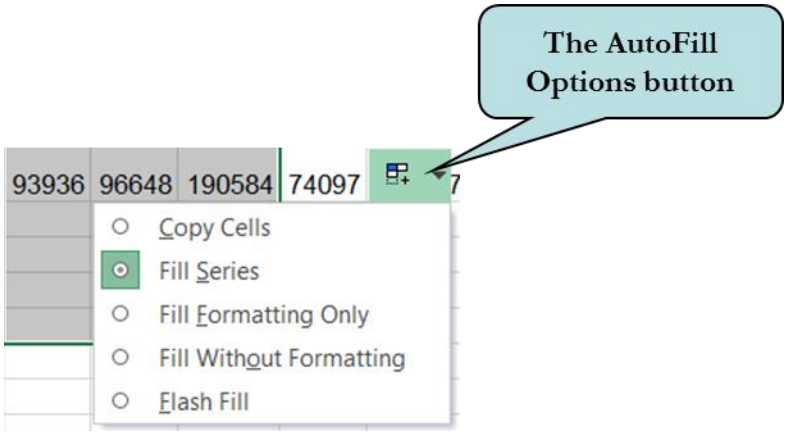
3.9 Copying Data and Formulas with AutoFill

In this lesson, you will learn how to copy data and formulas from one cell to another using Excel's AutoFill feature.

You can copy data and formulas to adjacent cells using the **AutoFill** feature. To use AutoFill, select the cell whose data you wish to copy and then move your mouse pointer over the cell's **fill handle**, the small black box on the lower right corner of the cell. Your mouse pointer will transform into a black cross. Then, click and drag to the adjacent cell(s) where you wish to copy the data. Once the action is completed, the **AutoFill Options** button appears, allowing you to choose the option of copying just the data, copying the formatting only, or copying the data without the formatting.



To Use AutoFill to Copy Data or a Formula

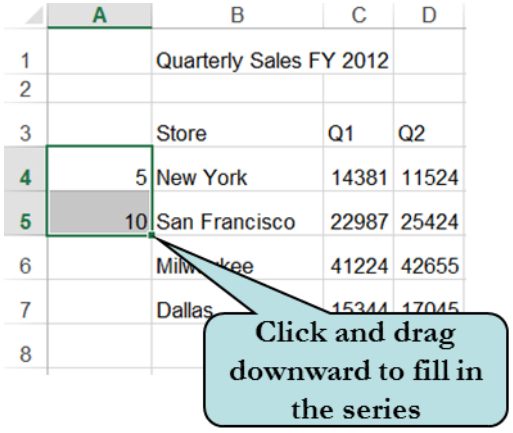
1. Activate the cell whose data or formula you wish to copy.
2. Move the mouse pointer over the fill handle until the pointer transforms into a black cross.
3. Click and drag to the cell(s) where you wish to copy the data.
4. Release the mouse button.
5. If desired, choose an option from the AutoFill Options button by clicking the arrow.

Using AutoFill to Create a Series

You can use AutoFill to create a series or a sequence of values. For instance, you can quickly fill in cells that follow a sequence of 5, 10, 15, etc. You need only provide an example of a couple of entries to show Excel the pattern for the series. For a series such as a sequential date, you need only provide one example — Excel will automatically increment the date by one day.

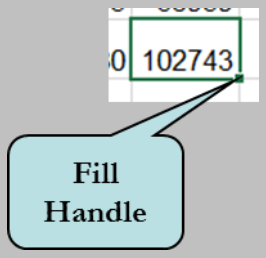
To Use AutoFill to Create a Series

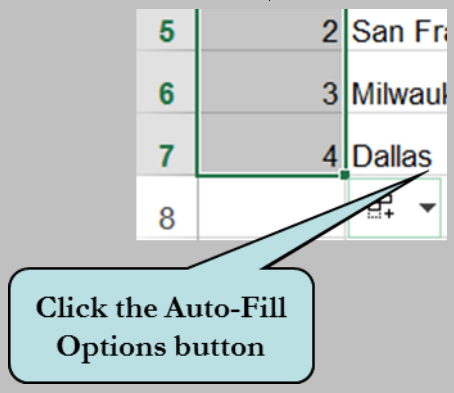
1. Select one or more adjacent cells which contain the series pattern.
2. Move the mouse pointer over the fill handle on the last cell until the pointer transforms into a black cross.
3. Click and drag down or across to the number of cells you wish to contain the series.
4. Release the mouse button.



Tip: When you first select a series of data, a small multi-colored box appears next to the sizing handle. This is the **Quick Analysis feature**, which will be discussed in a later lesson. The Quick Analysis box appears when you select data; the Auto-Fill box appears have you have finished dragging.

Let's Try It!

What	Why
1. Click in cell **F5**.	Activates cell F5.
2. Observe the formula in the formula bar.	The formula sums the values from B5 to E5.
3. Move your mouse pointer over **the fill handle** (the box on lower right of cell) until the pointer transforms into a black cross.	Enters drag mode. 
4. **Click and hold** down the left mouse button and drag the contents down to **cell F6**. Release the mouse button.	Copies the formula in cell F5 to F6.
5. Click in cell **F6**.	Activates cell F6.
6. Observe the formula bar.	Formula cell references are automatically updated to reflect our new cell location (formula now sums the values from B6 to E6).
7. Click on the column heading for **Column A**.	Selects Column A.
8. **Right-click** and choose **Insert** from the contextual menu.	Inserts a new column to the left of Column A.
9. Click in cell **A3** and type: **Store #**. Press **Enter**.	Enters text in cell A3 and confirms the entry.

What	Why
10. Type **1** in cell **A4** and then press **Enter**.	Enters the first number of our series in cell A4 and confirms the entry.
11. Type **2** in cell **A5** and then press **Enter**.	Enters the second number of our series in cell A5 and confirms the entry.
12. Select cells **A4 and A5**.	Highlights cells A4 and A5.
13. Move your mouse pointer over the **Fill Handle** on the bottom right of cell **A5**.	Enters Drag mode.
14. Click and drag down to cell **A7**. **Release** the mouse button.	Completes the series for cells A6 and A7.
15. Click the **Auto-Fill Options button** as shown below.	Displays Auto-Fill options.
	
16. Press the **Esc** key on your keyboard.	Hides Auto-Fill options.
17. Click the **Save** button.	Saves the current worksheet.
18. Press **Ctrl + W**.	Closes the Lesson3 workbook.

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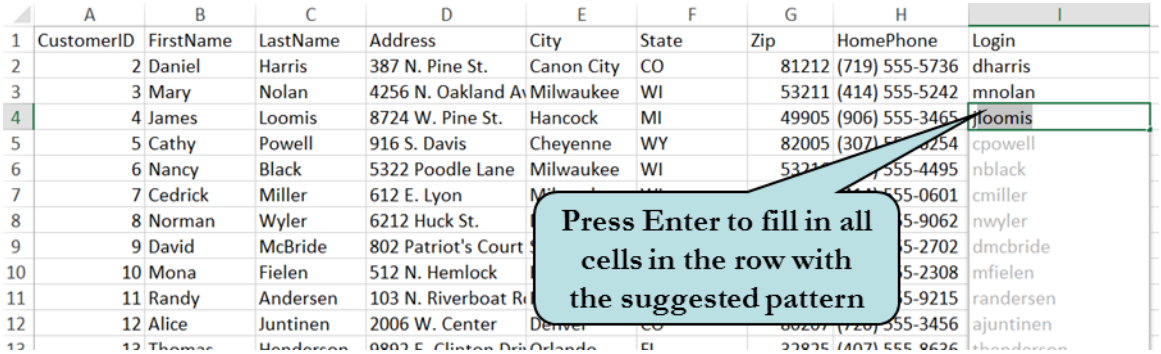
3.10 Filling in Cells using Flash Fill

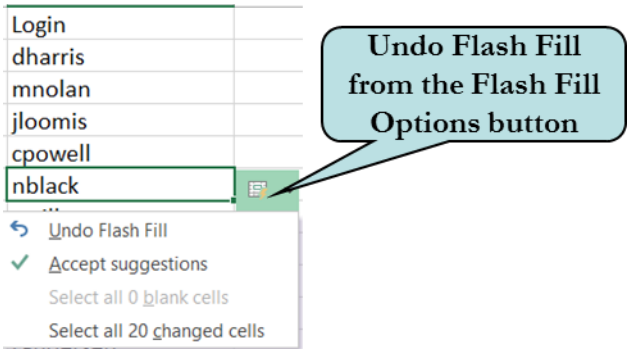
In this lesson, you will learn how to use Excel's Flash Fill feature.

A handy and time-saving new feature in Excel is the **Flash Fill** feature. As you begin typing data, Flash Fill allows you to fill in empty cells based upon patterns that already exist in your spreadsheet. For instance, if you have a field that combines the first names and last names of your customers into one field, you can easily split them into separate fields using Flash Fill. Likewise, you can combine separate fields into one using the same method. If you have a huge spreadsheet, you don't even have to click and drag to fill in the cells – Flash Fill does it for you.



	A	B	C	D	E	F	G	H	I
1	CustomerID	FirstName	LastName	Address	City	State	Zip	HomePhone	Login
2	2	Daniel	Harris	387 N. Pine St.	Canon City	CO	81212	(719) 555-5736	dharris
3	3	Mary	Nolan	4256 N. Oakland Av	Milwaukee	WI	53211	(414) 555-5242	mnolan
4	4	James	Loomis	8724 W. Pine St.	Hancock	MI	49905	(906) 555-3465	jloomis
5	5	Cathy	Powell	916 S. Davis	Cheyenne	WY	82005	(307) 555-0254	cpowell
6	6	Nancy	Black	5322 Poodle Lane	Milwaukee	WI	53211	555-4495	nblack
7	7	Cedrick	Miller	612 E. Lyon				555-0601	cmiller
8	8	Norman	Wyler	6212 Huck St.				5-9062	nwyler
9	9	David	McBride	802 Patriot's Court				5-2702	dmcbride
10	10	Mona	Fielen	512 N. Hemlock				5-2308	mfielen
11	11	Randy	Andersen	103 N. Riverboat R				5-9215	randersen
12	12	Alice	Juntinen	2006 W. Center	Denver	CO	80207	(720) 555-3456	ajuntinen

As you type, Excel begins filling in information for the rest of that field. Additionally, it displays how subsequent rows will be filled in. Once you fill in the data, a Flash Fill Options button appears, allowing you to Undo the Flash Fill if you don't like the results. You also can select all of the remaining cells in the series in order to change their formatting, if you so desire.



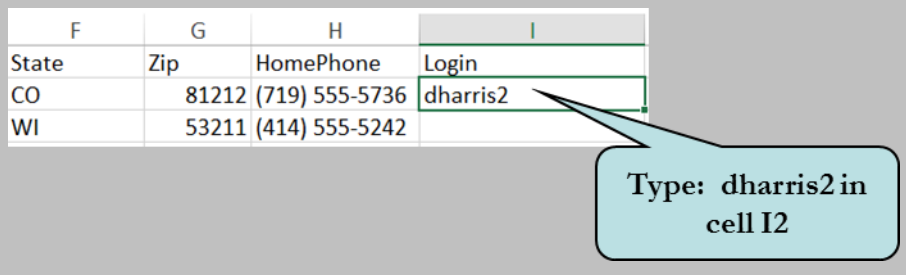
To Use Flash Fill to Copy Data or a Formula

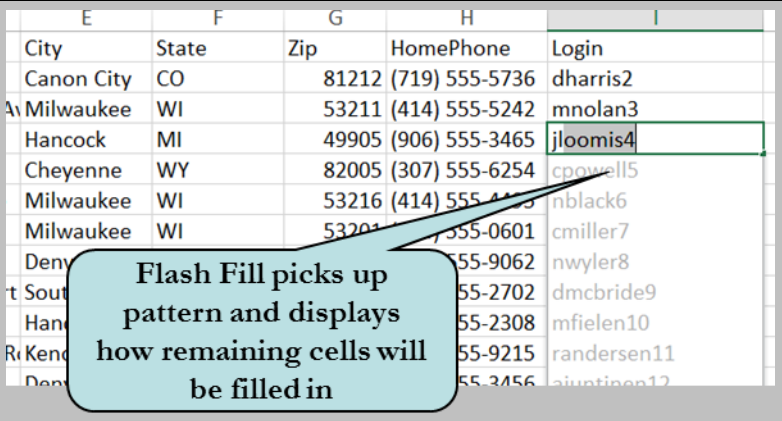
1. Begin typing in the cell.

2. When Flash Fill suggestions appear, press the Enter key.
3. To Undo Flash Fill or to select all of the cells that Flash Fill has filled in, click the Flash Fill button and then make your selections.

Let's Try It!

What	Why
1. Click the **File** tab and then click **Open.**	Displays the Open window.
2. Click the **Browse** icon in the center pane.	Displays the Open window.
3. Click **Desktop** in the left pane.	Displays the files and folders in the Desktop folder.
4. Double-click the **Lesson Files** folder.	Displays the files and folders in the Lesson Files folder.
5. Click the **Customers** workbook in the Lesson Files folder and then click **Open.**	Opens the Customers practice file.
6. Click in cell **I1**.	Activates cell I1.
7. Type: **Login** and then press Enter.	Enters the column title. We are going to create a login field based upon the customer's first initial, last name and Customer ID.
8. Click in cell **I2** and type: **dharris2** as shown below.	Enters login information for the first customer.



What	Why
9. Click in cell **I3** and type: **mnolan3**.	Enters login information for the next customer.
10. Click in cell **I4** and type: **jl**. Observe the Flash Fill list.	The Flash Fill Feature activates and displays how the remaining cells will be filled in.
	
11. Press **Enter**.	Fills in the remaining cells following the pattern.
12. Click the **Save** icon on the Quick Access Toolbar.	Saves our changes.
13. Press the **Ctrl + W** keystroke combination.	Closes the workbook.

Lesson Summary – Editing Text

- In this lesson, you learned about ranges – that is to say, a related group of cells. You learned how to select ranges by highlighting cells and how to select an entire row or column by clicking on the column or row heading.
- Then, you learned how to copy and paste data using the Copy and Paste command buttons. You also learned about the Paste Options button, which allows you to specify the format of pasted text.
- Next, you learned how to cut and paste text using the Cut and Paste command buttons.
- Next, you learned how to move or copy text from one location to the other by using the drag-and-drop method. You learned that dragging-and-dropping involves first selecting the cells that you wish to move or copy, clicking the bolded border that surrounds the range, and then dragging the cells to a new location. If you wish to copy the cell data rather then move it, press and hold down the Ctrl key as you drag.
- Next, you learned how to change column width and row height by clicking the row or column border and dragging until the row or column is the desired size. You learned that for a more precise width or height specification, you can use the Column Width or Row Height commands. You also learned how to AutoFit the contents of rows or columns to accommodate the tallest or widest entry.
- Next, you learned how to insert rows and columns using the Insert command button on the Home Ribbon. You also learned that you can delete a row or column by selecting the row or column and then clicking the Delete button on the Home Ribbon.
- Next, you learned how to quickly copy data and formulas to adjacent cells using the AutoFill feature. To use the AutoFill feature, select the cell whose data you wish to copy, move your mouse pointer over the cell's fill handle, and then drag to the adjacent cells where you wish to copy the data. You learned that you can also complete a series using AutoFill.
- Lastly, you learned how to quickly fill in empty cells based upon patterns that already exist in your spreadsheet using Excel's Flash Fill feature.

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Lesson 3 Quiz

1. Why might you want to select a range in Excel (select all that apply)?
   A. You can apply formatting quickly to a group of cells.
   B. So that you can add the range to the Clipboard for later use.
   C. To allow you to use the range in a function such as SUM.
   D. It is necessary if you want to use the Undo feature.

2. What are two methods for copying and pasting text?

3. What is the difference between cutting and copying text?
   A. Copying creates a duplicate of selected cells and cutting moves them to a new location.
   B. Cutting creates a duplicate of selected cells and copying moves them to a new location.
   C. Copying adds formatting whereas cutting does not.
   D. Cutting permanently deletes the text from your worksheet and copying places it permanently on the clipboard.

4. What is the keyboard shortcut to cut cell data?
   A. Ctrl + X
   B. Ctrl + C
   C. Ctrl + V
   D. Alt + C

5. When using drag-and-drop to rearrange text, if you wanted to copy the text rather than move it, you:
   A. Hold down the Shift key as you drag.
   B. Hold down the Alt key as you drag.
   C. Hold down the Ctrl key as you drag.
   D. You can only copy text with drag-and-drop, not move text.

6. How can you select everything in the current worksheet?
   A. Click on the Select Everything button on the Home Ribbon.
   B. Click on the Select Worksheet button on the Home Ribbon.
   C. Click on the Select All button on the left hand corner of the worksheet.
   D. Right-click and choose Select Everything from the contextual menu.

7. You want to increase all of your columns by a half an inch. How can you accomplish this?

   A. Select the columns that you want to change, click the Format button on the Home Ribbon, select Column Width from the menu and then type in .5 in the Increase By: box.
   B. Select the columns that you want to change, click on any of the borders between the selected columns and then drag until they are the desired width.
   C. Double-click the border of any of the selected columns.
   D. Click the Change Width button on the Page Layout Ribbon and type: .05 in the Width box.

8. Double-clicking on any of the borders of selected columns will:
   A. Increase all of the selected columns to 1 inch.
   B. Delete the selected columns.
   C. Will copy the contents of the selected columns to the clipboard.
   D. Will adjust the columns to accommodate the tallest or widest cell entry.

9. How do you add an item to the Office Clipboard?
   A. Highlight the cells you wish to add, click the Clipboard dialog launcher and click the Copy button on the Home Ribbon.
   B. Highlight the cells you wish to add and click the Add to Clipboard button on the Insert Ribbon.
   C. Drag the selected cells to the Clipboard pane.
   D. Highlight the cells you wish to add, right-click and then choose Add to Clipboard from the contextual menu.

10. Once you exit Excel, all items from the Office Clipboard are removed.
    A. True
    B. False

11. How can you add an item from the Office Clipboard into your worksheet?

12. You want to insert a new row above Row 6. You would:
    A. Select Column 6 and click the Insert button on the Home Ribbon.
    B. Double-click on the border between Row 6 and Row 5
    C. Select Row 6 and click the Insert button on the Home Ribbon.
    D. Select Row 5 and click the Insert Rows button on the Home Ribbon.

13. What are two ways that you can change the width of a column?

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14. As you type, Excel fills in the rest of the entry based upon patterns in your spreadsheet. This feature is called:
    A. AutoFill
    B. Flash Fill
    C. Auto Complete
    D. Flash Complete

LAB 3 – ON YOUR OWN

1. Open the Lab3 Exercise File in the Desktop > Lesson Files folder.
2. Insert a row above Row 14.
3. Enter **Linda Savan** for employee name and **13.75** for the rate in the new row.
4. Copy the data from cell range **E13 to J13** to the cell range **E14 to J14**.
5. Change the **Hours** for Linda Savan to 40.
6. Move the row for employee **Sara Tensen** and place it below last row (*Hint: Use Cut & Paste).*
7. Delete Row 12.
8. In the Employee Number cell for **Jeffrey Noble**, enter **2.**
9. Complete the remaining **Employee Numbers** from B13 to B17 using AutoFill.
10. Copy the data in the cell range C10 to D17 and paste it in the Employees worksheet in cell B10.
11. Using Drag-and-Drop, move the cell range B10:J17 down two rows.
12. Save and Close the File.

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Lesson 4

Lesson 4 – Formatting a Worksheet

Lesson Topics:

4.1 Formatting Text

4.2 Using the Format Cells Dialog Box

4.3 Formatting Values

4.4 Using the Format Painter Button

4.5 Alignment and Text Wrapping

4.6 Merging Cells and Centering Text

4.7 Adding Cell Borders

4.8 Applying Colors and Shading to Cells

4.9 Applying Cell Styles

4.10 Hiding and Unhiding Rows and Columns

4.11 Freezing and Unfreezing Rows and Columns

4.12 Inserting and Removing Page Breaks

4.1 Formatting Text

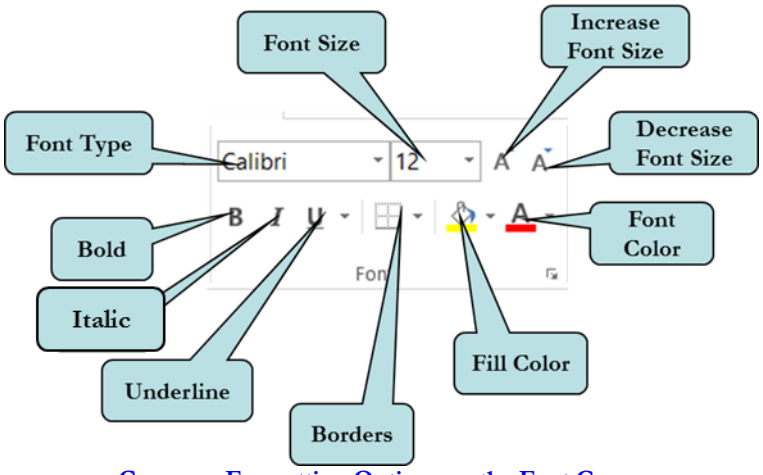
In this lesson, you will learn how to change the appearance of text in your worksheet.

One powerful feature in Microsoft Excel is the ability to format the text in your worksheet. For instance, you can modify the typeface (or font) of your text, change the size of your text, or emphasize text by applying bold, italic or underlining.

Some common text formatting options are:

- Changing the font style (typeface)
- Changing the font size
- Adding bold and italic formatting
- Underlining text
- Adding borders
- Increasing/decreasing Font Size

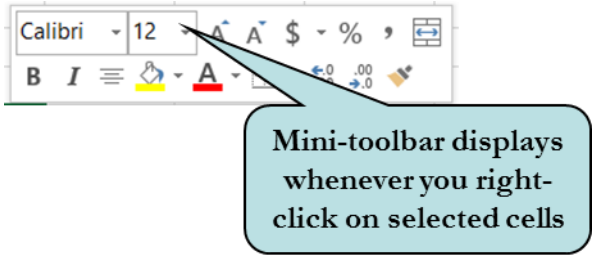
The quickest and easiest way to apply and modify text formatting is to use the Formatting Tools on the Home Ribbon under the **Font group**. To change text emphasis, select the cell or cell range you wish to format then click on the appropriate button (Bold, Italic or Underline). To change the font or font size, select the text and then choose the desired option from the Font or Font Size drop-down list. For an explanation of what a tool does, move your mouse pointer over it to display an informational box. The box will also display the **keyboard shortcut** for the command, if any.



Common Formatting Options on the Font Group

Another handy formatting tool is the **Mini-Toolbar**. The Mini-Toolbar displays whenever you right-click on selected cells and provides quick access to common formatting commands such as bold, italic, font color, font type, font size, fill color, increase indent,

decrease indent and increase/decrease font size. If you wish to turn off this feature, you can do so from the Excel Options dialog box.

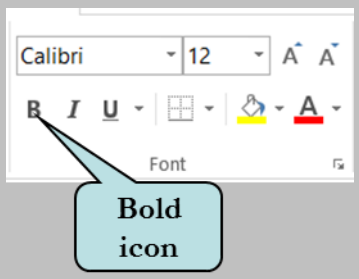
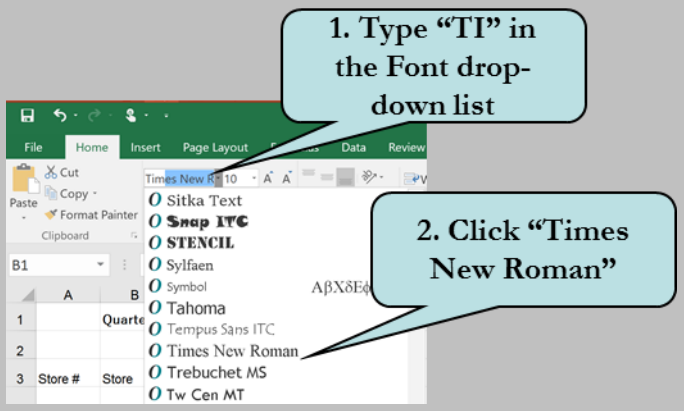


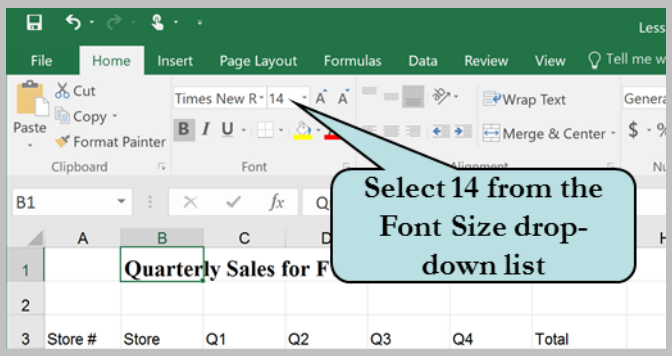
To Use Formatting Tools

1. **Select** the text that you want to modify.
2. Click the **Home** tab on the Ribbon.
3. To emphasize text, click on the **Bold**, **Italics** or **Underline** icon on the Font group.
4. To change the **font type**, click the arrow on the font drop-down list and select the desired typeface.
5. To change the **font size**, click the arrow on the font size drop-down list and select the desired font size or, type the size manually in the font size box.
6. To increase or decrease the size of the selected text, click the Increase Font Size button or Decrease Font Size button.
7. To use the **Mini-toolbar**, select the text you want to modify, right-click and then choose the desired option from the Mini-toolbar.

Let's Try It!

