Simplified

e- Book

MS-OFFICE 2010

SARVA EDUCATION [SM] *- An I.T & Skill Advancement Training Programme, Initiated by* ***SITED®-India***

An ISO 9001:2015 Certified Organization

Unit-I MS-Word 2010

Lesson: 1

Introduction to MS Word 2010

What is M.S Office?

Microsoft Office 2010 (also called Office 2010 and Office 14) is a productivity suite for Microsoft Windows, and the successor to Microsoft Office 2007. Office 2010 includes extended file format support, user interface updates, and a changed user experience. A 64-bit version of Office 2010 is available, although not for Windows XP or Windows Server 2003.
On April 15, 2010, Office 2010 was released to manufacturing. The suite became available for retail and online purchase on June 15, 2010. Office 2010 is the first version to require product activation for volume license editions.
M.S Office 2010 marks the debut of free online versions of Word, Excel, PowerPoint, and OneNote, which work in the web browsers Internet Explorer, Firefox, Chrome and Safari, but not Opera. Office Starter 2010, a new edition of Office, replaced the low-end home productivity software, Microsoft Works.
Microsoft's update to its mobile productivity suite, Office Mobile 2010, will also be released for Windows Phones running Windows Mobile6.5 and Windows Phone 7. In Office 2010, every application features the ribbon, Outlook, including, OneNote, Publisher InfoPath, SharePoint Workspace (previously known as Groove), and the new Office Web Apps.

New Feature in M.S Office 2010

Office 2010 is more "role-based" than previous versions. There are features tailored to employees in "roles such as research and development professionals, sales people, and human resources." In its Internet implementation, Office 2010 incorporates features of SharePoint Server and borrows from "Web 2.0" ideas.
Microsoft Office 2010 includes updated support for ***ISO/IEC 29500:2008***, the International Standard version of Office Open XML (OOXML) file format. Office 2010 provides read support for ECMA-376, read/write support for ISO/IEC 29500 Transitional, and read support for ISO/IEC 29500 Strict. In its pre-release (beta) form, however, Office 2010 only supported the Transitional variant, and not the Strict. The intent of the ISO/IEC is to allow the removal of the Transitional variant from the ISO/IEC compliant version of the OOXML standard. Microsoft Office 2010 supports Open Document Format (ODF) 1.1, which is an OASIS standard.
New features also include a built-in screen capture tool, a background removal tool, new SmartArt templates and author permissions. The 2007 "Office Button" was replaced with a menu button that leads to a full-window file menu, known as Backstage View, giving easy access to task-centered functions such as printing and sharing. A notable accessibility regression from 2007 is that the menu button scores worse with the Fitts's law accessibility calculation than previous versions. A modified Ribbon interface is present in all Office applications, including Office Outlook, Visio, OneNote, Project, and Publisher. Office applications also have functional jumplists in Windows 7, which would allow easy access to recent items and tasks relevant to the application.

Features of Office 2010 include: *Ribbon interface and Backstage View across all applications, Background Removal Tool, Letter Styling, The Word 2007 Equation editor is common to all applications, replacing Microsoft Equation Editor 3.0, New SmartArt templates, New text and image editing effects, Screen Capturing and Clipping tools, Live collaboration functions Jumplists in Windows 7, New animations and transitions in PowerPoint 2010, View Side by Side/Synchronous Scrolling in Word 2010.*
A new feature in Microsoft Office 2010 is Outlook Social Connector, which allows users to connect to and receive updates from their social network inside Microsoft Outlook. When users view their emails a name, picture, and title is available for the person they are contacting. Upcoming appointments can also be viewed with this new feature and users can request friends. Outlook Social Connector currently supports Facebook, LinkedIn, MySpace and Windows Live Messenger. The Volume edition can be activated using a Multiple Activation Key (MAK) which is limited by the number of times a machine can activate when connected to Microsoft's servers, or using a Key Management Server (KMS) which requires activation every 180 days.

What is M.S Word?

Microsoft Word is a non-free commercial word processor designed by Microsoft. It is part of the Microsoft Office Suite. Microsoft Word is currently the most common word processor on the market. Because it is so common, the .doc/.docx format has become the de facto format for text documents. ***What is Microsoft Word used for:*** MS Word is a popular word-processing program used for creating documents such as letters, brochures, learning activities, tests, quizzes and students' homework assignments. There are many powerful features available in Microsoft Word to make it easier to learn for students with disabilities.
Word 2010 is software for word processing. In the new Microsoft 2010 Office Suite. Word allows you to easily create professional-looking documents using various themes, visual designs, formatting tools, sharing features and more.

Microsoft Word is a word processor and was previously considered the main program in Office. Its proprietary ***DOC*** format is considered a de facto standard, although Word 2007 can also use a new XML-based, Microsoft Office-optimized format called .DOCX, which has been controversially standardized by Ecma International as Office Open XML and its SP2 update

supports PDF and a limited ODF. Word is also available in some editions of Microsoft Works. It is available for the Windows and Mac platforms. The first version of Word, released in the autumn of 1983, was for the MS-DOS operating system and had the distinction of introducing the mouse to a broad population. Word 1.0 could be purchased with a bundled mouse, though none was required. Following the precedents of LisaWrite and MacWrite, Word for Macintosh attempted to add closer WYSIWYG features into its package. Word for Mac was released in 1985. Word for Mac was the first graphical version of Microsoft Word. Despite its bugginess, it became one of the most popular Mac applications.

New features in Word 2010

Microsoft Word is a word processing software package. You can use it to type letters, reports, and other documents. It helps a lot in spelling-check and words-count.

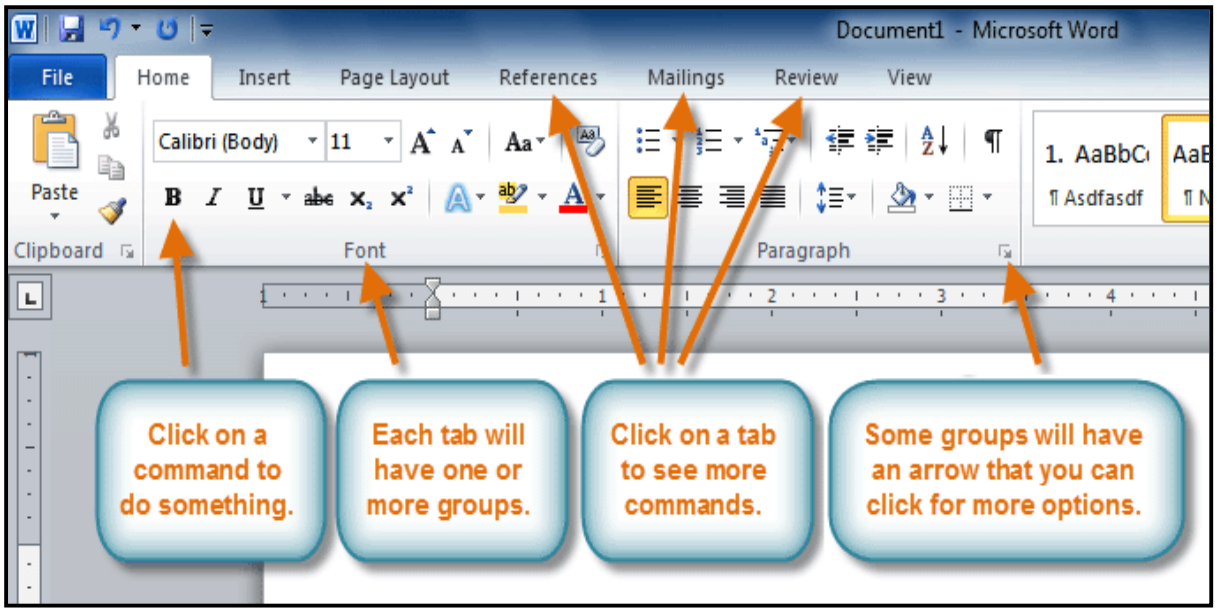
1. ***Create visually compelling documents***
   With Word 2010, you can create compelling documents while applying formatting effects such as shadow, bevel, glow, and reflection to your document text. You can spell-check text that uses visual effects, and add text effects to paragraph styles. Many of the same effects used for images are now available to both text and shapes, enabling you to seamlessly coordinate all of your content.
2. ***Turn your text into compelling diagrams***
   Word 2010 offers you more options to add visual impact to your documents. Choose from dozens of additional SmartArt® Graphics to build impressive diagrams just by typing a bulleted list. Use SmartArt to transform basic, bullet-point text into compelling visuals that better illustrate your ideas.
3. ***Add visual impact to your document***
   New picture-editing tools in Word 2010 enable you to add special picture effects without additional photo-editing software. You can easily adjust pictures with color saturation and temperature controls. You also get improved tools for easier and more precise cropping and image correction, to help you turn a simple document into a work of art.

Getting to Know Word 2010

Word 2010 is a bit different from earlier versions, so even if you've used Word before, you should take some time to familiarize yourself with the interface. The toolbars are similar to those in Word 2007, and they include the Ribbon and the Quick Access Toolbar. Unlike Word 2007, commands such as Open and Print are housed in ***Backstage view***, which replaces the ***Microsoft Office Button***.

The Ribbon

The new, tabbed Ribbon system was introduced in Word 2007 to replace traditional menus. The Ribbon contains all of the commands you'll need in order to do common tasks. It contains multiple tabs, each with several groups of commands, and you can add your own tabs that contain your favorite commands. Some groups have an arrow in the bottom-right corner that you can click to see even more commands.



To Minimize and Maximize the Ribbon:

The Ribbon is designed to be responsive to your current task and easy to use; however, you can choose to minimize it if it's taking up too much screen space.

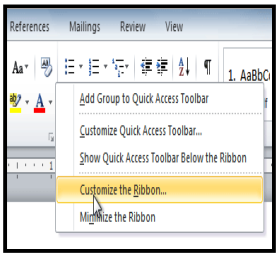
1. Click the ***arrow*** in the upper-right corner of the Ribbon to minimize it.
2. To maximize the Ribbon, click the arrow again.

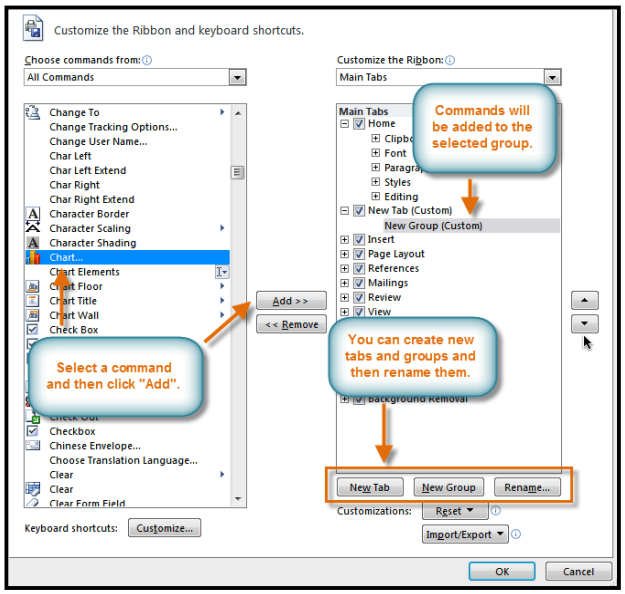
When the Ribbon is minimized, you can make it reappear by clicking on a tab. However, the Ribbon will disappear again when you're not using it.

To Customize the Ribbon:

You can customize the Ribbon by creating your own tabs with whichever commands you want. Commands are always housed within a group, and you can create as many groups as you want in order to keep your tab organized. If you want, you can even add commands to any of the default tabs, as long as you create a custom group in the tab.

1. Right-click the **Ribbon** and select **Customize the Ribbon**. A dialog box will appear.
2. Click **New Tab**. A new tab will be created with a new group inside it.
3. Make sure the new group is selected.
4. Select a command from the list on the left, then click **Add**. You can also drag commands directly into a group.
5. When you are done adding commands, click **OK**.





If you don't see the command you want, click on the **Choose commands from:** drop-down box and select **All Commands**.

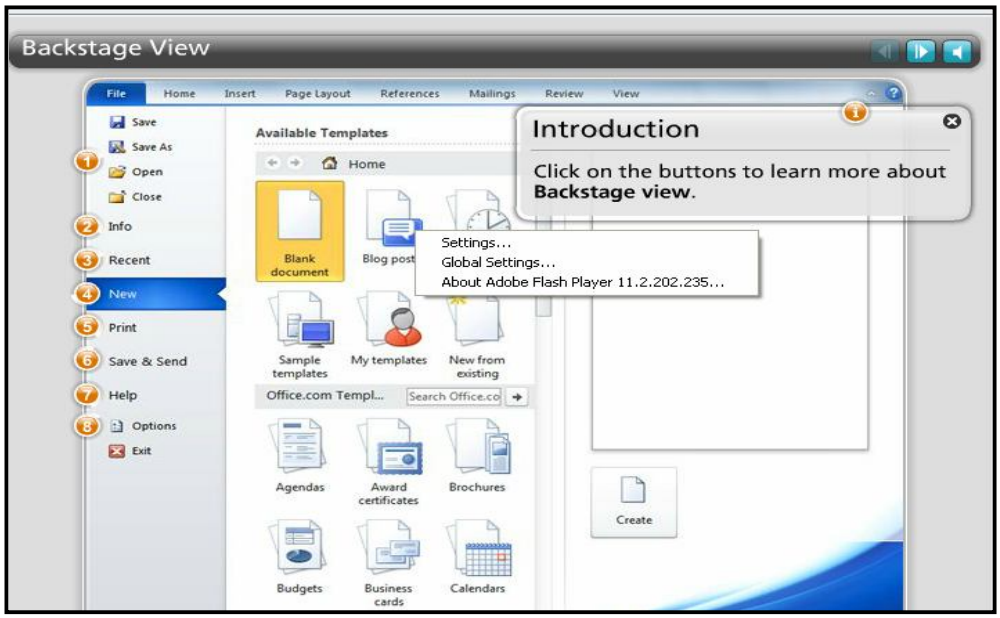
Backstage View

Backstage view gives you various options for saving, opening a file, printing, or sharing your document. It is similar to the Office Button Menu from Word 2007 or the File Menu from earlier versions of Word. However, instead of just a menu, it is a full-page view which makes it easier to work with.

To Get to Backstage View:

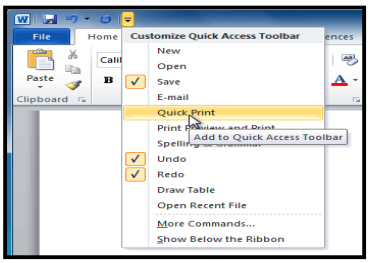
1. Click the **File** tab.
2. You can choose an option on the left side of the page.
3. To get back to your document, just click any tab on the Ribbon.

Click on the buttons to learn more about ***Backstage view*** as shown in following image.



The Quick Access Toolbar

The Quick Access Toolbar is located above the ribbon, and it lets you access common commands no matter which tab you're on. By default, it shows the Save, Undo, and Repeat commands. You can add other commands to make it more convenient for you.

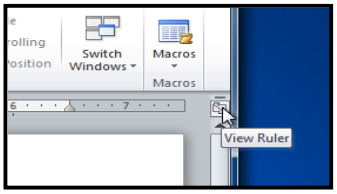


To Add Commands to the Quick Access Toolbar:

1. Click the **drop-down arrow** to the right of the **Quick Access Toolbar**.
2. Select the command you wish to add from the drop-down menu. It will appear in the Quick Access toolbar.

The Ruler

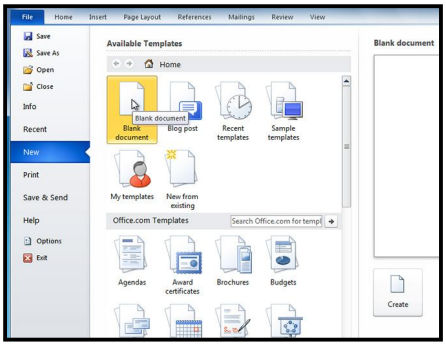
The Ruler is located at the top and to the left of your document. It makes it easier to adjust your document with precision. If you want, you can hide the Ruler to free up more screen space.



To Hide or View the Ruler:

1. Click the View Ruler icon over the scrollbar to hide the ruler.
2. To show the ruler, click the View Ruler icon again.

Creating and Opening Documents

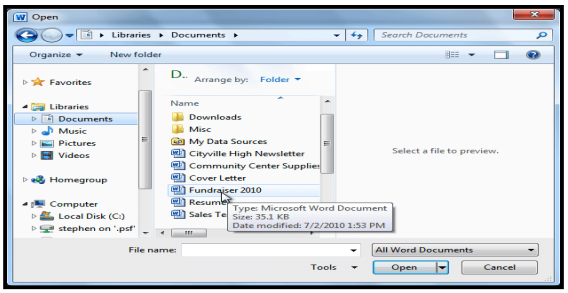


To Create a New, Blank Document:

1. Click the File tab. This takes you to Backstage view.
2. Select New.
3. Select Blank document under Available Templates. It will be highlighted by default.
4. Click Create. A new, blank document appears in the Word window.

To save time, you can create your document from a template, which you can select from the New Document pane.

To Open an Existing Document:



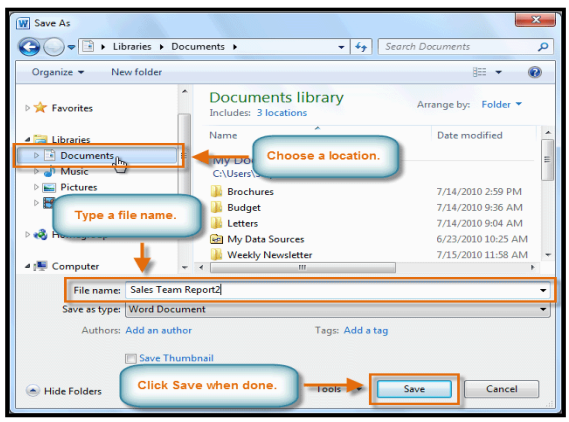
1. Click the File tab. This takes you to Backstage view.
2. Select Open. The Open dialog box appears.
3. Select your document and then click Open.

If you've opened a file recently, you can also access it from the Recent Documents list. Just click on the File tab and select Recent.

To Use the Save As Command:

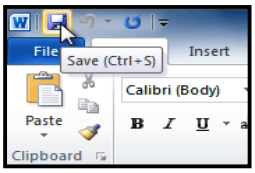
Save As allows you to choose a name and location for your document. It's useful if you've first created a document or if you want to save a different version of a document while keeping the original.

1. Click the **File tab**.
2. Select **Save As**.
3. The **Save As dialog box** will appear. Select the **location** where you wish to save the document.
4. **Enter a name** for the document and **click Save**.



If you're using Windows 7, you'll usually want to save things to your Documents library, and in other versions of Windows you'll save them to the My Documents folder.

To Use the Save Command:



1. Click the **Save command** on the **Quick Access Toolbar**.
2. The document will be saved in its current location with the same file name.

If you are saving for the first time and select **Save**, the **Save As dialog box** will appear.

AutoRecover:

Word automatically saves your documents to a temporary folder while you're working on them. If you forget to save your changes, or if Word crashes, you can recover the auto saved file.

1. Open a document that was previously closed without saving.
2. In **Backstage view**, click **Info**.
3. If there are auto saved versions of your file, they will appear under **Versions**. Click on the **file** to open it.
4. To save changes, click **Restore** and then click **OK**.

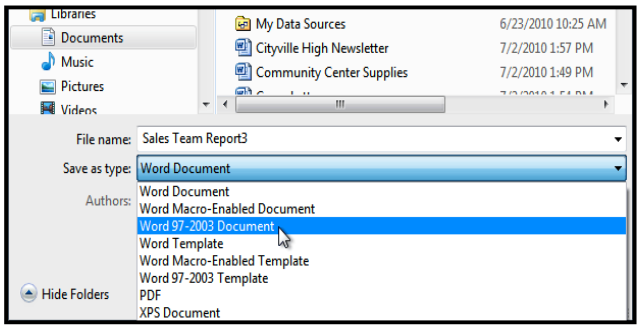
By default, Word **autosaves** every **10 minutes**. If you are editing a document for less than 10 minutes, Word may not create an autosaved version.

Other File Formats

You can share your documents with anyone using Word 2010 or 2007, since they use the same file format. However, earlier versions of Word use a different file format, so if you want to share your document with someone using an earlier version of Word, you'll need to save it as a Word 97-2003 Document.

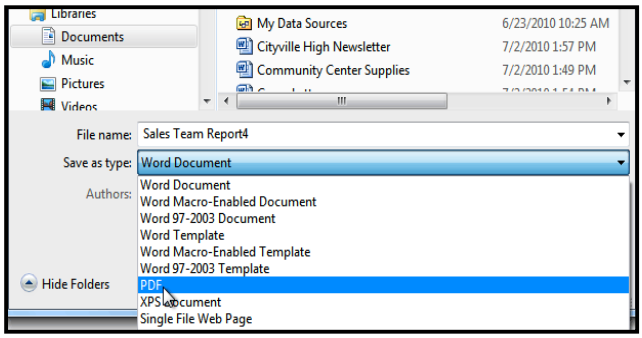
To Save As Word 97 - 2003 Document:

1. Click the **File** tab.
2. Select **Save As**.
3. In the Save as **type drop-down menu**, select **Word 97-2003** Document.
4. Select the location you wish to save the document.
5. Enter a name for the document and click **Save**.



To Save As a PDF:

1. Click the **File** tab.
2. Select **Save As.**
3. In the **Save as type drop-down menu**, select **PDF**.
4. Select the location you wish to save the document.
5. Enter a name for the document.
6. Click the **Save button**.

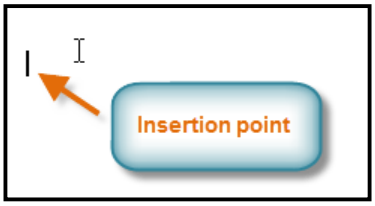


Lesson: 2

Text Basic

It is important to know how to perform basic tasks with text when working in a word processing application. In this lesson you will learn the basics of working with text including how to insert, delete, select, copy, cut, paste, and drag and drop text.

To Insert Text:

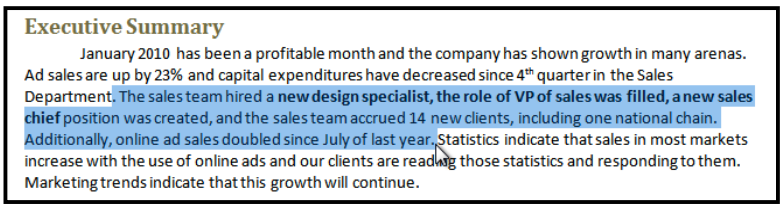


1. **Move your mouse** to the location you wish text to appear in the document.
2. Click the **mouse**. The insertion point appears.
3. **Type the text** you wish to appear.

To Delete Text:

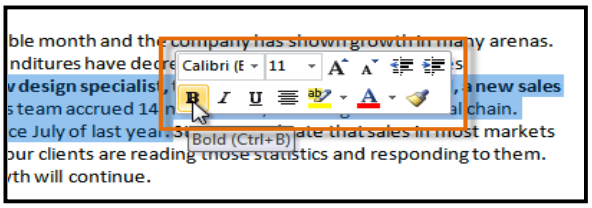
1. Place the insertion point next to the text you wish to delete.
2. Press the **Backspace key** on your keyboard to delete text to the left of the insertion point.
3. Press the **Delete key** on your keyboard to delete text to the right of the insertion point.

To Select Text:

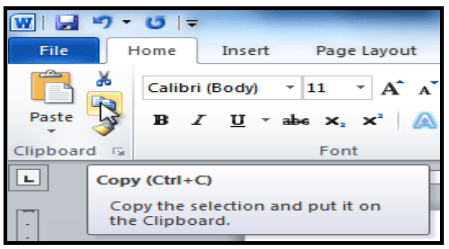


1. **Place the insertion point** next to the text you wish to select.
2. Click the **mouse**, and while holding it down, **drag** your mouse over the text to select it.
3. **Release** the mouse button. You have selected the text. A **highlighted box** will appear over the selected text.

When you select text or images in Word, a **hover toolbar** with formatting options appears. This makes formatting commands easily accessible, which may save you time. If the toolbar does not appear at first, try moving the mouse over the selection.

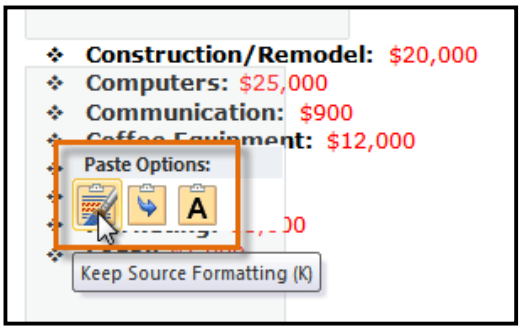


To Copy and Paste Text:



1. Select the text you wish to copy.
2. Click the **Copy command** on the **Home tab**. You can also right-click your document and select **Copy**.
3. Place your insertion point where you wish the text to appear.
4. Click the **Paste command** on the **Home tab**. The text will appear.

To Cut and Paste Text:



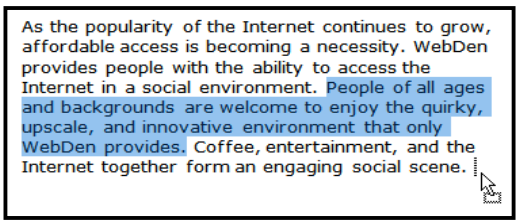
1. Select the text you wish to copy.
2. Click the **Cut command** on the **Home tab**. You can also **right-click** your document and select **Cut**.
3. Place your insertion point where you wish the text to appear.
4. Click the **Paste command** on the Home tab. The text will appear.

You can also cut, copy, and paste by right-clicking your document and choosing the desired action from the drop-down menu. When you use this method to paste, you can choose from three options that determine how the text will be formatted: Keep Source Formatting, Merge Formatting and Keep Text Only. You can ***hover*** the mouse over each icon to see what it will look like before you click on it.

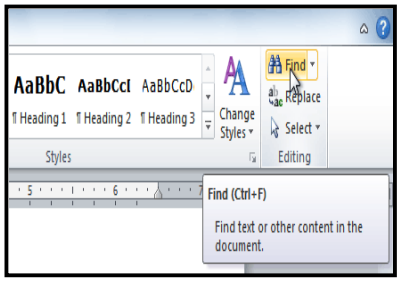
To Drag and Drop Text:

1. Select the text you wish to copy.
2. **Click** and **drag** the text to the location you wish it to appear. The cursor will have a rectangle under it to indicate that you are moving text.
3. **Release** the **mouse button** and the text will appear.

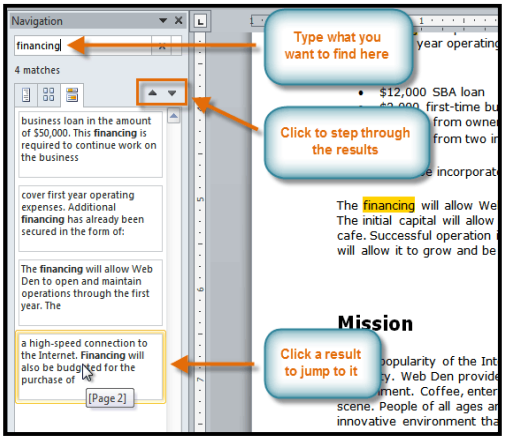
If text does not appear in the exact location you wish, you can click the Enter key on your keyboard to move the text to a new line.



To Find Text:

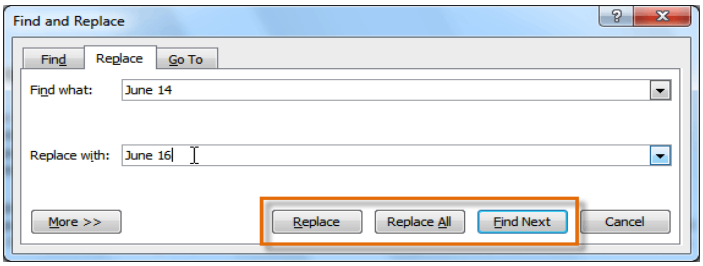


1. From the **Home tab**, click the Find command. The Navigation pane will appear on the left side of the screen.
2. **Type the text** you wish to find in the field at the top of the Navigation pane.
3. If the text is found in the document, it will be highlighted in yellow, and a preview will appear in the Navigation pane.
4. If the text appears more than once, you can click the arrows on the Navigation pane to step through the results. You can also click the **result previews** on the Navigation pane to jump to the location of a result in your document.
5. When you **close** the Navigation pane, the highlighting will disappear.

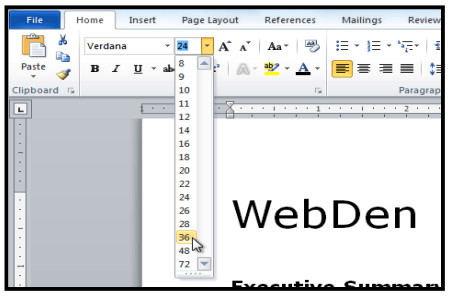


To Replace Text:

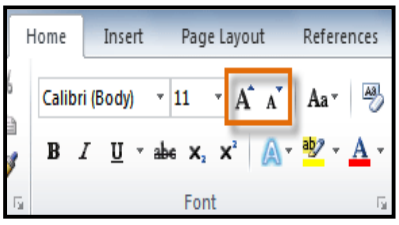
1. From the **Home** tab, click the **Replace** command. The **Find and Replace** dialog box will appear.
2. Type the text you wish to find in the **Find what** field.
3. Type the text you wish to replace it with in the **Replace with** field.
4. Click **Find Next** and then **Replace** to replace text. You can also click **Replace All** to replace all instances within the document.



To Change the Font Size:



1. Select the **text** you wish to modify.
2. Click the **drop-down arrow** next to the **Font Size box** on the **Home tab**. A drop-down menu appears.
3. **Move the mouse pointer** over the various font sizes. A live preview of the font size will appear in the document.
4. Select the **font size** you wish to use.
5. You can also use the **Grow Font and Shrink Font commands** to change the size.

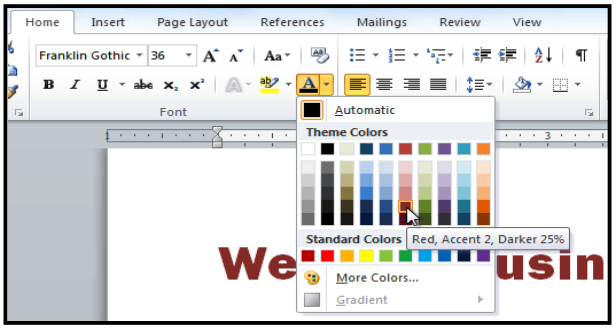


To Change the Font:

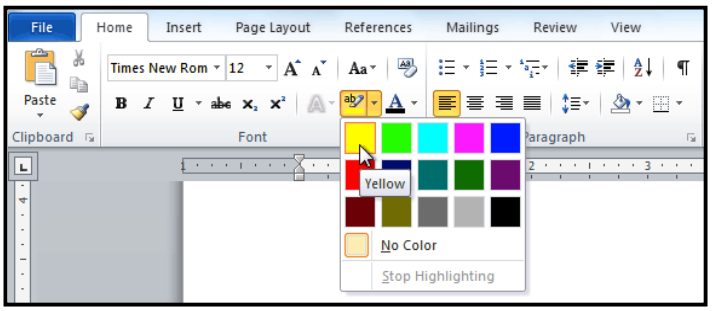
1. **Select** the **text** you wish to modify.
2. Click the **drop-down arrow** next to the Font box on the **Home tab**. The Font drop-down menu appears.
3. **Move the mouse pointer** over the **various fonts**. A live preview of the font will appear in the document.
4. Select the font you wish to use. The font will change in the document.

To Change the Font Color:

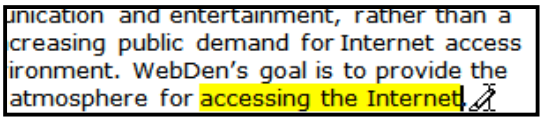
1. Select the text you wish to modify.
2. Click the **Font Color drop-down arrow** on the **Home tab**. The Font Color menu appears.
3. **Move the mouse pointer** over the various font colors. A live preview of the color will appear in the document.
4. Select the **font color** you wish to use. The font color will change in the document.
5. Your color choices aren't limited to the drop-down menu that appears. Select More Colors at the bottom of the list to access the Colors dialog box. Choose the color that you want and click OK.



To Highlight Text:

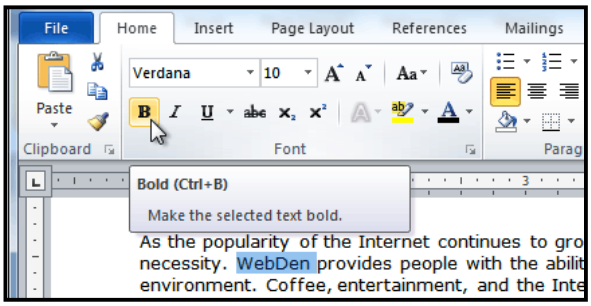


1. From the **Home tab**, click the Text Highlight Color drop-down arrow. The Highlight Color menu appears.
2. Select the **desired highlight color**.
3. Select the text you wish to modify. It will then be highlighted.
4. To switch back to the normal cursor, click the Text Highlight Color command.



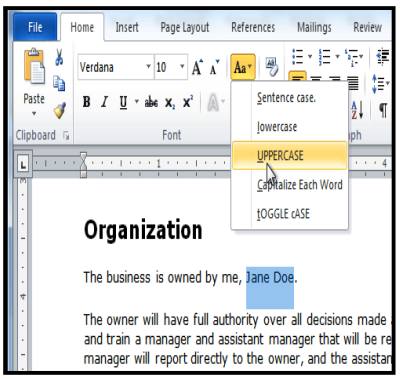
To Use the Bold, Italic, and Underline Commands:

1. Select the text you wish to modify.
2. Click the **Bold (B)**, Italic **(*I*)**, or Underline **(U)** command in the **Font group** on the **Home tab**.



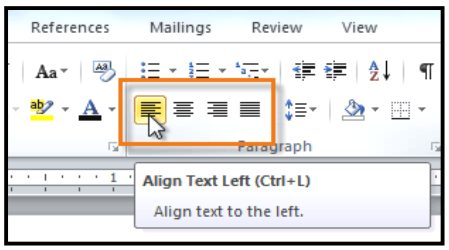
To Change the Text Case:

1. Select the text you wish to modify.
2. Click the **Change Case command** in the **Font group** on the **Home tab**.
3. Select the **desired case option** from the list.



To Change Text Alignment:

1. Select the text you wish to modify.
2. Select one of the four alignment options from the Paragraph group on the Home tab.
   - **Align Text Left:** Aligns all the selected text to the left margin.
   - **Center:** Aligns text an equal distance from the left and right margins.
   - **Align Text Right:** Aligns all the selected text to the right margin.
   - **Justify:** Justified text is equal on both sides and lines up equally to the right and left margins. Many newspapers and magazines use full-justification.

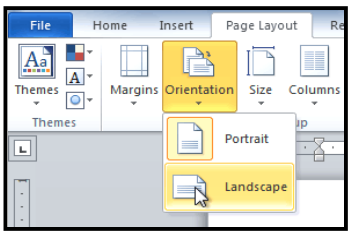


Lesson: 3

Modifying Page Layout & Checking Spelling

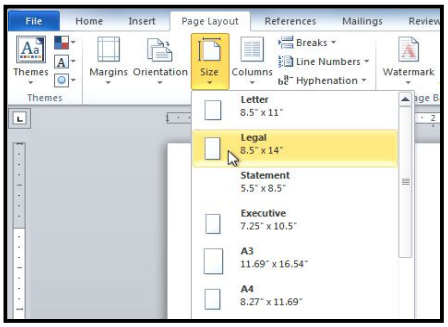
You may find that the default page layout settings in Word are not sufficient for the document you wish to create, in which case you will want to modify those settings. For example, if you are printing on a different paper size, you'll want to change the document page size to match the paper. In addition, you may want to change the page formatting depending on the type of document you are creating.

To Change Page Orientation:



1. Select the **Page Layout** tab.
2. Click the **Orientation** command in the Page Setup group.
3. Click either **Portrait** or **Landscape** to change the page orientation.

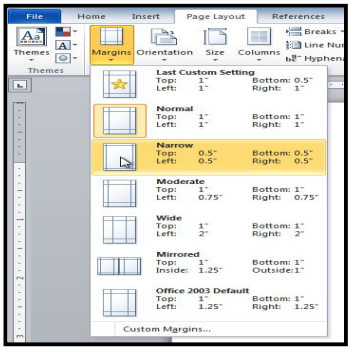
Landscape format means that the page is oriented horizontally, and portrait format is oriented vertically.



To Change the Page Size:

1. Select the **Page Layout** tab.
2. Click the **Size** command and a drop-down menu will appear. The current page size is highlighted.
3. Click the **size option** you desire. The page size of the document changes.

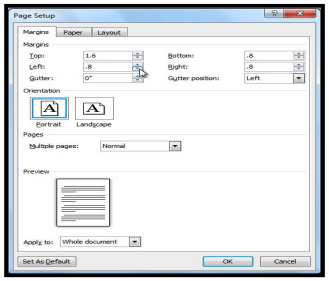
To Format Page Margins:



1. Select the **Page Layout** tab.
2. Click the **Margins** command. A menu of options appears. **Normal** is selected by default.
3. Click the **predefined margin size** you desire.

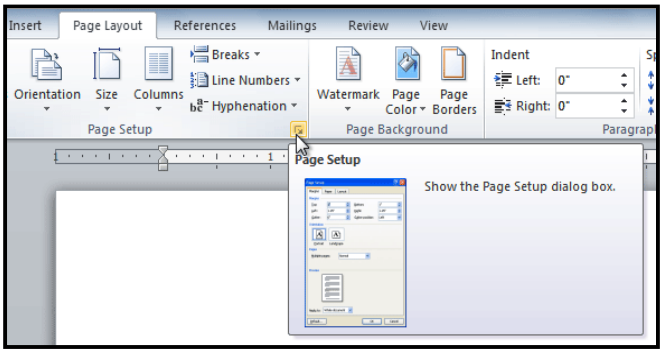
To Use Custom Margins:

1. From the **Page Layout** tab, click **Margins**.
2. Select **Custom Margins**. This will take you to the **Page Setup** dialog box.
3. Adjust the **margin sizes** for each side of the page and click **OK**.



The Page Setup Dialog Box

Previously, we showed how to open the Page Setup dialog box from the Margins drop-down menu. As you become more familiar with Word, you may find that you want to use the Page Setup dialog box more often to fine-tune the page margins and adjust other settings. To get there more quickly, you may want to use a shortcut that's conveniently located on the Page Layout tab.



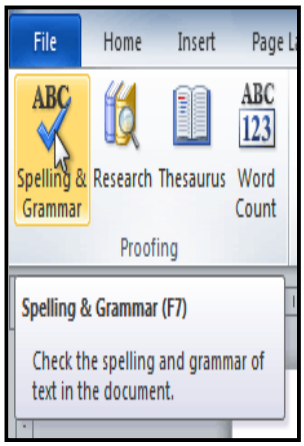
To Open the Page Setup Dialog Box:

1. Click the **Page Layout** tab.
2. Click the small arrow in the bottom-right corner of the **Page Setup** group. The **Page Setup** dialog box will appear.

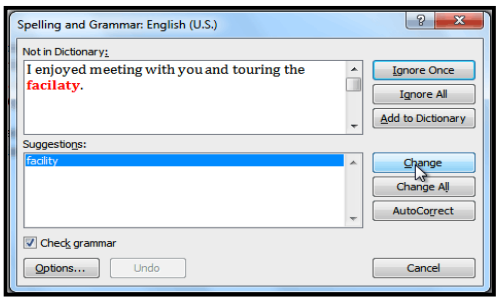
Checking Spelling & Grammar

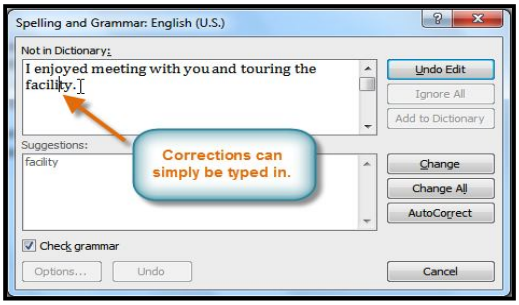
Worried about making mistakes when you type? Don't be. Word provides you with several proofing features that will help you produce professional, error-free documents. In this lesson you will learn about the various proofing features, including the Spelling and Grammar tool.

To Run a Spelling & Grammar Check:



1. Go to the **Review** tab.
2. Click on the **Spelling & Grammar** command.
3. The **Spelling and Grammar** dialog box will open. For each error in your document, Word will try to offer one or more **suggestions**. You can select a suggestion and then click **Change** to correct the error.
4. If no suggestions are given, you can manually type in the correct spelling.





Ignoring "Errors"

The spelling and grammar check is not always correct. Particularly with grammar, there are many errors that Word will not notice. There are also times where the spelling and grammar check will say that something's an error when it's actually not. This often happens with people's names, which may not be in the dictionary.
If Word says that something is an error, you can choose not to change it. Depending on whether it's a spelling or grammar error, you can choose from several options:

For spelling "errors":

- **Ignore Once:** This will skip the word without changing it.
- **Ignore All:** This will skip the word without changing it, and it will also skip all other instances of this word in the document.
- **Add to Dictionary:** This adds the word to the dictionary so that it will never come up as an error. Make sure that the word is spelled correctly before choosing this option.

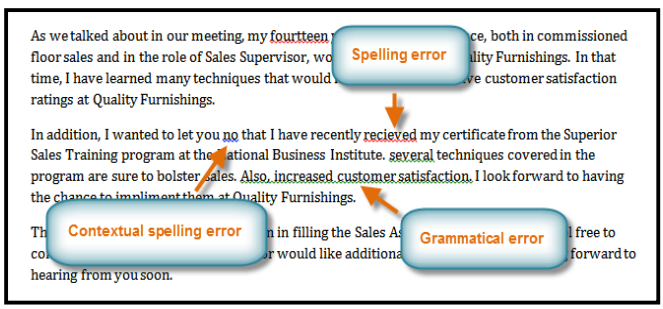
For grammar "errors":

- **Ignore Once:** This will skip the "error" without changing it.
- **Ignore Rule:** This will skip this "error" as well as all other instances that relate to this grammar rule.
- **Next Sentence:** This skips the sentence without changing it, and leaves it marked as an error. That means it will still show up if you do another Spelling and Grammar check later on.
  If you're not sure about a grammar error, you can click Explain to see why Word thinks it's an error. This can help you determine whether you want to change it or not.

Automatic Spelling and Grammar Checking

By default, Word automatically checks your document for spelling and grammar errors, so you may not even need to run a separate Spelling and Grammar check. These **errors** are indicated by **colored**, **wavy lines**.

- The **red line** indicates a misspelled word.
- The **green line** indicates a grammar error.
- The **blue line** indicates a contextual spelling error. This feature is turned off by default.



To Use the Spelling Check Feature:

1. Right-click the **underlined word**. A menu will appear.
2. Click on the **correct spelling** of the word from the **listed suggestions**.
3. The corrected word will appear in the document.

You can choose to **ignore** an underlined word, add it to the **dictionary**, or go to the Spelling dialog box for more options.

To Use the Grammar Check Feature:

1. Right-click the **underlined word or phrase**. A menu will appear.
2. Click on the **correct phrase** from the **listed suggestions**.
3. The corrected phrase will appear in the document.

You can also choose to **ignore** an underlined phrase, go to the **Grammar dialog box**, or click **About This Sentence** for information about the grammar rule.

To Change the Automatic Spelling and Grammar Check Settings:

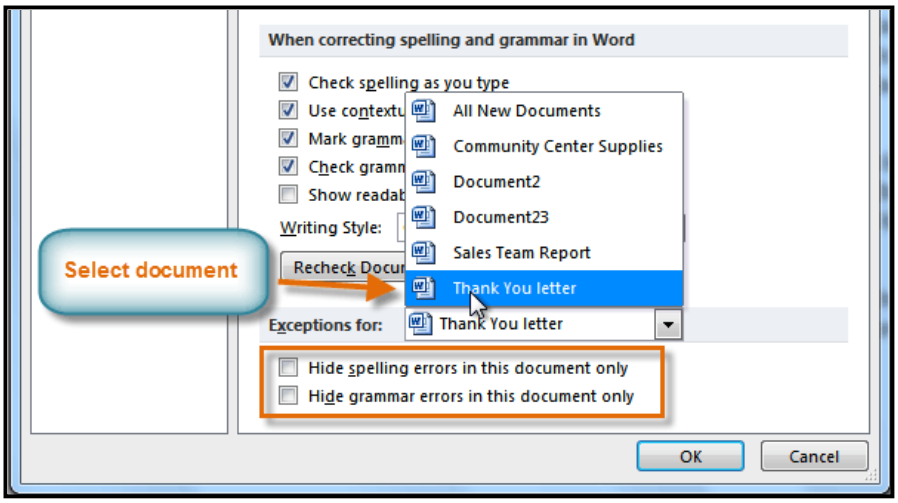
1. From **Backstage view**, click on **Options**.
2. Select **Proofing**. The dialog box gives you several options to choose from:
   - If you don't want Word to automatically check spelling, uncheck **Check spelling as you type**.
   - If you don't want grammar errors to be marked, uncheck **Mark grammar errors as you type**.
   - To check for contextual spelling errors, check **Use contextual spelling**.

If you've turned off the automatic spelling and/or grammar checks, you can still run a check by going to the **Review tab** and clicking the **Spelling & Grammar** button.

To Hide Spelling and Grammar Errors in a Document:

If you're sharing a document such as a resume with someone, you might not want them to see those annoying red, green, and blue lines. Turning off the automatic spelling and grammar checks only applies to your computer, so the lines may still show up when someone else views your document. Luckily, you can hide spelling and grammar errors in a document so that the lines will not show up on any computer.

1. From **Backstage view**, click on **Options**.
2. Select **Proofing**.
3. In the drop-down box next to **"Exceptions for:"** select the correct document (if you have more than one document open).
4. Put a checkmark next to **Hide spelling errors in this document only** and **Hide grammar errors in this document only**.
5. Click **OK**.



Lesson: 4

Using Indents, Tab, Line & Paragraph Spacing

There are several ways in Word that you can indent text; however, it's important to use these tools appropriately in order to indent correctly each time. This helps the editing process go smoothly, thus saving you time.

In this lesson, you will learn how to use the **tab selector** and the **horizontal ruler** to **set tabs** and **indents**, and how to use the **Increase** and **Decrease Indent** commands.

Indenting Text

In many types of documents, you may wish to **indent** only the **first line of each paragraph**. This helps to visually separate paragraphs from one another. It's also possible to indent every line **except** the **first line**, which is known as a **hanging indent**.

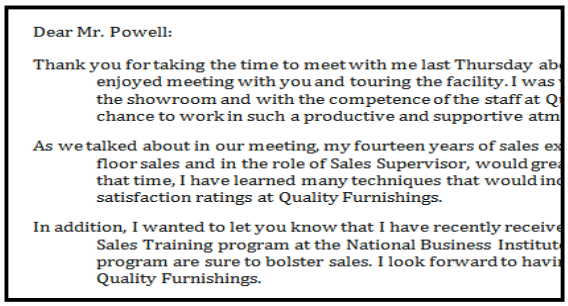

Dear Mr. Powell:

Thank you for taking the time to meet with me last Thur
position. I enjoyed meeting with you and touring the facility. I w
of the showroom and with the competence of the staff at Quality
chance to work in such a productive and supportive atmosphere

As we talked about in our meeting, my fourteen years of
commissioned floor sales and in the role of Sales Supervisor, wo
Furnishings. In that time, I have learned many techniques that w
customer satisfaction ratings at Quality Furnishings.

In addition, I wanted to let you know that I have recently
Superior Sales Training program at the National Business Institu
the program are sure to bolster sales. I look forward to having th
Quality Furnishings.

First Line Indent


Dear Mr. Powell:

Thank you for taking the time to meet with me last Thursday ab
enjoyed meeting with you and touring the facility. I was
the showroom and with the competence of the staff at Q
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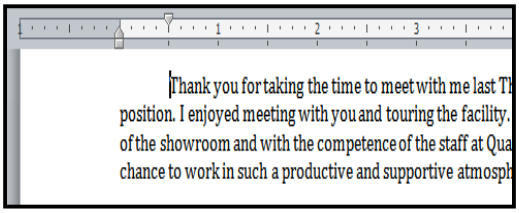
satisfaction ratings at Quality Furnishings.

