The Computer Workshop
A Professional Development Company

Excel 2016
Level 1

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Lesson Notes

Microsoft Excel 2016

Level 1

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Using this Manual

Welcome to the *Advanced Excel 2013* course. This manual and the data files are designed to be used for learning, review and reference after the class. The data files can be downloaded any time from *The Computer Workshop* website:

http:\\\\www.tcworkshop.com

There is no login or password required to access these files. You will also find handouts and supplementary materials on the website in the Download section.

To Download Data Files

Once on *The Computer Workshops* website, look at the bottom of any page to find the link *Download*. Clicking this link opens the *Download* page where you can choose either **Data Files** or **Handouts**.

1. **Data Files** opens a list of general application types.
2. Click once on the **Microsoft Office Courses** link.
3. Click once on the software related to the course.
4. Click once on the version related to the course.
5. If there are multiple folders, click on the **TCW** folder.
6. Click on the course name to download the data files.

You can choose to open or save the zipped folders content to your computer.

The handouts are in PDF format and also available to you without login or password. Simply open the PDF and either print or save to your computer.

Conventions

Conventions Used in this Manual

The hands-on exercises (Actions) are written in a two-column format. The left column ("Instructions") gives numbered instructions, such as what to type, keys to press, commands to choose from menus, etc. The right column ("Results/Comments"), contains comments describing results of, reasons for, quick keys, etc. for the instructions listed on the left.

◊ Key names and Functions are bold and enclosed in square brackets:

[Enter], **[Tab]**, **[F5]**, **[F10]**

◊ Keys you press simultaneously are separated by a plus (+) sign, typed in bold and enclosed in square brackets. You do not press the plus.

[Shift + F5]

◊ Keys you press in sequence are separated by a space, bold and enclosed in square brackets.

[Home] [Down Arrow]

◊ Ribbon tab names are in bold and italic: Example: *Home*

◊ Group names are in bold: Example: **Font**

◊ Dialog box names are in italic: Example: *Save As*

◊ Button names are bold and enclosed in square brackets: Example: **[Sort]**

◊ Information you are to type will be in bold. Example:

This is the first day of the rest of your life.

◊ Information that you need to supply will be indicated with pointed brackets. Example: Type: <**your name**>.

Tips and Notes

Lesson 1: Getting Started

Lesson Overview

You will cover the following concepts in this chapter:

◊ About Excel

◊ Starting Excel

◊ Excel Elements

◊ The Ribbon

◊ Mini Toolbar and Shortcut Menu

◊ Quick Access Toolbar (QAT)

◊ Customizing the Ribbon

◊ Opening and Viewing Workbooks

◊ Cursor Movement

◊ Selecting Cells

◊ Saving A Workbook

◊ Workbook Conversion and Compatibility

◊ Closing a Workbook

Lesson Notes

About Excel

Microsoft Excel 2016 is one of the most powerful and widely used spreadsheet applications available today. *Excel*'s functionality and popularity have made it an essential component on computers in countless organizations, businesses, and other institutions throughout the world.

In general, *Excel* is a very powerful and flexible tool for organizing and analyzing data. Although *Excel* is often used for managing financial information, it is just as well suited to scientific data, sports statistics, or practically any other kind of information you need to work with.

Excel provides a wealth of financial, mathematical, and statistical functions that you can apply to your data and also offers numerous formatting and presentation options that will help you create clear, professional reports. You can use *Excel* as a database, a graphing and charting tool, a means of evaluating complex formulas, and as a way of sharing data and collaborating with others. Any data changed in an *Excel* spreadsheet will be updated and any related totals, functions, and formulas will be recalculated accordingly.

Excel is comprehensive enough to meet the needs of beginners and experienced users alike. With *Excel* you can perform a wide range of tasks, from building basic spreadsheets to performing advanced data analysis. *Excel* can help you process, interpret, and extract meaningful conclusions from your information.

If you are new to *Excel*, the extensive array of features and capabilities that it provides may seem daunting at first, but don't worry. The keys to becoming proficient with *Excel* are patience, practice, and a solid foundation built on the basics.

Starting Excel

There are a number of ways to start the *Excel* program:

Using the Shortcut on the Desktop

◊ Look for the *Excel 2016* icon on your desktop.

◊ Double click it to launch *Excel*.

Using the Taskbar

◊ Look for the *Excel* icon on the Taskbar.

◊ Click it once to launch *Excel*.

Using the Start Menu

> **Note** In Windows 10 you will click the All Apps option in the Start Menu.
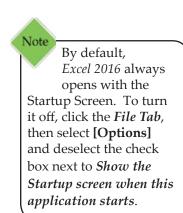
◊ Click on the **[Start]** button, located at the lower left corner of the desktop. The *Start* menu will appear.

◊ Click on the menu item called **All Programs** to display a second menu.

◊ Scroll down through the list to find the ***Microsoft Office 2016*** folder menu item. Click the folder to expand it's contents.

◊ When you see *Excel*, click it to launch the application.

Using the Search

◊ Click the **[Start]** button or tap the **[Start]** key.

◊ Type *Excel*, when the program is highlighted tap the **[Enter]** key. *Excel* will open

> **Note** By default, *Excel 2016* always opens with the Startup Screen. To turn it off, click the *File Tab*, then select **[Options]** and deselect the check box next to ***Show the Startup screen when this application starts***.

After the *Excel* program is opened, the Start Screen is shown. This is a "Backstage View" where you can open recent files, search for files, or create new workbooks from a variety of templates.

Instructions:

Results/ Comments:

1. Click the **[Start]** button, select **All Programs** then select ***Microsoft Office 2016*** then click on *Excel*.

   To open *Excel*. If you cannot locate the menu items, please ask your instructor for help.

2. *Excel* opens to the Start Screen, as shown below.

   This is the new way that *Excel* opens in 2016.

3. Click the **Blank Workbook** button.

   A new blank workbook is displayed in the normal *Excel* view.

Excel Elements

Once a file is open the interface looks very similar to and has most of the features of previous versions of *Excel*, such as: a Ribbon navigation system, a Quick Access Toolbar, a Name Box, a Formula Bar, etc.
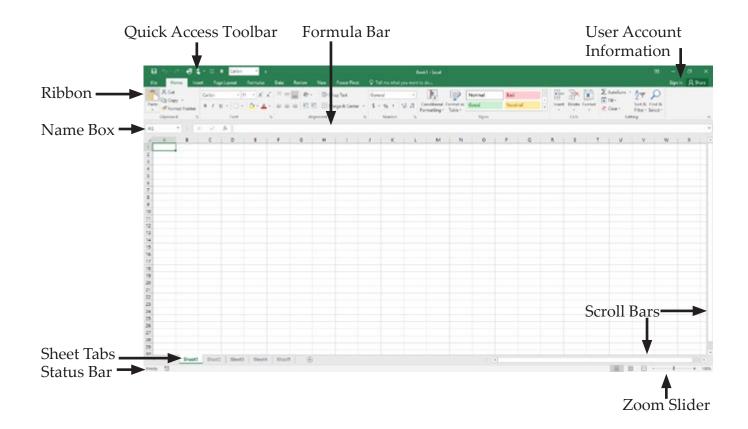
Interface Elements

◊ **Quick Access Toolbar (QAT)** – The toolbar is located at the very top of the *Excel* window and, by default, contains three buttons, **[Save]**, **[Undo]** and **[Redo]**. However this can be personalized by the user.

◊ **User Account Information** - The User Account Information is a new feature in *Excel 2016* and is located at the very top, upper right corner of the window. This is where you can sign in to your account, switch accounts, or change account settings.

◊ **Ribbon** – Located above the spreadsheet, the Ribbon is a navigation panel with tabs of grouped command buttons which can be used to control, format and edit the data in the worksheet.

◊ **Formula Bar** – The Formula Bar is located below the Ribbon and displays the true contents of the selected cell. It can also be used to enter or edit the contents of cells.

◊ **Name Box** – Located on the left side of the Formula Bar, the Name Box shows the address of the active cell. This box also allows you to type in cell locations to go to specific cells.

◊ **Scroll Bars** – The Scroll Bars along the right side and bottom of the window let you see what is beyond the screen view. You can scroll up, down, left or right by: clicking on the corresponding arrow, clicking in the grey area of the scroll bar, or dragging the scroll box.

◊ **Sheet Tabs** – Located just below the worksheet and to the left of the bottom scroll bar, the Sheet Tabs can display the different worksheets in the workbook. These can be renamed to describe the data on each sheet.

Excel Elements,
continued

◈ **Status Bar** – Located at the very bottom of the *Excel* window, the Status Bar displays information about the range of selected cells. It also displays the description of the current command or activity in progress.

◈ **Zoom Slider** – The Zoom Slider is located at the very bottom right of the *Excel* window. This allows you to zoom in and out as well as change the screen view.

Quick Access Toolbar   Formula Bar   User Account Information

Ribbon ⟶

Name Box ⟶

Sheet Tabs
Status Bar ⟶

Scroll Bars ⟶

Zoom Slider
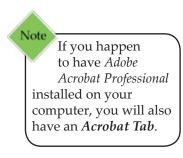
Excel Elements,
continued

Worksheet Elements

◊ **Worksheet** – The largest part of the screen is a spreadsheet which consists of a grid-like pattern of cells in columns and rows.

◊ **Columns** - Columns are labeled with letters along the top of the grid. There are up to 16,384 columns are available in a single spreadsheet.

◊ **Rows** - Rows are labeled with numbers down the left side of the grid. There are up to 1,048,576 rows are available in a single spreadsheet.

◊ **Cell** – A Cell is the basic unit on a worksheet created by the intersection of a row and column where values, text and formulas are entered and stored.

◊ **Active Cell** – The Active Cell is highlighted with bold lines. If you begin typing, the information will appear in the Formula Bar and will be entered into the cell when you press **[Enter]** or any directional key. If there is more than one cell selected, the Active Cell is the one that is white.

◊ **Cell Address** – The Cell Address is the location of the cell in the worksheet. The location is determined by the cell's column letter and row number. The cell address for the first cell in a worksheet is **A1**, for column **A**, row **1**.

Column Labels

Cell Address (displayed in Name Box)

Active Cell

Row Labels
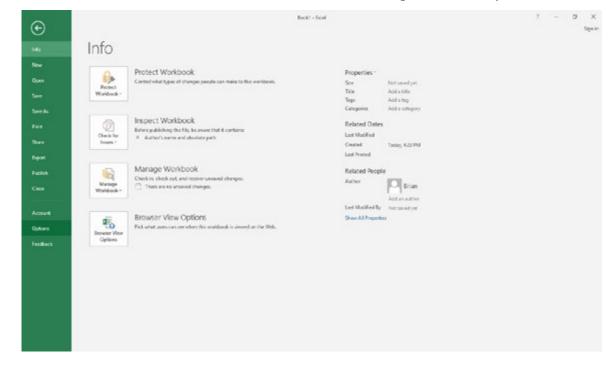
The Ribbon
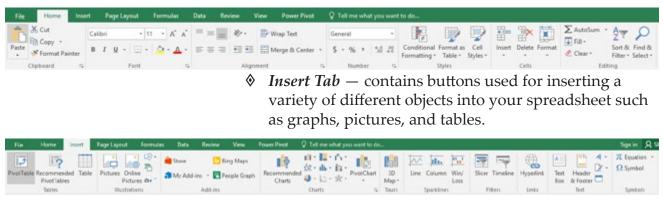
The Ribbon Tabs

By default, the Ribbon contains nine tabs. This can be modified by the user. Each tab is divided up into groups of related command buttons. Below is a description of the default tabs:

◊ *File Tab* — takes you to the "Backstage View" of *Excel*. Listed features along the left side include basic features (*New, Open, Save, Save As, Print,* and *Close*) as well as some new features such as *Account* and *Feedback*. The larger area on the right displays associated command options for the selected feature. To exit the "Backstage View", click the *Back* arrow button in the upper left corner of the window or tap the **[Esc]** key.
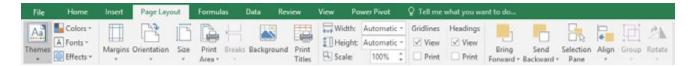
◊ *Home Tab* — contains the most frequently used buttons to format and edit the worksheet.

◊ *Insert Tab* — contains buttons used for inserting a variety of different objects into your spreadsheet such as graphs, pictures, and tables.

The Ribbon,
continued

◈ *Page Layout Tab* — contains buttons that allow you to change the theme of your *Excel* document, arrange the layout of objects in your document and prepare your document for printing.

◈ *Formulas Tab* — contains the tools needed to create formulas and perform calculations on your data.

◈ *Data Tab* — contains buttons to allow you to import data from external sources, manage your data connections, and merge and organize data.

◈ *Review Tab* — contains the tools you need to proof and review your spreadsheet such as the spell checker, thesaurus and research tool.

◈ *View Tab* — contains the tools that allow you to control the way your worksheet is displayed.

The Ribbon,
continued

◊ *Power Pivot* — contains tools associated with working in Power PivotTables or relational database connections.

Using the Ribbon
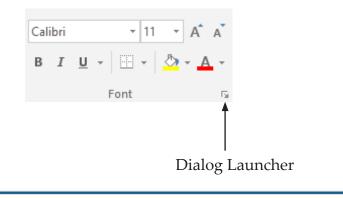
◊ Select the cell containing the information you wish to work with.

◊ Click the appropriate tab on the Ribbon. The groups of buttons will change according to the tab selected.

◊ If you let your mouse pointer hover on a button, a shaded box will appear with the name and description of the button.

◊ Click on the desired button.

Tell me what you want to do

This is a new feature in *Excel 2016*. If you have a cell selected and click this space, a search field becomes active. Clicking the drop-down for the field will offer some possible suggestions on things you may wish to do, choose the one you need and *Excel* will make those tools active. You can also type in what you want to have *Excel* prompt the commands associated with the desired action.

Dialog Launcher

Note

The groups on a tab are used to organize the commands into a logical segmentation of commands.

Some Groups of buttons in the Ribbon Tab will have a Dialog Launcher located in the lower right corner of the group. This opens a dialog box which provides a more extensive and detailed list of available options.

Dialog Launcher

Mini Toolbar and Shortcut Menu

Excel 2016 utilizes Mini Toolbar and Shortcut Menus for quick access to common commands for a selected object. These come in handy when you are in a tab that does not contain the command you need. Using the Mini Toolbar and Shortcut Menus allow you to quickly get to a command without having to change tabs.
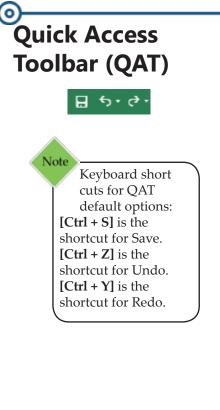
Using a Mini Toolbar and Shortcut Menu

◊ In the worksheet, select a cell or range of cells.

◊ Right click the mouse button.

◊ A *Mini Toolbar* with a *Shortcut Menu* will be displayed. Select an option as desired.

Instructions:
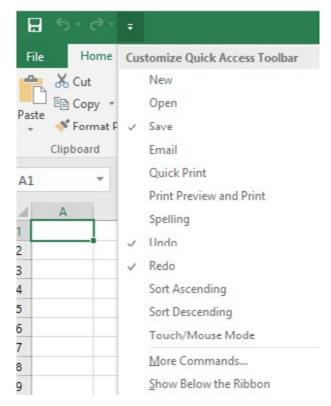
Results/ Comments:

1. You should still have a blank worksheet on your screen.

2. Click on each of the Ribbon tabs.

3. Click on the *Home Tab*.

4. In the **Font Group**, rest your mouse pointer over the **[Fill Color]** button which looks like a paint can.

A description of the button will appear in a shaded text box.

5. Rest your mouse pointer over several other buttons to see their descriptions.

6. Click on cell **A3**.

To make it active. A thick black border will surround the cell.

7. Type **<your name>** and press **[Ctrl + Enter]**.

The content is added and the cell is still active.

8. In the **Font Group**, click on the **[Bold]** button.

Notice the change in your text. It should be in bold. **[Ctrl + B]**.

9. Click in cell **A6**.

To make it active.

10. Type **200**. Press **[Enter]**.

11. Click in **A6** again to make it active again.

Click the cell or press the **[Up Arrow]** key.

12. In the **Number Group**, click on the **[Accounting Number Format]** button which looks like a dollar sign ("$").

The number has changed to an accounting format.

13. Click on the *Formulas Tab*.

All of the formatting buttons are now out of view.

14. Click on cell **A3**. Right-click the mouse.

The *Shortcut Menu* and *Mini Toolbar* appear for quick access to commands.

15. On the *Mini Toolbar*, click on the **[Italic]** button.

Quick Access Toolbar (QAT)

The Quick Access Toolbar or (QAT) can be used to store buttons that you rely on heavily. When buttons are added to the QAT, they can be brought into play with a single click, even when the associated ribbon is unavailable.

Using the Customize Quick Access Toolbar

Adding Buttons

◊ Click on the **[Customize Quick Access Toolbar]** drop down button on the QAT.

◊ Click on the command you want to add. If you don't see the command you want, click on *More Commands...*
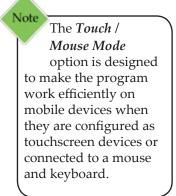
Removing Buttons

◊ Click on the **[Customize Quick Access Toolbar]** drop down button on the QAT.

◊ Click on the command you want to remove. This will uncheck it and remove it from the QAT.

Note

Keyboard short cuts for QAT default options:
[Ctrl + S] is the shortcut for Save.
[Ctrl + Z] is the shortcut for Undo.
[Ctrl + Y] is the shortcut for Redo.

Quick Access Toolbar (QAT),
continued

Using the QAT Menu

Adding Buttons

◊ Right click on any button on the Ribbon that you would like to add to the QAT. The *QAT Menu* will appear.

> A̲dd to Quick Access Toolbar
>
> C̲ustomize Quick Access Toolbar...
>
> S̲how Quick Access Toolbar Below the Ribbon
>
> Customize the R̲ibbon...
>
> Collapse the Ribbo̲n

◊ Click on ***Add to Quick Access Toolbar***.

-OR -

◊ To add a group of buttons to the QAT, right click on the word that defines the group. (i.e. **Font Group**)

◊ Click on ***Add to Quick Access Toolbar.***

Removing Buttons

◊ Right-click on the QAT button you want to remove. The *QAT Menu* will appear.

◊ Click on ***Remove from Quick Access Toolbar***.

Note The *Touch / Mouse Mode* option is designed to make the program work efficiently on mobile devices when they are configured as touchscreen devices or connected to a mouse and keyboard.

Instructions:

1. Locate the Quick Access Toolbar or QAT.

2. Identify the three buttons on the QAT: **[Save]**, **[Undo]** and **[Redo]**.

3. Click on the **[Undo]** button.

4. Click on the **[Redo]** button.

5. Click on the **[Customize Quick Access Toolbar]** drop-down button on the QAT.

6. Select *New* from the menu.

7. Click on the *Home Tab*.

8. Right click the **[Bold]** button.

9. Select *Add to Quick Access Toolbar*.

10. On the QAT, right-click on the **[Bold]** button and choose *Remove from Quick Access Toolbar*.

Results/ Comments:

In the upper left-hand corner.

You will use these buttons often. Notice that the **[Redo]** button is "grayed" out. This means that it is unavailable.

This undoes your last action. Notice that the italic is removed from your name. The **[Redo]** button is now available.

The italic is restored.

The *Customize Quick Access Toolbar Menu* is displayed.

The **[New]** button is added to the QAT

The *QAT Menu* is displayed

You can add a button from anywhere on the Ribbon by right-clicking and selecting *Add to Quick Access Toolbar*.

The button will be removed from the QAT.

Customizing the Ribbon

As you work with *Excel*, you may need to regularly use specific commands from different ribbon tabs. Instead of having to constantly switch from one tab to another, you may want to build a custom tab that contains all your commonly used commands in one place.

Creating a Custom Tab

◈ Click on the *File Tab* and choose *Options* from the list of categories on the left.

◈ In the *Excel Options* dialog choose *Customize Ribbon* from the list of categories on the left.

Note Above the right display is a field drop-down arrow, clicking the drop-down gives access to the contextual tabs.

◈ Click the **[New Tab]** button below the right field to create a new tab and group.

◈ Select **New Tab (Custom)** from the right field.

◈ Click the **[Rename]** button below the right field list to rename the tab something more appropriate, then click **[OK]**.

◈ Select the **New Group (Custom)** tab from the right field.

◈ Click the **[Rename]** button below the field list to rename the group something more appropriate, then click **[OK]**. Add and name as many groups as desired.

Customizing the Ribbon,
continued

Adding Commands to the Custom Tab

◈ The left field of the Customize Ribbon shows the list of popular commands by default.

◈ Click the drop-down from the *Choose commands from:* field and choose *All Commands* to display all the commands that are available in *Excel*.

◈ Scroll through the list to find your desired commands.

◈ Click and drag the command over to the custom group in your custom tab or select the command and click the **[Add]** button.

◈ Commands can also be renamed by using the **[Rename]** button.

◈ Once all the commands are in place, click the **[OK]** button.

Exporting Customizations

◈ While still in the Customize Ribbon view of the *Excel Options* dialog.

◈ Click the **[Import/Export]** button and select *Export all customizations*

◈ Save the file to your computer. This file with your customizations can be copied to flash drives and imported to other systems so the program interface will be consistent across different computers.

Resetting Customizations

◈ If you want to reset the default settings, navigate back to the Customize Ribbon view of the *Excel Options* dialog.

◈ Click the **[Reset]** button and choose *Reset all customizations*.

◈ Click **[Yes]** to verify the request and *Excel* is reset.

◈ Click the **[OK]** button to exit the dialog.

Action 1.4: Customizing the Ribbon

Instructions:	Results/ Comments:
1. Click the *File Tab* and choose *Options* from the list of categories on the left.	The *Excel Options* dialog opens.
2. Click *Customize Ribbon* from the list on the left.	The *Customize Ribbon* view is displayed.
3. Click the **[New Tab]** button.	A new tab and group are added to the list of available tabs in the right field.
4. Select the *New Tab (Custom)*.	The new tab is active.
5. Click the **[Rename]** button.	The *Rename* dialogue is displayed.
6. Type **<your name>** and click **[OK]**.	The name is applied.
7. Select the *New Group (Custom)*.	The new group is active.
8. Click the **[Rename]** button.	The *Rename* dialogue is displayed.
9. Type **My Group** and click **[OK]**.	The name is applied.
10. Choose *All Commands* from the **Choose commands from:** field drop-down.	Every command in *Excel* is displayed in the list.
11. Click and drag some commands into the group of your custom tab.	The commands are added in the group of your tab.
12. Click **[OK]**.	Your tab is added to the ribbon.
13. Click the *File Tab* and choose *Options* from the list of categories on the left.	The *Excel Options* dialog opens.
14. Click *Customize Ribbon* from the list on the left.	The *Customize Ribbon* view is displayed.
15. Click the **[Reset]** button and choose *Reset all customizations*.	The custom tab and any QAT customizations are removed.
16. Click **[Yes]** and click **[OK]**.	

Opening and Viewing Workbooks

The **Open** command is used to retrieve a copy of an existing workbook.
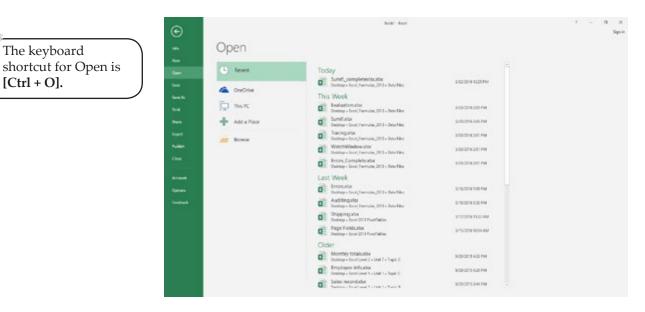
Opening an Existing Workbook

◊ Click on the *File Tab*.