What	Why
1. Click the **File** tab and then click **Open**.	Displays the Open pane of Backstage view.
2. Click **Browse** in the center pane.	Displays the Open dialog.
3. Click **Desktop** in the left pane.	Displays the contents of the Desktop folder.
4. Double-click the **Lesson Files** folder.	Displays the contents of the Lesson Files folder
5. Click the **Lesson4** workbook file and then click **Open**.	Opens the current exercise file.

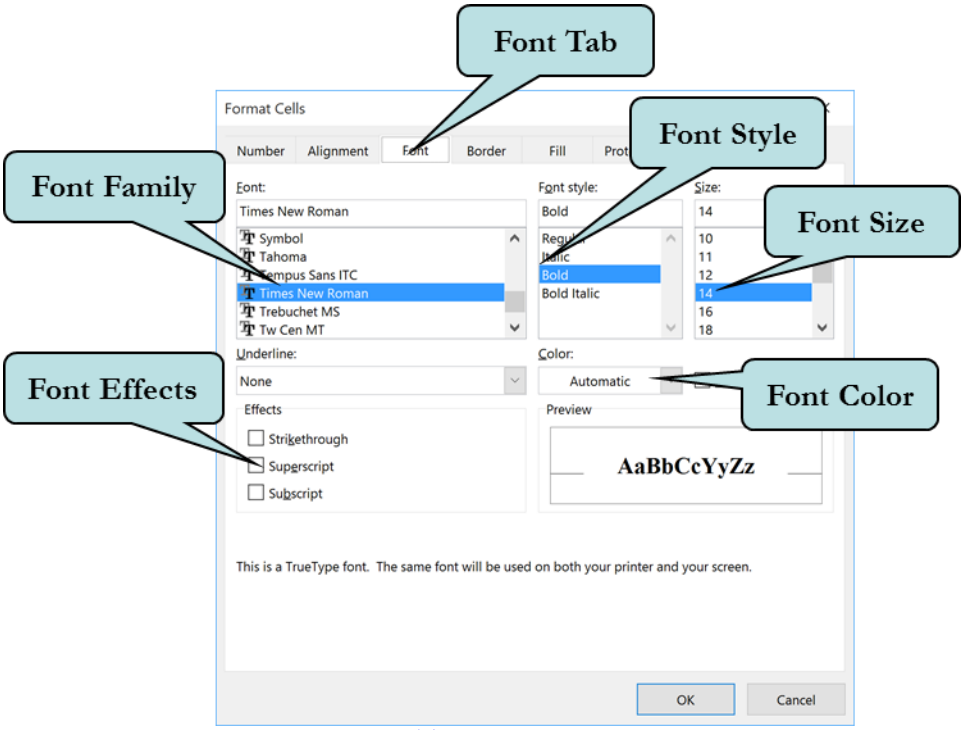
What	Why
6. Click the **Yearly Totals** worksheet tab on the bottom of the window.	Ensures that the Yearly Totals sheet is the active worksheet.
7. Click in cell **B1**.	Makes B1 the active cell.
8. Click the **Bold** formatting button on the Home Ribbon as shown.	Bolds the title in cell B1. 
9. Click in the **arrow** on the **Font** drop down list and type: **Ti**. Click **Times New Roman** in the list when it appears as shown below.	Changes the typeface to Times New Roman. Typing in the first few letters of the font name will display matching names in the list. Another option is to press Enter when the font you want displays in the box as you type.
	
10. Click on the **Font Size** drop down list and choose **14** as shown below.	Changes the size of the title to 14 pt. Notice that as you move your mouse pointer over the different font sizes and font styles, the data in your worksheet displays a preview of the selected font or font size. This is an example of Excel's Live Preview feature.

What	Why
	
11. Press the **Ctrl + S** keystroke combination.	Saves our changes.

4.2 Using the Format Cells Dialog Box

In this lesson, you will learn how to apply and modify additional formatting using the Format Cells Dialog Box.

The **Format Cells Dialog Box** allows you to apply multiple formats (bold, italic, font size, font type, font color, etc.) to selected text at once. Additionally, you will find formats that are not available on the Ribbon. To apply multiple formatting to selected text, click the **Font Dialog Box Launcher** on the lower-right corner of the Font command set and then make your desired selections.



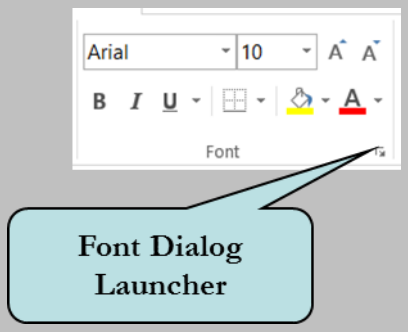
The Font Dialog Box

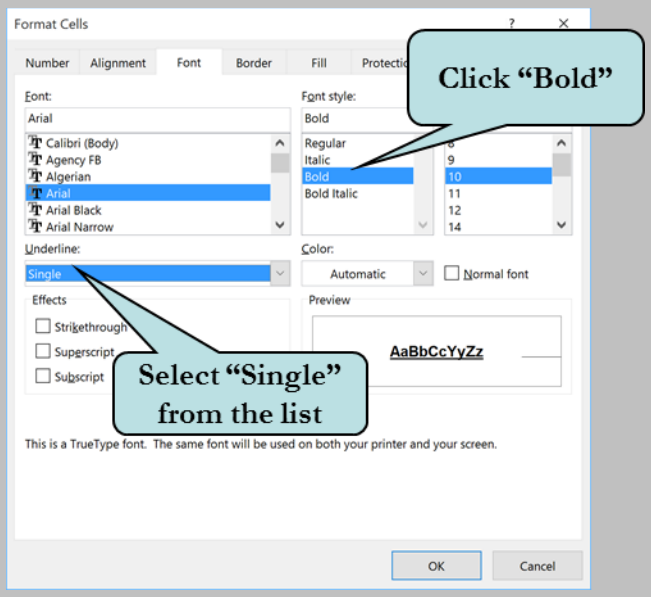
To Use the Format Cells Dialog Box

1. Select the text whose formatting you wish to modify.
2. Click the **Font Dialog Box Launcher** on the Ribbon
   Or
   Press the **Ctrl + 1** keyboard shortcut and click the **Font** tab.
3. Select the formatting you wish to apply.
4. Click **OK** when finished.

Tip: You can also display the Format Cells dialog box by clicking the Format button on the Cell group of the Ribbon and then click Format Cells. Click the Font tab to display font options.

Let's Try It!

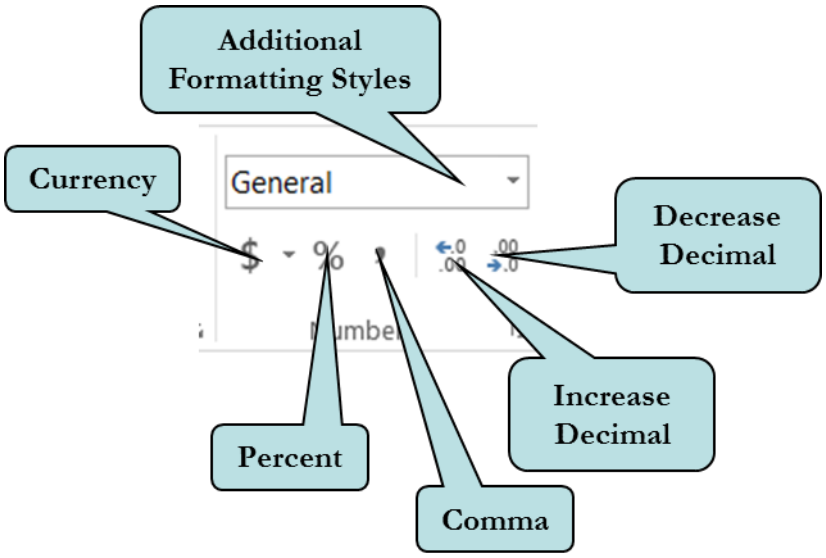
What	Why
1. Highlight the cell range A3:G3.	Selects the title Row.
2. Click the **Font Dialog Launcher** as shown below.	Displays the Font tab of the Format Cells dialog box.
	
3. In the **Font Style** window, select **Bold** as shown below.	Applies bold formatting to the selection

What	Why
	
4. Click the **Underline** drop down list, choose **Single** as shown above.	Applies Underline to the selection.
5. Click **OK**.	Closes the Format Cells dialog box.
6. Click the **Save** button on the Quick Access toolbar.	Saves the active workbook.

4.3 Formatting Values

In this lesson, you will learn how to change the appearance of numerical values in your worksheet.

The Ribbon contains many options for applying **number formatting** or, in other words, the way in which numerical values are displayed. Buttons for the three most common number formats – **Currency Style, Percent Style** and **Comma Style** can be found on the Number group on the Home Ribbon. Two additional buttons allow you to increase and decrease the number of decimal places.

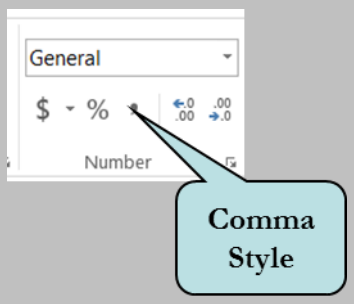
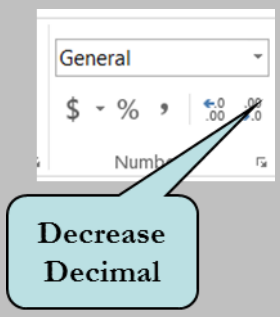
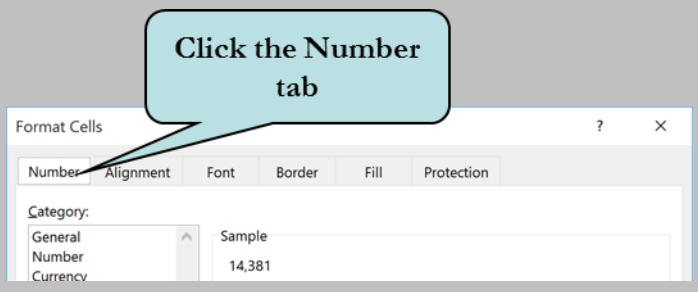


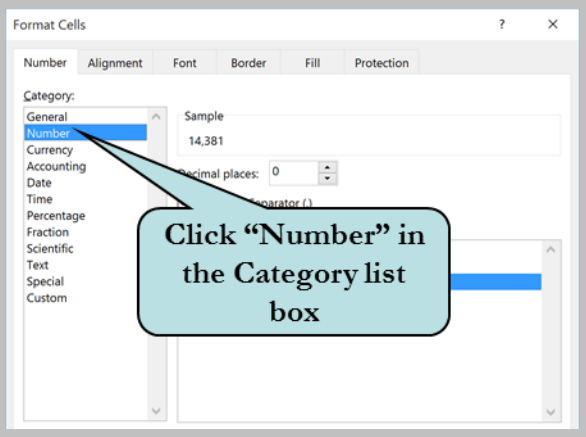
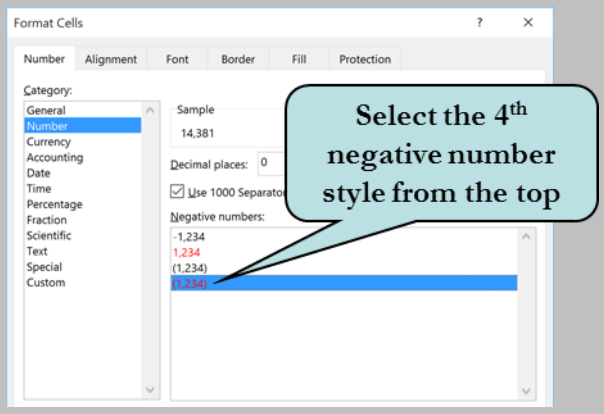
Click the drop-down list on the Number group to choose value formatting options (date, time, text, fraction, etc.). The **Number** tab of the **Format Cells dialog box** contains many further options for applying **number formatting**.

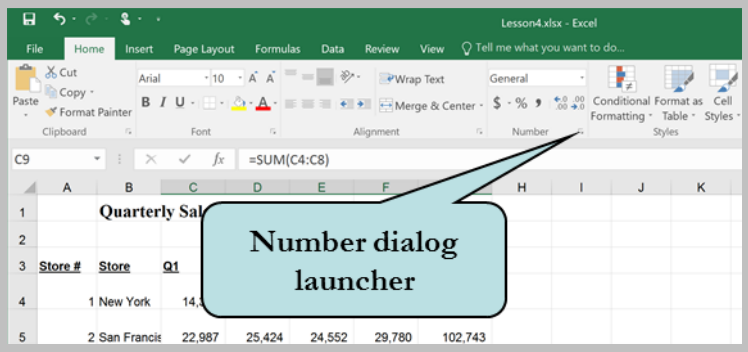
To Format Values

1. Select the cell or cell range to format.
2. Click the **Home** tab to display the Home Ribbon.
3. Click the Currency, Percent or Comma button
   Or
   Click the drop-down list on the Number group and choose the desired cell format.
4. To change the number of decimal places, click the Increase Decimal or Decrease Decimal button.
5. For additional formatting options, display the Format Cells dialog box.

Let's Try It!

What	Why
1. Select the cell range **C4:G7**.	Selects the cell range to be formatted.
2. On the **Number group** on the Home Ribbon, click the **Comma Style** button as shown.	Applies a number format with comma and two decimal places. 
3. Click the **Decrease Decimal** button twice as shown.	Decimal places will not be displayed. 
4. Press **Ctrl + 1** and click on the **Number** tab as shown below.	Displays the Number tab of the Format Cells dialog box.
	
5. Select **Number** from the **Category** list as shown below.	Choose the Number formatting style. Notice that you can set the number of

What	Why
	decimal places and add a comma from here as well.
	
6. In the **Negative Number** list box, choose the fourth style from the top **(1,234)** as shown below.	Negative numbers will be displayed in red color and surrounded with parenthesis.
	
7. Click **OK**.	Closes the Format Cells dialog box and applies the changes.
8. Select the cell range **C9:G9**.	Selects the cell range to be formatted.
9. Click the **Number** Dialog Launcher as shown below.	Displays the Number tab of the Format Cells dialog box.

What	Why
	
10. Select **Currency** from the **Category** list.	Chooses the Currency formatting style.
11 In the **Negative Number** list box, choose the fourth style from the top **(1,234.10)**.	Will display negative numbers in red color and surround them with parenthesis. If do not need to choose a specific negative number format, you could have clicked the Currency button on the Ribbon as well.
12. Click **OK**.	Closes the Format Cells dialog box.
13. Select cell **G1** and enter the date **12/31/2014**.	Enters the date in mm/dd/yyyy format.
14. Press **Enter**.	Confirms the entry. Excel automatically applied a date format to the cell.
15. Select cell **G1**.	Activates cell G1.
16. Click the **Number** Dialog Launcher.	Displays the Number tab of the Format Cells dialog box.
17. Under **Category** click on **Date**.	Chooses the Date formatting style.
18. Choose the **March 14, 2012** style (you may have to scroll down) as shown below.	Chooses the mmmm/dd/yyyy format.

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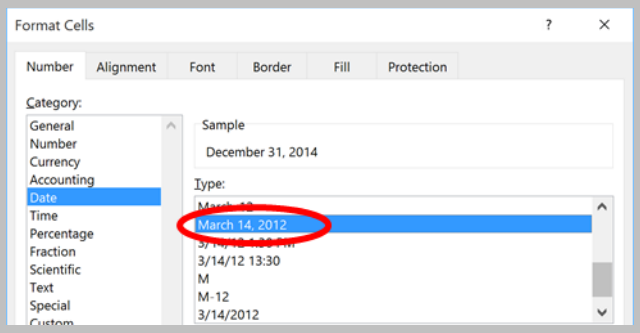
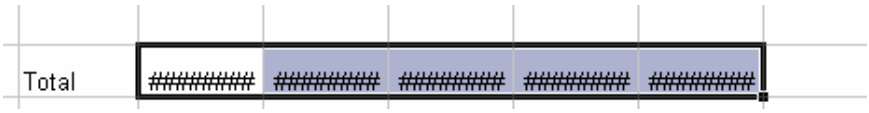
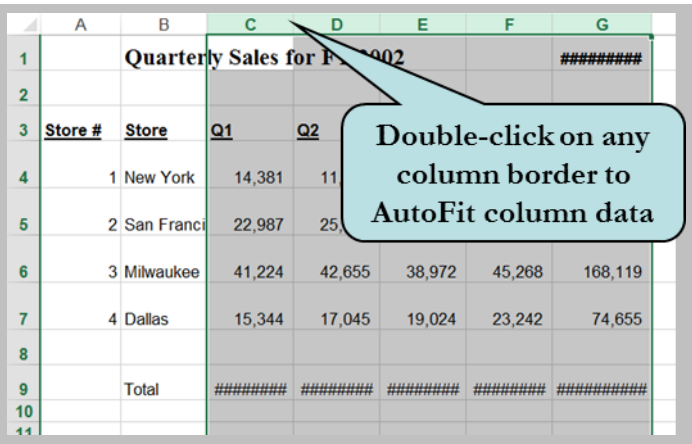
What	Why
	
19. Click the **Font tab** on top of the Format Cells dialog box.	Switches to Font options.
20. Under the **Font Style** list box, choose **Bold Italic**.	Applies Bold and Italic formatting to the cell.
21. Click **OK**.	Closes the Format Cells dialog box.

Notice that when we changed the last row to Currency, our values are no longer displayed. Instead, the cell is populated with the pound sign (commonly referred to as "the railroad tracks") as shown below. This occurs when a numerical value is longer than the cell can accommodate. To solve this problem, we need only increase the width of our columns.



Let's Try It!

What	Why
1. Select the Column Heading for columns **C, D, E, F & G**.	Select the five numerical columns
2. **Double-click** on the border between any two of the selected columns (mouse pointer will transform into a black cross) as shown below.	Applies AutoFit which sizes the columns to accommodate the longest data value.



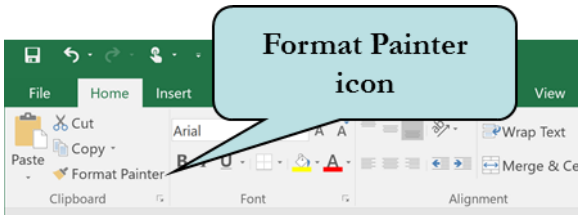
1		Quarterly Sales for F[illegible]902					#########
2							
3	Store #	Store	Q1	Q2			
4	1	New York	14,381	11			
5	2	San Franci	22,987	25			
6	3	Milwaukee	41,224	42,655	38,972	45,268	168,119
7	4	Dallas	15,344	17,045	19,024	23,242	74,655
8							
9		Total	########	########	########	########	##########
10							

3. Click the **Save** icon. Saves the current workbook.

4.4 Using the Format Painter Button

In this lesson, you will learn how to copy formatting from one cell range to another using the Format Painter Button.

Using the **Format Painter** button on the Home Ribbon allows you to copy the formatting from one cell or cell range to another cell or cell range. This procedure copies all formats including font typeface, number formatting, cell and font color, alignment, etc. to the new cell range. To copy the formatting to several locations, **double-click** the Format Painter button. It will then continue to be activated until you click its icon to deactivate it.



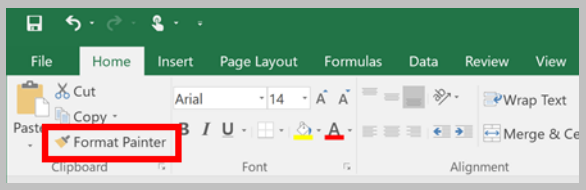
To Copy Formats from One Cell or Cell Range to Another

1. Select the cell or cell range whose formatting you wish to copy.
2. Click the **Format Painter** icon under the **Clipboard** command set on the Ribbon.
3. To copy the formatting to several locations, **double-click** the **Format Painter** button.
4. Click on the location(s) to receive the formatting.
5. If applying formatting to more than one location, click the **Format Painter** button to deactivate it.

To Copy Column Widths from One Column to Another

1. Select the heading of the column whose width you wish to copy.
2. Click the **Format Painter** icon under the **Clipboard** command set on the Ribbon.
3. Click the heading of the new column or column range to which you wish to copy the width.

Let's Try It!

What	Why
1. Select the cell range **C9:G9**.	Selects the total fields.
2. Click the **Bold** formatting icon on the Ribbon.	Applies bold formatting to the totals.
3. Click the **Format Painter** icon as shown below.	Activates Format Painter.
	
4. Click in cell **G4** and hold down the left mouse button.	Activates cell G4 and enters drag mode.
5. Drag from cell **G4:G7**.	Selects the range to which we want to apply the formatting from C9:G9.
6. **Release** the mouse button.	Applies the formatting from C9:G9 to G4:G7.
7. Click in Cell **G9**.	Makes G9 the active cell.
8. **Double-click** the **Format Painter** icon.	Activates the Format Painter to apply the formatting in G9 to more than one area.
9. Click the **Q1** worksheet tab.	Activates the Q1 worksheet.
10. Click in Cell **B6**.	Applies the formatting to cell B6 in the Q1 worksheet.
11. Click the **Q2** worksheet tab**.**	Activates the Q2 worksheet.
12. Click in Cell **B6**.	Applies the formatting to cell B6 in the Q2 worksheet.
13. Click the **Format Painter** icon.	Deactivates the Format Painter button.

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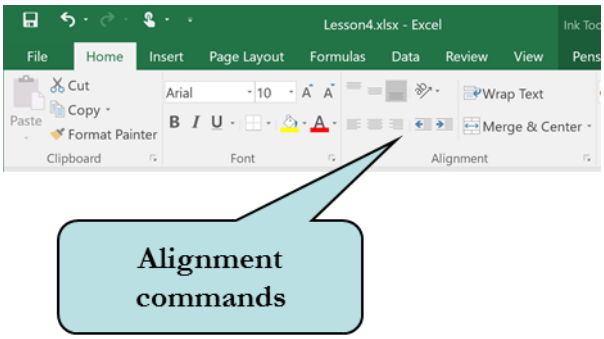
4.5 Alignment and Text Wrapping

In this lesson, you will learn how to align and wrap around text and values within a cell.

When entering data into cells, the default alignment is left-aligned along the bottom for text and right-aligned along the bottom for numbers. Excel supplies many other alignment options from which to choose – left alignment, right alignment, center alignment, as well as horizontal and vertical alignment options.



The alignment options are available on the **Alignment group** on the Home Ribbon:

- **Align Left** Aligns cell contents along the left edge of the cell
- **Align Right** Aligns cell contents along the right edge of the cell
- **Center** Centers the cell contents within the cell
- **Top Align** Aligns text to the top of the cell
- **Middle Align** Aligns text so that it is centered between the top and bottom of the cell
- **Bottom Align** Aligns text to the bottom of the cell
- **Orientation** Allows you to rotate text
- **Decrease Indent** Decrease the margin between the border and the text in the cell
- **Increase Indent** Increase the margin between the border and the text in the cell
- **Wrap Text** Wraps the text within a cell so it does not cross adjoining cells or get cut off

Other alignment options are available from within the **Format Cells** dialog box.

To Change the Alignment of Data within Cells

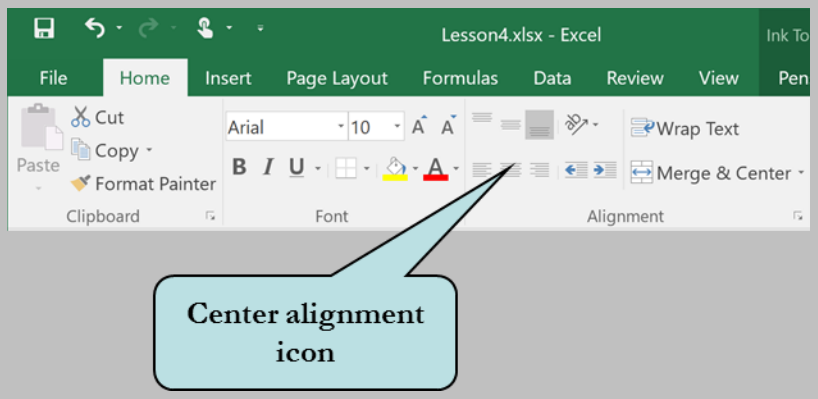
1. Select the cell or cell range whose data you wish to align.

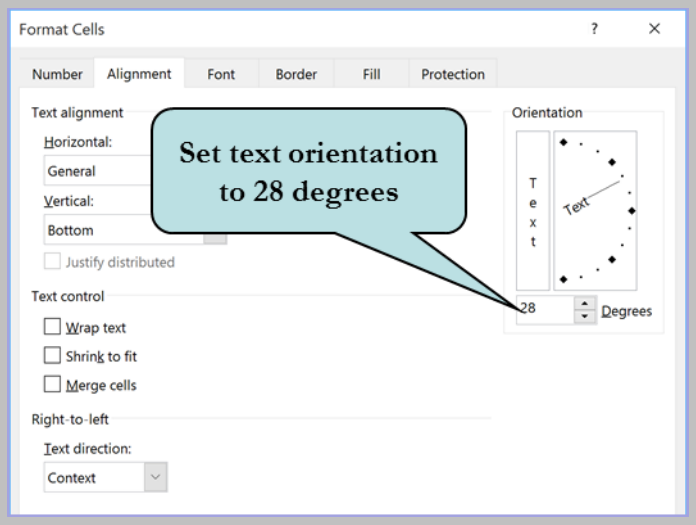
2. Click the desired alignment button on the Alignment group on the Home Ribbon

Or

1. Select the cell or cell range whose data you wish to align.
2. Display the Format Cells dialog box.
3. Click the **Alignment Tab.**
4. Choose options from the **Horizontal** and/or **Vertical** combo box.
5. Select any desired additional options such as **Wrap Text, Orientation** or **Text Direction.**
6. Click **OK**.