In addition, I wanted to let you know that I have recently receive
Sales Training program at the National Business Institut
program are sure to bolster sales. I look forward to havi
Quality Furnishings.

Hanging Indent

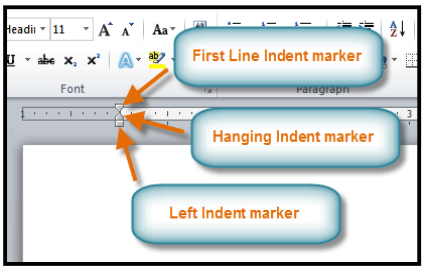
To Indent Using the Tab Key:

A quick way to indent is to use the Tab key. This will create a first line ***indent of 1/2 inch***.


Thank you for taking the time to meet with me last Th
position. I enjoyed meeting with you and touring the facility.
of the showroom and with the competence of the staff at Qua
chance to work in such a productive and supportive atmosph

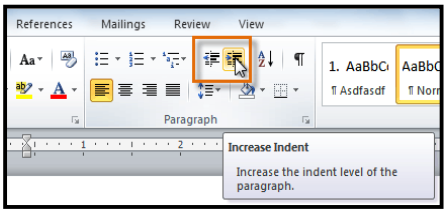
1. Place the insertion point **at the very beginning** of the paragraph you wish to indent.
2. Press the **Tab** key. You should see the **First Line Indent marker** move to the right by 1/2 inch.

To Create or Adjust a First Line Indent or Hanging Indent:



1. Place the **insertion point** anywhere in the paragraph you wish to indent, or select one or more paragraphs.
2. To adjust the first line indent, drag the **First Line Indent marker** on the ruler.
3. To adjust the hanging indent, drag the **Hanging Indent marker**.
4. To move both markers at the same time, drag the **Left Indent marker**. This will indent all of the lines in the paragraph.

To Use the Indent Commands:



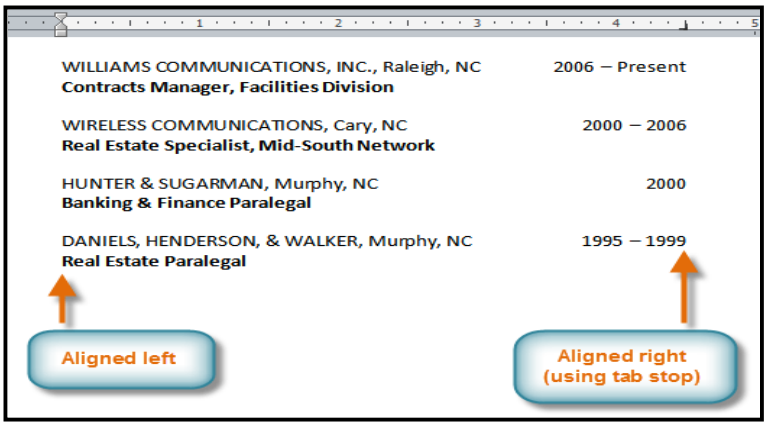
If you want to indent all of the lines in a paragraph, you can use the Indent commands on the Home tab.

1. Select the text you wish to indent.
2. Make sure you are on the **Home** tab.
3. Click the **Increase Indent** command to **increase** the indent by increments of **1/4 inch**.
4. Click the **Decrease Indent** command to **decrease** the indent by increments of **1/2 inch**.

If you would prefer to type in your **indent amounts**, you can use the **Indent fields** on the **Page Layout tab**.

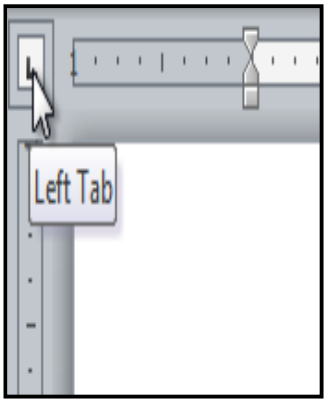
Tabs

Using tabs is often the best way to control exactly where text is placed. By default, every time you ***press the tab key***, the insertion point will move ***1/2 inch*** to the right. By adding tab ***stops*** to the Ruler, you can change the size of the tabs, and you can even have more than one type of alignment in a single line. ***For example,*** you could ***Left Align*** the beginning of the line and **Right Align t**he end of the line by simply adding a Right Tab.



Pressing the tab key can either add a tab or create a first line indent depending on where the insertion point is. Generally, if the insertion point is at the beginning of an existing paragraph, it will create a first line indent; otherwise, it will create a ***tab***.

The Tab Selector



The ***tab selector*** is above the ***vertical ruler*** on the ***left***. ***Hover*** over the ***tab selector*** to see the name of the type of tab stop that is active.

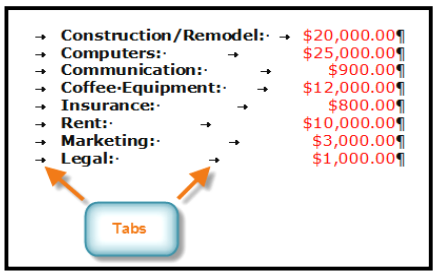
The types of tab stops include:

- **Left Tab** : Left-aligns the text at the tab stop.
- **Center Tab** : Centers the text around the tab stop.
- **Right Tab** : Right-aligns the text at the tab stop.
- **Decimal Tab** : Aligns decimal numbers using the decimal point.
- **Bar Tab** : Draws a vertical line on the document.
- **First Line Indent** : Inserts the indent marker on the ruler and indents the first line of text in a paragraph.
- **Hanging Indent** : Inserts the hanging indent marker and indents all lines other than the first line.

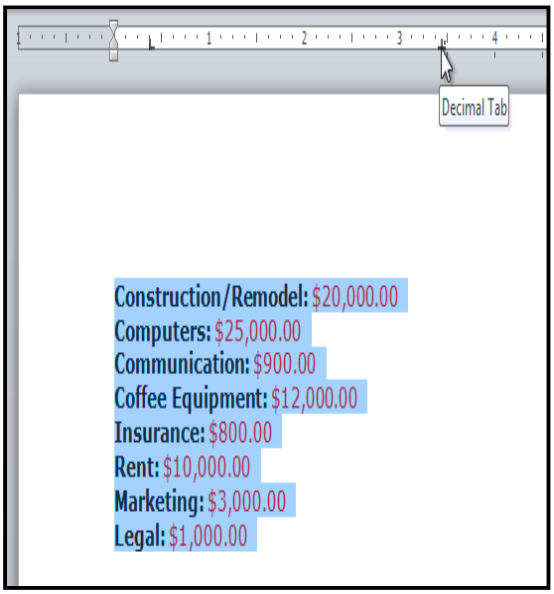
Although ***Bar Tab, First Line Indent, and Hanging Indent*** appear on the tab selector, they're not technically tabs.

To Add Tab Stops:

1. Select the paragraph or paragraphs that you want to add tab stops to. If you don't select any paragraphs, the tab stops will apply to the **current paragraph** and any **new paragraphs** that you type below it.
2. Click the **tab selector** until the tab stop you wish to use appears.
3. Click the **location on the horizontal ruler** where you want your text to appear (it helps to click on the **bottom edge** of the ruler). You can add as many tab stops as you want.
4. Place the **insertion point** where you want to add the tab, and press the **Tab** key. The text will jump to the next tab stop.
5. To remove a tab stop, just drag it off of the Ruler.

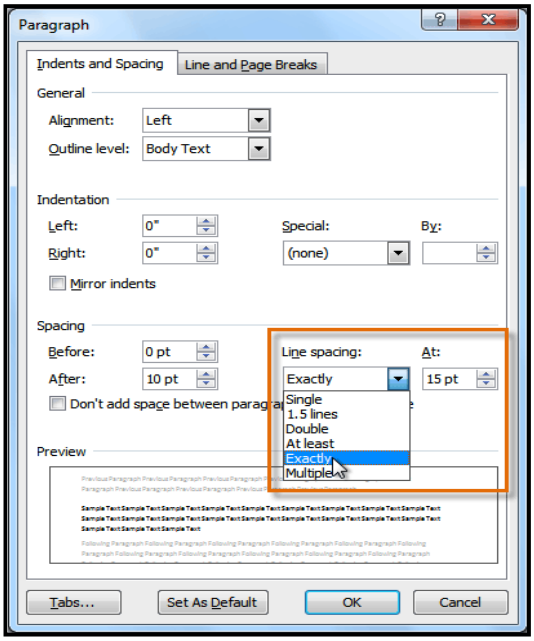


Click the ***Show/Hide*** ¶ command on the **Home tab** (in the Paragraph group). This will allow you to see the nonprinting characters ***such as:*** the spacebar, paragraph **(¶)**, and Tab key markings.

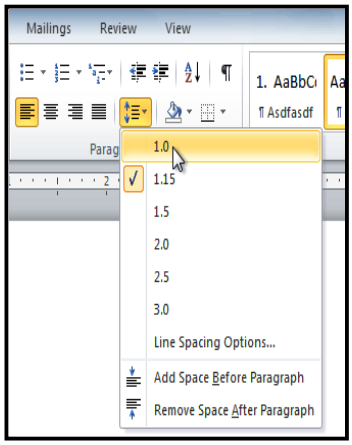


Line Spacing

Line spacing can either be measured in ***lines*** or ***points***. ***For example,*** when text is ***double-spaced***, the line spacing is ***two lines high***. On the other hand, you might set ***12-point text*** with something like ***15-point spacing***, which gives enough height for the text plus a little extra space. You can reduce the line spacing to fit more lines on the page, or you can increase it to improve readability. Line spacing is also known as leading (pronounced to rhyme with "***wedding***").



To Format Line Spacing:



1. **Select** the text you want to format.
2. Click the **Line and Paragraph Spacing** command in the **Paragraph** group on the **Home** tab.
3. Select the desired spacing option from the drop-down menu.
4. From the drop-down menu, you can also select **Line Spacing Options** to open the **Paragraph** dialog box. From here, you can adjust the line spacing with even more precision.

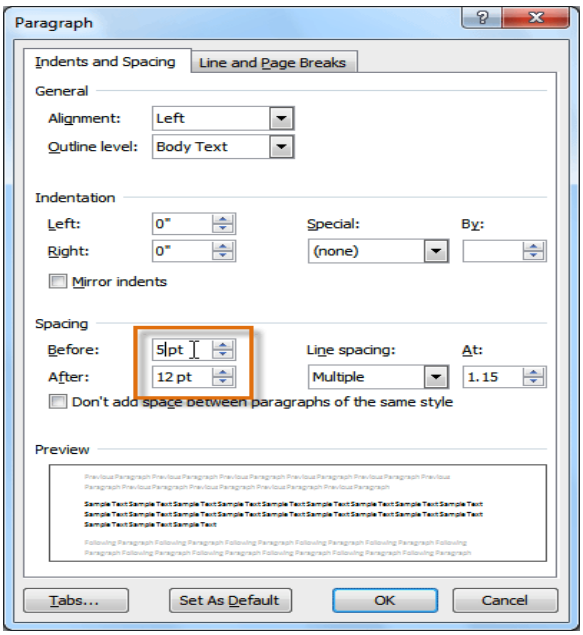
If you select At least or ***Exactly*** in the ***Paragraph dialog box***, the line spacing will be measured in ***points***. Otherwise, it will be measured in ***lines***.

Paragraph Spacing

Just as you can format spacing between lines in your document, you can also choose spacing options between each paragraph. Typically, extra spaces are added between paragraphs, headings, or subheadings. Extra spacing between paragraphs helps to make a document easier to read.

To Format Paragraph Spacing:

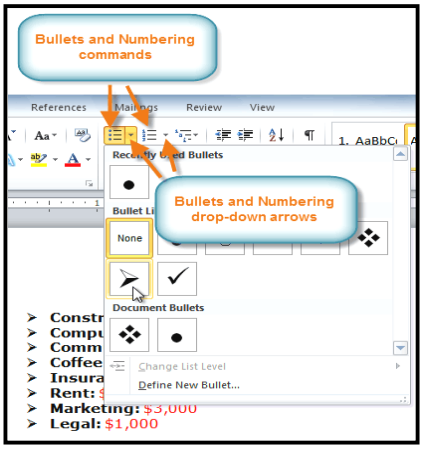
1. Click the **Line and Paragraph Spacing** command on the Home tab.
2. Select **Add Space Before Paragraph** or **Remove Space After Paragraph** from the drop-down menu.
3. From the drop-down menu, you can also select **Line Spacing Options** to open the Paragraph dialog box. From here, you can control exactly how much space there is **before** and **after** the paragraph.



Lesson: 5

Working with List, Adding Breaks, Column & Hyperlinks

Bulleted and numbered lists can be used in your documents to format, arrange and emphasize text. In this lesson, you will learn how to modify existing bullets, insert new bulleted and numbered lists, select symbols as bullets, and format multilevel lists.



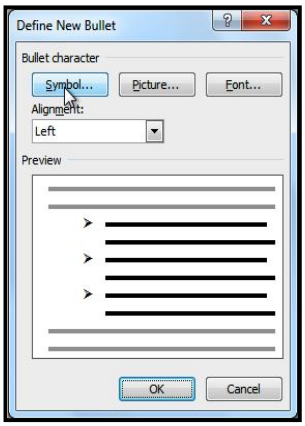
To Create a List:

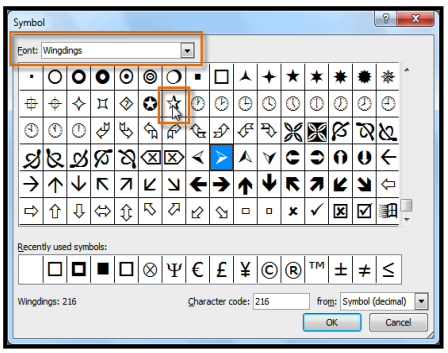
1. Select the ***text*** that you want to format ***as a list***.
2. Click the ***Bullets*** or ***Numbering*** drop-down arrow on the ***Home tab***.
3. Select the ***bullet*** or ***numbering style*** you would like to use, and it will appear in the document.
4. To remove numbers or bullets from a list, select the ***list*** and click the ***Bullets*** or ***Numbering commands***.

When you're editing a list, you can press Enter to start a new line, and the new line will automatically have a bullet or number. When you've reached the end of your list, press Enter twice to return to "normal" formatting.

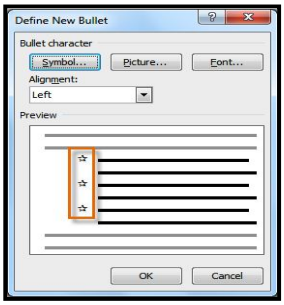
Bullet Options

To Use a Symbol as a Bullet:



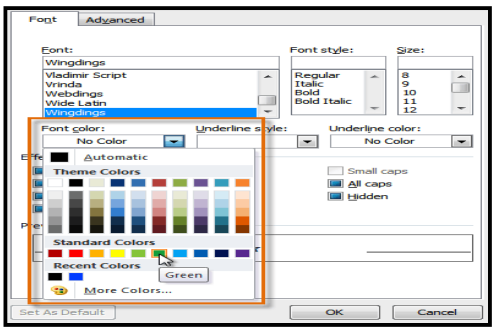


1. Select an existing list.
2. Click the **Bullets** drop-down arrow.
3. Select **Define New Bullet** from the drop-down menu. The Define New Bullet dialog box appears.
4. Click the **Symbol** button. The Symbol dialog box appears.
5. Click the **Font** drop-down box and select a font. The **Wingdings** and **Symbol** fonts are good choices as they have a large number of useful symbols.
6. Select the desired symbol.
7. Click **OK**. The symbol will now appear in the Preview section of the Define New Bullet dialog box.
8. Click **OK** to apply the symbol to the list in the document.



You can use a picture as a bullet. Click the Picture button in the Define New Bullet dialog box, and then locate the image file on your computer.

To Change the Bullet Color:



1. Select an existing list.
2. Click the **Bullets** drop-down arrow.
3. Select **Define New Bullet** from the list. The Define New Bullet dialog box appears.
4. Click the **Font** button. The Font dialog box appears.
5. Click the **Font Color** drop-down box.
6. ***Choosing a bullet color***
7. Click on the desired color to select it.
8. Click **OK**. The bullet color will now appear in the Preview section of the Define New Bullet dialog box.
9. Click **OK** to apply the bullet color to the list in the document.

Multilevel Lists

Multilevel lists allow you to create an outline with multiple levels. In fact, you can turn any bulleted or numbered list into a multilevel list by simply placing the insertion point at the beginning of a line and pressing the Tab key to change the level for that line. You can then use the Multilevel List command to choose the types of bullets or numbering that are used.

To Create a Multilevel List:

1. Select the text that you want to format as a multilevel list.
2. Click the ***Multilevel List command*** on the **Home tab**.
3. Click the ***bullet or numbering style*** you would like to use. It will appear in the document.
4. Position your ***cursor*** at the end of a list item and press the ***Enter*** key to add an item to the list.

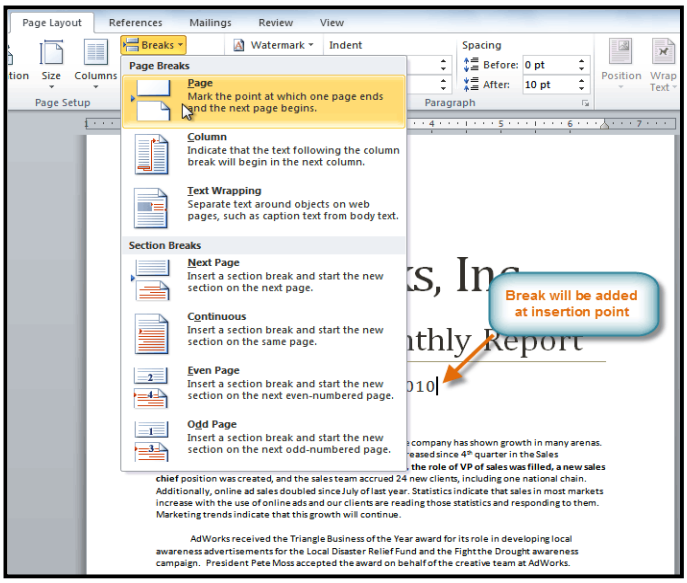
To remove numbers or bullets from a list, select the list and click the Bullets or Numbering commands

To Change the Level of a Line:

1. Place the **insertion point** at the beginning of the line.
2. Press the **Tab** key to increase the level.
3. Hold **Shift** and press **Tab** to decrease the level.

Adding Breaks

Word has several different types of breaks that you can add to your document to change the layout and pagination. Each type of break serves a different purpose and will affect the document in different ways. Page breaks move text to a new page before reaching the end of a page, while section breaks create a barrier between parts of the document for formatting purposes. Column breaks split text in columns at a specific point. In this lesson, you'll learn how to insert and delete breaks.



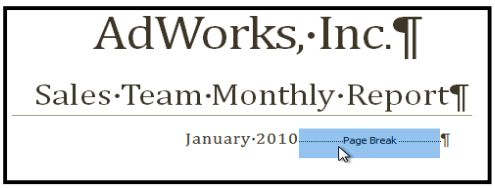
Breaks allow you to have more control over the layout of your document. You might use a page break if you're writing a paper that has a bibliography to ensure that the bibliography starts on a new page. Or, you might use a column break if you are using columns and want them to be arranged in a particular way.

To Insert a Break:

1. Place the **insertion point** where you want the **break** to appear.
2. Select the **Page Layout** tab.
3. Click the **Breaks** command. A menu appears.
4. Click the desired **break option** to create a break in the document.

To Delete a Break:

Breaks are hidden by default. If you want to delete a break, then you'll probably want Word to show the breaks so you can find them for editing.

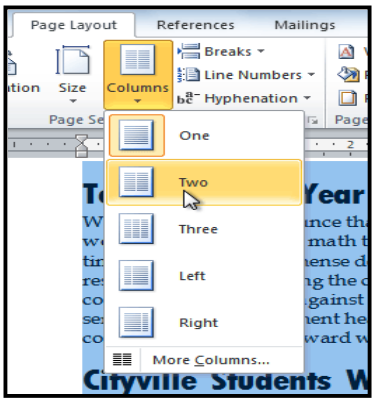


1. From the **Home tab**, click the **Show/Hide ¶** command.
2. **Double-click the break** to select it.
3. Press the **Backspace** or **Delete** key to delete the break.

Working with Columns

Columns are used in many types of documents, but are most commonly used in newspapers, magazines, academic journals, and newsletters. In this lesson you will learn how to insert columns into a document and create column breaks.

To Add Columns to a Document:

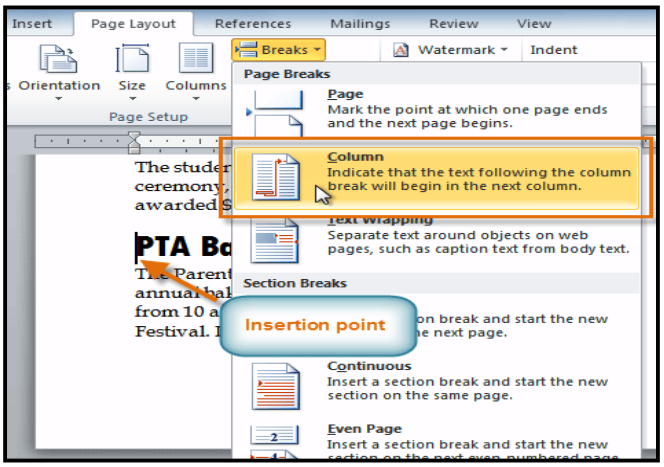


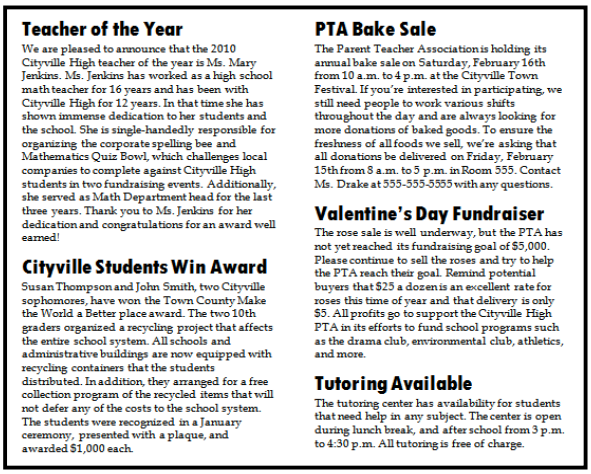
1. Select the text you want to format.
2. Click the ***Page Layout tab***.
3. Click the ***Columns*** command. A drop-down menu will appear.
4. Select the ***number of columns*** you would like to insert.

If you want to get rid of the columns, just click the Columns command and select One for the number of columns.

To Add Column Breaks:

1. Place the **insertion point** where you would like to add the break.
2. Click the **Page Layout** tab.
3. Click the **Breaks** command in the **Page Setup** group. A drop-down menu will appear.
4. Select **Column** from the list of break types.
5. The text will shift to reflect the column break.





Teacher of the Year

We are pleased to announce that the 2010 Cityville High teacher of the year is Ms. Mary Jenkins. Ms. Jenkins has worked as a high school math teacher for 16 years and has been with Cityville High for 12 years. In that time she has shown immense dedication to her students and the school. She is single-handedly responsible for organizing the corporate spelling bee and Mathematics Quiz Bowl, which challenges local companies to complete against Cityville High students in two fundraising events. Additionally, she served as Math Department head for the last three years. Thank you to Ms. Jenkins for her dedication and congratulations for an award well earned!

Cityville Students Win Award

Susan Thompson and John Smith, two Cityville sophomores, have won the Town County Make the World a Better place award. The two 10th graders organized a recycling project that affects the entire school system. All schools and administrative buildings are now equipped with recycling containers that the students distributed. In addition, they arranged for a free collection program of the recycled items that will not defer any of the costs to the school system. The students were recognized in a January ceremony, presented with a plaque, and awarded $1,000 each.

PTA Bake Sale

The Parent Teacher Association is holding its annual bake sale on Saturday, February 16th from 10 a.m. to 4 p.m. at the Cityville Town Festival. If you're interested in participating, we still need people to work various shifts throughout the day and are always looking for more donations of baked goods. To ensure the freshness of all foods we sell, we're asking that all donations be delivered on Friday, February 15th from 8 a.m. to 5 p.m. in Room 555. Contact Ms. Drake at 555-555-5555 with any questions.

Valentine's Day Fundraiser

The rose sale is well underway, but the PTA has not yet reached its fundraising goal of $5,000. Please continue to sell the roses and try to help the PTA reach their goal. Remind potential buyers that $25 a dozen is an excellent rate for roses this time of year and that delivery is only $5. All profits go to support the Cityville High PTA in its efforts to fund school programs such as the drama club, environmental club, athletics, and more.

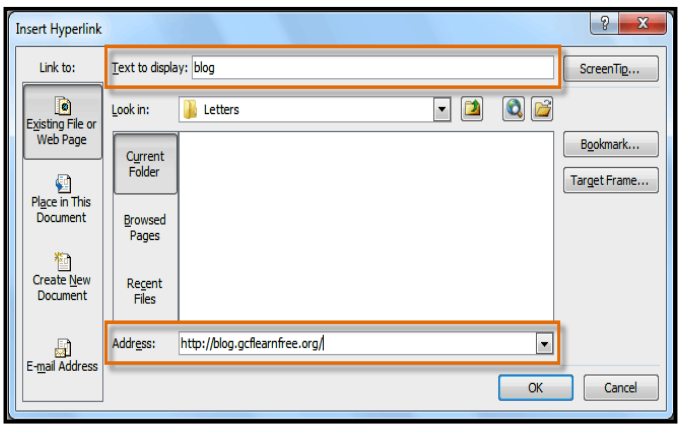
Tutoring Available

The tutoring center has availability for students that need help in any subject. The center is open during lunch break, and after school from 3 p.m. to 4:30 p.m. All tutoring is free of charge.

Working with Hyperlinks

Whenever you use the Web, you are using hyperlinks to navigate from one web page to another. Sometimes, a hyperlink will link to a different section of the same page. If you want to include a web address or email address in your Word document, you can format it as a hyperlink for a person to click on.

Hyperlinks have two basic parts: the address of the web page, email address, or other location that they are linking to, and the display text (or image). ***For example***, the address could be ***http://blog.gcflearnfree.org***, and the display text could be "***blog***". In some cases, the display text might be the same as the address. When you're creating a hyperlink in Word, you'll be able to choose both the address and the display text or image. To follow a ***hyperlink*** in Word, hold down the ***Control key*** and click on the ***hyperlink***.



To Insert a Hyperlink:

1. Select the text or image you would like to make a hyperlink.
2. Right-click the selected text or image and click ***Hyperlink***. Or, if you would prefer, you can right-click in a blank area of the document and click ***Hyperlink***.

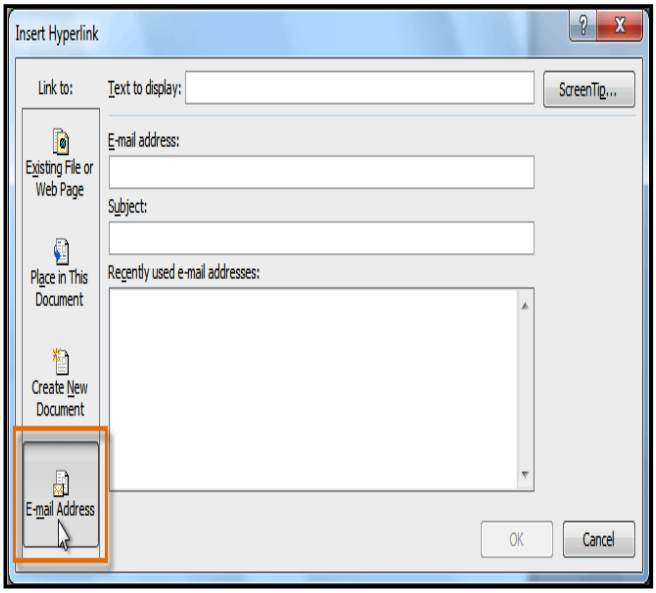
3. The ***Insert Hyperlink*** dialog box will open. You can also get to this dialog box from the ***Insert tab*** by clicking Hyperlink.
4. If you selected text, the words will appear in the ***Text to display***: field at the top. You can change this text if you want.
5. Type the address you would like to link to in the ***Address***: field.
6. Click **OK**. The text or image you selected will now be a hyperlink.

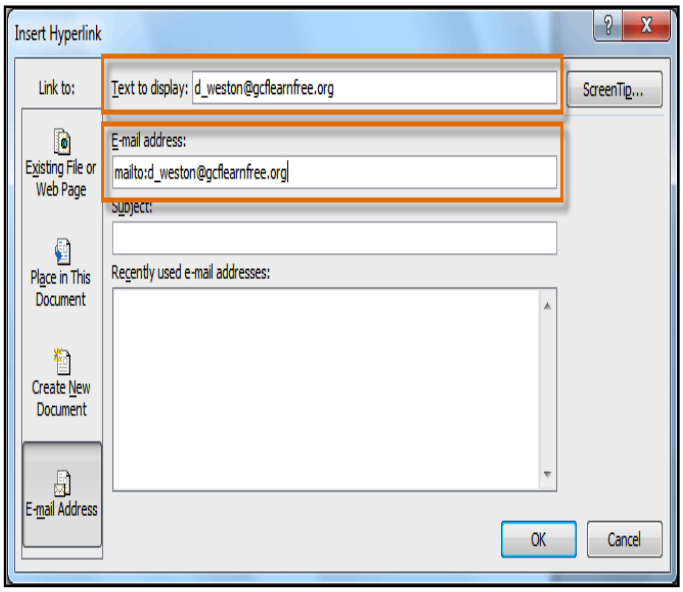
More on our blog.

You can also insert a hyperlink that links to another portion of the same document by selecting Place in This Document from the Insert Hyperlink dialog box.

To Make an Email Address a Hyperlink:

1. Right-click the selected text or image and click **Hyperlink**.
2. The **Insert Hyperlink** dialog box will open.
3. On the left side of the dialog box, click **Email Address**.
4. Type the email address you want to connect to in the **Email Address** box and click **OK**.

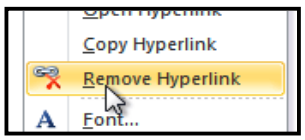




Word often recognizes ***email*** and ***web addresses*** as you type and will format them as ***hyperlinks*** automatically after you press the ***Enter key*** or ***spacebar***.

To Remove a Hyperlink:

1. Right-click the ***hyperlink***.
2. Click ***Remove*** Hyperlink.



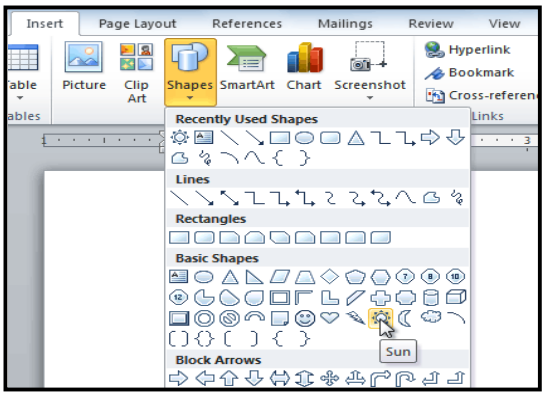
After you create a ***hyperlink***, you should test it. If you have linked to a web site, your web browser should automatically open and display the site. If it doesn't work, check the hyperlink address for misspellings.

Lesson: 6

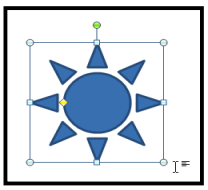
Working with Shapes, Text Boxes & Word Art

You can add a variety of shapes to your document including arrows, callouts, squares, stars, flowchart shapes and more. Want to set your name and address apart from the rest of your resume? Use a line. Need to create a diagram showing a timeline or process? Use the flowchart shapes. While you may not need shapes in every document you create, they can add visual appeal and clarity. In this lesson you will learn how to insert a shape and format it by changing its fill color, outline color, shape style, and shadow effects. Additionally, you will learn how to apply 3-D effects to shapes.

To Insert a Shape:

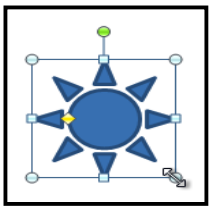


1. Select the ***Insert*** tab.
2. Click the ***Shapes*** command.
3. Select a shape from the ***drop-down*** menu.
4. ***Click*** and ***drag*** the mouse until the shape is the desired size.
5. Release the mouse button.

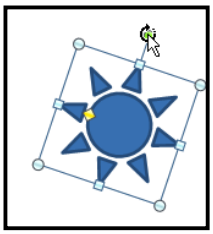


To Resize a Shape:

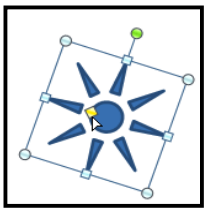
1. Click on the shape to select it.
2. ***Click*** and ***drag*** one of the sizing handles on the corners and sides of the text box until it is the desired size.



Resizing the shape



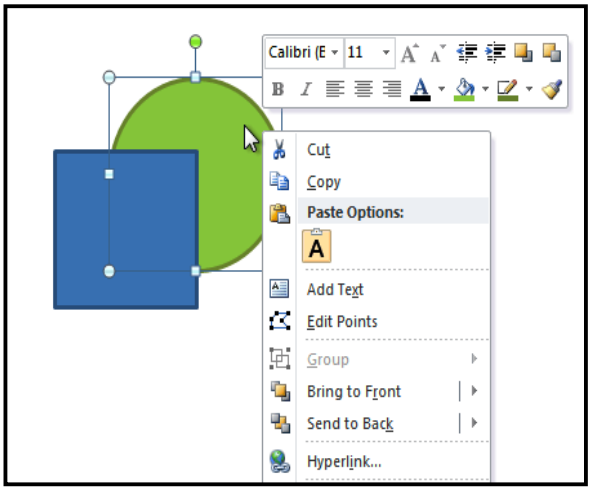
1. To rotate the shape, drag the green handle.
2. Some shapes also have one or more yellow handles that can be used to modify the shape. For example, with star shapes, you can adjust the length of the points.



If you drag the sizing handles on any of the four corners, you will be able to change the height and width at the same time. The sizing handles on the top or bottom of the shape will only allow you to resize vertically, while the handles on the left and right sides will resize the shape horizontally.

To Change the Order of Shapes:

If one shape overlaps another, you may need to change the ordering so that the correct shape appears in front. You can bring a shape to the front or send it to the back. If you have multiple images, you can use ***Bring Forward*** or ***Send Backward*** to fine-tune the ordering. You can also move a shape in ***front of*** or ***behind text***.

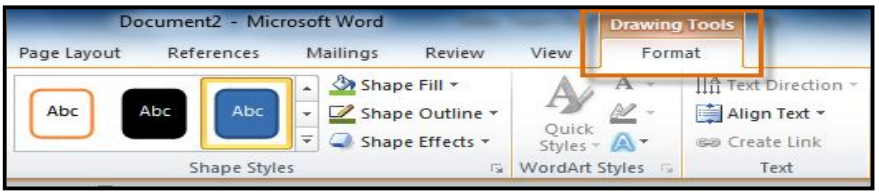


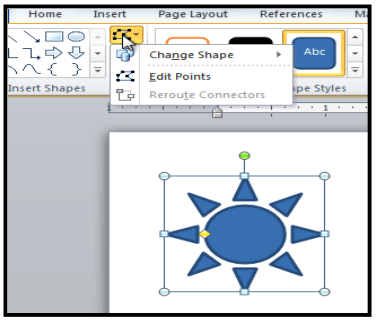
1. ***Right-click*** the shape you wish to move.
2. In the menu that appears, ***hover*** over ***Bring to Front*** or ***Send to Back***. Several ordering options will appear.
3. Select the desired ordering option. The shapes will reorder themselves.

In some cases, the ordering option you select will not affect the ordering of the shapes. If that happens, select the same option again or try a different option.

To Change to a Different Shape:

1. Select the shape. A new **Format** tab appears with Drawing Tools.

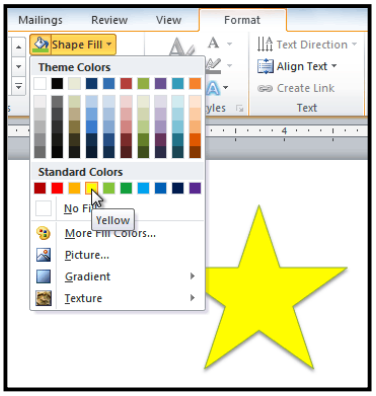




2. Click on the **Format** tab.
3. Click the **Edit Shape** command.
4. Click **Change Shape** to display a drop-down list.
5. Select the desired shape from the list.

To Change Shape Style:

1. Select the shape. The **Format** tab appears.
2. Click the **More** drop-down arrow in the Shape Styles group to display more style options.
3. Move your cursor over the styles to see a live preview of the style in your document.
4. Select the desired style.



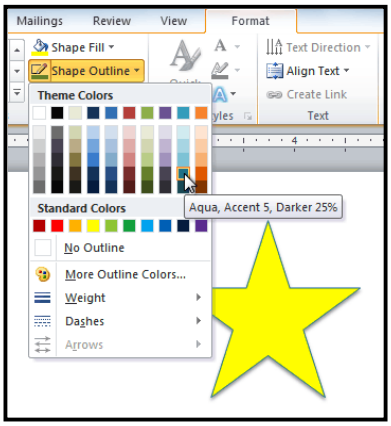
To Change the Shape Fill Color:

1. Select the shape. The **Format** tab appears.
2. Select the **Format** tab.
3. Click the **Shape Fill** command to display a drop-down list.

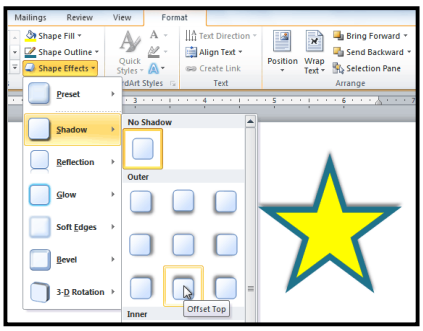
Select the desired **color** from the list, choose **No Fill**, or choose **More Fill Colors** to choose a custom color.

To Change the Shape Outline:

1. Select the shape. The **Format** tab appears.
2. Click the **Format** tab.
3. Click the **Shape Outline** command to display a drop-down menu.
4. From the drop-down menu, you can change the outline **color**, **weight** (thickness), and whether or not it is a **dashed** line.



To Change Shadow Effects:



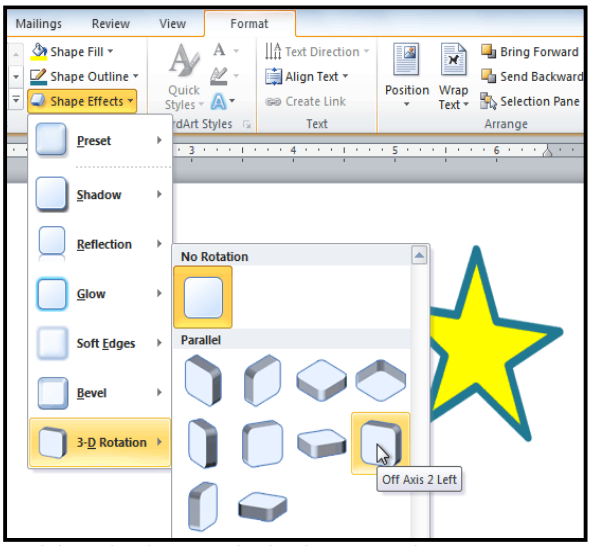
1. Select the **Format** tab.
2. Click the **Shape Effects** command. A drop-down menu will appear.
3. **Hover** the mouse over **Shadow**. You will see a list of shadow presets.
4. Move your mouse over the menu options to see a live preview of the shadow effect in your document.
5. Click the desired shadow effect to add it to your shape.

You can select Shadow Options from the drop-down menu and click the Color button to select a different shadow color for your shape.

3-D Effects

There are two kinds of effects that you can apply to your shapes to give them a 3-D appearance: 3-D Rotation and Bevel. 3-D Rotation gives the appearance that you are viewing the object from a different angle, and it can be applied to any shape. Bevel adds thickness and a rounded edge to shapes, but it doesn't work with every type of shape.

To Use 3-D Rotation:



1. Select the shape.
2. Click on the **Format** tab.
3. Click **Shape Effects** from the **Shape Styles** group.
4. Hover the mouse over **3-D Rotation**. A drop-down menu will appear.
5. Select the desired **rotation preset** from the drop-down menu. You can also click **3-D Rotation Options** if you would prefer to type in custom values.

To Use Bevel:

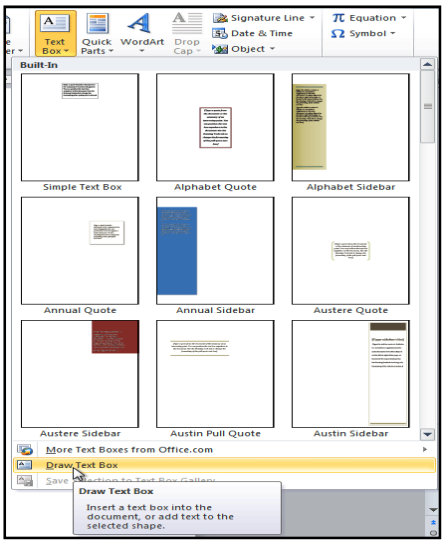
1. Select the shape.
2. Click on the Format tab.
3. Click **Shape Effects** from the **Shape Styles** group.
4. Hover the mouse over **Bevel**. A drop-down menu will appear.
5. Select the desired **bevel preset** from the drop-down menu. You can also click **3-D Options** if you would prefer to type in custom values.

If you click on **3-D Options**, you'll also be able to change the shape's material to give it a metal, plastic, or translucent appearance, and you can choose the lighting type to change how the shape is illuminated.

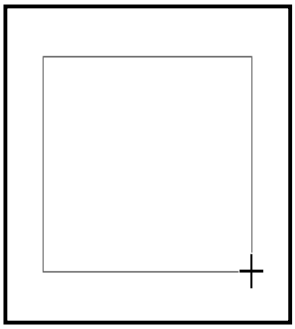
Text Boxes and WordArt

You may want to insert a text box into your document to draw attention to specific text or to have the ability to easily move text around within a document. Text boxes are basically treated the same as shapes, so you can add the same types of effects to them, and you can even change their shape. If you want, you can format the text inside the text box as WordArt, allowing you to apply 3-D effects and transformations to the text itself.

To Insert a Text box:



1. Select the **Insert** tab on the Ribbon.
2. Click the **Text Box** command in the **Text** group. A drop-down menu will appear.
3. Select **Draw Text Box**.



Creating a blank text box

1. Click and drag on the document to create the text box.
2. You can now start typing to create text inside the text box.

From the drop-down menu, you can also select one of the built-in text boxes that have pre-defined colors, fonts, positions and sizes. If you choose this option, the text box will appear automatically, so you will not need to click and drag to draw it.

To Move a Text Box:

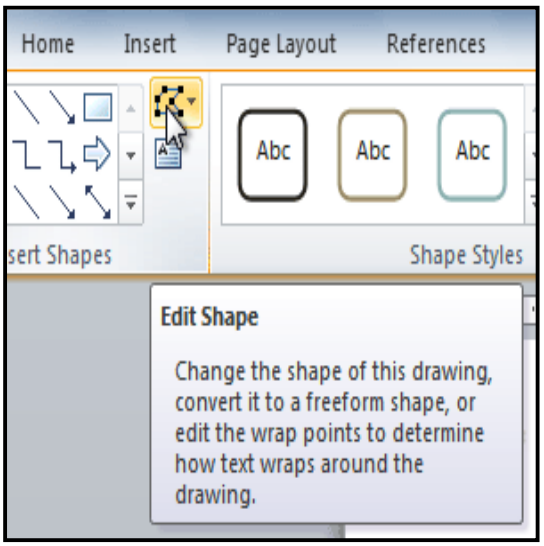
1. Click on the text box.
2. Hover the mouse over one of the edges of the text box. The mouse pointer becomes a **cross with arrows** on each end and looks like this:
3. **Click and drag** the text box to the desired location on the page.
4. ***Moving a text box***

To Resize a Text Box:

1. Click the text box.
2. Click and drag one of the **sizing handles** on the corners or sides of the text box until it is the desired size.

If you drag the **sizing handles** on any of the four corners, you will be able to change the **height** and **width** at the same time. The sizing handles on the top or bottom of the text box will only allow you to resize **vertically**, while the handles on the left and right sides will resize the text box **horizontally**.

To Change the Text Box Shape:



1. Select the text box. A new **Format** tab appears with Drawing Tools.
2. Go to the **Format** tab.
3. Click the **Edit Shape** command
4. Click **Change Shape** to display a drop-down list.
5. Select the desired shape from the list.

To Choose a Shape Style:

Choosing a Shape Style allows you to apply a preset fill and outline color, and in some cases, other effects such as **beveling** and **shadow**. You don't have to pick a style for your text box, but it can help you save time or experiment with different appearances.

1. Select the text box. The **Format** tab appears.
2. Select the **Format** tab.
3. Click the **More** drop-down arrow in the Shape Styles group to display more style options.
4. Hover the mouse over the styles to see a live preview.
5. Select the desired style.

To Change Shape Fill:

1. Select the text box. The **Format** tab appears.
2. Click the **Format** tab.
3. Click the **Shape Fill** command to display a drop-down menu.
4. From the drop-down menu, you can select a **color** from the list, choose **No Fill**, or select **More Fill Colors** to use a color that's not on the list.

To Change the Shape Outline:

1. Select the text box. The **Format** tab appears.
2. Click the **Shape Outline** command to display a drop-down list.
3. Select a **color** from the list, choose **No Outline**, or select **More Outline Colors** to use a color that's not on the list.
4. From the drop-down menu, you can change the outline **color**, **weight** (thickness), and whether or not it is a **dashed** line.

To Change Shadow Effects:

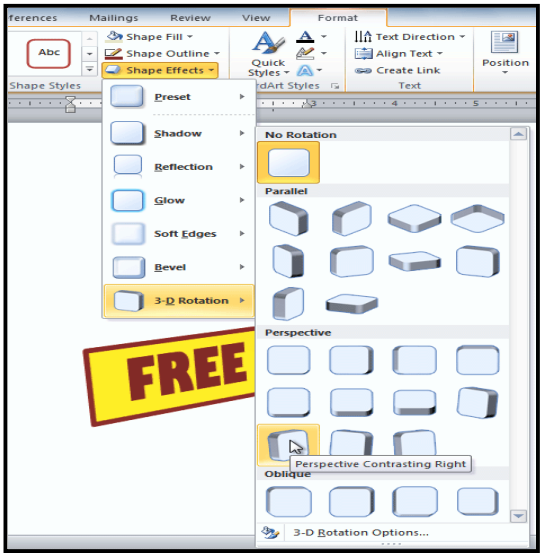
1. Select the text box. The **Format** tab appears.
2. Select the **Format** tab.
3. Click the **Shape Effects** command.
4. Click **Shadow**.
5. Move your mouse over the menu options to see a live preview in your document.
6. Click the desired option to select the shadow effect.

To choose a different shadow color for your shape, select **Shadow Options** from the drop-down menu and click the **Color** button.

3-D Effects

Just like other types of shapes, text boxes can have **3-D Effects**. There are two kinds of effects that you can apply to your shapes to give them a 3-D appearance: **3-D Rotation** and **Bevel**. **3-D Rotation** gives the appearance that you are viewing the object from a different angle, and it can be applied to any shape. **Bevel** adds thickness and a rounded edge to shapes; however it doesn't work with every type of shape.

To Use 3-D Rotation:



1. Select the text box.
2. Click on the **Format** tab.
3. Click **Shape Effects** from the **Shape Styles** group.
4. Hover the mouse over **3-D Rotation**. A drop-down menu will appear.
5. Select the desired **rotation preset** from the drop-down menu. You can also click **3-D Rotation Options** if you would prefer to type in custom values.

To Use Bevel:

1. Select the text box.
2. Click on the **Format** tab.
3. Click **Shape Effects** from the **Shape Styles** group.
4. Hover the mouse over **Bevel**. A drop-down menu will appear.
5. Select the desired **bevel preset** from the drop-down menu. You can also click **3-D Options** if you would prefer to type in custom values.

If you click on **3-D Options**, you'll also be able to change the shape's **Material** to give it a metal, plastic, or translucent appearance, and you can choose the **Lighting** type to change how the shape is illuminated.