◊ Click the *Open* category on the left side. In the middle section of the screen, you will see locations from which you can open files, including *Recent Workbooks*, *OneDrive*, *This PC*, *Add a Place* and *Browse*.

> **Note**
> The keyboard shortcut for Open is **[Ctrl + O].**

> **Note**
> You may have to maneuver through folders to locate the document you are looking for.

To search for files:

◊ Click on *This PC*, to access a simplified search for a folder on the local drive.

-OR -

◊ Click the **[Browse]** button, to open a normal explorer window.

If you preferring to go straight into an explorer window when opening or saving files instead of the "Backstage View":

1. Go to the program *Options*.

2. Choosing the *Save* category on the left.

3. Check the *Don't show the Backstage view when opening or saving files* checkbox.

Opening and Viewing Workbooks, continued

Opening a Recent Workbook

◊ Click on the *File Tab* and select *Open* from the left. *Recent Workbooks* are displayed on the right side of the menu.

◊ Double click on the desired file to reopen it.

Opening Multiple Workbooks

◊ Repeat the methods to open a single workbook until all the files needed are opened.

-OR -

◊ If all the workbooks are in the same folder and in sequential order, select the first workbook, hold the **[Shift]** key, then click the last file you want. Click the **[Open]** button.

◊ If all the workbooks are in the same folder and not in a sequential order, select the first one and hold the **[Ctrl]** key, then click the other workbooks. Click the **[Open]** button.

Opening and Viewing Workbooks, continued

> **Note**
> Some files created in Excel 2007 and *2010* versions have had issues opening and appear to be locked and uneditible, to fix the issue simply save the file using Save As coomand.

> **Note**
> **[Alt + Tab]** will switch between open workbooks and programs

Opening a Workbook from Earlier Excel Versions

A workbook created in an earlier version of *Excel,* will open in compatibility mode by default to maintain data integrity and prevent any loss of data. This can be seen by the Title Bar display:

filename.xls [Compatibility Mode] – Excel.

You can keep the file in its present version for easier file sharing, however **none of the new 2016 features will be available**. In order to use these features, you will need to convert or save the file as the newer **.xlsx** version. This will be discussed in Lesson 2.

Viewing Opened Workbooks

◊ Click the **[Switch Windows]** drop down button in the **Window Group** on the *View Tab*.

◊ Then select the file you wish to see.

-OR -

◊ Click the workbook name on the Windows Task Bar

Protected View

If you open a file originating from potentially unsafe locations (i.e. the Internet), a Message Bar may appear at the top indicating the file was opened in Protected View. This is a default setting designed to protect your computer from files which may contain viruses, worms, or other kinds of malware. When you open a file, you may disable this view for the current file only; or disable it permanently which prevents the message again.

Disabling Protected View for the Current File Only:

◊ Click on the **[Enable Editing]** button in the Message Bar.
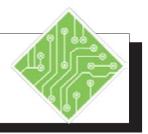
Opening and Viewing Workbooks,
continued

Disabling Protected View for the Program:

◊ Select the *File Tab*, then **Options**. In the *Excel Options* dialog, click *Trust Center* from the index on the left.

◊ Click on the **[Trust Center Settings]** button. In the *Trust Center* dialog, select *Protected View* from the index on the left.

◊ Deselect the check boxes for any types of files you do not want to open in Protected View.

◊ Click the **[OK]** button to exit the *Trust Center* dialog.

◊ Click **[OK]** to exit the *Excel Options* dialog.

Instructions:

1. Click the *File Tab* and then click on *Open*.

2. In the "Backstage View", click on *Computer*, then the **[Browse]** button.

3. Navigate to and open the **Data files** folder.

4. Select the file **BUDGET**.

5. Click **[Open]** or press **[Enter]**.

6. From the **QAT**, click on the **[Open]** button.

7. Click on *Computer* and click the **Level 1** student files folder to open it. Double-click on the file name **EMPLOYEE.**

8. Notice the *Excel* icon on the Windows Task Bar.

9. From the Windows Task Bar, click on **BUDGET**.

10. Click on the *View Tab*. In the **Window Group**, click on **[Switch Windows]**.

11. Click on **EMPLOYEE**.

12. Hold the **[Alt]** key down and tap the **[Tab]** key, the **Budget** file is active let go of the **[Alt]** key.

13. Click the *File Tab* and then click on Close.

Results/ Comments:

If you have trouble locating the file, your instructor will show you where it is.

The file **Budget** opens.

We added this button to the **QAT** earlier for easy access to this command.

You can have more than one workbook open at a time.

There are three open workbooks: **BUDGET**, **EMPLOYEE** and **Book1**.

The file **BUDGET** comes into view. Try using the **[Ctrl + Tab]** shortcut to change views of open workbooks.

A menu of open workbooks appears. This is an alternative way to view open workbooks. If you want, you can add this button to the QAT for quick access.

The Employee file is active in *Excel*.

A list of all open applications is displayed, each time the **[Tab]** key is tapped the active window changes to the next in the list. When the one you want is active, let go of the **[Alt]** key to make your selection active.

[Ctrl + W].

Cursor Movement

There are three methods of moving around on the worksheet: using keyboard commands, arrow keys or the mouse.

Using the Keyboard

<u>Press</u>	<u>To Go to</u>
[Tab] or **[→]**	Right one cell
[Shift + Tab] or **[←]**	Left one cell
[↑]	Up one cell
[↓]	Down one cell
[Page Down]	Down one screen view
[Page Up]	Up one screen view
[End + →]	End of row
[Home]	Beginning of row
[Ctrl + Home]	Cell **A1**
[Ctrl + End]	Goes to the last cell that data was entered on the worksheet.
[Ctrl + Arrow Key]	Moves in the direction of the arrow to the last cell in a range of cells that contains data
[Ctrl + Page Up]	Moves to left worksheet tab
[Ctrl + Page Down]	Moves to right worksheet tab

Using the Mouse
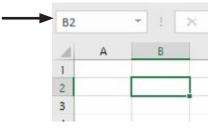
The *cross shaped cursor/pointer* ✛ on the screen tracks the movement of the mouse and allows you to select an entry by clicking the mouse on the designated cell. If you drag the cursor over several cells, you have selected a *range of cells*.

Selecting Cells

Before you can enter, edit, or format data, you must **select** a cell or cells**.**

Selecting a Single Cell

◊ Using the mouse, place the cursor on the cell.

◊ Click once. The heavy border around the cell indicates that the cell is now active. The cell address (column letter and row number) appears in the Name Box.
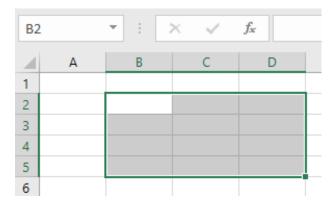
Selecting a Cell Range

A cell range is a series or block of 2 or more adjacent cells and can be useful to make changes to multiple cells at one time. A range is designated by two cell addresses – the first and last cell in the range – separated by the range operator (:). For example, **A1:D5** describes the rectangular area consisting of all cells between columns **A** and **D** and between rows **1** and **5**.

When selecting a range that is larger than the screen, the window will scroll when the pointer touches the edge of the screen. When typing in a range, the cursor is confined within that range as long as you use the **[Tab]** or **[Enter]** keys.

Note In a selected range, only the active cell's address is displayed in the Name Box.

◊ Use the mouse to click on the first cell.

◊ Hold down the mouse button and drag the mouse pointer to the last cell in the range. The range is shown as shaded while the first cell remains white indicating it is still active.

Selecting Cells,
continued

- OR -

◊ Click on the first cell desired.

◊ Hold down the **[Shift]** key.

◊ Click on the last cell of the selection. If you already have part of the range selected, just hold the **[Shift]** and click the last cell of the selection.

Selecting a Row or Column

◊ Place the ⊹ pointer on a row number or column letter. The pointer will change to a black arrow.

◊ Click once. The entire row or column is shaded and the active cell (usually the first cell) remains white.
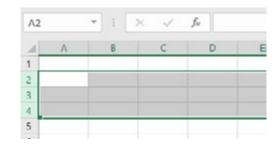
Selecting a Range of Rows or Columns

◊ Select the row or column using the pointer.

◊ Hold down the mouse button and drag to select the number of rows or columns in your range.

- OR -

◊ Select a row or column.

◊ Hold down the **[Shift]** key and select the last row or column in your range.

Selecting Cells,
continued

Selecting a Range of Adjacent Data

This selection method is a quick way to select a large range of adjacent cells. It will automatically select all the cells from the active cell(s) until the next blank cell. There must be information in the adjacent cells for this to work.

◊ Select the first cell or cells of your desired range.

◊ Hold down the **[Shift]** key.

◊ Double-click the border of the selected range in the direction you want to go. The selection will be extended until the next blank cell. (Example: Click the right side of the border to highlight all adjacent cells to the right.)
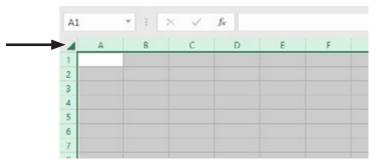
Selecting Noncontiguous Ranges
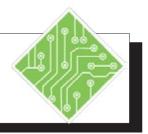
◊ Click and/or drag to make the first selection.

◊ Hold down the **[Ctrl]** key and click the additional selections.

Selecting an Entire Worksheet

◊ Click once on the **[Select all]** button located above the row numbers and to the left of the column headings.

Instructions:

Results/ Comments:

1. The file **EMPLOYEE** should be open on your screen.

   If not, open it.

2. In cell **A1** type:
   Employee Records, Widgets International.

   If you cannot see cell **A1** press **[Ctrl + Home]**. Notice that the typed text appears in the Formula Bar.

3. Press **[Enter]**.

   The information is displayed in the cell. Notice that the information overrides the cell boundary.

4. Press the **[↑]** button on the keyboard.

   To re-activate cell **A1**.

5. Click the **[Font Size]** drop-down button in the **Font Group** on the *Home Tab* and choose *14*.

   Notice as your mouse passed over the choices in the gallery, the text in the cell adjusts to match. Also, notice that the row height automatically changed to accommodate the larger font size.

6. Select cell range **G8:H9**.

   Select by dragging across the range.

7. Type the following:
       OH, Press **[Tab]**
       76123, Press **[Tab]**
       KY, Press **[Tab]**
       51322, Press **[Tab]**
       Press **[➜]**

   Notice that pressing the **[Tab]** key moves from cell to cell within the selection. You will not be able to move out of the selection until you press an arrow key.

8. Click on the row number **5** and dragging to row number **6**.

   This selects rows **5** and **6**.

9. Click on the **[Bold]** button in the **Font Group** in the *Home Tab*.

   All content in both rows is now bold. **[Ctrl + B]**.

10. Click on the **[Center]** button in the **Alignment Group** on the *Home Tab*.

    All content in both rows is now center aligned.

Instructions:

11. Click the Column **N** heading letter.

12. Click on the **[Center]** button in the **Alignment Group** on the *Home Tab*.

13. Select cell **N6**. Press **[Shift + ↑]** once, then press **[Ctrl + Shift + [←]**.

14. Click on the **[Border]** button drop-down in the **Font Group** on the *Home Tab,* and choose *Outside Borders*.

15. Click **D8**, then hold the **[Ctrl]** key and click cells **C12**, **D14**, and **F16**.

16. Click on the **[Bold]** button in the **Font Group** on the *Home Tab.*

17. Click the **[Select All]** button located where the column and row headers intersect.

18. Click the **[Font Size]** drop-down button in the **Font Group** on the *Home Tab*, and choose *14*.

19. Click in cell **A1**.

Results/ Comments:

The Column **N** is selected.

All of the content in the column is now aligned to the center.

This selects the cell range **N6:A5**.

The entire selected range of cells now has a boarder.

This selects a noncontiguous range.

To remove the bold from the text. You could also use the keyboard shortcut **[Ctrl + B]**.

This selects the entire worksheet.

Notice that all of the text is converted to the same font size. Any time you select the entire worksheet, make sure the formatting needs to be applied to the entire worksheet.

To deselect the cells.

Saving A Workbook

Special consideration should be given to how you save the file depending on how you are going to use it and with whom you are going to share it.

File Names and Extensions

An *Excel* file name has two parts, the name you provide (such as "**Budget**") and the extension that tells you what kind of file it is. For example **Budget.xlsx** indicates the file is named "**Budget**" and "**.xlsx**" indicates it is an *Excel 2007*, *2010, 2013* or *2016* file type.

File Formats

All *Microsoft Office 2007*, *2010, 2013* and *2016* software (which includes *Excel*) use a file format called XML. Earlier versions of *Microsoft Office XP* and *2003* use a binary file format.

There are some distinct advantages in the XML file format. Saved files are automatically compressed, reducing the size of the file and saving storage space. It also makes it easier to send files via e-mail or over a network. In addition, there is improved file recovery for damaged files, detection of files containing macros, and improved controls over personal information contained in the creation of the document - such as any hidden data and document profiles that you would not like to share with others.

Excel 2016 will, by default, save files in the XML format using one of the extensions listed below. If you are sharing a file with someone who has *Excel 2007*, *2010* or *2013*, you can save it using this default setting.
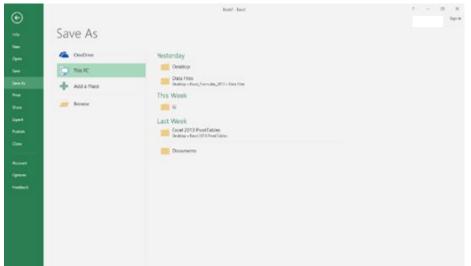
xlsx	*Excel 2007, 2010, 2013* or *2016* workbook file (Earlier versions of *Excel* use the xls extension)
xlsm	*Excel* macro-enabled workbook file
xltx	*Excel* template file
xltm	*Excel* macro-enabled template file
xlsb	*Excel* binary workbook file
xlam	*Excel* add-in file

Saving A Workbook,
continued

Saving a New Workbook/Renaming an Existing Workbook

◊ Click the *File Tab*. Select *Save As* on the left to view **the list of available location options**.

> **Note**
>
> Press **[F12]** to quickly display the *Save As* dialog.

◊ To save to your computer, select *This PC*. Choose from the *Current Folder* list, the *Recent Folders* list or click the **[Browse]** button to find a different folder.

◊ The *Save As* dialog opens. Notice that the Address Bar shows the folder name and the folder path where the file will be saved. (*Excel* will automatically place the document in the last active folder)

◊ To save in a different folder than the one shown, click on the down arrow on the Address Bar or use the folder options listed on the left.

◊ In the *File name:* field, type the name of the file.

◊ Click **[Save]** or press **[Enter]**. The file name will be displayed in the title bar of the spreadsheet.

Saving an Existing Workbook

> **Note**
>
> If you select *Save* on an unnamed document, the *Save As* dialog box will be displayed.
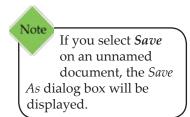
◊ Click on the *File Tab*. Select *Save*.

- OR -

◊ Click the **[Save]** button on the Quick Access Toolbar.

- OR -

◊ Use the keyboard shortcut **[Ctrl + S]**.

Instructions:

Results/ Comments:

1. Click on the *File Tab*, choose *Save As*.

2. Select *This PC* and click the folder location listed under **Current Folder**.

   The *Save As* dialog is displayed.
   You could also use the keyboard shortcut **[F12]**.

3. In the *Save As* dialog, check the Address Bar.

   To ensure that file will be saved in the correct folder.

4. In the **File name:** field, type: **My_List.**

   To give the file a new name.

5. In the **Save As type:** field, choose *Excel Workbook* if it is not already displayed.

   To ensure that the file type is correct.

6. Click **[Save]** or press **[Enter]**.

   The dialog box will disappear. Notice that the file name was replaced with the new file name and displayed in the Title Bar of the document.

Workbook Conversion and Compatibility

> **Note**
>
> You can find a list of compatibility issues and their resolutions by typing the keyword "**compatibility**" into the *Help* dialog.

If you will be sharing the file with a user that has *Excel 97-2003* versions, you may want to save it to be compatible. These users can still open, edit and save newer version files using a download that is available from *Microsoft*.

Compatibility Checker

Prior to saving your file, it is a good idea to run the Compatibility Checker to look for any potential compatibility problems and issue a report so that you can resolve the problems.

◈ Click on the *File Tab* to display the **backstage**.

◈ In the menu, select **Info** and then click on **[Check for Issues]** in *Prepare for Sharing*. Choose **[Check Compatibility]**. *Excel* will search the workbook. A dialog box will appear with a report on any issues.

◈ Click **[OK]** to close the dialog.

In order to use the *Excel 2016* features, any file created from an older version will need to be saved or converted to the newer **.xlsx** version.

Saving a Workbook from an Earlier Version of Excel

To keep a copy of the file in its original format, use the *Save As* command as mentioned before and make sure the *Save As Type:* field shows the **.xlsx** extension. This will save the file using the default file format. (You do not need to do this in Windows 7 or later, since it automatically saves to the older file format.)

Converting a Workbook from an Earlier Version of Excel

◈ Click on the *File Tab* and select *Info.*

◈ Click the **[Convert]** button in *Compatibility Mode*.

◈ Click **[OK]** to complete the process.

Action 1.8- Workbook Conversion and Compatibility
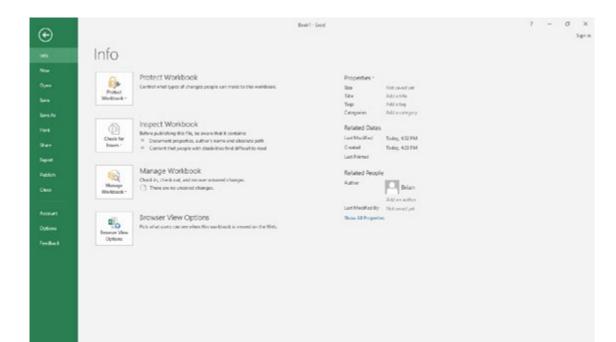
Instructions:	Results/ Comments:
1. Open the file **Student Grades.xls**.	This is a file created in *Excel 2003*.
2. Observe the title bar, note that you are in compatibility mode.	This comes on automatically whenever you open a file created in an earlier version.
3. Click on the *File Tab* to display the "Backstage View".	
4. Select *Info* and then click on **[Convert]**. Click **[OK]**.	The **[Convert]** command is only available when you have a file that was created in an earlier version.
5. Click **[Yes]** for the message displayed asking if you want to close and reopen the file.	This will make all of *Excel*'s newer features available. Notice that you are no longer in compatibility mode.
	We are going to see how the check compatibility feature works.
6. Click on the *File Tab*, then select *Info.*	
7. Click on **[Check for Issues]** and choose **[Check Compatibility]**.	Use this feature when you are sharing a file with users of earlier versions. A dialog box will appear letting you know of any compatibility problems.
8. Click **[OK]**.	To close the dialog.
9. Click on the **[Save]** button on the QAT.	To save the file.

Closing a Workbook

Worksheets remain in the RAM (Random Access Memory) of your computer and therefore on display until you close them. Closing a file does not exit *Excel*, it only removes the file from RAM. Your file will no longer be displayed on the screen.

Closing a Workbook

Note

Keyboard Shortcut to close a workbook is **[Ctrl + W].**
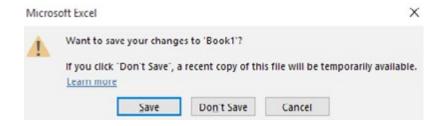
◊ Click on the *File Tab*. The "Backstage View" will be displayed.

◊ Choose *Close*. The active workbook will disappear and the next workbook that is open will be displayed.

◊ If you attempt to close a workbook that has not been saved, a message will appear asking if you want to save the changes before closing the file.

◊ Click **Save**, if you need to save. Click **Don't Save**, if you do not. Click **Cancel**, to return to your workbook.

Note

Keyboard Shortcuts in Message windows: If a window appears with buttons containing underlined letters, you can tap the underlined letter on the keyboard to trigger the associated button.

Instructions:

1. Click the *File Tab*.

2. Click *Close.*

3. Press **[Ctrl + W]**.

4. Close the file **Budget**.

5. Close **Book1**.

6. In the warning box, click **[Don't Save]**.

7. Notice the screen.
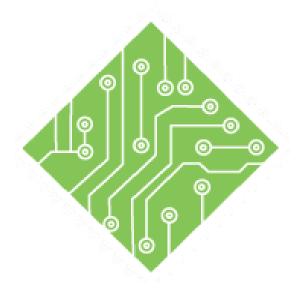
Results/ Comments:

The file **Student Grades** closes. The file **My_List** should still be on your screen.

The file **My_List** closes. The file **Budget** should still be on your screen.

Using any method you want.

A warning will appear asking you if you want to save changes to **Book1**.

Most of the time you will want to click **[Save]**. When you click **[Don't Save]** you will lose any changes you have made.

Excel is still open, but there are no workbooks currently open.

Tips and Notes

Lesson 2: Creating a Workbook

Lesson Overview

You will cover the following concepts in this chapter:

Contents

◊ Creating a Workbook

◊ Document Properties

◊ *Custom Properties*

◊ Searching for Files Using Properties

◊ Entering Information

◊ Auto Fill

◊ Custom Lists

◊ Flash Fill

◊ Editing Cells

◊ Entering Numbers

Lesson Notes

Creating a Workbook

If you have turned off the *Show the Start screen when this application starts* found under *Options* on the **File Tab**, *Excel* will automatically create a new Blank Workbook when the program is first opened. Otherwise you will need to click **Blank Workbook** in the Start screen or simply press the **[Esc]** key.
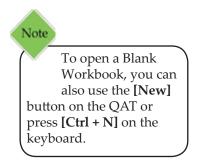
Once an *Excel* file is already open, you can create additional new workbooks.

> **Note**
>
> To open a Blank Workbook, you can also use the **[New]** button on the QAT or press **[Ctrl + N]** on the keyboard.

◊ Click on the **File Tab** and select *New*.

◊ Click **Blank Workbook** to start a from scratch.

-OR-
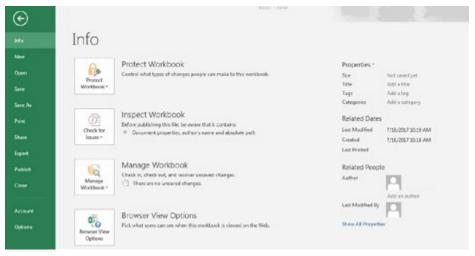
◊ Click to select a template from the list shown that matches the type of data you need to enter:

◊ *Featured Templates* are pre-existing formats created by Microsoft. (You can also use the Search box at the top to find more available templates on Microsoft Online.)

◊ *Personal Templates* are templates you have created and saved to your local drives. (This is discussed further in Level 2)

Document Properties

All *Excel* documents have properties, also known as metadata. Theses properties are used to help describe or identify a given document. The properties of documents include: title, author name, subject, and file size, date information, and category to name a few, they are used to identify a document's topic or contents. Including information in the document properties allows you to easily search for documents based on those properties.

Properties can be edited and/or updated form the Info category of the File Tab, backstage view.

The Four Types of Document Properties

Standard Properties: These include- author, title, and subject.

Automatically Updated Properties: These include both file system properties (file size or the dates when a file was created or last modified) and statistics that are maintained by *Office* programs. You cannot specify or change the automatically updated properties.

Custom Properties: These are created and defined by users, they are additional custom properties for documents. Users are able to assign a text, time, or numeric value to custom properties, and users may assign them yes or no values. There is a list to choose frombut it is also poosible toname and define custom properties.