Let's Try It!

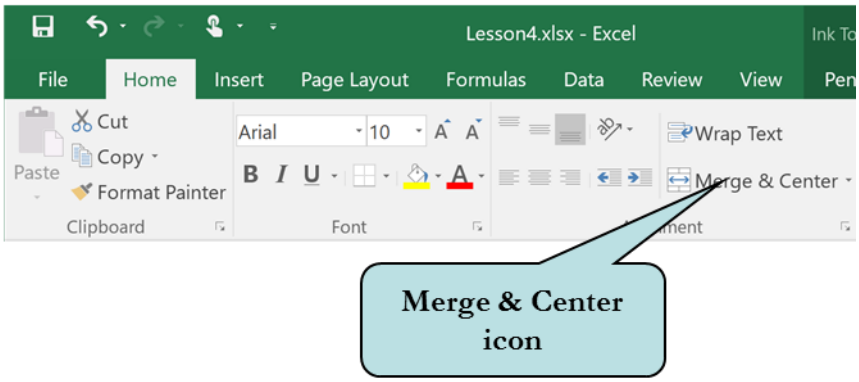
What	Why
1. Click the **Store Sales** worksheet tab.	Switches to the Store Sales worksheet.
2. Select the cell range **C4:F7**.	Highlights cells C4 to F7.
3. Click the **Center** Alignment icon on the Home Ribbon as shown below.	Centers the selected data within the cell.
	
4. Select the cell range **C3:F3**.	Selects the C3 to F3 cell range.
5. Click the **Alignment Dialog Launcher**.	Displays the Alignment tab of the Format Cells dialog box.
6. In the **Degrees** text box, type **28** as shown below.	Changes the orientation of the text to 28 degrees.

What	Why
	
7. Click **OK**.	Closes the Format Cells dialog box.
8. Click on the **Yearly Totals** tab.	Activates the **Yearly Totals** worksheet.
9. Select the cell range **B4:B7**.	Highlights cells B4 to B7.
10. Click the **Wrap Text** icon on the Alignment group on the Ribbon.	Wraps the text within a cell so it does not cross adjoining cells or get cut off.
11. Select the cell range **A3:G3**.	Highlights cells A3 to G3.
12. Click the **Center** alignment icon on the Ribbon.	Centers the text within each cell.
13. Click the **Save** icon.	Saves the active workbook.

4.6 Merging Cells and Centering Text

In this lesson, you will learn how to merge one or more cells together and center text within the merged cells.

With Excel's **Merge Cells and Center Text** feature, you can spread the contents of several cells into one **merged** cell. A merged cell is created by combining one or more cells into one new larger cell. For instance, you may have a lengthy title that spans several cells. The Merge Cells and Center Text feature combines the extra cells into one large cell and centers the text within the new cell. You can change the text alignment by choosing **Left** or **Right** alignment from the Home Ribbon or by choosing additional options from the Format Cells dialog box.



Once the cells have been merged, they can be returned to their original state by clicking the arrow on the **Merge & Center** button with the merged cell selected and choosing **Unmerge Cells** from the list.

To Merge Cells and Center Text

1. Ensure that the data to be merged and centered is located in the leftmost cell.
2. Select the cells you wish to merge.
3. Click the **Merge & Center** icon on the Alignment group on the Home Ribbon.

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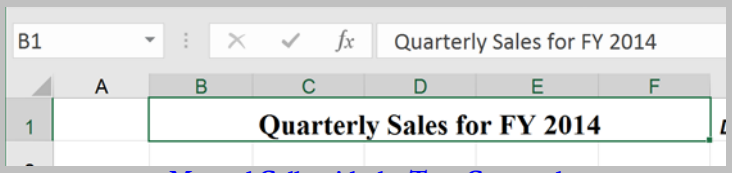
Let's Try It!

What	Why
1. Select the cell range **B1:F1**.	Selects the text and the cells across which we wish to center.
2. Click the **Merge & Center** button on the Alignment group on the Ribbon.	Merges cells B1 to F1 into one cell and centers the text across the range.
 **Merged Cells with the Text Centered**	
3. Click the **Save** icon.	Saves the active workbook.

4.7 Adding Cell Borders

In this lesson, you will learn how to make cells stand out by the use of cell borders.

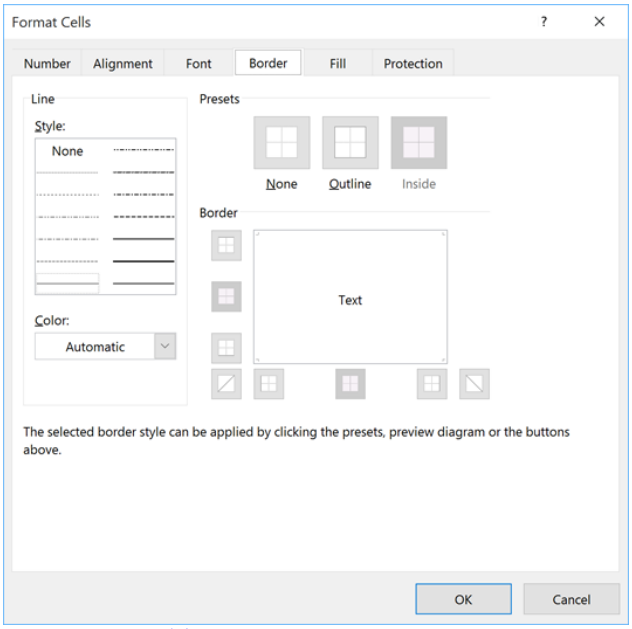
You can separate or outline a cell or group of cells by applying borders (left, right, top or bottom) to the edges of cells. Border options can be found under the **Borders button** on the Font group on the Home Ribbon or under the **Border tab** of the **Format Cells dialog box**. The Format Cells dialog box contains additional border options such as line style and border color.

To Apply Cell Borders

1. Select the cell or range of cells to which you want to apply borders.
2. Click the arrow on the **Borders button** on the Home Ribbon.
3. Select a border style from the palette.

Or

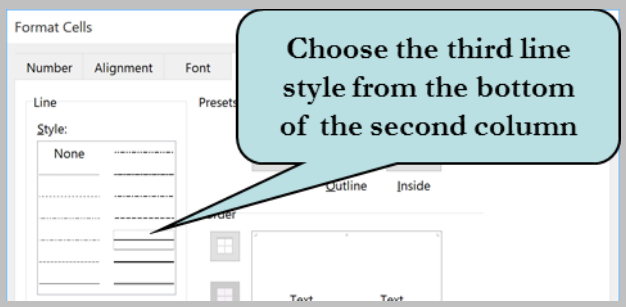
1. Select the cell or range of cells to which you want to apply borders.
2. Click the **Font Dialog Launcher**.
3. Click the **Border tab.**
4. Select **Border Type** from the list surrounding the **Sample Window** (clicking in the Sample Window on the borders will add and remove the border that you have chosen).
5. Select a **Line Style**, if desired.
6. Select a **Border Color** if desired.
7. Click **OK.**



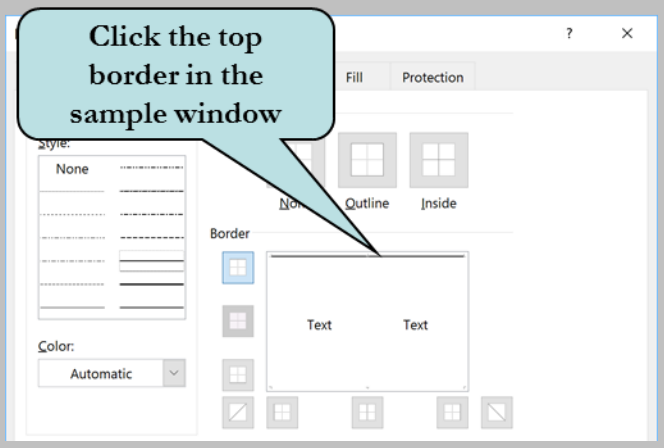
Border Tab of the Format Cells dialog box

Let's Try It!

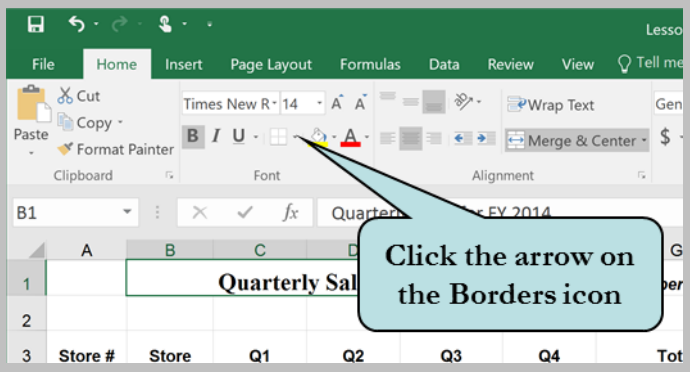
What	Why
1. Select the cell range **B9:G9**.	Selects the cell range to which we wish to apply borders.
2. Press the **Ctrl + 1** keystroke combination..	Displays the Format Cells dialog box.
3. Click the **Border Tab**.	Switches to borders options.
4. Choose the third **Line Style** from the bottom in the second column as shown below.	Selects the line style (thickness and type) that we will use.



What	Why
5. Click the Top Border in the **Sample Window** as shown below.	Applies the line style to the top border.



6. Click **OK**. Click anywhere within your worksheet and observe the border.	Closes the Format Cells Dialog box. A top border has been applied to the selected cell range.
7. Select cell **B1**.	Activates cell B1.
8. Click the **arrow** on the **Borders icon** as shown below.	Presents us with available border choices.

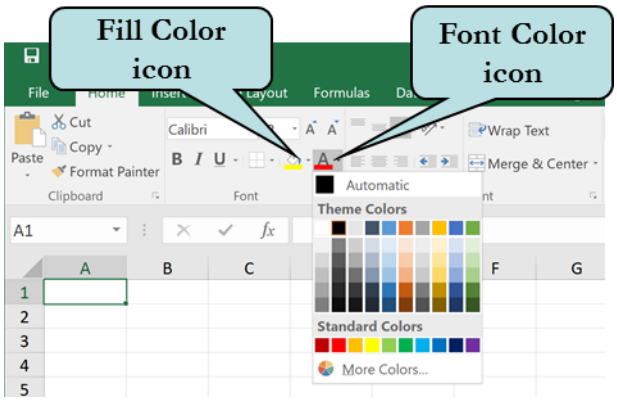


9. Select **Bottom Border** (the first option) from the list.	Applies a bottom border to our title.
10. Click the **Save** icon.	Saves the active workbook.

4.8 Applying Colors and Shading to Cells

In this lesson, you will learn how to apply patterns and colors to cells.

To add some pizzazz to your worksheet or to make a particular cell or cell range stand out, you can apply patterns and background colors to the cells in your worksheet. **Background color options** are located under the **Fill tab** of the Format Cells Dialog box (you can also click the Fill Color button on the Home Ribbon on the Font group then choose the desired background color from the color palette). Additionally, you can change the color of the fonts in your worksheet by changing the **foreground color** of a selected cell or cell range. Excel's **Color Palette** provides a wide variety of colors from which to choose.



To Apply a Background Color to Cells

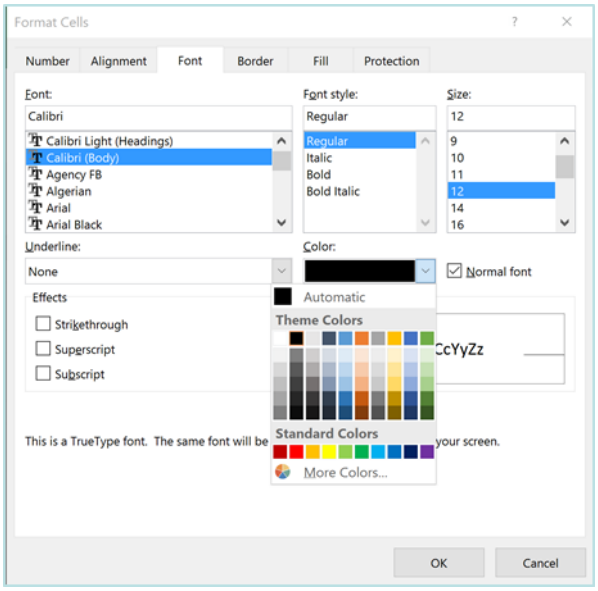
1. Select the cell or range of cells to which you want to apply a color.
2. Click the **Font Dialog Launcher**.
3. Click the **Fill** tab.
4. Choose a color from the **Color Palette.**
5. If desired, choose a **Pattern** from the Pattern Style drop-down list.
6. To blend the color of your pattern with another color, select the additional color from the color palette in the **Pattern Color** drop-down list.

Or

1. Select the cell or cell range to which you want to apply a color.
2. Click on the arrow to the right of the **Fill Color icon** on the Home Ribbon.
3. Select the background color from the **Color Palette.**

To Change the Font Color

1. Select the cell or range of cells to which you want to apply a font color.
2. Click the **Font Dialog Launcher**.
3. Click the **Font** tab.
4. From the **Color** list box, choose a color from the **Color Palette.**
5. Click **OK.**



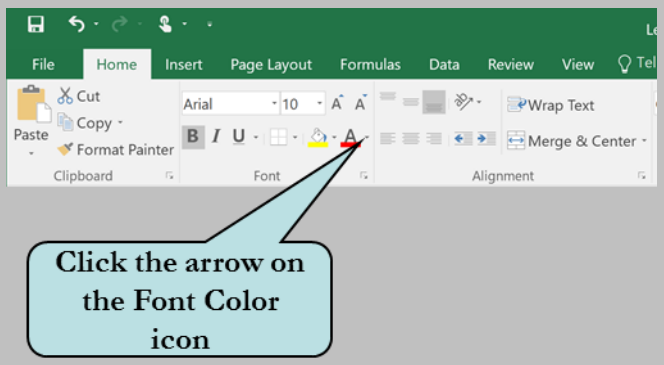
The Font Tab of the Format Cells dialog box

Or

1. Select the cell or range of cells to which you want to apply a font color.
2. Click the arrow to the right of the **Font Color icon** on the Home Ribbon.
3. Click on the desired font color.

Let's Try It!

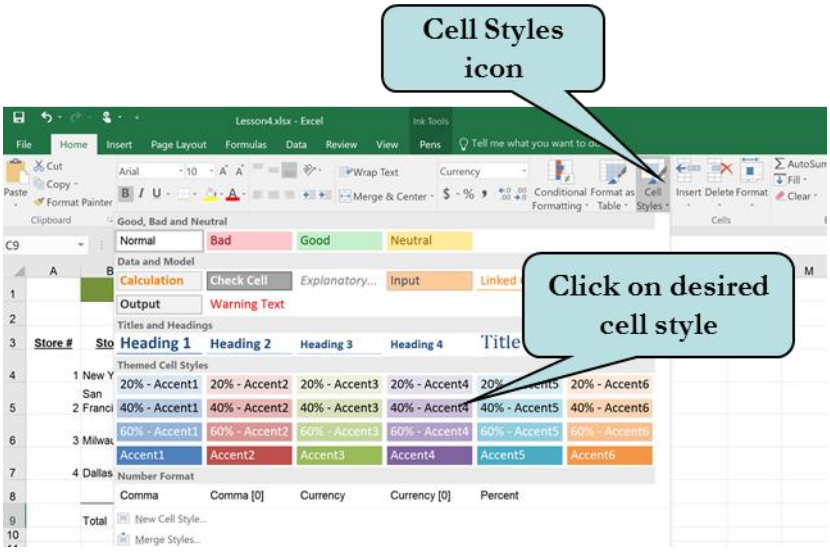
What	Why
1. Click in cell **B1**.	Activates the worksheet title.
2. Press the **Ctrl + 1** keystroke combination.	Displays the Format Cells dialog box.
3. Click on the **Fill** tab.	Switches to fill color options.
4. Click on the **green** color (seventh column, fifth row) as shown below.	Applies a green background to the cell range.

What	Why
5. Click **OK**.	Closes the Format Cells dialog box.
6. Select the cell range **C9:G9**.	Selects the cell range from C9 to G9.
7. Click on the arrow on the **Font Color icon** on the Ribbon as shown below.	Displays the Font Color Palette.
	
8. Select **blue** from the palette (first row, fifth column).	Changes the font color to blue.
9. Click the **Save** button.	Saves the current worksheet.

4.9 Applying Cell Styles

In this lesson, you will learn how to apply pre-defined cell styles to your worksheets.

Another way to format a cell is to use one of Excel 2013's styles from the **Cell Styles Gallery**. A Cell Style is a collection of formats such as a particular font type and size, particular shading, font color, background color, and more. The **Cell Styles Gallery** on the Styles group of the Home Ribbon displays a variety of pre-defined formats that you can quickly apply to your cells. As you move your mouse pointer over any of the styles in the gallery, the formatting of your worksheet changes to reflect what your cells would look like if you were to apply the style. This is an example of Excel's **Live Preview** feature.



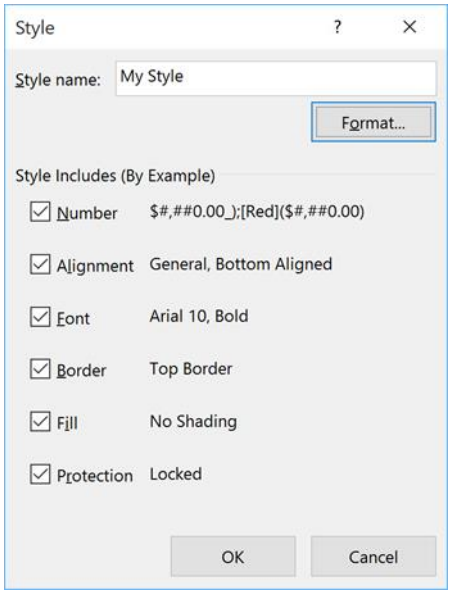
As you work more with Excel, you will most likely develop your own preferred formats for particular worksheets. Rather than setting these formats over and over in your worksheets, you can store these formatting options in Excel's **Cell Style Gallery**. You should consider adding any special cell formatting that you plan to use in the future. Cell Styles can be a real time-saver if you find yourself applying the same formatting over and over.

To Apply an Existing Style

1. Select the cell or cell range to which you wish to apply a style.
2. Click any **Cell Styles** on the Styles Group on the Ribbon.
3. Move your mouse pointer over any of the styles to preview how the formatting will look on your worksheet.
4. Click the Style you wish to use.

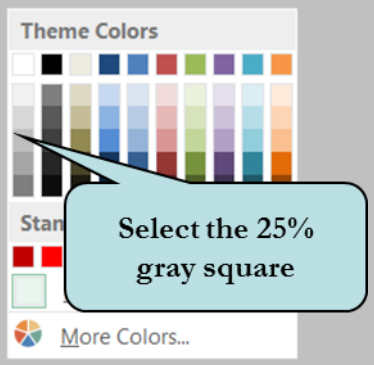
To Create a Style

1. Manually apply any formatting to a cell that you wish to include in your style.
2. Click the **Cell Styles icon** on the Ribbon.
3. Click **New Cell Style** on the bottom of the gallery list.
4. Enter a name for your new style in the **Style Name** text box.
5. Uncheck any formatting options underneath the **Style Includes (By Example)** that you do not wish to include in your new style.
6. Click the **Format** button to change the formatting options.
7. Click **OK.** Your new style will now display on top of the Cell Styles gallery under the **Custom** category.



Style dialog box

Let's Try It!

What	Why
1. Click the **Store Sales** worksheet tab.	Switches to the Store Sales worksheet.
2. Select cell **C3**.	Makes C3 the active cell.
3. Click the arrow on the **Font Color** icon on the Home Ribbon.	Displays the Font Color Palette.
4. Choose **Dark Red** (fifth row, sixth column).	Changes the font color to dark red.
5. Click the arrow on the **Fill Color** icon on the Home Ribbon.	Opens the Fill Color Palette.
6. Choose **Gray-25%** from the color palette as shown (White, Background 1, Darker 25%).	Applies gray shading to the cell. 
7. Click the **Italic** button on the Home Ribbon.	Italicizes the cell value.
8. Click **Cell Styles icon** on the Styles group on the Home Ribbon as shown below.	Displays the Cell Styles gallery.

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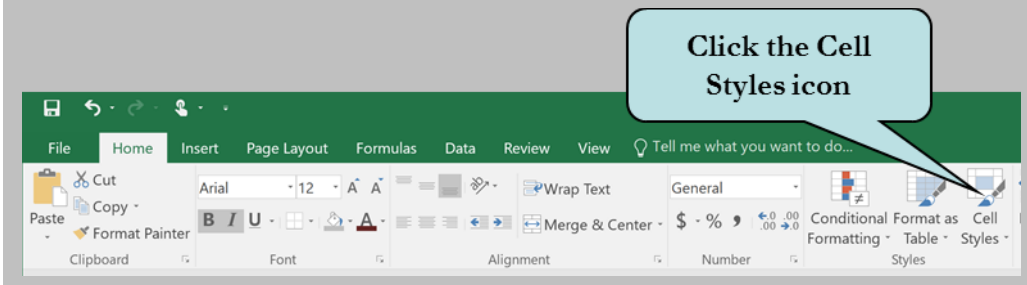
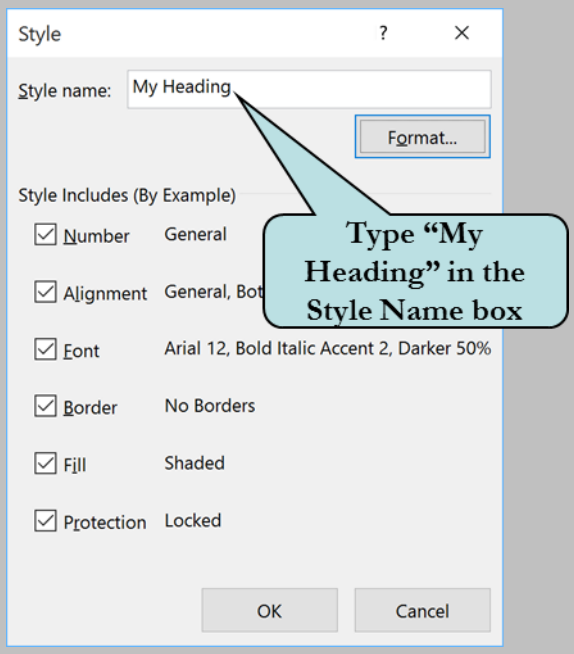
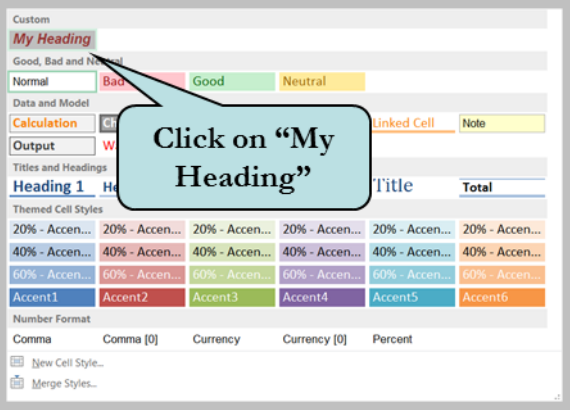
What	Why



9. Click **New Cell Style** on the bottom of the gallery.	Displays the Style dialog box.
10. Type **My Heading** in the **Style Name** text box as shown below.	Names the new style.



11. Click **OK**.	Closes the Style dialog box.
12. Select the Cell Range **D3:F3**.	Selects the cell range to which we wish to apply our new style.
13. Click the **Cell Styles** icon on the Styles group of the Ribbon.	Displays the Cell Styles gallery.

What	Why
14. Click on **My Heading** under the **Custom** area as shown below	Applies the style to the selected range.
	
15. Click the **Save** icon.	Saves the active document.

4.10 Hiding and Unhiding Rows and Columns

In this lesson, you will learn how to remove rows and columns from worksheet view.

Sometimes you may wish to remove a row or column from view but not permanently delete it from your worksheet. For instance, you may want to print out only relevant rows or columns. Excel allows you to temporarily hide a row or column from view using the **Hide command**. When a row or column is hidden, note that the row heading or column heading disappears from view as well. Hidden objects can still perform and be included in calculations.

To unhide a column or row, you must first select the rows or columns adjacent to the hidden one(s) before using the unhide command.

	A	B	C	D	E	F
1			Quarterly Sales by Store			
2						
3			New York	San Francisco	Milwaukee	Dallas
4		Q1	14,381	22,987	41,224	15,344
6		Q3	16,979	24,552	38,972	19,024
7		Q4	21,075	29,780	45,268	23,242
8						

Hidden Row 5 Disappears from View

To Hide Columns

1. Select the column or columns to be hidden.
2. **Right-Click** and choose **Hide** from the pop-up menu.

Or

1. Select the column or columns to be hidden.
2. Click the **Format** button on the Cells group of the Home Ribbon.
3. Point to **Hide & Unhide** under the **Visibility** area.
4. Click **Hide Columns**.

To Hide Rows

1. Select the row or rows to be hidden.
2. Click the **Format** button on the Cells group of the Home Ribbon.
3. Point to **Hide & Unhide** under the **Visibility** area.
4. Click **Hide Rows**.

Or

1. Select the row or rows to be hidden.
2. **Right-Click** and choose **Hide** from the pop-up menu.

To Unhide Columns

1. Select the columns to the left and right of the hidden one(s).
2. Click the **Format** button on the Cells group of the Home Ribbon.
3. Point to **Hide & Unhide** under the **Visibility** area.
4. Click **Unhide Columns**.