Creating WordArt

In addition to adding effects to a text box, you can also add effects to the **text inside the text box**, which is known as **WordArt**. For the most part, the types of effects you can add are the same as the ones you can add to shapes or text boxes (shadow, bevel, etc.). However, you can also **Transform** the text to give it a wavy, slanted, or inflated look.

To Apply a Quick Style to Text:

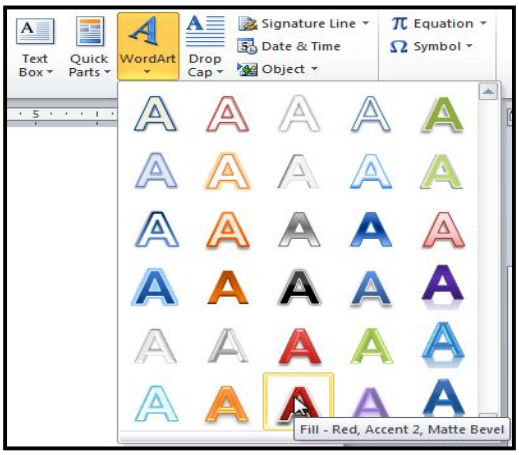
A Quick Style will automatically apply several effects to your text at once. You can then refine the look of your text by adding or modifying text effects.

1. Select the text box, or select some text inside of the text box. The **Format** tab will appear.
2. Click the **Format** tab.
3. Click the **Quick Styles** command in the **WordArt Styles** group. A drop-down menu will appear.
4. Select the desired style preset to apply the style to your text.

After you have applied a Quick Style, you can still modify the **font** or **font color** from the **Home** tab if desired.

To Convert Regular Text into WordArt:

For text to be formatted as WordArt, it needs to be inside a text box. However, there is a shortcut that allows you to convert text into WordArt even if it's not in a text box.

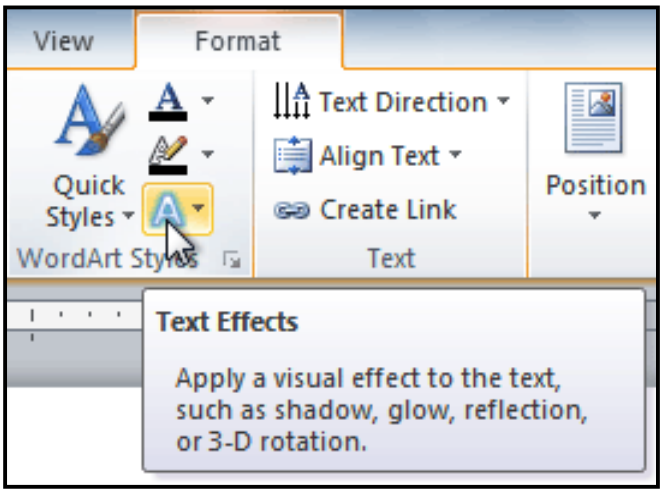


1. Select the text you wish to convert.
2. Click the **Insert** tab.
3. Click the **WordArt** command. The **Quick Styles** drop-down menu will appear.
4. Select the desired **Quick Style**.
5. Word will automatically create a text box for your text and apply the style to the text.

Some effects, such as **shadows**, can be added from the **Text Effects** menu in the **Home** tab. When you add effects in this way, it will not place the text in a text box.

To Add or Modify Text Effects:

1. Select the text box, or select some text inside of the text box. The **Format** tab will appear.
2. Click the **Format** tab.
3. Click the **Text Effects** command in the **WordArt Styles** group. A drop-down menu will appear showing the different **effect categories**.
4. Hover over an effect category. A drop-down menu will appear. You can hover the mouse over the different presets to see a live preview.
5. Select the desired effect preset. The effect will be applied to your text. If you want, you can combine several different effects.

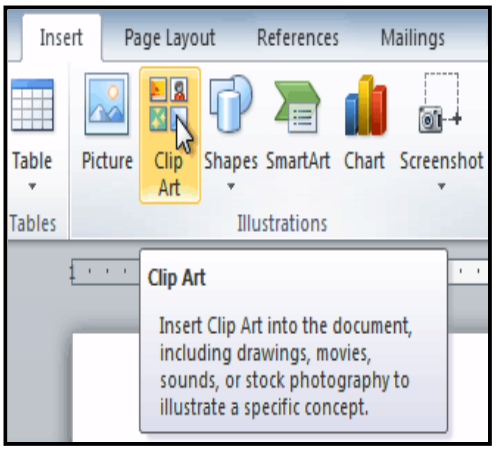


Lesson: 7

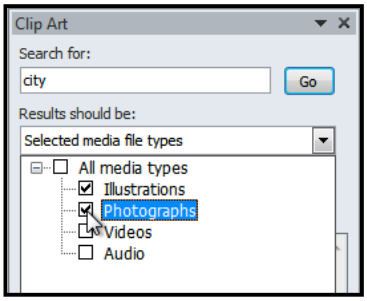
Working with ClipArt & Picture

Images are a great way to liven up a document, and Word offers a couple of ways of inserting images. There are built-in Clip Art images for just about every topic, so you may be able to find a perfect Clip Art image for your document. If you have a more specific image in mind, you can insert a picture from a file.

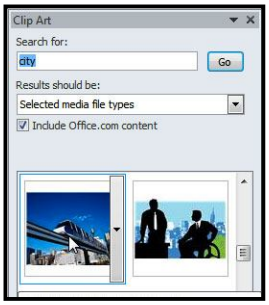
To Locate Clip Art:



1. Select the **Insert** tab.
2. Click the **Clip Art** command in the **Illustrations** group.



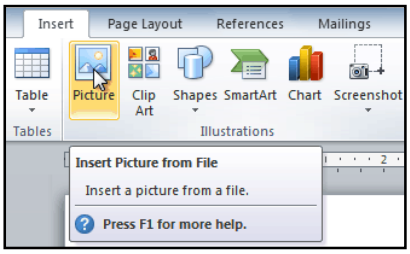
3. The Clip Art options appear in the **task pane** to the right of the document.
4. Enter keywords in the **Search for:** field that are related to the image you wish to insert.
5. Click the drop-down arrow in the **Results should be:** field.
6. Deselect any types of media you do not wish to see.
7. If you would like to also search for Clip Art on ***Office.com***, place a checkmark next to **Include Office.com content**. Otherwise, it will just search for Clip Art on your computer.
8. Click **Go**.



To Insert Clip Art:

1. Review the results from a clip art search.
2. Place your **insertion point** in the document where you wish to insert the clip art.
3. Click an image in the **Clip Art** pane. It will appear in the document.
   You can also click the **drop-down arrow** next to the image in the Clip Art pane to view more options.

To Insert a Picture From a File:



1. Place your **insertion point** where you want the image to appear.
2. Select the **Insert** tab.
3. Click the **Picture** command in the **Illustrations** group. The Insert Picture dialog box appears.
4. Select the desired image file and click **Insert** to add it to your document.

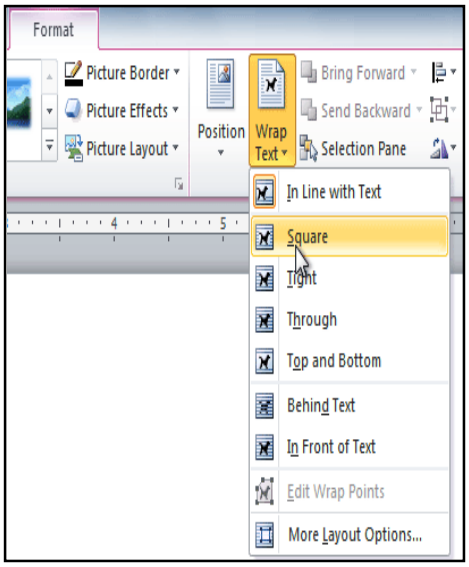
To resize an image, click and drag one of the **corner sizing handles**. The image will change size while keeping the same proportions. If you want to stretch it horizontally or vertically, you can use the **side sizing handles**.

Changing the Text Wrapping Settings

When you insert Clip Art or a picture from a file, you may notice that it's difficult to move it exactly where you want. That's because the **text wrapping** for that image is set to **In Line with Text**. You'll need to change the **text wrapping setting** if you want to move the image freely, or if you just want the text to wrap around the image in a more natural way.

To Wrap Text Around an Image:

1. Select the image. The **Format** tab will appear.
2. Click the **Format** tab.



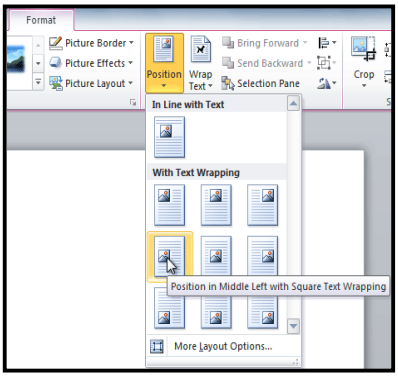
3. Click the **Wrap Text** command in the Arrange group.
4. Select the desired menu option. The text will adjust based on the option you have selected.
5. Move the image around to see how the text wraps for each setting.

If you can't get your text to wrap the way you wish, click the **Wrap Text** command and select **More Layout Options** from the menu. You can make more precise changes in the Advanced Layout dialog box that appears.

To Use a Pre-Defined Text Wrapping Setting:

1. Click the **Position** command, to the left of the **Wrap Text** command. A drop-down menu will appear.
2. From the drop-down menu, select the desired image position.

The image will move to the position that you have selected, and it will automatically have text wrapping applied to it.



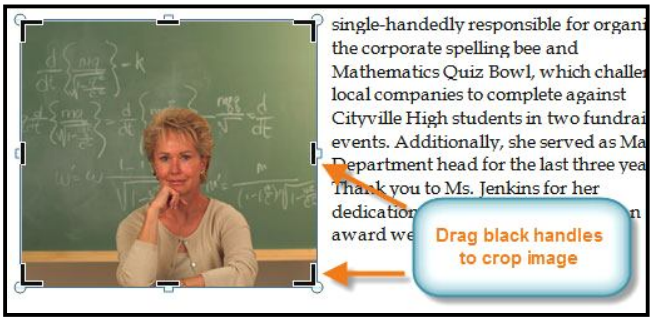
To Format Pictures

Once you've added pictures to your documents, you can format them in various ways. The picture tools in Word 2010 make it easy to incorporate images into your documents and modify those images in interesting ways.

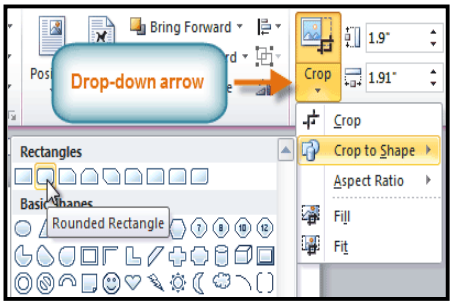
To Crop an Image:

1. Select an image. The **Format** tab will appear.
2. Select the **Format** tab.
3. Click the **Crop** command. The black cropping handles appear.
4. Click and drag a **handle** to crop an image.
5. Click the **Crop** command to deselect the crop tool.

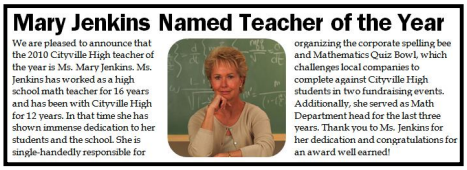
Corner handles will allow you to simultaneously crop the image horizontally and vertically.



To Crop an Image to a Shape:



1. Select the image. The **Format** tab will appear.
2. Select the **Format** tab.
3. Click the **Crop** drop-down arrow (below the Crop command). A drop-down menu will appear.
4. Select a shape from the drop-down menu.
5. The image will take the shape that you have selected.



You may want to crop the image to the desired size before cropping it to a shape.

To Add a Border to a Picture:

1. Select the picture.
2. Select the **Format** tab.
3. Click the **Picture Border** command. A drop-down menu will appear.
4. From the drop-down menu, you can select a **color**, **weight** (thickness), and whether or not the line is **dashed**.

To Make Image Corrections:

1. Select the image. The **Format** tab will appear.
2. Click the **Format** tab.
3. Click the **Corrections** command. A drop-down menu will appear.
4. To sharpen or soften the image, hover over the **Sharpen and Soften** presets. You'll see a live preview of the preset in the document.
5. When you've found a preset you like, click on it to select it.
6. Click the **Corrections** command again.
7. Hover over the **Brightness and Contrast** presets to see a live preview.
8. When you've found one you like, click on it to select it.

   You can also select Picture Corrections Options from the drop-down menu to refine the settings.

To Adjust the Color in an Image:

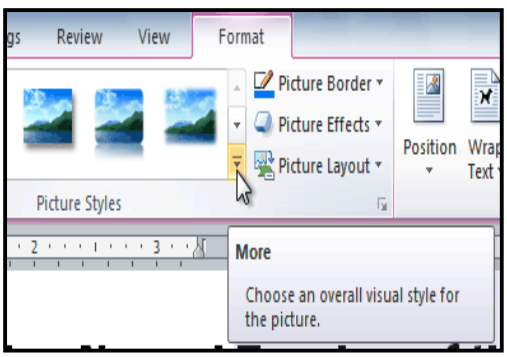
1. Select the image. The **Format** tab will appear.
2. Click the **Format** tab.
3. Click the **Color** command. A drop-down menu will appear.
4. From the drop-down menu, you can choose a preset from each of the three categories:
   - **Color Saturation:** Controls how vivid the colors are in the image.
   - **Color Tone:** Controls the "temperature" of the color, from **cool** to **warm**.
   - **Recolor:** Controls the overall color of the image. Use this option to make the image **black and white**, **grayscale**, or to **colorize** it with a different color.

   You can also select Picture Color Options from the drop-down menu to refine the settings.

To Apply an Artistic Effect:

1. Select the picture. The **Format** tab will appear.
2. Click the **Format** tab.
3. Click the **Artistic Effects** command. A drop-down menu will appear.
4. Hover over the different presets to see a Live Preview of each one.
5. When you've found a preset you like, click on it to select it.
6. To adjust the settings for the effect, click **Artistic Effects** again and select **Artistic Effect Options**.
   Many **Clip Art** images do not allow you apply artistic effects. Generally speaking, the ones that look hand-drawn or painted do not work, while photographs do.

To Apply a Picture Style:

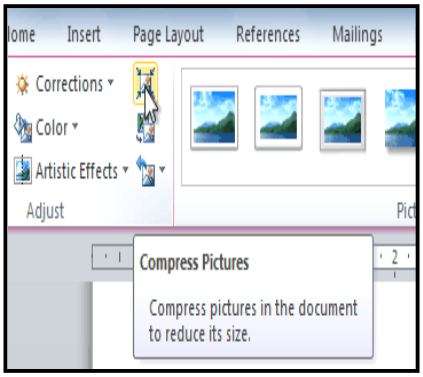


1. Select the picture.
   The **Format** tab will appear.
2. Select the **Format** tab.
3. Click the **More** drop-down arrow to display all the picture styles.
4. Hover over a picture style to display a live preview of the style in the document.
5. Select the desired style.
6. To refine the picture style, click the **Picture Effects** command to see the **Effects** drop-down menu.

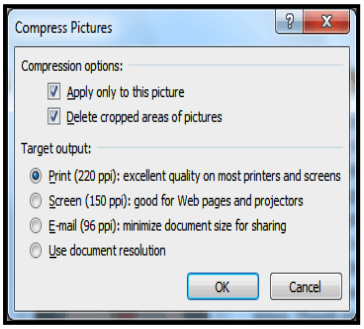
Compressing Pictures

You'll need to monitor the **file size** of your documents that include pictures, especially if you send them via email. Large, high-resolution pictures can quickly cause your document to become too large, which may make it difficult or impossible to attach to an email. In addition, **cropped areas** of pictures are saved with the document by default, which can add to the file size. Word can reduce the file size by **compressing** pictures, lowering their **resolution**, and **deleting cropped areas**.

To Compress a Picture:

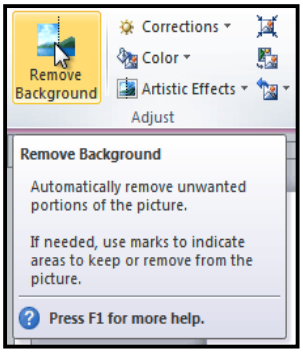


1. Select the picture. The **Format** tab will appear.
2. Select the **Format** tab.
3. Click the **Compress Pictures** command in the Adjust group. A dialog box appears.
4. Place a checkmark next to **Delete cropped areas of pictures**. You can also choose whether to apply the settings to **this picture only** or to all pictures in the document.
5. Choose a **Target output**. If you are emailing your document, you may want to select **Email**, which produces the smallest file size.
6. Click **OK**.



About Background Removal

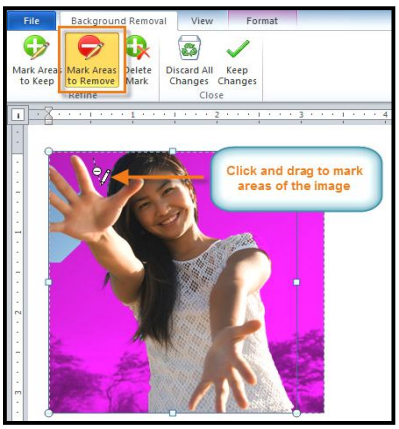
With **Background Removal**, Word uses special algorithms to determine which parts of the image are the background and then removes those areas from the image. This can give your images a cleaner appearance, and if you're printing your document, it can also save ink.



To Remove the Background From an Image:

1. Click on the image. The **Format** tab will appear.
2. Click the **Format** tab.
3. Click the **Remove Background** command.
4. Word will try to guess which part of the image is the background, and it will mark that area with a **magenta** fill. It will also place a box around the image with selection handles.

5. Drag the selection handles until all of the foreground is inside the box. After you do this, Word may re-adjust the background.
6. At this point, you may need to help Word decide which parts of the image are **foreground** and which parts are **backgrounds**. You can do this by using the **Mark Areas to Keep** and **Mark Areas to Remove** commands**:**
   - If Word has marked part of the foreground magenta, click **Mark Areas to Keep** and draw a line in that region of the image.
   - If part of the background has not been marked with magenta, click **Mark Areas to Remove** and draw a line in that region of the image.



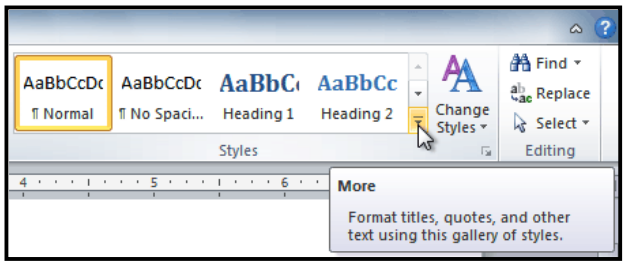
7. After you add your marks, Word will readjust the image.
8. When you're satisfied with the image, click **Keep Changes**. All of the magenta areas will be removed from the image.
9. You can adjust the image at any time by clicking the **Remove Background** command again.
   As with **artistic effects**, Background Removal will not work with some **Clip Art** images.

Lesson: 8

Working with Style, Themes, Header & Footer

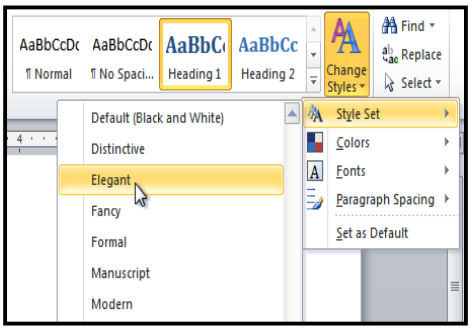
Styles and themes are powerful tools in Word that can help you easily create professional looking documents. A style is a predefined combination of font style, color, and size of text that can be applied to selected text. A theme is a set of formatting choices that can be applied to an entire document and includes theme colors, fonts, and effects.

To Select a Style:



1. Select the text that you want to format.
2. In the **Style** group on the **Home** tab, hover over each style to see a live preview in the document. Click the **More** drop-down arrow to see additional styles.
3. Select the style you desire. Now the **selected text appears formatted** in the style.

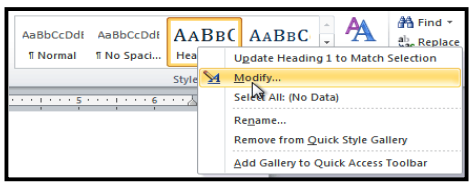
Apply a Style Set:



Style Sets include a combination of title, heading, and paragraph styles. Style sets allow you to **format all the elements of your document** at once, rather than formatting your title and headings separately.

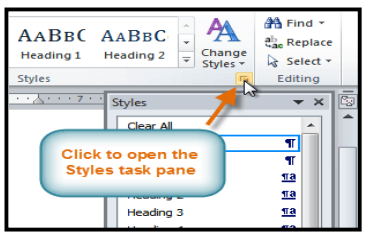
1. Click the **Change Styles** command on the Ribbon. A drop-down menu will appear.
2. From the drop-down menu, select **Style Set**.
3. Select the **Style Set** you desire and the change will be reflected in the entire document.

To Modify a Style:

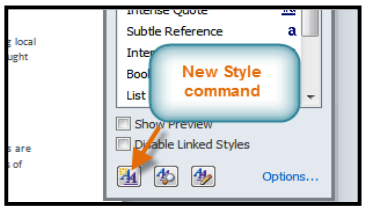


1. Locate the style you wish to change in the **Styles** group.
2. Right-click the style. A drop-down menu will appear.
3. Click **Modify** and the **Modify Style** dialog box appears.
4. Make the desired changes to the formatting. If you want, you can also change the name of the style.
5. **Click** OK **to apply the modifications to the style**.

To Create a New Style:



1. Click the **arrow** in the bottom-right corner of the Styles group. This opens the **Styles** task pane.
2. Select the **New Style** button at the bottom. A dialog box will appear.
3. Enter a name for the style, and set the text formatting the way you want.
4. Click **OK**, and the new style will appear in the task pane.

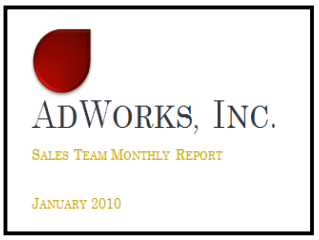


Themes

What is a Theme?

A theme is a set of colors, fonts and effects that applies to the ***entire document*** to give it a consistent, professional look.

You've already been using a theme, even if you didn't know it: the default Office theme. Every theme, including the Office theme, has its own theme elements**:**



- **Theme Colors** (available from every **Color** menu)
- **Theme Fonts** (available from the **Font** menu)
- **Shape Styles** (available in the **Format** tab when you click on a shape)

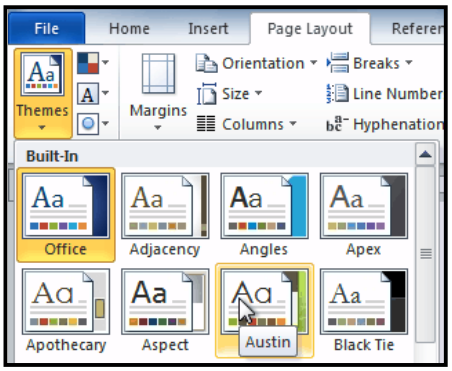
Why Should You Use Theme Elements?

If you're using theme elements, you'll probably find that your document looks pretty good and all of the colors work well together, which means you don't have to spend as much time tweaking the document. But there's another great reason to use theme elements: When you switch to a different theme, **all of those elements will update** to reflect the new theme. You can drastically change the look of the document in a couple of clicks, and it will usually still look good.

Remember, the colors and fonts will only update if you're using **Theme Fonts** or **Theme Colors**. If you choose one of the **Standard Colors** or any of the **Fonts** that are not **Theme Fonts**, then your text will not change when you change the theme. That can be useful if you're creating a logo or title that always needs to look the same.

If you're using built-in **styles**, you may notice that the fonts for those styles change when you select a different theme. That's because all of the built-in styles are based on the **Theme Fonts**. If you don't want the styles to change, you'll need to create **custom styles**.

To Change the Theme:



1. Select the **Page Layout** tab.
2. Click the **Themes** command. A drop-down menu will appear.
3. Hover the mouse over a theme to see a live preview of it.
4. Select the desired theme.

Customizing a Theme

Suppose you really like the **fonts** from one theme, but you'd like to experiment with different **color schemes**. That's not a problem: you can mix and match the **colors**, **fonts**, and **effects** from different themes to create a unique look for your document. If it still doesn't look exactly right, you can customize the **Theme Colors** and **Theme Fonts**.

To Change the Theme Colors:

1. From the **Page Layout** tab, click the **Theme Colors** command. A drop-down menu will appear.
2. Hover the mouse over the different sets of **Theme Colors** to see a live preview.
3. Select the set of **Theme Colors** you desire, or select **Create New Theme Colors** to customize each color individually.

When setting Theme Colors, try to find a part of your document that uses several colors, so that you get the best idea of what the color scheme looks like.

To Change the Theme Fonts:

1. From the **Page Layout** tab, click the **Theme Fonts** command. A drop-down menu will appear.
2. Hover the mouse over the different sets of **Theme Fonts** to see a live preview.
3. Select the set of **Theme Fonts** you desire, or select **Create New Theme Fonts** to customize each font individually.

To Change the Theme Effects:

1. From the **Page Layout** tab, click the **Theme Effects** command. A drop-down menu will appear.
2. Hover the mouse over the different sets of **Theme Effects** to see a live preview.
3. Select the set of **Theme Effects** you desire.
   Some themes can add a **Picture Fill** to shapes, depending on which **Shape Styles** are used. For example, the **Paper** theme can add a paper-like texture to shapes. Try exploring some of the different Shape Styles after changing the theme.

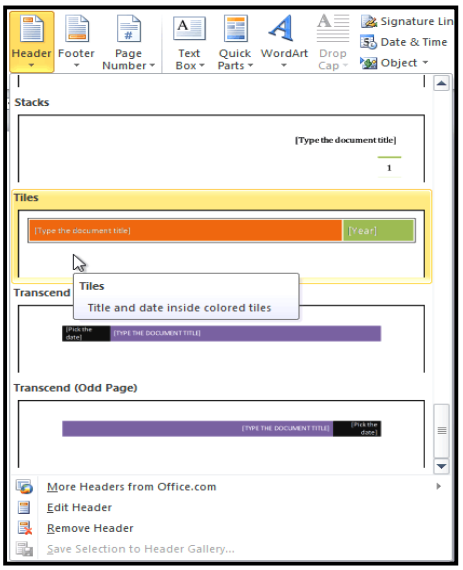
To Save Your Theme:

Once you've found settings that you like, you may want to save the theme so that you can use it in other documents.

1. From the **Page Layout** tab, click the **Themes** command. A drop-down menu will appear.
2. Select **Save Current Theme**.
3. Type a **file name** for your theme and the click **Save**.

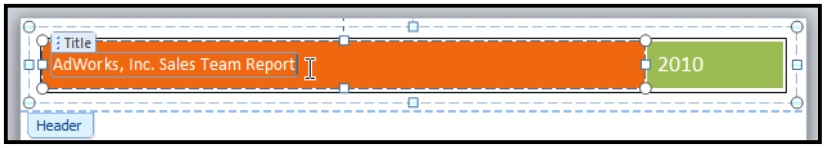
Headers and Footers

You can make your document look professional and polished by utilizing the header and footer sections. The header is a section of the document that appears in the ***top margin***, while the footer is a section of the document that appears in the ***bottom margin***. Headers and footers generally contain information such as *page number, date, document name*, etc.



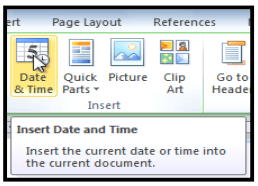
To Insert a Header or Footer:

1. Select the **Insert** tab.
2. Click either the **Header** or **Footer** command. A drop-down menu will appear.
3. From the drop-down menu, select **Blank** to insert a blank header or footer, or choose one of the **built-in options**.
4. The **Design** tab will appear on the Ribbon, and the header or footer will appear in the document.
5. Type the desired information into the header or footer.



6. When you're finished, click **Close Header and Footer** in the **Design** tab, or hit the **Esc** key.
   After you close the header or footer, it will still be visible, but it will be **locked**. To edit it again, just double-click anywhere on the header or footer, and it will become unlocked

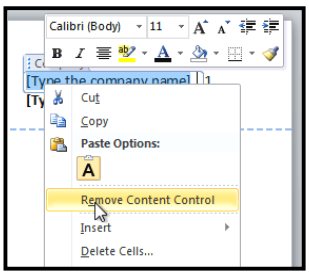
To Insert the Date or Time into a Header or Footer:

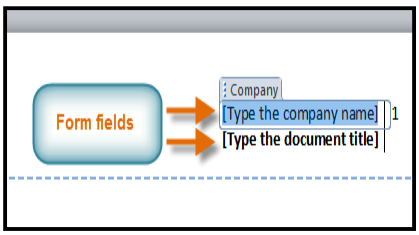


1. **Double-click** anywhere on the header or footer to **unlock** it. The **Design** tab will appear.
2. From the **Design** tab, click the **Date & Time** command.
3. Select a **date format** in the dialog box that appears.
4. Place a checkmark in the **Update Automatically** box if you would like it to always reflect the current date. Otherwise, it will not change when the document is opened at a later date.
5. Click **OK**. The date/time now appears in the document.

To Remove Content Controls:

By default, some of the built-in headers and footers have snippets of text that are called Content Controls. Content Controls can contain information such as the document title or company name, and they allow you to enter that information into a form field.





However, you'll often just want to type a "normal" header, without any Content Controls. To do this, you'll need to remove any Content Control fields from the header or footer.

1. With the header or footer section active, right-click the **Content Control** field you wish to remove. A drop-down menu will appear.
2. Click **Remove Content Control**. The Content Control field will disappear.

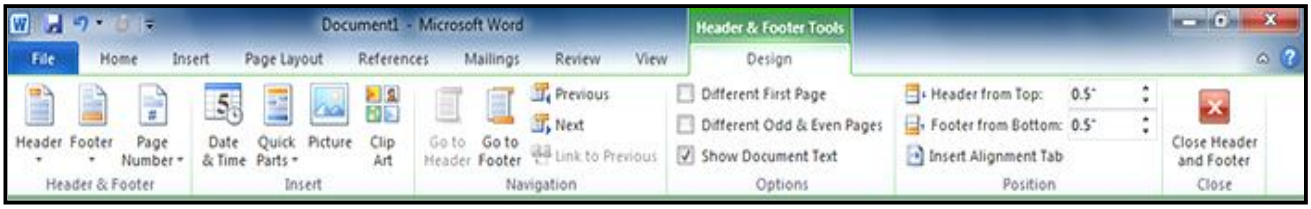
Other Header and Footer Options

There are many other **header and footer options** that you can use to design these sections of your document. You can review the Header and Footer Tools **Design** tab, to view and explore the design options.

To Add Page Numbers to an Existing Header or Footer:

1. Select the **header** or **footer**. The **Design** tab will appear.

2. Place the **insertion point** where you want the page number to be. You can place it anywhere **except** inside a **Content Control field**.
3. From the Design tab, select the **Page Number** command.
4. Click **Current Position** and select the desired style. The page number will appear in the document.



If you've already typed information into your header or footer, it's important to place the page number at the **Current Position** to avoid losing anything. If you select a page number from **Top of Page** or **Bottom of Page**, it will **delete anything that you have already added** to the header or footer.

To Insert Page Numbers into a New Header or Footer:

1. From the **Insert** tab, click **Page Number**. A drop-down menu will appear.
2. Select the desired **page number style** and it will appear in your document.

To Hide the Page Number on the First Page:

In some documents, you may not want the first page to show the page number. You can hide the first page number without affecting the rest of the pages.

1. Select the **header** or **footer** that contains the page number.
2. From the **Design** tab, place a checkmark next to **Different First Page**. The header and footer will disappear from the first page. If you want, you can **type something new** in the header or footer, and it will only affect the **first page**.

If you're unable to select **Different First Page**, it may be because an object within the header or footer is selected. Click in an **empty area** within the header or footer to make sure nothing is selected.

To Format the Page Numbers:

1. Select the **header** or **footer** that contains the page number.
2. From the **Design** tab, select the Page Number command.
3. Click **Format Page Numbers**.
4. From the dialog box, Select the desired **Number format**.
5. Next to **Start at**, enter the number that you want the page numbers to start with.

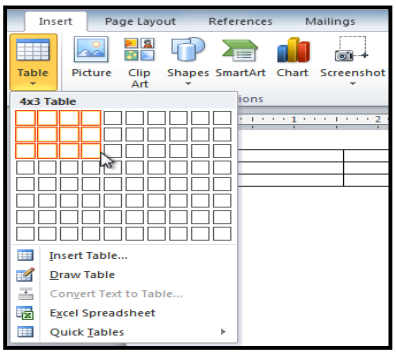
If you've created a page number in the **side margin**, it's still considered part of the header or footer. You won't be able to select the page number unless the **header or footer is selected**.

Lesson: 9

Working with Tables, SmartArt Graphics & Templates

Working with Tables

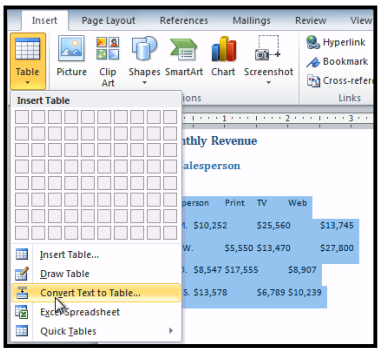
A table is a grid of cells arranged in ***rows*** and ***columns***. Tables can be customized and are useful for various tasks such as presenting text information and numerical data.



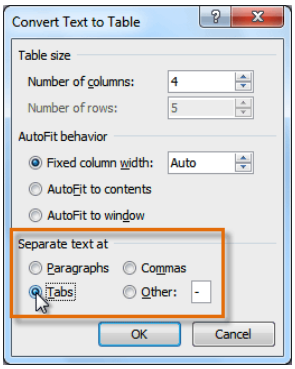
To Insert a Blank Table:

1. Place your insertion point in the document where you want the table to appear.
2. Select the **Insert** tab.
3. Click the **Table** command.
4. Hover your mouse over the diagram squares to select the number of **columns** and **rows** in the table.
5. Click your mouse, and the table appears in the document.
6. You can now place the insertion point anywhere in the table to add text.

To Convert Existing Text to a Table:



1. Select the text you wish to convert.
2. Select the **Insert** tab.
3. Click the **Table** command.
4. Select **Convert Text to Table** from the menu. A dialog box will appear.
5. Choose one of the options in the **Separate text at:** section. This is how Word knows what text to put in each column.
6. Click **OK**. The text appears in a table.



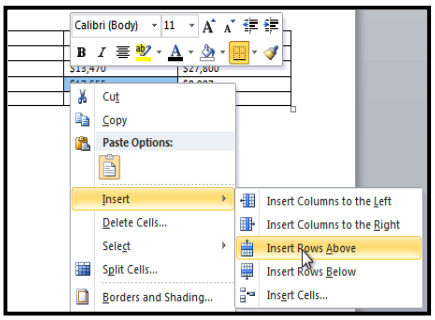
Salesperson	Print	TV	Web
Jim M.	$10,252	$25,560	$13,745
Beth W.	$5,550	$13,470	$27,800
Luiz D.	$8,547	$17,555	$8,907
Alice S.	$13,578	$6,789	$10,239

To Add a Row Above an Existing Row:

Salesperson	Print	TV	Web
Jim M.	$10,252	$25,560	$13,745
Beth W.	$5,550	$13,470	$27,800
Luiz D.	$8,547	$17,555	$8,907
Alice S.	$13,578	$6,789	$10,239

Insertion point

1. Place the insertion point in a row **below** the location where you wish to add a row.
2. Right-click the mouse. A menu appears.
3. Select **Insert - Insert Rows Above**.
4. A new row appears **above** the insertion point.



Salesperson	Print	TV	Web
Jim M.	$10,252	$25,560	$13,745
Beth W.	$5,550	$13,470	$27,800
Luiz D.	$8,547	$17,555	$8,907
Alice S.	$13,578	$6,789	$10,239

You can also add rows below the insertion point. Follow the same steps, but select Insert Rows Below from the menu.

To Add a Column:

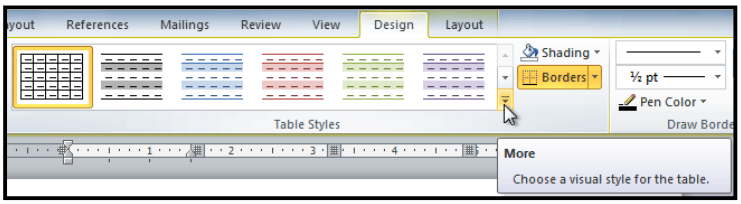
1. Place the **insertion point** in a **column adjacent** to the location you wish the new column to appear.
2. Right-click the mouse. A menu will appear.
3. Select **Insert** - **Insert Columns to the Left** or **Insert Columns to the Right**. A new column appears.

To Delete a Row or Column:

1. Select the row or column.
2. Right-click your mouse. A menu will appear.
3. Select **Delete Cells**.
4. Select **Delete entire row** or **Delete entire column** and click **OK**.

To Apply a Table Style:

1. Click anywhere on the table. The **Design** tab will appear on the Ribbon.
2. Select the **Design** tab and locate the **Table Styles**.
3. Click the **More** drop-down arrow to see all of the table styles.
4. Hover the mouse over the various styles to see a live preview.
5. Select the desired style. The table style will appear in the document.

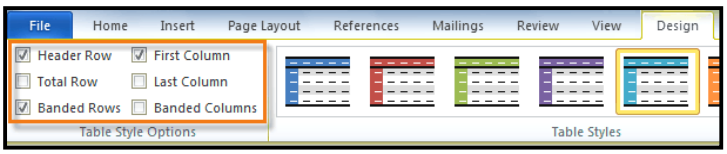


Salesperson	Print	TV	Web
Jim M.	$10,252	$25,560	$13,745
Beth W.	$5,550	$13,470	$27,800
Luiz D.	$8,547	$17,555	$8,907
Alice S.	$13,578	$6,789	$10,239

To Change the Table Style Options:

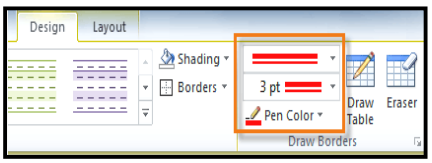
Once you've chosen a table style, you can turn various options **on** or **off** to change the appearance of the table. There are six options: **Header Row**, **Total Row**, **Banded Rows**, **First Column**, **Last Column**, and **Banded Columns**.

1. Click anywhere on the table. The **Design** tab will appear.
2. From the **Design** tab, **check** or **uncheck** the desired options in the **Table Style Options** group.

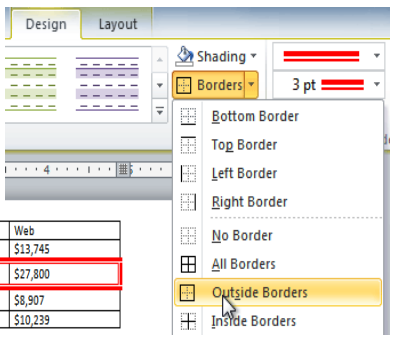


Depending on which **Table Style** you're using, certain **Table Style Options** may have a somewhat different effect. You may need to **experiment** to get the exact look you want.

To Add Borders to a Table:



1. Highlight the cells you wish to add a border to.
2. From the **Design** tab, select the desired **Line Style**, **Line Weight**, and **Pen Color**.
3. Click the **Borders** drop-down arrow.
4. From the drop-down menu, select the desired **border type**.
5. The border will be added to the selected cells.



Salesperson	Print	TV	Web
Jim M.	$10,252	$25,560	$13,745
Beth W.	$5,550	$13,470	$27,800
Luiz D.	$8,547	$17,555	$8,907
Alice S.	$13,578	$6,789	$10,239

Modifying a Table Using the Layout Tab

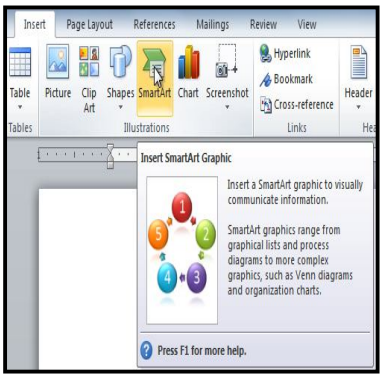
When you select a table in Word 2010, **Design** and **Layout** tabs appear under **Table Tools** on the ribbon. Using commands on the **Layout** tab, you can make a variety of modifications to the table.

SmartArt Graphics

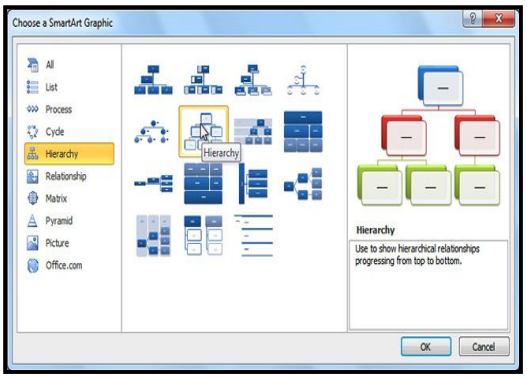
SmartArt allows you to visually communicate information rather than simply using text. Illustrations can really enhance your document, and SmartArt makes using graphics especially easy. You will learn how to insert a SmartArt graphic, modify the color and effects, and change the organization of the graphic.

To Insert a SmartArt Illustration:

1. Place the insertion point in the document where you want the graphic to appear.

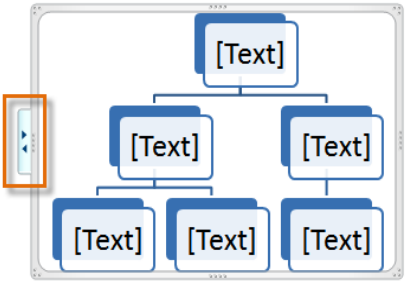


2. Select the **Insert** tab.
3. Select the **SmartArt** command in the Illustrations group. A dialog box appears.
4. Select a **category** on the left of the dialog box and review the SmartArt graphics that appear in the **center**.
5. Select the desired SmartArt graphic and click **OK**.



To see more details about a graphic, click on any image, and a larger preview of the graphic with **additional text details** will appear on the **right side** of the dialog box.

To Add Text to a SmartArt Graphic:



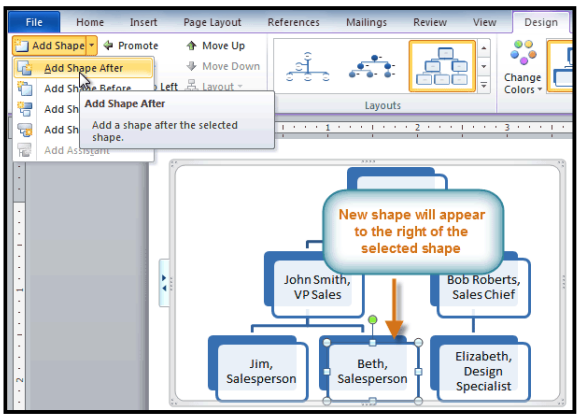
1. Select the graphic. A border will appear around it with an **arrow** on the left side.
2. Click the **arrow** on the left side of the graphic to open the task pane.
3. Enter text next to each bullet in the task pane. The information will appear in the graphic, and will resize to fit inside the shape.
4. To add a new shape, press **Enter**. A new bullet will appear in the task pane, and a new shape will appear in the graphic.

You can also add text by clicking on the desired shape and then typing your text. This works well if you only need to add text to a **few shapes**. However, for more complex SmartArt graphics, working in the **task pane** is often faster.

You can change the layout of a SmartArt graphic even after you've added text. However, if the new layout is very different from the old one, some of your text may not show up. Experiment with different layouts to see how they display your text differently.

To Add a Shape to a Graphic:

1. Select the graphic. The **Design** and **Format** tabs appear on the Ribbon.
2. Select the **Design** tab.
3. Click the **Add Shape** command in the Graphics group.
4. Decide where you want the **new shape** to appear and select one of the shapes nearby the desired location.
5. Select **Add Shape Before** or **Add Shape After**. If we wanted to add a superior or a subordinate, we could select the **Add Shape Above** or **Add Shape Below** options.



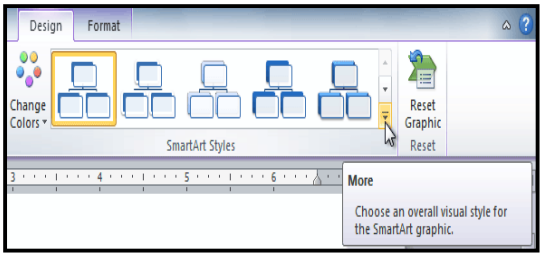
You can change the layout of a SmartArt graphic even after you've added text. However, if the new layout is very different from the old one, some of your text may not show up. Experiment with different layouts to see how they display your text differently.

To Move Shapes Using the Promote or Demote Commands:

1. Select the graphic. The **Design** and **Format** tabs appear on the Ribbon.
2. Select the **Design** tab.
3. Select the **shape** you would like to move.
4. Click the **Promote** or **Demote** commands in the Create Graphic group.
5. The shape will move up one level.

You can also demote and promote shapes from within the **task pane**. With the **insertion point** in the task pane, press the **Tab** key to demote a shape. Press the **Backspace** key (or **Shift-Tab**) to promote a shape. It's a lot like creating an outline with a **multilevel list**.

To Change the SmartArt Style:



1. Select the graphic. The **Design** and **Format** tabs appear on the Ribbon.
2. Click the **Design** tab.
3. In the **SmartArt Styles** group, click the **More** drop-down arrow to view all of the styles.
4. Hover the mouse over each style to see a live preview.
5. Select the desired style.

To Change the Color Scheme:

Word provides a variety of **color schemes** to use with SmartArt. The color schemes use **Theme Colors**, so they will vary depending on which **Theme** you are using.

1. Select the graphic. The **Design** and **Format** tabs appear on the Ribbon.
2. Select the **Design** tab.
3. Click the **Change Colors** command. A drop-down menu appears showing various color schemes.
4. Select the desired color scheme.

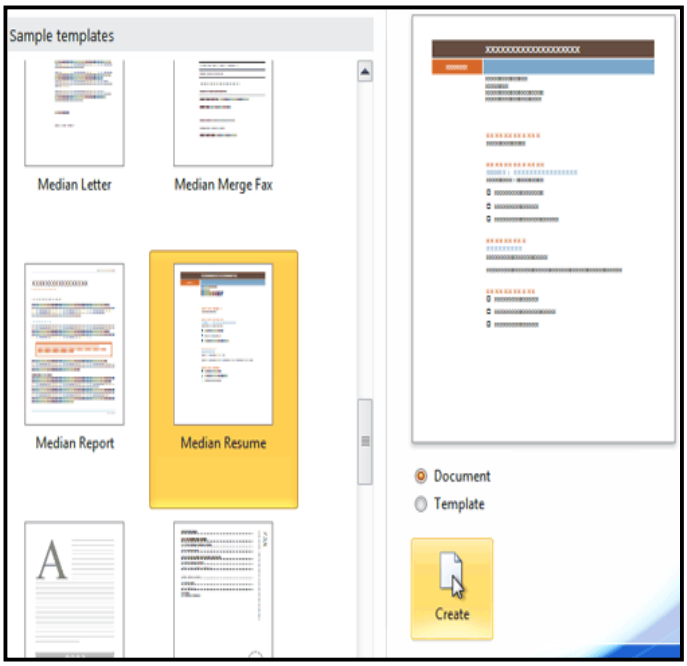
If you want to change the appearance of a **single shape** within the SmartArt graphic, select the shape and click the **Format** tab. You can then modify the **Shape Style**, **color**, **effects** or other settings for that shape.

Using a Template

A template is a pre-designed document that you can use to create documents quickly without having to think about formatting. With a template, many of the big document design decisions such as margin size, font style and size, and spacing are predetermined. You will learn how to create a new document with a template and insert text into it.

To Insert a Template:

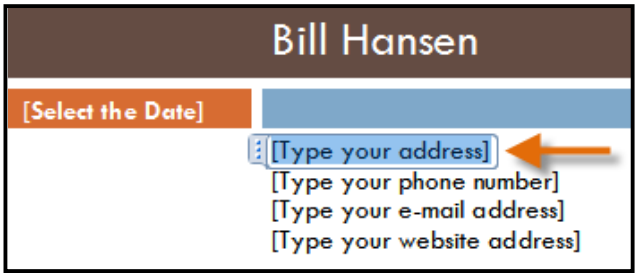
1. Click the **File** tab to go to **Backstage view**.
2. Select **New**. The **New Document** pane appears.
3. Click **Sample templates** to choose a built-in template, or select an **Office.com template** category to download a template.
4. Select the desired template and click **Create**. A new document will appear using the template you have selected.