Document Library Properties: These are associated with documents in a document libraries on a website or in public folders. These porperties are defined in relation to the document library. When adding documents to the library, users will be prompted to include the values for any required properties or
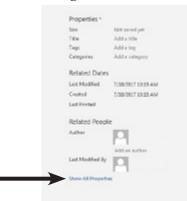
Document Properties, continued

to update any incorrect properties. Examples of these could include Submitted By, Date, Category, and Description.

Accessing the Document Properties

◊ Click the *File Tab*.

◊ Choose the *Info* category on the lief of the Backstage view.

◊ The basic list of Properties is displayed on the right side of the Backstage view.

◊ Click the **[Show All Properties]** link to expand the list.

- OR -

Document Properties,
continued

◊ Click the **[Properties]** button drop-down above the list of Properties, choose *Advanced Properties*.

Properties ▾
Size   Not saved yet

◊ The *FileName Properties* dialog opens.

Book1 Properties
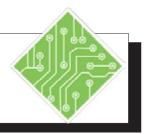
General Summary Statistics Contents Custom

Title:
Subject:
Author:
Manager:
Company: The Computer Workshop, Inc.

Category:
Keywords:
Comments:

Hyperlink base:
Template:

☐ Save Thumbnails for All Excel Documents

OK   Cancel

Adding or Editing Properties

◊ Click the *File Tab*.

◊ Choose the *Info* category on the left of the Backstage view.

◊ Click the **Property** field to be modified to activate the field.

◊ Type in the required infromation and click away from the active field.

◊ Save the file.

Properties ▾
Size   Not saved yet
Title |
Tags   Add a tag
Comments   Add comments
Template

◊ If there is information already in the property field, simply click into the field and enter the desired information.

◊ Properties can also be added or edited within the *Advanced Properties* dialog.

Instructions:

1. Click the *File Tab*.	
2. Choose *New* from the list of categories on the left.	
3. Click the *Blank Workbook* icon.	
4. Click the *File Tab*.	
5. Choose *Info* from the list of categories on the left.	
6. Notice the document properties on the right.	
7. Click into the **Title** field.	
8. Type, < **Regoinal Report** >.	
9. Click into the **Categories** field.	
10. Type, < **Eastern cities** >.	
11. Click the **[Show All Properties]** link.	
12. Click into the **Company** field.	
13. Type, < **ABC Inc.** >.	
14. Click into the **Comments** field.	
15. Type, < **This is the report for sales from the cities within the Eastern region.** >.	

Results/ Comments:

The BackStage view is displayed.

A new blank file opens.

The BackStage view is displayed.

The *Info* set of options are displayed.

These are the basic set of document properties.

The text that reads *Add Title* is the field.

The document now has a title assigned to it.

The text that reads *Add a Category* is the field.

The document now has a category assigned to it.

The basic list of properties is expanded to some more options.

The text that reads *Specify the company* is the field.

The document now has a company name assigned to it.

The text that reads *Add comments* is the field.

The document now also has a description assigned to it.

Instructions:	**Results/ Comments:**
16. Click the **[Properties]** drop-down above the list of properties and choose *Advenced Properties*.	The *Advanced Properties* dialog opens.
17. Click into the **Manager** field and enter someones name.	There is now a manager assigned to the document.
18. Click the **[OK]** button.	The *Advanced Properties* dialog closes.
19. Click the *File Tab*.	The Backstage view is displayed.
20. Choose *Save As* from the list of categories on the left.	The *Save As* set of options are displayed.
21. Click the **[Browse]** button.	A *Windows Explorer* window opens.
22. Navigate to the lessons folder, name the file **Qtr1.xlsx** and click the **[Save]** button.	The file is saved.

Custom Properties

Viewing and Creating Custom Properties

Custom properties are properties that you define that will further define attributes related to the docuement. Customized properties are created and veiwed from within the Advanced Properties dialog.

Creating a Custom Property

◊ Click the *File tab*.

◊ Click *Info*.

◊ Click the **[Properties]** drop-down at the top of the Properties list, and then select *Advanced Properties*.

◊ The *Advanced Properties* dialog opens. The dialog window will use the file name in its' title bar.

◊ Click the *Custom Tab*.
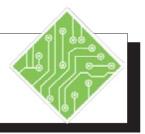
◊ In the **Name** field, type a name for the custom property, or select one from the list.
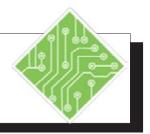
Custom Properties,
continued

◊ In the **Type** field, select the type of data the property is to contain.

◊ In the **Value** field, enter a value for the property. The value entered here must match the type of data chosen from the **Type** field drop-down. If they do not match the value is stored as text.

◊ Click the **[OK]** button.

◊ Save the file.

When you want or need to see these customized properties you will use the *Custom Tab* in the *Advanced Properties* dialog.

Instructions:	**Results/ Comments:**
1. Click the *File Tab*.	The BackStage view is displayed.
2. Choose *Info* from the list of categories on the left.	The *Info* set of options are displayed.
3. Click the **[Properties]** drop-down above the list of properties and choose *Advenced properties*.	The *Advanced Properties* dialog opens, note the name in the title bar.
4. Click the *Custom Tab*.	The Custom Properties options are displayed.
5. Choose *Checked by* from the list of options below the **Name** filed.	*Checked By* appears in the **Name** field.
6. Click into the **Type** field and choose *Text* from the list.	If necessary.
7. Click into the **Value** field and enter the managers name.	This can be entered or modified later as needed. It is alos possible to add another instance of the property for each person who is checking the document.
8. Click the **[Add]** button.	The new property is shown in the Properties list in the lower half of the dialog and all the fields are cleared so you can enter the next custom property.
9. Click into the **Name** field and type, **< OnTime >**.	This time you are creating a completely new property.
10. Click into the **Type** field and choose *Yes or No* from the list.	The *Yes* or *NO* radio buttons are displayed in place of the **Value** field.
11. Click the *Yes* radio button.	The value of this property is set.
12. Click the **[OK]** button.	The *Advanced Properties* dialog closes.
13. Click the **[Properties]** drop-down above the list of properties and choose *Advenced properties*.	The *Advanced Properties* dialog is reopened.

Instructions:	Results/ Comments:
14. Click the **Custom Tab**.	The Custom Properties options are displayed.
15. Examine the properties.	The new properties and their values are shown.
16. Close the *Advanced Properties* dialog.	
17. Save and close the file.	**[Ctrl + S]** and **[Ctrl + W]**.

Searching for Files Using Properties

Searching for files based on a its properties or metadata when using the Open command in *Excel* is done from within the **Search Box** in the upper left of the *Open* screen. It is a good idea to start by selecting the folder which may contain the file being search for.

Navigate to the folder where the file being looked for will most likely be stored. Using the **Seacrch Box** allows you to search for a given file by its name or other properties. If the document has had values assigned to the porperties you are able to enter the propety value in the **Search Box**. When clicking into the **Search Box** a drop-down menu is displayed. The menu will show a list of recent search terms and also offers the ability to specify a property value to search by.

Clicking on the property link will open dialogs which allow users to set the search paramenter value. If searching for the aurthor of the document, simply enter the name in the **Search Box** and tap the **[Enter]** key.
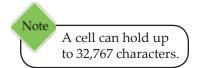
The results are displayed in the main area of the Open screen. Select the desired file and click the **[Open]** button or double click the seleceted file.

Instructions:

Results/ Comments:

1. Click the *File Tab* and choose *Open* from the list of categories.

   [Ctrl + O].

2. Click the **[Browse]** button.

   If necessary.

3. Depending on where the lessons folder is stored on the computer, navigate to the Documents Library or Desktop.

   This is the main folder location of where the file being searched for is located.

4. Click into the **Search Box** filed.

   The **Search Box** field is located to the left of the Address Bar in the *Open* window.

5. Type,
   < Regoinal Report >
   and tap the **[Enter]** key.

   The **QTR1.xlsx** file should listed as a result in the open window.

6. Double click the file to open it.

   The file is opened.

Entering Information

Information in a worksheet is either a constant value or a formula. Constant values consist of: text, numbers, dates/times, and logical/error values. Formulas, covered in more depth later in this chapter, consist of: values or text, operators, cell references and worksheet functions/names.

If *Excel* cannot interpret the entry as a number, date, time, logical value, or formula, it considers it text. (Text and labels have no mathematical value.) If a number and text are combined in a cell (Example: 5131 Post Road), *Excel* will also assume it to be text.

Note A cell can hold up to 32,767 characters.

Entering Text

When you type information into an active cell, the contents of the cell are displayed in the Formula Bar. The information is not "entered" into the cell until you do one of the following:

◊ Pressing the **[Tab]** key.

◊ Pressing the **[Enter]** key on the main keyboard or on the number pad.

◊ Pressing an **[Arrow]** key.

◊ Clicking the **[Enter]** button on the Formula Bar.

◊ Selecting another cell using the Mouse. (Warning: If building a formula in a cell, do not use this method)

◊ Press **[Ctrl + Enter]** to enter information and keep the cell active.

Note To enter a "hard" return in a cell, press **[ALT + ENTER]**

By default, text is left-justified and extends over several cells unless the neighboring cell to the right contains information.

AutoComplete

AutoComplete will help you enter data by completing what you type based on similar data in adjacent cells in the same column. If you enter the name "John" in a cell, and then type the letter "J" in the cell immediately below it, Auto Complete will fill in the letters "ohn" to complete the word. You simply need to press **[Enter]** to accept the substitution.

If you have two words with the same first letter in a column of adjacent cells, "John" and "Jack" for example, and you type a "J", AutoComplete will wait until you type a second letter to discern the most likely match to complete the entry.

Auto Fill
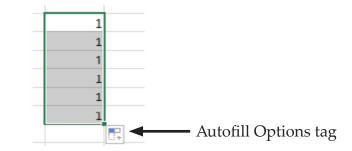
There are many types of series that can automatically be entered into the worksheet. A sequence series is created when the information can be repeated in a predictable pattern such days of the week and months. If the information can't be created in as a sequence, the cell contents will be copied through the selected range of the series.

Creating a Series

◈ Type the first value in the first cell where you want a numeric series to begin. A Fill Handle will appear in the lower right corner of any active cell or range of cells.

Autofill handle

◈ Move the cursor over the Autofill Handle in the lower right corner until you see the cursor change to a thin black "plus" sign (+).

◈ Click and drag to where the series should end. When you release the mouse button, the value is copied and the **[Autofill Options]** tag is displayed.

> **Note**
>
> When dragging horizontally, you have to drag at least half way into the adjacent cell before Autofill understands what you are trying to do.

Autofill Options tag

◈ Click the **[Autofill Options]** tag. A menu appears with fill options to change how *Excel* completes the series.

◈ Choose *Fill Series.*

Auto Fill,
continued

Creating a Number Series

◈ Enter the first number in a cell. Enter the second number in the cell below (to create a series in a column) or to the right of the first cell (to create a series in a row). These entries designate the sequencing of the numbers in the series.
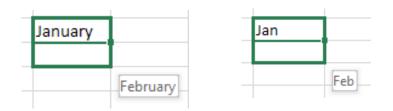
(Example: In cell **A1** enter a 2, in cell **A2** enter a 4. All subsequent numbers in the series will have a difference of 2 between each entry.)

2
4
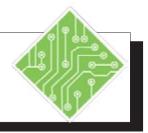
◈ Highlight the series.

◈ Point to the Autofill Handle, click and drag:

　◈ To increase the fill-in, drag down or to the right.

　◈ To decrease the fill-in, drag up or to the left.

◈ The value for each cell is displayed in a screen tip. When the box shows the last information desired, release the mouse button.

Creating a List Series

Excel has four lists that can be used to fill in text values with Autofill. They are the days of the week and the months of the year, fully spelled out and three letter abbreviations. A list series is created in the same manner as using the Autofill to fill in numeric values.

January		Jan
	February		Feb

Instructions:	**Results/ Comments:**
1. The **QTR1** file should still be open.	If not, reopen it.
2. Click cell **B2** to select it as an active cell.	
3. Type: **January** and press **[Ctrl + Enter]**.	January is entered into the cell. Pressing **[Ctrl + Enter]** keeps the cell active.
4. Click the **[Bold]** and **[Italics]** buttons in the **Font Group** on the *Home Tab* in the Ribbon.	**[Ctrl + B]** toggles Bold on/off. **[Ctrl + I]** toggles Italics on/off.
5. In cell **B2**, click on the Fill Handle, then drag to cell **G2** and release.	You should see the months January through June appear.
6. Click on the **[Autofill Options]** tag.	
7. Click on *Fill Without Formatting*.	The bold and italic formatting is removed from February through June.
8. Click on the **[Autofill Options]** tag again and select *Fill Series*.	The formatting is reapplied.
9. Click on the **[Save]** button located on the QAT (Quick Access Toolbar).	The *Save As* dialog opens.
10. Click **[Save]** or press **[Enter]** key.	**[Ctrl + S]**.

Custom Lists

The Custom List feature allows you to create a list of information that you use quite frequently. This can be done by typing the list entries manually or by importing a list that is already created in the workbook. Once you have created your custom list, you will be able to use it in other worksheets until you delete it.
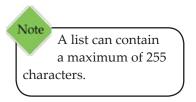
Creating a Custom List

Entering Data Manually to Create a New List
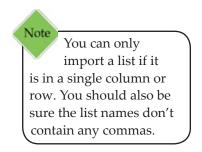
Note: A list can contain a maximum of 255 characters.

◊ Click on the *File Tab* and select *Options.* The *Excel Options* dialog opens.

◊ Select *Advanced* from the list along the left side.

◊ Scroll down to the *General* section. (toward the bottom)

◊ Click **[Edit Custom Lists]**. The *Custom List* dialog opens.

◊ Check that *NEW LIST* is selected in the *Custom List:* field.

◊ Type your list in the *List entries:* field and separate each entry with a comma or by pressing the **[Enter]** key.

◊ Click **[Add]**, then **[OK]** to close the *Custom List* dialog.

◊ Click **[OK]** to close the *Excel Options* dialog.

Custom Lists,
continued

Importing Data from an Existing List

◈ In your worksheet, select the list you want to make into a Custom List.

◈ Click on the *File Tab* and then click on *Options.* The *Excel Options* dialog opens.

◈ Select *Advanced* from the list along the left side.

◈ Scroll down to the *General* section. (toward the bottom)

◈ Click **[Edit Custom Lists]**.

◈ Make sure *NEW LIST* is selected in the *Custom List:* field.

> **Note**
> You can only import a list if it is in a single column or row. You should also be sure the list names don't contain any commas.

◈ In the *Import list from cells:* field. You will see the cell references you have selected.

◈ Click on the **[Import]** button. Your list will appear in the List entries field.

◈ Click **[OK]** to close the *Custom List* dialog.

◈ Click **[OK]** to close the *Excel Options* dialog.

Custom Lists,
continued

Using a Custom List

◈ Enter the first item on your custom list into your spreadsheet. Press **[Enter]**.

◈ Click on the Fill Handle and drag in the direction you wish your list to go. The rest of your custom list should appear in the subsequent cells.

Deleting a Custom List
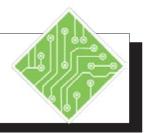
◈ Click on the *File Tab* and then click on *Options*. The *Excel Options* dialog box opens.

◈ Select *Advanced* from the list along the left side.

◈ Scroll down to the *General* section. (toward the bottom)

◈ Click **[Edit Custom Lists]**. The *Custom List* dialog box opens.

◈ Under Custom Lists, select the list you want to delete.

◈ Click **[Delete]**. Click **[OK]** to verify the change.

◈ Click **[OK]** to close the *Custom List* dialog.

◈ Click **[OK]** to close the *Excel Options* dialog.

Instructions:	**Results/ Comments:**
1. **QTR1.xlsx** should still be open.	If not, open it.
2. Click in cell **A25**.	

3. Type the following list and press **[Enter]** after each item.
    Chicago
    Columbus
    Dayton
    Cleveland
    Atlanta
    Newark
    Dublin
	Pressing **[Enter]** will take you down in the column to the next cell.

4. Select your list.	Click in cell **A25** and drag until the entire list is selected.
5. Click the *File Tab* and select *Options*.	The *Excel Options* dialog opens.
6. In the *Excel Options* dialog, select *Advanced* from the list of categories on the left.	
7. Click the **[Edit Custom Lists]** button in the *General* section toward the bottom.	The *Custom Lists* dialog opens. Notice that the selected cell references are displayed in the *Import list from cells* field.
8. Click on **[Import]**.	The text from your list will appear in the *List entries* field.
9. Click the **[OK]** button twice.	To close the *Custom Lists* dialog box and the *Options* dialog.
10. Make sure your list is still selected in cells **A25:A31** and press the **[Delete]** key.	To delete the text you used to create your list.
11. Click in cell **A3**.	

Instructions:

Results/ Comments:

12. Type: **Chicago** and press **[Ctrl + Enter]**.

This keeps the cell active.

13. Using the Fill Handle, drag down until your custom list is complete.

The last item on your list is Dublin. If "Chicago" appears in the Autofill tool tip, the list is beginning to be repeated.

14. Click on the **[Save]** button on the QAT.

[Ctrl + S].

15. Click anywhere in the worksheet.

To deselect the list.

16. Access your *Custom List* dialog.

If you forgot how to get to the dialog, see steps 5 & 6 on the previous page.

17. Under the *Custom lists* field, select your custom list that starts with Chicago.

The list will be displayed in the *List entries* field. You can edit or delete it.

18. Click **[Delete]**.

To delete the custom list.

19. Click **[Cancel]** to the warning message.

We will be keeping the list.

20. Click the **[OK]** button twice.

You should be back in your worksheet.

21. Save your file.

[Ctrl + S].

Flash Fill

Flash Fill is an upgraded feature based on previous versions Fill function. Flash Fill analyzes your input and compares it to the existing data to find patterns. Once a pattern is established, Flash Fill instantly applies the pattern to the rest of the column.

Using Flash Fill

For Flash Fill to work, the active cell needs to be adjacent to the data - there can be no gaps between the data and the column you are trying to fill.

> **Note**
>
> You can also use the keyboard shortcut **[Ctrl + E]** to apply Flash Fill.

◈ Click into a blank cell directly beside your data.

◈ Type in an example of the pattern based on a part of the existing data.

◈ Click the cell below, then begin typing the next item in the same pattern but related to that data of that row.

◈ Flash Fill will display the pattern of data down the rest of the column. Press the **[Enter]** key to apply the fill.

- OR -

◈ Click into a blank cell directly beside your data.

◈ Type in an example of the pattern based on a part of the existing data.

◈ Click the cell below to make it active.

◈ Click the **[Fill]** drop-down in the **Editing Group** on the *Home Tab* and choose *Flash Fill*.

Instructions:
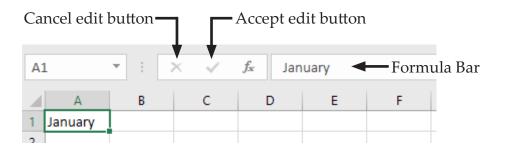
Results/ Comments:

1. Open the **EmployeeDataFix** file.

2. Save the file as **My EmployeeDataFix.**

3. Select cell **E2**.

    You will combine the first and last name into this cell.

4. Type in **Dave Shrimpton** and press **[Enter]**.

5. In cell **E3** begin typing **Nigel Tufnel.** When the rest of the names appear press the **[Enter]** key.

    The list of names is displayed based on the data in cell **E2**. Pressing enter applies the list to the rest of the column.

6. Select cell **F2**.

    You will extract the numbers from the **Emp#** column.

7. Type in **0101** and press **[Enter]**.

8. Click the **Fill** drop-down button in the **Editing Group** on the *Home Tab* and choose *Flash Fill*.

    The rest of the column is filled based on the data in cell **F2**.

9. Select cell **G2**.

    You will extract the birth year from the DOB column.

10. Type in **1956** and press **[Ctrl + Enter]**.

    [Ctrl + Enter] keeps the cell active.

11. Press **[Ctrl + E]** to use the keyboard shortcut for Flash Fill.

    The rest of the column is filled based on data in cell **G2**.

12. Save and close the file.

    [Ctrl + S] and **[Ctrl + W]**.

Editing Cells

To edit information contained in a cell, you must select the cell in which the information was originally entered. Once you have selected the cell, the contents of the cell will appear in the Formula Bar. Use the following techniques when editing:

◊ Click at the end of the text in the Formula Bar. An I-beam cursor will appear. Press **[Backspace]** to delete to the left of the cursor.

◊ Highlight the text in the Formula Bar by dragging across it using the I-beam cursor, then press **[Delete]**, **[Backspace],** or type new information.

◊ Click in the Formula Bar to position the cursor, then type to insert new information at the cursor.

◊ Double-click in the cell. An I-beam cursor will appear. Edit information as necessary.

◊ Select the cell to edit. Type the new information, then press **[Enter]**. The entire cell contents will be replaced.

Canceling Edit

The **[Cancel]** button appears on the Formula Bar when you type or change data in a cell. Before entering the data into the cell, you can click the **[Cancel]** button or press the **[Esc]** key to cancel the edit.

Cancel edit button —⌐   ⌐— Accept edit button

| A1 | ▼ | ⋮ | ✕ | ✓ | ƒx | January | ←——— Formula Bar |

	A	B	C	D	E	F
1	January					

Erasing/Deleting Cell Contents

You can erase an entire cell by selecting the cell and pressing **[Del]** or **[Backspace]**. You can also right-click on the mouse and select *Clear Contents* from the Shortcut menu.
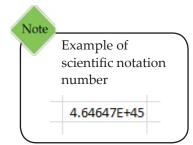
Instructions:	**Results/ Comments:**
1. **QTR1.xlsx** should still be open.	If not, open it.
2. Click in cell **B2**.	To make the cell containing the text we want to edit active.
3. Type: **Jan** and press **[Tab]**.	This replaces the entire contents of the cell and moves on to the next cell.
4. You should be in cell **C2**. In the Formula Bar, highlight **ruary**	To highlight: click before the ''r" in February in the Formula Bar, then click and drag across the letters.
5. Press **[Backspace]** or **[Delete]** to erase the highlighted text and press **[Tab]**.	Cell **C2** should now contain Feb and you should be in cell **D2**.
6. Double-click in cell **D2**. Click after **March**.	To edit directly in the cell.
7. Press: **[Backspace]** twice to erase "**ch**" and press **[Tab]**.	You should have the following in cells **B2:C2:D2** : **Jan Feb Mar**
8. For the remaining months, type the 3-letter abbreviation over the current entry.	You could also use the series feature by dragging the Fill Handle.
9. Click in cell **A2**.	You can also press **[Home]**.
10. Type: **Six Month Summary** and press **[Enter]**.	All of the text in the cell is not displayed nor will it be shown if the document is printed.
11. Click in cell **A2** again.	Notice the contents are in the Formula Bar.
12. Press **[Backspace]** or **[Del]**.	To erase the contents in cell **A2**.
13. Go to cell **A1**.	Notice that cell to the right is empty.
14. Type: **Six Month Summary** and press **[Enter]**.	Now the entire text appears.
15. Save **My Summary**.	**[Ctrl + S].**

Entering Numbers

By default, numbers (including dates and times) are right-justified in a cell. However, there are a wide variety of number formats, each with a set of options to choose from, which are available in *Excel* such as: General, Number, Currency, Accounting, Date, Time, Percentage, Fraction, Scientific, Text, Special (zip codes, social security numbers) and Custom.

Data Entry Shortcuts

For a number or text that needs entered throughout a column or row, you can use a bulk entry or an autoentry. The bulk entry enters the same data throughout a cell range. An autoentry copies the same information from the cell above to the active cell.

Using a Bulk Entry

◊ Highlight the range.

◊ Type the data in the active cell, but do not press **[Enter]** to keep the rest of the range highlighted.

◊ Press **[Ctrl + Enter]** to fill the range with the same data.