Or

1. Select the columns to the left and right of the hidden one(s).
2. **Right-Click** and choose **Unhide** from the pop-up menu.

To Unhide Rows

1. Select the rows above and below the hidden one(s).
2. Click the **Format** button on the Cells group of the Home Ribbon.
3. Point to **Hide & Unhide** under the **Visibility** area.
4. Click **Unhide Rows**.

Or

1. Select the rows above and below the hidden one(s).
2. **Right-Click** and choose **Unhide** from the pop-up menu.

Let's Try It!

What	Why
1. Click the **Store Sales** tab on the workbook.	Ensures that the Store Sales worksheet is the active worksheet.
2. Select rows **4, 5 and 6**.	Highlights rows 4 through 6.
3. **Right-click** and choose **Hide** from the contextual menu. Observe the worksheet.	Hides rows 4 through 6. Notice that row numbering does not change.

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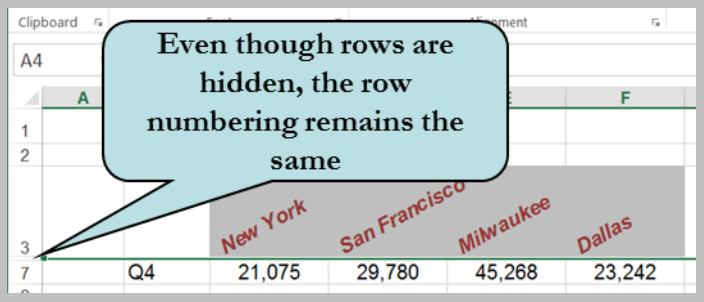
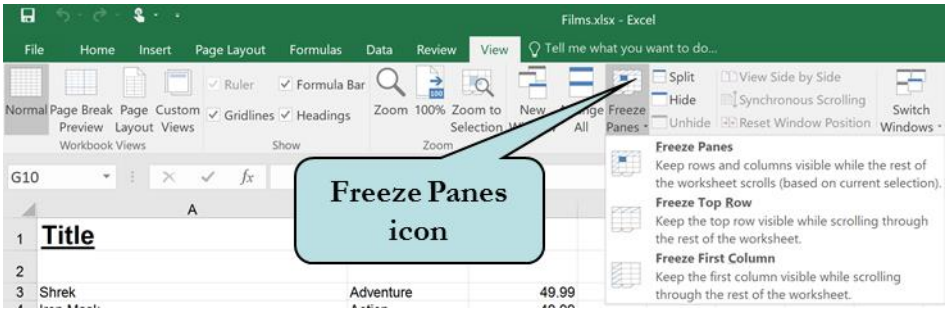
What	Why
	
4. Select rows **3 and 7**.	Selects the rows adjacent to the hidden rows.
5. **Right-click** and choose **Unhide** from the contextual menu.	Unhides the hidden rows.
6. Click the **File** tab and click **Close**. **Save** any changes.	Closes and Saves the Lesson4 workbook.

4.11 Freezing and Unfreezing Rows and Columns

In this lesson, you will learn how to freeze rows and columns so that they do not disappear from view during scrolling.

If you have a large worksheet, you may wish to keep the data labels of your rows and/or columns in view as you scroll. To accomplish this, freeze rows and/or columns in place by using the **Freeze Panes** command on the View Ribbon. The frozen columns or rows will be bordered by a thin black line. When scrolling downward, any rows that are frozen will remain on the top of the screen in view as you scroll. Likewise, as you scroll to the right, any columns that are frozen will remain on the left of the screen in view as you scroll.



To Freeze/Unfreeze Rows or Columns in Place

1. Select the cell below the row(s) and/or to the right of the column(s) you wish to freeze.
2. Click the **View** tab on the Ribbon
3. Click the **Freeze Panes** icon and then click the option you want (Freeze Panes, Freeze Top Row or Freeze First Columns).
4. To unfreeze panes, click anywhere in your worksheet, click the **Freeze Panes** button and then click **Unfreeze Panes**.

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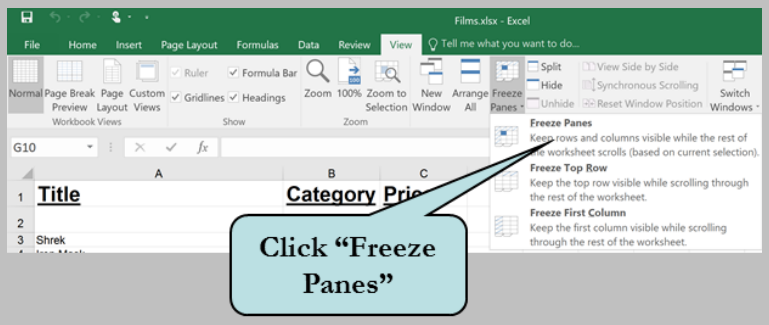
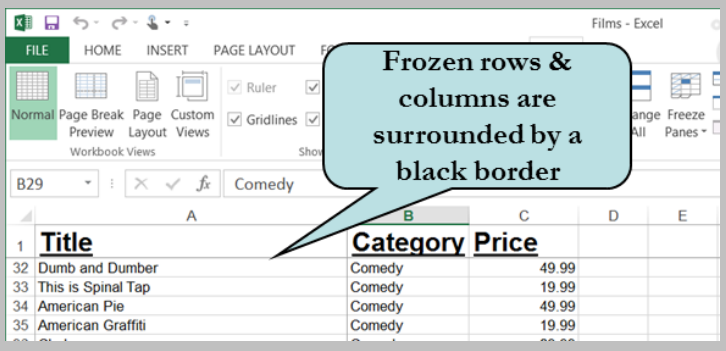
Let's Try It!

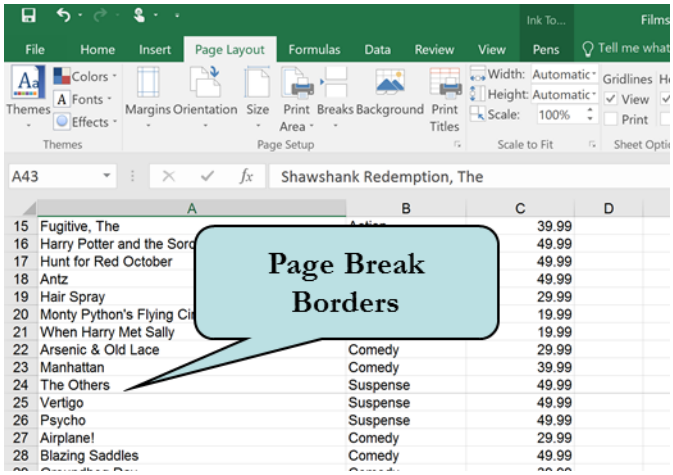
What	Why
1. Open the **Films** workbook.	Opens the workbook file entitled Films.
2. Click in cell **B2**.	Makes B2 the active cell.
3. Click the **View tab** on the Ribbon.	Switches to View commands and tools.
4. Click the **Freeze Panes** button under the Window group.	Displays Freeze Panes options.
5. Click **Freeze Panes** as shown below.	Freezes all rows above B2 and all columns to the left of B2.
	
6. **Scroll down** to observe the frozen row.	Row 1 stays in place as you scroll downwards.
7. Scroll to the right to observe the frozen column as shown below.	Column A stays in place as you scroll to the right.
	
8. Click the **Freeze Panes** button under the Window group and select **Unfreeze Panes**.	Unfreezes the frozen row and column.

4.12 Inserting and Removing Page Breaks

In this lesson, you will learn how to change the location of where Excel applies page breaks to a worksheet.

When the data in your worksheet does not fit on one printable page, Excel automatically inserts page breaks, dependent on the page setup of the document (margins, paper size, etc.). The automatic page breaks appear as dashed lines on the worksheet. In the example below, any data after column E and row 50 will print on a separate page. You can adjust these page breaks manually by displaying your worksheet in **Page Break Preview** and then adjusting the page break borders by dragging the thick page break borders to a new location.

You can also insert a **manual page break** in your worksheet by clicking the **Breaks** button on the **Page Layout tab** and then choosing **Insert Page Break** from the menu. This will override the automatic page breaks.



To Insert a Manual Page Break

1. Click any cell **below the row** where you wish to insert a manual page break.
2. Click the **Page Layout tab** on the Ribbon.
3. Click the **Breaks** button under the Page Setup group.
4. Select **Insert Page Break** from the menu.

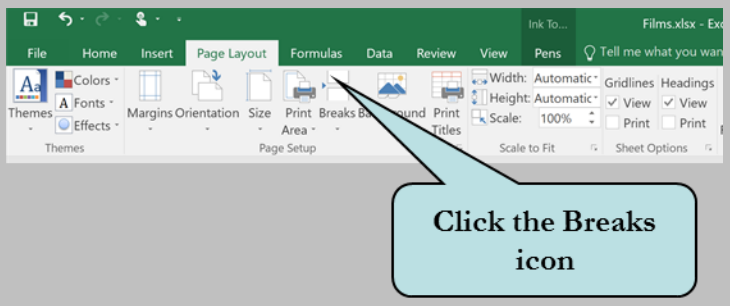
To Remove a Manual Page Break

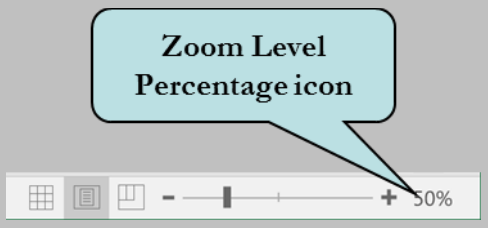
1. Click the cell **below the row** where you inserted a manual page break.
2. Click the **Page Layout tab** on the Ribbon.
3. Click the **Breaks** button under the Page Setup group.
4. Select **Remove Page Break** from the menu.

To Remove all Manual Page Breaks

1. Click the **Page Layout tab** on the Ribbon.
2. Click the **Breaks** button under the Page Setup group.
3. Select **Reset All Page Breaks** from the menu.

Let's Try It!

What	Why
1. Select **Row 25**.	Highlights Row 25.
2. Click the **Page Layout tab** on the Ribbon.	Switches to Page Layout commands and tools.
3. Click the **Breaks** button under the Page Setup group as shown below.	Displays available Breaks commands.
	
4. Select **Insert Page Break** from the Breaks menu.	Inserts a manual page break below Row 24.
5. Select **Row 50**.	Highlights Row 50.
6. Click the Breaks button and select **Insert Page Break** from the Breaks menu.	Inserts a manual page break below Row 49.

What	Why
7. Press the **Ctrl + Home** keystroke combination.	Moves to cell A1.
8. Click the **Page Layout View button (the center button)** on the lower right-hand corner of your screen.	Switches to Page Layout view, which allows us to view our workbook as it will appear when printed.
9. Click the **Zoom Level** icon (the number with percentage) on the lower-right corner of the worksheet window and select **50%.** Click **OK**.	Reduces the size of the worksheet by 50%. Observe the manual page break after row 24.
	
10. Press the **Page Down** key.	Moves to the next page.
11. Press the **Page Down** key again	Moves to the third page of the worksheet.
12. Click **Normal View button (the first button)** on the lower right-hand corner of your screen	Switches back to Normal view.
13. Select **Row 25**.	Highlights Row 25 where we inserted our first page break.
14. Click the **Breaks button** and select **Remove Page Break** from the Breaks menu.	Removes the manual page break below Row 24.
15. Click the **Breaks button** again and select **Reset All Page Breaks** from the Breaks menu.	Removes any additional manual page breaks in the worksheet.
16 Click the **File** tab and select **Close**. **Save** any changes.	Saves and closes the active workbook.

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Lesson Summary – Formatting a Worksheet

- In this lesson, you learned how to apply formatting such as bold, italic, underline, change font size, etc. to selected text from the Font group on the Ribbon.
- Then, you learned how to apply formatting using the Format Cells dialog box.
- Then, you learned how to format values from the Number group on the Ribbon as well as the Number tab of the Format Cells dialog box.
- Next, you used the Format Painter button on the Home Ribbon to copy the formatting from one cell and apply it to other cells in your worksheet. You learned that this feature copies all formats including font typeface, font color, alignment, etc. to the new cell(s).
- Next, you learned how to align cell contents to the cell borders using the alignment buttons on the Home Ribbon.
- Next, you learned how to spread the contents of several cells into one merged cell by clicking the Merge & Center button on the Alignment group on the Home Ribbon.
- Next, you learned how to add borders to a cell from the Borders tab of the Format Cells dialog box and from the Borders button on the Font group on the Home Ribbon. You learned how to set border type, line style and border color.
- Next, you learned how to add shading to cells from the Fill tab of the Format Cells dialog box and how to set the Font color of cell text from the Font tab of the Format Cells dialog box. You also learned how to choose shading colors from the Fill palette and font colors from the Font Color palette on the Home Ribbon.
- Next, you learned how to create and apply cell styles – that is to say, a collection of formats such as font type and size, cell shading, font and background color, etc. to your worksheets from the Cell Styles Gallery.
- Next, you learned how to hide and unhide rows and columns by selecting the row or column you wish to hide, clicking the Format button on the Home Ribbon, pointing to Hide & Unhide in the visibility area and choosing the desired hide or unhide command from the menu. You learned that to unhide a row or column, you select the rows/columns adjacent to the hidden one(s).
- Next, you learned how to freeze and unfreeze rows and columns by using the Freeze Panes command button on the View tab. Any rows below the active

row and columns to the left of the active column will remain in view as you scroll.

- Lastly, you learned how to insert and remove manual page breaks using the Breaks command button on the Page Layout tab. You also learned that you can adjust page breaks manually by displaying your workbook in Page Break Preview and then adjusting the page break borders by dragging the thick page break borders to a new location.

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Lesson 4 Quiz

1. You can choose the color of cell shading from:
   A. The Color palette of the Fill tab of the Format Cells dialog box.
   B. The Background palette of the Shading Tab of the Format Cells dialog box.
   C. The Color palette of the Shading Tab of the Background dialog box.
   D. By clicking the Cell Background button on the Home Ribbon.

2. Name three formatting effects that you can apply from the Font Group on the Home Ribbon.

3. How can you modify the font size of selected cells (select all that apply)?
   A. Select the new font size from the Font drop-down list on the Home Ribbon.
   B. Click the Font Dialog Launcher and select the desired font size from the Font list box.
   C. Select the new font size from the Font drop-down list on the Page Layout Tab.
   D. Display the Cell Styles Gallery and select the desired font size from the Font drop-down list.

4. What can you find on the Format Cells dialog box? How do you display it?

5. You want to apply the formatting from one cell to several other cells in your worksheet using Format Painter. To achieve this, you:
   A. Click on the Format Painter icon and select all of the cells to which you want to apply formatting.
   B. Click on the Format Painter icon, hold down the Shift key, and select all of the cells to which you want to apply formatting.
   C. Click on the Format Painter icon, hold down the Ctrl key, and select all of the cells to which you want to apply formatting.
   D. Double-click on the Format Painter icon and select all of the cells to which you want to apply formatting.

6. You have values in the format of $5000.00. You wish to change the format of selected cells so that there are no decimals places ($5000). How can you do this (select all that apply)?
   A. Click the No Decimals Places button on the Home Ribbon.
   B. Click the Decrease Decimal button twice on the Home Ribbon.
   C. Type "0" in the Decimal Places box in the Number tab of the Format Cells dialog box.
   D. Type "none" in the Decimal Places box in the Currency tab of the Format Cells dialog box.

7. What is the keyboard shortcut to display the Format Cells dialog box?

8. How can you get rid of the pound signs that appear when a numerical value is wider than the width of the cell?
   A. Click the Convert to Currency button on the Home Ribbon.
   B. Click in the cell and press the Delete key.
   C. Click the "Remove Train Tracks" button on the Home Ribbon.
   D. Widen the column by dragging the column's right border until the value displays.

9. You wish to copy the formatting from a cell in your worksheet to cells in different worksheets. How can you accomplish this?
A. Use the Format Painter on the Home Ribbon.
B. Use the AutoFormat button on the Home Ribbon.
C. Click the Copy Formats radio button on the Font tab of the Format Cells dialog box.
D. Click the Flash Fill button on the Home Ribbon.

10. You always use Arial, size 14, bold italic with a font color of blue for your worksheet titles. How can you save this setting so you can easily apply it to other worksheets in the future?
   A. Create an AutoFormat.
   B. Create a Cell Style
   C. Save it to the Format Painter button.
   D. Save it to the Add Objects category of the Format Cells dialog box.

11. You want to change the date format of a cell from 3/1/2016 to March 1, 2016. How can you accomplish this?
   A. Retype the date in the format that you want it.
   B. Click the Date button on the Home Ribbon until the correct date type appears.
   C. From the Format Cells dialog box, click the Number tab, click the Date category and then select the date format you want to apply.
   D. From the Format Cells dialog box, click the Date tab, click the Date drop-down list and then select the date format you want to apply.

12. What does Excel's "Wrap Text" feature do? How can you apply this to selected cells?

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13. To insert a page break after row 27, you would:
    A. Select row 27 and press the Ctrl + Return keystroke combination.
    B. Select row 28 and click the Page Break button on the Breaks tab of the Format Cells dialog box
    C. Select row 27, click the Breaks button on the Page Layout Ribbon and select Insert Page Break.
    D. Select row 28, click the Breaks button on the Page Layout Ribbon and select Insert Page Break.

14. To hide a particular row, you:
    A. Select the row and press the Delete key.
    B. Select the row, right-click and select Hide from the menu.
    C. Select the row and click the Remove Row button on the Insert Ribbon.
    D. Click the Hide Row button on the View Ribbon.

15. You have an extremely long worksheet. As you scroll down, your column titles are no longer visible. How can you keep the first three rows visible as you scroll down through your worksheet?
    A. Click in cell A4, right-click and select Set as Header Row from the contextual menu.
    B. Click in cell A4, click the Freeze Panes button on the View Tab and select Freeze Panes from the menu.
    C. Click in cell A4 and click the Insert Header Row on the Page Layout Tab.
    D. Select rows 1, 2 & 3, click the Freeze Panes button on the View Tab and select Lock Panes from the menu..

16. How can you combine 4 cells into one larger cell?

LAB 4 – ON YOUR OWN

1. Open the Lab4 workbook file.
2. Change the format of cells A1, A12, A24 and A35 to **Times New Roman**, **Bold**, **Italic** and an **18 point** font size. (Hint: To select more than one non-adjacent cell, hold down the Ctrl key then click all of the cells you wish to select).
3. Select the cell range **A4:A8**. **Right-align** the text and apply Bold Formatting.
4. Repeat step 3 for cell ranges A14:A16, and A26:32.
5. Apply bold formatting to cells **A9, A17, A20** and **A33**.
6. Format the cell range **B4:D9** to **Currency** with two decimal places.
7. Click in cell **B4** and **double-click** the **Format Painter button**.
8. Select the cell ranges: **B14:D17, B20:D20, B26:D35**
9. Click the **Format Painter button** to deactivate it.
10. Select the cell range **A1:D1**
11. Apply a **fill color** of **Light Blue**.
12. Repeat step 11 for cell **ranges A12:D12** and **A20:D20**.
13. Apply a **fill color** of **Light Orange** to cell ranges **A24:D24 and A35:D35**.
14. Insert two new rows at the beginning of your worksheet.
15. Click in cell A1 and type: **Income Statement – 1st Quarter** and then press **Enter**.
16. Select cells **A1:D1** and click the **Merge and Center** button on Home Ribbon.
17. Save and close the current workbook.

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Lesson 5

Lesson 5 – Page Setup and Printing

Lesson Topics:

5.1 Adjusting Margins

5.2 Setting Page Orientation

5.3 Setting Paper Size

5.4 Defining a Print Area

5.5 Printing Worksheet Titles

5.6 Forcing a Worksheet to Fit

5.7 Inserting Headers & Footers

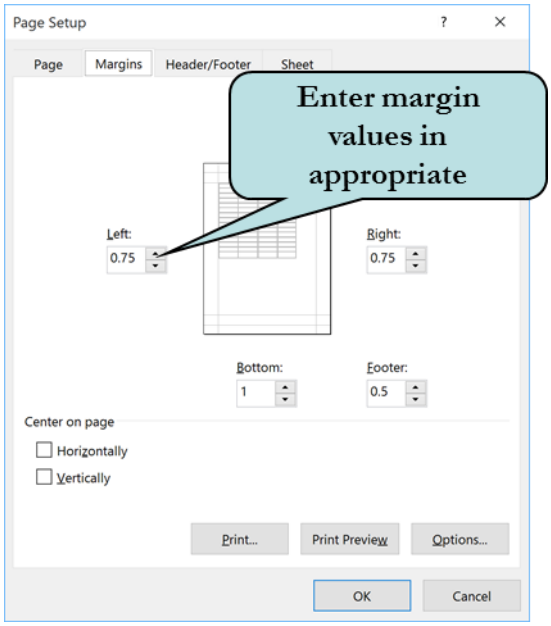
5.8 Printing a Worksheet

5.1 Adjusting Margins

In this lesson, you will learn how to change the page margins of your worksheet.

Margins refer to the amount of white space between the text of the worksheet and the left, right, top and bottom edges of the page. Margins can also be thought of as page boundaries — once the text reaches the boundary of the margin, it wraps to the next line or the next page.

Keep in mind that changing the margins of your worksheet affects every page in the document – not just the active paragraph or page. To modify margins, click the **Margins** button on the Print Layout tab and make your selections.



Setting Custom Margins

To Select Standard Margins

1. Click the **Page Layout** tab on the Ribbon.
2. Click the **Margins** button and select Normal, Wide, Top or Narrow.

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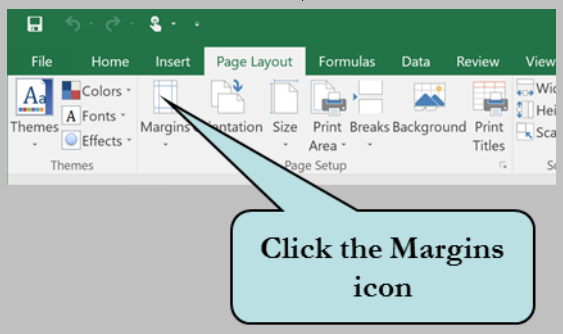
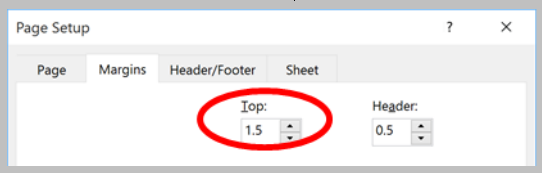
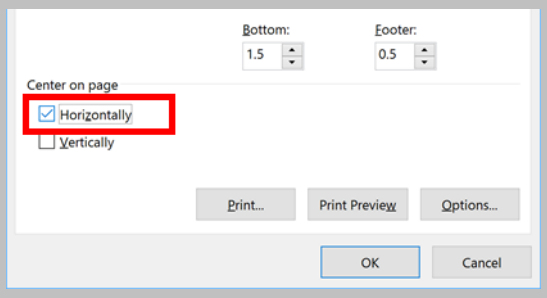
To Create Custom Margins

1. Click the **Page Layout** tab on the Ribbon.
2. Click the **Margins** button.
3. Click **Custom Margins** on the list to display the **Page Setup dialog box**.
4. Enter the margin values (in inches) in the **Top, Left, Bottom and Right** boxes in the Margins area.
5. If desired, click the checkbox next to **Horizontally** or **Vertically** to center your data on the page.
6. Click **OK** when finished

Tip: You can also display the Page Setup dialog box by clicking on the Page Setup Dialog Launcher. Click on the Margins tab to display margin options.

Let's Try It!

What	Why
1. Open the **Lesson5** workbook from the Lesson Files folder.	Opens the Lesson 5 workbook in Excel.
2. Click the **Page Layout** tab on the Ribbon.	Switches to Page Layout commands and tools.
3. Click the **Margins** button as shown below.	Displays margin options.
	
4. Click **Custom Margins** on the very bottom of the list.	Displays the Page Setup dialog box.

What	Why
5. Double-click in the **Top** margin box, type: **1.5** as shown below and then press **Tab**.	Sets the top margin at 1.5 inches and moves to the bottom margin box.
	
6. In the **Bottom** margin box, type: **1.5** and then press **Tab**.	Sets the bottom margin at 1.5 inches and then moves to the left margin box.
7. In the **Left** margin box, type: **1.5** and then press **Tab**.	Sets the left margin at 1.5 inches and then moves to the right margin box.
8. In the **Right** margin box, type: **1.5**.	Sets the right margin at 1.5 inches.
9. Under the **Center on Page** area, click the checkbox next to **Horizontally** as shown below.	Centers the data horizontally on the page.
	
10. Click the **Print Preview** button.	Displays the document as it will be printed.
11. Click the **Next Page** button on the bottom of the display window as shown below.	Displays the next page of the document.

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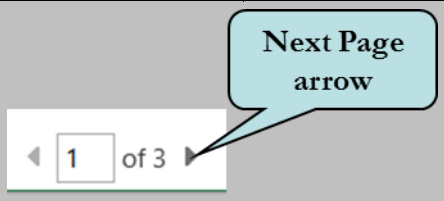
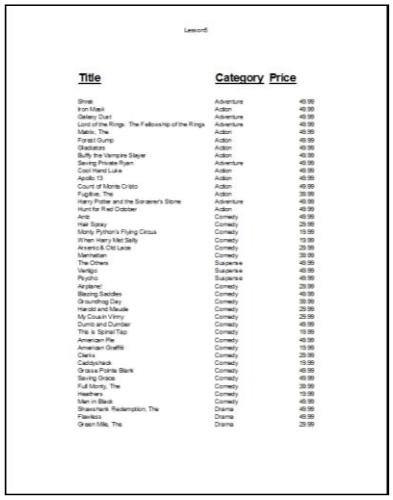
What	Why
	
12. Click the **Back** arrow button in the left pane as shown below.	Exits Backstage view and returns us to the Page Layout tab.
13. Click the **Save** icon on the Quick Access toolbar.	Saves the active document.