To Insert Text into a Template:

Templates include placeholder text that is surrounded by brackets. To personalize your document, you'll need to replace the placeholder text with your own text.
Some templates simply use regular text as the placeholder text, rather than the "traditional" placeholder text with brackets. In those cases, just delete the text and type in your own text.

1. Click on the text you want to replace. The text will appear **highlighted** and a template **tag** will appear.



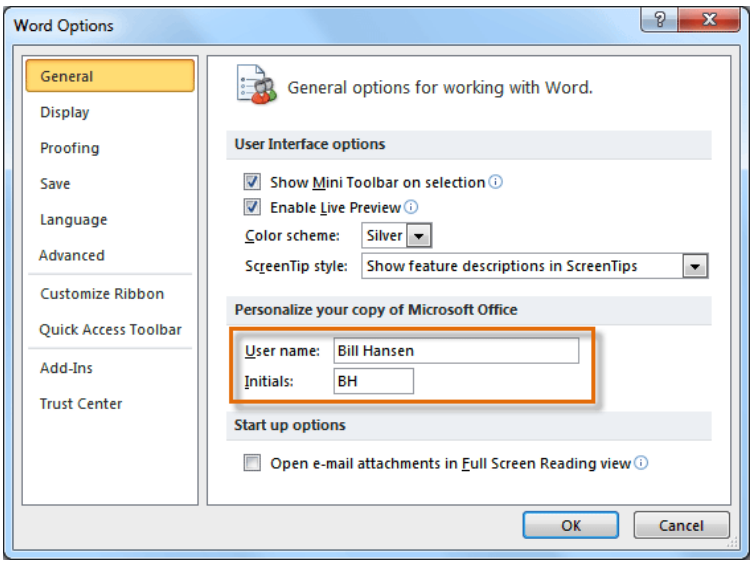
2. Enter some text. It will replace the placeholder text.

   For some fields, there is a drop-down arrow that you can use to select the information, rather than typing it. For example, a **date** field will show a calendar so that you can choose the date more easily.

To Change Prefilled Information:

In some templates, your name or initials will be automatically added. This is known as ***Prefilled information***. If your name or initials are incorrect, you'll need to change them in Word Options.

1. Click the **File** tab to go to **Backstage view**.
2. Click the **Options** button. The **Word Options** dialog box appears.
3. Enter the **user name and/or initials** in the **General** section, then click **OK**.



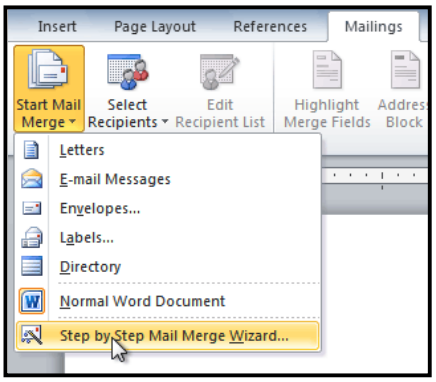
If you are using a public computer, such as one at a library, you may not want to change these settings.

Lesson: 10

Mail Merge

Mail merge is a useful tool that will allow you to easily produce multiple letters, labels, envelopes, name tags and more using information stored in a list, database, or spreadsheet. You will learn how to use the mail merge wizard to create a data source and a form letter, and explore other wizard features.

When you are performing a **Mail Merge**, you will need a **Word document** (you can start with an existing one or create a new one), and a **recipient list**, which is typically an **Excel workbook**.



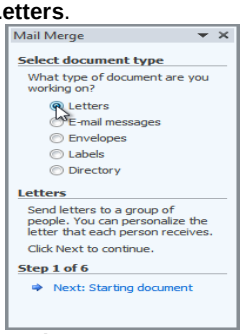
To Use Mail Merge:

1. Open an **existing** Word document, or create a **new** one.
2. Click the **Mailings** tab.
3. Click the **Start Mail Merge** command.
4. Select **Step by Step Mail Merge Wizard**.

The Mail Merge task pane appears and will guide you through the six main steps to complete a mail merge. The following is an example of how to create a form letter and merge the letter with a recipient list.

Step 1:

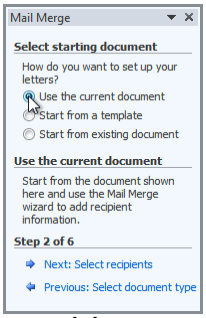
1. Choose the type of document you wish to create. In this example, select **Letters**.



2. Click **Next: Starting document** to move to **Step 2**.

Step 2:

1. Select **Use the current document**.

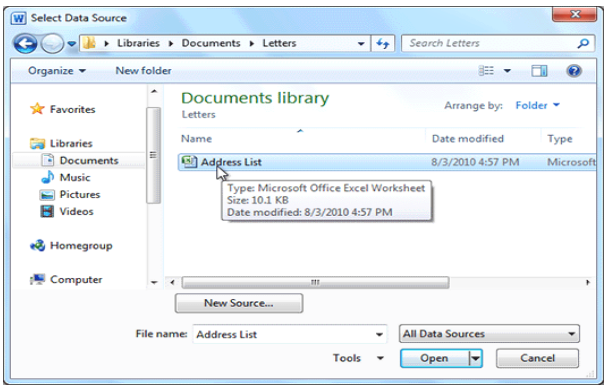


2. Click **Next: Select recipients** to move to **Step 3**.

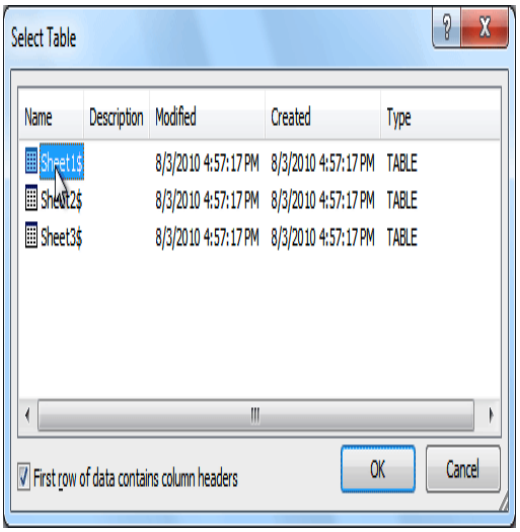
Step 3:

Now you'll need an address list so that Word can automatically place each address into the document. The list can be in an existing file, such as an **Excel workbook**, or you can **type a new address list** from within the Mail Merge Wizard.

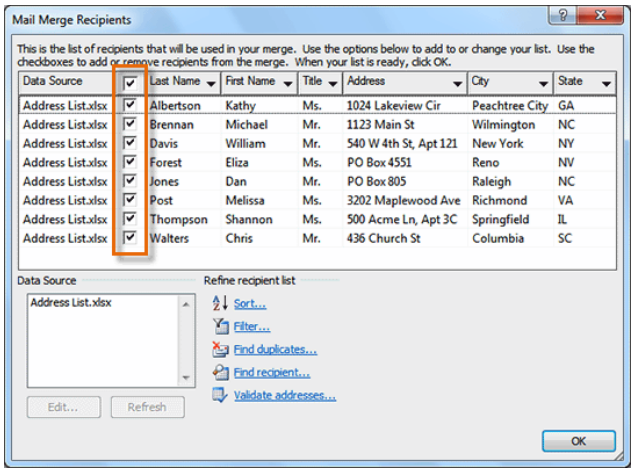
1. From the **Mail Merge** task pane, select **Use an existing list** and then click **Browse**.
2. Locate your file in the dialog box (you may have to navigate to a different folder) and click **Open**.



3. If the address list is in an Excel workbook, select the **worksheet** that contains the list and click **OK**.



4. In the **Mail Merge Recipients** dialog box, you can **check** or **uncheck** each recipient to control which ones are used in the mail merge. When you're done, click **OK** to close the dialog box.



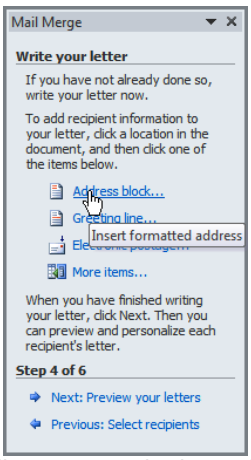
5. From the **Mail Merge** task pane, click **Next: Select recipients** to move to Step 4.

Step 4:

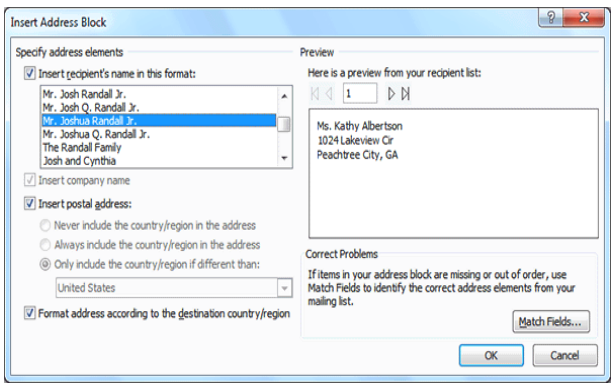
Now you're ready to write your letter. When it's printed, each copy of the letter will basically be the same, except the recipient data (such as the name and address) will be different on each one. You'll need to add placeholders for the recipient data, so that mail merge knows exactly where to add the data. If you're using mail merge with an existing letter, make sure that the file is open now.

To Insert Recipient Data:

1. Place the insertion point in the document where you wish the information to appear.
2. Select **Address block**, **Greeting line**, **Electronic postage**, or **More items** from the task pane.



3. Depending on your selection, a dialog box may appear with various options. Select the desired options and click **OK**.
4. A placeholder appears in your document. For example: **«Address Block»**.

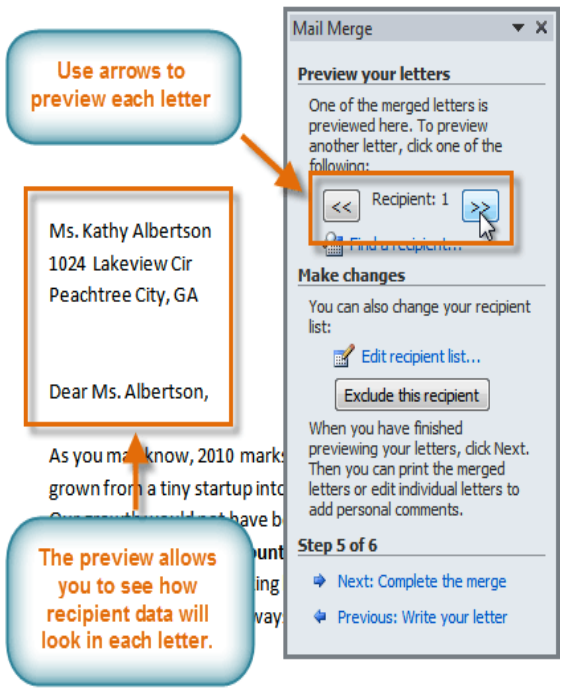


5. Repeat these steps each time you need to enter information from your data record.
6. From the **Mail Merge** task pane, click **Next: Preview your letters** to move to **Step 5**

   For some letters, you'll only need to add an **Address block** and **Greeting line**. Sometimes, however, you may wish to place **recipient data** within the body of the letter to **personalize it** even further.

Step 5:

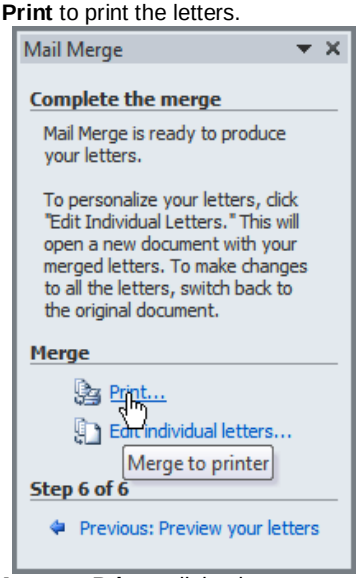
1. Preview the letters to make sure the information from the recipient list appears correctly in the letter. You can use the left and right scroll arrows to view each document.



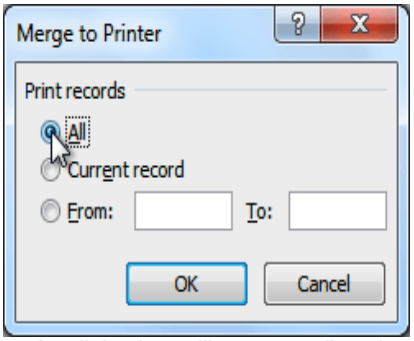
2. Click **Next: Complete the merge** to move to **Step 6.**

Step 6:

1. Click **Print** to print the letters.



2. The **Merge to Printer** dialog box opens. Click **All**, and then click **OK**.



3. The **Print** dialog box will appear. Adjust the print settings if needed, and then click **OK**.

Lesson: 11

Reviewing & Printing of Documents

Suppose someone asks you to proofread a report for them. If you have a hard copy of the report, you might use a red pen to cross out sentences, mark misspellings, or add comments in the margins. However, you could also do all of these things in Word using the **Track Changes** and **Comments** features.
When you've finished reviewing the document, the other person can choose to automatically **Accept** all of your changes, or decide whether to **Accept** or **Reject** each change one-by-one.

About Track Changes

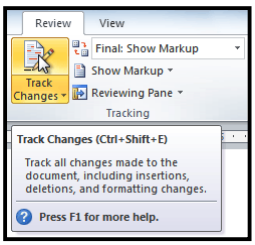
When you turn on the Track Changes option, every change you make to the document shows up as colored markups. If you delete some text, it won't disappear, but instead will have a visible strike through it. If you add text, it will be underlined. This allows another person to see which changes have been made before making the changes permanent.
The color of the markups will vary depending on who is reviewing the document, so if there are multiple reviewers, you'll be able to tell at a glance who made each change.

~~To Whom it May Concern~~Dear Mr. Powell:

Thank you for taking the time to meet with me last Thursday about the Sales Associate position. I enjoyed meeting with you and touring the facility. I was very impressed with the layout of the showroom and with the competence of the staff at ~~your company~~Quality Furnishings. I would love the chance to work in such a productive and ~~very~~ supportive atmosphere.

As we talked about in our meeting, my many years of sales experience, both in commissioned floor sales and in the role of Sales Supervisor, would greatly benefit Quality Furnishings. In that time, I have learned many techniques that would ~~drive~~ increase sales and drive customer satisfaction ratings at Quality Furnishings.

To Turn on Track Changes:



1. Click the **Review** tab.
2. Click the **Track Changes** command. It should now be highlighted in gold to show that it is active.
3. Any changes you make to the document will be shown as colored markups.

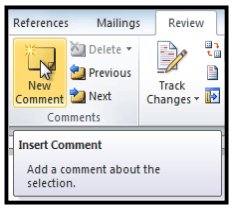
g the facility. I was very impressed with the layout of the
of the staff at ~~your company~~Quality Furnishings. I would love

4. Click the **Track Changes** command again to turn it off.

Adding and Deleting Comments

Sometimes, instead of changing something, you may want to make a comment about part of the document. Comments show up in "balloons" in the right margin and can be read by the original author or by any other reviewers.

To Add a Comment:



1. **Highlight some text** or place the **insertion point** where you want the comment to appear.
2. From the **Review** tab, click the **New Comment** command.
3. Type your comment.

my many years of sales experience, both in commissioned floor
visor, would greatly benefit Quality Furnishings. In that time, I

Comment [BH1]: How many years?

To Delete a Comment:

1. Select the **balloon** containing the comment you wish to delete.
2. From the **Review** tab, click the **Delete** command.

To Delete All Comments:

1. From the **Review** tab, click the **Delete** drop-down arrow.
2. Click **Delete All Comments in Document**.

Accepting or Rejecting Changes

Tracked changes are really just "suggested" changes. To become permanent, they have to be **Accepted**. On the other hand, the original author may disagree with some of the tracked changes and choose to **Reject** them.

To Accept or Reject Changes:

1. Select the change you want to accept or reject.
2. From the **Review** tab, click the **Accept** or **Reject** command.
3. If you accepted the change, the markup will disappear, and the text will look "normal."

For some tracked changes, you can "reject" the changes by simply deleting them as if they were normal text. For example, if a reviewer adds a word to a sentence, you can just delete the word.

To Accept All Changes:

1. From the **Review** tab, click the **Accept** drop-down arrow. A drop-down menu will appear.
2. Select **Accept All Changes in Document**.

To Reject All Changes:

1. From the **Review** tab, click the **Reject** drop-down arrow. A drop-down menu will appear.
2. Select **Reject All Changes in Document**.

Accepting or **Rejecting** all changes does not affect **comments**, so if you want to delete them, you'll have to do it separately.

Changing How Markups Appear

If there are a lot of tracked changes in a document, they may become distracting if you're trying to read through the document. There are a couple of settings that you can use to **hide the markups** or **change how they appear**.

To Hide Tracked Changes:

1. From the **Review** tab, click the **Display for Review** command. The Display for Review command is located to the right of the Track Changes command, and it may not be labeled. It will probably say **Final: Show Markup**.
2. In the drop-down menu, there are four options:
   - **Final: Show Markup:** Shows the final version along with the markup.
   - **Final:** Shows the final version and hides all markups.
   - **Original: Show Markup:** Shows the original version along with the markup.
   - **Original:** Shows the original version and hides all markups.
3. Choose **Final** or **Original** from the drop-down menu to hide the markups.

Setting **Display for Review** to **Final** is not the same as **accepting all changes**. You will still need to **Accept**or **Reject** the changes before sending out the final version of your document.

To Show Revisions in Balloons:

By default, most revisions show up **inline**, meaning the text itself is marked. You can choose to **show the revisions in balloons**, which moves many of the revisions (such as **deletions**) to balloons in the right margin. This may make the document easier to read, as there are fewer inline markups. The balloons also give you more detailed information about some markups.

1. From the **Review** tab, click **Show Markup** - **Balloons** - **Show Revisions in Balloons**.
2. Some of the revisions will move to the right margin.

To go back to **inline** markups, you can select either **Show All Revisions Inline** or **Show Only Comments and Formatting in Balloons**.

Comparing Two Documents

If you edit a document without tracking changes, it's still possible to use reviewing features such as **Accept** and**Reject**. You can do this by **comparing** two versions of the document. All you need is the **original** document and the **revised** document, and they need to have different file names.

To Compare Two Documents:

1. From the **Review** tab, click the **Compare** command. A drop-down menu will appear.
2. From the drop-down menu, click **Compare**.
3. A dialog box will appear. Choose your **Original document** by clicking on the drop-down arrow and selecting the document from the list. If your document is not on the list, click the **Browse** button to browse for the file.
4. Choose the **Revised document** the same way you chose the **Original document** and click **OK**.
   At this point, Word compares the two documents to determine which changes were made, and it creates a new document that you can save if you want. The changes show up as colored **markups**, just like the ones that appear when using **Track Changes**. You can then use the **Accept** and **Reject** commands to finalize the document.
   To the right of the new document, there is a pane that displays the Original and Revised documents that you can use for reference (although you can't edit them). If you don't see the pane on the right, click **Compare Show Source Documents Show Both**.

Using the Reviewing Features Safely

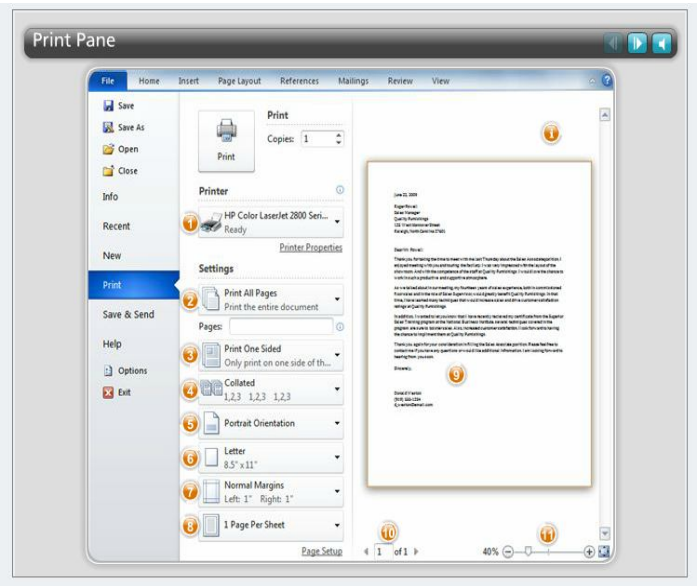
If there are any **comments** or **tracked changes** in your document, you should **remove them before sending it out** to anyone you're not collaborating with. Comments and tracked changes can reveal confidential information that could lead to embarrassment or make you or your company appear unprofessional (or worse).
Once you've removed all of the comments and tracked changes, it's a good idea to double-check your document using the **Document Inspector**. The **Document Inspector** can tell you if there is any hidden data in your document that you may need to remove. It looks for data in many different places—not just comments and tracked changes.

To Use the Document Inspector:

1. **Save** your document.
2. Click the **File** tab to go to **Backstage view**.
3. Select **Info** on the left side of the page.
4. Click the **Check for Issues** command. A drop-down menu will appear.
5. Select **Inspect Document**.
6. Click **Inspect**.
7. The **inspection results** will show an **exclamation mark** for any categories where it found possibly sensitive data, and it will also have a **Remove All** button for each of those categories. Click **Remove All** to remove the data.
8. **Close** the dialog box when you're done.
9. From **Backstage view**, click **Save** to make the changes permanent.

Printing a Document

Once you've completed your document, you may want to print it. This lesson covers the tasks in the Print pane along with the Quick Print feature.
In previous versions of Word, there was a Print Preview option that allowed you to see exactly what the document looked like before printing it. You may have noticed that this feature seems to be gone in Word 2010. It actually hasn't disappeared; it's just been combined with the Print window to create the ***Print pane***, which is located in ***Backstage view***.



To View the Print Pane:

1. Click the **File** tab to go to **Backstage view**.
2. Select **Print**. The Print pane appears, with the print settings on the left and the **Preview** on the right.

To Print:

1. Go to the **Print** pane.
2. If you only want to print certain pages, you can type a **range** of pages. Otherwise, select **Print All Pages**.

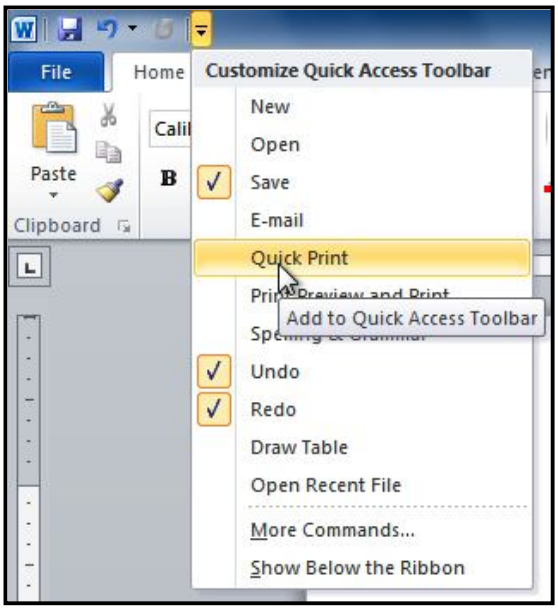
3. Select the **number of copies**.
4. Check the **Collate** box if you are printing multiple copies of a multi-page document.
5. Select a **printer** from the drop-down list.
6. Click the **Print** button.

Quick Print

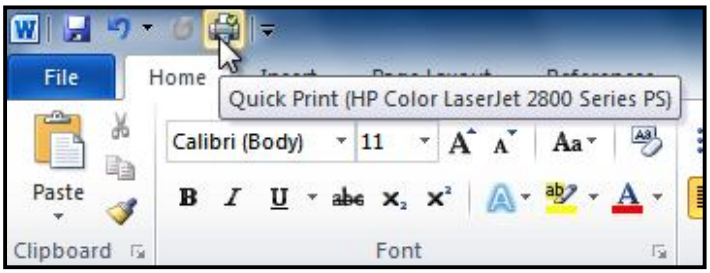
There may be times when you want to print something with a single click, using **Quick Print**. This feature prints the document using the **default settings** and the **default printer**. In Word 2010, you'll need to add it to the **Quick Access Toolbar** in order to use it. Quick Print always prints the **whole document**, so if you only want to print part of your document you'll have to use the Print pane.

To Access the Quick Print Button:

1. Click the **drop-down arrow** on the right side of the **Quick Access Toolbar**.
2. Select **Quick Print** if it is not already checked.



3. To print, just click the **Quick Print** command.



Unit-II MS-Excel 2010

Lesson: 1

Introduction to M.S Excel 2010

Excel is a Microsoft office application. Excel is mainly used for making calculations and mathematical works. Microsoft excel is a spread sheet application in which number of sheets we can add as per our requirements. In a single sheet, it consists of rows and columns and cells. Every cell has different address. In excel sum, product, subtraction, division and many mathematical, logical functions are available with this application. Other features tables, charts, clip art etc. you can find with Excel. It basically used for payroll, accounts, mathematical and for other business purposes.

Or

Microsoft Excel is a commercial spreadsheet application written and distributed by Microsoft for Microsoft Windows and Mac OS X. It features calculation, graphing tools, pivot tables and a macro programming language called Visual Basic for Applications.

Or

Microsoft Excel is a spreadsheet application used to create and manage business transactions that deal with accounting. To make this possible, it can assist you with creating lists of transactions, then using those lists to create charts and other analysis tools.

Or

Excel is a ***spreadsheet program*** that allows you to store, organize, and analyze information.

In this lesson, you will learn your way around the Excel 2010 environment, including the new ***Backstage vie*w,** which replaces the Microsoft Button menu from Excel 2007. We will show you how to use and modify the Ribbon and the Quick Access Toolbar, and how to create new workbooks and open existing ones.

Basic Features of Excel:-

1. **Hyperlink**: -We can link one file to another file or page with the use of Excel.
2. **Clip art**: - In this we can add images and also audio, video clips can be added here.
3. **Charts**: - With charts, we can clearly shown products evaluation to the clients. For example which product sale is more or less in this month.
4. **Tables**: - Tables are created with different fields eg -name, age, address, roll no so we add a table to fill these values.
5. **Functions**: - *MATHEMATICAL*: Add, subtract, div, multiply, *LOGICAL*: average, sum, mod, product.
6. **Images and Backgrounds**:- In this we add images and backgrounds in sheet.
7. **Macros**: - Macros are used for recording events for further use.
8. **Database**: - We can add database from other sources with data feature.
9. **Sorting and Filter**: - In sorting we can sort our data and also filter our data so that repetitions will be removed.
10. **Data Validations**: - In data tools there are data validations consolidate etc are used.
11. **Grouping**: - In this we can use group, ungroup subtotal etc.
12. **Page layout**: - In this themes, colors, sheets, margins, size, backgrounds, breaks, print, titles, sheets height, width, scaling, gridness, headings, views, bring to front of font or back alignment etc will be used.

Usages of M.S Excel 2010:

1. Manage data records like name list

The commonly usage of Excel is to manage data records and name lists. You don't have to plan in advance on how the table should look like, as the preset layout allows you to create the tables on the fly, just fill in the information; the table is developed on the go. Another more attractive point is that you have the ability to sort the list and filter the listing like a database tool.

2. Used as an analytical tool

Besides the good use on managing data, Excel is a great analytical tool for business. With the pivot table contained within Excel, you can easily analyses a large number of data, as the pivot table can automatically sort, count, and total the data stored in one table or spreadsheet and create a second table displaying the summarized data. It has gone through much revision. In each revision, we see its power being enhanced. In the latest version of Excel 2010, there are many new features added: It added almost six new calculations, a ***'Show Value As'*** function and some great visual tools.

3. Create forms and consolidate results

You can use Excel to create not only a simple form that contains boxes, but also professional forms which include option buttons that allow you to select answers, dropdown list to select a particular answer from list of items. Together with charts, you can use Excel to compile answers to tests or quizzes and analyze the profile of the class (If you are a teacher) or your team (If you are a supervisor).

4. Corporate Budgeting

A major business application of Excel is in corporate budgeting. Many companies, from big corporations to small companies use Excel for their budgeting. Despite numerous calls by suppliers of Business Performance Management Systems (BPM) to move away from Excel as a budgeting tool, 70% to 80% of all corporations still use Excel as their primary budgeting tool.

5. Inventory Management

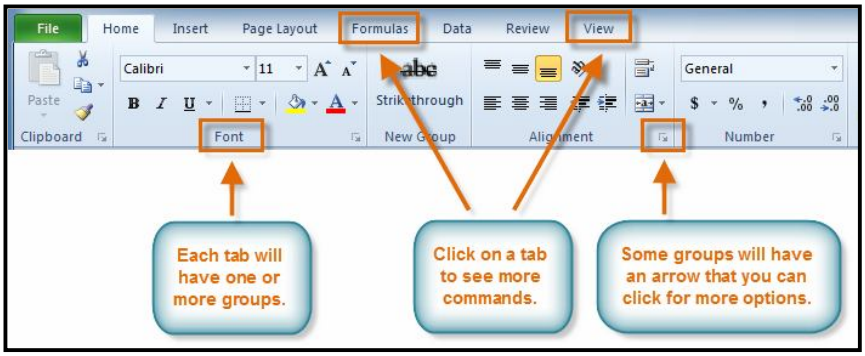
Excel provides many functions and formulas that will not only help you manage your data records efficiently but will also allow you to analyze your data based on your constantly changing business environment. Through the use of Microsoft® Excel formulas, you can create comprehensive drop down boxes to facilitate data inputs and reduce erroneous entries. And through the use of pivot tables, you could get a good detailed analysis of your stock movement and also your inventory level at any point in time.

6. Finding Profit Breakeven

Finding breakeven is never easy without using Excel. To manually find out the breakeven for a project, you have to perform many calculations using different numbers as it's inputs. And the calculation becomes even more complex if the components include fixed cost and step up cost. But with the goal seek function in Excel, this task can be completed in a few seconds.

The Ribbon

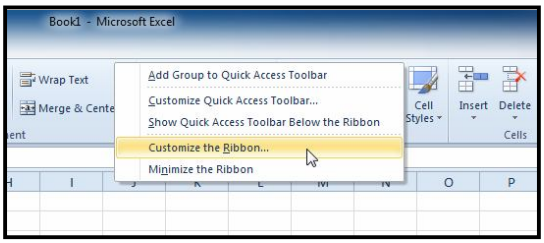
The Ribbon contains multiple **tabs**, each with several **groups** of commands. You can add your own tabs that contain your favorite commands.
Certain programs, such as **Adobe Acrobat Reader**, may install additional tabs to the ribbon. These tabs are called **Add-ins**.

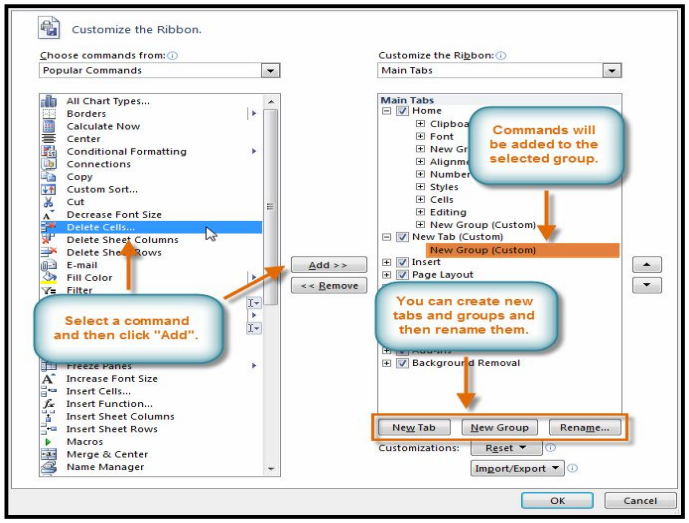


To Customize the Ribbon:

You can customize the ribbon by creating your own **tabs** that house your desired commands. Commands are always housed within a **group**, and you can create as many groups as you need to keep your tabs organized. In addition, you can even add commands to any of the default tabs, as long as you create a custom group within the tab.

1. Right-click the Ribbon and select **customize the Ribbon**. A **dialog box** will appear.
2. Click **New Tab**. A new tab created with a new group inside it.
3. Make sure the new group is selected.
4. Select a command from the list on the left, then click **Add**. You can also drag commands directly into a group.
5. When you are done adding commands, click **OK**.

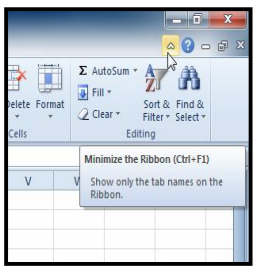




If you do not see the command you want, click on the **Choose commands** drop-down box and select **All Commands**.

To Minimize and Maximize the Ribbon:

The Ribbon is designed to be responsive to your current task and easy to use, but if you find it is taking up too much of your screen space, you can **minimize** it.

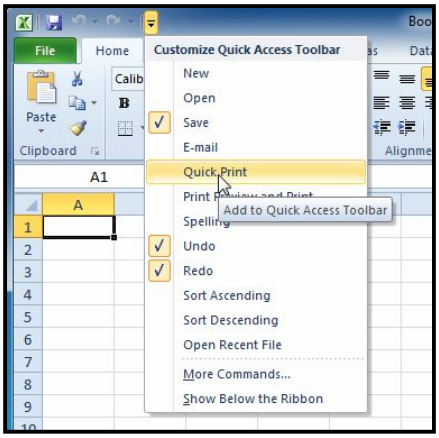


1. Click the **arrow** in the upper-right corner of the Ribbon to minimize it.
2. To maximize the Ribbon, click the arrow again.

When the Ribbon is minimized, you can make it reappear by clicking on a tab. However, the Ribbon will disappear again when you are not using it.

The Quick Access Toolbar

The **Quick Access Toolbar** is located above the Ribbon, and it lets you access common commands no matter which tab you are on. By default, it shows the **Save**, **Undo**, and **Repeat** commands. You can add other commands to make it more convenient for you.



To Add Commands to the Quick Access Toolbar:

1. Click the **drop-down arrow** to the right of the **Quick Access Toolbar**.
2. Select the **command** you wish to add from the drop-down menu. To choose from more commands, select **more commands**.

Backstage View

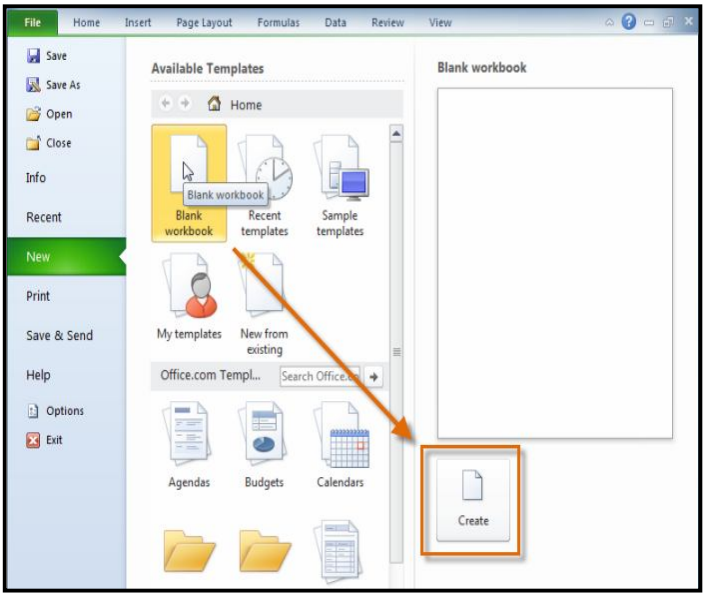
Backstage view gives you various options for saving, opening a file, printing, or sharing your document. It is similar to the **Office Button menu** from Excel 2007 or the **File menu** from earlier versions of Excel. However, instead of just a menu, it is a full-page view which makes it easier to work with.

To Get to Backstage View:

1. On the Ribbon, click the **File** tab.
2. Choose your desired option, or return to your workbook by clicking on any tab on the Ribbon.

To Create a New, Blank Workbook:

1. Click the **File** tab. This takes you to **Backstage view**.
2. Select **New**.
3. Select **Blank workbook** under **Available Templates**. It will be highlighted by default.
4. Click **Create**. A new, blank workbook appears in the Excel window.



To save time, you can create your document from a **template**, which you can select under Available Templates. We will talk more about this in a later lesson.

To Open an Existing Workbook:

1. Click the **File** tab. This takes you to **Backstage view**.
2. Select **Open**. The Open dialog box appears.
3. Select your desired workbook and then click **Open**.

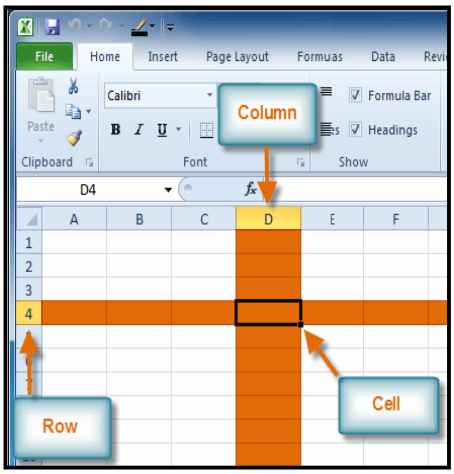
If you have opened the existing workbook recently, it may be easier to choose **Recent** from the **File tab** instead of **Open** to search for your workbook.

Lesson: 2

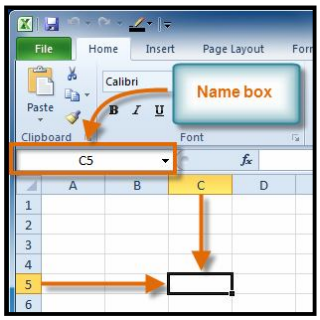
Cell Basic

You will need to know the basic ways you can work with ***cells*** and cell content in Excel to be able to use it to calculate, analyze, and organize data. In this lesson, you will learn how to select cells; insert content; and delete cells and cell content. You will also learn how to cut, copy and paste cells; drag and drop cells; and fill cells using the fill handle.

The Cell



Each rectangle in a worksheet is called a **cell**. A cell is the intersection of a **row** and a **column**.
Each cell has a name, or a **cell address** based on which **column and row** it intersects. The **cell address** of a selected cell appears in the **Name box**. Here you can see that **C5** is selected.

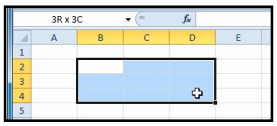


To Select a Cell:

1. **Click on a cell** to select it. When a cell is selected you will notice that the **borders** of the cell appear bold and the **column heading** and **row heading** of the cell are highlighted.
2. Release your mouse. The cell will stay selected until you click on another cell in the worksheet.

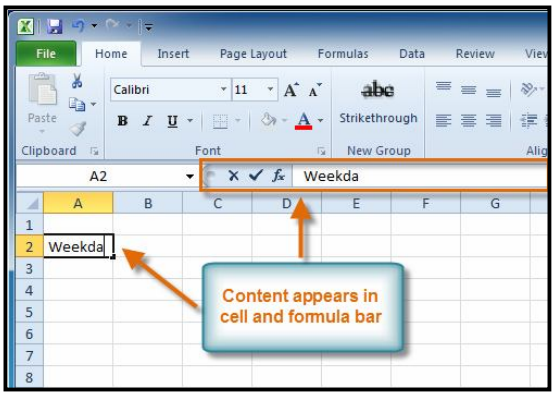
You can also navigate through your worksheet and select a cell by using the **arrow keys** on your keyboard.

To Select Multiple Cells:



1. **Click and drag your mouse** until all of the adjoining cells you want are highlighted.
2. Release your mouse. The cells will stay selected until you click on another cell in the worksheet.

Cell Content



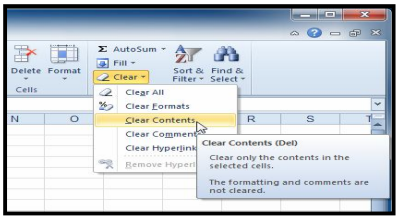
Each cell can contain its own text, formatting, comments, formulas, and functions.

- **Text**
  Cells can contain letters, numbers, and dates.
- **Formatting attributes**
  Cells can contain formatting attributes that change the way letters, numbers, and dates are displayed. For example, dates can be formatted as MM/DD/YYYY or Month/D/YYYY.
- **Comments**
  Cells can contain comments from multiple reviewers.
- **Formulas and Functions**
  Cells can contain formulas and functions that calculate cell values. For example, *SUM(cell 1, cell 2...)* is a formula that can add the values in multiple cells.

To Insert Content:

1. Click on a cell to select it.
2. Enter content into the selected cell using your keyboard. The content appears in the ***cell*** and in the ***formula bar***. You also can enter or edit cell content from the formula bar.

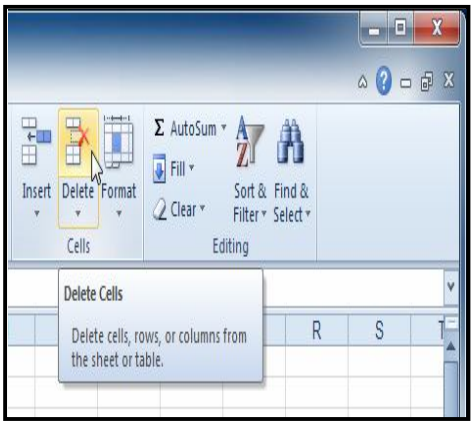
To Delete Content Within Cells:



1. Select the cells which contain content you want to delete.
2. Click the **Clear** command on the ribbon. A **dialog box** will appear.
3. Select **Clear Contents**.

You can also use your keyboard's **Backspace** key to delete content from a **single cell** or **Delete** key to delete content from **multiple cells**.

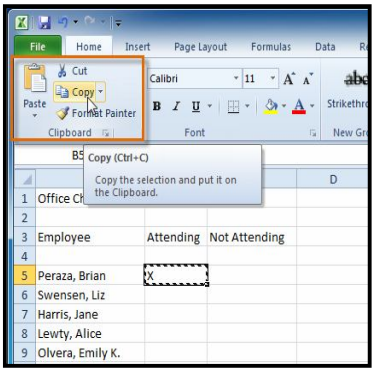
To Delete Cells:



1. Select the cells that you want to delete.
2. Choose the ***Delete*** command from the ***ribbon***.

To Copy and Paste Cell Content:

1. Select the cells you wish to copy.
2. Click the **Copy** command. The border of the selected cells will change appearance.
3. Select the cell or cells where you want to paste the content.
4. Click the **Paste** command. The copied content will be entered into the highlighted cells.



To Cut and Paste Cell Content:

1. Select the cells you wish to cut.
2. Click the Cut command. The border of the selected cells will change appearance.
3. Select the cells where you want to paste the content.
4. Click the **Paste** command. The cut content will be removed from the original cells and entered into the highlighted cells.

To Access More Paste Options:

There are more Paste options that you can access from the drop-down menu on the **Paste** command. These options may be convenient to advanced users who are working with **cells that contain formulas or formatting**.

To Access Formatting Commands by Right-Clicking:

1. Select the cells you want to format.
2. **Right-click** on the selected cells. A **dialog box** will appear where you can easily access many commands that are on the ribbon.

To Drag and Drop Cells:

1. Select the cells that you wish to move.
2. Position your mouse on one of the outside edges of the selected cells. The mouse changes from a white cross to a black cross with 4 arrows .
3. **Click and drag the cells** to the new location.
4. Release your mouse and the cells will be dropped there.
5.

To Use the Fill Handle to Fill Cells:

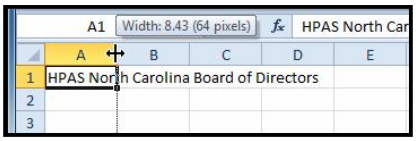
1. Select the cell or cells containing the content you want to use. You can fill cell content either vertically or horizontally.
2. Position your mouse over the **fill handle** so that the white cross becomes a black cross
3. **Click** and **drag the fill handle** until all the cells you want to fill are highlighted.
4. **Release** the mouse and your cells will be filled.

Lesson: 3

Modifying Rows, Columns & Cells

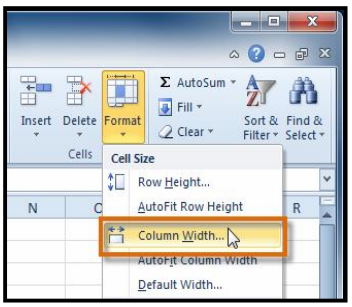
When you open a new, blank workbook, the cells are set to a default size. You do have the ability to modify cells, and to insert and delete columns, rows, and cells, as needed. In this lesson, you will learn how to change row height and column width; insert and delete rows and columns; wrap text in a cell; and merge cells.

To Modify Column Width:



1. Position your mouse over the **column line** in the **column heading** so that the **white cross** becomes a **double arrow**.
2. **Click and drag the column** to the right to increase the column width or to the left to decrease the column width.
3. Release the mouse. The column width will be changed in your spreadsheet.

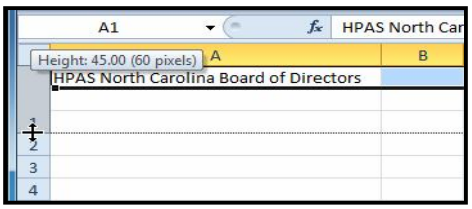
To Set Column Width with a Specific Measurement:



1. Select the columns you want to modify.
2. Click the **Format** command on the **Home** tab. The format drop-down menu appears.
3. Select **Column Width**.
4. The **Column Width** dialog box appears. Enter a specific measurement.
5. Click **OK**. The width of each selected column will be changed in your worksheet.

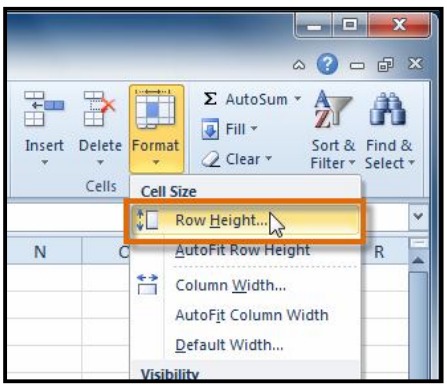
Select **AutoFit Column Width** from the format drop-down menu and Excel will automatically adjust each selected column so that all the text will fit.

To Modify the Row Height:



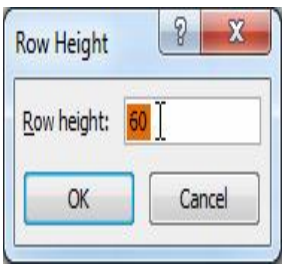
1. Position the **cursor** over the **row line** so that the **white cross** becomes a **double arrow**.
2. **Click and drag the row** downward to increase the row height or upward decrease the row height.
3. Release the mouse. The height of each selected row will be changed in your worksheet.

To Set Row Height with a Specific Measurement:

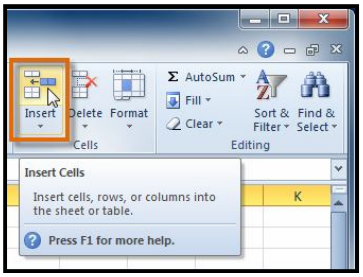


1. Select the rows you want to modify.
2. Click the **Format** command on the **Home** tab. The format drop-down menu appears.
3. Select **Row Height**.
4. The **Row Height** dialog box appears. Enter a specific measurement.
5. Click **OK**. The selected rows heights will be changed in your spreadsheet

Select **AutoFit Row Height** from the format drop-down menu and Excel will automatically adjust each selected row so that all the text will fit.

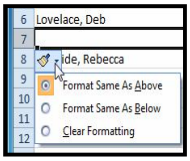


To Insert Rows:



1. Select the **row** *below* where you want the new row to appear.
2. Click the **Insert** command on the **Home** tab.
3. The new row appears in your worksheet.

When inserting new rows, columns, or cells, you will see the **Insert Options** button by the inserted cells. This button allows you to choose how Excel formats them. By default, Excel formats inserted rows with the same formatting as the cells in the row above them. To access more options, hover your mouse over the Insert Options button and click on the drop-down arrow that appears.