Using an AutoEntry

◊ Select the cell below the one with the data to be copied.

◊ Press **[Ctrl + "]** to fill the active cell with the copied data from the cell above.

Dates and Times

To enter a date into a cell, use either a / (slash) or a - (hyphen) between the parts of the date (example: 2/20/2008). The way the date is typed type determines how *Excel* formats the cell.

A date entered with a text month name with a comma between the day and year will still be recognized as a number and the format will change (example: February 20, 2008 will be changed to 20-Feb-08). You can change the date/time format by choosing from the options on the *Home Tab* in the **Number Group**. You can also have *Excel* insert the current date/time for you:

For entries that will **not** be updated when the date/time change:

Date:	Press **[Ctrl + ;]**
Time:	Press **[Ctrl + Shift + ;]**

For entries that will be updated when the date/time change:

Date:	Type: **=TODAY()**
Date and Time:	Type: **=NOW()**

Note

Example of scientific notation number

4.64647E+45

Instructions:

Results/ Comments:

1. **QTR1.xlsx** should still be open.

   If not, open it.

2. In cell **F1,** press **[Ctrl + ;].**

   To enter today's date.

3. In cell **G1,** press **[Ctrl + Shift + ;].**

   To enter the time.

   You could also insert the date and time into one cell by doing the following: insert the date then press the spacebar and then insert the time.

4. Enter the following numbers into the designated cells as shown in the worksheet below.

   See the grey boxes for suggested methods to enter the numbers.

	A	B	C	D	E	F	G
1	Six Month Summary					2/21/2008	10:39 AM
2		*Jan*	*Feb*	*Mar*	*Apr*	*May*	*Jun*
3	Chicago	10	50	70	50	60	50
4	Columbus	20	40	60	50	60	30
5	Dayton	30	30	40	50	60	20
6	Cleveland	40	20	50	50	60	40
7	Atlanta	50	10	30	50	30	20
8	Newark	60	0	20	50	30	30
9	Dublin	70	-10	30	50	30	30

Use AutoFill to enter these.

Use Bulk Enter to enter this Column. Highlight the range, type 50 in the active cell, press **[Ctrl + Enter]**

Use **[Ctrl + "]** to enter these.
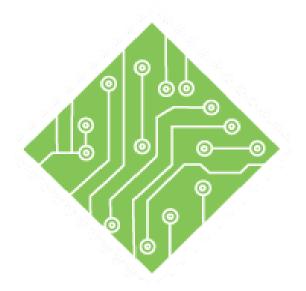
5. Save your file.

   [Ctrl + S].

Tips and Notes

Lesson 3: Introduction to Formulas

Lesson Overview

You will cover the following concepts in this chapter:
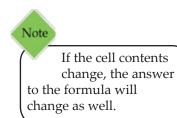
◊ Creating a Formula

◊ Creating a Function Formula

◊ AutoSum

◊ Formula Errors

◊ Cell Addressing

◊ Inspecting Documents

Lesson Notes

Creating a Formula

Formulas are mathematical expressions that operate on cell contents. When cells contain numerical data, you can add, subtract, multiply and divide the contents as required. The results of these operations will be shown in the cell that contains the formula. Formulas can be simple, like adding two cell values, or quite complex involving multiple mathematical operations.

Note

If the cell contents change, the answer to the formula will change as well.

All formulas begin with an equal sign (=) followed by one or more of the following: operands (quantity), arguments, operators, functions, and parentheses needed to obtain the desired result. Formulas can contain number values (i.e. 23), cell addresses (i.e. **A1**), or even functions (i.e. Sum(**B2:B9**)).

Mathematical Operators of Formulas

The mathematical operators tell *Excel* what type of calculation to perform:

Operator	Function
+	Addition
-	Subtraction
*	Multiplication
/	Division
%	Percent
^	Exponentiation
–	Negation (if used with only one operand)

Examples of formulas:
=12/3
A formula that divides 12 by 3. (12 and 3 are number values)
=A1*A2
A formula that multiplies the contents in cell **A1** by the contents in cell **A2**.

The Algebraic Rules of Order

Note

Example of the Algebraic Rules of Order:

For an equation written:
2 + 5 x 3 =
The answer would be 17.

For an equation written:
(2 + 5) x 3=
The answer would be 21.

When you create a formula that uses more than one operator, *Excel* follows the rules of order used in algebraic calculations. These rules state that calculations are done from left to right in the following order:

1. Parentheses (if nested, from inside out). *Excel* will calculate what is in ( ) first, then the other calculations in the order mentioned below.
2. Exponents (^) and Roots
3. Multiplication **(*)** and Division **(/)** from left to right
4. Addition **(+)** and Subtraction **(-)** from left to right

A simple memory tool is "**Please Excuse My Dear Aunt Sally**".

Creating a Formula, continued

Creating a Formula

There are a couple methods to creating formulas. The simplest methods would be to use the keyboard to manually enter the data or to use the mouse to click on the cell addresses containing the data to be entered. Using a cell address in a formula, is a way of simplifying the data by using the cell contents as number values. If the cell contents change, the formula will recalculate and update the answer.

Using the Keyboard to Manually Enter Data

◊ Select the cell you want your answer to appear.

◊ Type an equal = sign.

◊ Type a number value or cell address.

◊ Type the mathematical operator. (+, -, *, / etc.)

◊ Type the next number or cell address (operands) continue until the values are entered.

◊ Press **[Enter]**. The answer appears in the cell and the formula appears in the Formula Bar when the cell is active.

Using the Mouse to Select Cell Addresses

◊ Select the cell in which you want the answer to appear.

◊ Type in the = sign.

◊ Click the cell to be included in the formula. This enters the cell address into the formula.

◊ Type in the appropriate operator. (+, -, *, / etc.)

◊ Click the next cell. Each cell used in the formula will be outlined with a colored border.

◊ Continue this process until all operators and cell references are in the formula. Add parenthesis as needed. Press **[Enter]**.

Note If you accidentally click into the wrong cell during formula creation, this cell will be added to the formula. You can easily fix this by clicking on the correct cell for the formula before doing anything else.

◢	A	B	C	D	E
1	January	12	15		=B1+C1
2	February	14	20		
3	March	16	25		
4	April	18	30		
5	May	20	35		
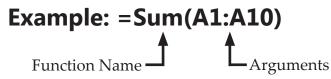
Instructions:	**Results/ Comments:**
1. Open the file **Order Form**.	**[Ctrl + O]**. Keep **QTR1** open.
2. Save the file as **My Order Form**.	**[F12]**.
3. Click in cell **E4**.	We are going to enter a formula to calculate the total price.
4. Type: **=250*12** and press **[Ctrl + Enter]**.	Notice the answer (3000) is displayed in the cell and the formula is displayed in the Formula Bar.
5. Change the number in cell **B4** to **275**.	Notice the number changed in cell **B4**, but the answer to your formula in cell **E4** did not. This shows the problem with using number values in a formula.
6. Click in cell **E4**.	
7. Type: **=B4*C4** and press: **[Enter]**.	This multiplies the contents in cell B4 by the contents in cell **C4**. Notice your answer changes to 3300. Now any changes to the cell contents will be reflected in the formula answer.
8. Click in cell **D5**.	We are going to create a formula to calculate a discount amount using the pointing method.
9. Type: = Click the cell **B5**. Type: * Click the cell **C5**. Type: * Click the cell **B14** Press **[Enter]**.	The answer is 36. Notice each cell entered shown and bounded by a flashing border.
10. In cell **E5** enter the following formula (use any method you wish): **=B5*C5-D5**.	The answer is 324. Notice that *Excel* first computed the multiplication (60*6=360) and then subtracted (360-36=324).

Creating a Function Formula

Functions in Formulas

Functions are pre-written formulas and provide a quick way to calculate the value of a cell. Instead of entering very lengthy formulas, you can use a function using the **[Insert Function]** button command, the **Function Library Group**, and the **[AutoSum]** button.

Example: =Sum(A1:A10)

Function Name ⤒ ⤒ Arguments

Equation of a Function Formula

◊   An equal (=) sign to begin the formula.

◊   Followed by a Function Name.

◊   Followed by least one set of Arguments enclosed in parentheses. An argument can be a number value, another function, or a cell address. If there are more than one set of arguments, they are separated by a comma.

Guidelines for a Function Formula

◊   Can use up to 255 arguments.

◊   Can have a maximum of 8,192 characters.

◊   Can use functions as arguments.

◊   Can have ranges with empty cells. (Noncontiguous ranges must be separated by commas.)

◊   Can have up to 2,048 noncontiguous ranges as arguments.

◊   *Excel* ignores cell contents containing text/labels, which no mathematical value.

◊   Can use number values if needed. (It is best to limit these to numbers to values that will not change and to use cell addresses as often as possible.)

Using the Insert Function Command

◊   Click the cell in which you want to create the formula.

◊   Click the **[Insert Function]** button on the *Formulas Tab*. The *Insert Function* dialog appears.

Creating a Function Formula, continued

◈ In the *select a category* field, click on the down arrow to select a function category.

◈ In the *Select a function* field, select the desired function. Click **[OK]**. The *Function Arguments* dialog appears.

◈ The first field will show the cell addresses that will be used in the calculation. If the cell addresses are different than what you need, enter the correct cell addresses.

- OR -

◈ Click on the **[Collapse dialog]** button to the right of the text box to the worksheet and highlight the desired cells. Click on the button again to finish the formula. Enter any other required values. The answer to the formula appears at the bottom of the dialog.

◈ Click **[OK]**.

Creating a Function Formula, continued

Using the Function Library

◈ Click the cell in which you want to create the formula.

◈ Click on the *Formulas Tab* and select a category in the **Function Library Group** to display a list of functions. Below is a description for each category:

Category	Description
Recently Used	Displays a menu of the most recently used functions.
Financial	Functions used to calculate financial values such as future values, present values and loan payments.
Logical	Contains formal logic operators such as: and, not, true, false.
Text	Functions used to analyze and arrange strings of characters (text).
Date and Time	Functions that provide current times and dates as well as elapsed times between specified points.
Lookup & Reference	Functions for finding, referencing, and retrieving data elements in your spreadsheet
Math & Trig	Math functions useful in science and engineering
More Functions	Contains additional function categories such as Statistical, Engineering, and Information.

◈ Select the desired function from the menu.

◈ The Function Name and ( ) will be inserted into the active cell. Example: Sum( )

- OR -

◈ If the formula requires multiple arguments, the *Function Arguments* dialog will appear.

Action 3.2- Using the Function Library Group

Instructions:

Results/ Comments:

1. **My Order Form** should still be open.

   If not, open it.

2. Click in cell **B2**.

3. Click on the *Formulas Tab*.

   The *Formulas Tab* is active and in the **Functions Library Group** are all of the different types of functions available.

4. In the **Function Library Group**, click on **[Date & Time]**.

   A list of date and time functions appear.

5. Select *TODAY* from the list.

   The *Function Arguments* dialog appears.

   If you want both the date and time inserted, you would select the *NOW* function.

6. Click **[OK]**.

   This function does not require any arguments. Today's date will appear in cell **B2**.

7. Deselect the cell.

8. Save your file.

   [Ctrl + S].

AutoSum

Using the AutoSum Button

Some of the most frequently used functions can be found on the **[AutoSum]** button:

Sum	Computes the sum of a group of numbers
Average	Computes the average of a group of numbers
Count Numbers	Finds the total number of numbers in a group
Max	Finds the largest number in a group
Min	Finds the smallest number in a group

◈ Click the cell you want the answer to appear.

◈ Click on the down arrow on the **[AutoSum]** button from the **Functions Library Group** on the *Formulas Tab.* Select the desired function.

◈ *Excel* will automatically select all cells containing data either directly above or to the left of the active cell to be included in your formula. It will stop the selection at a blank cell. If this is not the range you want, select the desired range of cells.

◈ Press **[Enter]**. The answer will appear in the cell.

- OR -

◈ Select the range of cells that you want included in the formula.

◈ Click on the down arrow on the **[AutoSum]** button in the **Editing Group** on the *Home Tab*. Select the desired function. Your answer will be placed in the next empty cell.

> **Note**
> You can also click directly on the **[Autosum]** button, rather than the down arrow, to get the default operation of *Sum*.

Action 3.3 – Using the AutoSum button

Instructions:	Results/ Comments:
1. On the Task Bar, click on **QTR1**.	To make it the active file.
2. Click in cell **A10**. Type: **<Total >** and press **[Tab].**	To add a label in cell **A10** and to go to cell **B10**.
3. Click the **[AutoSum]** button in the **Editing Group** on the *Home Tab*. You do not need to click on the down arrow. If you do, select *Sum* from the menu.	This button is also located in the **Function Library** on the *Formulas Tab.*
4. Press **[Enter]**.	The answer (280) appears in **B10**.
5. Click in cell **B10**. Drag the Fill Handle from **B10** through **G10**.	Notice the **[AutoFill Options]** tag appears. We do not need to make any changes to our fill, so you can ignore this.
6. Click in cells: **C10**, **D10** and **E10**, observing the formula in the Formula Bar for each cell.	A copy of the formula in **B10** was made, however, the formulas are relative to their cell location. This is called Relative Cell Addressing and will be discussed later.
7. Go to cell **A12**. Type: **Average** and press **[Tab].**	To enter a label for the row and to go to cell **B12**.
8. Click on the down arrow on the **[AutoSum]** button n the **Editing Group** on the *Home Tab*.	A menu of functions will appear. We want to find the Average for each month.
9. Select *Average* from the menu.	You are returned to the worksheet.
10. Press the **[Shift]** key and then press the **[Up Arrow]** key to cell **B9**.	We need to modify the range in the formula from **B3:B11** to **B3:B9**. We do not need to include the total in the average.
11. Press **[Ctrl + Enter]**.	Your formula should now appear as **=AVERAGE(B3:B9)** The answer is 40.

Instructions:

12. Click and drag the Fill Handle across from **B12** to **G12**.

13. Go to cell **H2**.
    Type: **Total** and press: **[Enter]**

14. Select cells **H3:H10**. Click on the **[AutoSum]** button in the **Editing Group** on the *Home Tab*.

15. Click in any cell to deselect the range.

16. Save **My Summary**.

Results/ Comments:

To add a title to this column which will hold the Six Month Total for each item.

This will automatically sum all numbers to the left of the cell to the next blank cell.

It is recommended to not leave cells highlighted.

[Ctrl + S].

Formula Errors

Formula Errors

If *Excel* finds an error in a formula, you will see an error message in the cell(s) containing the error. Errors most often occur because of entry errors or by moving and copying cells. In the table below you will see common error messages.

Error Message	Description of Problem
######	The column is not wide enough for all of the data in the cell.
#DIV/0	Number is divided by a 0 or a cell that has no value.
#N/A	Data is missing to a function formula.
#NAME	*Excel* does not recognize the text.
#NULL	Ranges do not intersect in the formula.
#NUM!	Contains an invalid number.
#REF!	Cell reference is not valid.

Note

To correct the Error Message ##### in a cell, simply double click on the column label edge to widen the width of the column. In General format, a number that is wider than the cell width will be displayed in scientific notation..

Correcting an Error

◊ Click in the cell containing the error.

◊ Click on the *formula error* box .

◊ Select from the menu containing options that will help you in correcting the error.

Cell Addressing

Relative vs. Absolute Cell Addressing

To understand how the *Excel* worksheet treats formulas and functions, you need to know about relative and absolute cell addressing. This will be of significance when you use the **Copy**, **Cut** and **AutoFill** commands, or any other method to copy a formula to other locations.

Relative Cell Addressing

Relative cell addresses in a formula refers to the location of the formula in relationship to the position of the cell(s) referenced in the formula. By default, cell references in formulas are relative cell references.

When *Excel* computes the formula **=A1/A3** located in cell **A4**, it will interpret the formula as such: "Divide the contents of the cell three rows above this cell by the contents of the cell one row above this cell."

If you copy the formula in cell **A4** to **B4** the cell references in the formula would change to **=B1/B3**.
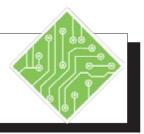
Absolute Cell Addressing

Absolute cell references in a formula will always refer to a designated cell address. If you copy the formula into another cell, the absolute cell address will remain the same.

The formula in our previous example using absolute cell addresses would now appear as: **=$A$1/$A$3**. It would be interpreted as follows: "Always take the value in cell **A1** and divide by the value in cell **A3**." If you copied this formula to cell **B4**, the cell references would not change.

To create an absolute cell address, you need to add dollar signs to the cell references. You can do this by editing the formula in the Formula Bar. A quick way to add the dollar signs is by selecting the cell reference(s) in the Formula Bar and then pressing **[F4]**. You can make the row or column absolute, as well as the cell itself. Each time you press **[F4]**, it toggles through the different options, placing the dollar sign where needed.

Action 3.4 – Relative and Absolute Cell References

Instructions:	**Results/ Comments:**
1. The **QTR1** workbook should still be open.	
2. Select cell **A14** and type < **Tax** > , press **[Tab]**.	To add a label in cell **A14** and to go to cell **B14.**
3. Type < **0.0725** >.	This is the tax rate value.
4. Select cell **A11** and type < **Total >, press [Tab]**.	To add a label in cell **A11** and to go to cell **B11.**
5. Enter the formula : < **=B10-(B10*B14) >**.	This formula will calculate the tax and subtract it from the subtotal.
6. Use the Autofill handle to pull the formula over to cell **G2**.	Cells **C11 :G11** should now show zero values.
7. On the *Formulas Tab* in the **Formula Auditing Group**, click the **[Show\Hide Formulas]** button.	The values are replaced by the formulas used in the worksheet.
8. Observe the formulas.	Since all the cell addresses used in the formula were relative, they adapted as the formula was Autofilled into the other cells.
9. On the *Formulas Tab* in the **Formula Auditing Group**, click the **[Show\Hide Formulas]** button.	The formulas are replaced with the values.
10. Double click into cell **B11.**	Double clicking into a cell allows you to edit the cells' content.
11. Set the cursor so it is touching the cell reference of **B14**.	This is the cell which all the formulas must refer to in order to return the correct value.
12. Tap the **[F4]** key then tap the **[Enter]** key.	The **[F4]** key converts the relative address into and absolute address.
13. Use the Autofill handle to pull the formula over to cell **G2**.	The formulas now return values.
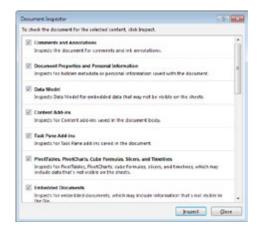
Instructions:	**Results/ Comments:**
14. With cell **B11:G11** still selected, on the *Home Tab* in the **Number Group**, click the **[Decrease Decimal]** button.	This removes the unneeded decimals.
15. On the *Formulas Tab* in the **Formula Auditing Group**, click the **[Show\Hide Formulas]** button.	The values are replaced by the formulas used in the worksheet.
16. Observe the formulas.	Since the formula used a mix of relative and absolute cell addressing which allowed the formula to adapt and refer to a single cell as it was autofilled into the other cells.
17. On the *Formulas Tab* in the **Formula Auditing Group**, click the **[Show\Hide Formulas]** button.	The formulas are replaced with the values.
18. Save the file.	**[Ctrl + S]**.

Inspecting Documents

Once the working copy of a document is completed and it will be placed into a public setting, ie... Website or Public Archive, all the properties may not be wanted in the public copy of the file. The document could contain several types of information that should not necessarily be available publicly. It may become necessary to clear or remove the document properties before final publication. It would be a good idea to keep the working copy with all the properties and metadata for reference and save a second copy of the document that will be saved without the properties or metadata. Clearing the document properties is done by Inspecting the document.

Inspecting the Document
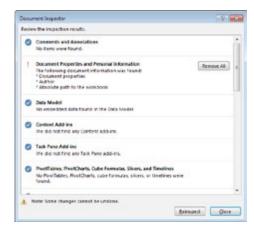
◊ Click the *File Tab*.

◊ Select the *Info* category from the list on the left side of the Backstage view.

◊ Click the **[Check For Issues]** button drop-down and choose *Inspect Document* from the menu.

◊ The *Document Inspector* dialog opens.

◊ A list of content types a file can contain is displayed.

◊ If an option is checked, any references to the content type will be noted when the document is inspected.

◊ Click the **[Inspect]** button.

Inspecting Documents,
continued

♦ Should the inspection find content within the parameters of the content types a notification is displayed along with the ability to remove it.

♦ If you wish to remove that type of content, click the **[Remove All]** button next to each type of unwanted content.

Removing only a specific property or set of properties is done in the same manner as when editing a property. Open the properties and delete the information in the fields which need to be cleared, when done save the file.

Instructions:	Results/ Comments:
1. Click the *File Tab,* choose *Save As* from the list.	The *Save As* options are now availible.
2. Click the **[Browse]** button.	A *Windows Exlpore* window opens.
3. Navigate to the lessons folder and name the file **< QRT1_Final >**.	This will be the public copy of the file without any properties.
4. Click the *File Tab,* choose the *Info* category on the left of the Backstage.	The *Info* options are now availible.
5. Click the **[Check for Issues]** button drop-down and choose *Inspect Document* from the menu.	The *Document Inspector* dialog opens.
6. Click the **[Inspect]** button.	If *Excel* finds any content that falls within the parameters of the content types a warning that the document contians that type of content is displayed along with a **[Remove All]** button.
7. Click the **[Remove All]** button next the the *Document Propeties and Personal Information* option.	The ***Document Properties and Personal Information*** have been removed from the file. The **[Inspect]** is replaced with a **[Reinspect]** button.
8. Click the **[Reinspect]** button.	The document is reinspected, there should be no further warnings displayed.
9. Click the **[Close]** button.	The *Document Inspector* dialog closes.
10. Save the file.	**[Ctrl + S]**.
11. Click the *File Tab,* choose the *Info* category on the left of the Backstage.	The *Info* options are now availible.
12. Examine the Properties.	The Properties entered earlier have all been removed.
13. Close the file.	**[Ctrl + W]**.
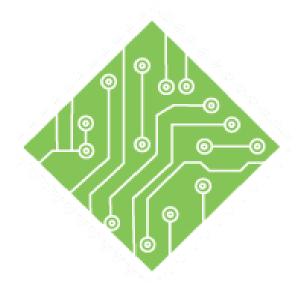
Lesson Notes

Lesson 4: Formatting a Worksheet

Lesson Overview

You will cover the following concepts in this chapter:
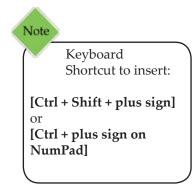
- ◊ Inserting Rows and Columns
- ◊ Inserting Cells
- ◊ Deleting Rows, Columns, & Cells
- ◊ Undo and Redo
- ◊ Changing Column Width
- ◊ Changing Row Height
- ◊ Font Formatting
- ◊ Aligning Text
- ◊ Cell Formatting
- ◊ Formatting Numbers
- ◊ Moving Cells
- ◊ Copying Cells
- ◊ Format Painter
- ◊ Cell Styles

- ◊ Clear Command
- ◊ Themes
- ◊ Hiding Columns and Rows

Lesson Notes

Inserting Rows and Columns
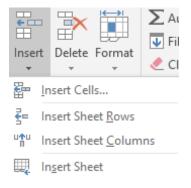
Whether creating a report or a form, you can control the appearance of your worksheet through various formatting options: inserting rows and columns, widening rows, changing column width and row height, applying number formats, text alignment, applying styles and fonts, changing borders and various display options.

Inserting a Row or Column

If you forget to include a row or column of important data, there is simple way to insert additional columns and rows and any formulas affected will automatically be adjusted.

⬧ Select the number of rows or columns to be inserted.

⬧ Click on the **[Insert]** button in the **Cells Group** on the *Home Tab*. The new column(s) or row(s) will appear in your worksheet. New rows will appear above the selected rows. New columns will appear to the left of the selected columns.