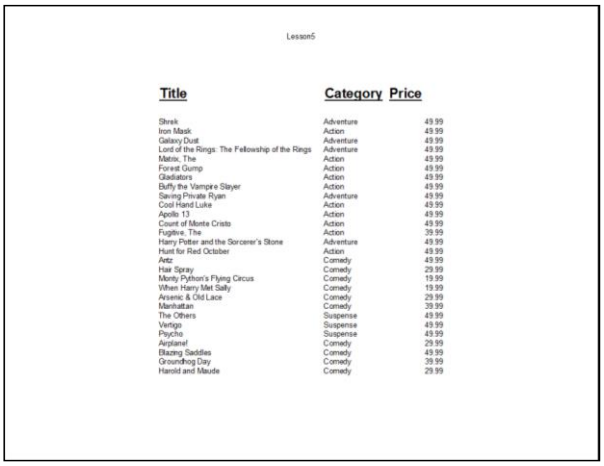
5.2 Setting Page Orientation

In this lesson, you will learn how to change the page orientation to either Portrait or Landscape.

Microsoft Excel allows you to change the **Page Orientation**; that is to say, the orientation of text – either wide or long – on the page. There are two choices of orientation: **Portrait** which prints across the shortest width (taller than longer) of the paper and **Landscape** which prints across the longest width (longer than taller) of the paper.



Portrait



Landscape

To Set Page Orientation

1. Click the **Page Layout tab** on the Ribbon.
2. Click the **Orientation button** and select either **Portrait** or **Landscape.**
3. Click **OK** when finished

Or

1. Click Portrait or Landscape from the Margins tab of the **Page Setup dialog box**.

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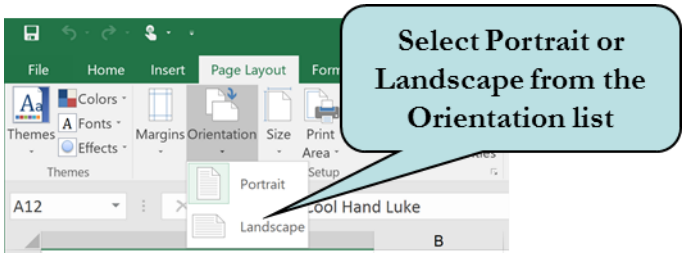
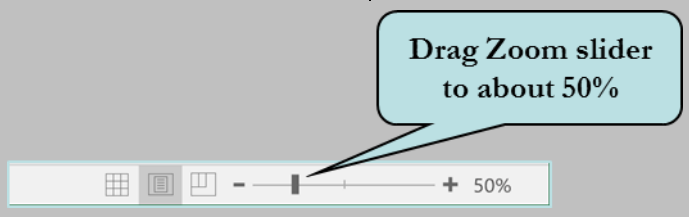
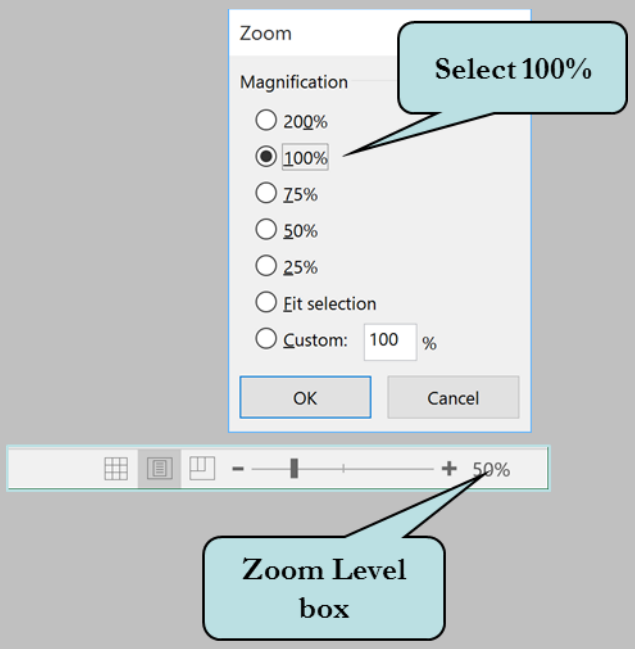


Let's Try It!

What	Why
1. Click the **Orientation** button on the Page Setup group of the Page Layout Ribbon.	Displays the Orientation menu.
2. Click **Landscape**.	Changes the Page Orientation to landscape.
3. Click the **Page Layout** view button on the lower-right corner of your screen (the center button).	Displays the worksheet in Page Layout view.
4. Drag the **Zoom slider** on the lower-right and corner of your screen to the left to about **50%** as shown below.	Reduces the size of the viewable area to 50% of the normal size. Observe that the page is wider than taller.
	
5. Click the **Zoom Level box** on the lower-right and corner of your screen (click on "50%") and choose **100%** from the Zoom dialog box as shown below. Click **OK**.	Restores the viewable area of the document to 100%.

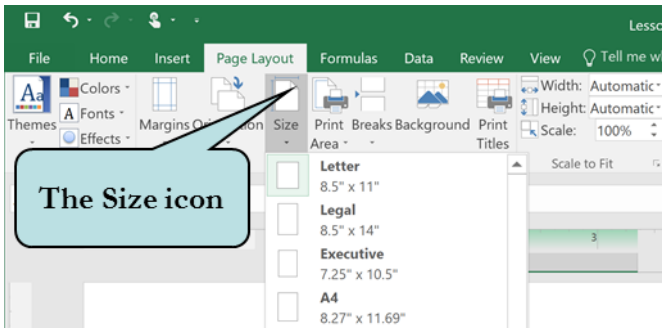
What	Why
	
6. Click the **Save** icon on the Quick Access toolbar.	Saves the active document.

5.3 Setting Paper Size

In this lesson, you will learn how to change the paper size of your printable document.

You may not always be working with the standard paper size of 8 ½" x 11". Luckily, Microsoft Excel can print on many different paper sizes such as legal size (8 ½" x 14"), A4, A3, etc.

The default paper size in Microsoft Excel is 8 ½" x 11". This is the standard paper size in the United States for most documents.



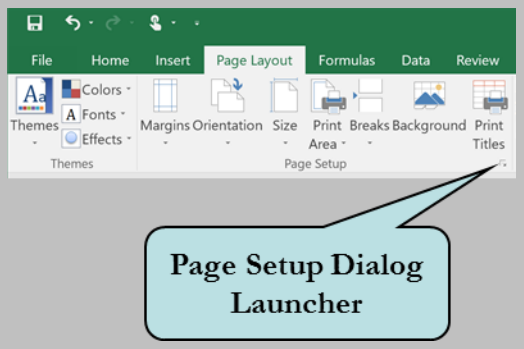
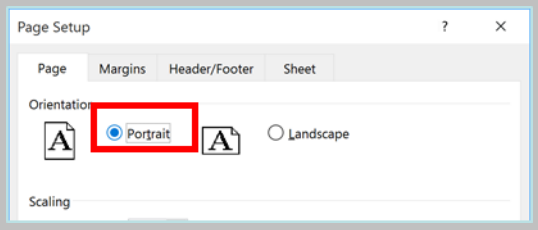
To Set Standard Paper Size

1. Click the **Page Layout** tab on the Ribbon.
2. Click the **Size** icon and select the desired paper size from the list.

To Set a Non-Standard Paper Size

1. Click the **Page Layout** tab on the Ribbon.
2. Click the **Page Setup Dialog Launcher** to display the Page Setup dialog box.
3. Click the **Page** tab.
4. Select the desired paper size from the **Paper Size** drop-down list.
5. Select any **paper source** options.
6. Click **OK** when finished

Let's Try It!

What	Why
1. Click the **Page Setup Dialog Launcher** as shown below.	Displays the Page Setup dialog box. Rather than choose from the Size list, we will set our paper size from the Page Setup dialog box.
	
2. Click the **Page** tab.	Ensures that the Page tab is the active tab.
3. In the **Orientation** area, click on the **Portrait** radio button as shown below.	Sets the page orientation back to Portrait.
	
4. From the **Paper Size** drop-down list, select **Legal** as shown below.	Chooses Legal (8 ½" x 14") as the paper size.

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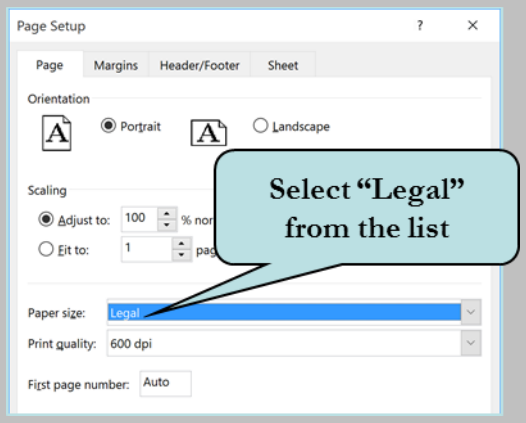
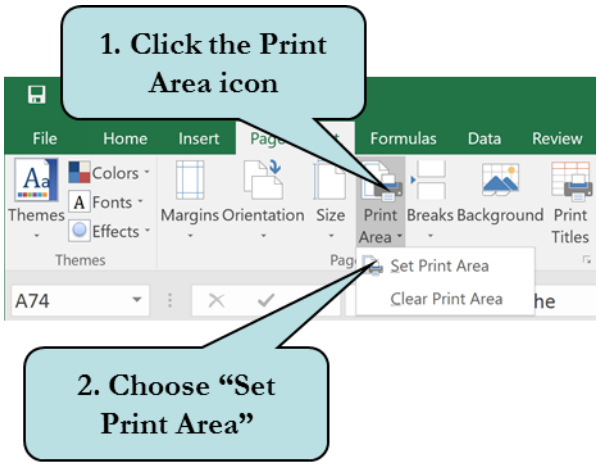
What		Why
		
5.	Click **OK**.	Closes the Page Setup dialog box and applies the changes.
6.	Drag the **Zoom slider** on the lower-right and corner of your screen to the left to about **25%**	Reduces the size of the viewable area to 25% of the normal size. Observe that the page is displayed longer than the standard paper size.
7.	Click the **Zoom Level box** on the lower-right and corner of your screen and choose **100%** from the Zoom dialog box. Click **OK**.	Restores the viewable area of the document to 100%.
8.	Click the **Save** icon on the Quick Access toolbar.	Saves the active workbook.

5.4 Defining a Print Area

In this lesson, you will learn how to set a specific print area.

Left to its own devices, Excel will print all the data that is in the currently active worksheet. You can however, force Excel to use a defined print area for the worksheet. Start by selecting the cell range that you want to print. Then, click the **Print Area** button under the Page Set up group on the Page Layout Ribbon and choose **Set Print Area** from the list.



To delete a print area, click the Print Area button and choose **Clear Print Area.**

To Define a Print Area

1. Click the **Page Layout** tab on the Ribbon.
2. Click the **Print Area** button and select **Set Print Area** from the list.
3. To remove a print area, click the **Print Area** button and select **Clear Print Area** from the list.

Tip:	You can also add and remove a print area from the Sheet tab of the Page Setup dialog box.

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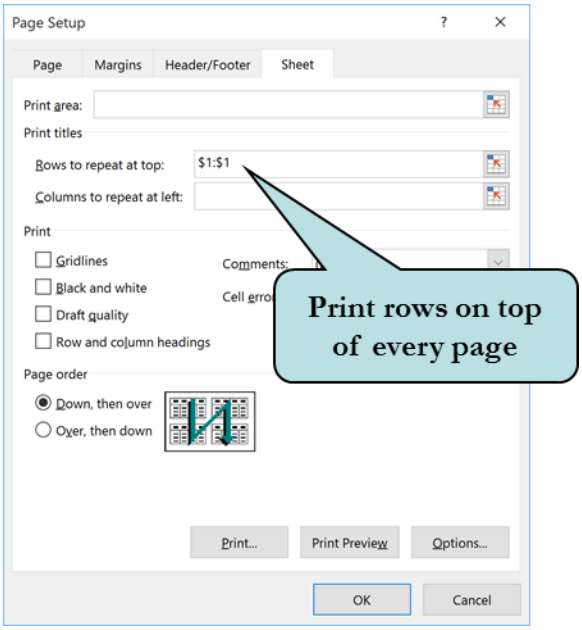
Let's Try It!

What	Why
1. Select the cell range **A1:A80**.	Selects the cell range that we want to set as our print area.
2. Click the **Print Area** button on the Page Layout Ribbon and choose **Set Print Area**.	Sets A1:A80 as the range of cells to be printed.
3. Press **Ctrl + F2**.	Displays the worksheet in Print Preview view in Backstage View.
4. Press the **Esc** key on your keyboard.	Leaves Backstage View and returns to Page Layout view.
5. Click the **Print Area button** and choose **Clear Print Area**.	Deletes the custom print area.

5.5 Printing Worksheet Titles

In this lesson, you will learn how to print rows or columns on every page.

If your worksheet spans several pages, you may wish to repeat one or more rows or columns as titles on each page. For example, if working with an income/expense statement, your first column might contain a category title with each month spanning to the right of your worksheet. You can set rows and columns to repeat on each page from the Sheet tab of the Page Setup dialog box.



To Print Rows or Columns on Every Page

1. Click the **Page Setup Dialog Launcher** on the Page Setup Ribbon
   Or
   Click the **Print Titles** button on the Ribbon.
2. Click the **Sheet Tab** if necessary.
3. Click in the **Rows to Repeat at Top** text box or in the **Columns to Repeat at Left** text box.
4. Click the **Collapse Dialog Box** button.

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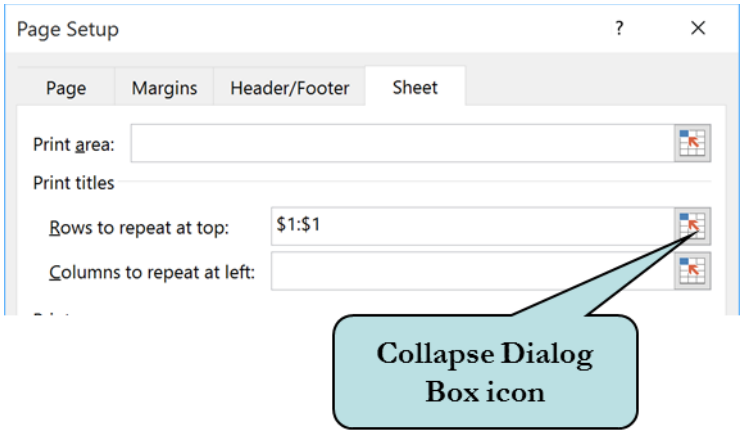
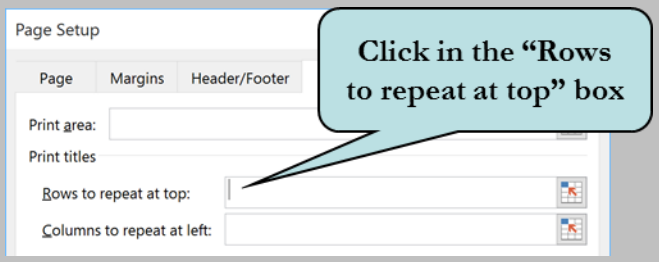
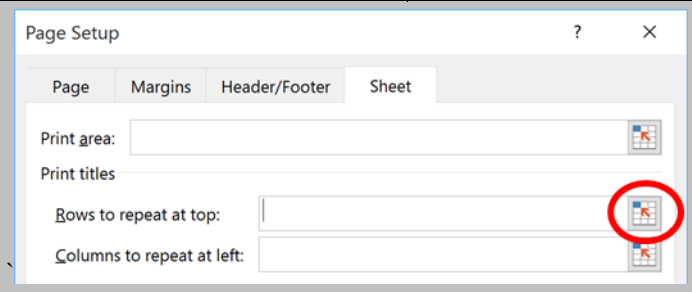
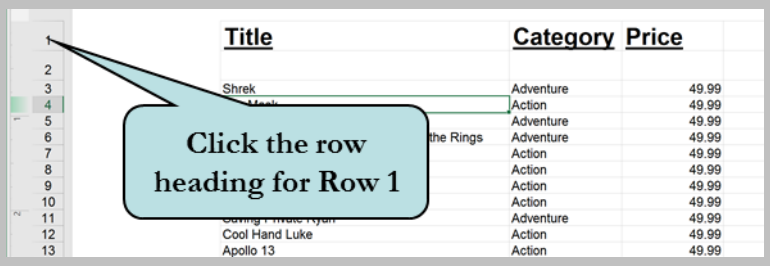
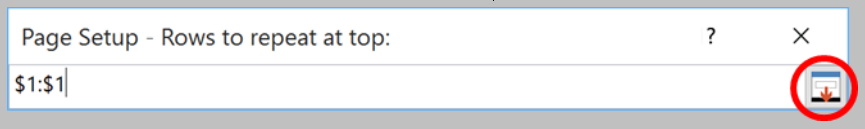


5. Select the row(s) or column(s) in your worksheet to be repeated.
6. Click the **Display Dialog Box** button to return to Page Setup Mode.

Let's Try It!

What	Why
1. Click the **Print Titles** button on the Page Layout Ribbon.	Displays the Sheet tab of the Page Setup dialog box.
2. Click in the **Rows to Repeat at top** box as shown below.	Moves to the Rows to Repeat at top text box.
	
3. Click on the **Collapse Dialog Box** button to the right of the Rows to repeat at top text box as shown below.	Collapses the dialog box and brings you to the worksheet.

What	Why
	
4. Select the row heading for **row 1** as shown below.	Sets row 1 as a repeating row.
	
5. Click the Display Dialog Box as shown below.	Returns to the Page Setup dialog box.
	
6. Click the **Gridlines** check box in the **Print** area.	Sets the cell gridlines as printable. You can also set gridlines options from the Sheet Options area of the Page Layout Ribbon.
7. Click **OK**.	Closes the Page Setup dialog box.
8. Press **Ctrl + F2** and observe the preview of the worksheet in the right pane.	Previews the document as it will be printed.
9. Click the **Next Page** button.	Moves to the next page. Notice the Worksheet title row is displayed on the top of page 2.

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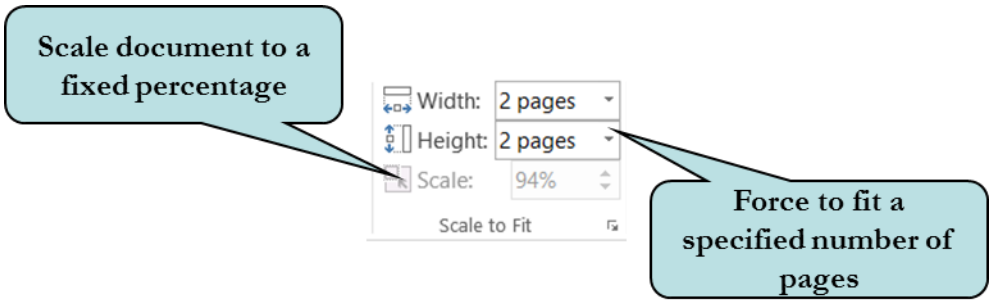
What	Why
10. Press the **Esc** key.	Returns to Page Layout view.

Note: You can also type in the range of the rows or columns to repeat manually in the appropriate box.

5.6 Forcing a Worksheet to Fit

In this lesson, you will learn how to force a worksheet to fit on a specified number of pages.

If you want to reduce the size of data on a printout, you can use the **Scale to Fit** tools on the Page Layout Ribbon. This is especially helpful if your data spans more than one page in width or height and you wish to shrink it so that it fits on one page. Reducing the scale of your printout allows you to fit more rows and columns on each page. Be careful though – reducing the scaling too much can result in a printout that is unreadable.



To Force a Worksheet to Fit on a Specified Number of Pages

1. Click the **Page Layout tab** on the Ribbon.
2. To scale the worksheet to fixed percentage, enter a value between 10 and 400 in the **Scale box** under the Scale to Fit group.
3. To adjust the printout to a specific number of pages, click the **Width** and **Height** drop-down arrows and choose the desired number of pages.

Tip:	You can also set worksheet scaling from the Page tab of the Page Setup dialog box.

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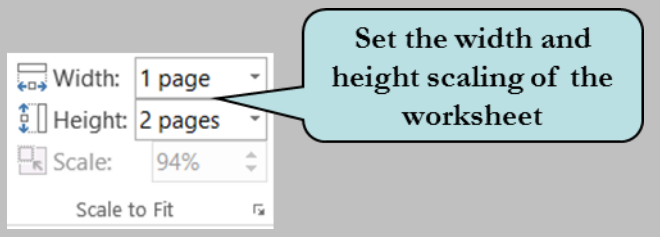
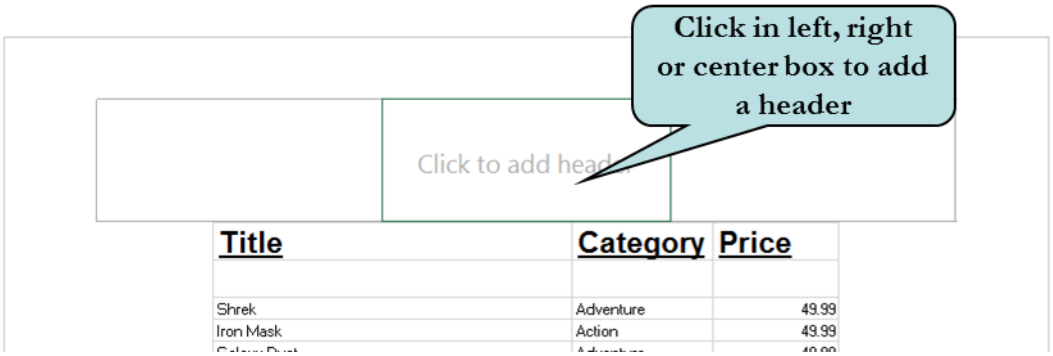
Let's Try It!

What	Why
1. Click the **Width** drop-down arrow under the Scale to Fit group and select **1 Page** as shown below.	Specifies that the width of the document is to be reduced so that it fits on one page.
	
2. Click the **Height** drop-down arrow under the Scale to Fit group and select **2 Pages** as shown above.	Specifies that the height of the document is to be reduced so that it fits on two pages.
3. Click the **File tab** on the Ribbon.	Displays the File options menu.
4. Click **Print**.	Displays the worksheet in Print Preview view.
5. Click the **Next Page** button.	The size of the document has been reduced so that it fits on two pages. You can also press the Page Down or Page Up keys to navigate in Print Preview view.
6. Press the **Esc** key.	Returns to Page Layout view.

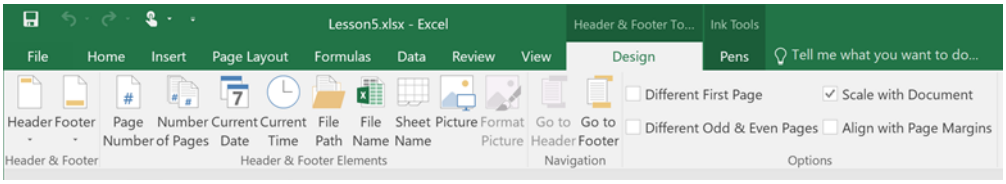
5.7 Inserting Headers and Footers

In this lesson, you will learn how to add a header and footer to your worksheet.

When you want to automatically print certain information on the top or bottom of every page, you can insert a **Header** or a **Footer** into your document. The information in the header section appears at the top of every printed page while the information in the footer section appears at the bottom of every printed page. If your worksheet contains more than one page, you should consider adding a header and/or footer. Creating a header or footer is accomplished by using the **Header/Footer Tab** of the **Page Setup dialog box**, from the **Insert Ribbon** or by directly clicking in the Header and Footer areas of your worksheet and entering in the desired information.



Excel comes with several pre-defined headers and footers (page numbers, current date, sheet name, file name, author, etc.) that you can add to your worksheets. If you prefer to add your own custom header or footer, click on the left, center or right side of the Header or Footer window and type in your custom text. The contextual Header and Footer Tools Ribbon contains its own set of icons which allow you to insert page numbers, insert total pages, insert the date and time, insert the file name, sheet name or file path, insert a picture from a file or format a picture.



Contextual Header & Footer Design Ribbon

To Add a Header or Footer to a Worksheet

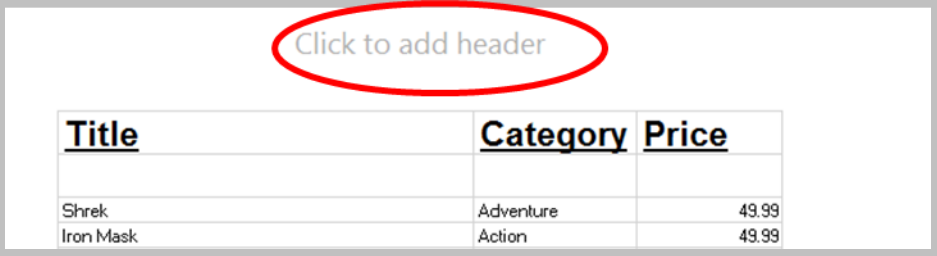
1. Switch to Page Layout view.