	A	B	C
1	Ashberry, Jane	919-882-6561	ashberryj@hpasnc.org
2	Davis, Garrett	919-576-4562	davisg@hpasnc.org
3	Eberhardt, Elizabeth	252-985-3558	eberhardte@hpasnc.org
4	Everett, Carol	919-503-9560	everettc@hpasnc.org
5	Hepburn, Katie H.	704-882-5559	hepburnk@hpasnc.org
6	Lovelace, Deb	919-785-9656	lovelaced@hpasnc.org
7			
8	Bride, Rebecca	828-357-0072	mcbrider@hpasnc.org
9	Mixon, Daniel	919-821-7425	mixond@hpasnc.org
10	Stevens, Kevin	919-783-8564	stevensk@hpasnc.org

To Insert Columns:

1. Select the **column** to the *right* of where you want the new column to appear. For example, if you want to insert a column between A and B, select column B.
2. Click the **Insert** command on the **Home** tab.
3. The new column appears in your worksheet.

By default, Excel formats inserted columns with the same formatting as the column to the left of them. To access more options, hover your mouse over the **Insert Options** button and click on the drop-down arrow that appears.
When inserting rows and columns, make sure you select the row or column by clicking on its heading so that all the cells in that row or column are selected. If you select just a cell in the row or column then only a new cell will be inserted.

To Delete Rows:

1. Select the rows you want to delete.
2. Click the **Delete** command on the **Home** tab.
3. The rows are deleted from your worksheet.

To Delete Columns:

1. Select the columns you want to delete.
2. Click the **Delete** command on the **Home** tab.
3. The columns are deleted from your worksheet.

Wrapping Text and Merging Cells

If a cell contains more text than can be displayed, you can choose to wrap the text within the cell or merge the cell with empty, adjoining cells. **Wrap text** to make it display on multiple lines of the cell. **Merge cells** to combine adjoining cells into one larger cell.

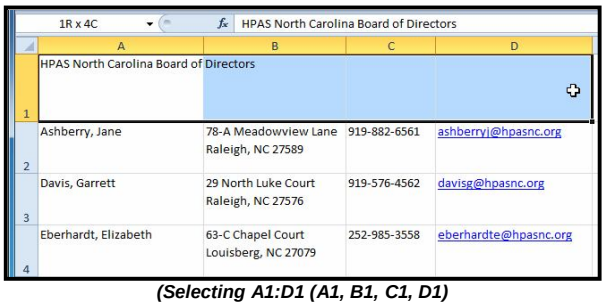
To Wrap Text:

1. Select the cells with text you want to wrap.
2. Select the **Wrap Text** command on the **Home** tab.
3. The text in the selected cells will be wrapped in your worksheet.

If you change your mind, re-click the **Wrap Text** command to unwrap the text.

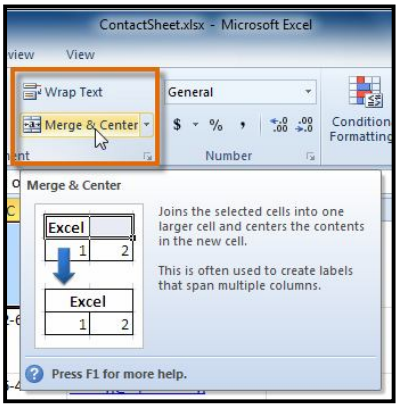
To Merge Cells Using the Merge & Center Command:

1. Select the cells you want to merge together.



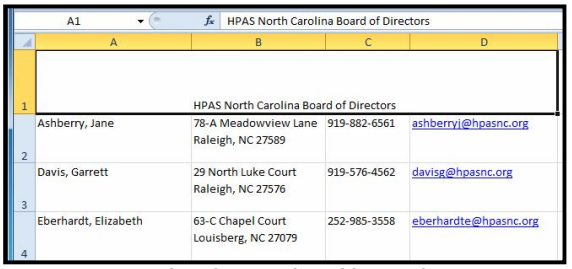
(Selecting A1:D1 (A1, B1, C1, D1)

2. Select the **Merge & Center** command on the **Home** tab.



(Selecting the Merge & Center command)

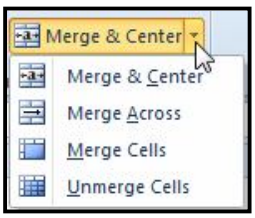
3. The selected cells will be merged and the text will be centered.



(A1 after merging with B1:D1)

If you change your mind, re-click the **Merge & Center** command to unmerge the cells.

To Access More Merge Options:



Click the drop-down arrow next to the **Merge & Center** command on the Home tab. The **merge** drop-down menu appears.

- **Merge & Center:** Merges selected cells into one cell and centers the text.
- **Merge Across:** Merges each *row* of selected cells into larger cells. This command is useful if you are merging content across multiple rows of cells and do not want to create one large cell.
- **Merge Cells:** Merges selected cells into one cell.
- **Unmerge Cells:** Unmerges the selected cells.

Lesson: 4

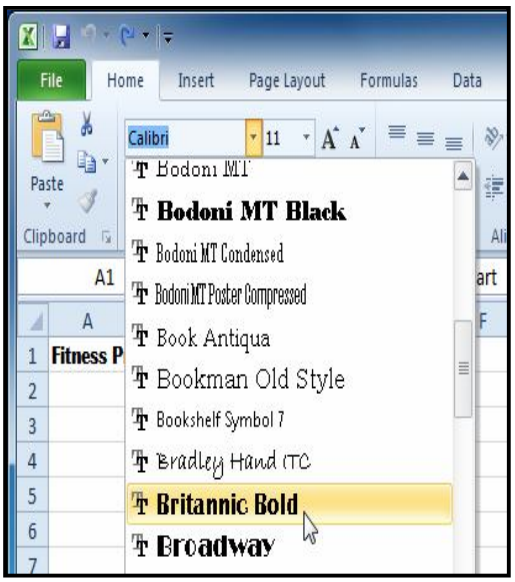
Formatting Text & Cells

Spreadsheets that have not been formatted can be difficult to read. Formatted text and cells can draw attention to specific parts of the spreadsheet and make the spreadsheet more visually appealing and easier to understand.
In Excel, there are many tools you can use to format text and cells. In this lesson, you will learn how to change the **color and style of text and cells**; **align text**; and apply special formatting to **numbers and dates**.

Formatting Text

Many of the commands you will use to format text can be found in the Font, Alignment, and Number groups on the ribbon. **Font** commands let you change the style, size, and color of text. You can also use them to add borders and fill colors to cells. **Alignment** commands let you format how text is displayed across cells both horizontally and vertically. **Number** commands let you change how selected cells display numbers and dates.

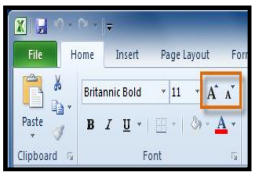
To Change the Font:



1. Select the cells you want to modify.
2. Click the **drop-down arrow** next to the **font** command on the Home tab. The font drop-down menu appears.
3. Move your mouse over the various fonts. A live preview of the font will appear in the worksheet.
4. Select the font you want to use.

To Change the Font Size:

1. Select the cells you want to modify.
2. Click the **drop-down arrow** next to the **font size** command on the Home tab. The font size drop-down menu appears.
3. Move your mouse over the various font sizes. A live preview of the font size will appear in the worksheet.
4. Select the font size you want to use.

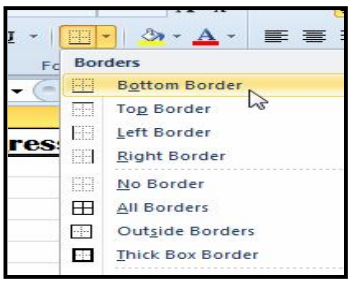


You can also use the **Grow Font** and **Shrink Font** commands to change the size.

To Use the Bold, Italic, and Underline Commands:

1. Select the cells you want to modify.
2. Click the Bold (**B**), Italic (*I*), or Underline (U) command on the Home tab.

To Add a Border:



1. Select the cells you want to modify.
2. Click the **drop-down arrow** next to the **Borders** command on the Home tab. The border drop-down menu appears.
3. Select the border style you want to use.

You can draw borders and change the line style and color of borders with the Draw Borders tools at the bottom of the Borders drop-down menu.

To Change the Font Color:

1. Select the cells you want to modify.
2. Click the **drop-down arrow** next to the **font color** command on the Home tab. The **color** menu appears.

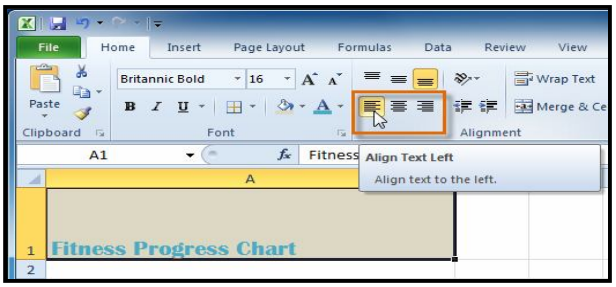
3. Move your mouse over the various font colors. A live preview of the color will appear in the worksheet.
4. Select the font color you want to use.

Your color choices are not limited to the drop-down menu that appears. Select **More Colors** at the bottom of the menu to access additional color options.

To Add a Fill Color:

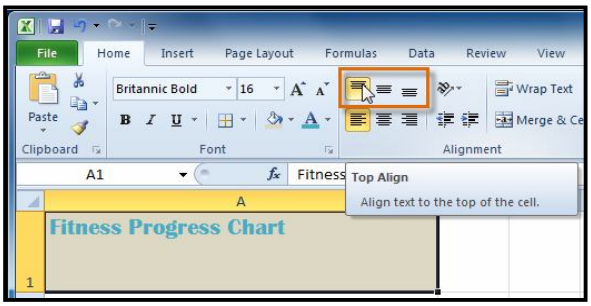
1. Select the cells you want to modify.
2. Click the **drop-down arrow** next to the **fill color** command on the Home tab. The **color** menu appears.
3. Move your cursor over the various fill colors. A live preview of the color will appear in the worksheet.
4. Select the fill color you want to use.

To Change Horizontal Text Alignment:



1. Select the cells you want to modify.
2. Select one of the three horizontal **Alignment** commands on the Home tab.
   - **Align Text Left:** Aligns text to the left of the cell.
   - **Center:** Aligns text to the center of the cell.
   - **Align Text Right:** Aligns text to the right of the cell.

To Change Vertical Text Alignment:



1. Select the cells you want to modify.
2. Select one of the three vertical **Alignment** commands on the Home tab.
   - **Top Align:** Aligns text to the top of the cell.
   - **Middle Align:** Aligns text to the middle of the cell.
   - **Bottom Align:** Aligns text to the bottom of the cell.

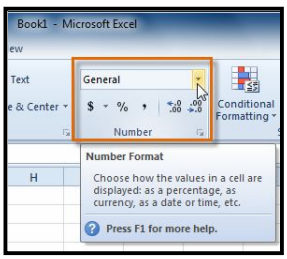
By default, numbers align to the bottom-right of cells and words or letters align to the bottom-left of cells.

Formatting Numbers and Dates

One of the most useful features of Excel is its ability to format numbers and dates in a variety of ways. For example, you might need to format numbers with decimal places, currency symbols ($), percent symbols (%), etc.

To Format Numbers and Dates:

1. Select the cells you want to modify.
2. Click the **drop-down arrow** next to the **Number Format** command on the Home tab.
3. Select the number format you want.



Lesson: 5

Workbook & Worksheet

A workbook is a file that stores the entered related data; a worksheet is a page of the workbook on which all the data is held.

In Microsoft Excel, a workbook is simply an Excel file that stores entered related data. Workbooks are capable of holding an almost infinite number of worksheets, depending on the size and the relevance of the data. It is, essentially, a book filled with the data from multiple worksheets. Workbooks are usually labeled by the data which is on each worksheet – if all the pages of the workbook hold the same type of data, that workbook will be named for the relevant data that it holds.
In Excel, a worksheet is an amalgamation of a number of cells that hold data pertaining to a certain piece of information. It is also known as a spreadsheet. A user is able to enter, modify, and manipulate the data that is entered in the spreadsheet. With a spreadsheet, a user is essentially entering information onto a page of a workbook.

By default, ***each workbook*** automatically contains ***three worksheets***. When a user opens Excel initially, the project on which they are going to begin work is entitled '***Book 1'*** until later renamed to fit the type of data being entered into each respective sheet. Essentially, when a user opens Excel, they are beginning creation on ***a workbook*** – a book that contains multiple pages of entered data. These pages fill the book and are, therefore, a part of the overall summation of information that the book is attempting to convey.

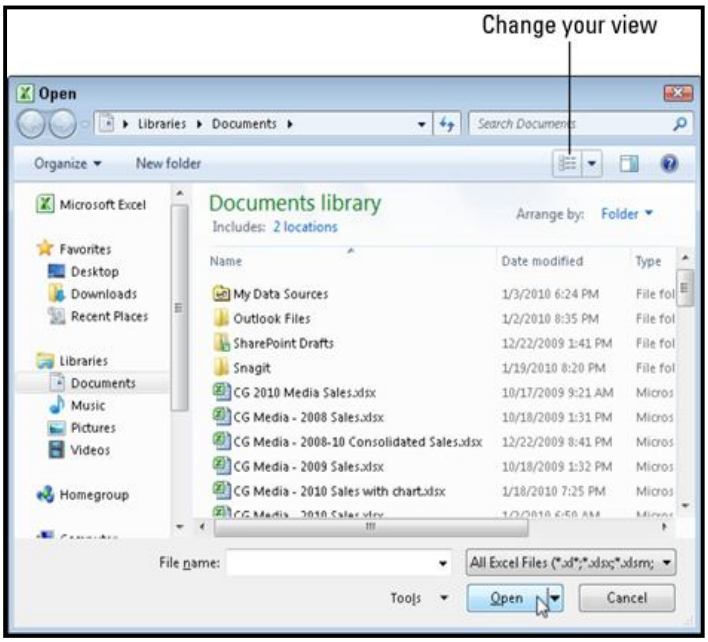
A worksheet, then, is nothing more than a page in the workbook. Each page is filled with a specific amount of data. Within a worksheet, the data can be manipulated to create charts, graphs, or arrays that visually project the main purpose of the data that was initially entered. The worksheet is what defines what the workbook is – without the worksheets the workbook would be without form or purpose. The worksheets are what make the workbook what it is, and holds all the data for the workbook.

Worksheet and workbook specifications

FEATURE	MAXIMUM LIMIT
Open workbooks	Limited by available memory and system resources
Worksheet size	65,536 rows by 256 columns
Column width	255 characters
Row height	409 points
Page breaks	1000 horizontal and vertical
Length of cell contents (text)	32,767 characters. Only 1,024 display in a cell; all 32,767 display in the formula bar.
Sheets in a workbook	Limited by available memory (default is 3 sheets)
Colors in a workbook	56
Cell styles in a workbook	4,000
Named views in a workbook	Limited by available memory
Custom number formats	Between 200 and 250, depending on the language version of Excel you have installed.
Names in a workbook	Limited by available memory
Windows in a workbook	Limited by system resources
Panes in a window	4
Linked sheets	Limited by available memory
Scenarios	Limited by available memory; a summary report shows only the first 251 scenarios
Changing cells in a scenario	32
Adjustable cells in Solver	200
Custom functions	Limited by available memory
Zoom range	10 percent to 400 percent
Reports	Limited by available memory
Sort references	3 in a single sort; unlimited when using sequential sorts
Undo levels	16
Fields in a data form	32
Custom toolbars in a workbook	Limited by available memory
Custom toolbar buttons	Limited by available memory

Opening a workbook when running Excel 2010 on Windows 7 or Vista

Follow these steps to open a workbook when you're running ***Excel 2010*** on ***Windows 7*** or ***Vista***:



1. **Click the File tab and choose Open.**

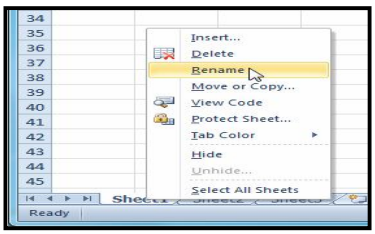
   The Open dialog box appears. This dialog box is divided into panes: the Navigation pane on the left, where you can select a new folder to open, and the main pane on the right, showing the icons for all the subfolders in the current folder as well as the documents that Excel can open.

2. **If you want to open a workbook in another folder, select the folder in the Navigation pane.**

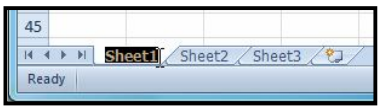
   If you're running Excel 2010 on Windows Vista, the Navigation pane in the Open dialog box contains a Folders item instead of Libraries under your list of Favorites. Additionally, the Views button appears between the Organize and New Folder buttons and not to their right above the Navigation and main panes.

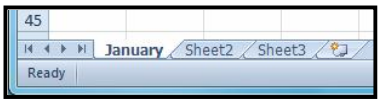
3. **Click the file you want to open and then click the Open button, or double-click the file's icon.**

To Rename Worksheets:

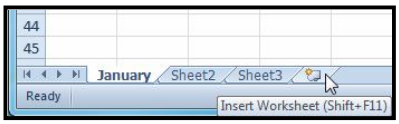


1. Right-click the **worksheet tab** you want to rename. The **worksheet** menu appears.
2. Select **Rename**.
3. The text is now highlighted by a black box. Type the name of your worksheet.
4. Click anywhere outside of the tab. The worksheet is renamed.





To Insert New Worksheets:



Click on the **Insert Worksheet** icon. A new worksheet will appear.
You can change the setting for the default number of worksheets that appear in Excel workbooks. To access this setting, go into **Backstage view** and click on **Options**.

To Delete Worksheets:

Worksheets can be deleted from a workbook, including those that contain data.

1. Select the worksheets you want to delete.
2. Right-click one of the selected worksheets. The worksheet menu appears.
3. Select **Delete**. The selected worksheets will be deleted from your workbook.

To Copy a Worksheet:

1. Right-click the worksheet you want to copy. The **worksheet** menu appears.
2. Select **Move or Copy**.
3. The **Move or Copy** dialog box appears. Check the **Create a copy** box.
4. Click **OK**. Your worksheet is copied. It will have the same title as your original worksheet, but the title will include a version number, such as "January (2)".

To Move a Worksheet:

1. Click on the worksheet you want to move. The mouse will change to show a small worksheet icon.
2. Drag the worksheet icon until a small black arrow appears where you want the worksheet to be moved.
3. Release your mouse and the worksheet will be moved.

To Color-Code Worksheet Tabs:

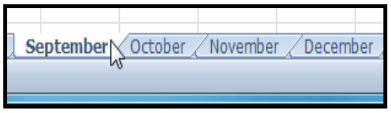
You can color worksheet tabs to help organize your worksheets and make your workbook easier to navigate.

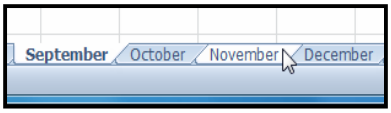
1. Right-click the worksheet tab you want to color. The **worksheet** menu appears.
2. Select **Tab Color**. The **color** menu appears.
3. Select the color you want to change your tab.
4. The tab color will change in the workbook. If your tab still appears white, that is because the worksheet is still selected. Select any other worksheet tab to see the color change.

Grouping and Ungrouping Worksheets

You can work with each worksheet in a workbook individually, or you can work with multiple worksheets at the same time. Worksheets can be combined together into a group. Any changes made to one worksheet in a group will be made to every worksheet in the group.

To Group Worksheets:





1. Select the **first worksheet** you want in the group.
2. **Press and hold the Ctrl key** on your keyboard.
3. Select the **next worksheet** you want in the group. Continue to select worksheets until all of the worksheets you want to group are selected.
4. **Release the Ctrl key**. The worksheets are now grouped. The worksheet tabs appear white for the grouped worksheets.
   While worksheets are grouped, you can navigate to any worksheet *in* the group and make changes that will appear on every worksheet in the group. If you click on a worksheet tab that is not in the group, however, all of your worksheets will become ungrouped. You will have to regroup them.

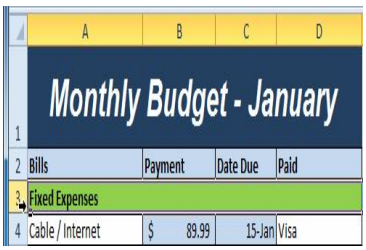
To Ungroup All Worksheets:

1. Right-click one of the worksheets. The **worksheet** menu appears.
2. Select **Ungroup**. The worksheets will be ungrouped.

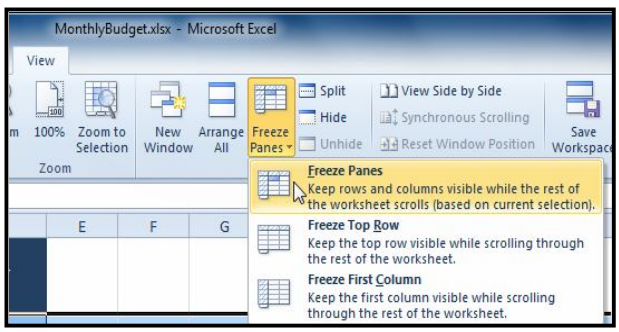
Freezing Worksheet Panes

The ability to freeze specific rows or columns in your worksheet can be a very useful feature in Excel. It is called ***freezing panes***. When you freeze panes, you select rows or columns that will remain visible all the time, even as you are scrolling. This is particularly helpful when working with large spreadsheets.

To Freeze Rows:

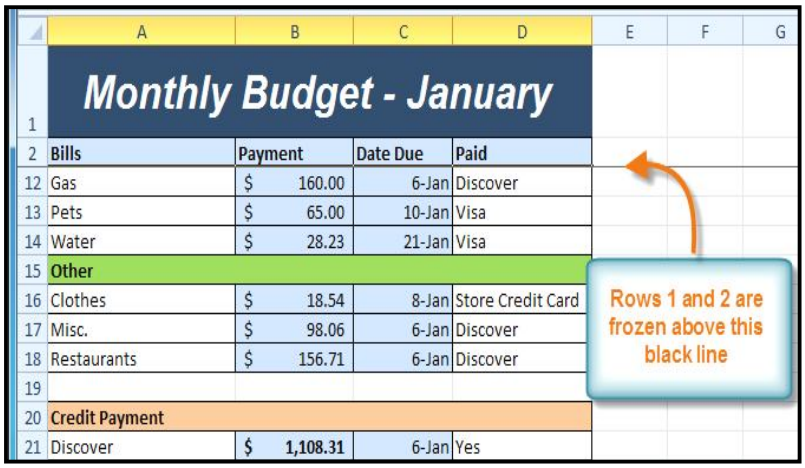


1. Select the row *below* the rows that you want frozen. For example, if you want rows 1 & 2 to always appear at the top of the worksheet even as you scroll, then select row 3.



2. Click the **View** tab.
3. Click the **Freeze Panes** command. A drop-down menu appears.

4. Select **Freeze Panes**.
5. A black line appears *below* the rows that are frozen in place. Scroll down in the worksheet to see the rows below the frozen rows.



To Freeze Columns:

1. Select the column to the *right* of the columns you want frozen. For example, if you want columns A & B to always appear to the left of the worksheet even as you scroll, then select column C.
2. Click the **View** tab.
3. Click the **Freeze Panes** command. A drop-down menu appears.
4. Select **Freeze Panes**.
5. A black line appears to the *right* of the frozen area. Scroll across the worksheet to see the columns to the right of the frozen columns.

To Unfreeze Panes:

1. Click the **View** tab.
2. Click the **Freeze Panes** command. A drop-down menu appears.
3. Select **Unfreeze Panes**. The panes will be unfrozen and the black line will disappear.

Lesson: 6

Working with Formulas

Excel can be used to calculate numerical information. In this lesson you will learn how to create simple formulas in Excel to add, subtract, multiply, and divide values in a workbook. Also, you will learn the various ways you can use cell references to make working with formulas easier and more efficient.

Simple Formulas

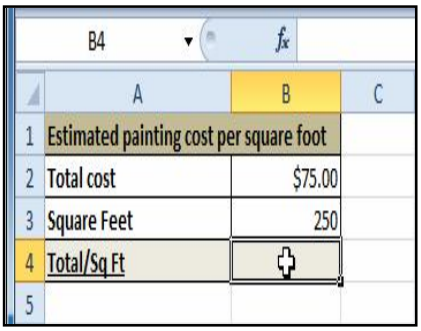
A formula is an equation that performs a calculation. Like a calculator, Excel can execute formulas that add, subtract, multiply, and divide. One of the most useful features of Excel is its ability to calculate using a cell address to represent the value in a cell. This is called using a cell reference. In order to maximize the capabilities of Excel, it is important to understand how to create simple formulas and use cell references.

Creating Simple Formulas

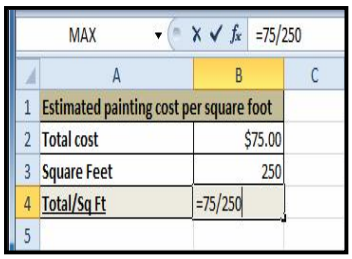
Excel uses standard operators for equations, such as a **plus sign** for addition (+), a **minus sign** for subtraction (-), an **asterisk** for multiplication (*), a **forward slash** for division (/), and a **carat** (^) for exponents.
The key thing to remember when writing formulas for Excel is that all formulas must begin with an **equal sign** (=). This is because the cell contains, or is equal to, the formula and its value.

Addition	+	=5+5
Subtraction	-	=5-5
Multiplication	*	=5*5
Division	/	=5/5
Exponents	^	=5^5

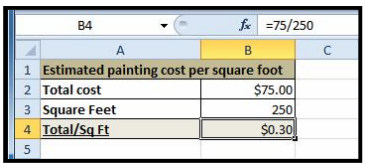
To Create a Simple Formula in Excel:



1. Select the cell where the answer will appear (B4, for example).
2. Type the **equal sign (=)**.
3. Type in the formula you want Excel to calculate. For example, "75/250".



4. Press **Enter**. The formula will be calculated and the value will be displayed in the cell.



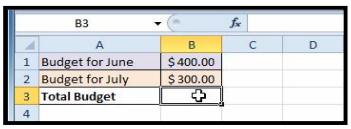
Creating Formulas with Cell References

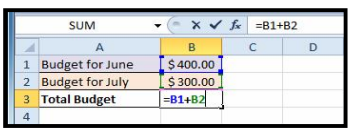
When a formula contains a cell address, it is called a **cell reference**. Creating a formula with cell references is useful because you can update data in your worksheet without having to rewrite the values in the formula.

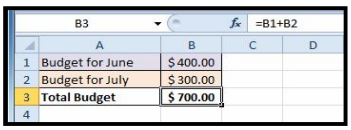
To Create a Formula Using Cell References:

1. Select the cell where the answer will appear (B3, for example).
2. Type the **equal sign (=)**.
3. Type the cell address that contains the first number in the equation (B1, for example).
4. Type the operator you need for your formula. For example, type the **addition sign (+)**.
5. Type the cell address that contains the second number in the equation (B2, for example).
6. Press **Enter**. The formula will be calculated and the value will be displayed in the cell.

If you change a value in either B1 or B2, the total will automatically recalculate.

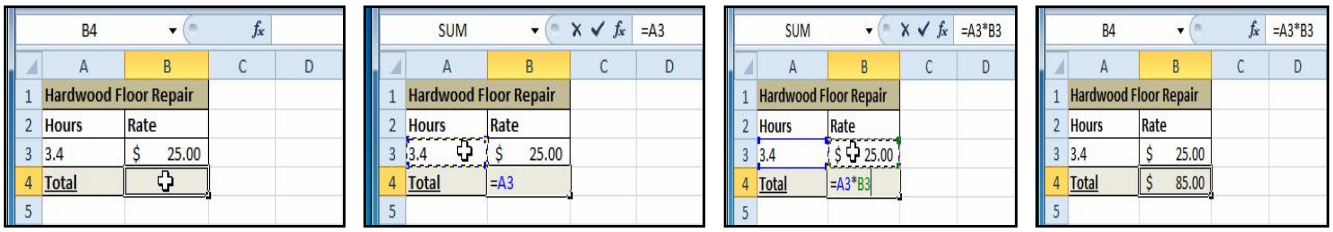






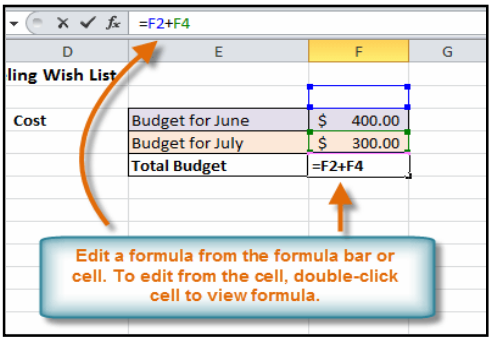
To Create a Formula using the Point and Click Method:

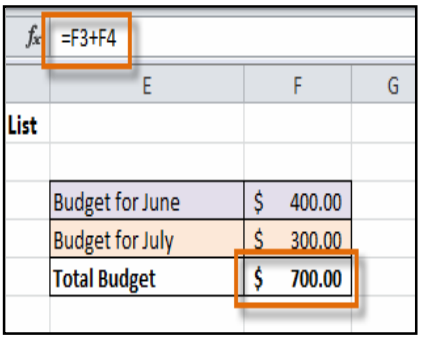
1. Select the cell where the answer will appear (B4, for example).
2. Type the **equal sign (=)**.
3. Click on the **first cell** to be included in the formula (A3, for example).
4. Type the operator you need for your formula. For example, type the **multiplication sign (*)**.
5. Click on the **next cell** in the formula (B3, for example).
6. Press **Enter**. The formula will be calculated and the value will be displayed in the cell.



To Edit a Formula:

1. Click on the cell you want to edit.
2. Insert the cursor in the **formula bar** and edit the formula as desired. You can also **double-click the cell to view and edit the formula directly** from the cell.
3. When finished, press **Enter** or select the **Enter** command ✓ .
4. The new value will be displayed in the cell.





If you change your mind, use the **Cancel** command in the formula bar to avoid accidentally making changes to your formula.

Creating Complex Formulas

Excel is a spreadsheet application that can help you calculate and analyze numerical information for household budgets, company finances, inventory, and more. To do this, you need to understand **complex formulas**.

Simple formulas have one mathematical operation, such as 5+5.Complex formulas have more than one mathematical operation, such as 5+5-2. When there is more than one operation in a formula, the order of operations tells us which operation to calculate first. In order to use Excel to calculate complex formulas, you will need to understand the order of operations.

Order of Operations

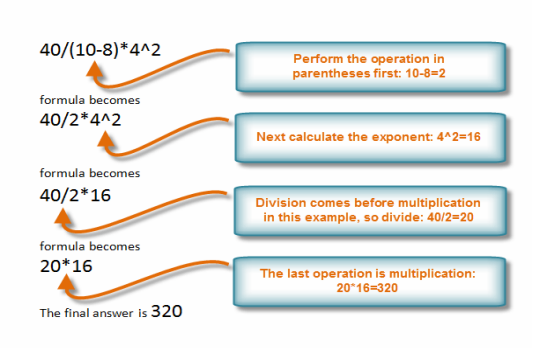
Excel calculates formulas based on the following **order of operations**:

1. Operations enclosed in **parentheses**
2. **Exponential** calculations (to the power of)
3. **Multiplication** and **division**, whichever comes first
4. **Addition** and **subtraction**, whichever comes first

A mnemonic that can help you remember the order is **P**lease **E**xcuse **M**y **D**ear **A**unt **S**ally.

Example 1

The following example demonstrates how to use the order of operations to calculate a formula:



Example 2

In this example, we will review how Excel will calculate a complex formula using the order of operations. The selected cell will display the percent of total Pete Lily seeds sold that were white.

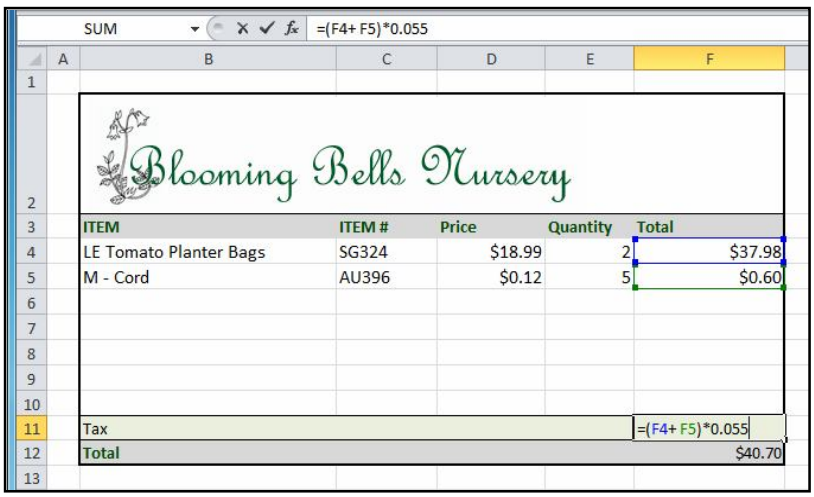
Seed Inventory	Packets Sold	Price	Percent of Total Sold
Pete Lily - Blue	14	$1.99	42.42
Pete Lily - White	19	$1.99	=(19*1.99)/(33*1.99)*100
Total Pete Lily	33	$1.99	

Order of Operations Excel example

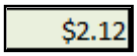
1. First, Excel will calculate the amount sold in parentheses: **(19*1.99)=37.81** White Lily seeds and **(33*1.99)=65.67** Total Lily seeds.
2. Second, it will divide the White Lily seeds amount by the Total Lily seeds amount: **37.81/65.67=.5758**.
3. Last, it will multiply the result by 100 to obtain the value as a percent: **.5758*100=57.58**.
   Based on this complex formula, the result will show that **57.58%** of the total Pete Lily seeds sold were white. You can see from this example, that it is important to enter complex formulas with the correct order of operations. Otherwise, Excel will not calculate the results accurately.

To Create a Complex Formula Using the Order of Operations:

In this example, we will use **cell references** in addition to actual values, to create a complex formula that will add tax to the nursery order.



1. Click the cell where you want the formula result to appear (for example, ***F11***).
2. Type the **equal sign (=)**.
3. Type an **open parenthesis**, then click on the cell that contains the first **value** you want in the formula (for example, F4).
4. Type the first **mathematical operator** (for example, the addition sign).
5. Click on the cell that contains the second **value** you want in the formula (for example, F5), and then type a **closed parenthesis**.
6. Type the next **mathematical operator** (for example, the multiplication sign).
7. Type the next **value** in the formula (for example, 0.055 for 5.5% tax).
8. Click **Enter** to calculate your formula. The results show that ***$2.12*** is the tax for the nursery order.



Working with Cell References

In order to maintain accurate formulas, it is necessary to understand how cell references respond when you copy or fill them to new cells in the worksheet. Excel will interpret cell references as either **relative** or **absolute**. By default, cell references are **relative references**. When copied or filled, they change based on the relative position of rows and columns. If you copy formula (=A1+B1) into row 2, the formula will change to become (=A2+B2).

Absolute references, on the other hand, do not change when they are copied or filled and are used when you want the values to stay the same.

Relative References

Relative references can save you time when you are repeating the same kind of calculation across multiple rows or columns.
In the following example, we are creating a formula with cell references in row 4 to calculate the total cost of the electric bill and water bill for each month (B4=B2+B3). For the upcoming months we want to use the same formula with relative references (C2+C3, D2+D3, E2+E3, etc.) For convenience, we can copy the formula in B4 into the rest of row 4 and Excel will calculate the value of the bills for those months using relative references.

To Create and Copy a Formula Using Relative References:

1. Select the first cell where you want to enter the formula (for example, B4).

B4

	A	B	C	D	E	F	G	H	I	J	K	L	M
1		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2	Electric	$ 116.45	$ 125.15	$ 132.04	$ 114.78	$ 98.45	$ 101.98	$ 120.41	$ 139.42	$ 99.56	$ 106.24	$ 110.12	$ 114.21
3	Water	$ 50.15	$ 48.75	$ 45.87	$ 49.57	$ 50.42	$ 64.45	$ 66.42	$ 63.24	$ 56.54	$ 46.24	$ 43.24	$ 50.24
4	Total												

2. Enter the formula to calculate the value you want (for example, add B2+B3).

	A	B	C
1		JAN	FEB
2	Electric	$ 116.45	$ 125.15
3	Water	$ 50.15	$ 48.75
4	Total	=B2+B3	

3. Press **Enter**. The formula will be calculated.

$ 166.60

4. Select the cell you want to copy (for example, B4) and click on the **Copy** command from the **Home** tab.
5. Select the cells where you want to paste the formula and click on the **Paste** command from the **Home** tab. (You may also drag the fill handle to fill cells.)

C4 =C2+C3

	A	B	C	D	E	F	G	H	I	J	K	L	M
1		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2	Electric	$ 116.45	$ 125.15	$ 132.04	$ 114.78	$ 98.45	$ 101.98	$ 120.41	$ 139.42	$ 99.56	$ 106.24	$ 110.12	$ 114.21
3	Water	$ 50.15	$ 48.75	$ 45.87	$ 49.57	$ 50.42	$ 64.45	$ 66.42	$ 63.24	$ 56.54	$ 46.24	$ 43.24	$ 50.24
4	Total	$ 166.60	$ 173.90	$ 177.91	$ 164.35	$ 148.87	$ 166.43	$ 186.83	$ 202.66	$ 156.10	$ 152.48	$ 153.36	$ 164.45

6. Your formula is copied to the selected cells as a relative reference (C4=C2+C3, D4=D2+D3, E4=E2+E3, etc.) and the values are calculated.

Absolute References

There may be times when you do not want a cell reference to change when copying or filling cells. You can use an absolute reference to keep a row and/or column constant in the formula.
An absolute reference is designated in the formula by the addition of a dollar sign ($). It can precede the column reference, the row reference, or both.
In the below example, we want to calculate the sales tax for a list of products with varying prices. We will use an absolute reference for the ***sales tax ($B$1)*** because we do not want it to change as we are copying the formula down the column of varying prices.

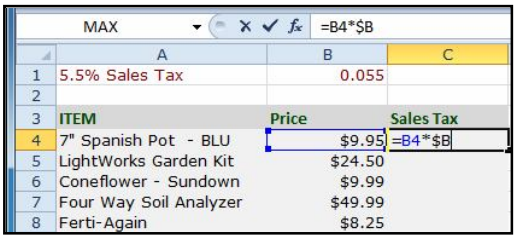
$A$2:	The column and the row do not change when copied.
A$2:	The row does not change when copied.
$A2:	The column does not change when copied.

To Create and Copy a Formula Using an Absolute Reference:

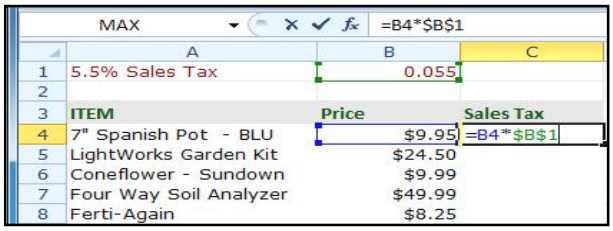
1. Select the first cell where you want to enter the formula (for example, C4)
2. Click on the cell that contains the first **value** you want in the formula (for example, B4).
3. Type the first **mathematical operator** (for example, the multiplication sign).
4. Type the **dollar sign ($)** and enter the **column letter** of the cell you are making an absolute reference to (for example, B).

C4

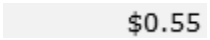
	A	B	C
1	5.5% Sales Tax	0.055	
2			
3	ITEM	Price	Sales Tax
4	7" Spanish Pot -	$9.95	
5	LightWorks Garde	$24.50	
6	Coneflower - Sur	$9.99	
7	Four Way Soil An	$49.99	
8	Ferti-Again	$8.25	



5. Type the **dollar sign ($)** and enter the **row number** of the same cell you are making an absolute reference to (for example, 1).



6. Press **Enter** to calculate the formula.



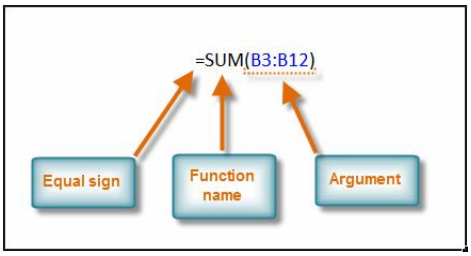
7. Select the cell you want to copy (for example, C4) and click on the **Copy** command from the **Home** tab.
8. Select the cells where you want to paste the formula and click on the **Paste** command from the **Home** tab. (You may also drag the fill handle to fill cells.)
9. Your formula is copied to the selected cells using the absolute reference (C5=B5*$B$1, C6=B6*$B$1, etc.) and your values are calculated.

Working with Basic Functions

Figuring out formulas for calculations you want to make in Excel can be tedious and complicated. Fortunately, Excel has an entire library of **functions** or **predefined formulas** that you can take advantage of. You may be familiar with common functions like **sum**, **average**, **product** or **count**, but there are hundreds of functions in Excel, even for things like formatting text, referencing cells, calculating financial rates, analyzing statistics, and more.

A **function** is a **predefined formula** that performs calculations using specific values in a particular order. One of the key benefits of functions is that they can save you time since you do not have to write the formula yourself. Excel has hundreds of different functions to assist with your calculations. In order to use these functions correctly, you need to understand the different **parts of a function** and how to create **arguments** in functions to calculate values and cell references.

The Parts of a Function



The order in which you insert a function is important. Each function has a specific order, called **syntax**, which must be followed for the function to work correctly. The basic syntax to create a formula with a function is to insert an **equal sign (=)**, a **function name** (SUM, for example, is the function name for addition), and an **argument**. Arguments contain the information you want the formula to calculate, such as a range of cell references. ***Types of Functions:-***

Financial functions

FUNCTION	DESCRIPTION
ACCRINT	Returns the accrued interest for a security that pays periodic interest
ACCRINTM	Returns the accrued interest for a security that pays interest at maturity
AMORDEGRC	Returns the depreciation for each accounting period by using a depreciation coefficient
AMORLINC	Returns the depreciation for each accounting period
COUPDAYBS	Returns the number of days from the beginning of the coupon period to the settlement date
COUPDAYS	Returns the number of days in the coupon period that contains the settlement date
COUPDAYSNC	Returns the number of days from the settlement date to the next coupon date
COUPNCD	Returns the next coupon date after the settlement date
COUPPCD	Returns the previous coupon date before the settlement date
FV	Returns the future value of an investment

Engineering functions

IMLOG2	Returns the base-2 logarithm of a complex number
IMPOWER	Returns a complex number raised to an integer power
IMPRODUCT	Returns the product of from 2 to 29 complex numbers
IMREAL	Returns the real coefficient of a complex number
IMSIN	Returns the sine of a complex number
IMSQRT	Returns the square root of a complex number
IMSUB	Returns the difference between two complex numbers
IMSUM	Returns the sum of complex numbers
OCT2BIN	Converts an octal number to binary
OCT2DEC	Converts an octal number to decimal
OCT2HEX	Converts an octal number to hexadecimal

Math and trigonometry functions

FUNCTION	DESCRIPTION
ABS	Returns the absolute value of a number
ACOS	Returns the arccosine of a number
ACOSH	Returns the inverse hyperbolic cosine of a number
ASIN	Returns the arcsine of a number
ASINH	Returns the inverse hyperbolic sine of a number
ATAN	Returns the arctangent of a number
ATAN2	Returns the arctangent from x- and y-coordinates
ATANH	Returns the inverse hyperbolic tangent of a number
CEILING	Rounds a number to the nearest integer or to the nearest multiple of significance
COMBIN	Returns the number of combinations for a given number of objects
COS	Returns the cosine of a number
COSH	Returns the hyperbolic cosine of a number
DEGREES	Converts radians to degrees
EVEN	Rounds a number up to the nearest even integer
EXP	Returns e raised to the power of a given number
FACT	Returns the factorial of a number
FACTDOUBLE	Returns the double factorial of a number
FLOOR	Rounds a number down, toward zero
GCD	Returns the greatest common divisor
INT	Rounds a number down to the nearest integer
LCM	Returns the least common multiple
LN	Returns the natural logarithm of a number
LOG	Returns the logarithm of a number to a specified base
LOG10	Returns the base-10 logarithm of a number

Statistical functions

FUNCTION	DESCRIPTION
AVEDEV	Returns the average of the absolute deviations of data points from their mean
AVERAGE	Returns the average of its arguments
AVERAGEA	Returns the average of its arguments, including numbers, text, and logical values
BETADIST	Returns the beta cumulative distribution function
BETAINV	Returns the inverse of the cumulative distribution function for a specified beta distribution
BINOMDIST	Returns the individual term binomial distribution probability
CHIDIST	Returns the one-tailed probability of the chi-squared distribution
CHIINV	Returns the inverse of the one-tailed probability of the chi-squared distribution
CHITEST	Returns the test for independence
CONFIDENCE	Returns the confidence interval for a population mean
CORREL	Returns the correlation coefficient between two data sets
COUNT	Counts how many numbers are in the list of arguments
COUNTA	Counts how many values are in the list of arguments
COUNTBLANK	Counts the number of blank cells within a range
COUNTIF	Counts the number of nonblank cells within a range that meet the given criteria

Logical functions

FUNCTION	DESCRIPTION
AND	Returns TRUE if all of its arguments are TRUE
FALSE	Returns the logical value FALSE
IF	Specifies a logical test to perform
NOT	Reverses the logic of its argument
OR	Returns TRUE if any argument is TRUE
TRUE	Returns the logical value TRUE

Lookup and reference functions

FUNCTION	DESCRIPTION
ADDRESS	Returns a reference as text to a single cell in a worksheet
AREAS	Returns the number of areas in a reference
CHOOSE	Chooses a value from a list of values
COLUMN	Returns the column number of a reference
COLUMNS	Returns the number of columns in a reference
GETPIVOTDATA	Returns data stored in a PivotTable
HLOOKUP	Looks in the top row of an array and returns the value of the indicated cell
HYPERLINK	Creates a shortcut or jump that opens a document stored on a network server, an intranet, or the Internet
INDEX	Uses an index to choose a value from a reference or array
INDIRECT	Returns a reference indicated by a text value
LOOKUP	Looks up values in a vector or array
MATCH	Looks up values in a reference or array
OFFSET	Returns a reference offset from a given reference
ROW	Returns the row number of a reference
ROWS	Returns the number of rows in a reference
RTD	Retrieves real-time data from a program that supports COM automation
TRANSPOSE	Returns the transpose of an array
VLOOKUP	Looks in the first column of an array and moves across the row to return the value of a cell

Text functions

FUNCTION	DESCRIPTION
ASC	Changes full-width (double-byte) English letters or katakana within a character string to half-width (single-byte) characters
BAHTTEXT	Converts a number to text, using the ß (baht) currency format
CHAR	Returns the character specified by the code number
CLEAN	Removes all nonprintable characters from text
CODE	Returns a numeric code for the first character in a text string
CONCATENATE	Joins several text items into one text item
DOLLAR	Converts a number to text, using the $ (dollar) currency format
EXACT	Checks to see if two text values are identical

If you want detailed Explanation on Various Function used in Excel, 2010 then please Visit following website:

http://office.microsoft.com/en-us/excel-help/excel-functions-by-category-HP005204211.aspx

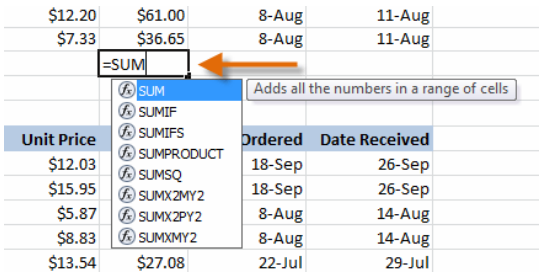
Working with Basic Arguments

Arguments must be enclosed in **parentheses**. Individual values or cell references inside the parentheses are separated by either **colons** or **commas**.

- **Colons** create a reference to a range of cells.
  For example, **=AVG(E19:E23)** would calculate the **average** of the cell range E19 through E23.
- **Commas** separate individual values, cell references, and cell ranges in the parentheses. If there is more than one argument, you must separate each argument by a comma.
  For example, **=COUNT(C6:C14,C19:C23,C28)** will **count** all the cells in the three arguments that are included in parentheses.

To Create a Basic Function in Excel:

1. Select the cell where the answer will appear (F15, for example)
2. Type the **equal sign (=)** and enter the **function name** (SUM, for example).