- OR -

⬧ Select the number of rows or columns to be inserted.

⬧ Right-click and select *Insert* from the menu.

Insert Options for Formatted Text

If adjacent cells are formatted, the **[Insert Options]** tag will be displayed next to the inserted row or column. This tag allows you to select one of the following formatting options:

⬧ For a Row: *Format Same As Above*, *Format Same As Below* or *Clear Formatting*.

⬧ For a Column: *Format Same As Left*, *Format Same As Right* or *Clear Formatting*.

Note

Keyboard Shortcut to insert:

[Ctrl + Shift + plus sign]
or
[Ctrl + plus sign on NumPad]

Inserting Cells

Excel also provides an easy way to insert additional cells, automatically updating any affected formulas, and gives options for the direction you want the text to 'shift'.

Inserting Cells

◊ Select the number of cells to be inserted.

◊ Click on the down arrow on the **[Insert]** button in the **Cells Group** on the *Home Tab*. Select *Insert Cells* from the menu. The *Insert* dialog will be displayed.
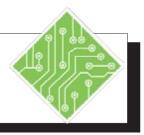
◊ Select how you would like to insert the cells:

   ◊ *Shift cells right* – will insert new cells to the left of the selected cells and move the selected cells to the right.

   ◊ *Shift cells down* – will insert new cells above the selected cells and move the selected cells down.

   ◊ *Entire row* - will insert a row.

   ◊ *Entire column* - will insert a column.

◊ Click **[OK]** or press **[Enter]**.

Insert Options for Formatted Text

If adjacent cells are formatted differently from the default, the **[Insert Options]** tag will be displayed the inserted cells. This tag allows you to select one of the following formatting options:

   ◊ For *Shift cells right*/*Entire column*: *Format Same As Left*, *Format Same As Right* or *Clear Formatting*.

   ◊ For *Shift cells down*/*Entire row*: *Format Same As Above*, *Format Same As Below* or *Clear Formatting*.

Action 4.1 – Inserting Rows and Columns

Instructions:	**Results/ Comments:**

Instructions:

1. Open the **Widget.xlsx** file.

2. Save the file as **My_Widget**.

3. Click cell **B4** to observe the formula.

4. Select Rows 1 & 2. (Click on the row indicator for Row 1 hold the mouse button down and drag to select Row 2.

5. Click the **[Insert]** button in the **Cells Group** of the *Home Tab*.

6. Click cell **B6** to observe the formula.

7. Select cell **A1**
   Type: **Widgets to Go**
   Press: **[Enter]**.

8. Click in cell **A2**
   Type: **Income Statement**
   Press: **[Enter]**.

9. Select Column G.

10. Click on the **[Insert]** button in the **Cells Group** of the *Home Tab.*

11. Select cell **G3**
    Type: **Jun**
    Press: **[Enter]**.

12. Select cells **F4:F9**
    Press **[Ctrl + C]**
    Click in cell **G4**
    Press **[Enter]**.

Results/ Comments:

[F12].

The formula is **=B2-B3**.

To select the number of rows to be inserted.

Two rows are inserted above the months row.

It should now be **=B4-B5** instead of **=B2-B3**. *Excel* automatically modifies existing formulas to account for added rows or columns.

To add titles to the worksheet.

Click on the column header.

Shortcut: **[Ctrl + Shift + plus sign]** or **[Ctrl + plus sign on the NumPad]**. A column is added to the left of the Total column.

This saves us time by copying data and the formulas in **F6** and **F8**.

Instructions:

Results/ Comments:

13. Click cell **H4**, then click on the **[Error Checking Options]** tag.

Notice the formula errors in Column H. The total formula omits the adjacent cells, which means the number for June is not included.

14. Click outside the tag.

This will close the box. We do not need to take any action here.

15. Select cells **H4:H9**. Press the **[Delete]** key.

We will be back to add the rows up in a moment.

16. Observe the chart in Columns K and L. We need to insert information without interfering with this area. Highlight cells **A9:H9**.

We are going to insert cells instead of a row. This is useful when information around the selection does not need to be moved.

17. Click the **[Insert]** button.

By default, the selected cells are moved down. To specify how you want your cells to be inserted, click the down arrow on the **[Insert]** button and select *Insert Cells*.

18. Select cell **A9**
Type: **Other Income**
Press: **[Tab]** to select cell **B9**
Type: **100**
Press: **[Ctrl + Enter]**.

19. Using the Fill Handle, copy cell **B9** into cells **C9:G9.**

You should have a row of 100's.

20. Select cell **B11**
Type: **=B8+B9-B10**
Press: **[Ctrl + Enter]**.

This formula adds Income from Operations and Other Income, then subtracts Taxes.

21. Using the Fill Handle, copy the formula into cells **C11:G11.**

Now we are ready for our Total column.

22. Select cells **H4:H11** and click on the **[AutoSum]** button.

23. Save the file.

[Ctrl + S].

Deleting Rows, Columns, & Cells

If you find that you no longer need a row, column or cell, you can easily use the Delete command to delete cells, rows, columns or worksheets.
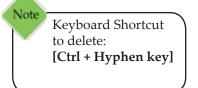
Be careful when deleting information that may be used in a formula. If you delete cells, rows or columns that are part of a formula, an error message "#REF" will appear in your worksheet. In addition, be careful when deleting entire row(s) or column(s) which may contain information in cells that can't be seen. For these reasons, it is recommended to save the worksheet before deleting cells, rows, or columns.

Note If you select a cell, row or column and then press the **[Delete]** key, only the contents of the cells are deleted.

Deleting a Row or Column

◊ Save the worksheet.

◊ Select the row(s) or column(s) to be deleted.

◊ Click on the **[Delete]** button in the **Cells Group** on the *Home Tab*.

Deleting Cells
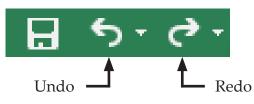
◊ Save the worksheet.

◊ Select the cells to be deleted.

◊ Click on the down arrow on the **[Delete]** button in the **Cells Group** on the *Home Tab*.

◊ Select *Delete Cells* from the menu. The *Delete* dialog will appear.

◊ Select how you want the adjacent cells to move once the selected cells have been deleted.

Note Keyboard Shortcut to delete: **[Ctrl + Hyphen key]**

   ◊ *Shift cells left* - will remove selected cells and shift the adjacent cells left.

   ◊ *Shift cells up* - will remove selected cells and shift the adjacent cells up.

   ◊ *Entire row* - this will remove the entire row.

   ◊ *Entire column* - this will remove the entire column.

◊ Click **[OK]**.

Undo and Redo

Anyone can make mistakes, especially when creating a complex worksheet. *Excel* remembers the last 100 actions, therefore it is easy to backtrack and undo incorrect or unintended actions.

Using Undo

Undo   Redo

◊ Click the **[Undo]** button on the QAT (Quick Access Toolbar). This will undo the very last action you performed.

◊ If you continue to click the **[Undo]** button, the next most recent action will be undone, and so on.

- OR -
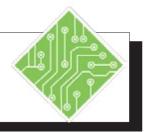
◊ Click the down arrow on the **[Undo]** button to show a list of recent actions, then select an item from this list to Undo that action and any other action above it in the list.

Using Redo

◊ Click the **[Redo]** button on the QAT. This will perform an action that you undid with Undo.

- OR -

◊ Click the down arrow on the **[Redo]** button to show a list of recent actions, then select an item from this list to Redo that action and any other action above it in the list.

Instructions:	Results/ Comments:
1. **My_Widget** should still be open.	If not, open it.
2. Select Column **J**.	Click on the column header.
3. In the **Cells Group** on the *Home Tab*, click the **[Delete]** button.	The column is deleted and the information that was in columns K and L is moved over.
4. Select rows **8** and **9**.	
5. Click the **[Delete]** button.	The worksheet will show "#REF" in the locations that had a formula that was dependent upon the information deleted.
6. Click in cell **B9**. Click the **[Error Checking Options]** tag that appears next to the cell and observe the menu.	You can use this menu when you need help in correcting an error in your worksheet. However, we know what was done - Go to the next step to correct it.
7. Click on the **[Undo]** button, located on the QAT.	To put the information back and correct the problem. You can also use the keyboard shortcut **[Ctrl +Z]**.
8. Press **[Ctrl + Home].**	To go to cell **A1**.
9. Save your file.	**[Ctrl + S].**

Changing Column Width

The width of a column can be changed to improve the appearance of the worksheet or to display the entire contents of a cell. You can change the column width using the Column Width command or by using the cursor.

Using the Column Width Command

◈ Select the desired column(s) by clicking on the Column label (the letter at the top of the column).

◈ To change all of the columns in the entire worksheet, click on the **[Select All]** button in the top left corner of the worksheet.

◈ Click on the **[Format]** button in the **Cells Group** of the *Home Tab*, then select *Column Width*. The *Column Width* dialog opens.

◈ Type the new width in the *Column width* field.

◈ Click **[OK]** or press **[Enter]**. The width will be changed and the contents will remain the same.

Using the Cursor

◈ Select the desired column(s) by clicking on the Column label (the letter at the top of the column).

◈ Move the cursor to the line between the column headers until it changes to a double headed arrow.

◈ Click and drag the cursor to the right to increase the width, or to the left to decrease the width, and release at the desired width.

- OR -

◈ Double-click to automatically adjust the column width to fit the widest cell content.

> **Note**
>
> The **AutoFit Column Width** command will automatically adjust the column width to accommodate the text in the cells. To do this, select the desired columns, click on the **[Format]** button then click on **AutoFit Column Width**.

Changing Row Height

The height of a row can also be changed to improve the appearance of the worksheet or to display the entire contents of a cell. Similar to changing the column width, you can change the row height using the Row Height command or by using the cursor.

Using the Row Height Command

◊ Select the desired row(s) by clicking on the Row label (the number to the left of the row).

◊ To change all of the rows in the entire worksheet, click on the **[Select All]** button in the top left corner of the worksheet.

◊ Click on the **[Format]** button in the **Cells Group** of the *Home Tab*, then select *Row Height*. The *Row Height* dialog opens.

◊ Type the new height in the *Row height* field.

◊ Click **[OK]** or press **[Enter]**. The height will be changed and the contents will remain the same.

Using the Cursor
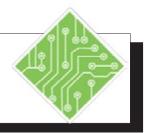
◊ Select the desired column(s) by clicking on the Row label (the number to the left of the row).

◊ Move the cursor to the bottom row border until it changes to a double headed arrow.

◊ Click and drag the row border down to increase the height or up to decrease the height, and release at the desired height.

- OR -

◊ Double-click to automatically adjust the row height to fit the tallest cell content.

Instructions:

Results/ Comments:

1. **My_Widget** should still be open.

   If not, open it.

2. Move the cursor to the right border of the column header for Column **B**.

   The pointer will change to a double headed arrow.

3. Click and drag the cursor to the right, then release when the width tag shows *Width: 10.00.*

   Column **B** will adjust to its new width. You can use this same method on multiple columns.

4. Select columns **C:E**. Click on the column header **C**, press and hold the **[Shift]** key, then click on the column header **E**.

   All three columns will be selected. Now we are going to decrease the column width.

5. Move the cursor to the right column border for Column **E**. Click and drag the border to the left until the width tag shows *Width: 6.00.*

   You can point to any of the selected column borders. All three columns have changed.

6. Select columns **C:H**.

   We are going to use another method to change column width.

7. Click on the **[Format]** button in the **Cells Group** on the *Home Tab*, then select *Column Width*.

   The *Column Width* dialog opens.

8. In the **Column width** field, type **< 10 >**. Click **[OK]** or press **[Enter]**, and deselect the highlighted range.

   This is often easier to use if you have a specific number you want to widen your column to.

9. Double-click on the border between columns **A** and **B** in the column headers.

   To automatically adjust the column width to fit all of the text. This will not affect merged cells.

10. Press **[Ctrl + Home]**.

    To deselect the range.

11. Save your file.

    [Ctrl + S].

Instructions:
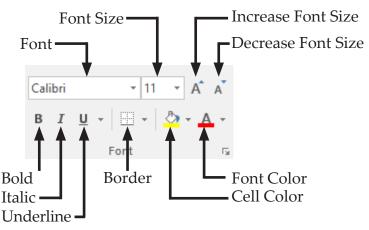
Results/ Comments:

12. Move the cursor to the bottom border of the row header for Row **1**.

13. Click and drag down until the height tag shows
    Height: 60.00.
    (Somewhere close to this number is fine.)

    Dragging down increases row height.
    This is wider than we really need this row.

14. Move the cursor to the border of Row **1** again. Click and drag up until the height tag shows
    Height: 26.25.

    Dragging up will decrease the row height.

15. Increase the row height for Row **2** until the height tag shows
    Height: 21.00.

    Now that we have increased the height of Rows **1** and **2**. We are going to change the vertical alignment of the text.

16. Save your file.

    [Ctrl + S].

Font Formatting

A font is the specific design for the characters used to represent text and numbers. By default, *Excel* uses Calibri 11-point. However, there is a large variety of fonts available, depending upon the what has been loaded onto your system. In addition you can also change the font attributes such as size, style (bold, italics, underline) and color.

Changing Font and Font Attributes
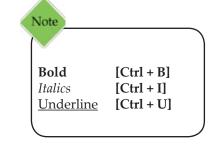
◊ Select the cell or range of cells to be changed.

Font Size ———— Increase Font Size

Font ———— Decrease Font Size

Bold   Border   Font Color
Italic   Cell Color
Underline

Note

Right click on selected cells to activate a shortcut menu. This comes in handy when you are not currently using the *Home Tab* ribbon.

◊ Click on the appropriate button in the **Font Group** of the *Home Tab.*

◊ **[Font]** button down arrow, then select the desired font from the list.

◊ **[Font Size]** button down arrow, then select the desired font size from the list or type in the desired font size into the text box. You can also use the **[Increase font size]** or **[Decrease font size]** buttons. The row height will automatically adjust as needed for the size of the font.

◊ **[Font Color]** button down arrow, then select a color from the color menu. Once changed, that color will be displayed on the Font color button. You can then click on the button to use that color again without having to open the menu.

◊ **[Bold]** button to toggle on/off bolding the font.

Note

Bold	**[Ctrl + B]**
Italics	**[Ctrl + I]**
<u>Underline</u>	**[Ctrl + U]**

◊ **[Italics]** button to toggle on/off italicizing the font.

◊ **[Underline]** button to toggle on/off underlining the font. For a double underline: click the down arrow, then select *Double Underline* from the menu.

Font Formatting,
continued

Additional Font Attribute Options

To efficiently change many attributes at once or to find additional font options, you can expand the **Font Group** using the dialog launcher in the bottom right corner. This opens the *Format Cells* dialog which contains additional attributes not displayed on the *Home Tab*. These include: Strike-through, Superscript, and Subscript.

◊ Click on the dialog launcher located in the bottom right hand corner of the **Font Group**. The *Format Cells* dialog will open with the *Font Tab* selected.

◊ Make your selections in the dialog.

◊ Press **[Enter]** or click **[OK]**.

Action 4.4 – Changing the Font and Font Attributes

Instructions:

Results/ Comments:

1. **My_Widget** should still be open.

   If not, open it.

2. Select cells **A1:A2**
   Click **[Bold]** in the **Font Group** on the *Home Tab*.

   To bold the worksheet titles.

3. Select cells **A4:A11.**
   Click on **[Bold]** and **[Italics]** in the **Font Group** on the *Home Tab*.

   To bold and italicize the row labels.

4. Bold and Italicize the headers in cells **B3:H3**.

   To make the column labels look like the row labels.

5. Select cell **A1**
   Click on the down arrow on the **[Font]** button and select *Arial* from the list. Keep the cell selected.

   A menu of available fonts will appear. You may need to use the scroll bar to see the correct font.

6. Click on the down arrow on the **[Size]** button and select *16*.

   Notice that the row height automatically adjusted to the size of the text.

7. Change the font in cell **A2** to *Arial*, size *12*.

   You can also type the size in the box and press **[Enter]** to change the font size.

8. Select cells **A1:A11.**
   Click on the down arrow on the **[Font Color]** button select *Dark Blue*.

   Darker blues will stand out better against the light background.

9. Change the font color in cells **B3:H3** to *Dark Blue*.

   Since *Dark Blue* is already selected and displayed on the **[Font Color]** button, just select the cells and click the button.

10. Press **[Ctrl + Home].**

    To go to cell **A1**.

11. Save the worksheet.

    [Ctrl + S].

Aligning Text

The position of the text in a cell is known as the alignment. Text can be aligned horizontally (left, center, right) and vertically (top, middle and bottom). It is also possible to adjust the indentation (distance from the cell border) and the orientation (or angle) of the text. In addition, *Excel* provides the capability of wrapping text within a cell and aligning text across multiple merged cells.

Many of the alignment formatting buttons work like toggle switches. Click once to apply the format command, and click again to remove the command.

Horizontal Alignment (Left to Right)

◊ Select the cell or cells you want to align.

◊ On the *Home Tab* in the **Alignment Group**, click on one of the following buttons: **[Align Left]**, **[Center]**, **[Align Right]**.

Vertical Alignment (Top to Bottom)

◊ Select the cell or cells you want to align.

◊ On the *Home Tab* in the **Alignment Group**, click on one of the following buttons: **[Top Align]**, **[Middle Align]**, **[Bottom Align]**.

Indentation

◊ Select the cell or cells you want to indent.

◊ On the *Home Tab* in the **Alignment Group**, click on one of the following buttons: **[Decrease Indent]**, **[Increase Indent]**.

Aligning Text,
continued
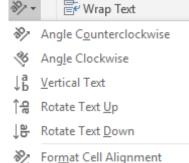
Orientation

Orientation is the angle that the text will appear in the cell and can be rotated clockwise, counter clockwise, vertically and 90 degrees up or down. The row height will automatically be adjusted.
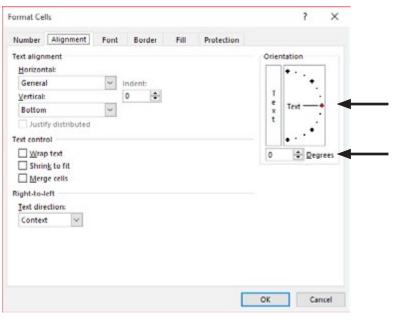
◈ Select the cell in which you want to change the orientation.

◈ Click on the **[Orientation]** button.
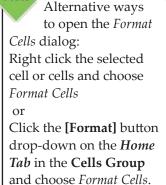
◈ Select one of the menu options as shown in the figure below:

◈ To customize an angle orientation, choose *Format Cell Alignment* to open the *Format Cells* dialog.

◈ Select the **Alignment Tab** and use the protractor along the side or type in the desired angle.

> **Note** Alternative ways to open the *Format Cells* dialog:
> Right click the selected cell or cells and choose *Format Cells*
> or
> Click the **[Format]** button drop-down on the **Home Tab** in the **Cells Group** and choose *Format Cells*.

Excel 2016: Level 1, Rel. 2.0, 10/01/2018
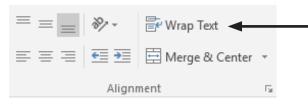
Aligning Text,
continued

Wrap Text

Wrap Text places the text on multiple lines within the cell so that all of the text is visible, automatically adjusting the row height.

◊ Select the cell in which you would like to wrap text.

◊ Click the **[Wrap Text]** button.

Merging Cells

The Merge & Center command centers the cell contents across the selected number of cells (see rows 1 & 2 in the example below). The Merge Cells command combines two or more cells (see labels in column A in the example below). Both of these functions can only be done on one row at a time.

To Merge and Center

◊ Select the cells you would like to merge.

◊ Click on the **[Merge and Center]** button. Click again to toggle off.

To Merge without Centering

◊ Select the cells you would like to merge.

◊ Click on the down arrow on the **[Merge and Center]** button and select *Merge Across*.

To Merge Cells Vertically

◊ Select the cells you would like to merge.

◊ Click on the down arrow on the **[Merge and Center]** button and select *Merge Cells*.

◊ To undo the merge: select the cell again, click the down arrow on the **[Merge and Center]** button and select *Unmerge Cells*.
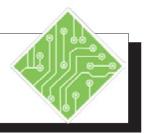
Note To break the text into separate rows rather than merged into one cell:

Click the **[Fill]** button in the **Editing Group** on the *Home Tab,* and select *Justify*.
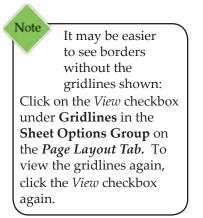
Instructions:	Results/ Comments:
1. **My_Widget** should be open.	If not, open it.
2. Select cells **B3:H3**.	
3. Click on the **[Center]** align button.	
4. Select cells: **A6, A8, A9, A11**.	Click cell **A6,** then press and hold down on the **[Ctrl]** key, and select cells **A8**, **A9**, **A11**.
5. Click on the **[Increase Indent]** button once.	This will indent all of the income items to distinguish them from the expense items.
6. Select cells **A1:H1**.	
7. Click on the **[Merge & Center]** button.	The selected cells have merged into one long cell and the title is now centered in the new merged cell.
8. Merge and Center cells **A2:H2**.	To center the title Income Statement.
9. Click in cell **A14**.	
10. Type the following into the cell: **< April expenses are higher due to the purchase of new office equipment. >** Press **[Enter]**.	We would like this text to be confined to the first three columns of the statement. We are going to fix this using Merge Cells and Text Wrap, then align the text.
11. Select cells **A14:C17**.	
12. Click the down arrow on the **[Merge & Center]** button, then select *Merge Cells*.	Your cells are merged. Now we are ready to use text wrap.
13. Click on the **[Wrap Text]** button.	You should now be able to see all of your text in the cell. By default the text is aligned at the bottom of the cell.
14. Click on the **[Middle Align]** button.	The text is middle aligned in the cell.

Instructions:

15. The cell should still be active. Move the cursor to the right side of the cell until you see a Move Pointer (four direction arrows).

16. Click and drag the selection so that it begins in cell **E14**.

17. Save the worksheet.

Results/ Comments:

To move the merged cell.

[Ctrl + S].
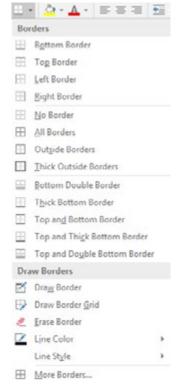
Cell Formatting

A border is a line around a cell or range of cells used to add dimension to your worksheet and to make a printout easier to read. Borders will only affect the selected cells, not the entire worksheet.

Adding a Border

◊ Select the cell or cell range for the border to be added.

◊ Click on the down arrow on the **[Borders]** button in the **Font Group** of the *Home Tab*. The borders menu will appear.

◊ Click on the type of border you would like to add. Once selected, that border type will be displayed on the **[Borders]** button. To use it again, simply click the button.

Removing a Border

◊ Select the cell or cell range which has the border to be removed.

◊ Click on the down arrow on the **[Borders]** button.

◊ Select *No Border* from the menu.

Cell Formatting,
continued

Changing a Border Color

The color you select will become the active border color. Every time you apply a border, this color will be used. It will remain the active color until you change the color again.

◊ Click on the down arrow on the **[Borders]** button. The borders menu will appear.

◊ Move the cursor over *Line Color* to view the color menu. Select a color from the menu. You are returned to the worksheet and the cursor looks like a pencil.

◊ Using the pencil, click on the parts of the cell in which you would like to apply line color to. Click and drag to add color to more than one cell at a time.

◊ Press **[Esc]** when you are finished.

- OR -

◊ Click on the down arrow on the **[Borders]** button. The borders menu will appear.

◊ Move the cursor over *Line Color* to view the color menu. Select a color from the menu. You are returned to the worksheet and the cursor looks like a pencil.