2. Scroll to the top of any page of your worksheet until you see **"Click to add header."** To add a footer, scroll to the bottom of any page of your worksheet until you see **"Click to add footer."**
3. Move your mouse pointer over the words "Click to add header" or "Click to add footer" until three boxes appear.
4. Click the **left, right** or **center** boxes at the top or bottom of your worksheet, depending on where you want to add your header or footer information.
5. Type your information in the desired box.
6. To view the Header and Footer Ribbon, click the contextual **Design** tab under Header & Footer tools.
7. To insert predefined elements such as page number, number of pages, current date or current time, click the icon on the contextual Design Ribbon for the element you want.
8. To insert a predefined header or footer, click the **Header** or **Footer** button on the Ribbon and choose the information you want to add from the list.
9. Click the **Go to Header** or **Go to Footer** icon to switch between the Header and the Footer.
10. To remove the header or footer from the first page, click the **Different First Page** checkbox on the Ribbon.
11. Click the **Different Odd and Even Pages** checkbox if you want a different header or footer for odd and even pages.
12. To close the header and footer window, click anywhere in your worksheet.

Tip:	You can also jump to the Header or Footer area of your worksheet by clicking the Header & Footer button on the Text group of the Insert Ribbon.

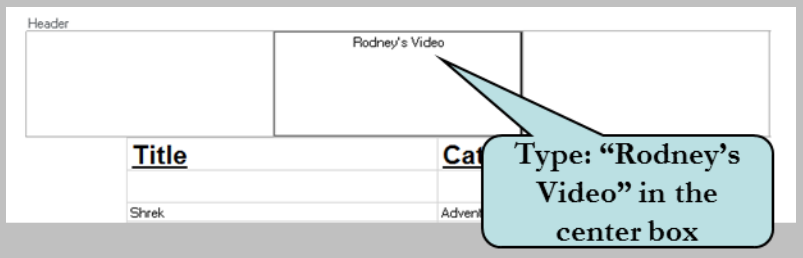
Let's Try It!

What	Why
1. Scroll to the top of the page of your worksheet until you see **"Click to add header"** as shown below.	Displays the Header and Footer area on top of your worksheet.



2. Move your mouse pointer over the words "Click to add header" until three boxes appear.	Displays the left, center and right sections of the header.

3. Click in the **Center box**.	Sets the insertion point in the center section window.
4. Type **Rodney's Video** as shown below.	Enters the header text.



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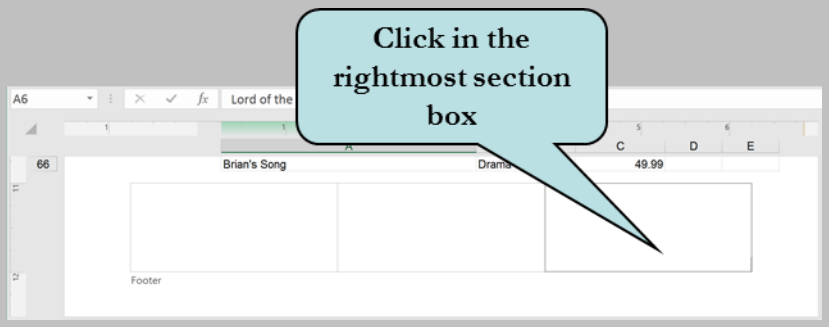
What	Why
5. Select the text **Rodney's Video**.	Selects the text of the custom header.
6. Click the contextual **Design** tab as shown below.	Displays the contextual Header & Footer Design tab.

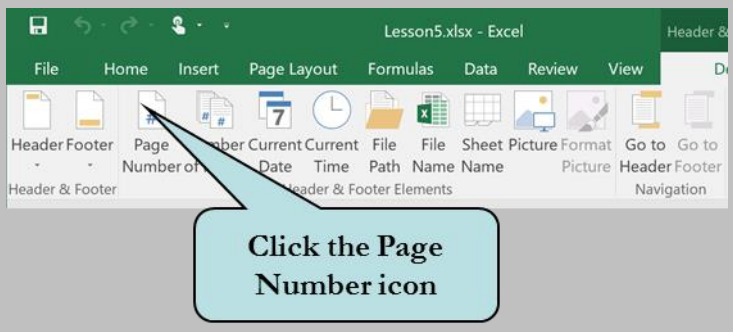
7. Click the **Go To Footer** icon on the Navigation group as shown below.	Switches to the Footer area.

8. Click in the **right section box** as shown below.	Sets the insertion point in the right section window.

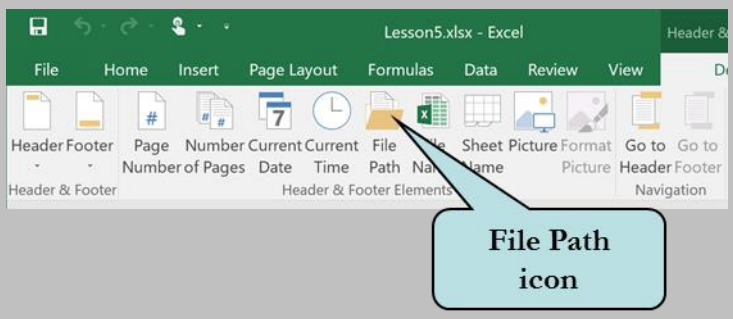


9. Type the word **Page** and then press the space bar.	Inserts the word "Page" and adds a space in the right section.

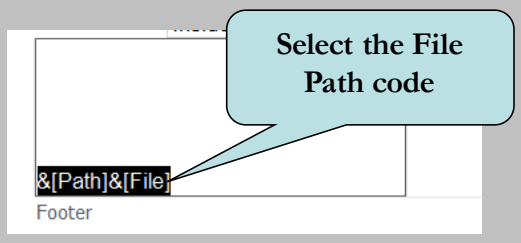
What	Why
10. Click the **Page Number** icon as shown below.	Inserts the page number code after the word "Page".



11. Click in the **Left Section box**.	Sets the insertion point in the left section window.
12. Click the **File Path** icon as shown below.	Inserts the path and file name of the document in the left footer section.



13. Select the **File Path code** as shown below.	If you want to change the formatting of the code (font type, size, etc.), you must first select it.



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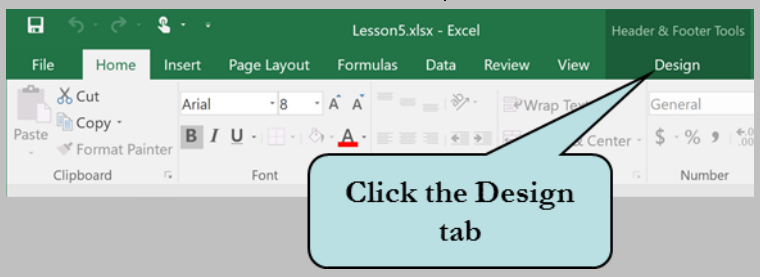
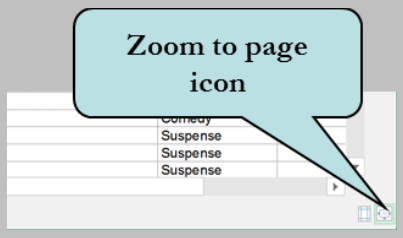
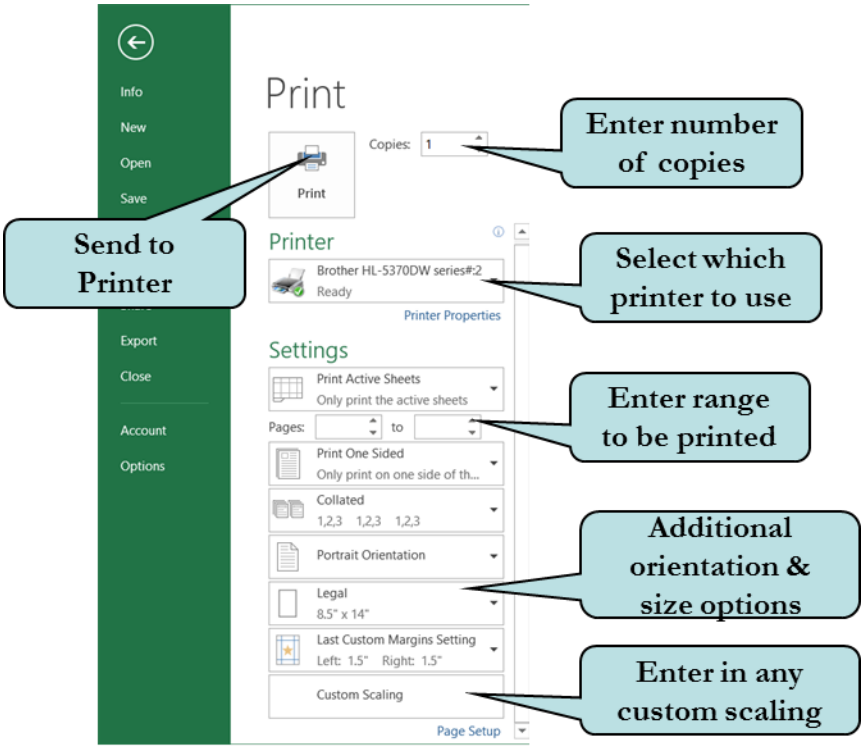
What	Why
14. Click the **Home** tab on the Ribbon.	Switches to Home tools and commands.
15. Select **8** from the **Font Size drop-down list** and click the **Bold** button on the Ribbon.	Applies formatting to the center section footer.
16. Click the **Design tab** under the Header & Footer tools on the Ribbon as shown below.	Redisplays the Header & Footer Design Ribbon.
	
17. Click the **Go To Header** button on the Navigation group of the Ribbon.	Switches to the Header area.
18. Highlight the text **Rodney's Video**.	Selects the text whose formatting we wish to modify.
19. Click the **Home** tab.	Switches to Home tools and commands.
20. Select **8** from the **Font Size drop-down list** and click the **Bold** button on the Ribbon.	Applies formatting to the center section header.
21. Click anywhere in your worksheet.	Closes the Header and Footer area.
22. Press **Ctrl + F2**.	Observe the header and footer in Print Preview mode.
23. Click the **Zoom to Page** icon on the lower right corner of the preview window to zoom in as shown below.	Zooms in for easier viewing.

What	Why
	
24. Press the **Esc** key.	Returns to Page Layout view.

5.8 Printing a Worksheet

In this lesson, we will work with printer options and learn how to print a worksheet.

Before you're finally ready to print your worksheet, you may first want to set some **Printer Options**. For instance, you may need to specify which printer to use, the number of copies to be printed, or even designate Excel to print only a specific page range of your document. Printer options you can set will vary, depending on the type of printer you are using.

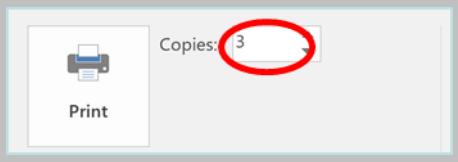
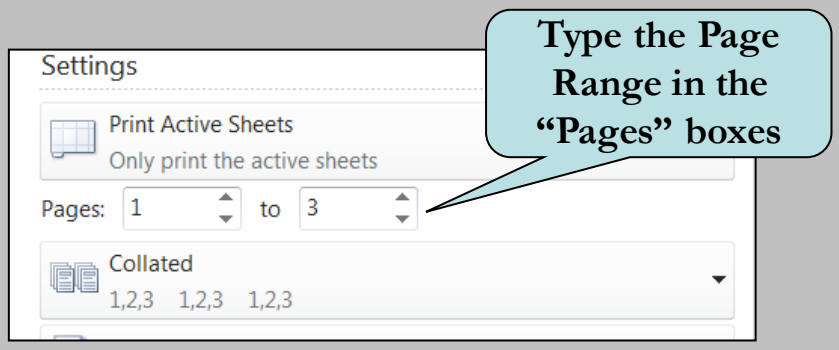


To Set Printer Options & Print a Worksheet

1. Click the **File** tab and then click **Print** on the File Options menu to display the Print Options pane
   Or
   Press the **Ctrl + P** keystroke combination.
2. If necessary, choose which printer to use from the **Printer** drop-down list.
3. Click the heading under **Settings** and choose **Print Active Sheets, Print Entire Workbook** or **Print Selection.**

4. To print a specific range, enter the page numbers in the **From** and **To** boxes.
5 To print more than one copy of a document, enter the value in the **Number of copies** box in the **Copies** area.
6. Click the **Print** icon to send the document to the printer.

Let's Try It!

What	Why
1. Click the **File** tab and then click **Print**.	Displays **Print** settings. You can also press the Ctrl + P keystroke combination to display these options.
2. In the **Copies** box, enter 3 as shown.	Sets the option to print 3 copies of the document. 
3. In the Pages box of the Print range area, type **1** in the From box and **3** in the To box as shown below.	Sets the option to print only the first three pages.
	
4. Press the **Esc** key.	Switches to the Home tab without printing the worksheet.

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What	Why
5. Press **Ctrl + W**. **Save** any changes.	Saves and closes the current workbook.

Tip: To send a document directly to the printer without displaying the Print pane, click the Quick Print icon on the Quick Access toolbar. To add the Quick Print icon to the Quick Access toolbar, click the drop-down arrow and choose Quick Print from the list.

Lesson Summary – Working with Pages

- In this lesson, you learned how to set margins by clicking the Margins command button on the Page Layout Ribbon. You learned that you can apply standard margin settings by choosing the desired setting from the list or enter custom settings from the Page Setup dialog box.
- Then, you used the Orientation command button to set page orientation. You learned that there are two choices of orientation – Portrait which prints across the shortest width (taller than longer) of the paper and Landscape which prints across the longest width (longer than taller) of the paper.
- Next, you learned how to set paper size by clicking the Size command button on the Page Layout Ribbon. You learned that the default paper size in Excel is US Letter (8 ½" x 11").
- Next, you learned how to define a print area – the area of your worksheet that is to be printed – by selecting the area you want to set, clicking the Print Area button on the Page Layout Ribbon and selecting Set Print Area from the list.
- Next, you learned how to print worksheet titles – repeating rows and/or columns on every page by selecting the rows or columns you want to print from the Page Setup dialog box.
- Next, you learned how to scale a worksheet so that it fits on a specified number of pages from the Scale to Fit area of the Page Layout Ribbon.
- Next, you learned how to create headers and footers in your document by using the Header & Footer command button on the Insert Ribbon.
- Lastly, you learned how to send a worksheet to the printer using the Print Options pane. You learned how to specify a page range, the number of copies to be printed, etc.

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Lesson 5 Quiz

1. Name three options you can set in the Print Dialog box.

2. Pressing Ctrl + P will send a document directly to the printer without displaying the Print options pane in Backstage View.
   A. True
   B. False

3. To change the margins of your worksheet:
   A. Click the Margins button on the Page Layout Ribbon and make your selection from the gallery menu.
   B. Click the Margins button on the Format Ribbon and make your selection from the gallery menu.
   C. Double-click the Margins button on the Page Layout Ribbon and type in the desired margin settings.
   D. Click the Edit button on the Page Layout Ribbon, choose Margins from the Gallery menu and then type in your desired margin settings.

4. What are the dimensions of legal sized paper?
   A. 8 ½" x 14"
   B. 8 ½" x 11"
   C. 8 ½" x 12"
   D. A4

5. What is the difference between Portrait and Landscape page orientation?
   A. Landscape is taller than it is wider and Portrait is wider than it is taller.
   B. Landscape is used mainly by architects and Portrait is used for every day documents.
   C. Landscape is wider than it is taller and Portrait is taller than it is wider.
   D. Landscape displays gridlines whereas Portrait does not.

6. You only want to print the first four pages of your worksheet. How can you do this?
   A. Display the Page Setup dialog box and enter 1 in the From box and 4 in the To box.
   B. Display the Print Options pane in Backstage view and enter 1 in the From box and 4 in the To box.
   C. Click File tab, point to print, select Quick Print and then enter 4 in the Number of Copies box.
   D. Press Ctrl + P four times.

7. What is a header?
   A. Information that prints on the bottom of every page.
   B. The first row of your worksheet.
   C. The print area that is set from the Page tab of the Page Setup dialog box.
   D. Information that prints on the top of every page.

8. How can you insert the page number on the bottom of every page?
   A. Click the Page Number button on the Insert Ribbon.
   B. Click in the footer section where you want to insert the page number and click the Page Number icon on the Ribbon.
   C. Click in the page number section of the footer box, right-click and select Add Page Number from the contextual menu.
   D. Type in the page number on the bottom of your worksheet.

9. You only want to print the first 10 rows of your worksheet. How can you do this?
   A. Select the data you wish to print and then print your worksheet.
   B. Select the data you want to print, click the Print Area button on the Page Layout Ribbon and choose "Set Print Area" from the list.
   C. Display the Print tab of the Page Setup dialog box, click the collapse dialog box button in the Print Area box, select the data you wish to print and then click the expand dialog box button.
   D. Display the Page tab of the Page Setup dialog box, click the collapse dialog box button in the Print Area box, select the data you wish to print and then click the expand dialog box button.

10. Outline the steps to create a custom footer in your worksheet.

11. What does the "Print Titles" feature do? Where can you find this feature?

12. Your worksheet spans to two printed pages but you want to force it to fit on one page. To do this, you:
   A. Display the Print Options pane and enter "1" in the Page Number box.
   B. Display the Print Options pane and enter "1" in the "To" box and "1" in the "From" box.
   C. Enter "1" in the Height and Width boxes in the Scale to Fit area of the Page Layout tab.
   D. Enter "1" in the "Fit to" box in the Scale to Fit area of the Page Layout tab.

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13. What is the keyboard shortcut to display your worksheet in Print Preview view?

    A. Ctrl + P
    B. Ctrl + 2
    C. Ctrl + F1
    D. Ctrl + F2

14. To change the font size of header text you:
    A. Select the header text and click the font size arrow on the Page Layout Ribbon and choose the desired size.
    B. Select the header text and click the font button on the Page Layout toolbar and choose the desired font size from the Font Dialog box.
    C. Select the header text and click the font size arrow on the Home Ribbon and choose the desired size.
    D. Select the header text, right-click and choose the desired font size from the contextual menu.

LAB 5 – ON YOUR OWN

1. Open the **Lab5** workbook file.
2. Display the **Page Setup dialog box** (Hint: click the Page Setup dialog launcher).
3. Set the cell range **A1:G19** as the Print Area.
4. Set **Row 1** to repeat at top.
5. Set the **Gridlines** to print.
6. Set the Top and Bottom **margins** each to 1.5" and the left and right margins each to 1".
7. Set the data to print **horizontally** on the page.
8. Create a **custom header** in the center section to read "**Semi-Annual Income Statement**".
9. Set the **page numbers** to print on the **bottom center** of every page.
10. Change the page orientation to **landscape**.
11. Display your workbook in Print Preview view.
12. Close Print Preview view.
13. **Save** and close the current workbook.

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Lesson 6

Lesson 6 – Formulas and Functions

Lesson Topics:

6.1 Relative References

6.2 Absolute References

6.3 Mixed References

6.4 Copying Formulas

6.5 MIN, MAX, COUNT and AVERAGE Functions

6.6 The Insert Function button

6.1 Relative References

In this lesson, you will work with references that change when the formula is copied from one location to another.

As we have seen previously, when you copy a formula to a new location, the formula automatically adjusts to its new location. For example, suppose you have the following formula in cell D3:

=B3 * C3

If you copy this formula down to cell D4, Excel will automatically change this formula to read:

=B4 * C4

This is called a **Relative Cell Reference**. When a formula is copied to a new location, it will reference the new cells based on their **relative location** to the original cells containing the formula. Relative Cell References are the default type of references in Excel.

Let's Try It!

What	Why
1. Open the **Lesson6** workbook.	Opens the Lesson 6 training file.
2. Click the **Income Statement** worksheet tab.	Verifies that the Income Statement worksheet is the active worksheet.
3. Click in cell **H5.**	Sets cell H5 as the active cell.
4. With cell **H5** selected, click the **Bold** button on the Home Ribbon.	Applies bold formatting to cell H5.
5. Type: **Total**.	Enter the column title.
6. Click in cell **H6**.	Makes cell H6 the active cell.

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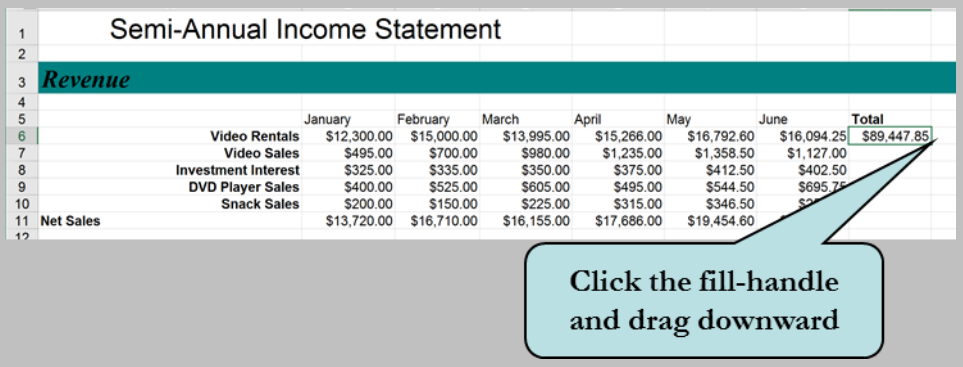
7. Type in the following formula: **=B6+C6+D6+E6+F6+G6** and then press **Enter**.	Sums cells B6 to G6 and verifies the entry.
8. Select cell **H6**.	Makes H6 the active cell.
9. Click on the lower right **Fill Handle** of cell H6 and drag downwards to cell **H10** as shown below. Release the mouse button.	Copies the formula in H6 to cells H7 to H10.



10. Click in cell **H6** then click in cell **H7.** Observe the **Formula Bar**.	Notice the formula is automatically updated to its new location.

6.2 Absolute References

In this lesson, you will work with references that do not change when the formula is copied from one location to another.

There are times when you do not want the cell reference to change when you copy or move cells to a new location. In such a case, you would need to enter the cell reference as an **Absolute Reference**. An absolute reference does not change when it is copied or moved to a new location – it always refers to the same cell address. Absolute cell references are preceded by a **$** (dollar sign) in front of both the column reference and the cell reference.

As an example, suppose we have the following formula in cell D3:

=B3 * $C$3

If you copy this formula down to cell D4, you would have:

=B4 * $C$3

The first part of this formula (B4) is a **relative** cell reference, which automatically adjusts to its new location. The second part of the formula ($C$3) or the **absolute** cell reference does not change after being copied — it still refers to the original cell location of C3.

Let's Try It!

What	Why
1. Click the **Time Sheet** worksheet tab.	Switches to the Time Sheet worksheet.
2. Click in cell **C4**.	Makes C4 the active cell.
3. Enter the following formula: **=B4 * $H$1** and then press **Enter**.	Multiplies the hours worked by the pay rate and confirms the entry. As the pay rate does not change, we will make this reference an Absolute Reference.
4. Select cell **C4**.	Makes cell C4 the active cell.

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What	Why
5. Click on the lower right **Fill Handle** and drag downwards to cell **C12**. Release the mouse button.	Copies the formula in H6 to cells H7 to H10.
6. Click in cell **C6** and observe the **Formula Bar.**	Notice that reference to the pay rate (cell H1) did not change and is still $H$1. However, the relative reference to cell B4 automatically updated to the new location.
7. Press **Ctrl + S**.	Saves the active workbook.

6.3 Mixed References

In this lesson, you will work with a combination of Absolute and Relative cell references.

You can also use a combination of Absolute and Relative cell references in your formulas. This is called a **Mixed Reference**. You have the choice of making either the column or the row absolute, such as $D3 (column is absolute, row is relative) or F$6 (column is relative, row is absolute). The row or column preceded by the $ (the absolute reference) will not change when copied or moved, whereas the row or column reference not preceded by the $ (the relative reference) automatically adjusts to its new location.

As an example, suppose you have the following formula in cell D3:

=$B3 * C3

If you copy this formula down to cell E4 (one column to the right and one row down), you would have:

=$B4 * D4

The $B4 portion of the formula contains a **Mixed Reference** — the row adjusts automatically to the new location (from row 3 to row 4) but the column address continues to reference column B.

Let's Try It!

What	Why
1. Click the **Estimate** worksheet tab.	Switches to the Estimate worksheet.
2. Click in cell **C7**.	Makes C7 the active cell.
3. Enter the following formula: **=$B7 * 12**.	Multiplies the monthly estimate in cell B7 * 12 months.
4. Press **Enter**.	Confirms the entry.
5. Select cell **C7**.	Makes cell C7 the active cell.

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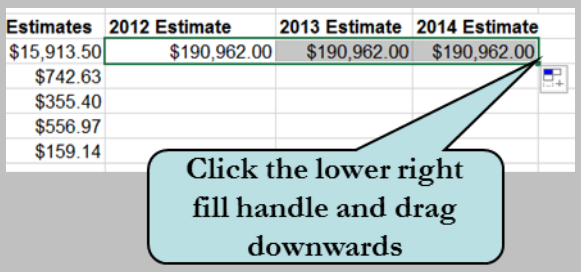
What	Why
6. Click on the lower right **Fill Handle** and then drag to the right to cell **E7**.	Copies the formula in C7 to cells D7 and E7.
7. Select the cell range **C7:E7**.	Select cells C7, D7 and E7.
8. Click on the lower right **Fill Handle** of cell **E7** as shown below and then drag downwards to cell **E11**.	Copies the formulas to the cell range B7 to E11.
	
9. Click in cell **E9** and observe the formula bar**.**	Notice that in the first part of the original formula ($B7), the formula still references column B but the column has adjusted the row reference to the new location.
10. Click the **Save** icon on the Quick Access toolbar.	Saves the active workbook.

6.4 Copying Formulas

In this lesson, you will copy formulas to non-adjacent cells.