3. Enter the cells for the **argument** inside the parenthesis.

Unit Price	Subtotal	Date Ordered	Date Received
$5.86	$58.60	12-Sep	17-Sep
$40.26	$80.52	12-Sep	17-Sep
$4.20	$42.00	6-Sep	12-Sep
$6.19	$74.28	6-Sep	12-Sep
$3.20	$48.00	6-Sep	12-Sep
$3.40	$17.00	6-Sep	12-Sep
$4.10	$32.80	6-Sep	12-Sep
$12.20	$61.00	8-Aug	11-Aug
$7.33	$36.65	8-Aug	11-Aug
	=SUM(F6:F14)		

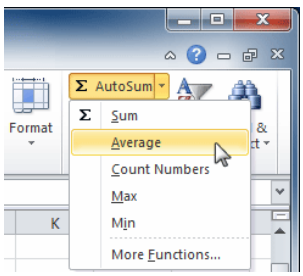
4. Press **Enter** and the result will appear.

$450.85

Using AutoSum to select Common Functions:

The **AutoSum** command allows you to automatically return the results for a range of cells for common functions like SUM and AVG.

1. Select the cell where the answer will appear (E24, for example).
2. Click on the **Home** tab.
3. In the **Editing** group, click on the **AutoSum** drop-down arrow and select the function you desire (Average, for example).



4. A formula will appear in the selected cell E24. If logically placed, AutoSum will select your cells for you. Otherwise, you will need to click on the cells to choose the argument you desire.

Unit Price	Subtotal	Date Ordered	Date Received
$12.03	$36.09	18-Sep	26-Sep
$15.95	$31.90	18-Sep	26-Sep
$5.87	$58.70	8-Aug	14-Aug
$8.83	$88.30	8-Aug	14-Aug
$13.54	$27.08	22-Jul	29-Jul
=AVERAGE(E19:E23)			

AVERAGE(**number1**, [number2], ...)

Subtotal

5. Press **Enter** and the result will appear.

$11.24

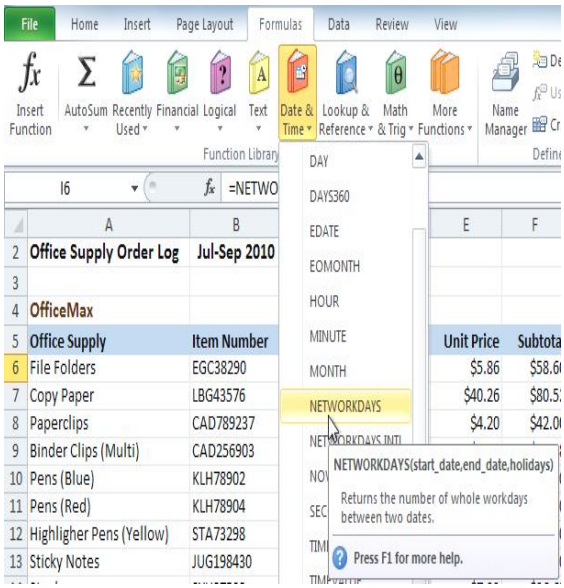
The **AutoSum** command can also be accessed from the **Formulas** tab.

Function Library

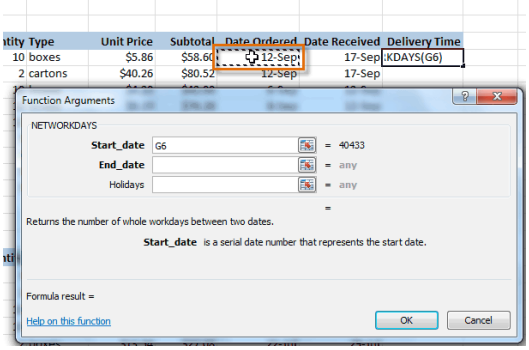
There are hundreds of functions in Excel, but only some will be useful for the kind of data you are working with. There is no need to learn every single function, but you may want to explore some of the different kinds to get ideas about which ones might be helpful to you as you create new spreadsheets.

To Insert a Function from the Function Library:

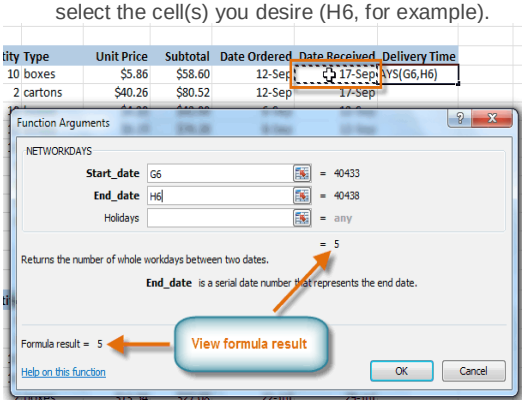
1. Select the cell where the answer will appear (I6, for example)
2. Click on the **Formulas** tab.
3. From the **Function Library** group, select the **function category** you desire. In this example, we will choose Date & Time.
4. Select the desired **function** from the Date & Time drop-down menu. We will choose the NETWORKDAYS function to count the days between the order date and receive date in our worksheet.



5. The **Function Arguments** dialog box will appear. Insert the cursor in the **first field** and then enter or select the cell(s) you desire (G6, for example).



6. Insert the cursor in the **next field** and then enter or select the cell(s) you desire (H6, for example).



7. Click **OK** and the result will appear. Our results show that it took 5 days to receive the order.

Date Ordered	Date Received	
12-Sep	17-Sep	5

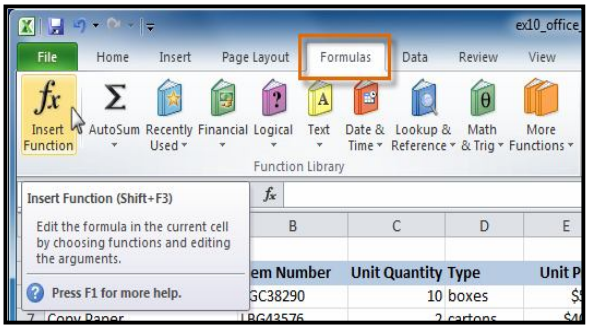
Insert Function Command

The **Insert Function** command is convenient because it allows you to search for a function by typing a description of what you are looking for or by selecting a category to peruse. The Insert Function command can also be used to easily enter or select more than one argument for a function.

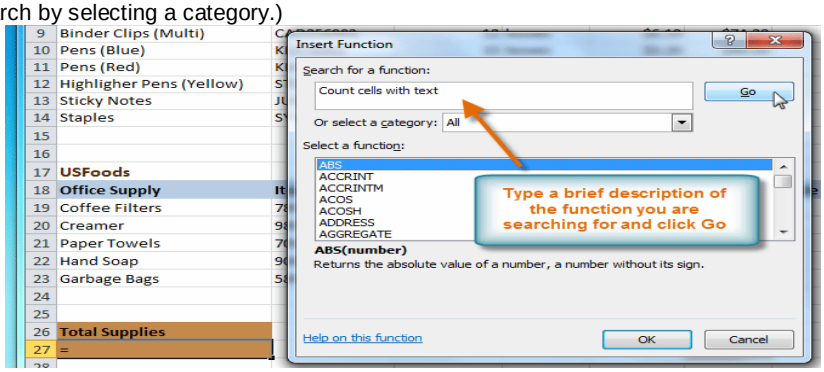
Using the Insert Function command:

In this example, we want to find a function that will count the total number of supplies listed in the Office Supply Order Log. The basic COUNT function only counts cells with numbers; we want to count the cells in the Office Supply column, which uses text. Therefore, we will need to find a formula that counts cells with text.

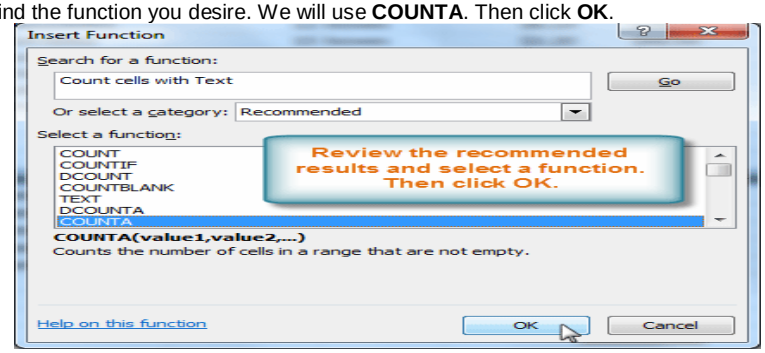
1. Select the cell where the answer will appear (A27, for example)
2. Click on the **Formulas** tab and select the **Insert Function** command.



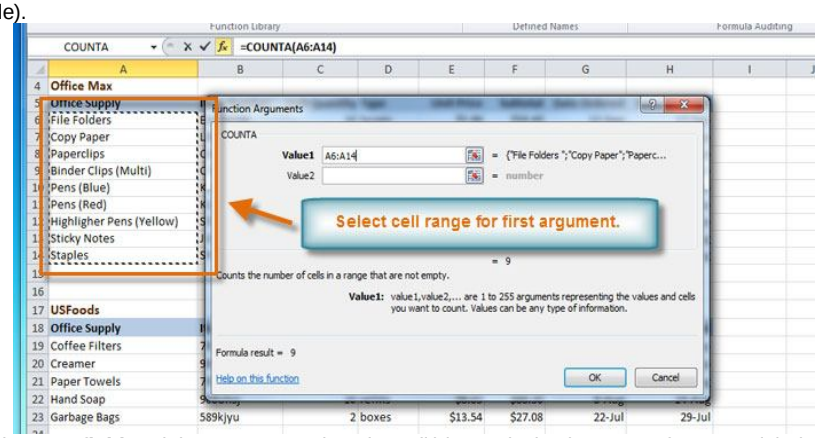
3. The **Insert Function** dialog box will appear.
4. Type a **description** of the function you are searching for and click **Go**. For our example, we will type: *Count cells with text*. (You may also search by selecting a category.)



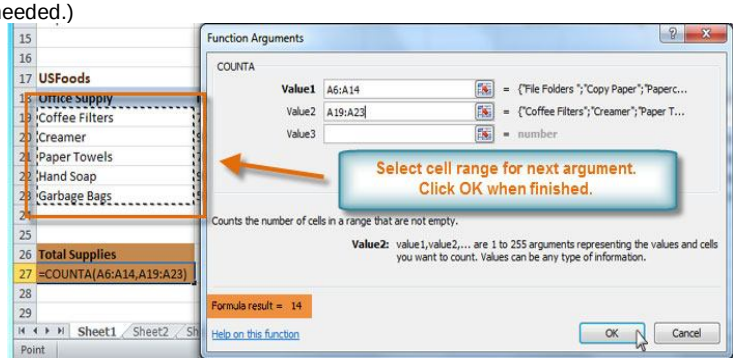
5. Review the results to find the function you desire. We will use **COUNTA**. Then click **OK**.



6. The **Function Arguments** dialog box will appear. Insert the cursor in the **first field** and then enter or select the cell(s) you desire (A6:A14, for example).



7. Insert the cursor in the **next field** and then enter or select the cell(s) you desire (A19:A23, for example). (You may continue to add additional arguments if needed.)



8. Click **OK** and the result will appear. Our results show that ***14*** Total Supplies were ordered from our log.

VLOOKUP Function

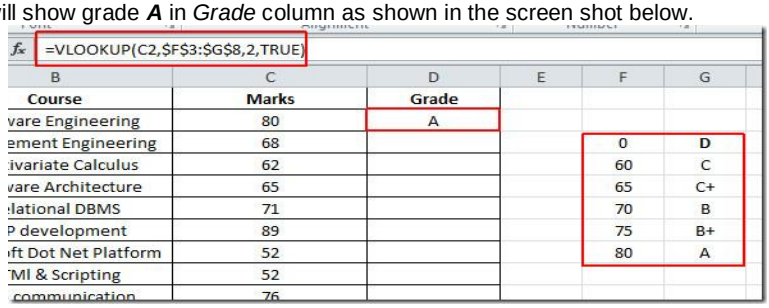
Excel VLOOKUP function can be used when you need to look up the values in the specific table and check it against the other data fields for comparison purpose. VLOOKUP stands for Vertical lookup, used to find specific data from the datasheet. By creating a sample table generally referred as lookup table you can extract info from it and compare it with the desired field to yield required results. This post elaborates where you can use ***VLOOKUP*** function. Launch Excel 2010, and open a datasheet on which you want to apply VLOOKUP function. ***For instance, we have included a student grading datasheet, containing fields; Name, Course, and Marks.***

ID	Name	Course	Marks
1	Jack	Software Engineering	80
2	Billy	Requirement Engineering	68
3	Mcfaden	Multivariate Calculus	62
4	Steven Shwimmer	Software Architecture	65
5	Ruby jason	Relational DBMS	71
6	Mark Dyne	PHP development	89
7	Philip namdaf	Microsoft Dot Net Platform	52
8	Erik Bawn	HTMl & Scripting	52
9	Ricky ben	Data communication	76
10	Miecky	Software Architecture	66
11	Erik Bawn	Relational DBMS	67
12	Ricky ben	Computer Networks	72
13	Miecky	Computer Networks	62
14	Erik Bawn	Software Engineering	72
15	Ricky ben	Requirement Engineering	59
16	Miecky	Computer Networks	81
17	Erik Bawn	Software Engineering	63
18	Ricky ben	Requirement Engineering	74
19	Billy	Relational DBMS	74
20	Mcfaden	PHP development	86
21	Steven Shwimmer	Computer Networks	50
22	Jason Grant	Data Structure	99

Now we will add new column Grade, which will contain grades secured by the students. Now for this, we will be using VLOOKUP function for looking up values from other table that contains sample data for grades.
Create two new columns containing marks range (sorted in any order) and corresponding grades. you don't need to create them in a new worksheet, you can place anywhere in the existing datasheet as we just want to get values from it.

Marks	Grade			
80				
68			0	D
62			60	C
65			65	C+
71			70	B
89			75	B+
52			80	A
52				
76				
66				
67				

Now in the *Grade* first row, we will write VLOOKUP function. The syntax of this function is
VLOOKUP(lookup_value, table_array, col_index_num, [range_lookup])
The first parameter of the formula *lookup_value* defines the value of the number which we will be looking in the newly created table. We need to lookup the value 80 (*Marks* field) in the newly created table. The next parameter, *table_array* defines the table we will be referring to in our case it will be newly created table, containing ranges of marks and grades. *col_index_num* defines data from which column we want to extract values to show, in our case it is the second column that contain grades range. *[range_lookup]* lets you to choose an option either ***TRUE*** (approximately matching of values) or ***FALSE*** (Exact matching of values).
We will write this function in *Grade* first row, it will go like this;
=VLOOKUP(C2,$F$3:$G$8,2,TRUE)
In the formula parameters, ***C2*** is cell of column *Marks* which contain marks secured by students**, F3:G8** is the location of the newly created table, containing ranges of marks and grades (use absolute referencing with **$** sign), *2* in the formula means that values from second column will appear, and *TRUE defines that* we need approximately match as we have included ranges not exact values.
After evaluating formula, it will show grade ***A*** in *Grade* column as shown in the screen shot below.



Course	Marks	Grade			
vare Engineering	80	A			
ement Engineering	68			0	D
ivariate Calculus	62			60	C
vare Architecture	65			65	C+
lational DBMS	71			70	B
P development	89			75	B+
ft Dot Net Platform	52			80	A
Ml & Scripting	52				
communication	76				

Now apply this function over the whole *Grade* column, drag the plus sign towards the end of *Grade* column to apply it over, as show in the screen shot below.

Marks	Grade
80	A
68	C+
62	C
65	C+
71	B
89	A
52	D
52	D
76	B+
66	C+
67	C+
72	B
62	C
72	B
59	D
81	A
63	C
74	B
74	B
86	A
50	D
99	A

0	D
60	C
65	C+
70	B
75	B+
80	A

Now we also want to calculate the prize money for each student. ***for instance***, we assume the following criteria.

For grade A $1000

For grade B+ $700

For grade B &600

For grade C+ $250

For grade D N/A

The criteria defined contains the exact value, so we will be making a small change in the parameters of the function. we will be choosing FALSE from [range_lookup] instead of TRUE as we want to show the exact match.

D2 contains the grade secured by students, so it will check the value in *Grade* column against the newly created columns, containing prize money criteria, as shown in the screenshot below.

E2 =VLOOKUP(D2,$H$3:$I$8,2,FALSE)

Grade	Prize Money
A	1000
C+	
C	
C+	
B	
A	
D	
D	
B+	

A	1000
B	600
B+	700
C	100
C+	250
D	N/A

Now apply the function in *Prize Money* column to view the prize money won by each student. Now as you can see in the screenshot below that by using ***VLOOKUP*** function it is easier to look up specific values for populating new fields by connecting different columns.

ID	Name	Course	Marks	Grade	Prize Money
1	Jack	Software Engineering	80	A	1000
2	Billy	Requirement Engineering	68	C+	250
3	Mcfaden	Multivariate Calculus	62	C	100
4	Steven Shwimmer	Software Architecture	65	C+	250
5	Ruby jason	Relational DBMS	71	B	600
6	Mark Dyne	PHP development	89	A	1000
7	Philip namdaf	Microsoft Dot Net Platform	52	D	N/A
8	Erik Bawn	HTMl & Scripting	52	D	N/A
9	Ricky ben	Data communication	76	B+	700
10	Miecky	Software Architecture	66	C+	250
11	Erik Bawn	Relational DBMS	67	C+	250
12	Ricky ben	Computer Networks	72	B	600
13	Miecky	Computer Networks	62	C	100
14	Erik Bawn	Software Engineering	72	B	600
15	Ricky ben	Requirement Engineering	59	D	N/A
16	Miecky	Computer Networks	81	A	1000
17	Erik Bawn	Software Engineering	63	C	100
18	Ricky ben	Requirement Engineering	74	B	600
19	Billy	Relational DBMS	74	B	600
20	Mcfaden	PHP development	86	A	1000
21	Steven Shwimmer	Computer Networks	50	D	N/A
22	Jason Grant	Data Structure	99	A	1000

Lesson: 7

Data Sorting, Outlining & Filtering

Sorting Data

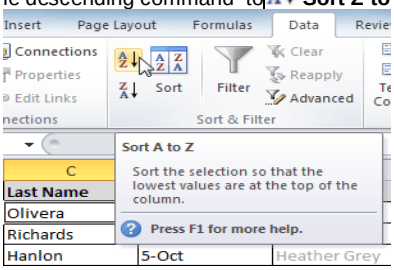
With over 17 billion cells in a single worksheet, Excel 2010 gives you the ability to work with an enormous amount of data. Arranging your data alphabetically, from smallest to largest, or other criteria, can help you find the information you're looking for more quickly. **Sorting** is a common task that allows you to change or customize the order of your spreadsheet data. For example, you could organize an office birthday list by employee, birthdates, or department, making it easier to find what you're looking for. Custom sorting takes it a step further, giving you the ability to sort multiple levels (such as department first, then birthdate, to group birthdates by department), and more.

To Sort in Alphabetical Order:

1. Select a cell in the column you want to sort by. In this example, we will sort by Last Name.

	C	D	E
1	Last Name	Payment	T-Shirt Color
2	Olivera	1-Oct	White
3	Richards	4-Oct	Dark Red
4	Hanlon	5-Oct	Heather Grey
5	Means	5-Oct	Dark Red

2. Select the **Data** tab, and locate the **Sort and Filter** group.
3. Click the ascending command to **Sort A to Z**, or the descending command to **Sort Z to A**.



4. The data in the spreadsheet will be organized alphabetically.

	C	D	E
1	Last Name	Payment	T-Shirt Color
2	Ackerman	1-Oct	Heather Grey
3	Albee	13-Oct	Heather Grey
4	Bell	11-Oct	Dark Red
5	Benson	11-Oct	White
6	Chen	5-Oct	Dark Red
7	Del Toro	13-Oct	White
8	Ellison	Pending	Dark Red
9	Flores	6-Oct	White
10	Hanlon	5-Oct	Heather Grey
11	Kelly	11-Oct	Dark Red
12	Kelly	11-Oct	Heather Grey
13	Lazar	14-Oct	White
14	MacDonald	Pending	Dark Red
15	Means	5-Oct	Dark Red
16	Naser	14-Oct	Dark Red
17	Nichols	6-Oct	Dark Red

Sorting options can also be found on the Home tab, condensed into the **Sort & Filter** command

To Sort in Numerical Order:

1. Select a cell in the column you want to sort by.

	A	B	C
1	Homeroom #	First Name	Last Name
2	110	Kris	Ackerman
3	105	Nathan	Albee
4	220-B	Samantha	Bell
5	110	Matt	Benson

2. From the **Data** tab, click the ascending command to **Sort Smallest to Largest**, or the descending command to **Sort Largest to Smallest**.
3. The data in the spreadsheet will be organized numerically.

	A	B	C
1	Homeroom #	First Name	Last Name
2	105	Nathan	Albee
3	105	Christiana	Chen
4	105	Sidney	Kelly
5	105	Derek	MacDonald
6	105	Melissa	White
7	105	Esther	Yaron
8	110	Kris	Ackerman
9	110	Matt	Benson
10	110	Gabriel	Del Toro
11	110	Regina	Olivera
12	135	Anisa	Naser
13	135	James	Panarello
14	135	Lia	Richards
15	135	Jordan	Weller
16	135	Chantal	Weller
17	135	Alex	Yuen

To Sort by Date or Time:

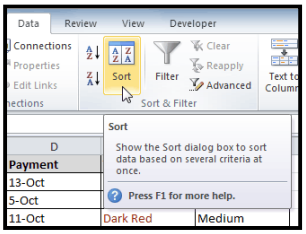
1. Select a cell in the column you want to sort by.

	D	E	F
1	Payment	T-Shirt Color	T-Shirt Size
2	13-Oct	Heather Grey	Medium
3	5-Oct	Dark Red	Medium
4	11-Oct	Dark Red	Medium
5	Pending	Dark Red	Large

2. From the **Data** tab, click the ascending command to **Sort Oldest to Newest**, or the descending command to **Sort Newest to Oldest**.
3. The data in the spreadsheet will be organized by date or time.

Custom Sorting

To Sort in the Order of Your Choosing:



You can use a **Custom List** to identify your own sorting order, such as days of the week, or, in this example, t-shirt sizes from smallest to largest (Small, Medium, Large, and X-Large).

1. From the **Data** tab, click the **Sort** command to open the **Sort** dialog box.
2. Identify the column you want to **Sort by** by clicking the drop-down arrow in the **Column** field.
3. Make sure **Values** is selected in the **Sort On** field.
4. Click the drop-down arrow in the **Order** field, and choose **Custom List...**
5. Select **NEW LIST**, and enter how you want your data sorted in the **List entries** box. We will sort t-shirt sizes from smallest to largest.
6. Click **Add** to save the list, then click **OK**.
7. Click **OK** to close the Sort dialog box and sort your data.
8. The spreadsheet will be sorted in order of Small, Medium, Large, and X-Large.

To Sort by Cell Color, Font Color, or Cell Icon:

1. From the **Data** tab, click the **Sort** command to open the **Sort** dialog box.
2. Identify the column you want to **Sort by** by clicking the drop-down arrow in the **Column** field.
3. Choose whether you want to sort by Cell Color, Font Color, or Cell Icon in the **Sort On** field. In this example, will sort on **Font Color**.
4. In the **Order** field, click the drop-down arrow to choose a color, then decide whether you want it ordered **On Top** or **On Bottom**.
5. Click **OK**. The data is now sorted by attribute rather than text.

Sorting Multiple Levels

Another feature of custom sorting, sorting multiple levels allows you to identify which columns to sort by and when, giving you more control over the organization of your data. For example, you could sort by more than one cell color (such as red, then yellow, then green, to indicate different levels of priority); or, as seen here, sort students by homeroom number, then by last name.

To Add a Level:

1. From the **Data** tab, click the **Sort** command to open the **Sort** dialog box.
2. Identify the first item you want to **Sort by**.
3. Click **Add Level** to add another item.
4. Identify the item you want to sort by next. We will sort Last Name from ***A to Z***.
5. Click **OK**.
6. The spreadsheet will be sorted so that homeroom numbers are in order, and within each homeroom, students are listed alphabetically by last name.

   Copy Level will add a level by duplicating the one you have selected, and allowing you to modify the sorting criteria. This is useful if you need to sort multiple levels that share some criteria, such as the same Column, Sort On, or Order.

To Change the Sorting Priority:

1. From the **Data** tab, click the **Sort** command to open the **Custom Sort** dialog box.
2. Select the **level** you want to re-order.
3. Use the **Move Up** or **Move Down** arrows. The higher the level is on the list, the higher its priority.
4. Click **OK**.

Outlining Data

If the amount of data in your worksheet becomes overwhelming, creating an outline can help. Not only does this allow you to organize your data into groups, and then show or hide them from view; you can also summarize data for quick analysis using the Subtotal command (for example, subtotaling the cost of office supplies depending on the type of product).

Outlines give you the ability to group data that you may want to show or hide from view, and create a quick summary using the Subtotal command. Because outlines rely on grouping data that is related, you must ***sort before you can outline***.

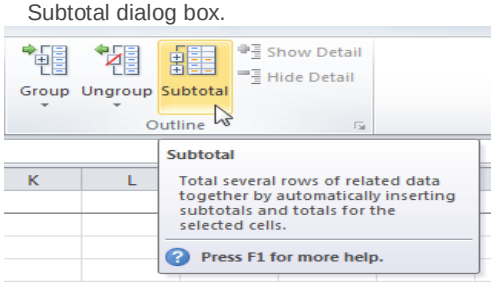
To Outline Data Using Subtotal:

The **Subtotal** command can be used to outline your worksheet in many different ways. It uses common functions like SUM, COUNT, AVG, and more, to **summarize** your data, and place it in a **group**.
In this example, we will use the Subtotal command to count the number of t-shirt sizes that were ordered at a local high school. This will also place each t-shirt size in a group, making it possible to show the count, but hide the details that are not crucial to the placing of the order (such as the student's homeroom number and payment date).

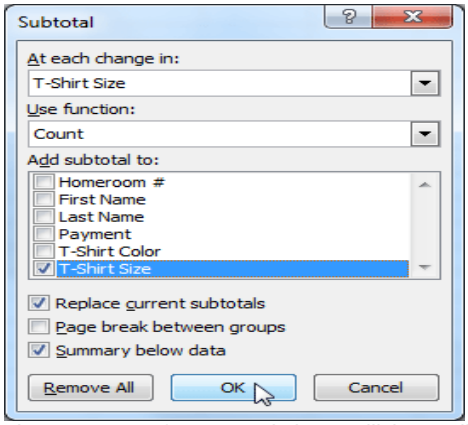
1. **Sort** according to the data you want to outline. Outlines rely on grouping data that is related. In this example, we will outline the worksheet by T-Shirt Size, which has been sorted from smallest to largest.

	C	D	E	F
1	Last Name	Payment	T-Shirt Color	T-Shirt Size
4	Ellison	Pending	Dark Red	Small
5	White	7-Oct	Heather Grey	Small
6	Reynolds	7-Oct	Heather Grey	Small
7	Shaw	7-Oct	Heather Grey	Small
8	Peyton-Gomez	Pending	White	Small
9	Lazar	14-Oct	White	Small
10	Chen	5-Oct	Dark Red	Medium
11	Kelly	11-Oct	Dark Red	Medium
12	Means	5-Oct	Dark Red	Medium
13	Bell	11-Oct	Dark Red	Medium
14	Albee	13-Oct	Heather Grey	Medium
15	Kelly	11-Oct	Heather Grey	Medium
16	Benson	11-Oct	White	Medium
17	Del Toro	13-Oct	White	Medium
18	Panarello	15-Oct	White	Medium
19	Weller	15-Oct	White	Medium
20	MacDonald	Pending	Dark Red	Large
21	Ackerman	1-Oct	Heather Grey	Large
22	Weller	5-Oct	Heather Grey	Large
23	Olivera	1-Oct	White	Large
24	Yuen	5-Oct	White	Large
25	Richards	4-Oct	Dark Red	X-Large

2. Select the **Data** tab, and locate the **Outline** group.
3. Click the **Subtotal** command to open the Subtotal dialog box.



4. In the **At each change in** field, select the column you want to use to outline your worksheet. In this example, we will choose T-Shirt Size.
5. In the **Use function** field, choose from the list of functions that are available for subtotaling. We will use the COUNT function to tally the number of each size.
6. Select the **column** you want the subtotal to appear in. We will choose the T-Shirt Size column.
6. Click **OK**.



7. The contents of your worksheet will be outlined. Each t-shirt size will be placed in its own group, and the subtotal (in this case, count) will be listed below each group.

1 2 3		C	D	E	F
	1	Last Name	Payment	T-Shirt Color	T-Shirt Size
·	2	Yaron	7-Oct	Dark Red	Small
·	3	Naser	14-Oct	Dark Red	Small
·	4	Ellison	Pending	Dark Red	Small
·	5	White	7-Oct	Heather Grey	Small
·	6	Reynolds	7-Oct	Heather Grey	Small
·	7	Shaw	7-Oct	Heather Grey	Small
·	8	Peyton-Gomez	Pending	White	Small
·	9	Lazar	14-Oct	White	Small
−	10			Small Count	8
·	11	Chen	5-Oct	Dark Red	Medium
·	12	Kelly	11-Oct	Dark Red	Medium
·	13	Means	5-Oct	Dark Red	Medium
·	14	Bell	11-Oct	Dark Red	Medium
·	15	Albee	13-Oct	Heather Grey	Medium
·	16	Kelly	11-Oct	Heather Grey	Medium
·	17	Benson	11-Oct	White	Medium
·	18	Del Toro	13-Oct	White	Medium
·	19	Panarello	15-Oct	White	Medium
·	20	Weller	15-Oct	White	Medium
−	21			Medium Count	10

To Ungroup Data:

1. Select the rows or columns that you want to ungroup..
2. From the Data tab, click the Ungroup command. The range of cells will be ungrouped.
3. To ungroup all the groups in your outline, open the drop-down menu under the **Ungroup** command, and choose **Clear** Outline.

Ungroup and Clear Outline will not remove subtotaling from your worksheet. Summary or subtotal data will stay in place and continue to function until you remove it.

To Ungroup Data and Remove Subtotaling:

1. From the **Data** tab, click the **Subtotal** command to open the Subtotal dialog box.
2. Click **Remove All**.
3. All data will be ungrouped, and subtotals will be removed.

Creating Your Own Groups

The **Group** command allows you to group any range of cells - either columns or rows. It does not calculate a subtotal, or rely on your data being sorted. This gives you the ability to show or hide any part of your worksheet, and display only the information you need.

To Create and Control Your Own Group:

In this example, we will prepare a list of t-shirt colors and sizes that need to be distributed to each homeroom. Some of the data in the worksheet is not relevant to the distribution of the t-shirts; however, instead of deleting it, we will group it, then temporarily hide it from view.

1. Select the range of cells that you want to group. In this example, we will group the First Name, Last Name, and Payment columns.

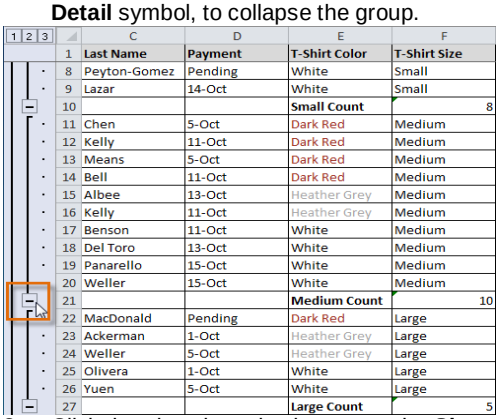
	B	C	D	E
1	First Name	Last Name	Payment	T-Shirt Color
2	Esther	Yaron	7-Oct	Dark Red
3	Anisa	Naser	14-Oct	Dark Red
4	Brigid	Ellison	Pending	Dark Red
5	Melissa	White	7-Oct	Heather Grey
6	Malik	Reynolds	7-Oct	Heather Grey
7	Windy	Shaw	7-Oct	Heather Grey
8	Christopher	Peyton-Gomez	Pending	White
9	Michael	Lazar	14-Oct	White
10	Christiana	Chen	5-Oct	Dark Red
11	Sidney	Kelly	11-Oct	Dark Red

2. From the **Data** tab, click the **Group** command.
3. Excel will group the selected columns or rows.
4. Click the minus sign, also known as the **Hide Detail** symbol, to hide the group.
5. The group will be hidden from view.

Click the plus sign, also known as the Show Detail symbol, to show the group again.

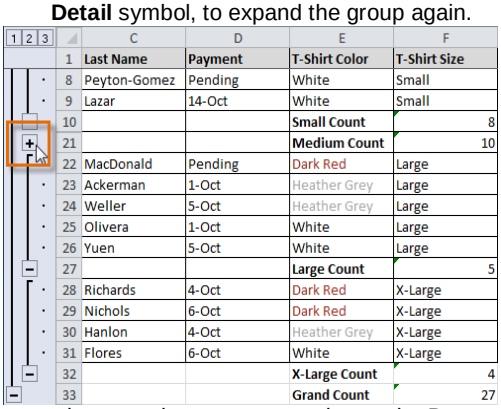
To Show or Hide a Group:

1. Click the minus sign, also known as the **Hide Detail** symbol, to collapse the group.



	C	D	E	F
1	Last Name	Payment	T-Shirt Color	T-Shirt Size
8	Peyton-Gomez	Pending	White	Small
9	Lazar	14-Oct	White	Small
10			Small Count	8
11	Chen	5-Oct	Dark Red	Medium
12	Kelly	11-Oct	Dark Red	Medium
13	Means	5-Oct	Dark Red	Medium
14	Bell	11-Oct	Dark Red	Medium
15	Albee	13-Oct	Heather Grey	Medium
16	Kelly	11-Oct	Heather Grey	Medium
17	Benson	11-Oct	White	Medium
18	Del Toro	13-Oct	White	Medium
19	Panarello	15-Oct	White	Medium
20	Weller	15-Oct	White	Medium
21			Medium Count	10
22	MacDonald	Pending	Dark Red	Large
23	Ackerman	1-Oct	Heather Grey	Large
24	Weller	5-Oct	Heather Grey	Large
25	Olivera	1-Oct	White	Large
26	Yuen	5-Oct	White	Large
27			Large Count	5

2. Click the plus sign, also known as the **Show Detail** symbol, to expand the group again.



	C	D	E	F
1	Last Name	Payment	T-Shirt Color	T-Shirt Size
8	Peyton-Gomez	Pending	White	Small
9	Lazar	14-Oct	White	Small
10			Small Count	8
21			Medium Count	10
22	MacDonald	Pending	Dark Red	Large
23	Ackerman	1-Oct	Heather Grey	Large
24	Weller	5-Oct	Heather Grey	Large
25	Olivera	1-Oct	White	Large
26	Yuen	5-Oct	White	Large
27			Large Count	5
28	Richards	4-Oct	Dark Red	X-Large
29	Nichols	6-Oct	Dark Red	X-Large
30	Hanlon	4-Oct	Heather Grey	X-Large
31	Flores	6-Oct	White	X-Large
32			X-Large Count	4
33			Grand Count	27

You can also use the or commands on the **Data** tab in the Outline group. First select a cell in the group you want to show or hide, then click the appropriate command.

To View Groups by Level:

The groups in your outline, based on their hierarchy, are placed on different levels. You can quickly display as little or as much information as you want by clicking the level symbols to the left of your worksheet. In this example, we will view levels in descending order, starting with the entire worksheet on display, then finishing with the grand total. While this example contains only 3 levels, Excel can accommodate up to 8.

1. Click the **highest level** (in this example, level **3**) to view and expand all of your groups. Viewing groups at the highest level will display the entirety of your worksheet.
2. Click the **next level** (in this example, level **2**) to hide the detail of the previous level. In this example, level 2 contains each subtotal.
3. Click the **lowest level** (level **1**) to display the lowest level of detail. In this example, level 1 contains only the grand total.

Filtering Data

Filters can be used to narrow down the data in your worksheet and hide parts of it from view. While it may sound a little like grouping, filtering is different in the way that it allows you to qualify and display only the data that interests you. For example, you could filter a list of survey participants to view only those who are between the ages of 25-34. You could also filter an inventory of paint colors to view anything that contains the word "blue," such as "bluebell" or "robin's egg blue."

Filters can be applied in many different ways to improve the performance of your worksheet. You can filter text, dates, and numbers. You can even use more than one filter to further narrow down your results.

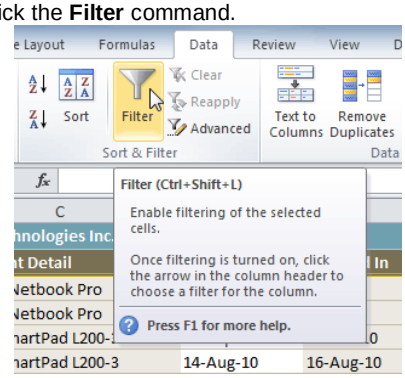
To Filter Data:

In this example, we will filter the contents of an equipment log at a technology company. We will display only the laptops and projectors that are available for check-out.

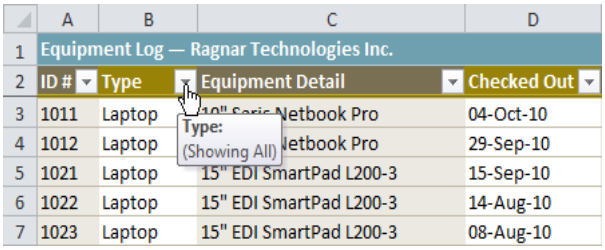
1. Begin with a worksheet that identifies each column using a header row.

	A	B	C	D
1	Equipment Log — Ragnar Technologies Inc.			
2	ID #	Type	Equipment Detail	Checked Out
3	1011	Laptop	10" Saris Netbook Pro	04-Oct-10
4	1012	Laptop	10" Saris Netbook Pro	29-Sep-10
5	1021	Laptop	15" EDI SmartPad L200-3	15-Sep-10
6	1022	Laptop	15" EDI SmartPad L200-3	14-Aug-10
7	1023	Laptop	15" EDI SmartPad L200-3	08-Aug-10
8	1025	Laptop	15" EDI SmartPad L200-4X	26-Sep-10
9	1031	Laptop	17" Saris X-10 Laptop	04-Oct-10
10	1032	Laptop	17" Saris X-10 Laptop	19-Sep-10
11	1033	Laptop	17" Saris X-10 Laptop	24-Sep-10
12	1034	Laptop	17" Saris X-10 Laptop	25-Aug-10
13	2050	Other	EDI SmartBoard L500-1	05-Oct-10
14	2051	Other	EDI SmartBoard L500-1	01-Oct-10
15	3000	Other	Saris Lumina Digital Camera	12-May-10

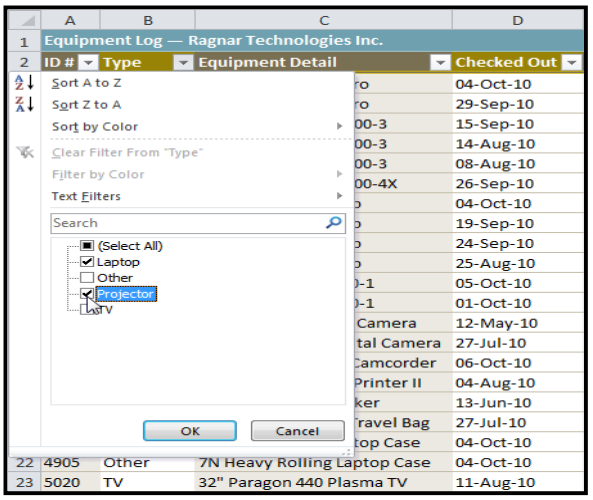
2. Select the **Data** tab, and locate the **Sort & Filter** group.
3. Click the **Filter** command.



4. Drop-down arrows will appear in the header of each column.
5. Click the **drop-down arrow** for the column you would like to filter. In this example, we will filter the Type column to view only certain types equipment.



6. The **Filter** menu appears.
7. **Uncheck** the boxes next to the data you don't want to view. (You can uncheck the box next to **Select All** to quickly uncheck all.)
8. **Check** the boxes next to the data you do want to view. In this example, we will check Laptop and Projector to view only those types of equipment.



9. Click **OK**. All other data will be filtered, or temporarily hidden. Only laptops and projectors will be visible.

	A	B	C	D
1	Equipment Log — Ragnar Technologies Inc.			
2	ID #	Type	Equipment Detail	Checked Out
3	1011	Laptop	10" Saris Netbook Pro	04-Oct-10
4	1012	Laptop	10" Saris Netbook Pro	29-Sep-10
5	1021	Laptop	15" EDI SmartPad L200-3	15-Sep-10
6	1022	Laptop	15" EDI SmartPad L200-3	14-Aug-10
7	1023	Laptop	15" EDI SmartPad L200-3	08-Aug-10
8	1025	Laptop	15" EDI SmartPad L200-4X	26-Sep-10
9	1031	Laptop	17" Saris X-10 Laptop	04-Oct-10
10	1032	Laptop	17" Saris X-10 Laptop	19-Sep-10
11	1033	Laptop	17" Saris X-10 Laptop	24-Sep-10
12	1034	Laptop	17" Saris X-10 Laptop	25-Aug-10
26	6100	Projector	Omega VisX 1.0	28-Sep-10
27	6101	Projector	Omega VisX 1.0	26-Sep-10
28	6102	Projector	Omega VisX 1.0	22-Aug-10

Filtering options can also be found on the Home tab, condensed into the Sort & Filter command.

To Add Another Filter:

Filters are additive, meaning you can use as many as you need to narrow down your results. In this example, we will work with a spreadsheet that has already been filtered to display only laptops and projectors. Now we will display only laptops and projectors that were checked out during the month of August.

1. Click the **drop-down arrow** where you would like to add a filter.
2. **Uncheck** the boxes next to the data you don't want to view. **Check** the boxes next to the data you do want to view.
3. Click **OK**. In addition to the original filter, the new filter will be applied. The worksheet will be narrowed down even further.

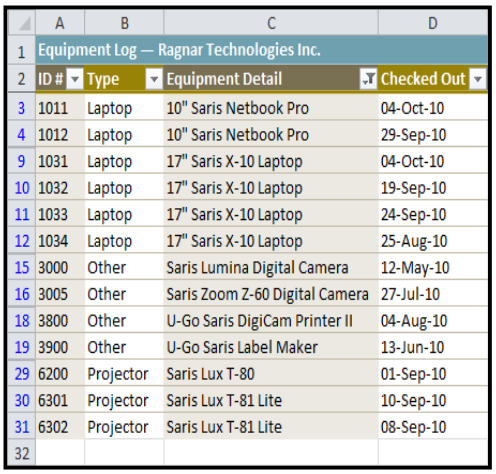
To Clear a Filter:

1. Click the **drop-down arrow** in the column from which you want to clear the filter.
2. Choose **Clear Filter From...**
3. The filter will be cleared from the column. The data that was previously hidden will be on display once again.

   To instantly clear all filters from your worksheet, click the **Filter** command on the Data tab.

Advanced Filtering

To Filter Using Search:

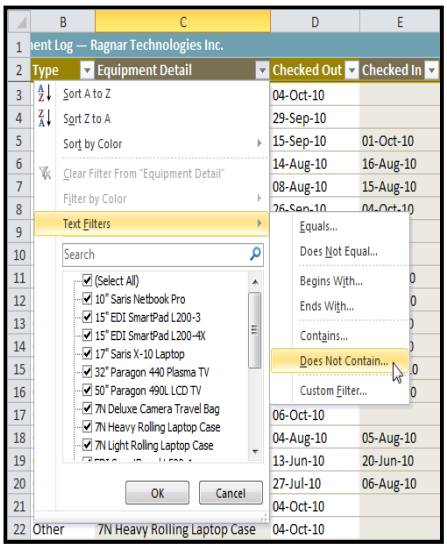


	A	B	C	D
1	Equipment Log — Ragnar Technologies Inc.			
2	ID #	Type	Equipment Detail	Checked Out
3	1011	Laptop	10" Saris Netbook Pro	04-Oct-10
4	1012	Laptop	10" Saris Netbook Pro	29-Sep-10
9	1031	Laptop	17" Saris X-10 Laptop	04-Oct-10
10	1032	Laptop	17" Saris X-10 Laptop	19-Sep-10
11	1033	Laptop	17" Saris X-10 Laptop	24-Sep-10
12	1034	Laptop	17" Saris X-10 Laptop	25-Aug-10
15	3000	Other	Saris Lumina Digital Camera	12-May-10
16	3005	Other	Saris Zoom Z-60 Digital Camera	27-Jul-10
18	3800	Other	U-Go Saris DigiCam Printer II	04-Aug-10
19	3900	Other	U-Go Saris Label Maker	13-Jun-10
29	6200	Projector	Saris Lux T-80	01-Sep-10
30	6301	Projector	Saris Lux T-81 Lite	10-Sep-10
31	6302	Projector	Saris Lux T-81 Lite	08-Sep-10
32				

Searching for data is a convenient alternative to checking or unchecking data from the list. You can search for data that contains an exact phrase, number, or date, or a simple fragment. **For example**, searching for the exact phrase "Saris X-10 Laptop" will display only Saris X-10 Laptops. Searching for the word "Saris," however, will display Saris X-10 Laptops, and any other Saris equipment, including projectors, digital cameras, and more.

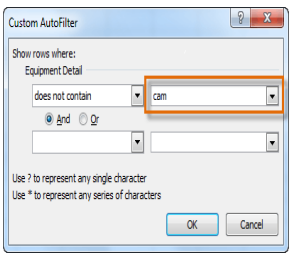
1. From the **Data** tab, click the **Filter** command.
2. Click the **drop-down arrow** in the column you would like to filter. In this example, we will filter the Equipment Detail column to view only a specific brand.
3. Enter the data you would like to view in the **Search** box. We will enter the word "Saris" to find all Saris brand equipment. The search results will appear automatically.
4. **Check** the boxes next to the data you want to display. We will display all the data that includes the brand name Saris.
5. Click **OK**. The worksheet will be filtered according to your search term.

To Use Advanced Text Filters:



Advanced text filters can be used to display more specific information, such as cells that contain a certain number of characters, or data that does not contain a word you specify. In this example, we will use advanced text filters to hide any equipment that is related to cameras, including digital cameras, camcorders, and more.

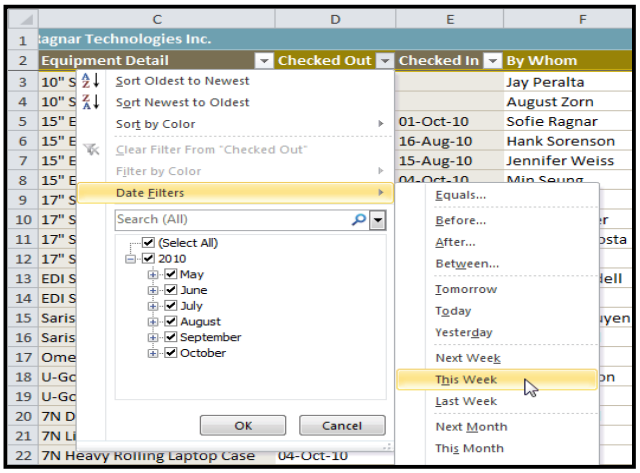
1. From the **Data** tab, click the **Filter** command.
2. Click the **drop-down arrow** in the column of **text** that you would like to filter. In this example, we will filter the Equipment Detail column to view only certain kinds of equipment.
3. Choose **Text Filters** to open the advanced filtering menu.
4. Choose a **filter**. In this example, we will choose **Does Not Contain** to view data that does not contain the text we specify.
5. The **Custom AutoFilter** dialog appears.
6. Enter your **text** to the right of your filter. *In this example*, we will enter "cam" to view data that does not contain those letters. That will exclude any equipment related to cameras, such as digital **cam**eras, **cam**corders,**cam**era bags, and the digi**cam** printer.
7. Click **OK**. The data will be filtered according to the filter you chose and the text you specified.



To Use Advanced Date Filters:

Advanced date filters can be used to view information from a certain time period, such as last year, next quarter, between two dates, and more. Excel automatically knows your current date and time, making this tool very easy to use. In this example, we will use advanced date filters to view only the equipment that has been checked out this week.

1. From the **Data** tab, click the **Filter** command.
2. Click the **drop-down arrow** in the column of **dates** that you would like to filter. In this example, we will filter the Checked Out column to view only a certain range of dates.
3. Choose **Date Filters** to open the advanced filtering menu.
4. Click a **filter**. We will choose This Week to view equipment that has been checked out this week.
5. The worksheet will be filtered according to the date filter you chose.