◊ Press **[Esc]** to turn off the pencil.

◊ Highlight the cells that you want to apply the border to.

◊ Select the border that you want to use. The border color will be applied at the same time as your border.

Cell Formatting, continued

Fill colors, patterns, and effects are another way to emphasize certain cells or cell ranges in a worksheet and can also be used to delineate titles and labels from the data.

Adding Fill Color

◊ Select the desired cell or cell range.

◊ Click the down arrow on the **[Fill Color]** button in the **Font Group** on the *Home Tab*. Select a color from the menu. Once selected, that fill color will be displayed on the button and remain active until changed.

Adding Pattern Fills

◊ Select the desired cell or cell range.
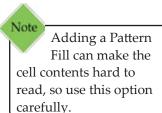
◊ Click the dialog launcher in the bottom right corner of the **Font Group** on the Home Tab. The *Format Cells* dialog opens. Click the *Fill Tab*.

> **Note** Adding a Pattern Fill can make the cell contents hard to read, so use this option carefully.
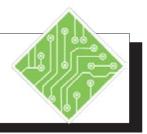
◊ In the *Pattern Style* field, use the drop-down to select style.

◊ In the *Pattern Color* field, use the drop-down to select a color. Click **[OK]** or press **[Enter].**

## Adding Fill Effects

◊ Select the desired cell or cell range.

◊ Click the dialog launcher in the bottom right corner of the **Font Group** on the Home Tab. The *Format Cells* dialog opens. Click the *Fill Tab*.

◊ Click the **[Fill Effects]** button to open the dialog. Select the options for the desired effect. Click **[OK]** or press **[Enter].**

Instructions:

Results/ Comments:	

Instructions	Results/ Comments
1. **My_Widget** should still be open.	If not, open it.
2. Select cells **A1:A2.**	
3.	
4. Click on the down arrow on the **[Fill Color]** button in the **Font Group** on the *Home Tab*.	This opens the Fill Color menu.
5. Select *Light Blue* from the menu.	This can be any light blue of your choice. This will emphasize the titles. We will do more with the titles a little later.
6. Select cell **A2.**	
7. Click on the down arrow on the **[Border]** button in the **Font Group** on the *Home Tab.*	Note how the icons of the borders appear next to the name. These icons can help you to visualize how the border will look.
8. Select *Bottom Border* from the menu.	To place a border between the title and the data.
9. Select cells **B3:H3**.	
10. Click the down arrow on the **[Border]** button.	
11. Select *Thick Bottom Border* from the menu.	To place a thick border under the column labels.
12. Click in cell **A1**.	
13. Save your file.	**[Ctrl + S]**.

Formatting Numbers

A number format describes the way numbers, dates, or time are displayed in the worksheet. The most common number formats are found on the **Number Group** of the *Home Tab* or on the *Mini Toolbar Menu*. It is also possible to create a custom format which then becomes part of the menu choices.

Number Group   Mini Toolbar
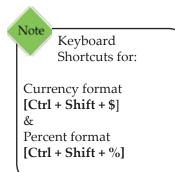
By default, *Excel* uses the *General* format, which has no specific number format and therefore displays the number the way it is entered into the cell.

Number Formats Include

- ◈ The number of decimal places
- ◈ The use of commas
- ◈ The dollar sign
- ◈ The percent sign
- ◈ Hyphens, slashes, or colons for dates and times
- ◈ Display of a negative number
- ◈ Display of fractions
- ◈ Special formatting for social security numbers, phone numbers and zip codes

Changing Number Formats

- ◈ Select the cells to be formatted. This can be single cells, rows, columns or the entire worksheet.
- ◈ Click on one of the number format buttons in the **Number Group** on the *Home Tab*:
  - ◈ **[Increase/Decrease Decimal]** buttons - to increase/decrease the amount of decimal places.
  - ◈ **[Accounting Number Format]** button - to format as dollars, euros, and other currency.
  - ◈ **[Percent Style]** button - to format as a percentage.
  - ◈ **[Comma Style]** button - to format with a thousands comma separator.

> Note
>
> Keyboard Shortcuts for:
>
> Currency format
> **[Ctrl + Shift + $]**
> &
> Percent format
> **[Ctrl + Shift + %]**

Formatting Numbers
continued

◈ For other number formats, click the down arrow on the **[Number Format]** button and select from the menu:

- OR -

◈ For more choices, open the *Format Cells* dialog: Select *More Number Formats* at the bottom of the **[Number Format]** menu or click on the dialog launcher on the right side of the **Number Group**.
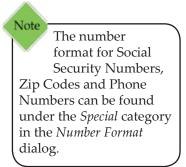
◈ Select a format from the *Category* field list on the left side of the dialog.

◈ Select any addition options under that category, such as the number of decimal places and how negative numbers are displayed.

◈ Click **[OK]** or press **[Enter]**.

Action 4.7 – Changing Number Formats

Instructions:

Results/ Comments:

1. **My_Widget** should still be open.

   If not, open it.

1. Highlight cells **B4:H4**.

2. Press and hold the **[Ctrl]** key, then highlight cells **B11:H11**.

   You should have cells **B4:H4** and cells **B11:H11** selected.

3. Click on the **[Accounting Number Format]** button.

   Excel has two defined formats for displaying currency – Accounting and Currency. The *Accounting* format will line up the $ sign along the left side of the cell. The *Currency* format will place the $ sign directly in front of the number.

4. Click twice on the **[Decrease Decimal]** button.

   Observe the numbers. If you decrease the decimal points to zero, *Excel* will automatically round up those numbers containing decimal values of .5 or greater.

5. Highlight cells **B5:H10**.

6. Click on the **[Comma Style]** button.

   This is an *Accounting* Number Format without the currency symbol.

7. Keep the cells selected and click on the **Number Group** dialog launcher.

   Now we are going to use the *Format Cells* dialog to change the decimal places and the display of 0's and negative numbers.

8. In the dialog, select the *Number* tab and the Currency category. In the Decimal places field, type **< 0 >**.

   You can also use the arrows to the side.

9. In the *Negative numbers* field, select the fourth format example on the list.

10. Click **[OK]**.

11. Deselect the cells and Save the file.

    [Ctrl + Home] & **[Ctrl + S]**.

Formatting Numbers
continued
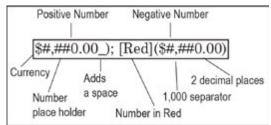
Custom Number Formats

If you need a specific number format that is not in the category list, you can use the *Format Cells* dialog to edit current formats or create custom formats.

Formatting Guidelines

Custom Numbers contain four parts: Positive numbers, negative numbers, zeros, and text - each part separated by a semicolon. Custom numbers do not have to contain all four parts. However, any skipped part must include the semicolon for that section. If you only have one part in your format, then all numbers will be formatted the same.

The following tables show the symbols used in creating custom number formats:

Number Code	Description
General	General number format
0 (zero)	Digit placeholder - pads the value with zeros to fill the format
#	Digit placeholder - does not display extra zeros
?	Digit placeholder - leaves a space for insignificant zeros but does not display them
. (period)	Decimal number
%	Percentage - multiplies by 100 and adds the % character
, (comma)	Thousands separator - a comma followed by a placeholder scales the number by a thousand
E+ E- e+ e-	Scientific notation

Time Code	Description
h	Hours as a number without leading zeros (0-23)
hh	Hours as a number with leading zeros (00-23)
m	Minutes as a number without leading zeros (0-59)
mm	Minutes as a number with leading zeros (00-59)
s	Seconds as a number without leading zeros (0-59)
ss	Seconds as a number with leading zeros (00-59)
AM/PM am/pm	Time based on the twelve-hour clock

Text Code	Description
$ - + / ( ) : space	These characters are displayed in the number. To display any other character, enclose the character in quotation marks or precede it with a backslash.
\ character	This code displays the character you specify. Note: Typing any of the following will automatically place a backslash in front of the character: !, ^, &, ', ~, {, }, =, <, or >
"text"	This code displays text, anything held within quotations will be displayed.
*	This code repeats the next character in the format to fill the column width. Note: Only one asterisk per section of a format is allowed.
_ (underscore)	This code skips the width of the next character. This code is commonly used as "_)" (without the quotation marks) to leave space for a closing parenthesis in a positive number format when the negative number format includes parentheses. This allows the values to line up at the decimal point.
@	Text placeholder.

Date Code	Description
m	Month as a number without leading zeros (1-12)
mm	Month as a number with leading zeros (01-12)
mmm	Month as an abbreviation (Jan - Dec)
mmmm	Unabbreviated Month (January - December)
d	Day without leading zeros (1-31)
dd	Day with leading zeros (01-31)
ddd	Week day as an abbreviation (Sun - Sat)
dddd	Unabbreviated week day (Sunday - Saturday)
yy	Year as a two-digit number (for example, 96)
yyyy	Year as a four-digit number (for example, 1996)

Miscellaneous Code	Description
[BLACK], [BLUE], [CYAN], [GREEN], [MAGENTA], [RED], [WHITE], [YELLOW], [COLOR n]	These codes display the characters in the specified colors. Note: n is a value from 1 to 56 and refers to the nth color in the color palette.
[Condition value]	Condition may be <, >, =, >=, <=, <> and value may be any number. Note: A number format may contain up to two conditions.

Formatting Numbers
continued
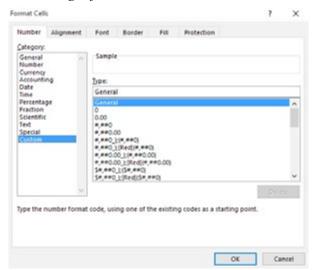
Creating a Custom Format

◈ Select the cells to be formatted.

◈ Click the dialog launcher on the **Number Group**. The *Format Cells* dialog will appear.

◈ In the *Category* field list, select **Custom**.

◈ From the examples listed, click on a format code that is close to what you want the format to look like. Make changes as needed in the *Type* field.

- OR -

◈ Enter your own number format code in the *Type* field using the Formatting Guidelines shown above to create a format from scratch.

◈ Click **[OK]** or press **[Enter]**.

Using a Custom Format

◈ Select the cells to be formatted.

◈ On the **Number Group**, click on the dialog launcher. The *Format Cells* dialog will appear.

◈ In the *Category* list, choose **Custom.**

◈ Scroll down to the bottom of the example list and click on the new custom number format.

◈ Click **[OK]** or press **[Enter]**.
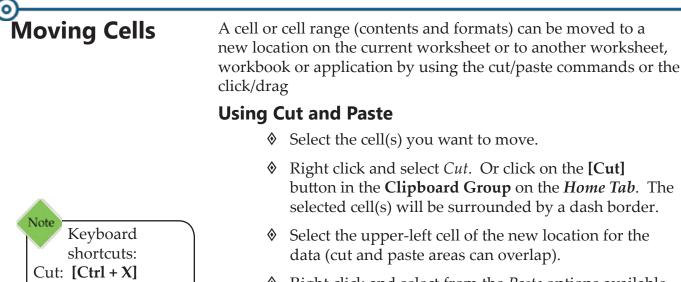
Instructions:	Results/ Comments:
1. **My_Widget** should still be open.	If not, open it.
1. Select cells **B4:H11**.	We are going to modify this format to show negative numbers in red and positive numbers in green.
2. Click the dialog launcher in the **Number Group**. Make sure you are on the *Number Tab*.	The *Format Cells* dialog opens.
3. In the *Category* field list, click **Custom**.	The current number format should be highlighted in the example list on the right. It will also appear in the *Type* field.
4. Select the seventh example in the list: **#,##0_);[Red](#,##0)**	This format will make the negative number in the format red.
5. In the *Type* field, immediately in front of the first #: Type: **[Green]**.	
6. Click **[OK]** or press **[Enter]**.	You are returned to your worksheet. Notice the change in your number.
7. Click cell **J8**. Type: **123**. Press **[Ctrl + Enter]**.	
8. You should still be in cell **J8**. Go back to the *Custom* format list in the *Format Cells* dialog.	We are going to create a custom account number that includes text.
9. Highlight the text in the *Type* field, then Type: **"WTG"00000**.	
10. Click **[OK]** or press **[Enter]**.	This will add text before the number and will always make the account number a five digit number by preceding the number with leading zeros. If you want a space between the text and numbers, type it in as you are creating the custom number.

Instructions:	Results/ Comments:

11. Starting in cell **J9** type the following list of numbers ending at cell **J12**. Press **[Enter]** after each entry.
    2589
    69
    101
    56
	Notice the change in the account number. We now need to complete the rest of the chart.

12. Select cells **J9:J12**. Go back to the *Custom* format list in the *Format Cells* dialog.	Now we need to apply the custom number format to these cells.
13. Scroll to the bottom of the list and locate the new custom format.	New custom formats are always placed at the bottom of the list.
14. Click on **"WTG"00000**. Click **[OK]**.	You can also double-click the format. The cells are formatted with the new format.
15. Press **[Ctrl + Home]**.	To deselect the range.
16. Save the file.	**[Ctrl + S]**.

Moving Cells

A cell or cell range (contents and formats) can be moved to a new location on the current worksheet or to another worksheet, workbook or application by using the cut/paste commands or the click/drag

Using Cut and Paste

◈ Select the cell(s) you want to move.

◈ Right click and select *Cut*. Or click on the **[Cut]** button in the **Clipboard Group** on the *Home Tab*. The selected cell(s) will be surrounded by a dash border.

◈ Select the upper-left cell of the new location for the data (cut and paste areas can overlap).

◈ Right click and select from the *Paste* options available. Or click on the **[Paste]** button in the **Clipboard Group** on the *Home Tab*. (the drop-down menu will show other available *Paste* options)

> Note
> Keyboard shortcuts:
> Cut: **[Ctrl + X]**
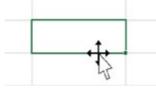> Paste: **[Ctrl + V]**

Live Preview of Paste Options

To Live Preview the *Paste* options, move the cursor over each option to see the effect it will have on the data. You can then select the choice for the desired result..

Paste button options

Right click paste options

Using Click and Drag

◈ Select the cell(s) to be moved and position the cursor over border edge of the selection until it becomes the move pointer.

◈ Click and drag the selected cell(s) to the new location.

Move Pointer

Copying Cells

A cell or cell range (contents and formats) can also be copied to another location on the current worksheet or to another worksheet, workbook or application by using the copy/paste commands, the click/drag, the Fill Handle, or the Fill Right/Fill Down.

Using Copy and Paste

◊ Select the cell(s) you want to copy.

◊ Rick click and select Copy. Or click on the **[Copy]** button in the **Clipboard Group** on the *Home Tab*. The selected cell(s) will be surrounded by a dash border.

◊ Select the upper-left cell of the new location for the duplicate data (copy and paste areas can overlap).

◊ Right click and select *Paste*. Or click on the **[Paste]** button in the **Clipboard Group** on the *Home Tab*. The **[Paste Options]** tag will appear.

◊ Click the down arrow on the tag and move the cursor over each option to Live Preview the effects on the data, then select the choice for the desired result.
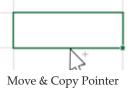

- OR -

◊ Press **[Enter]** instead to paste the information (the **[Paste Options]** tag will not be displayed).

Using Click and Drag

◊ Select the cell(s) to be copied and position the cursor over the border edge of the selection until it becomes the move pointer.

◊ Press the **[Ctrl]** key to change the cursor to the copy pointer. Click and drag to the new location.
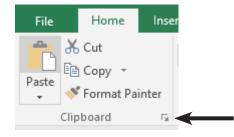

Move & Copy Pointer

Instructions:

	Instructions:	Results/ Comments:
1.	**My_Widget** should still be open.	If not, reopen it.
2.	Select cells **A3:H11**.	
3.	Move the cursor to the bottom border of the selected cells until it changes to the move pointer.	Since you are moving down, the bottom border is the easiest to point to.
4.	Click and drag the range down one row.	You should see a temporary border appear around the destination cells and a cursor tag box showing the location ranges.
5.	Click cell **B12** and notice the formula **=B9+B10-B11**.	Note that the formula adjusted in relation to its new location.
6.	Click cell **B5.** Use the **[Ctrl + A]** shortcut to select all connected data.	All connected cells with data are selected.
7.	Copy the selected cell range.	**[Ctrl + C]** or right click the selection and choose *Paste* from the menu or on the *Home Tab* in the **Clipboard Group**, click the **[Copy]** button.The Marching Ant appear around the copied selection.
8.	Paste the copied content into cell **A20**.	**[Ctrl + V]** or right click the selection and choose *Paste* from the menu or on the *Home Tab* in the **Clipboard Group**, click the **[Paste]** button.
9.	Click the *Paste Tag* and choose *Paste As Values* from the list of options.	The first of the **Paste Values** options. None of the pasted cells contain formulas and the formatting has been removed.
10.	Click cell **B20 and type** **< Jul >** then use Autofill over to cell **G20**.	The months have been changed to the second half of the year.
11.	Select cells **A4:B11** and copy them.	Use any method you perfer.
12.	Right click cell **A32** and choose the *Transpose Paste* option from the Paste options.	The fourth option list.

Clipboard

When there are many items which need to be copied and pasted within the current file , other *Excel* files, or other files in other *Office* programs. Using the *Clipboard* is un-paralled for this type of application. The *Cilpboard* can store up to 24 different copies items, these can range in size from one cell to whatever size range of cells needed. New items are placed art the top of the list. when the 25th item is added, the first one drops off the list. It can hold text or graphic based content. As long as at least one of the *Office* programs is running, the content stored in the *Clipboard* will be maintianed.

Using the Clipboard

◊ On the *Home Tab* in the **Clipboard Group**, click the dialog launcher button.

◊ The *Clipboard* opens on the left side of the interface.

◊ Highlight and copy some content.
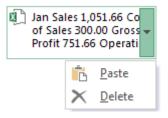
◊ The copied content is added to the *Clipboard*.

Clipboard,
continued

◈ Once all the items have been copied and added to the Clipboard, select the file where you wish to paste the contents.

   ◈ If in *Excel*, select the desired cell and click the spefic item from the list of items in the *Clipboard*.

   ◈ If in another *Office* program, on the **Home Tab** in the **Clipboard Group**, click the dialog launcher button. All of the Office program have a Clipboard located in the same place.

   ◈ The *Clipboard* opens on the left side of the interface.

   ◈ Set the cursor where you wish to insert the conent and select the specific item from the list of items in the Clipboard.

Clearing the Clipboard

◈ Once an item is no longer needed in the Clipboard, click the drop-down arrow to the right of the clipboard item and choose *Delete* from the menu.

> **Note** When closing the last *Office* program, a warning is displayed that asks if you would like to clear the clipboard or save the item for future use.

◈ The drop-down arrow appears when hovering over the item.

◈ The specified item is removed from the Clipboard.

Should you no longer need any of the clipboard items or want to start adding a new series of items.

◈ Click the **[Clear All]** button at the top of the Clipbaord.

◈ All items stored in the clipboard are removed.

Instructions:

Instructions:	**Results/ Comments:**
1. On the *Home Tab* in the **Clipboard Group**, click the **[Clipboard]** dialog launcher button.	*Clipboard* opens on the left side of the interface.
2. Select cell **A4:G12** and copy the cells.	The copied data is added to the *Clipboard* as an item.
3. Select cell **J6:K12** and copy the cells.	The copied data is added to the *Clipboard* as an item.
4. Select cell **D4:F11** and copy the cells.	The copied data is added to the *Clipboard* as an item.
5. Create a new blank workbook.	**[Ctrl + N]**.
6. Select cell **A4**.	This is where the data needs to be placed.
7. Click on the first item in the clipboard**.**	Remember that the first item will be at the bottom of the list. The content is placed into cells **A4:G12.**
8. Select cell **A14.**	
9. Click on the third item in the clipboard**.**	Remember that the third item will be at the top of the list. The content is placed into cells **A14:C22.**
10. Select cell **I4.**	
11. Click on the second item in the clipboard**.**	The data is placed into cells **I4:J10**.
12. Open a blank *Word* document.	
13. Open the Clipboard, in the same way it was onpened in *Excel*.	The clipboard should have the three copied *Excel* items lists.
14. Click on the third item in the clipboard**.**	The data has been pasted into the *Word* documnet.
15. Close Word without saving.	

Instructions:	**Results/ Comments:**
16. Back in the *Excel* **My_Widget.xlsx** file.	Use the *Excel* icon in the *Taskbar* to make the file active.
17. Set the cursor over the top item in the *Clipboard* list and choose *Delete*.	As the mouse hovers over the item, the drop-down arrow appears. When the item is deleted, it is immediately removed from the *Clipboard*.
18. Click the **[Clear All]** button at the top of the *Clipboard*.	The *Clipboard* is emptied of all items.
19. Close the *Clipboard*.	Use the **[Close]** button at the upper right corner of the *Clipboard*.
20. Save the file.	**[Ctrl + S]**.

Copying Cells,
continued

Using AutoFill

◈ Select the cell(s) you want to copy.

◈ Click and drag the Fill Handle to extend the selection across the area to AutoFill with copies. Any information in the cells surrounded by the temporary border will be replaced.

◈ The **[AutoFill Options]** tag appears. Click the tag and choose from available options:

 ◈ *Copy Cells* – will copy the data as is.

 ◈ *Fill Series* – will create a series based upon the cell(s) being copied.

 ◈ *Fill Formatting Only* – will copy the formatting only. The cells will appear blank, but when data is entered they will have the copied formatting.

 ◈ *Fill Without Formatting* – will copy the data only without the formatting.

Autofill List Options

Autofill Dates Options

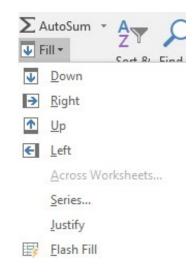Autofill Numbers Options

Autofill Text Options

Copying Cells,
continued

> **Note**
> The contents of the first or last selected cell will be used to fill the other selected cells, depending on direction.

Using the Fill Command

◈ Select the cell(s) you would like to copy and the adjacent cell(s) you want to copy to. (The adjacent cells can be below, above, to the right or to the left of the cell(s) you want to copy.)

◈ Click the **[Fill]** button in the **Editing Group** on the *Home Tab*. A drop-down menu appears.

◈ Select the option that reflects the direction of the copied data in relation to the original cells

    ◈ *Down* – places the copy below the original cells.

    ◈ *Right* – places the copy to the right of the original cells.

    ◈ *Up* – places the copy above the original cells.

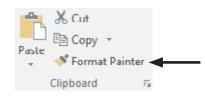   ◈ *Left* – places the copy to the left of the original cells.

Instructions:

1. My_Widget shou;d still be open.

2. Select cell **B20**.

3. Format the cell contents to be bold, underlined, red text, using the font Trebuchet MS, a font size of 14, and align to the right of the cell.

4. Re-select cell **B20**.

5. Use the Autofill handle across to cell **H20**.

6. Click the Autofill options tag and choose *Fill Formatting Only* from the list of options.

7. Select cell **A33:A40**.

8. On the *Home Tab* in the **Editing Group**, click the **[Fill]** button drop-down and choose *Down* from the menu.

9. Save the file.

Results/ Comments:

If not, reopen it.

The cell is now formatted.

If necessary.

All the cell now have the same formatting and content.

The original contents of the cells is replaced and the cells now share the same formatting.

The first cell contains the content needed in all the empty cells below.

The content in the first selected cell is entered into all the other selected cells.
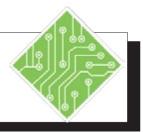
[Ctrl + S].

Format Painter

The format painter is a very useful feature which allows you to format a cell or range of cells with an existing format from another cell.

Using the Format Painter

◊ Select the cell you want to copy the formatting from.

◊ Click on the **[Format Painter]** button in the **Clipboard Group** on the *Home Tab*. You can also right click to access the **[Format Painter]** from the *Mini Toolbar Menu*. The selected cell will be enhanced with a dash border and the cursor will turn into a thick cross with a paint brush beside it.