We have been working so far with copying formulas to adjacent cells. You can also copy formulas to non-adjacent cells using the **Copy & Paste** method. The cell references will automatically update depending on the type of cell reference – Relative, Absolute or Mixed.

To Copy Cells to a New Location

1. Select the cells or cell range to be copied.
2. Click the **Copy** button on the Ribbon
   Or
   Press the **Ctrl + C** keystroke combination.
   Or
   Right-click and choose **Copy** from the contextual menu.
3. Select the new cell or cell range.
4. Click the **Paste** button on the Ribbon
   Or
   Press the **Ctrl + V** keystroke combination.
   Or
   Right-click and choose **Paste** from the contextual menu.

Let's Try It!

What	Why
1. Click the **Income Statement** worksheet tab.	Switches to the Income Statement worksheet.
2. Select cell **H6**.	Makes H6 the active cell.
3. Press **Ctrl + C**.	Place the contents of cell H6 on the Clipboard.
4. Select the cell range **H16:H19**.	Highlights the cell range H16 to H19.
5. Press **Ctrl + V** and observe the data as illustrated below.	Inserts the formula into the new cell range (H16:H19).

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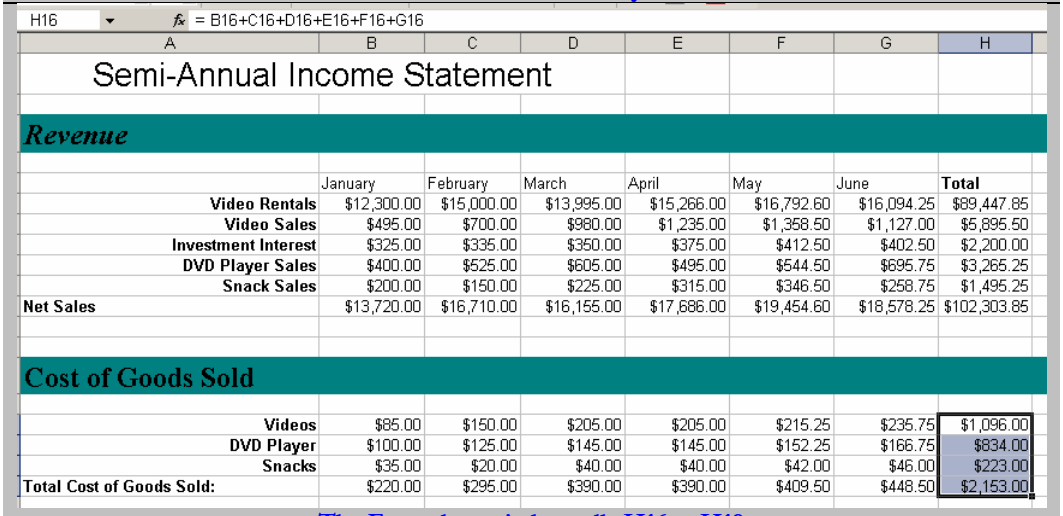
What	Why



H16 = B16+C16+D16+E16+F16+G16

	A	B	C	D	E	F	G	H
	Semi-Annual Income Statement							
	Revenue							
		January	February	March	April	May	June	**Total**
	Video Rentals	$12,300.00	$15,000.00	$13,995.00	$15,266.00	$16,792.60	$16,094.25	$89,447.85
	Video Sales	$495.00	$700.00	$980.00	$1,235.00	$1,358.50	$1,127.00	$5,895.50
	Investment Interest	$325.00	$335.00	$350.00	$375.00	$412.50	$402.50	$2,200.00
	DVD Player Sales	$400.00	$525.00	$605.00	$495.00	$544.50	$695.75	$3,265.25
	Snack Sales	$200.00	$150.00	$225.00	$315.00	$346.50	$258.75	$1,495.25
	Net Sales	$13,720.00	$16,710.00	$16,155.00	$17,686.00	$19,454.60	$18,578.25	$102,303.85
	Cost of Goods Sold							
	Videos	$85.00	$150.00	$205.00	$205.00	$215.25	$235.75	$1,096.00
	DVD Player	$100.00	$125.00	$145.00	$145.00	$152.25	$166.75	$834.00
	Snacks	$35.00	$20.00	$40.00	$40.00	$42.00	$46.00	$223.00
	Total Cost of Goods Sold:	$220.00	$295.00	$390.00	$390.00	$409.50	$448.50	$2,153.00

The Formula copied to cells H16 to H19

6.	Select the cell range **H28:H35**.	Highlights the cell range H28 to H35.
7.	Press **Ctrl + V**.	Inserts the formula into the new cell range (H28:H35).
8.	Click the **Save** icon on the Quick Access toolbar.	Saves the active workbook.

6.5 MIN, MAX, COUNT and AVERAGE Functions

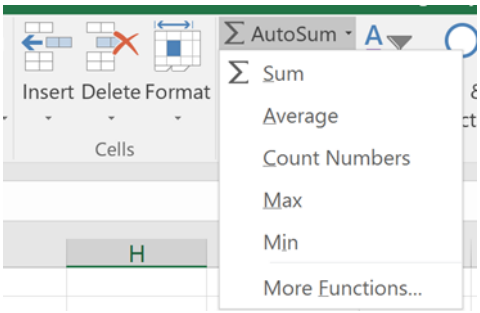
In this lesson, you will work with some new aggregate functions.

In an earlier lesson, you learned how to enter the **SUM** function using the **AutoSum** button. There are also several other functions available using the AutoSum feature. These are:

- **SUM** Totals the values in a selected range
- **AVERAGE** Computes the average of the values in a selected range
- **MIN** Returns the lowest value in a selected range
- **MAX** Returns the highest value in a selected range
- **COUNT NUMBERS** Totals the number of cells with values in a selected range

To Enter Additional Functions using AutoSum

1. Select the cell or range of cells where you want the formula to be inserted.
2. Click the arrow to the right of the **AutoSum** button on the Editing group of the Ribbon.
3. Choose the desired function.



Available AutoSum Aggregate Functions

4. If the cell range that Excel chooses is not the desired range, drag over the range to be included in the formula.
5. Press the **Enter** key to verify the formula.

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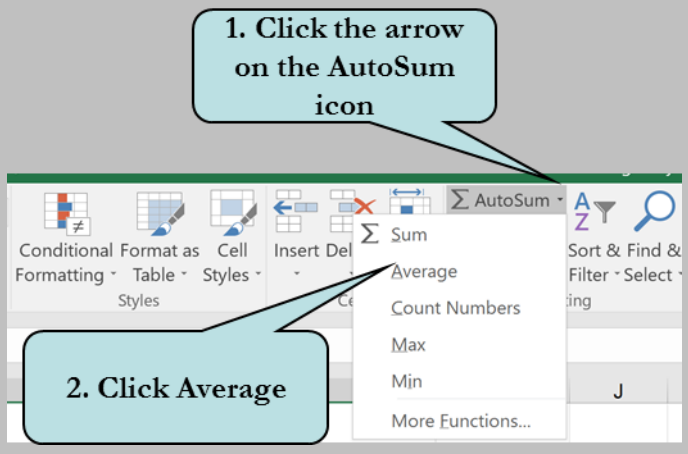
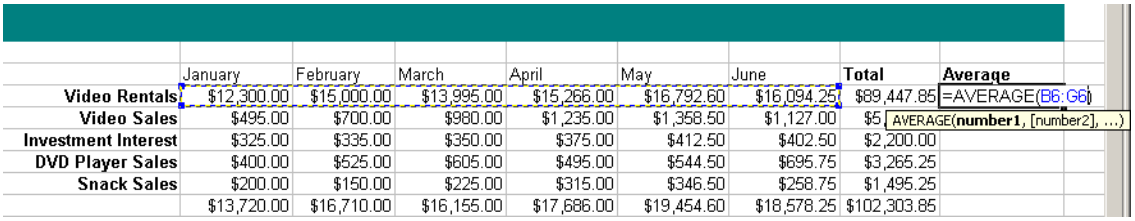
Let's Try It!

What	Why
1. Click in cell **I5** and then press the **Bold** button.	Makes cell I5 the active cell and applies bold formatting.
2. Type: **Average**.	Enters the column title.
3. Press **Enter**.	Confirms the entry.
4. Select the cell range **B6:G6**.	As we did not want our Totals column to be included in our average, we must manually select the desired range we wish included in our formula.
5. Click the **arrow to the right of the AutoSum button** on the Home Ribbon.	Presents us with a list of functions we can insert.
6. Click on **Average** as shown below.	Calculates the average for the cell range B6:G6 and displays the result in cell I6.
	
7. Select cell **I6**.	Makes I6 the active cell.
8. Click the **Fill Handle** on cell I6 and drag downwards to cell I11.	Copies the formula to cell I11.



	January	February	March	April	May	June	Total	Average
Video Rentals	$12,300.00	$15,000.00	$13,995.00	$15,266.00	$16,792.60	$16,094.25	$89,447.85	=AVERAGE(B6:G6)
Video Sales	$495.00	$700.00	$980.00	$1,235.00	$1,358.50	$1,127.00	$5	AVERAGE(number1, [number2], ...)
Investment Interest	$325.00	$335.00	$350.00	$375.00	$412.50	$402.50	$2,200.00	
DVD Player Sales	$400.00	$525.00	$605.00	$495.00	$544.50	$695.75	$3,265.25	
Snack Sales	$200.00	$150.00	$225.00	$315.00	$346.50	$258.75	$1,495.25	
	$13,720.00	$16,710.00	$16,155.00	$17,686.00	$19,454.60	$18,578.25	$102,303.85	

Average Function for Cells B6:G6

Entering Functions Manually

In addition to using the **AutoSum** button for the above functions, you can also type in these functions manually, directly into the desired cell. The format is:

=Function name, cell range surround by parenthesis.

For example, if you wanted to find the **Average** for the cell range B3 to B8, you would enter the following formula in cell B9:

=AVERAGE(B3:B8)

To include non-contiguous cells in the formula, separate each cell or cell range by a comma. For example, if you wanted to find the **Average** for cells B3:B8, D3:D8 and cell F5, the formula would read:

=AVERAGE(B3:B8, D3:D8, F5)

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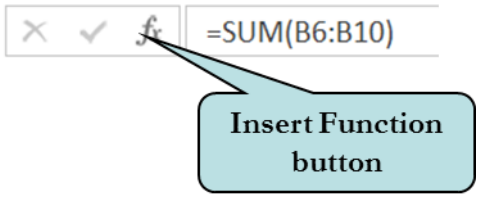
6.6 The Insert Function Button

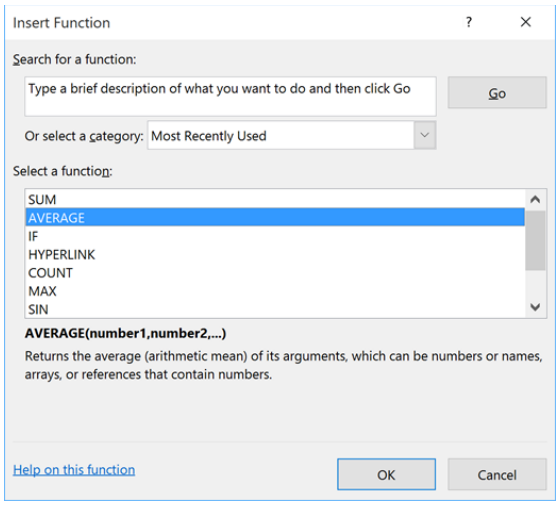
In this lesson, we will look at some Excel functions accessible through the "Insert Function" button.

In addition to the five functions discussed in the last section, there are many other pre-defined functions available to you in Excel – financial functions, logical functions, date and time functions and statistical functions, just to name a few of the available categories.

To access Excel's pre-defined functions, click the **Insert Function button** located to the left of the Formula Bar or on the Function Library group of the **Formulas Ribbon**. The Insert Function dialog box allows you to choose from a wide array of handy functions.

Once you have chosen the desired function, the **Function Arguments** dialog box opens, prompting you for each required (or optional) argument. You can type the cell address directly into the argument boxes or you can click the **Collapse Dialog Box** button and manually select the cell or cell range to be included in the arguments.





Insert Function dialog box

To Enter a Function Using the Insert Function Feature

1. Click the **Insert Function Button** to the left of the Formula Bar
   Or
   Click the **Insert Function Button** on the **Formulas** Ribbon.
   Or
   Click the arrow on the **AutoSum** button and select **More Functions**.
   Or
   Press the **Shift + F3** keystroke combination.
2. Select a **Function Category** from the **Category** combo box.
3. Select a function from the **Select a Function** list box.
4. Click the **Collapse Dialog Box** button to select the cell or cell range for the arguments (or type in the arguments manually in the argument text boxes).
5. Click the **Display Dialog Box** to return back to the **Function Arguments** dialog box.
6. Click **OK**.

Let's Try It!

What	Why
1. Press **Ctrl + G** and type in **I28** in the Reference box. Press **Enter**.	Makes I28 the active cell.
2. Click the **Insert Function** button to the left of the formula bar.	Opens the Insert Function dialog box.
3. Select **Statistical** from the **Select a Category** drop-down list as shown below.	Displays Statistical functions.

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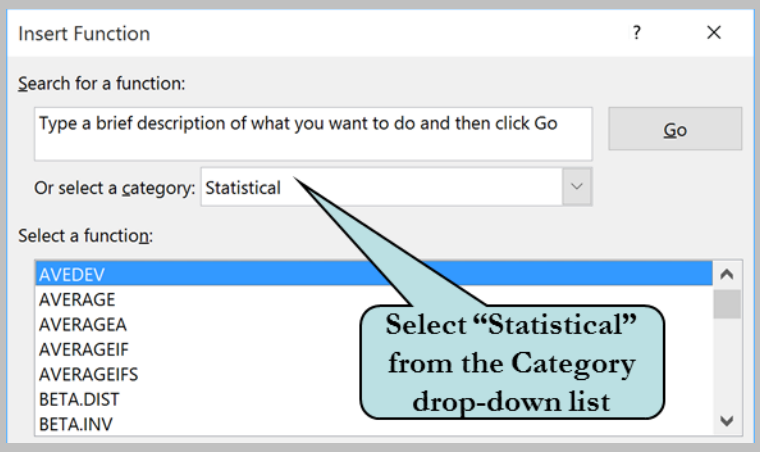
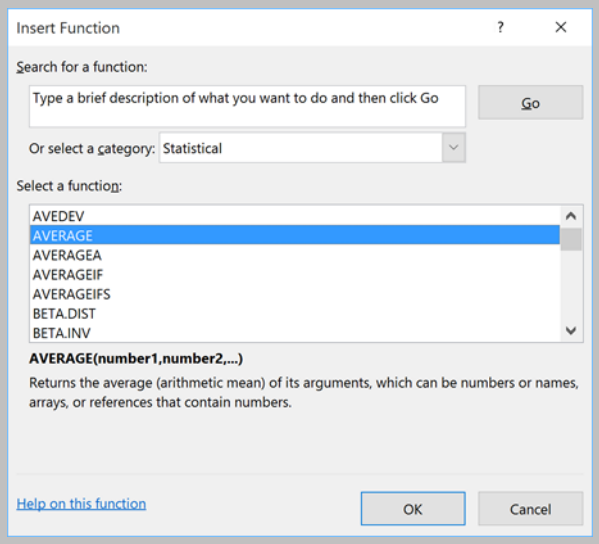
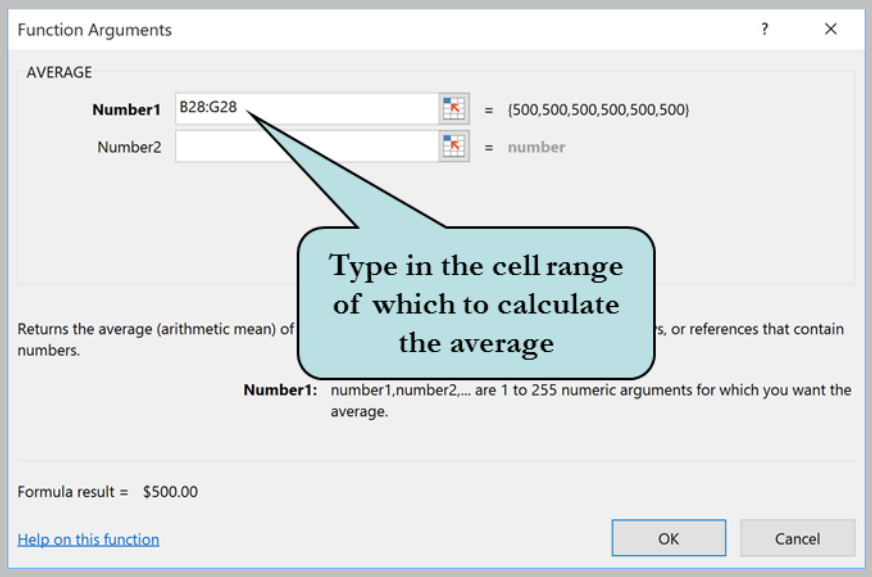
What	Why
	
4. In the **Select a Function** list box, highlight **AVERAGE** as shown below.	Chooses the AVERAGE function.
	
5. Click **OK**.	Opens the Function Arguments dialog box.
6. In the **Number1** text box, type in **B28:G28** as shown below. Click **OK**.	Provides the cell range B28:G28 as the function argument (the range to be included in the calculation).

What	Why
	
7. Click the fill handle for cell **I28** and drag down to cell **I35**.	Copies the formula to the cell range I28 to I35.
8. Click the File tab and select **Close** from the menu. **Save** any changes.	Closes and saves the active workbook.

Lesson Summary – Formulas and Functions

- In this lesson, you learned about Relative References. When a relative reference formula is copied from one location to another, the formula adjusts to reference the new cells based on their relative location to the original cells.
- Then, you learned how to create Absolute References that do not change when they are copied or moved to a new location. You learned that Absolute Cell References are preceded by a $ (dollar) symbol in front of both the column and cell references ($B$5).
- Next, you learned how to create a combination of Absolute and Relative cell references called Mixed References. You learned that the row or column that is preceded by the $ symbol (the absolute reference) does not change when copied or moved, whereas the row or column reference not preceded by the $ (the relative reference) automatically adjusts to its new location ($B5).
- Next, you learned how to copy formulas using the Copy & Paste Method. You learned that pasted cells automatically update depending on the type of cell reference – relative, absolute or mixed.
- Next, you used the AutoSum button to create additional formulas – SUM, AVERAGE, MIN, MAX and COUNT NUMBERS.
- Lastly, you learned how to use the many pre-defined Excel functions that can be accessed from the Insert Function dialog box.

Lesson 6 Quiz

1. What is the difference between Relative Cell Reference and an Absolute Cell Reference?
   A. Absolute Cell References will change when copied to reflect their new location whereas Relative Cell References will not.
   B. Relative Cell References will change when copied to reflect their new location whereas Absolute Cell References will not.
   C. Absolute Cell References cannot be copied or moved.
   D. Relative Cell References cannot be copied or moved.

2. Which is an example of a relative cell reference?
   A. =A4 + A$5 + A6
   B. =$A$4 + $A5
   C. =B16 + B18 + B19
   D. =C$4 + D$4 + E$4

3. In cell B6, you have a formula that reads: =A6 * $A$1. If you copied this formula to cell B7, the new formula in B7 would read:
   A. =A7 * $B$2
   B. =B7 * $A$1
   C. =A6 * $A$1
   D. =A7 * $A$1

4. What of these is not an example of a mixed cell reference?
   A. =A$2 + B2
   B. =$A$2 + $B2
   C. =A2 + C2 + B17
   D. =$B4 * D17

5. In cell C1, you have a formula that reads: =A1 + B1. If you copy the formula to cell C2, the new formula in cell C2 would read:
   A. =A1 + B1
   B. =B2 + C2
   C. =A2 + B2
   D. =$A$2 + $B$2

6. You want to find the average of the values in cells A1 to A5. What formula would you use to do this?
   A. AVERAGE(A1:A5)
   B. =A1 + A2 + A3 + A4 + A5 /2
   C. =AVERAGE (A1:A5)
   D. =InsertFunctionAVG (A1:A5)

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7. What does the Max function do?
   A. Returns the lowest value in a cell range.
   B. Returns the total number of cells in a cell range.
   C. Computes the average of the top 5 values in a cell range.
   D. Returns the highest value in a cell range.

8. What does the Insert Function button do?
   A. Inserts the contents of the clipboard into the selected cell.
   B. Allows you to copy formulas from one cell range to another.
   C. Allows you to use one of Excel's many predefined functions.
   D. Copies only formulas (and not formatting) from one cell range to another.

9. What are the five functions that you can quickly insert from the AutoSum Button?
   A. Sum, Average, Count Numbers, Min, Max
   B. Sum, Statistics, Count Numbers, Financial, Math
   C. Financial, Date & Time, Math & Trig, Min, Max
   D. Relative, Absolute, Mixed, Sum, Average

10. How would you display a list of all available predefined Statistical functions in Excel?

11. Give an example of a relative cell reference.

12. Give an example of a mixed cell reference.

LAB 6 – ON YOUR OWN

1. Open the **Lab6** workbook file

2. Create a formula in cell C13 which multiplies B13 by B10. Make B10 an **Absolute Reference.**

3. Copy the formula in **C13** to the cell range **C14:C16**

4. Format the cell range **C13:C16** as **Currency** (Hint: click the Currency icon on the Ribbon).

5. Select cells **B20:C20** and enter a formula which **totals** Column B and Column C using **AutoSum**.

6. Select cell **B21** and manually enter a formula which calculates the average quantity for the 4 weeks (**cell range B13:B16**).

7. Copy the formula in cell **B21 to cell C21**.

8. Format the cell range **B20:C21** as **currency**.

9. **Save** and **Close** the file.

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Lesson 7

Lesson 7 – Modifying Workbooks

Lesson Topics:

7.1 Adding and Deleting Worksheets

7.2 Copying Worksheets

7.3 Renaming Worksheets

7.4 Repositioning Worksheets

7.5 Grouping Worksheets

7.6 Changing Worksheet Tab Colors

7.7 Using 3-D Formulas & References

7.1 Adding and Deleting Worksheets

In this lesson, you will learn how to add additional sheets to your workbook and delete existing sheets from your workbook.

When creating a new workbook, Excel provides you with one default worksheet named Sheet 1. To insert additional worksheets, use the **New Sheet** icon at the end of the sheet tabs. Excel will insert a new worksheet at the very end of the sheet tab. To specify where you want to insert a new sheet, click on the **worksheet tab** of the sheet to the left of which you want to insert a new sheet, **right-click** on the active sheet tab and then choose **Insert** from the contextual menu.

To delete a worksheet, click the **Delete arrow** on the Home Ribbon and choose **Delete Sheet**. Excel will delete the active worksheet.

To Insert a New Worksheet

1. Click the **New Sheet** icon at the end of the sheet tabs
   Or
   Right-click on the sheet tab to the left of which you want to insert a new sheet and then choose **Insert** from the contextual menu. Click the **Worksheet icon** and click OK.
   Or
. **Click** on the sheet tab to the left of which you want to insert a new sheet and then press **Shift + F11**
   Or
   Click on the sheet tab to the left of which you want to insert a new sheet, click the **Insert button** on the Cells group of the Home Ribbon and choose **Insert Sheet** from the menu.

To Delete a Worksheet

1. Click on the **tab** of the sheet to be deleted.
2. Click the **Delete arrow** on the Home Ribbon and choose **Delete Sheet**

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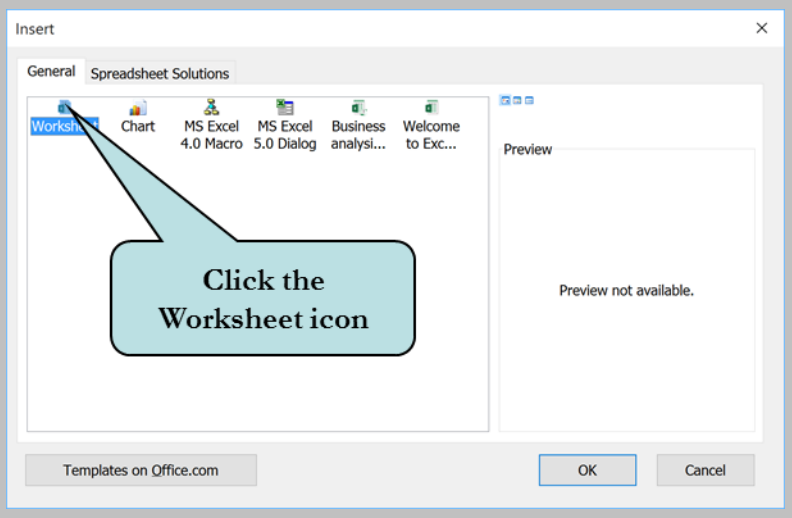
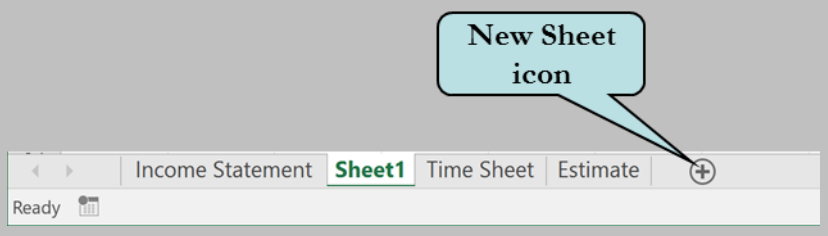
Or
Right-Click on the tab of the sheet you wish to delete and then choose **Delete** from the contextual menu.

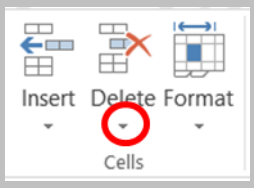
Let's Try It!