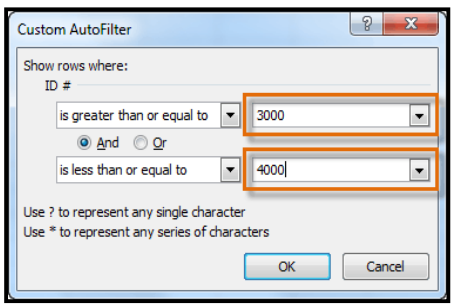


	C	D	E	F
1	tagnar Technologies Inc.			
2	Equipment Detail	Checked Out	Checked In	By Whom
3	10" Saris Netbook Pro	04-Oct-10		Jay Peralta
9	17" Saris X-10 Laptop	04-Oct-10		Nick Ortiz
13	EDI SmartBoard L500-1	05-Oct-10	06-Oct-10	Anthony Liddell
17	Omega PixL Digital Camcorder	06-Oct-10		Min Seung
21	7N Light Rolling Laptop Case	04-Oct-10		Jay Peralta
22	7N Heavy Rolling Laptop Case	04-Oct-10		Nick Ortiz
32				

To Use Advanced Number Filters:

Advanced number filters allow you to manipulate numbered data in many different ways. For example, in a worksheet of exam grades, you could display the top and bottom numbers to view the highest and lowest scores. In this example, we will display only certain kinds of equipment based on the range of ID #s that have been assigned to them.

1. From the **Data** tab, click the **Filter** command.
2. Click the **drop-down arrow** in the column of **numbers** that you would like to filter. In this example, we will filter the ID # column to view only a certain range of ID #s.
3. Choose **Number Filters** to open the advanced filtering menu.
4. Choose a **filter**. ***In this example***, we will choose Between to view ID #s between the numbers we specify.
5. Enter a **number** to the right of each filter. In this example, we will view ID #s greater than or equal to 3000, but less than or equal to 4000. That will display ID #s in the 3000-4000 range.
6. Click **OK**. The data will be filtered according to the filter you chose and the numbers you specified.



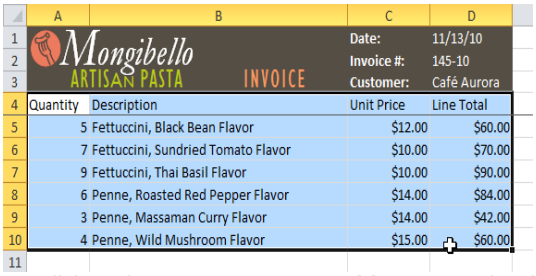
	A	B	C	D
1	Equipment Log — Ragnar Technologies Inc.			
2	ID #	Type	Equipment Detail	Checked Out
15	3000	Other	Saris Lumina Digital Camera	12-May-10
16	3005	Other	Saris Zoom Z-60 Digital Camera	27-Jul-10
17	3070	Other	Omega PixL Digital Camcorder	06-Oct-10
18	3800	Other	U-Go Saris DigiCam Printer II	04-Aug-10
19	3900	Other	U-Go Saris Label Maker	13-Jun-10
32				

Table, Chart, Sparklines & Templates

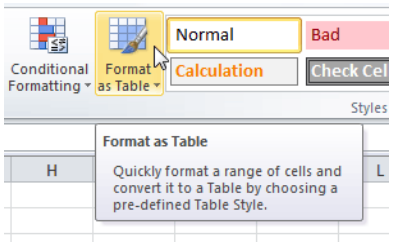
Once you have entered information into a spreadsheet, you may want to format it. Formatting your spreadsheet can not only improve the look and feel, but also make it easier to use.

To Format Information as a Table:

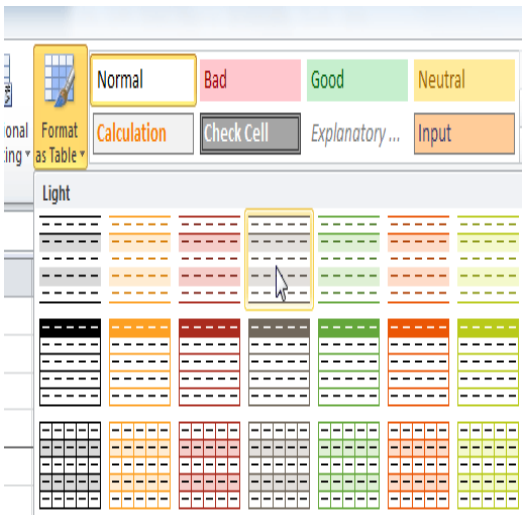
1. Select the cells you want to format as a table. ***In this example,*** an invoice, we will format the cells that contain the column headers and the order details.



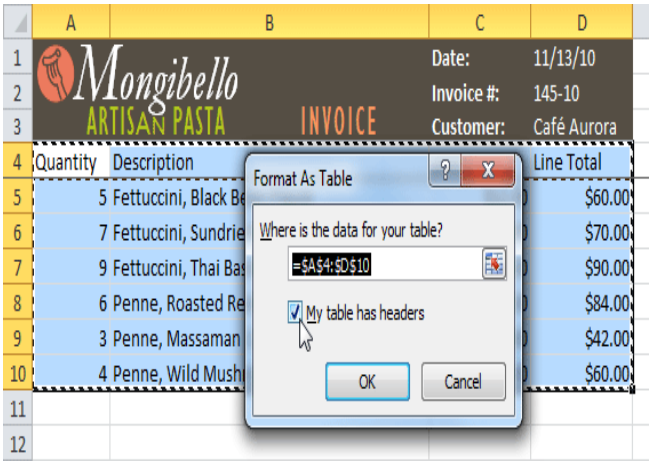
2. Click the **Format as Table** command in the **Styles** group on the Home tab.



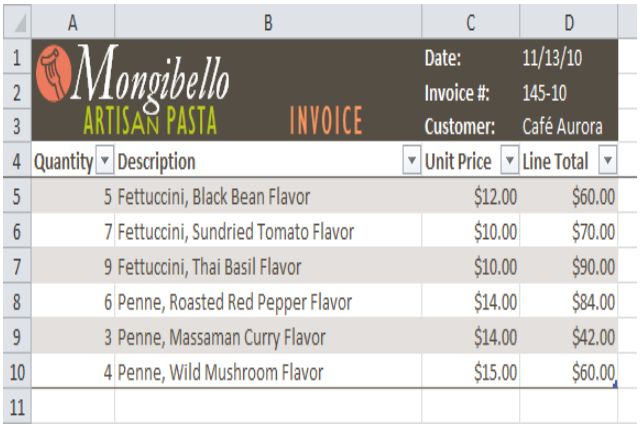
3. A list of predefined **table styles** will appear. Click a table style to select it.



4. A dialog box will appear, confirming the **range** of cells you have selected for your table. The cells will appear selected in the spreadsheet, and the range will appear in the dialog box.
5. If necessary, **change** the range by selecting a new range of cells directly on your spreadsheet.



6. If your table has headers, check the box next to **My table has headers**.
7. Click **OK**. The data will be formatted as a table in the style that you chose.



Tables include **filtering** by default. You can filter your data at any time using the **drop-down arrows** in the header. To convert a table back into "normal" cells, click the **Convert to Range** command in the **Tools** group. The filters and the Design tab will then disappear, but the cells will retain their data and formatting.

Modifying Tables

To Add Rows or Columns:

1. Select **any cell** in your table. The **Design** tab will appear on the Ribbon.
2. From the Design tab, click the **Resize Table** command.
3. Directly on your spreadsheet, select the new **range** of cells that you want your table to cover. You must select your original table cells as well.
4. Click **OK**. The new rows and/or columns will be added to your table.

To Change the Table Style:

1. Select **any cell** in your table. The **Design** tab will appear.
2. Locate the **Table Styles** group. Click the **More** drop-down arrow to see all of the table styles.
3. Hover the mouse over the various styles to see a live preview.
4. Select the desired style. The table style will appear in your worksheet.

To Change the Table Style Options:

When using an Excel table, you can turn various options **on** or **off** to change its appearance. There are six options: **Header Row**, **Total Row**, **Banded Rows**, **First Column**, **Last Column**, and **Banded Columns**.

1. Select **any cell** in your table. The **Design** tab will appear.
2. From the **Design** tab, **check** or **uncheck** the desired options in the **Table Style Options** group.
   Depending on the **Table Style** you're using, certain **Table Style Options** may have a different effect. You may need to **experiment** to get the exact look you want.

Working with Charts

A chart is a tool you can use in Excel to communicate your data graphically. Charts allow your audience to see the meaning behind the numbers, and they make showing comparisons and trends a lot easier. In this lesson, you will learn how to insert charts and modify them so that they communicate information effectively.

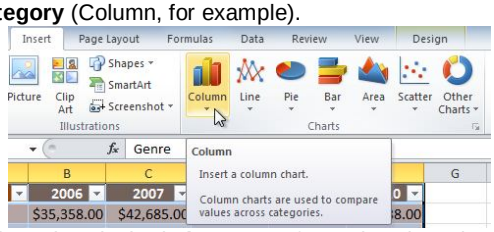
Excel workbooks can contain a lot of data, and that data can often be difficult to interpret. For example, where are the highest and lowest values? Are the numbers increasing or decreasing? The answers to questions like these can become much clearer when the data is represented as a chart. Excel has many different types of charts, so you can choose one that most effectively represents the data.

To Create a Chart:

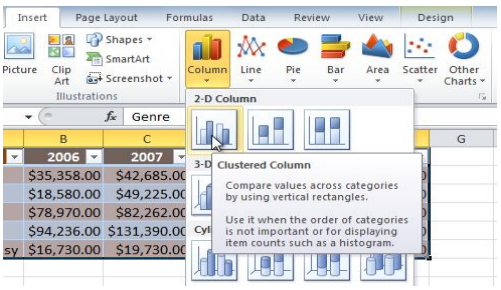
1. Select the **cells** that you want to chart, including the **column titles** and the **row labels**. These cells will be the **source data** for the chart.

	A	B	C	D	E	F
1	Genre	2006	2007	2008	2009	2010
2	Young Adult	$35,358.00	$42,685.00	$20,893.00	$16,065.00	$21,388.00
3	Classics	$18,580.00	$49,225.00	$16,326.00	$10,017.00	$26,134.00
4	Mystery	$78,970.00	$82,262.00	$48,640.00	$49,985.00	$73,428.00
5	Romance	$94,236.00	$131,390.00	$79,022.00	$71,009.00	$81,474.00
6	Sci-Fi & Fantasy	$16,730.00	$19,730.00	$12,109.00	$11,355.00	$17,686.00
7						

2. Click the **Insert** tab.
3. In the **Charts** group, select the desired **chart category** (Column, for example).



4. Select the desired **chart type** from the drop-down menu (Clustered Column, for example).



5. The chart will appear in the worksheet.

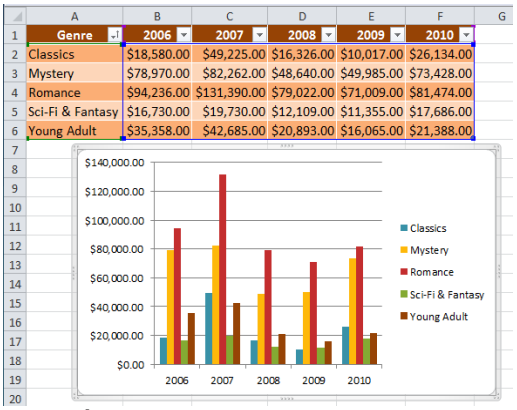
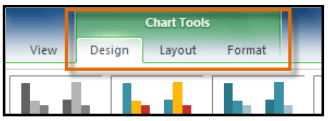


Chart Tools



Once you insert a chart, a set of **Chart Tools**, arranged into three tabs, will appear on the Ribbon. These are only visible when the chart is selected. You can use these three tabs to **modify** your chart.

To Change the Chart Type:

1. From the **Design** tab, click the **Change Chart Type** command. A dialog box appears.
2. Select the desired **chart type** and click **OK**.

To Switch Row and Column Data:

Sometimes when you create a chart, the data may not be grouped the way you want it to be. In the **clustered column chart** below, the Book Sales statistics are grouped **by Fiction/Non-Fiction**, with a column for each year. However, you can also **switch the row and column data** so that the chart will group the statistics **by year**, with columns for Fiction and Non-Fiction. In both cases, the chart contains the **same data**; it's just organized differently.

1. Select the **chart**.
2. From the **Design** tab, select the **Switch Row/Column** command.
3. The chart will then readjust.

To Change the Chart Layout:

1. Select the **Design** tab.
2. Click the **More** drop-down arrow in the **Chart Layouts** group to see all of the available layouts.
3. Select the desired layout.
4. The chart will update to reflect the new layout.
   Some layouts include **chart titles**, **axes**, or **legend labels**. To change them, just place the **insertion point** in the text and begin typing.

To Change the Chart Style:

1. Select the **Design** tab.
2. Click the **More** drop-down arrow in the **Chart Styles** group to see all of the available styles.
3. Select the desired style.
4. The chart will update to reflect the new style.

To Move the Chart to a Different Worksheet:

1. Select the **Design** tab.
2. Click the **Move Chart** command. A dialog box appears. The current location of the chart is selected.
3. Select the desired location for the chart (i.e., choose an existing worksheet, or select New Sheet and name it).
4. Click **OK**. The chart will appear in the new location.

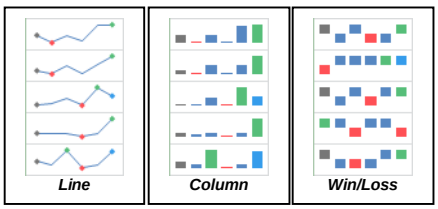
Working with Sparklines

Sparklines are miniature charts that fit into a single cell. Since they're so compact, you can place a large number of them in your worksheets. For example, you could place one sparkline on each row to show trends within that row. In this lesson, you will learn how to insert sparklines and change their type and appearance.

Sparklines were introduced in *Excel 2010* to be a convenient alternative to charts. Unlike a traditional chart, ***a sparkline*** is placed inside a cell, allowing you to easily create a large number of sparklines (for example, one on each row).

Types of Sparklines

There are three different types of sparklines: **Line**, **Column**, and **Win/Loss**. **Line** and **Column** work the same as line and column **charts**. **Win/Loss** is similar to **Column**, except it only shows whether each value is **positive** or **negative**, instead of how **high** or **low** the values are. All three types can display **markers** at important points, such as the **highest** and **lowest** points, to make them easier to read.



Why Use Sparklines?

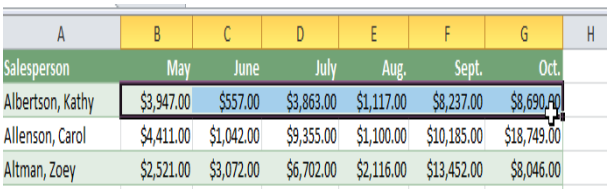
Sparklines are basically charts, so why would you want to use sparklines instead of charts? Sparklines have certain advantages that make them more convenient in many cases. Imagine you have 1000 rows of data. If you place a sparkline on each row, it will be right next to its source data, making it easy to see the relationships between the numbers and the sparkline. If you used a traditional chart,

it would need to have 1000 data series in order to represent all of the rows, and you would probably need to do a lot of scrolling to find the relevant data in the worksheet.
Sparklines are ideal for situations where you just want to make the data clearer and more eye-catching, and where you don't need all of the features of a full chart. On the other hand, charts are ideal for situations where you want to represent the data in greater detail, and they are often better for comparing different data series.

To Create Sparklines:

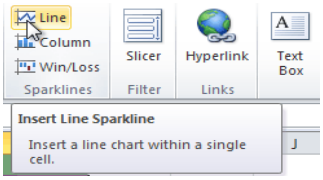
Generally, you will have one sparkline for each row, but you can create as many as you want in any location you want. Just like with formulas it's usually easiest to create a single sparkline and then use the fill handle to automatically create the sparklines for the remaining rows.

1. Select the **cells** that you will need for the **first sparkline**. In this example, we are creating a sparkline for Kathy Albertson, so we will select her sales data.

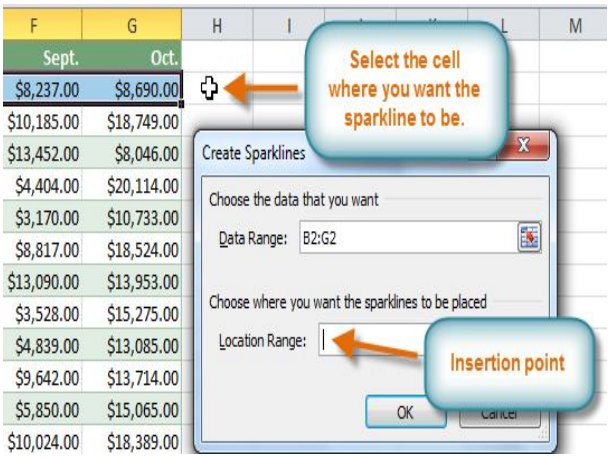


Salesperson	May	June	July	Aug.	Sept.	Oct.
Albertson, Kathy	$3,947.00	$557.00	$3,863.00	$1,117.00	$8,237.00	$8,690.00
Allenson, Carol	$4,411.00	$1,042.00	$9,355.00	$1,100.00	$10,185.00	$18,749.00
Altman, Zoey	$2,521.00	$3,072.00	$6,702.00	$2,116.00	$13,452.00	$8,046.00

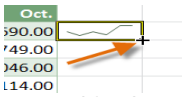
2. Click the **Insert** tab.
3. In the **Sparklines** group, select **Line**. A dialog box will appear.



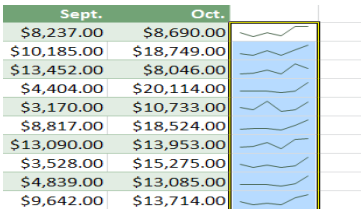
4. Make sure the **insertion point** is next to **Location Range**.
5. Click the **cell** where you want the sparkline to be. In this example, we'll select the cell to the right of the selected cells.



6. Click **OK**. The sparkline will appear in the document.
7. Click and drag the **fill handle** downward.



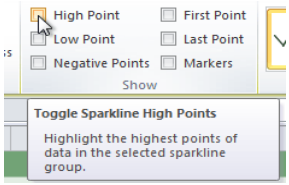
8. Sparklines will be created for the remaining rows.



To Show Points on the Sparkline:

Certain points on the sparkline can be emphasized with markers, or dots, making the sparkline more readable. For example, in a line with a lot of ups and downs, it may be difficult to tell which ones are the highest and lowest points, but if you show the High Point and Low Point, it will be easy to identify them.

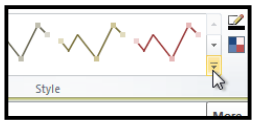
1. Select the **sparklines** that you want to change. If they are **grouped**, you only need to select one of them.
2. Locate the **Show** group in the **Design** tab.
3. Hover over the different **checkboxes** to see a description of each one.



4. Check each option that you want to show. The sparklines will update to show the selected options.

To Change the Style:

1. Select the **sparklines** that you want to change.
2. Locate the **Style** group in the **Design** tab.
3. Click the **More** drop-down arrow to show all of the available styles.
4. Select the desired **style**.
5. The sparklines will update to show the selected style.



To Change the Sparkline Type:

1. Select the **sparklines** that you want to change.
2. Locate the **Type** group in the **Design** tab.
3. Select the desired **type** (Column, for example).
4. The sparkline will update to reflect the new type.

Some sparkline types will be better or worse for certain types of data. For example, **Win/Loss** is best suited for data where there may be **positive** and **negative** values (such as **net earnings**).

Changing the Display Range

By default, each sparkline is scaled to fit the maximum and minimum values of **its own data**. This allows it to fill the entire cell no matter how high or low the values are. However, it has a **downside**: if you are trying to compare several sparklines, you won't be able to tell at a glance which ones have higher or lower values. The solution is to make the display range **the same** for all of the sparklines.

To Change the Display Range:

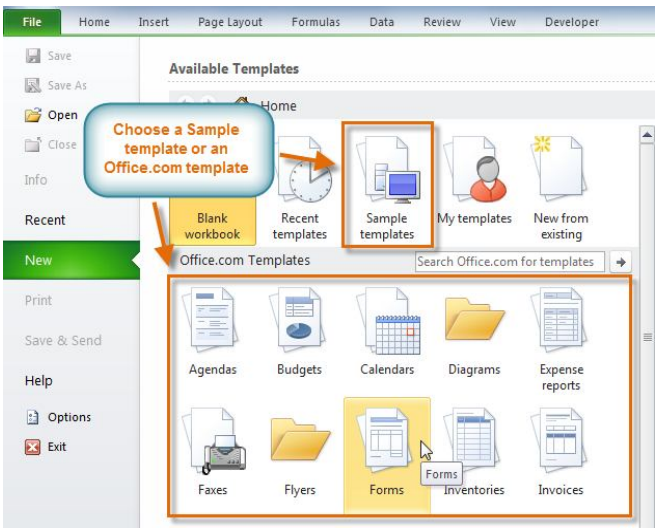
1. Select the **sparklines** that you want to change.
2. In the **Design** tab, click the **Axis** command. A drop-down menu will appear.
3. Under **Vertical Axis Minimum Value Options** and **Vertical Axis Maximum Value Options**, select **Same for All Sparklines**.
4. The sparklines will update to reflect the new range.

Using Templates

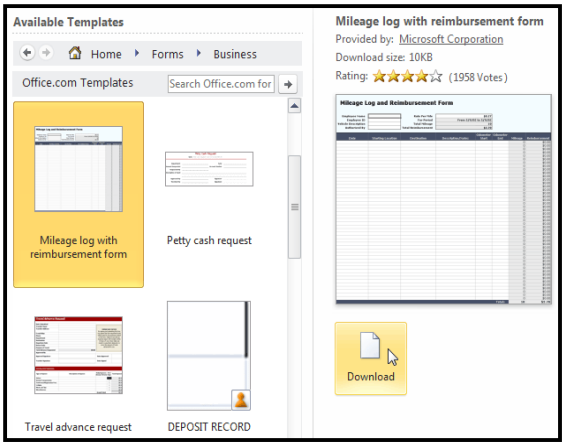
In Excel 2010, you have many templates that can save you a lot of time. A template is a pre-designed spreadsheet that you can use to create new spreadsheets with the same formatting and predefined formulas. With templates, you don't need to know how to do the math, or even how to write formulas - these are already integrated into the spreadsheet.
In this lesson, you will learn how to create a new workbook with a template, as well as basic information about how templates work in Excel 2010. Excel allows you to create new workbooks using templates, or a predefined pattern. Several templates are preloaded in Excel and others are located on Microsoft Office Online.

To Create a New Workbook Using a Template:

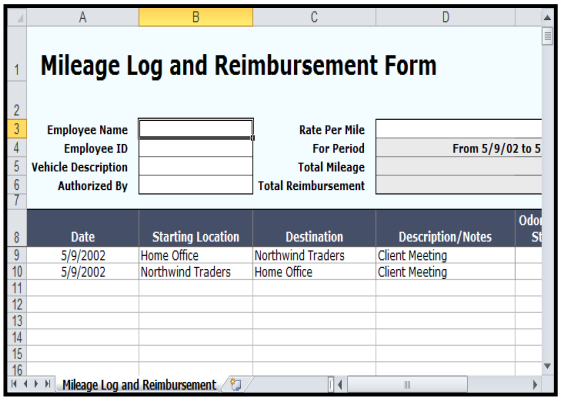
1. Click the **File** tab to go to **Backstage view**.
2. Select **New**. The **Available Templates** pane appears.
3. Click **Sample templates** to choose a built-in template, or select an **Office.com template** category to download a template. In this example, we will download a template from Office.com.



4. Thumbnail images of the templates you have to choose from appear in the center. A larger preview appears on the right.
5. Select the desired template, then click **Download** to open it. (If using a Sample template, Download will be replaced by **Create**.)



6. A new workbook will appear using the template you chose.



Lesson: 9

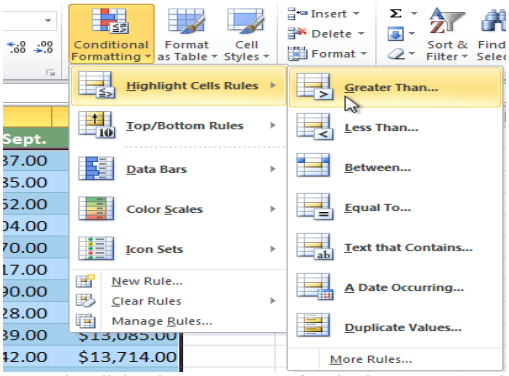
Conditional Formatting, Pivot Table & What-if Analysis

Using Conditional Formatting

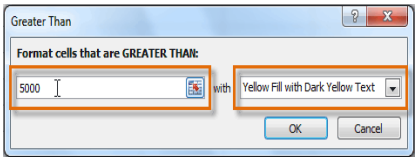
Imagine you have a spreadsheet with thousands of rows of data. It would be extremely difficult to see patterns and trends just from examining the raw data. Excel gives us several tools that will make this task easier. One of these tools is called conditional formatting. With conditional formatting, you can apply formatting to one or more cells based on the value of the cell. You can highlight interesting or unusual cell values, and visualize the data using formatting such as colors, icons, and data bars. ***Conditional formatting applies*** one or more rules to any cells that you want. An example of a rule might be "If the value is greater than 5,000, color the cell yellow." By applying this rule to the cells in a worksheet, you'll be able to see at a glance which cells are over 5,000. There are also rules that can mark the top 10 items, all cells that are below the average, cells that are within a certain date range, and many more.

To Create a Conditional Formatting Rule:

1. Select the **cells** that you want to add the formatting to.
2. In the **Home** tab, click the **Conditional Formatting** command. A drop-down menu will appear.
3. Select **Highlight Cells Rules** or **Top/Bottom Rules**. We will choose Highlight Cells Rules for this example. A menu will appear with several **rules**.
4. Select the desired rule (Greater Than, for example).



5. From the dialog box, enter a **value** in the space provided, if applicable. In this example, we want to format cells that are greater than $5,000, so we'll enter 5000 as our value. If you want, you can enter a **cell reference** instead of a number.
6. Select a formatting style from the drop-down menu.



7. The formatting will be applied to the selected cells.

$9,355.00	$1,100.00	$10,185.00	$18,749.00
$6,702.00	$2,116.00	$13,452.00	$8,046.00
$4,415.00	$1,089.00	$4,404.00	$20,114.00
$11,601.00	$1,122.00	$3,170.00	$10,733.00
$3,726.00	$1,135.00	$8,817.00	$18,524.00
$9,007.00	$2,113.00	$13,090.00	$13,953.00
$4,505.00	$1,024.00	$3,528.00	$15,275.00
$3,973.00	$1,716.00	$4,839.00	$13,085.00

If you want, you can apply more than one rule to your cells.

Conditional Formatting Presets

Excel has a number of presets that you can use to quickly apply conditional formatting to your cells. They are grouped into three categories:

- **Data Bars** are horizontal bars added to each cell, much like a **bar graph**.

$3,863.00	$1,117.00	$8,237.00	$8,690.00
$9,355.00	$1,100.00	$10,185.00	$18,749.00
$6,702.00	$2,116.00	$13,452.00	$8,046.00
$4,415.00	$1,089.00	$4,404.00	$20,114.00

- **Color Scales** change the color of each cell based on its value. Each color scale uses a **two or three color gradient**. For example, in the **Green - Yellow - Red** color scale, the **highest** values are green, **average** values are yellow, and the **lowest** values are red.

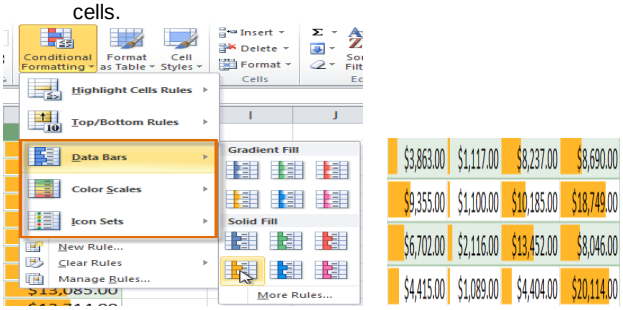
$3,863.00	$1,117.00	$8,237.00	$8,690.00
$9,355.00	$1,100.00	$10,185.00	$18,749.00
$6,702.00	$2,116.00	$13,452.00	$8,046.00
$4,415.00	$1,089.00	$4,404.00	$20,114.00

- **Icon Sets** add a specific icon to each cell based on its value.

$3,863.00	$1,117.00	$8,237.00	$8,690.00
$9,355.00	$1,100.00	$10,185.00	$18,749.00
$6,702.00	$2,116.00	$13,452.00	$8,046.00
$4,415.00	$1,089.00	$4,404.00	$20,114.00

To Use Preset Conditional Formatting:

1. Select the cells you want to add the formatting to.
2. In the Home tab, click the **Conditional Formatting** command. A drop-down menu will appear.
3. Select **Data Bars**, **Color Scales** or **Icon Sets** (Data Bars, for example). Then, select the desired preset.
4. The conditional formatting will be applied to the selected cells.



To Remove Conditional Formatting Rules:

1. Select the cells that have conditional formatting.
2. In the **Home** tab, click the **Conditional Formatting** command. A drop-down menu will appear.
3. Select **Clear Rules**.
4. A menu will appear. You can choose to clear rules from the **Selected Cells**, **Entire Sheet**, **This Table**, or **This PivotTable**. In this example, we will clear rules from the entire sheet.
   You can edit or delete **individual** rules by clicking on the **Conditional Formatting** command and selecting **Manage Rules**. This is especially useful if you have applied **multiple rules** to the cells.

Creating PivotTables

PivotTable reports (or, simply **PivotTables**) make the data in your worksheets much more manageable by **summarizing** the data and allowing you to **manipulate** it in different ways. PivotTables can be an indispensable tool when used with large, complex spreadsheets, but they can be used with smaller spreadsheets as well.
When you have a lot of data, it can sometimes be difficult to analyze all of it. A PivotTable **summarizes** the data, making it easier to manage. Best of all, you can quickly and easily change the PivotTable to see the data in a different way, making this an extremely powerful tool.

Using PivotTables to Answer Questions

The example below contains sales statistics for a fictional company. There is a **row** for each order, and it includes the **order amount**, the name of the **salesperson** who made the sale, the **month**, the **sales region**, and the customer's **account number**.

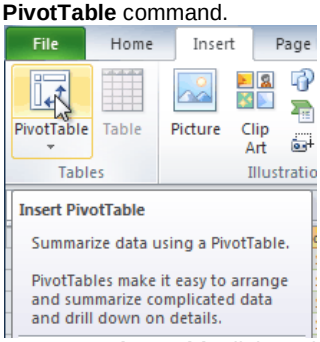
Salesperson	Region	Account	Order Amount	Month
Albertson, Kathy	East	29386	$925.00	January
Albertson, Kathy	East	74830	$875.00	February
Albertson, Kathy	East	90099	$500.00	February
Albertson, Kathy	East	74830	$350.00	March
Brennan, Michael	West	82853	$400.00	January
Brennan, Michael	West	72949	$850.00	January
Brennan, Michael	West	90044	$1,500.00	January
Brennan, Michael	West	82853	$550.00	February
Brennan, Michael	West	72949	$400.00	March
Davis, William	South	55223	$235.00	February
Davis, William	South	10354	$850.00	January
Davis, William	South	50192	$600.00	March
Davis, William	South	27589	$250.00	January
Dumlao, Richard	West	67275	$400.00	January
Dumlao, Richard	West	41828	$965.00	February
Dumlao, Richard	West	87543	$125.00	March
Flores, Tia	South	97446	$1,500.00	March

Suppose we wanted to answer the question, **"What is the amount sold by each salesperson?"** This could be time-consuming, as each salesperson appears on multiple rows, and we would need to add up all of the order amounts for each salesperson. Of course, we could use the **Subtotal** feature to add them, but we would still have a lot of data to sift through.
Luckily, a **PivotTable** can instantly do all of the math for us and summarize the data in a way that's not only easy to read, but easy to manipulate. When we're done, the PivotTable will look something like this:-
As you can see, the PivotTable is much easier to read. It only takes a **couple of steps** to create one, and once you create it you'll be able to take advantage of the PivotTable's powerful features.

Row Labels	Sum of Order Amount
Albertson, Kathy	$2,650.00
Brennan, Michael	$3,700.00
Davis, William	$1,935.00
Dumlao, Richard	$1,490.00
Flores, Tia	$4,565.00
Post, Melissa	$1,690.00
Thompson, Shannon	$3,160.00
Walters, Chris	$4,375.00
Grand Total	**$23,565.00**

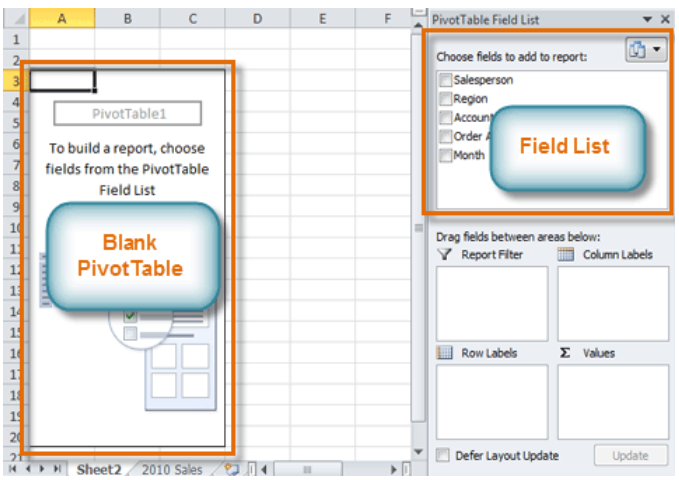
To Create a PivotTable:

1. Select the **table** or **cells** (including column headers) containing the data you want to use.
2. From the **Insert** tab, click the **PivotTable** command.



3. The **Create PivotTable** dialog box will appear. Make sure the settings are correct, and then click **OK**.

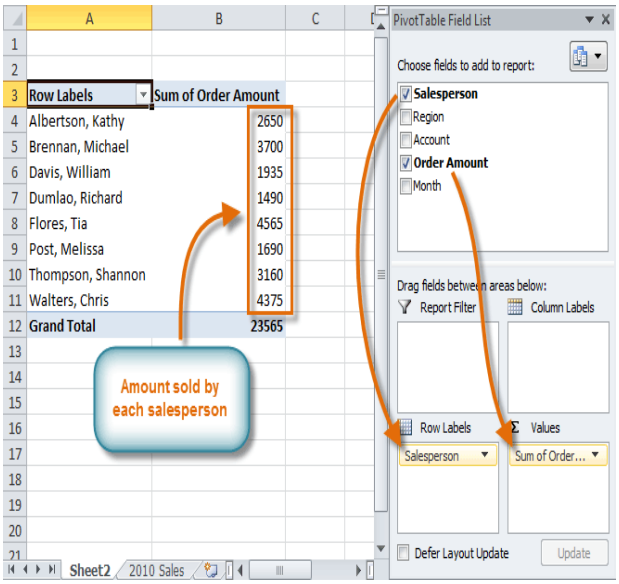
5. A blank PivotTable will appear on the left, and the Field List will appear on the right



To Add Fields to the PivotTable:

Now, you'll need to decide which **fields** to add to the PivotTable. Each field is simply a **column header** from the source data. It may be helpful to recall the **question** that you are trying to answer. In this example, we want to know the total **amount** sold by each **salesperson**, so we'll just need the **Order Amount** and **Salesperson** fields.

1. In the **Field List**, place a checkmark next to each field you want to add.
2. The selected fields will be added to one of the four **Areas** below the Field List. In this example, the **Salesperson** field is added to the **Row Labels** area, and the **Order Amount** is added to the **Values** area. If a field is not in the desired area, you can drag it to a different one.
3. The PivotTable now shows the **amount sold** by each **salesperson**.



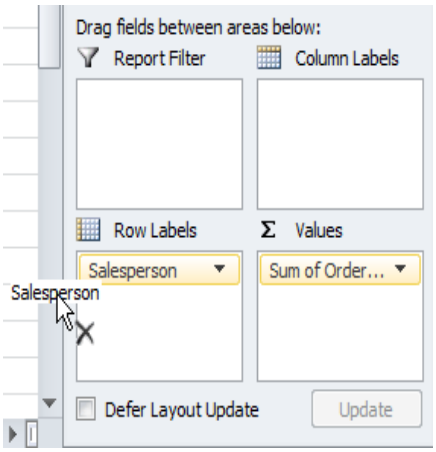
Just like with normal spreadsheet data, you can sort the data in a PivotTable using the **Sort & Filter** command in the **Home** tab. You can also apply any type of formatting that you want. For example, you may want to change the **Number Format** to **Currency**. However, be aware that some types of formatting may disappear when you modify the PivotTable.

Pivoting Data

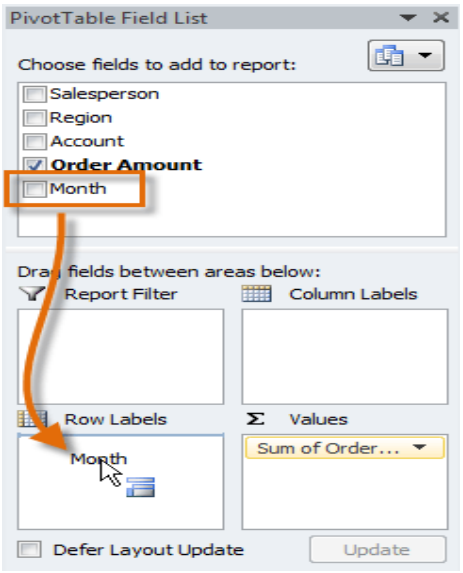
One of the best things about PivotTables is that they let you "pivot" the data in order to look at it in a different way. This allows you to answer multiple questions and even experiment with the data to learn new things about it.
In our example, we used the PivotTable to answer the question "What is the total amount sold by each salesperson?" But now we'd like to answer a new question, such as "What is the total amount sold in each month?" We can do this by simply changing the Row Labels

To Change the Row Labels:

1. Drag any existing **fields** out of the **Row Labels** area, and they will disappear.



2. Drag a new field from the **Field List** into the **Row Labels** area. In this example, we're using the **Month** field.



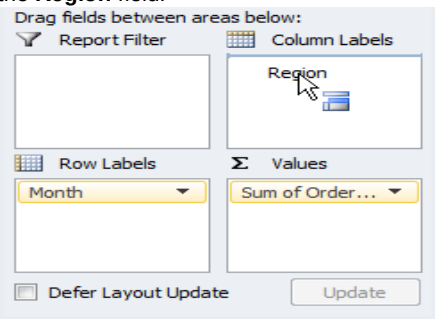
3. The PivotTable will adjust to show the new data. In this example, it now shows us the total **Order Amount** for each **month**.

Row Labels	Sum of Order Amount
January	$9,090.00
February	$9,160.00
March	$5,315.00
Grand Total	**$23,565.00**

To Add Column Labels:

So far, our PivotTable has only shown one column of data at a time. In order to show multiple columns, you'll need to add Column Labels.

1. Drag a field from the **Field List** into the **Column Labels** area. In this example, we're using the **Region** field.



2. The PivotTable will now have multiple columns. In this example, there is a column for each **region**.

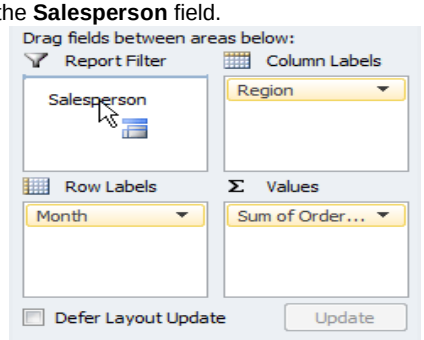
Sum of Order Amount	Column Labels				
Row Labels	East	North	South	West	Grand Total
January	$1,690.00	$1,140.00	$3,110.00	$3,150.00	$9,090.00
February	$1,950.00	$1,720.00	$3,975.00	$1,515.00	$9,160.00
March	$700.00	$300.00	$3,790.00	$525.00	$5,315.00
Grand Total	**$4,340.00**	**$3,160.00**	**$10,875.00**	**$5,190.00**	**$23,565.00**

Report Filters

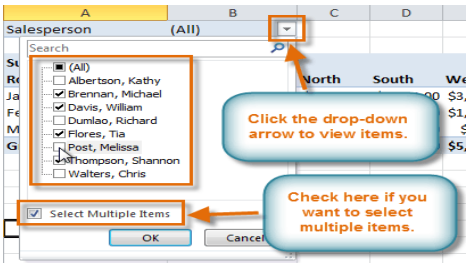
Sometimes you may want focus on just a portion of the data and filter out everything else. In our example, we're going to focus on certain salespeople, to see how they affect the total sales.

To Add a Report Filter:

1. Drag a field from the **Field List** into the **Report Filter** area. In this example, we're using the **Salesperson** field.



2. The report filter appears above the PivotTable. Click the **drop-down arrow** on the right side of the filter to view the list of items.
3. Select the item that you wish to view. If you want to select more than one item, place a checkmark next to **Select Multiple Items**. Then click **OK**. In the example below, we are selecting five salespeople.



4. Click OK. The PivotTable will adjust to reflect the changes.

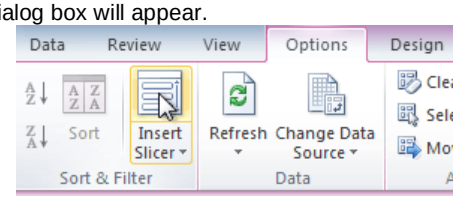
Salesperson	(Multiple Items)				
Sum of Order Amount	Column Labels				
Row Labels	East	North	South	West	Grand Total
January	$765.00	$1,140.00	$2,755.00	$2,750.00	$7,410.00
February	$575.00	$1,720.00	$1,220.00	$550.00	$4,065.00
March	$350.00	$300.00	$2,525.00	$400.00	$3,575.00
Grand Total	**$1,690.00**	**$3,160.00**	**$6,500.00**	**$3,700.00**	**$15,050.00**

Slicers

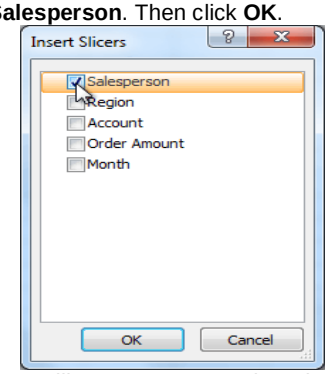
Slicers were introduced in Excel 2010 to make filtering data easier and more interactive. They're basically just report filters, but they're more interactive and faster to use, as they let you quickly select items and instantly see the result. If you filter your PivotTables a lot, you might want to use slicers instead of report filters.

To Add a Slicer:

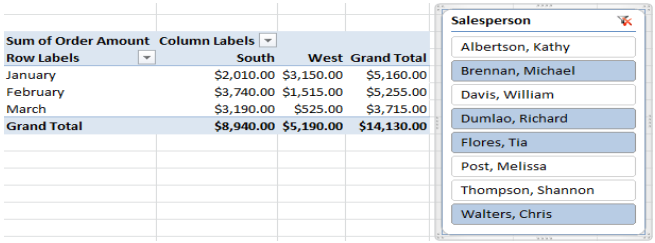
1. Select any cell in your PivotTable. The **Options** tab will appear on the **Ribbon**.
2. From the **Options** tab, click the **Insert Slicer** command. A dialog box will appear.



3. Select the desired field. In this example, we will select **Salesperson**. Then click **OK**.



4. The Slicer will appear next to the PivotTable. Each item that is selected will be highlighted in **blue**. In the example below, the Slicer contains a list of all of the different salespeople, and **four** of them are currently selected.



Sum of Order Amount	Column Labels		
Row Labels	South	West	Grand Total
January	$2,010.00	$3,150.00	$5,160.00
February	$3,740.00	$1,515.00	$5,255.00
March	$3,190.00	$525.00	$3,715.00
Grand Total	$8,940.00	$5,190.00	$14,130.00

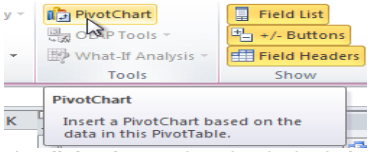
(A slicer with four selected items)

Pivot Charts

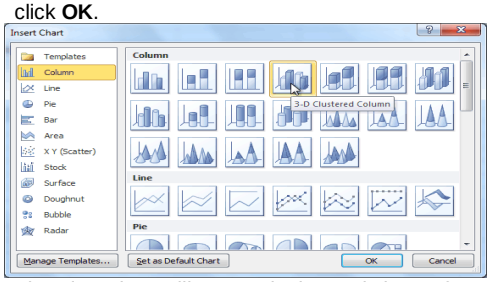
Pivot Charts are like regular charts, except they display data from a **PivotTable**. As with a regular chart, you'll be able to select a **chart type**, **layout** and **style** to best represent the data. In this example, we'll use a PivotChart so we can visualize the **trends** in each sales region.

To Create a PivotChart:

1. Select any cell in your PivotTable. The **Options** tab will appear in the **Ribbon**.
2. From the **Options** tab, click the **PivotChart** command.

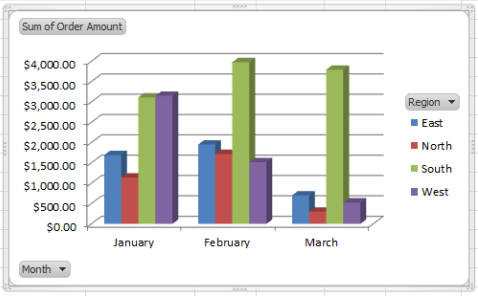


3. From the **dialog box**, select the desired **chart type** (3-D Clustered Column, for example) and click **OK**.



4. The PivotChart will appear in the worksheet. If you want, you can move it by clicking and dragging.

Sum of Order Amount	Column Labels				
Row Labels	East	North	South	West	Grand Total
January	$1,690.00	$1,140.00	$3,110.00	$3,150.00	$9,090.00
February	$1,950.00	$1,720.00	$3,975.00	$1,515.00	$9,160.00
March	$700.00	$300.00	$3,790.00	$525.00	$5,315.00
Grand Total	$4,340.00	$3,160.00	$10,875.00	$5,190.00	$23,565.00



If you make any changes to the PivotTable, the PivotChart will adjust automatically.

Using What-If Analysis

The real power in Excel comes in its ability to perform multiple mathematical calculations for you. One of the tools in Excel that you can use to perform these calculations is a Data tool called What-If Analysis. What-If analysis allows you to see the effect that different values have in formulas. Have you ever thought, "What interest rate do I need to qualify for to have a car payment of $400 on the car I want?" This question can be answered using What-If Analysis.

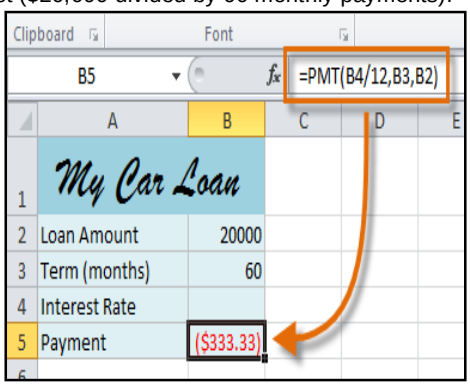
What-If Analysis

In many worksheets, there may be some cells whose values are unknown, or you may just want to change certain cells to see what the outcome is. What-if analysis is perfect for these situations. It allows you to experiment and answer questions with your data, even when the data is incomplete.

Goal Seek

Goal Seek is a type of what-if analysis that is useful if you know the desired result, but need to find the input value that will give you that result. For example, suppose you need a loan to buy a new car. You already know that you want a loan amount of $20,000, a 60-month term (the length of time it takes to pay off the loan), and a payment of no more than $400 a month. However, you're not sure yet what the interest rate is going to be.

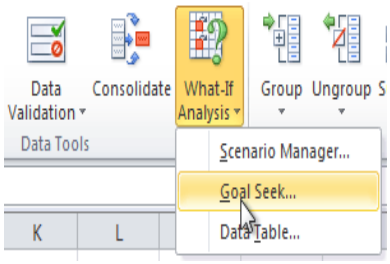
In the image below, you can see that Interest Rate is left blank, and Payment is $333.33. That's because the payment is being calculated by a specialized function called the PMT (Payment) function, and $333.33 is what the monthly payment would be if there were no interest ($20,000 divided by 60 monthly payments).



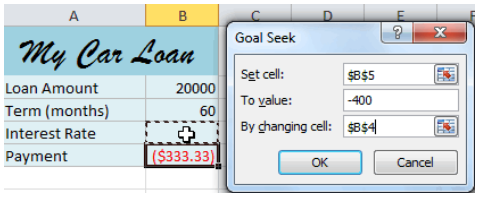
If we typed different values into the empty Interest Rate cell, we could eventually find the value that causes Payment to be $400, and that would be the highest interest rate that we could afford. However, Goal Seek can do this automatically by starting with the result and working backward.