◊ Click the cell or cell range that you would like to apply the formatting to. The formatting is applied and the Format Painter is turned off.

◊ Double-clicking the **[Format Painter]** button will keep it on.

◊ To turn the Format Painter off, click the **[Format Painter]** button again or press the **[Esc]** key.

Instructions:

Results/ Comments:

1. **My_Widget** should still be open.

   If not, reopen it.

2. Click in cell **B4**.

3. On the *Home Tab* n the **Clipboard Group,** click on the **[Format Painter]** button.

   The *Marching Ant*s are displayed around cell **B4**, indicationg this is the cell being referenced by the *Format Painter*.

4. Highlight cells **B20:H20**.

   The formatting in cell **B4** will be applied to cells **B20:H20**. Once the formatting is applied, the flashing border around **B4** will disappear indicating the format painter is turned off.

5. Click in cell **A5**.

6. On the *Home Tab* n the **Clipboard Group,** double **c**lick on the **[Format Painter]** button.

   Double clicking the **[Format Painter]** button allows users to paint the formatting into many cells that don't have to be contigous.

7. Highlight cells **A21:A28**.

   The formatting is in place.

8. Highlight cells **J7:K7**.

   The formatting is in place.

9. On the *Home Tab* n the **Clipboard Group,** click on the **[Format Painter]** button.

   This turns off the format painter.

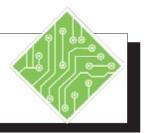10. Save the file.

    [Ctrl + S].

Cell Styles

Cell styles apply one or more selected series of formats (including font type, font size, cell borders, shading and number formats) to a cell or cell range. Whenever a cell style is applied, it will replace any other formatting.

Applying a Cell Style

◊ Select the cell or range of cells you would like to apply a cell style.

◊ Click on the **[Cell Styles]** button in the **Style Group** on the *Home Tab*.

◊ The Cell Styles gallery will be displayed.
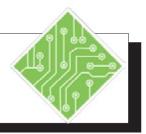
◊ Click on the desired style to apply. After the style is applied, you can add any additional formatting.

◊ To apply a new style: Click on the new style to change or replace an old style.

◊ When applying both an accent color and a title/ heading style, be sure to apply the accent color first.

Instructions:	Results/ Comments:
1. **My_Widget** should still be open.	To see the difference in formatting with Cell Styles and manually, we are going to format the Widgets to Go Income Statement title.
2. Select cells **B12:H12**.	
3. On the *Home Tab* in the **Style Group**, click on **[Cell Styles]** drop-down and choose *Total* style under *Titles and Headings.*	The selected cells now have the *Total* style applied.
4. Select cells **J6:K6**.	
5. On the *Home Tab* in the **Style Group**, click on **[Cell Styles]** drop-down and choose *Heading 1* style under *Titles and .Headings*	The selected cells now have the *Heading 1* style applied.
6. Select cells **K8:K12**.	
7. On the *Home Tab* in the **Style Group**, click on **[Cell Styles]** drop-down and choose *Curruency[0]* style under *Number Formats.*	The selected cells now have the *Currency[0]* style applied.
8. Click cell **A1**.	The Cell Styles menu will open.
9. Save the file	**[Ctrl + S].**

Clear Command

Clearing information in a cell can be done two ways: using the **[Delete]** key or using the **[Clear]** command. The **[Delete]** key, it will clear the text, numbers and formulas but not the cell formatting. The **[Clear]** command will give you a choice of what you would like to clear.

Using the Delete Key

◊ Select a cell or cells.

◊ Press **[Delete]** or **[Backspace].**

Using the Clear Command

◊ Select a cell or cells.

◊ Click the **[Clear]** button in the **Editing Group** on the *Home Tab*. A menu will appear with the following choices:

   ◊ *Clear All* – clears text, numbers, formulas, formats and borders.

   ◊ *Clear Formats* – Clears formats and changes the number format to the default *General* format.

   ◊ *Clear Contents* – clears all text, numbers and formulas but will not affect formats or borders.

   ◊ *Clear Comments* – clears comments attached to cells.

   ◊ *Clear Hyperlinks* - clears any active hyperlinks while leaving the content intact.

◊ Click the appropriate choice.

> **Note** Using the **[Delete]** key has the same effect as using the *Clear Contents* choice with the **[Clear]** command..

Action 4.14 – Using the Clear Command

Instructions:

Results/ Comments:

1. **My_Widget** should still be open.

    If not, reopen it.

2. Select cells **A20:I42**.

3. On the *Home Tab* in the **Editing Group,** click on the **[Clear]** button drop-down.

    A menu of options will appear.

4. Click on *Clear Formats*.

    All of the formatting has been removed. This is a great tool when you want to keep the content and yet want to apply formatting with a clean slate.

5. Click on the **[Undo]** button located on the QAT or press **[Ctrl + Z]**.

    The formatting is placed back in the cells.

6. Select cells **A20:I42**.

7. Click on the **[Clear]** button drop-down and select *Clear Contents*.

    The contents has been removed but formatting remains in place for new content.

8. Select cells **A20:I42**.

9. Click on the **[Clear]** button drop-down and select *Clear All*.

    The cells are completely cleared of everything as if they never had any content or formatting.

10. Deselect the cells and save the file.

    [Ctrl + S].

Themes

Themes can be and are used across the *Office* suite of programs. They allow for consistant formatting in accordance with branding guidelines across files and programs. Themes include font sets, color sets, and effects that can easily and quickly updated. You can modify all aspects of a theme or customize only the attributes of the theme which requires changes.
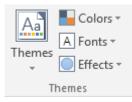
Parts of a Theme

◊ *Fonts:* the font set contains two fonts, one used for body text and the other for headings.

◊ *Colors:* the color set contains colors use for text, background colors, accent colors, and colors use for hyperlinks.

◊ *Effects:* are a set of pre-defined graphic element formats. They may include 3d effects, shadows, reflections, or other effects applied to graphic content.

Applying a Theme

If the document is using the styles to format cells or cell ranges, then changing the theme can quickly apply new colors, font formats, and /or effects.

◊ On the *Page Layout Tab* in the **Themes Group**, click the **[Themes]** button drop-down to open the gallery.

◊ Choose a *Theme* from the gallery.

Themes,
continued

◊ If you only want to modify a part of the theme click the [Colors] button, [Fonts] button, or [Effects] button in the **Theme Group**.

◊ Each button offers a pre-built gallery of options.

Customizing Theme Elements

◊ When clicking the [Colors] or [Fonts] button drop-downs, below the gallerey you will find a *Customize* option.

◊ Make your modifications.

◊ Click into the **Name:** field, enter a name for the customized Theme element and click the [Save] button.

Themes,
continued

◈ The ones you create and save will be at the top of the gallery under the heading *Custom*.
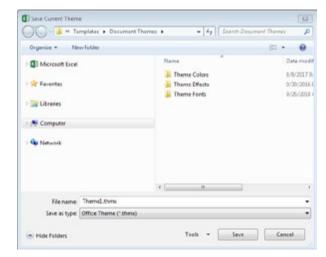
Saving A Custom Theme

Once you have created and applied a Color Theme, a Font Theme, and/or an Effects Theme in a document, you can save them all as a new Theme.

◈ Click the **[Themes]** button drop-down and choose *Save Current Theme* from the menu.

◈ Name your Theme but do not change the location of where the theme is saved.

◈ Since all the *Office* programs access the same theme folder you can use the costomized theme in any *Office* program.

Instructions:	Results/ Comments:
1. **My_Widget** should still be open.	If not, reopen it.
2. On the *Page Layout Tab* in the **Themes Group**, click the **[Themes]** button drop-down and choose *Retrospect* from the gallery.	Cells that use the Styles are changed in relation to the choosen Theme.
3. On the *Page Layout Tab* in the **Themes Group**, click the **[Fonts]** button drop-down and choose *Customize Fonts* from the menu.	The *Create New Theme Fonts* dialog opens.
4. Click the **Heading Font**: field drop-down and choose the *Cooper Black* font.	This will now be the font used for headings.
5. Click the **Body Font:** field drop-down and choose the *Times New Roman* font.	This will be the font used in all other cells.
6. In the **Name:** field type < **Branded One** > and click the **[Save]** button.	The customized font set is saved for future usage and the *Create New Theme Fonts* dialog is closed.
7. On the *Page Layout Tab* in the **Themes Group**, click the **[Colors]** button drop-down and choose *Customize Colors* from the menu.	The *Create New Theme Colors* dialog opens.
8. Click the color drop-down arrow for *Accent 1* and choose *More Colors...* from the menu.	The *Colors* dialog opens.
9. Select the *Custom* tab.	If necessary.
10. In the RGB values enter Red **< 133 >** Green **< 197 >** Blue **< 87 >** cliclk the **[OK]** button.	To set an exact color.

Instructions:	Results/ Comments:
11. Click the color drop-down arrow for *Text/Background-Dark 1* and choose *More Colors…* from the menu.	The Color dialog opens.
12. Select the *Custom* tab.	If necessary.
13. In the RGB values enter Red **< 0 >** Green **< 83 >** Blue **< 134 >** click **[OK]** buttton.	To set an exact color.
14. Change some of the other *Accent* colors.	Use any colors you like.
15. In the **Name:** field type **< Branded One >** and click the **[Save]** button.	The custom color set is saved for future usage and the *Create New Theme Fonts* dialog closes.
16. On the *Page Layout Tab* in the **Themes Group**, click the **[Fonts]** button drop-down and choose *Branded One* from the gallery.	The customized fonts are applied.
17. On the *Page Layout Tab* in the **Themes Group**, click the **[Colors]** button drop-down and choose *Branded One* from the gallery.	The customized colors are applied.
18. On the *Page Layout Tab* in the **Themes Group**, click the **[Themes]** button drop-down and choose *Save Current Theme…* from the menu.	The *Save Theme* dialog opens.
19. Save the theme As **My_Branded_Theme.**	Do not change the folder location where the theme is saved, since all of the *Office* programs refer to the same default location for the themes.
20. Save the file.	**[Ctrl + S]**.

Instructions:	Results/ Comments:
21. Open Widget2.xlsx.	
22. Select cells **B3:H3.**	
23. On the *Home Tab* in the **Styles Group**, click the **[Styles]** button drop-down and choose the *Heading 1* style.	The style is applied to the cells range.
24. Select cells A4:A10.	
25. On the Home Tab in the **Styles Group**, click the **[Styles]** button drop-down and choose the *Heading 2* style.	The style is applied to the cells range.
26. Select cells **A11:H11**.	
27. On the *Home Tab* in the **Styles Group**, click the **[Styles]** button drop-down and choose the *Total* style.	The style is applied to the cells range.
28. On the *Page Layout Tab* in the **Themes Group**, click the **[Themes]** button drop-down and choose *My_BrandedTheme* from the custom gallery.	The theme is applied to the worksheet.
29. Save and close the file.	**[Ctrl + S]**. The My_Widget file should now be active.

Hiding Columns and Rows

If you wish to remove some information from your worksheet without deleting it, you can use the Hide Columns and Rows feature.

Hiding a Column or Row

◊ Select the row or column you wish to hide.

◊ Click on the **[Format]** button in the **Cells Group** on the *Home Tab*. A menu will appear.

◊ Move the cursor to *Hide & Unhide*. A side menu will appear.

◊ Select what you want to hide, Rows, Columns or Sheet.

◊ Your selected row or column will be hidden from view.

- OR -

◊ Select the row or column you wish to hide.

◊ Right-click the mouse on the selection. Select *Hide* from the *Shortcut Menu*.

Unhiding a Column or Row

◊ Select the rows or columns on either side of the hidden row or column.

◊ Click on the **[Format]** button.

◊ Move the cursor to *Hide & Unhide*.

◊ Select what you want to unhide. The rows or columns will reappear.

- OR -

◊ Select the rows or columns on either side of the hidden row or column.

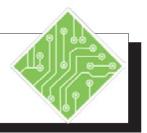◊ Right-click on the selection. Select *Unhide* from the *Shortcut Menu*.

Note

Keyboard Shortcuts:

Hide Rows:

[Ctrl + 9]

Hide Columns:

[Ctrl + 0]

Show hidden rows:
[Ctrl + Shift + ( ]

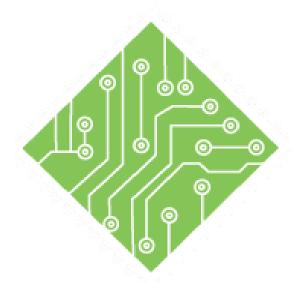*Action 13 - Hiding and Unhiding Columns and Rows*

Instructions:

Results/ Comments:

1. **My_Widget** should be open.

   If not, reopen it.

2. Select Columns **J** and **K**.

   We don't want to view this information with our Income Statement.

3. Click the **[Format]** button in the **Cells Group** on the *Home Tab*.

   A menu will appear.

4. Move the cursor to *Hide and Unhide*.

   A side menu will appear.

5. Click on *Hide Columns*.

   Columns **J** and **K** are hidden.

6. Highlight Columns **I** and **L**.

   We are going to unhide Columns **J** and **K**. We need to select columns on either side of the hidden columns.

7. Click on the **[Format]** button.

8. Move the cursor to *Hide and Unhide*.

9. Click on *Unhide Columns*.

   The columns reappear.

10. Deselect the cells.

    Click on any cell or **[Ctrl + Home]**

11. Save and Close **My_Widget**.

    [Ctrl + S] & **[Ctrl + W]**.

Lesson Notes

Lesson 5: Viewing, Page Layout and Printing

Lesson Overview

You will cover the following concepts in this chapter:

- ◊ Excel Views
- ◊ Print Preview
- ◊ Headers and Footers
- ◊ Page Setup
- ◊ Sheet Options
- ◊ Scale to Fit
- ◊ Printing

Lesson Notes

Excel Views

In *Excel 2016*, there are three spreadsheet views available which are designed to make certain tasks easier, like working with large amounts of data, adding headers and footers, and viewing page breaks.

Normal View

The Normal view is the default view in which *Excel* opens a worksheet. This view is best suited for general work because it provides easy access to many controls and features.

Page Layout View

This view shows how the document will be printed. In this view, you can add headers or footers, adjust margins, page breaks and other page setup options. You can zoom down to see the worksheet broken into pages and you can hide the margins in this view by clicking on the very edge of a page.
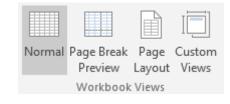
Page Break Preview

If the worksheet is too big to print on a single page, *Excel* will define page breaks for you based upon the margins, paper size and print scale. Automatic page breaks will be shown as dashed lines. In Page Break Preview, you can view where the page breaks are and adjust them as needed by clicking and dragging.
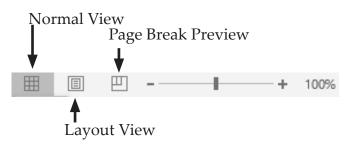
Excel Views,
continued

Changing Views

◈ Click on the desired view in the **Workbook Views Group** on the *View Tab*.

◈ To return to Normal view, click on the **[Normal]** button.

-OR-

◈ You can also change views by clicking on one of the view buttons located to the left of the Zoom Slider.

Normal View

Page Break Preview

Layout View
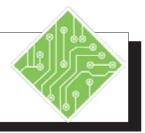
Show/Hide Options

In addition to changing views, you can also select whether you want to view display items such as Gridlines, Headings, the Ruler and Formula Bar. For example, when you want to see attributes such as borders more clearly, it is helpful to turn off the Gridlines. Or you could hide the Headings when you have hidden columns.

◈ To Show an Item: On the *View Tab*, in the **Show Group**, click on the checkbox of the item you wish to display. The check-mark will be shown in the box and item is displayed.

◈ To Hide an Item: click on the checkbox again. The check-mark will be removed from the box and item is hidden.

Instructions:

1. Open the **Weather** file.

2. Save the file as **MyWeather**.

3. Click on the *View Tab*.

4. Click on the **[Page Break Preview]** button. (If you see the *Welcome to Page Break Preview* dialog box, click **[OK]**.)

5. Move the cursor to the page break line, then click and drag it to the right side of Column **E**. This is between the data for Cycle 1 and Cycle 2.

6. Drag the page break from Column **L** to the right side of Column **I**. Do the same for the page break at Column **P**.

7. Click on the **[Page Layout]** button.

8. Using the Zoom Slider, zoom to *40%*.

9. Move the cursor to the space between the pages until you see two arrows pointing inward. A screen tip will appear showing "Hide White Space".

10. Click once.

11. Click the space between the pages again.

Results/ Comments:

[F12]

Notice that in the **Workbook Views Group**, the **[Normal]** button is already selected. This is the default view.

This spreadsheet is too large to fit on one 8-1/2 x 11 sheet of paper. The page break, shown by a dashed line, is automatic and not currently at an ideal location.

The page break is now a solid line indicating a manual page break. A new page break appears at Column **L**.

The worksheet is now broken into four pages — one for each cycle. This is the view you want to work in when you are getting ready to print your document.

You should be able to see all four pages and the white space around the worksheet is hidden. This can come in handy when working with large worksheets.

The white space returns.

Action 5.1 - Changing Views, continued

Instructions:	Results/ Comments:
12. Change the zoom back to *100%*.	Drag the indicator to the center of the Zoom Slider.
13. Locate the Workbook View buttons at the bottom of your screen next to the Zoom Slider - **[Normal], [Page Layout]** and **[Page Break Preview]**.	Use these buttons to change views when you are not on the View Ribbon.
14. Click on the **[Normal View]** button.	Notice that your page breaks now appear in the worksheet as dashed black lines.
15. Save the file	**[Ctrl + S].**

Print Preview

It is a good idea to see what the worksheet is going to look like on the page before printing or before you begin selecting any page setup options.

In *Excel*, you can preview a document from the Print screen in a reduced view to check the general layout. You can use the Zoom to increase the page size in a specific area and you can also access the *Page Setup* dialog box, set new margins, or access the *Print* dialog.

After you have previewed the document and returned to editing the worksheet, you will see the automatic page breaks appear on the spreadsheet.

> **Note**
>
> Print Preview
> **[Ctrl + F2]**

To Print Preview your Document

◊ Click on the *File Tab*.

◊ In the menu, click on *Print*. Notice the **[Show Margins]** button and **[Zoom to Page]** button in the lower right corner, as well as the Page arrows at the bottom of the screen.

◊ Click the **[Back]** button to return to editing the worksheet.

Instructions:	**Results/ Comments:**
1. **MyWeather** should still be open.	If not, open it.
2. Click on the *File Tab*.	
3. Click *Print* from the list of categories on the left.	You can also use the Keyboard Shortcut **[Ctrl + F2]** or **[Ctrl + P].**
4. In the Preview pane, click the Page Arrows at the bottom.	You can also use your **[Page Down]** and **[Page Up]** keys to move through the pages.
5. View all pages, then use the Page Arrows to return to Page 1.	Notice: There are no headers or page numbers. The months only appear on one page. The spreadsheet is also not centered on the page. You will be working on all of these problems.

You can click on **[Page Setup]** to make these changes. However, you will be making these changes in the next steps using the Page Layout Ribbon in the Page Layout View. |
6. Click on **[Show Margins]** in the lower right corner of the screen.	You can see the current margins of your worksheet as dotted lines.
7. Move the cursor to the left margin line. When you see a double-headed arrow, click and drag the margin to the right until it reaches the next margin marker shown at the top of the page.	When you adjust the margins on one page, it will affect all of the pages. Page down through the pages to see the change. This is just one way to change margins.
8. Click on the **[Back]** button to exit the backstage view.	You are returned to Normal view. You can also use the **[Esc]** key to exit the backstage.

Headers and Footers

Headers and Footers are used to add information that you want printed on every page of the document. A header prints at the top of each page while a footer prints at the bottom. By default, *Excel* sets the header and footer margins for are .3" from the top and bottom of the page.

Adding a Header

◊ Select the *View Tab*, and click the **[Page Layout]** button. You could also click the **[Page Layout]** button in the status bar.

◊ At the top of the document, click on the words "Click to add header". This opens a text box in the center of the document. It also opens the *Header and Footer Tools Design Tab.*

◊ There are three sections to a header or footer— left, center and right.

  ◊ Click in the center box to align the information in the center section.

  ◊ Click in the left box to align information in the left section.

  ◊ Click in the right box to align information in the right section.

◊ Type in the desired information.

-OR-

◊ Click on the **[Header]** button in the **Header and Footer Group**, and select a commonly used information format from the list.

-OR-

Note If you are not in **Page Layout** view, you can open the Header and Footer by selecting the *Insert Tab*. In the **Text Group**, click on the **[Header & Footer]** button.

Headers and Footers,
continued

◈ Click one of the buttons in the **Header & Footer Elements Group** to place a code to include the requested information onto the worksheet (such as the time, date, page number and/or file name). You will be able to see the information once you leave the header.

◈ When you are finished, click anywhere in the worksheet to close the header.

◈ To make changes, just click in the header again.
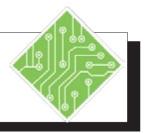
Adding a Footer

◈ Click on the **[Go to Footer]** button in the **Navigation Group** on the *Header and Footer Tools Design Tab*.

◈ Just like the header, there are three sections to a footer— left, center and right.

  ◈ Click in the center box to align the information in the center section.

  ◈ Click in the left box to align information in the left section.

  ◈ Click in the right box to align information in the right section

◈ Type in the desired information.

-OR-

◈ Click on the **[Footer]** button in the **Header and Footer Group**, and select a commonly used information format from the list.

-OR-

◈ Click one of the buttons in the **Header & Footer Elements Group** to place a code to include the requested information onto the worksheet (such as the time, date, page number and/or file name). You will be able to see the information once you leave the footer.

◈ When you are finished, click anywhere in the worksheet to close the header.

◈ To make changes, just click in the footer again.

Action 5.3 - Adding Headers and Footers

Instructions:

Results/ Comments:

1. **MyWeather** should still be open.

   If not, open it.

2. Go to Page Layout view by clicking the **[Layout View]** button on the status bar.

   You could also click on the **[Page Layout]** button in the **Workbook Views Group** on the *View Tab*.

3. Make sure you can see the very top of the worksheet. If not, press **[Ctrl + Home]**.

   You should see the words "Click to add header".

4. Click on *"Click to add header"*.

   This opens the header text box and the *Header & Footer Tools Design Tab*.

5. Type: **Great Lakes Weather Patterns.**

6. Using your mouse, highlight the text.

   You will see a set of formatting tools appear above the header in the mini toolbar.

7. Change the Font Size to *14*, then make the text *Bold*.

   You can also use the formatting tools on the *Home Tab*. If you do this, you will need to click on the *Header & Footer Tools Design Tab* to view the Header/Footer Ribbon again.

8. Click on the **[Go to Footer]** button in the **Navigation Group** on the *Design Tab.*

   You will be at the bottom of the first page of your worksheet. The cursor will be in the center section of the footer.

9. In the **Header & Footer Group**, click on the **[Footer]** button and select *Page 1 of ?* from the menu.

   This will place the text format into the footer and automatically exit the footer. You will see Page 1 of 4.

10. Click in the footer again.

    Notice you will see the code that is inserted into the footer. Now we are going to use some of the Footer Elements.

Instructions:

Results/ Comments:

11. Click to the left of the center section.

12. Click on the **[Current Date]** button in the **Header & Footer Elements Group**.

Notice a code is placed into the text box.

13. Click to the right of the center section.

Notice that you can now see the current date in the left section of the footer.

14. Click on the [**File Name**] button.

Notice a code is placed into the text box.

15. Click in the worksheet.

The *Header and Footer Tools* disappear. You can see all three parts of the footer.

16. Go to the top of the worksheet.

Press **[Ctrl + Home]**.