What	Why
1. Open the **Lesson7** workbook from the Lesson Files folder.	Opens the Lesson7 workbook file.
2. **Right-click** on the **Time Sheet** worksheet tab and select **Insert** from the contextual menu.	Displays the Insert dialog box.
3. Click the **Worksheet** icon as shown below and then click **OK**.	Inserts a new worksheet to the left of the Time Sheet worksheet.



4. Click the **New Sheet icon** at the end of the worksheet tabs as shown below.	Inserts a new worksheet to the right of the active sheet.



What	Why
5. **Right-click** on the **Sheet 1** worksheet tab and select **Delete** from the menu.	Removes the Sheet 1 worksheet from the workbook.
6. Click the **Estimate** worksheet tab.	Activates the Estimate worksheet.
7. Click the **arrow** on the **Delete button** on the Home Ribbon as shown and choose **Delete Sheet** from the menu.	Displays a warning box informing you that data may exist in the worksheet. 
8. Click the **Delete** button.	Confirms the deletion and removes the Estimate Worksheet from the workbook.

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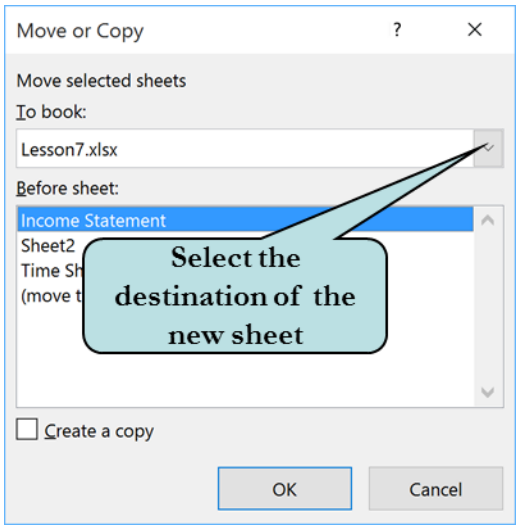
7.2 Copying Worksheets

In this lesson, you will learn how to copy an entire worksheet from one location to another.

You can copy an entire worksheet in Excel, including all of its data and formatting by using the **Move or Copy Sheet** command from the menu. Excel provides a **sequential number** after the worksheet name to allow you to distinguish between the new sheet and the original sheet. For example, if you copied a sheet named June Sales, the new copied sheet would be named June Sales (2). You can copy a worksheet to any workbook that is open, to the current workbook or to a new workbook file. You can also copy a worksheet manually by pressing and holding the **Ctrl** key and then dragging the worksheet tab with your mouse to the new location.

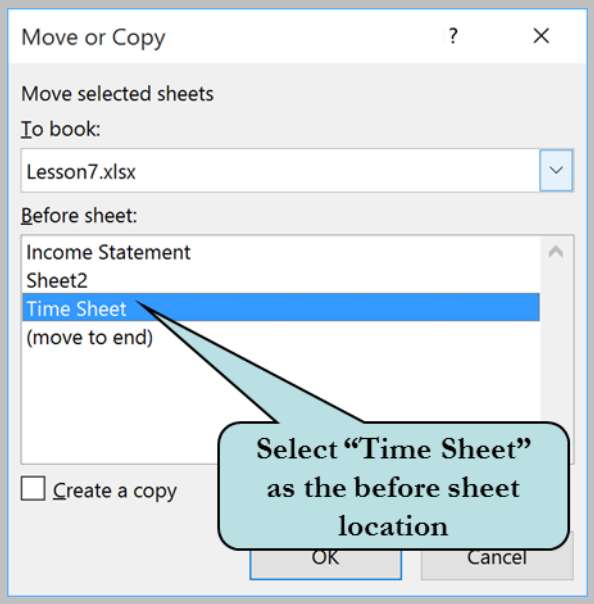


To Copy a Worksheet

1. Click on the **Worksheet tab** of the sheet you wish to copy.
2. Right-click and choose **Move or Copy** from the contextual menu.
   Or
   Click the **Format** button on the Home Ribbon under the Cells group and choose **Move or Copy Sheet** under the Organize Sheets category.
3. Select the **Workbook** into which you wish you copy the worksheet (the default is the current workbook).
4. Select the location of the new sheet in the **Before Sheet** list box.
5. Click the check box next to **Create a Copy** to copy the worksheet rather than move it.
6. Click **OK**.
   Or

1. Hold down the **Ctrl** key and then drag with your mouse to the desired location.

Let's Try It!

What	Why
1. Click the **Time Sheet** worksheet tab.	Activates the Time Sheet worksheet.
2. Right-click on the worksheet tab and choose **Move or Copy** from the contextual menu.	Displays the Move or Copy dialog box.
3. Select **Lesson7** under the **To book:** combo box.	Selects the current workbook as the destination for the new sheet.
4. Select **Time Sheet** from the **Before sheet:** list box as shown below.	Sets the position of the new sheet to the left of the Time Sheet worksheet.
	
5. Click the **Create a copy** checkbox.	Selects the copy option.
6. Click **OK**.	Closes the Move or Copy dialog box and makes a copy of the Time Sheet worksheet.

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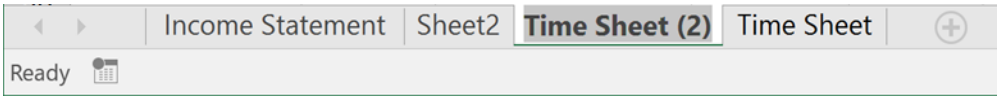
7.3 Renaming Worksheets

In this lesson, you will learn how to rename an existing worksheet in your document.

Excel by default provides the generic names of Sheet 1, Sheet 2 and Sheet 3, etc. to worksheets. To rename a worksheet, **double-click on the tab** of the worksheet to receive the new name and then type in the desired new name. Another way to rename a worksheet is to **right-click on the worksheet tab**, select **Rename** from the contextual menu, and then type the new name.

To Rename a Worksheet

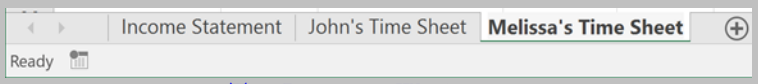
1. **Double-click** on the worksheet tab of the sheet to be renamed.
   Or
   Right-click on the worksheet tab of the sheet to be renamed and then choose **Rename** from the contextual menu.
   Or
   Click the **Format** button on the Home Ribbon under the Cells group and choose **Rename Sheet** under the Organize Sheets category.
2. Type the new name.
3. Press **Enter**.



Type in new name when sheet tab is highlighted

Let's Try It!

What	Why
1. Right-click the **Sheet2** worksheet and choose **Delete** from the contextual menu.	Deletes the Sheet2 worksheet.
2. Double-click the **Time Sheet (2)** worksheet tab.	Activates the Time Sheet (2) worksheet tab.
3. Type **John's Time Sheet**	Enters the new name for the worksheet.
4. Press **Enter**.	Confirms the entry.

What	Why
5. Right-click on the **Time Sheet** worksheet tab.	Displays the pop-up menu.
6. Choose **Rename** from the pop-up menu.	Activates the Time Sheet worksheet tab.
7. Type **Melissa's Time Sheet** as shown below and then press **Enter**.	Enters the new name for the worksheet.
 **The Renamed Worksheets**	
8. Click the **Save** icon on the Quick Access toolbar.	Saves the active workbook.

7.4 Repositioning Worksheets

In this lesson, you will learn how to change the location of worksheets in your workbook.

After you begin creating worksheets in your workbook, you may decide that the worksheets are not in the order that you would like. You can rearrange them by clicking the tab of the worksheet you want to move and then dragging it to the new location. As you drag, a small black arrow appears marking the new location of the sheet should you release the mouse button.

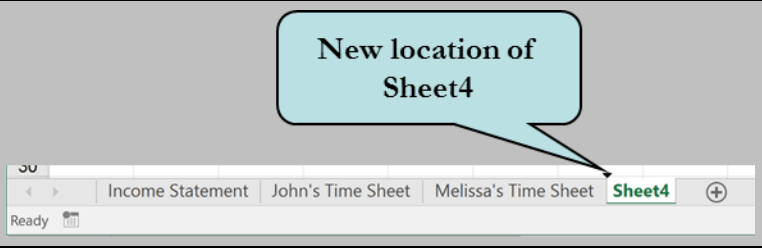
To Reposition a Worksheet

1. Click and hold the left mouse button on the tab of the worksheet you wish to move.
2. Drag the worksheet to the new location.
3. Release the mouse button.

Tip: You can also move worksheets from the Move or Copy dialog box.

Let's Try It!

What	Why
1. Click the **Income Statement** worksheet tab.	Makes the Income Statement worksheet the active sheet.
2. Click the **New Sheet** icon on the bottom of the worksheet window.	Inserts a new worksheet to the right of the Income Statement sheet.
3. Click and hold the left mouse button on the **Sheet 4** worksheet tab.	Enters drag mode.
4. Drag **Sheet 4** until the black arrow is to the right **Melissa's Time Sheet**.	Indicates the new location of the worksheet.



What	Why
5. Release the mouse button.	Completes the move process.

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7.5 Grouping Worksheets

In this lesson, you will learn how to group worksheets together.

Excel allows you to work on several worksheets simultaneously by **grouping** them together. When worksheets are grouped, any formatting, data entry or changes you make to the active sheet are made to every sheet in the group. Grouping sheets is a quick way to apply formatting to or delete several sheets at once. When multiple worksheets are grouped together, **[Group]** appears in the title bar on top of the worksheet window.

To Group Worksheets

1. Click the tab of the first worksheet in your group.
2. Hold down the **Ctrl** key and then click the tabs of any additional sheets you want to include in your group.
3. To group **all worksheets**, right-click on any worksheet tab and choose **Select All Sheets** from contextual menu.

To Ungroup Worksheets

1. Click the tab of any worksheet **not** in your group
   Or
   Right-click the tab of any grouped worksheet and select **Ungroup Sheets** from the pop-up menu.

Let's Try It!

What	Why
1. Click on the **John's Time Sheet** worksheet tab	Makes John's Timesheet the active worksheet.
2. Double-click in cell **A1.**	Enters edit mode.
3. Highlight the words: **Melissa Edwards**.	Selects the text to be replaced.
4. Type: **John Browne** and then press **Enter**.	Replaces the text "Melissa Edwards" with "John Browne."

What	Why
5. Press and hold the **Ctrl** key and click on the **Melissa's Time Sheet** tab.	Adds the Melissa's Time Sheet worksheet to the group. Notice that the worksheet tabs are highlighted in white and the word [Group] appears in the Title Bar.
6. Click in cell **J1** and type in today's date. Press **Enter**	Enters the date into both worksheets.
7. Select the cell range **A4:C12** and change the font size to **12**.	Changes the font size for the selected cell range in both worksheets.
8. With the cell range **A4:A12** selected, click the **Center alignment** icon on the Home Ribbon.	Centers the text in the selected cell range.
9. Click on the **Income Statement** worksheet tab.	Ungroups the selected sheets and makes the Income Statement worksheet the active sheet.
10. Click on the **Melissa's Time Sheet** worksheet tab and observe the changes.	Switches to the Melissa's Time Sheet worksheet. The changes that we made in the "John's Time Sheet" worksheet were also made in the "Melissa's Time Sheet" worksheet.
11. Click the **Save** icon on the Quick Access Toolbar.	Saves the active workbook.

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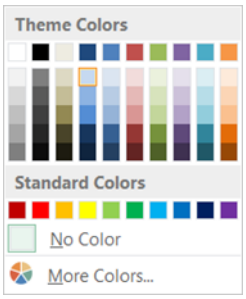
7.6 Changing Worksheet Tab Colors

In this lesson, you will learn how to change the tab color of your worksheets to make them stand out.

Excel provides the option of **applying colors** to your worksheet tabs. This can be useful if you have a large workbook comprised of many worksheets. You might want to give each worksheet in a particular group a separate color. The tab color only appears when the worksheet is not the active worksheet.

To Change the Worksheet Tab Color

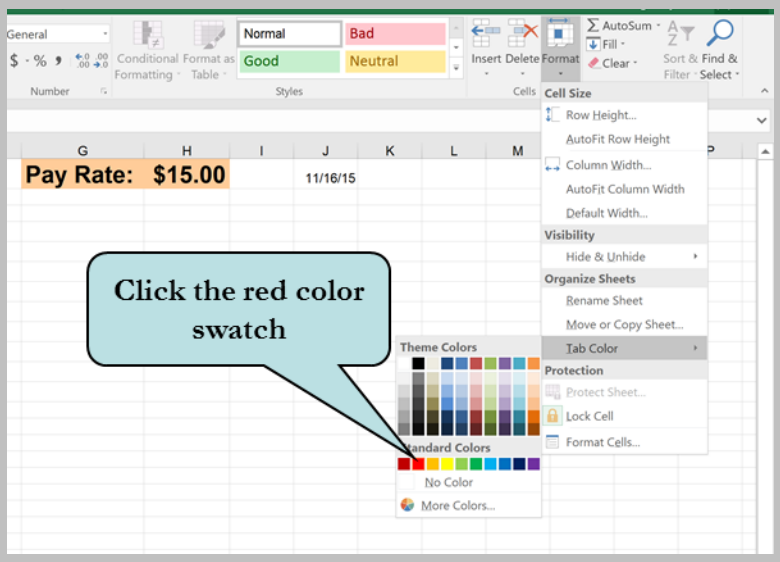
1. Select the tab of the worksheet or worksheets to which you wish to apply a color.
2. Click the **Format** button on the Home Ribbon under the Cells group and choose **Tab Color** under the Organize Sheets category.
   Or
   Right-click on the tab for the worksheet or worksheet group and then choose **Tab Color** from the contextual menu.
3. Choose a color from the **Format Tab Color Palette**.



To Remove a Tab Color

1. Select the tab of the worksheet or worksheets whose color you wish to remove.
2. Click the **Format** button on the Home Ribbon under the Cells group and choose **Tab Color** under the Organize Sheets category.
   Or
   Right-click on the tab of the worksheet or worksheet group and then choose **Tab Color** from the pop-up menu.
3. Choose **No Color** from the **Format Tab Color Palette**.

Let's Try It!

What	Why
1. Click on the **John's Time Sheet** worksheet tab.	Makes John's Timesheet the active worksheet.
2. Press and hold the **Ctrl** key and click on the **Melissa's Time Sheet** tab.	Adds the Melissa's Time Sheet worksheet to the group.
3. Click the **Format** button under the **Cells group** and point to **Tab Color**.	Displays the Format Tab Color Palette.
4. Choose **Red** from the color palette (second color in the Standard Colors area) as shown below.	Applies red to the tab color.
	
5. Click the **Income Statement** worksheet tab.	Ungroups the worksheets and makes the Income Statement worksheet the active sheet.
6. Press **Ctrl + W**. **Save** any changes.	Saves your changes and closes the workbook file.

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7.7 Using 3-D Formulas & References

In this lesson, you will learn how to create 3-D References in Excel.

When you need a formula which references data from several worksheets, you create a **3-D Formula**. A 3-D Formula uses **3-D References**; that is to say, references to cells in a different worksheet. To create a 3-D Reference, the format is:

'Sheet Name'!Cell Name

For example, suppose we have three sheets named **2013, 2014 and Yearly Totals**. In the Yearly Totals sheet, we want to calculate the sum of the values in cell C18 from both the 2011 and 2012 sheets. Thus, our formula in the Yearly Totals worksheet would be:

='2013'!C18 + '2014'!C18

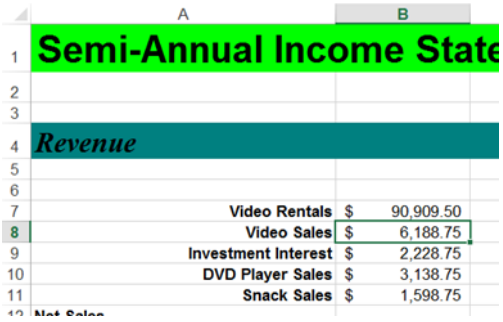
To use a function such as **SUM, AVERAGE,** etc. in our 3-D formula, the format is:

=SUM('Sheet1:Sheet2'!C12:C35)

You can create your 3-D formula yourself by typing it into the cell or you can manually select the appropriate worksheets and cells to include in your formula.

To Create a 3-D Formula

1. In the cell where you want your formula to display, type **=** and the beginning of the formula, such as: **=Sum(**
2. **Group** the worksheets whose data you will include in the formula if the data is in the same cell address in each worksheet.
3. **Select** the cell or cell range to include in the formula.
4. **Type** the remainder of the formula if applicable and press **Enter**.



In the Let's Try It exercise, we will first create a formula using the grouping method and then a formula by manually selecting the cell range in each sheet to be included in the formula. Using the Grouping method, we need only select the cell range in one of the grouped sheets.

Let's Try It!

What	Why
1. Open the **IncomeStatement** workbook file.	Opens the IncomeStatement workbook file.
2. Click the tab for the **Semi-Annual** worksheet.	Makes the Semi-Annual worksheet the active worksheet.
3. In cell **B7**, type: **=Sum(**	Enters the beginning of the formula into cell B7.
4. Click the **Q1** tab.	Switches to the Q1 worksheet.
5. Hold down the **Shift** key and click the **Q2** tab.	Groups the Q1 & Q2 worksheets.
6. Highlight the cell range **B6:D6**.	Copies the cell range B6 to D6 into the formula bar.
7. Click in the **Formula Bar** after **D6** and type: **)**	Completes the formula.
8. Press **Enter**.	Returns to the Semi-Annual worksheet and verifies the formula.
9. Click in cell **B7**.	Observe the 3-D formula.
10. Click in cell **B8** and type: **=**	Begins a new formula in cell B8.
11. Click the **Q1** tab.	Switches to the Q1 worksheet.
12. Click in cell **E7**.	Activates cell E7 in the Q1 worksheet.
13. Click in the **Formula Bar** after **E7** and type: **+**	Adds an addition sign after the first part of the formula.
14. Click the **Q2** tab.	Switches to the Q2 worksheet.

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What	Why
15. Select cell **E7**.	Activates cell E7 in the Q2 worksheet.
16. Click in the **Formula Bar** after **E7** and press **Enter**.	Returns to the Semi-Annual worksheet and verifies the formula.
17. Click the **Fill Handle** on the lower right of cell **B8** and drag to cells **B9:B12**.	Copies the formula to cells B9:B12.
18. Click the **Save** button.	Saves the active workbook.
19. Press **Ctrl + W**.	Closes the workbook.

Lesson Summary – Modifying Workbooks

- In this lesson, you learned how to insert new worksheets into your workbook using the new New Sheet icon at the end of the sheet tabs. You also learned how to delete existing sheets using the Delete command button on the Ribbon.
- Then, you learned that you can copy an entire worksheet in Excel, including all of its data and formatting by using the Move or Copy Sheet command. You learned that Excel provides a sequential number after the worksheet name to allow you to distinguish between the new sheet and the original sheet.
- Next, you learned how to rename a worksheet by double-clicking on the tab of the worksheet that is to receive the new name and then typing in the desired name. You can also rename a worksheet by right-clicking on the worksheet tab, selecting Rename from the contextual menu, and then typing the new name.
- Next, you learned that you can rearrange the worksheets in your workbook by clicking the sheet you want to move and then dragging it to the new location.
- Next, you learned that you can work on several worksheets simultaneously by grouping them together. To group worksheets, hold down the Ctrl key or Shift key and click on the tab of any worksheets you want to add to the group. You learned that when worksheets are grouped, any formatting, data entry or changes you make to the active sheet are made to every sheet in the group.
- Next, you learned how to apply colors to your worksheet tabs by right-clicking the tab, choosing Tab Color from the contextual menu and then choosing the desired color from the color palette.
- Lastly, you learned how to create a 3-D formula – that is to say, a formula which uses data from two or more worksheets. You learned that the format for 3-D formulas is: 'Sheet Name'!Cell Name

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Lesson 7 Quiz

1. How can you insert a new worksheet into your workbook (choose all that apply)?
   A. Click the New Worksheet button on the Insert Ribbon.
   B. Click the New Sheet icon at the end of the tabs.
   C. Right-click the active sheet tab and choose Insert from the contextual menu.
   D. Click the File tab and select New from the menu.

2. How does Excel name new worksheets?
   A. It gives it the same name as the sheet next to it.
   B. A message box displays prompting you for a name.
   C. It names it Sheet 1, Sheet 2, Sheet 3, etc.
   D. It names it Worksheet 1, Worksheet 2, Worksheet 3

3. What are two ways that you can delete an existing worksheet from your workbook?

4. What is the command to move or copy an entire worksheet in Excel using the Format button in the Cells group on the Ribbon?
   A. Choose New Worksheet under the Cells category.
   B. Choose Move or Copy Sheet under the Organize Sheets category.
   C. Choose Move Sheet under the Reposition Sheets category.
   D. Choose Insert New Sheet under the Organize Sheets category and then check the copy or move checkbox.

5. You just copied a worksheet but want to change its name. How can you accomplish this (select all that apply)?
   A. Double-click on the worksheet tab and type in the new name.
   B. Click the Rename button on the Insert Ribbon and then type in the new name.
   C. Click the Rename Sheet button on the Cells Ribbon and then type in the new name.
   D. Right-click on the worksheet tab, choose Rename from the contextual menu and then type in the new name.

6. You want to move your Income worksheet to the left of your Expenses worksheet. What is one way that you can do this?
   A. Click the tab of the Income worksheet and press the left arrow key twice.
   B. Click the tab of the Income worksheet and press the Ctrl key.
   C. Click the tab of the Expense worksheet and press the right arrow key.
   D. Click the tab of the Income worksheet and drag it to the left of the Expenses worksheet.

7. To group worksheets together so that you can work on them simultaneously, you:

   A. Hold down the Ctrl key and click on the tabs of the worksheets you wish to group.
   B. Hold down the Alt key and click on the tabs of the worksheets you wish to group.
   C. Click on the tabs of all the sheets you wish to group.
   D. Press Ctrl + A.

8. Which of these is NOT an example of a 3-D formula?
   A. =‘Expenses’!C18 + ‘Income’!C18
   B. =AVERAGE(B17:B24)
   C. =SUM(‘Expenses:Income’!D6:D17)
   D. ='Expenses'!B7+'Expenses'!B8+'Income'!B7 +'Income'!B8

9. You want to add together the values of cell D45 in the worksheets entitled 2015 and 2014. Write the formula that will accomplish this.

10. The Move or Copy sheet command only allows you to move or copy worksheets within the current workbook.
    A. True
    B. False

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LAB 7 – ON YOUR OWN

1. Open the **Lab7** workbook file
2. Change the name of the **Income Statement** worksheet to **Income Statement 2012**
3. Using the **Move or Copy Worksheet** command, **copy** the **Income Statement 2012** worksheet to the left of the **Estimate** worksheet.
4. Rename the new worksheet **Income Statement 2014**
5. Using drag-and-drop, move the **Estimate** worksheet to the left of the **Income Statement 2012** worksheet
6. Change the **Tab Color** of the **Estimate** worksheet to a light blue color.
7. In the **Estimate** worksheet, enter a 3-D formula in cell **B7** that totals the cell range **B6:G6** in the Income Statement 2012 worksheet

HINT:
a. Type: =Sum(
b. Switch to the Income Statement 2012 Worksheet and highlight cells B6 to G6
c. Click in the formula bar and type:)
d. Press Enter

8. Divide the result of the formula in B7 by 6 (*Hint: Type: /6 after the formula*).
9. Using the fill handle, copy the formula to cells B8:B12.
10. In cell C7, enter a 3-D formula that sums the values in cell H6 in the **Income Statement 2012 and Income Statement 2013** worksheets.

HINT:
a. Type =
b. Switch to the Income Statement 2012 worksheet and click in cell H6
c. Type + in the formula bar
d. Switch to the Income Statement 2013 worksheet and click in cell H6
e. Press Enter

11. Copy the formula in C7 to the cell range C8:C12.
12. Delete the Income Statement 2014 Worksheet.
13. Save the file.
14. Close Excel.

Congratulations!

You have completed Excel 2016 – Level 1! You are now ready to use the skills that you have acquired in this class. Don't be afraid to experiment with all you have learned. If you would like to continue your Excel training, we have an Excel 2016 – Level 2 course in which you will work with Lists, Charts, Graphics, Workgroup Collaboration, Date and Time functions, Statistical and Logical functions, Templates and more.

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Class Project – New Products

You are an accountant who works for a clothing manufacturer. Create a worksheet that lists 5 different clothing products your company sells (don't forget to include the Company name and the date as a title row). Enter the product name in one column and the revenue received from each product for the months January through June. Add a column at the end that totals the sales for each month and another column to find out the average sales for each month. Include a total row at the bottom of the worksheet that sums the values for each month. Name this worksheet **Actuals**. This worksheet will include actual sales for your products.

Create a second worksheet (in the same workbook) that includes the same products as the first sheet (an easy way to do this would be to make a copy of the Actuals worksheet and change the values). Instead of revenue for each month, include a projected sales column (with different numbers from the first sheet) for each month. Name this worksheet **Forecast**. The worksheet will include your projected revenue for each product for each month.

Create a third worksheet that calculates the difference between the Actuals total (in the Actuals worksheet) and the Forecast total (in the Forecast worksheet) for each product for each month. Name this worksheet **Variance**. This worksheet will include the difference between your projected sales values and your actual sales values.

Format all the numbers as currency with two decimal places. Add any other formatting (bold, colors, etc) that you like. Add your company name and the page number to the footer of each worksheet. Make sure all your columns and rows are wide enough to display your data.

Save your project file with the name "Excel_1_Project".

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