17. Press **[Ctrl + F2]**.

This is the shortcut to open Print Preview.

18. Page down through the worksheet.

Notice the headers and footers appear on every page.

19. Close Print Preview.

Click on the **[Back]** button.

20. Save your file.

[Ctrl + S].

Page Setup

On the *Page Layout Tab*, the most commonly used options for preparing a document for printing are found in the **Page Setup Group**. In this group, you will find the following options:

Margins

This button allows you to choose from three commonly used margin settings: *Normal*, *Wide* and *Narrow*. You can also set your own by clicking on *Custom Margins* or to specify if you want the printed area to be centered horizontally or vertically.

Orientation

This button allows you to choose between *Portrait* or *Landscape* printing. Portrait is the default setting and prints down the page (vertically). Landscape prints across the width of the page (horizontally).

Size

This button allows you to select the appropriate paper size for the worksheet, including *Letter*, *Legal*, *Executive*, *Envelope*, and other preset sizes.

Print Area

This button allows you to print a specific section of the worksheet. To set a print area, select the cells to be printed first, then choose *Set Print Area* from the drop-down menu. This will become the default until you clear it using the same button.

Breaks

This button allows you to insert or remove page breaks. Use this button after you have viewed and adjusted the page breaks in Page Break Preview.

Setting a Page Break:

◊ Select a row or column where the page break is to be placed.

◊ Click on the **[Breaks]** button, then select *Insert Page Break* from the menu. The page break will be inserted above and/or to the left of the selected row or column.

Page Setup,
continued

Removing a Page Break

◊ Select a cell below or to the right of the page break.

◊ Click on the **[Breaks]** button, then select *Remove Page Break* from the menu.

Background

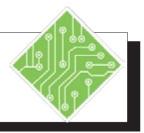This button is used to select a background picture for the worksheet.

Print Titles

> **Note** Print Titles can only be done from the *Page Layout Tab* or the *Page Setup* dialog box while in **Normal**, **Page Layout** or **Page Break Preview**. They cannot be set from the dialog that are in the **Print Preview** of *Excel*.

This button allows you to specify column and row headings that will be repeated on successive pages.
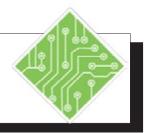
Setting Print Titles

◊ Click on the **[Print Titles]** button. The *Page Setup* dialog will open.

◊ In the *Rows to repeat at top* field, type any row address (i.e. **$1:$1**) to be repeated.

◊ In the *Columns to repeat at left* field, type any column address (i.e. **$A:$B**) to be repeated.

◊ You can also click on the **[Collapse Dialog]** button to enter cell addresses. This will take you to the worksheet where you can highlight the rows or columns desired. Once selected, click on the button again to return to *Page Setup* dialog.
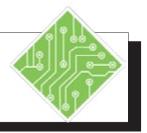
◊ Click **[OK]**.

Instructions:

Instructions:	**Results/ Comments:**
1. **MyWeather** should be open in Page Layout view.	If not, open it.
2. Click on the *Page Layout Tab*.	To get the document ready for printing.
3. Click on the **[Margins]** button in the **Page Setup Group**.	A menu will appear with several options. The first option, *Last Custom Setting*, shows the margins you set in Print Preview.
4. Select *Normal* from the list.	This is the default setting. You can also set your own margins, by clicking on *Custom Margins*.
5. Click the **[Margins]** button again. This time, select *Custom Margins*.	The *Page Setup* dialog is open to the **Margins Tab**.
6. Under **Center on page**, click checkbox for *Horizontally*. Click **[OK]**.	This will center each worksheet on the page from left to right.
7. Click the **[Print Titles]** button.	This opens the *Page Setup* dialog to the **Sheet Tab**. We want the Months to appear on each page.
8. In the *Columns to repeat at left* field, Type: **$A:$A.**	Notice that we are using absolute cell addresses - if you leave off the $ signs, *Excel* will automatically place them for you. Also notice that by typing in **$A:$A**, we are telling *Excel* that the selection begins at column A and ends at column A.
9. Click **[OK]**.	You are returned to the worksheet.
10. Go to Print Preview, then page down through the document.	**[Ctrl + P]**. Each page now includes the months.
11. Leave Print Preview	The **[Back]** button.
12. Save the file.	**[Ctrl + S]**.

Instructions:	**Results/ Comments:**
1. **MyWeather** should still be open in Page Layout view.	If not, open it and go to the Page Layout view.
2. Click the **[Page Break Preview]** button next to the Zoom Slider. (Click **[OK]** in the dialog if it appears.)	
3. Click the **[Breaks]** button in the **Page Setup Group** on the *Page Layout Tab*, then select *Reset All Page Breaks*.	
4. Click the **[Margins]** button and select *Narrow*.	The page is now set to use narrow margins when being printed.
5. Click the **[Orientation]** button and select *Landscape*.	This turns the paper on its side, allowing for a greater portion of the spreadsheet to fit on a single page.
6. Click on the **[Size]** button and select *12x18*.	We are now down to one page.
7. Go to Print Preview.	**[Ctrl + P]**. Notice that the headers and footers are still there.
8. Press the **[Esc]** key to leave Print Preview.	You should return to Page Break Preview.
9. Save your file.	**[Ctrl + S]**.

Action 5.6 - Changing Page Breaks and Selecting a Print Area

Instructions:

Results/ Comments:

1. **MyWeather** should be open in Page Layout view.

    If not, open it and go to the Page Layout view.

2. Select Row **15**.

    Click on the row number.

3. Click on the **[Breaks]** button in the **Page Setup Group** on the *Page Layout Tab*, then select *Insert Page Break.*

    The page break will be inserted above the selected row.

4. Insert a page break at row **27**.

    There are now 3 pages (one per year).

5. Click the **[Print Titles]** button.

    The *Page Setup* dialog opens.

6. In the *Rows to repeat at top* field, Type: **$1:$2,** and click **[OK].**

    The **$1:$2** tells *Excel* to start at Row 1 and end at Row 2. This sets the column headers to appear at the top for each page.

7. Print Preview all three pages. Once finished, close Print Preview.

    Press **[Ctrl + P]** to go to Print Preview. Press **[Esc]** to leave Print Preview.

8. Select Row **15**.

9. Click the **[Breaks]** button, and select *Remove Page Break.*

    To remove the page break.

10. Remove the page break at row **27**.

    The document fits one page again.

11. Select cells: **A1:E30**. We are going to set a print area to print just one cycle.

    You must always select the cells for a print area first.

12. Click the **[Print Area]** button, then select *Set Print Area.*

    Notice the rest of the worksheet is grayed out.

13. Go to Print Preview to view only the print area is shown. Once finished, close Print Preview.

    Press **[Ctrl + P]** to go to Print Preview. Press **[Esc]** to leave Print Preview.

14. Click the **[Print Area]** button, then select *Clear Print Area.*

    The Print Area is cleared so the entire document will print again.

15. Save the file.

    [Ctrl + S].

Instructions:	**Results/ Comments:**
1. **MyWeather** should be open in Page Layout view.	If not, open it and go to the Page Layout view.
2. Click on the **[Background]** button.	To see a background, you need to be in Normal or Page Layout views.
3. Click **[Browse].**	The *Sheet Background* dialog opens.
4. Click the **Sample Pictures** folder to select a background and click **[Insert]**.	Adding a background can be a nice touch. However, be careful when selecting a background that it does not distract from the worksheet data.
5. Click the **[Delete Background]** button.	This removes the background.
6. Try other backgrounds as desired.	There are many backgrounds available to download at office.microsoft.com/en-us/images/
7. When finished, save the file.	**[Ctrl + S]**.

Sheet Options

Printing/Viewing Gridlines and Headings

On the *Page Layout Tab*, in the **Sheet Options Group**, you can choose to print and view the Gridlines and the Column and Row Headings.

◊ To select an option: Click on the checkbox next to the option.

◊ To remove an option: Click on it again to uncheck the box.

Changing the Page Order

If you have a worksheet that will print on multiple pages, you can control the order of those pages by selecting the Page Order.

◊ Click the dialog launcher on the **Sheet Options Group** on the *Page Layout Tab*. The *Page Setup* dialog opens on the **Sheet Tab**.

◊ Under *Page order*, select one of the following:

◊ *Down, then Over* - to print from top to bottom, then right.

◊ *Over, then down* - to print from left to right, then down.

◊ Click **[OK]**.
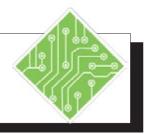
Scale to Fit

Scaling to Fit

The options on the **Scale to Fit Group** allow you to shrink or scale the printed output to fit on a specified number of pages. For example, you could use these features to get a worksheet that is on two pages to fit onto one.

Width:	Automatic ▾
Height:	Automatic ▾
Scale:	100% ▲▼

Scale to Fit ⟍

◈ Click in the worksheet to be scaled to fit.

◈ Choose one of the following:

  ◈ *Width* - adjusts the width of the worksheet to fit on the number of pages specified using the drop-down menu.

  ◈ *Height* – adjusts the height of the worksheet to fit on the number of pages specified using the drop-down menu.

  ◈ *Scale* – increases or decreases the scale of the output directly by using the up and down arrows to change the scale incrementally or by double-clicking on the actual scale value and typing in a new value.

Action 5.8 - Printing Gridlines and Scaling to Fit

Instructions:	Results/ Comments:
1. **MyWeather** should be open.	If not, open it.
2. Click the checkbox for *Print* under *Gridlines* in the **Sheet Options Group** on the *Page Layout Tab*.	
3. Go to Print Preview to observe the gridlines now appear for print.	**[Ctrl + P]**.
4. Return to the worksheet.	**[Esc]**
5. Click the **[Size]** button drop-down in the **Page Setup Group** on the *Layout Tab,* then select *8½ x 11*.	The file is set to be printed on 8½x11 paper.
6. Using the Zoom Slider, zoom down to 65%.	Notice the Status Bar shows that now there are 2 pages.
7. Click the **[Width]** drop-down in the **Scale to Fit Group** and choose *1 Page*.	Notice the Scale changed to *57%* and the worksheet now fits on one page.
8. Save the file.	**[Ctrl + S]**.

Printing

Once the page setup is complete, you are ready to print the worksheet.

Printing a Worksheet

◈ Select the *File Tab,* select *Print*.

◈ Adjust the following print options as needed:

   ◈ *Copies* - The default setting is one copy. To print more than one copy, use the up and down arrows to increase or decrease as needed.

   ◈ *Printer* - The default printer should be set to print the document. Click the down arrow to select another printer.

   ◈ *Print Range* - The default setting is Active Sheets. Use the drop-down menu, to select the entire workbook or specific selections of a worksheet.

   ◈ *Page Range*: This could be All or selected Pages of the active sheet or workbook. Leave this blank to print the default setting All.

   ◈ *Print on Both sides*: The default setting for duplex printing is to print only on one side of the paper. If your printer allows duplex printing, there will be other options when you click the down arrow.

   ◈ *Collated*: This setting is to select whether or not you would like multiple copies to be collated. The default is collated.

   ◈ *Orientation:* The default is portrait.

   ◈ *Scaling:* This setting is to fit the printout on a set number of pages.

◈ Click the **[Print]** button.

Lesson 6: Proofing and Editing

Lesson Overview

You will cover the following concepts in this chapter:

- ◊ Checking Spelling
- ◊ AutoCorrect and AutoComplete
- ◊ Find
- ◊ Replace
- ◊ Smart Lookup

Lesson Notes

Checking Spelling

Spell check compares the text in worksheets, macro sheets, graphic objects, and the formula bar against the words in *Excel*'s dictionary. If a word is not in *Excel*'s dictionary, a dialog will appear to help you correct the word.
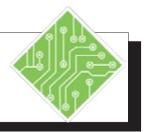
Using Spell Check

> **Note**
> Keyboard Shortcut for Spell Check is **[F7]**.

◊ Select what you want to spell check.

  ◊ For the entire worksheet, click in cell **A1**.

  ◊ For a selection of cells, highlight the range.

◊ Click on the *Review Tab*. In the **Proofing Group**, click on the **[Spelling]** button. The *Spelling* dialog opens.

◊ If *Excel* finds an unknown word:

  ◊ Select one of the suggestions in the *Suggestions* field or type the correction in the *Not in Dictionary* field.

  ◊ Click on **[Change]** to change only the current occurrence, or **[Change All]** to change all occurrences of the word.

◊ If the word is correct:

  ◊ Click on **[Ignore Once]** to ignore only the current occurrence of the word, or **[Ignore All]** to ignore all occurrences of the word.

> **Note**
> Cells containing formulas will not be checked for spelling errors.

◊ You can add words to the dictionary by clicking on **[Add to Dictionary]**.

◊ The **[AutoCorrect]** option adds the misspelled word and the corrected word to the AutoCorrect list.

◊ When finished, a message box is displayed. Click **[OK]** or press **[Enter]**.

Instructions:

|	
1. Start a new workbook.	Click the **[New]** button in the QAT or press **[Ctrl + N]**.
2. Type the following misspelled words into the first row of the spreadsheet: **Exel** **Ofice** **Spredsheet** **Ballmart**.	
3. Click cell **A1**.	We want to start our spell check at the beginning of the worksheet.
4. Click on the **[Spelling]** button in the **Proofing Group** on the *Review Tab*.	**[F7]**. The *Spelling* dialog opens.
5. In the *Suggestions* field, select the most suitable spelling and click **[Change]**.	*Excel* will change the misspelled word, and move to the next misspelled word.
6. Follow the same procedure to correct the next two misspellings. 7. 8. When the last misspelling is listed, click the **[Add]** button.	When *Excel* is finished a dialog will appear saying that Spell Check is complete. Ballmart is a name that is used often and correct but not in the basic dictionary. Clicking the **[Add]** button adds the name to the dictionary so in the future it will not be flagged and an error.
9. Click **[OK]**.	
10. Close the spreadsheet without saving.	**[Ctrl + W]** and then **[N]**.

Results/ Comments:
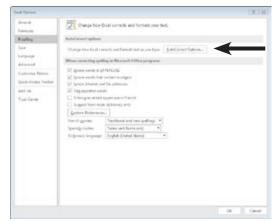
AutoCorrect and AutoComplete

In the *Office* suite of programs you are able to insert text automatically as you type using AutoCorrect. The text to be entered can be a simple word or phrase to a large block of text using the just an acronym of your own design. This is also a good tool to use for those words we know but commonly misspell.
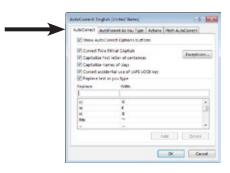
Adding Entries to AutoCorrect

You can start with a selected word, phrase, or block of text or create entries from scratch.

◊ Click the *File Tab*.

◊ Select *Options* from the left side of the Backstage.

◊ Click the *Proofing* category in the *Options* dialog.

◊ Click the **[AutoCorrect Options]** button to open the, *AutoCorrect:* dialog.

◊ If necessary, click the *AutoCorrect* tab.

AutoCorrect and AutoComplete,
continued

◈ Click into the **Replace:** field and enter an acronym that will be used to insert the text in the **With:** field.

◈ Click into the **With:** field and enter the text that will replace the acronym entered in the **Replace:** field.

◈ Click the **[Add]** button to add your entry to the list.

◈ Click the **[OK]** button to close the *AutoCorrect* dialog and then clcik the **[OK]** button agian the close the *Options* dialog.

The AutoCorrect list is a global feature across the *Office* programs that support this feature. When you add or delete a word from the list in one program, the other *Office* programs are also reflect those changes.

Instructions:	**Results/ Comments:**
1. Click the *File Tab* and choose *Options* from the BackStage view.	The *Options* dialog opens.
2. Choose the *Proofing* category from the left of the *Options* dialog.	The ***Proofing*** options are displayed in the *Options* dialog.
3. Click the **[AutoCorrect Options...]** button.	The *AutoCorrect:* dialog opens.
4. Click into the **Replace:** field and type, **< TCW >**.	This is the acronym to be used in place of the full company name.
5. Click into the **With:** field and type, **< The Comptuer Workshop, Inc. >**.	This is the full company name.
6. Click the **[Add]** button.	The ***AutoCorrect*** is added to the list, this entry can now be used in the other *Office* programs.
7. Click into the **Replace:** field and type, **< yopu >**.	This is a common typo that will be corrected automatically.
8. Click into the **With:** field and type, **< you >**.	This is the correction of the typo.
9. Click the **[Add]** button.	The ***AutoCorrect*** is added to the list, this entry can now be used in the other *Office* programs.
10. Click the **[OK]** button to close the *AutoCorrect* dialog.	
11. Click the **[OK]** button agian the close the *Options* dialog.	
12. Click into celll **A2** and type, **< TCW >** and tap the [Enter] key.	The full name of the company is inserted.
13. Click into celll **A3** and type, **< yopu >** and tap the **[Enter]** key.	The misspelled word is corrected.

Find

The Find feature will help you locate a particular word or number in a worksheet or selected range of a worksheet. This is extremely helpful when looking for information in a very large worksheet.

Using Find

Note

Keyboard Shortcut for Find is **[Ctrl + F]**.

◈ Click the **[Find & Select]** button in the **Editing Group** on the *Home Tab*. From the menu, select *Find*. The *Find and Replace* dialog opens with the **Find Tab** active.

◈ In the *Find what* field, type in the text or number you

are looking for.

◈ Click **[Options]** to select other options needed to help narrow your search (see the next page).

◈ Click **[Find Next]** or press **[Enter]** to search for the next occurrence. Continue until all occurrences have been found. To go to a previous occurrence, hold the **[Shift]** key and click **[Find Next]**.

- OR -

◈ Click **[Find All]** and *Excel* will provide a list of cell references that contain the text or number that you are looking for.

Using Find Options

Find,
continued

When you click the **[Options]** button, the *Find and Replace* dialog will expand to allow you to select more options.

◊ *Format* – allows you to search by a specific formatting feature.

◊ *Within* – allows you to search by worksheet or by workbook.

◊ *Search* – On a large worksheet you can speed up the search by designating a row or column to search by selecting **By Rows** or **By Columns** from the drop down list. This option is very helpful if you need to find cells in a particular order.

◊ *Look In* – Select the appropriate option from the drop down to either look in a formula of a cell as it is displayed in the formula bar, the value of a cell, or comments attached to a cell.

◊ *Match case* – This causes *Excel* to look for exact matches to the case typed in the *Find what* field.

◊ *Match entire cell contents* – *Excel* will only find cells that exactly match what is in the *Find what* field. For example: If you only type in "To", it would not find "Tom", "Today", etc..

Instructions:

1. The **MyEmployeeRecord** file should still be open, if not reopen it.

2. Click in cell **A1**.

3. Click the **[Find & Select]** button in the **Editing Group** on the *Home Tab* and select *Find*.

4. In the *Find what* field,
   Type: **CA**.

5. Click on **[Find Next]**.

6. Continue clicking **[Find Next]** until you have located all of the California employees. Stop when the search returns to Margaret Applegate again.

7. In the dialog, click on the **[Options]** button.

8. Click the box for *Match case*.

9. Click on **[Find All]**.

10. In the list, click on **$G$39**.

11. Click **[Close]**.

12. Close the file without saving.

Results/ Comments:

To start searching from the beginning of the worksheet.

The *Find and Replace* dialog opens.
[Ctrl + F].

We are going to look for all the employees living in California.

Notice cell **G4** is selected for Margaret Applegate of Redlands, CA.

Notice that there were two stops on first names: Carolyn and Monica. This is because they both have a CA in their names.

We are going to narrow our search to just find the state CA.

This will match the case in the *Find what* field. In this case CA.

A list of all California occurrences appear at the bottom of the dialog with its cell location. Use the scroll bar to scroll down through the list. Notice, this time Monica and Carolyn are not found.

Notice cell **G39** is made active in the worksheet. You can use the list to take you to any cell in the list.

The *Find and Replace* dialog closes.

[Ctrl + W] and **[N]**.

Replace

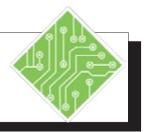The Replace command is used to find and then replace text or numbers. This is a quick way to correct or update data.

Replacing Information

◈ Click on the **[Find & Select]** button in the **Editing Group** on the *Home Tab*. From the menu, select *Replace*. The *Find and Replace* dialog opens with the *Replace Tab* active.

> **Note**
>
> The Keyboard Shortcut for Replace is **[Ctrl + H]**.

Find and Replace dialog

◈ In the *Find what* field, type in the text you want to find and replace.

◈ In the *Replace with* field, type in the new text.

◈ Click on **[Options]** and adjust as needed. These are the same options as in Find.

◈ To replace all occurrences of the text found in the worksheet at one time:

◈ Click on **[Replace All]**.

◈ To find and replace each occurrence one at a time:

◈ Click on **[Find Next]**. *Excel* will find the first occurrence.

◈ Click on **[Replace]** to replace the text.

◈ Click on **[Find Next]** to move on without replacing the text. This is a good way to ensure that you are replacing what you want to replace. Continue until the entire worksheet has been searched.

◈ To get a list of found occurrences to replace them right in the list:

◈ Click on **[Find All]**.

◈ Click **[Close]** to close the dialog.

Action 6.4 - Using Replace

Instructions:

1. Open the file **Warehouse**.

2. Save the file as **MyWarehouse**.

3. Click cell **A1**.

4. Click the **[Find & Select]** button in the **Editing Group** on the *Home Tab,* then select *Replace*.

5. In the *Find what* field, type in: **Product 6**.

6. In the *Replace field*, type in: **Oven Mitt**.

7. Click **[Replace All]**. Click **[OK]** in the message box that appears. Keep the *Find and Replace* dialog box open.

8. In the *Find what* field, Type: **Product 3**

9. In the *Replace with* field, Type: **Potato Peeler**

10. Click **[Find Next]**. When the first occurrence is found, click **[Replace]**. Continue replacing until all occurrences are found.

11. Click **[Close]**.

12. Save and close your file.

Results/ Comments:

[F12].

We are going to be replacing the current product names with more descriptive names.

The *Find and Replace* dialog opens. **[Ctrl + H]**.

The text to find.

The replacement text.

Excel has found 3 replacements. Use this option when you are positive that your search is specific enough that *Excel* will only find the text you want to replace.

To find and replace **Product 3** with **Potato Peeler**.

We are going to make our replacements one at a time. Use this method if you want to be sure you are replacing the correct data.

To close the dialog box.

[Ctrl + S] & [Ctrl + W].

Smart Lookup

Using the Smart Lookup

This new tool in *Office 2016* opens the *Insights Pane* on the right side of the screen. The *Insights Pane* is powered by *Bing* and offers more than just simple definitions. When you highlight or select words, phrase, or cells, right-clicking the selection and choose *Smart Lookup*, the *Insights Pane* opens with definitions, Wiki articles, and top related searches from the web.

◊ Explore: shows the results of the web search, including Wiki sites.

◊ Define: shows definitions.

Smart Lookup can also be accessed by clicking the **[Smart Lookup]** button in the **Insights Group** on the *Review Tab*.

Instructions:

1. Open the file **Employee Records**.

2. Select cell **C2**.

3. Click the **[Smart Lookup]** button in the **Insights Group** on the *Review Tab*.

4. Scroll through the list of web search results and click any one.

5. Close the browser window.

6. In the *Insights Pane*, click the **[Define]** button.

7. In the *Insights Pane*, click the **[Explore]** button.

8. Close the *Insights Pane*.

9. Save the file and leave it open.

Results/ Comments:

This cell contains a phrase that we want to learn more about.

The Insights Pane opens on the right side of the screen.

The default browser opens to the page corresponding to the search result you chose.

Excel should be the active window on screen, if not click the *Excel* icon in the taskbar.

The *Insights Pane* now displays the phrase's definition.

The *Insights Pane* again displays the web search results.

[Ctrl + S].