To Use Goal Seek to Find the Interest Rate:

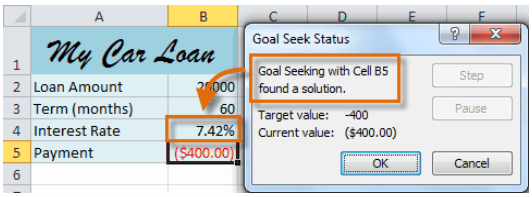
1. From the **Data** tab, click the **What-If Analysis** command.
2. Select **Goal Seek**.



3. A dialog box will appear containing three fields:
   - **Set cell:** This is the cell that will contain the **desired result** (in this case, the monthly payment). In this example, we will set it to **B5** (it doesn't matter whether it's an **absolute** or **relative** reference).
   - **To value:** This is the desired result. We'll set it to **-400**. Since we're making a payment that will be **subtracted** from our loan amount, we have to enter the payment as a **negative number**.
   - **By changing cell:** This is the cell where Goal Seek will place its answer (in this case, the interest rate). We'll set it to **B4**.



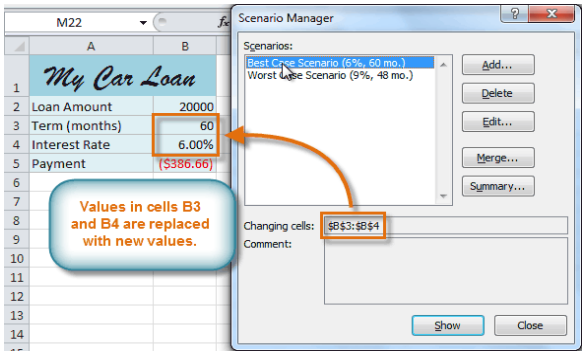
4. When you're done, click **OK**. The dialog box will tell you whether or not Goal Seek was able to find a solution. In this example, the solution is **7.42%**, and it has been placed in cell **B4**. This tells us that a 7.42% interest rate will give us a $400-a-month payment on a $20,000 loan that is paid off over 5 years, or 60 months.



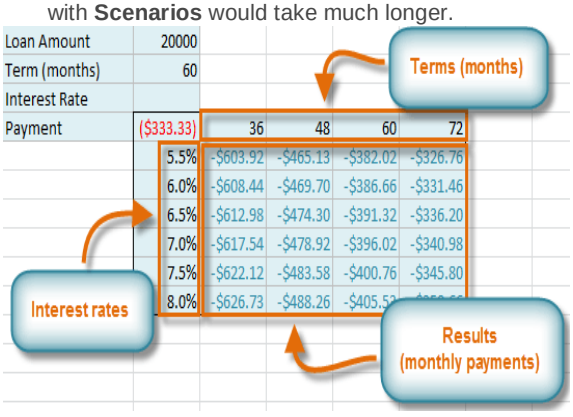
Other Types of What-If Analysis

For more advanced projects, you may want to look at the other two types of what-if analysis: **scenarios** and **data tables**. Rather than starting from the desired result and working backward, like Goal Seek, these options allow you to test multiple values and see how the result changes.
Below is an introduction to some of the things you can do with **scenarios** and **data tables**.

- **Scenarios** let you substitute values for **multiple cells** (up to 32) at the same time. It is especially well-suited to showing **best-case** and **worst-case** scenarios. You can create **as many scenarios as you want**, and then compare them without having to manually change all of the values. In the example below, each scenario contains a **term** and an **interest rate**. When each scenario is selected, it will replace the values in the spreadsheet with its own values, and the **result** will be recalculated.



- **Data Tables** allow you to take one or two variables in a formula and replace them with **as many different values as you want**, and then view the results in a table. This option is especially powerful because it shows **multiple results** at the same time, unlike Scenarios or Goal Seek. In the example below, **24 possible results** are shown in the table; doing the same task with **Scenarios** would take much longer.



Lesson: 10

Reviewing, Sharing, Saving & Printing

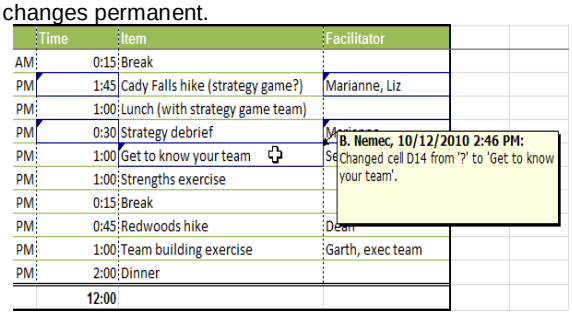
Reviewing and Sharing Workbooks

Suppose someone asked you to proofread or collaborate on a worksheet they put together. If you had a hard copy, you might use a red pen to cross out cell data, mark misspellings, or add comments in the margins. However, you could also do all of these things in Excel using the Track Changes and Comments features.

When you've finished reviewing the worksheet, the other person can choose to automatically Accept all of your changes, or decide whether to Accept or Reject each change one-by-one.

About Track Changes

When you turn on the Track Changes option, every change you make to the worksheet will be highlighted with a unique border and indicator. Hovering your mouse over a highlighted cell will display the details of the change. This allows the other person to see what changes have been made before making the changes permanent.



The **color** of the highlights will vary depending on who is reviewing the document, so if there are multiple reviewers, you'll be able to tell at a glance who made each change.

There are some changes that Excel **cannot** track. Familiarize yourself at changes that Excel does not track or highlight.

To Turn on Track Changes:

1. Go to the **Review** tab.
2. Click **Track Changes**, then select **Highlight Changes** from the drop-down menu.
3. The **Highlight Changes** dialog box will appear.
4. Check the box next to **Track changes while editing**.
5. Verify the box is checked for **Highlight changes on screen**. This will highlight your changes while you work.
6. Click **OK**.
7. If prompted, click **OK** to allow Excel to save your workbook
8. Change tracking is now active. Any changes you make to the worksheet will be **highlighted** with a unique border and indicator.

Your workbook will be "shared" automatically when you turn Track Changes on. Shared workbooks are designed to be stored where other users (such as users on the same network) can access and edit the workbook at the same time.

To Turn off Track Changes:

1. From the **Review** tab, click **Track Changes**. Then select **Highlight Changes** from the drop-down menu.
2. Uncheck the box next to **Track changes while editing**.
3. Click **Yes** to confirm that you want to turn off Track Changes and stop sharing your workbook.

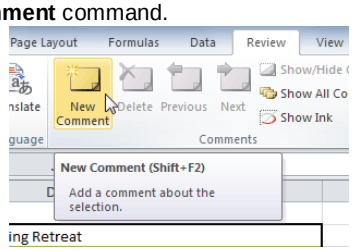
Turning off Track Changes will delete any tracking that has taken place in your workbook. You will not be able to view, accept, or reject changes; instead, they will all be applied to your workbook automatically. Always review the changes in your worksheet before turning Track Changes off.

Adding and Deleting Comments

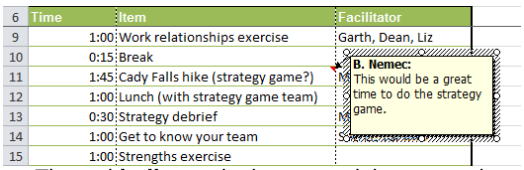
Sometimes, you may want to add a comment to a worksheet, to provide feedback for the author instead of changing the contents. Comments are highlighted by a unique indicator and can be read by the original author or by any other reviewers.

To Add a Comment:

1. Select the cell where you want the comment to appear.
2. From the **Review** tab, click the **New Comment** command.



3. Type your comment.



4. The red **indicator** in the upper right corner shows that there is a comment in that cell.
5. Hover your mouse over the cell to **view** the comment.

To Edit a Comment:

1. Select the cell containing the comment you wish to edit.
2. From the **Review** tab, click the **Edit Comment** command (where the New Comment command used to be).
3. Edit your comment.

Finalizing and Protecting Your Workbook

Before you send your workbook out, take a minute to prepare a final copy. Excel has tools that might save you from sharing a workbook that contains spelling errors, or information about the workbook itself that you do not want the recipient to see. Use the Spelling command to find and edit any misspelled words; use the Document Inspector to find and delete any hidden data or personal information that is stored in the workbook, such as hidden comments, invisible objects, and file paths; and consider your Protect Workbook options, designed to keep other users from making unwanted changes to your workbook.

To Check Spelling:

1. Select the cells you want to spell check.
2. Click on the Spelling command from the **Review** tab.
3. The **Spelling** dialog box will open. From the Spelling dialog box, you can review and edit any misspelled words.
   You can also check the spelling of every cell in an active worksheet by selecting any empty cell in the worksheet and then clicking on the **Spelling** command.

Ignoring Spelling "Errors"

There are times when Excel will say something is an error when it is not. This often happens with people's names, which may not be in the dictionary. Even if Excel says that something is an error, you can choose not to change it. There are three options you can choose from:

- **Ignore Once:** This will skip the word without changing it.
- **Ignore All:** This will skip the word without changing it, and it will also skip all other instances of this word in the worksheet.
- **Add to Dictionary:** This adds the word to the dictionary so that it will never come up as an error again. Make sure that the word is spelled correctly before choosing this option.

To Use the Document Inspector:

1. In **Backstage view**, click **Info**.
2. Click on the **Check for Issues** button. A drop-down menu will appear.
3. Select **Inspect Document**. A dialog box will appear.
4. Check the boxes beside the content you want to inspect. To unselect a box, simply click it again and the check mark will disappear.
5. Click **Inspect**.
6. After the Document Inspector finishes, a new dialog box will appear where you can **review the inspection results**. Click the **Remove All** command beside any information you want to remove.
   It is a good idea to save an additional copy of your workbook before you use the Document Inspector to remove information, because some changes cannot be undone.

Protecting Your Workbook

By default, anyone with access to your workbook will be able to open, copy, and change any part of it unless you protect it. There are many ways you can protect your workbook depending on your needs. For example, you can mark your workbook as final, set it up with a password, put restrictions on who can make changes, or make it so that only certain cells or features of the workbook are changeable.

To Protect Your Workbook:

1. Click the **File** tab to access the **Backstage view** .
2. From the **Info** pane, click the **Protect Workbook** command.
3. Choose the **option** that best suits your needs. In this example, we will select Mark as Final. Marking your workbook as final is a way to discourage others from making any changes to the workbook. It will alert whoever opens it that typing, editing, and proofreading commands are unavailable.
4. Click **OK**.
5. Another dialog box will appear. Click **OK** to confirm.

Saving Workbook

Are you saving a workbook for the first time? Saving it as another name? Sharing it with someone that does not have Excel 2010? There are many ways you share and receive workbooks, which will affect how you need to save the file.
In this lesson you will learn how to use the Save and Save As commands, how to save as an Excel 97-2003 compatible workbook, and how to save as a PDF.

To Use the Save As Command:

Save As allows you to choose a name and location for your workbook. Use it if you are saving a workbook for the first time or if you want to save a different version of a workbook while keeping the original.

1. Click the **File** tab.
2. Select **Save As**.
3. The **Save As** dialog box will appear. Select the location where you wish to save the workbook.
4. Enter a name for the workbook and click **Save**.

If you are using **Windows 7**, you will most likely want to save files to your **Documents library**. For other versions of Windows, you will most likely want to save files to the **My Documents folder**

To Use the Save Command:

1. Click the **Save** command on the **Quick Access Toolbar**.
2. The workbook will be saved in its current location with the same file name.
   If you are saving for the first time and select Save, the Save As dialog box will appear.

To Use AutoRecover:

Excel automatically saves your workbooks to a temporary folder while you are working on them. If you forget to save your changes, or if Excel crashes, you can recover the autosaved file.

1. Open a workbook that was previously closed without saving.
2. In **Backstage view**, click **Info**.
3. If there are autosaved versions of your workbook, they will appear under **Versions**. Click on the file to open it.
4. A yellow caution note will appear on the ribbon of the workbook. To restore this version of the workbook click **Restore** and then click **OK**.

By default, Excel autosaves every 10 minutes. If you are editing a workbook for less than 10 minutes, Excel may not create an autosaved version.

If you do not see the file you are looking for, or if you are looking for an autosaved version of a file that has no previously saved versions, you can browse all autosaved files by clicking on the Manage Versions button and selecting Recover Unsaved Workbooks from the drop-down menu.

To Save As an Excel 97-2003 Workbook:

You can share your workbooks with anyone using Excel 2010 or 2007, since they use the same file format. However, earlier versions of Excel use a different file format, so if you want to share your workbook with someone using an earlier version of Excel, you will need to save it as an ***Excel 97-2003 Workbook***.

1. Click the **File** tab.
2. Select **Save As**.
3. In the **Save as type** drop-down menu, select **Excel 97-2003 Workbook**.
4. Select the location you wish to save the file.
5. Enter a name for the file and click **Save**.

To Save As a PDF:

Saving your workbook as an Adobe Acrobat Document, which is called a PDF file, can be especially useful when your recipients do not have Excel. A ***PDF*** file will make it possible for recipients to view the content from your workbook, but they will not be able to edit anything. Click the **File** tab.

1. Select **Save As**.
2. In the **Save as type** drop-down menu, select **PDF**.
3. Select the location you wish to save the file.
4. Enter a name for the file and click **Save**.

Excel defaults to saving the active worksheet only. If you have multiple worksheets and want to save all of them in the same PDF file, click on Options. The Options dialog box will appear. Select Entire workbook from the Options dialog box and click OK.

Printing

There are many choices you can make when printing an Excel workbook. You can choose what parts of a workbook to print and how the data fits on the page.

In previous versions of Excel, there was a Print Preview option that allowed you to preview and modify the workbook before printing. You may have noticed that this feature seems to be gone in Excel 2010. It actually has not disappeared; it has just been combined with the Print window to create the ***Print pane***, which is located in ***Backstage view***.

To View the Print Pane:

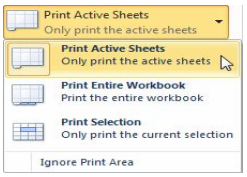
1. Click the **File** tab. This takes you to **Backstage view**.
2. Select **Print**. The **Print pane** appears, with the **print settings** on the left and the **Print Preview** on the right.

To Print Active Sheets:

If you have multiple worksheets in your workbook, you will need to decide if you want to print the whole workbook or specific worksheets. Excel gives you the option to Print Active Sheets. A worksheet is considered active if it is selected.

1. Select the worksheets you want to print. To print multiple worksheets, click on the first worksheet, hold down the **Ctrl key**, then click on the other worksheets you want to select.

2. Click the **File** tab.
3. Select **Print** to access the **Print pane**.
4. Select **Print Active Sheets** from the **print range** drop-down menu.
5. Click the **Print** button.



To Print the Entire Workbook:

1. Click the **File** tab.
2. Select **Print** to access the **Print pane**.
3. Select **Print Entire Workbook** from the **print range** drop-down menu.
4. Click the **Print** button.

To Print a Selection, or Set the Print Area:

Printing a selection (sometimes called setting the print area) lets you choose which cells to print, as opposed to the entire worksheet.

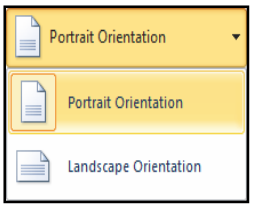
1. Select the cells that you want to print.

	A	B	C
1	Employee Name	January	February
2	Allenson, Carol	$ 5,897.00	$ 2,356.00
3	Altman, Zoey	$ 666.00	$ 6,210.00
4	Aurelio, Fies	$ 5,889.00	$ 9,385.00
5	Aurelio, Vig	$ 8,765.00	$ 9,258.00
6	Bergman, Jeffery	$ 1,928.00	$ 6,595.00
7	Bittiman, William	$ 4,108.00	$ 7,172.00
8	Carlson, David	$ 6,302.00	$ 358.00
9	Carlton, Potter	$ 3,647.00	$ 2,858.00

2. Click the **File** tab.
3. Select **Print** to access the **Print pane**.
4. Select **Print Selection** from the **print range** drop-down menu.
5. You can see what your selection will look like on the page in **Print Preview**.
6. Click the **Print** button.

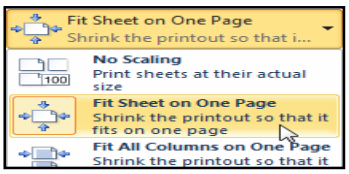
You don't have to wait until you're ready to print to **set the print area**. You can also set it from the **Page Layout** tab in advance. This will place a dotted line around your selection, so you can see which cells are going to print while you work. To do this, just **select** the cells you want to print, go to the **Page Layout** tab, and choose **Print Area**.

To Change Page Orientation:



Change the page orientation to Portrait to orient the page vertically or Landscape to orient the page horizontally. Portrait is useful for worksheets needing to fit more rows on one page, and Landscape is useful for worksheets needing to fit more columns on one page.

1. Click the **File** tab.
2. Select **Print** to access the **Print pane**.
3. Select either **Portrait Orientation** or **Landscape Orientation** from the **orientation** drop-down menu.
4. Your page orientation is changed.



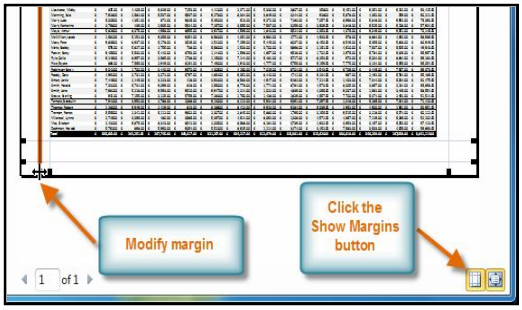
To Fit a Worksheet on One Page:

1. Click the **File** tab.
2. Select **Print** to access the **Print pane**.
3. Select **Fit Sheet on One Page** from the **scaling** drop-down menu.
4. Your worksheet is reduced in size until it fits on one page. Remember that if it is scaled too small it might be difficult to read.

To Modify Margins While in Print Preview:

The margins of your worksheet may need to be adjusted to make data fit more comfortably on the printed page. You can adjust the margins in Print Preview.

1. Click the **File** tab.
2. Select **Print** to access the **Print pane**.
3. Click on the **Show Margins** button. Your margins will appear.
4. Hover your mouse over one of the **margin markers** until the **double arrow** appears.
5. **Click and drag** the margin to your desired location.
6. Release the mouse. The margin is modified.

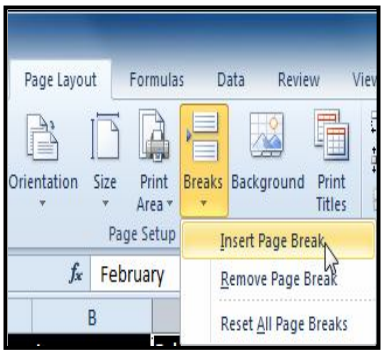


To Use Print Titles:

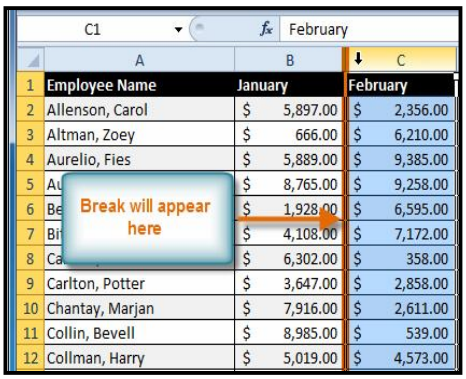
Imagine how difficult it would be to read a worksheet if the column and row headings only appeared on the first page. The Print Titles command allows you to select specific rows and columns to appear on each page.

1. Click the **Page Layout** tab.
2. Select the **Print Titles** command.
3. The **Page Setup** dialog box appears. Click the icon at the end of the **Rows to repeat at top** field.
4. Your mouse becomes the small **selection arrow** . Click on the rows you want to appear on each printed page. The **Rows to repeat at top** dialog box will record your selection.
5. Click the icon at the end of the **Rows to repeat at top** field.
6. Repeat for **Columns to repeat at left**, if necessary.
7. Click **OK**. You can go to **Print Preview** to see how each page will look when printed.

To Insert a Break:



1. Click the **Page Layout** tab.
2. Determine the placement of the break by clicking on the **row below**, **cell below**, or **column to the right** of where you want the break to appear. For example, select column C and a break will appear after column B.
3. Select the **Insert Page Break** command from the **Breaks** drop-down menu.
4. The break is inserted. You can go to **Print Preview** to confirm it appears in the correct place on the page.



	A	B	C
1	Employee Name	January	February
2	Allenson, Carol	$ 5,897.00	$ 2,356.00
3	Altman, Zoey	$ 666.00	$ 6,210.00
4	Aurelio, Fies	$ 5,889.00	$ 9,385.00
5	Au	$ 8,765.00	$ 9,258.00
6	Be	$ 1,928.00	$ 6,595.00
7	Bi	$ 4,108.00	$ 7,172.00
8	Ca	$ 6,302.00	$ 358.00
9	Carlton, Potter	$ 3,647.00	$ 2,858.00
10	Chantay, Marjan	$ 7,916.00	$ 2,611.00
11	Collin, Bevell	$ 8,985.00	$ 539.00
12	Collman, Harry	$ 5,019.00	$ 4,573.00

Unit-III- MS-PowerPoint 2010

Lesson: 1

Getting Started with PowerPoint

PowerPoint 2010 is presentation software that allows you to create dynamic slide presentations that may include animation, narration, images, videos and more. Microsoft PowerPoint, usually just called PowerPoint, is a commercial presentation program developed by Microsoft. It is part of the ***Microsoft Office*** suite which also includes another two office tools - Microsoft Excel and Microsoft Word. PowerPoint uses a graphical approach to presentations in the form of slide shows that accompany the oral delivery of the topic. The current versions are Microsoft PowerPoint 2010 for Windows and 2011 for Mac.

What is Microsoft PowerPoint used for?

The main purpose of MS PowerPoint is to enable the user to create dynamic, informational slide shows through the use of text, graphics, and animation. Slide shows created with the software are often displayed on projection screens for business, training, or educational presentations, although they can be distributed as stand-alone files. Additionally, the slides can be arranged and printed as handouts for reference.

New features in PowerPoint 2010

With Microsoft PowerPoint, you can make charts, tables, and macros, and insert images, audio, video, and other multimedia files. With the new release of Microsoft Office 2010, many advanced features were added in PowerPoint 2010.

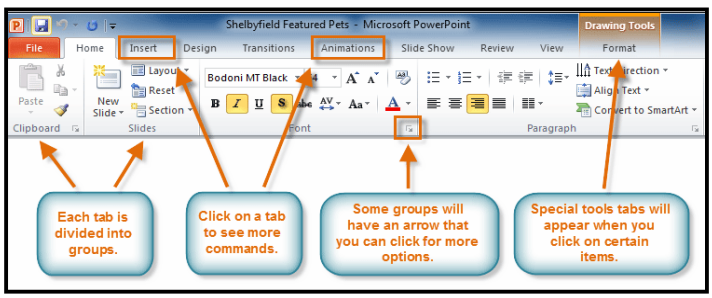
- Embed and edit video from within PowerPoint. Now you can add fades, formatting effects, bookmark scenes, and trim videos to give your presentations a professional multimedia experience. And since the embedded videos become part of your PowerPoint presentation, you don't have to manage additional files when sharing with others.
- Use new and improved picture editing tools. You can use picture editing tools including versatile artistic effects and advanced correction, color, and cropping tools, to fine-tune every picture in your presentation to look its absolute best. Even, dynamic 3-D slide transitions and more realistic animation effects can be added to grab your audience's attention.
- Work together more successfully. If you are one of the many people who work with others on presentations and projects, PowerPoint 2010 is the perfect tool for you. The new added co-authoring capabilities to edit the same presentation allows you to work with people in different locations at the same time. You can even communicate as you work, directly from PowerPoint.
- Access and share your content from more places. Your ideas, deadlines, projects, and work emergencies don't always occur conveniently when you are at your desk. Fortunately, you now have the power to get things done when and where you need to, from the Web with Microsoft PowerPoint Web App or even from your smartphone with Microsoft PowerPoint Mobile.

Create a slide show

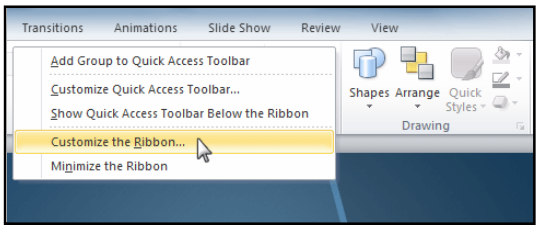
When beginning a new slide show, PowerPoint provides an array of templates to choose from. Experienced users with a specific look in mind can start with a blank presentation for setting attributes, such as colors and fonts, to their own specifications. After creating the initial file, the next step is to create a slide, which can be done by using an auto layout, or a blank screen in order to add components manually. You can then choose to add a combination of text and graphics to suit the needs of the presentation, and apply animation to either of these elements to create a dynamic effect. You can add as many slides and make them as content-rich as your system can handle; there are no limits imposed in the software itself.
The Ribbon and the Quick Access Toolbar are where you will find the commands you need to do common tasks in PowerPoint. If you are familiar with PowerPoint 2007, you will find that the main difference in the PowerPoint 2010 Ribbon is that commands such as Open and Print are now housed in Backstage view.

The Ribbon

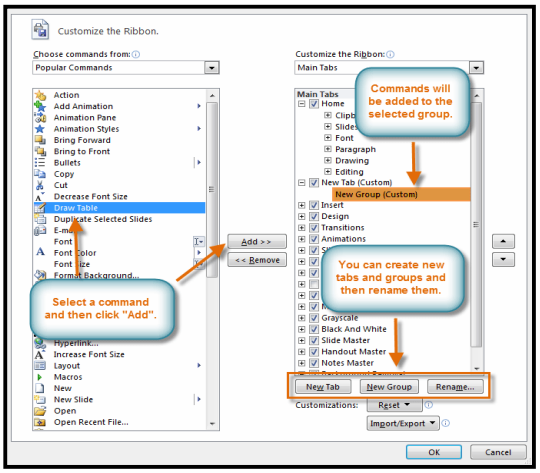
The Ribbon contains multiple tabs, each with several groups of commands. Some tabs, like "Drawing Tools" or "Table Tools," may appear only when you are working with certain items like images or tables. In addition, you can add your own customized tabs that contain your favorite commands.
Certain programs, such as **Adobe Acrobat Reader**, may install additional tabs to the Ribbon. These tabs are called **Add-ins**.



To Customize the Ribbon:



You can customize the Ribbon by creating your own tabs that house your desired commands. Commands are always housed within a group, and you can create as many groups as you need to keep your tabs organized. In addition, you can even add commands to any of the default tabs, as long as you create a custom group within the tab.



1. Right-click the Ribbon and select **Customize the Ribbon**. A **dialog box** will appear.
2. Click **New Tab**. A new tab will be created with a new group inside it.
3. Make sure the new group is selected.
4. Select a command from the list on the left, then click **Add**. You can also drag commands directly into a group.
5. When you are done adding commands, click **OK**.
   If you do not see the command you want, click on the **Choose commands** drop-down box and select **All Commands**.

To Minimize and Maximize the Ribbon:

The Ribbon is designed to be responsive to your current task and easy to use, but if you find it is taking up too much of your screen space, you can minimize it.

1. Click the **arrow** in the upper-right corner of the Ribbon to minimize it.
2. To maximize the Ribbon, click the arrow again.

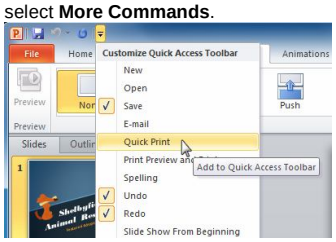
When the Ribbon is minimized, you can make it reappear by clicking on a tab. However, the Ribbon will disappear again when you are not using it.

The Quick Access Toolbar

The Quick Access Toolbar is located above the Ribbon, and it lets you access common commands no matter which tab you are on. By default, it shows the Save, Undo, and Repeat commands. You can add other commands to make it more convenient for you.

To Add Commands to the Quick Access Toolbar:

1. Click the **drop-down arrow** to the right of the **Quick Access Toolbar**.
2. Select the **command** you wish to add from the drop-down menu. To choose from more commands, select **More Commands**.

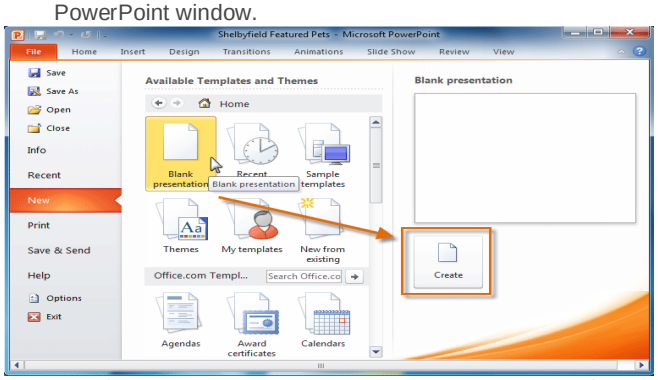


To Get to Backstage View:

1. Click the **File** tab.
2. You can choose an option on the left side of the page.
3. To get back to your document, just click any tab on the Ribbon.

To Create a New, Blank Presentation:

1. Click the **File** tab. This takes you to **Backstage view**.
2. Select **New**.
3. Select **Blank presentation** under **Available Templates and Themes**. It will be highlighted by default.
4. Click **Create**. A new, blank presentation appears in the PowerPoint window.



To save time, you can create your presentation from an **Office.com template**, which you can also select under Available Templates and Themes.

To Open an Existing Presentation:

1. Click the **File** tab. This takes you to **Backstage view**.
2. Select **Open**. The Open dialog box appears.
3. Select your desired presentation and then click **Open**.

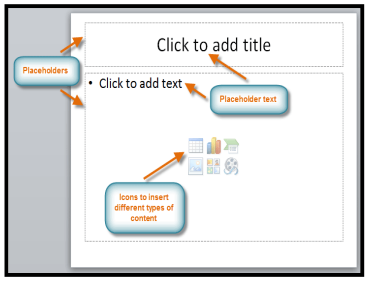
If you have opened the existing presentation recently, it may be easier to choose **Recent** from the **File tab** instead of **Open** to search for your presentation.

Lesson: 2

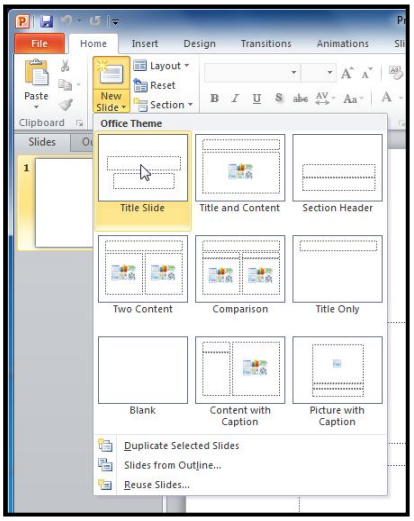
Slide Basic

PowerPoint includes all the features you need to produce professional-looking presentations. When you create a PowerPoint presentation, it is made up of a series of slides. The slides contain the information you want to communicate with your audience. This information can include text, pictures, charts, video, sound, and more. Before you begin adding information to slides, you need to know the basics of working with slides.

About Slides



Slides contain placeholders, which are areas on the slide that are enclosed by dotted borders. Placeholders can contain many different items, including text, pictures, charts, and more. Some placeholders have placeholder text, or text that you can replace. They also have thumbnail-sized icons that represent specific commands such as Insert Picture, Insert Chart, and Insert Clip Art. In PowerPoint, hover over each icon to see the type of content you can insert in a placeholder.



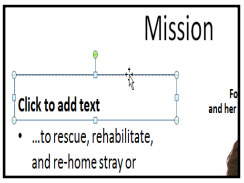
About Slide Layouts

The placeholders are arranged in different layouts that can be applied to existing slides, or chosen when you insert a new slide. A slide layout arranges your content using different types of placeholders, depending on what kind of information you might want to include in your presentation. In the example above, the layout is called Title and Content and includes title and content placeholders. While each layout has a descriptive name, you can also tell from the image of the layout how the placeholders will be arranged.

To Change the Layout of an Existing Slide:

1. Select the slide you wish to change.
2. Click the **Layout** command in the **Slides** group on the **Home** tab. A menu will appear with your options.
3. Choose a layout from the menu. The slide will change in the presentation.

To Delete a Placeholder:



You can easily customize your layout by deleting unwanted or "extra" placeholders from any slide.

1. Position your mouse on the **dotted border** of the placeholder so it changes to a **cross with arrows** .
2. Click the border to select it.
3. Press **Backspace** or **Delete** on your keyboard. The placeholder will be removed from the slide.

To Add a Text Box:

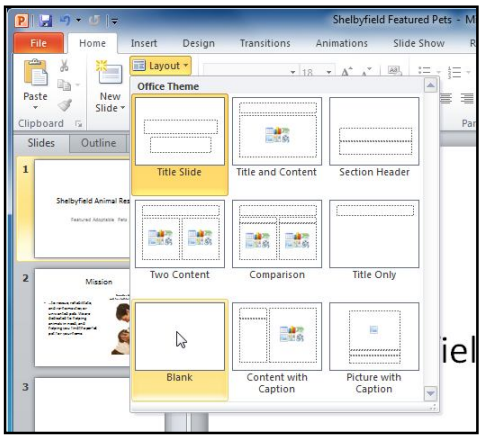
Text boxes allow you to add to your current layout, so you can place text wherever you want on your slide.

1. From the Insert tab, click the Text Box command.
2. Your cursor will turn into an **upside-down cross** .
3. Click, hold, and **drag** your mouse to draw a text box. A text box will appear.

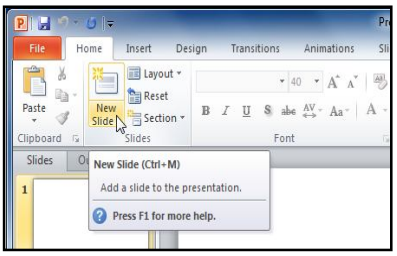
To Use a Blank Slide:

For more control over your content, you may prefer a blank slide (a slide without placeholders) over one of the existing layouts. Blank slides can be customized by adding your own text boxes, pictures, charts, and more.

- Select **Blank** from the menu of **layout** options.



To Insert a New Slide:



1. From the **Home** tab, click the bottom half of the **New Slide** command to open the menu of slide layout options.
2. Select the slide you want to insert.
3. A new slide will be added your presentation.

   To instantly add a slide that uses the same layout as the one you have selected, simply click the top half of the **New Slide** command.

To Copy and Paste a Slide:

1. On the **Slides** tab in the left pane, select the slide you wish to copy.
2. Click the **Copy** command on the **Home** tab. You can also right-click your selection and choose **Copy**.
3. In the left pane, click just below a slide (or between two slides) to choose the location where you want the copy to appear. A **horizontal insertion point** will mark the location.
4. Click the **Paste** command on the Home tab. You can also right-click and choose **Paste**. The copied slide will appear. To select multiple slides, press and hold **Ctrl** on your keyboard, and click the slides you wish to select.

To Duplicate a Slide:

An alternative to Copy and Paste, Duplicate copies the selected slide and, in one step, pastes it directly underneath. This feature does not allow you to choose the location of the copied slide (nor does it offer Paste Options for advanced users), so it is more convenient for quickly inserting similar slides.

1. Select the slide you wish to duplicate.
2. Click the **New Slide** command.
3. Choose **Duplicate Selected Slides** from drop-down menu.
4. A copy of the selected slide appears underneath the original.

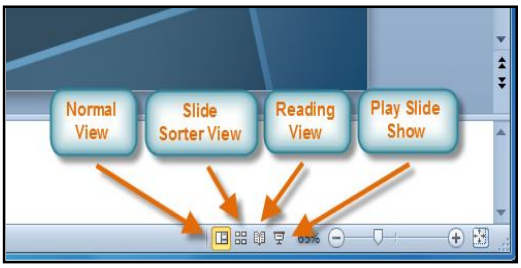
To Delete a Slide:

1. Select the slide you wish to delete.
2. Press the **Delete** or **Backspace** key on your keyboard.

To Move a Slide:

1. Select the slide you wish to move.
2. Click, hold, and **drag** your mouse to a new location. A horizontal insertion point will mark the location.
3. **Release** the mouse button. The slide will appear in the new location.

About Slide Views



It is important that you be able to access the different slide views and use them for various tasks. The slide view commands are located on the bottom right of the PowerPoint window in Normal View.

Normal View: This is the default view where you create and edit your slides. You can also move slides in the Slides tab in the pane on the left.
Slide Sorter View: In this view, miniature slides are arranged on the screen. You can drag and drop slides to easily reorder them, and see more slides at one time. This is a good view to use to confirm that you have all the needed slides and that none have been deleted.
Reading View: This view fills most of the computer screen with a preview of your presentation. Unlike Slide Show View, it includes easily accessible buttons for navigation, located at the bottom right.
Slide Show View: This view completely fills the computer screen, and is what the audience will see when they view the presentation. Slide Show View has an additional menu that appears when you hover over it, allowing you to navigate through the slides, and access other features you can use during a presentation.
Use the keys on your keyboard (including the arrow keys, ***Page Up*** and ***Page Down***, ***space bar***, and ***Enter***) to move through the slides in Slide Show view. Press the ***Esc key*** to end the slide show.

To View an Outline of Your Presentation:

The Outline tab shows your slide text in outline form. This allows you to quickly edit your slide text, and view the contents of multiple slides at once.

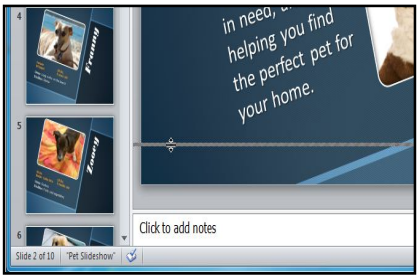
1. Click the **Outline** tab in the left pane.
2. An outline of your slide text appears
3. Type directly in the pane to make changes to your text.

To Organize Slides into Sections:

You can organize your slides into sections to make your presentation easier to navigate. Sections can be collapsed or expanded in the left pane, and named for easy reference. In this example, we will add two sections: one for dogs that are available for adoption, and another for cats and other pets.

1. Select the slide that you want to begin your first section.
2. From the **Home** tab, click the **Section** command.
3. Choose **Add Section** from the drop-down menu.
4. An **Untitled Section** appears in the left pane.
5. To rename the section while it is still selected, click the **Section** command, and choose **Rename Section** from the drop-down menu.
6. Enter your new section name in the dialog box. Then click **Rename**.
7. Repeat to add as many sections as you need.
8. In the left pane, click the **arrow** next to a section name to collapse or expand it.

Adding Notes to Slides



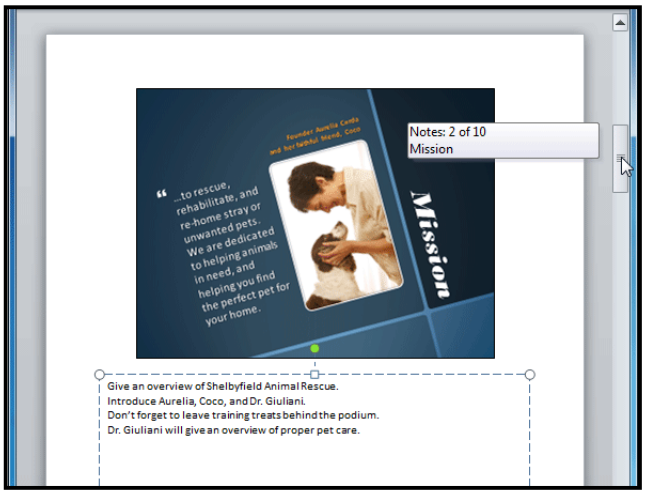
PowerPoint gives you the ability to add notes to your slides, often called speaker notes, to help you deliver or prepare for your presentation. You can enter and view your speaker notes using the Notes pane or the Notes Page View.

To Use the Notes Pane:

1. Locate the **Notes** pane at the bottom of the screen, directly below the **Slide** pane.
2. Click and **drag** the edge of the pane to make it bigger or smaller, if desired.
3. Type your notes in the **Notes** pane.

To Use the Notes Page View:

1. Go to the **View** tab.
2. Click the **Notes Page** command in the **Presentation Views** group.
3. Type your notes in the **text box**, or use the **scroll bar** to review your slides.



Lesson: 3

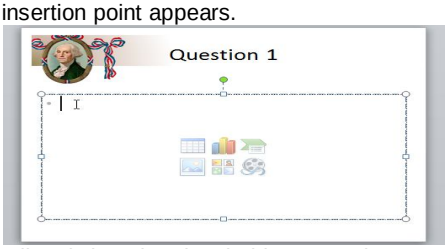
Inserting Text, Themes & Images

Inserting Text

It is important to know how to perform basic tasks with text, Theme & Images, when working in PowerPoint; you will learn the basics of working with text, Themes & Images including how to insert, delete, and move text, Images & Themes.

To Insert Text:

1. Click the ***placeholder*** or ***text box*** where you want to insert text.
2. The insertion point appears.



3. Type directly into the placeholder or text box.
   Some placeholders automatically format your text in a **bulleted list**. This is because bulleted lists are so frequently used in PowerPoint. To remove the bullets, deselect the **Bullets** command in the **Paragraph** group on the **Home** tab.

To Delete Text:

1. Place the **insertion point** next to the text you wish to delete.
2. Press the **Backspace** key on your keyboard to delete text to the **left** of the insertion point.
3. Press the **Delete** key on your keyboard to delete text to the **right** of the insertion point.

To Select Text:

1. Place the **insertion point** next to the text you wish to select.
2. Click the mouse button, and, while holding it down, drag the mouse over the text.
3. Release the mouse. The text will be selected. A **highlighted box** will appear over the selected text.
   When you select text in PowerPoint, a **hover toolbar** with formatting options appears. This makes formatting commands easily accessible, which may save you time. If the toolbar does not appear at first, try moving the mouse over the selection.

To Copy and Paste Text:

1. Select the text you wish to copy.
2. Click the **Copy** command on the Home tab. You can also right-click your selection and choose **Copy**.
3. Place your insertion point where you wish the text to appear.
4. Click the **Paste** command on the Home tab. The text will appear.

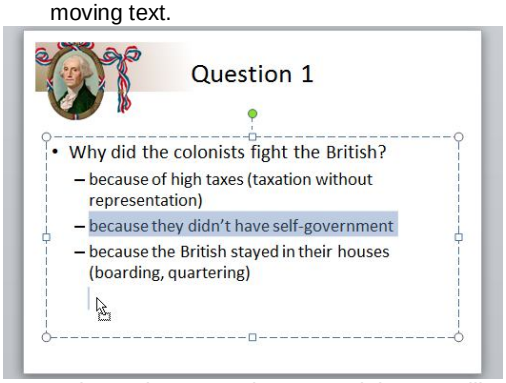
To Cut and Paste Text:

1. Select the text you wish to cut.
2. Click the **Cut** command on the **Home** tab. You can also right-click your selection and choose **Cut**.
3. Place your insertion point where you wish the text to appear.
4. Click the **Paste** command on the Home tab. The text will reappear.

You can also cut, copy, and paste by right-clicking your slide and choosing the desired action from the drop-down menu. When you use this method to paste, you can choose from four options that determine how the text will be formatted: **Use Destination Theme**, **Keep Source Formatting**, **Picture** and **Keep Text Only**. You can hover the mouse over each icon to see what it will look like before you click it.

To Drag and Drop Text:

1. Select the text you wish to copy.
2. Click, hold, and **drag** your mouse to the location where you want the text to appear. The cursor will have a rectangle under it to indicate that you are moving text.



3. Release the mouse button, and the text will appear.

If text **does not appear** in the exact location you wish, you can press the **Enter** key on your keyboard to move the text to a new line.

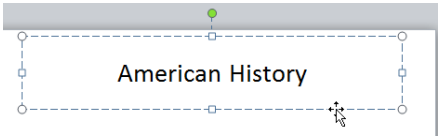
Find and Replace

Find and Replace is another technique that can be used to edit text. Find and Replace allows you to search all of your slides for a specific word or phrase (for example, "English"), then replace it with another word or phrase (for example, "British").

To Add a Text Box:

Text can be inserted into both **placeholders** and **text boxes**. A **placeholder** *is* a kind of text box, but is unique because it is part of the **slide layout**, and often contains

formatting specific to the slide (for example, a larger font size for the title of your presentation). Inserting an extra **text box** allows you to **add** to the slide layout, so you can include as much text as you want.



1. From the **Insert** tab, click the **Text Box** command.
2. Your cursor will turn into an **upside-down cross** .
3. Click the area on your slide where you want to add a text box. A text box will appear with an **insertion point** inside.

To Move a Placeholder or Text Box:

1. Click the box you would like to move.
2. Position your mouse on the **border** of the box so it changes to a **cross with arrows** .
3. Click and hold the mouse button as you **drag** the box to the desired location.
4. Release the mouse button. The box will be moved.

   To rotate the box, click and drag on the green circle at the top of the box.

To Resize a Placeholder or Text Box:

1. Click the box you wish to resize**.**
2. Position your mouse over any one of the **sizing handles** that appear on the corners and sides of the box. The cursor will become a pair of **arrows** .
3. Click, hold, and **drag** your mouse until the text box is the desired size.
4. Release the mouse button. The box will be resized.

To Insert a Bulleted List:

1. Select the text box (or specific text) that you want to format as a bulleted list.
2. Click the **Bullets** command in the **Paragraph** group on the **Home** tab.
3. A bulleted list will appear.

To Change Horizontal Text Alignment:

1. Select the text you wish to modify.
2. Select one of the four **alignment options** in the **Paragraph** group.

- **Align Text Left:** Aligns all the selected text to the left margin.
- **Center:** Aligns text an equal distance from the left and right margins.
- **Align Text Right:** Aligns all the selected text to the right margin.
- **Justify:** Justified text is equal on both sides and lines up equally to the right and left margins. Many newspapers and magazines use full-justification.

The alignment commands align the text within the placeholder or text box it is in, not across the slide.

To Change Vertical Text Alignment:

1. Select the text your wish to modify.
2. Click the **Align Text** command in the **Paragraph** group. A menu will appear.
3. Choose to align the text at the **Top**, **Middle**, or **Bottom** of the text box.

To Change Text Direction:

1. Select the text your wish to modify**.**
2. Click the **Text Direction** command in the **Paragraph** group. A menu will appear.
3. Choose for the direction of the text to be **Horizontal**, **Rotated**, or **Stacked**.

Applying a Theme

A theme is a predefined combination of colors, fonts, and effects that can be applied to your presentation. PowerPoint includes built-in themes that allow you to easily create professional-looking presentations without spending a lot of time formatting.

A theme is a set of colors, fonts, effects, and more that can be applied to your entire presentation to give it a consistent, professional look. You've already been using a theme, even if you didn't know it: the default Office theme, which consists of a white background, the Calibri font, and primarily black text. Themes can be applied or changed at any time.

Theme Elements

Every PowerPoint theme, including the default Office theme, has its own theme elements. Those elements are:

- **Theme Colors** (available from every **Color** menu)
- **Theme Fonts** (available from the **Font** menu)
- **Shape Styles** (available in the **Format** tab when you click on a shape)

Why Use Theme Elements?

If you're using theme elements, you'll probably find that your presentation looks pretty good. All of the colors will work well together, which means you won't have to spend as much time formatting your presentation. But there's another great reason to use theme elements: when you switch to a different theme, **all of those elements will update** to reflect the new theme. You can drastically change the look of your presentation in just a couple clicks.

Remember, the colors and fonts will only update if you're using **Theme Fonts** or **Theme Colors**. If you choose one of the **Standard Colors** or any of the **Fonts** that are not **Theme Fonts**, then your text will not change when you change the theme. That can be useful if you're creating a logo or title that always needs to look the same.

Themes and Slide Layouts

As you can see from the two different **Title Slides** above, themes also affect the various **slide layouts**.

If you apply a theme before you start building your presentation, you will be able to arrange your content to fit

the layouts you have to choose from. If you apply the theme after, the text boxes and placeholders may move depending on the theme you choose.

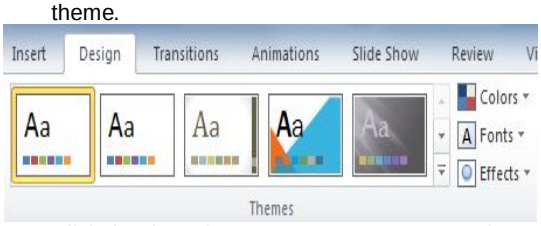
Applying Themes

To Insert an Image From a File:

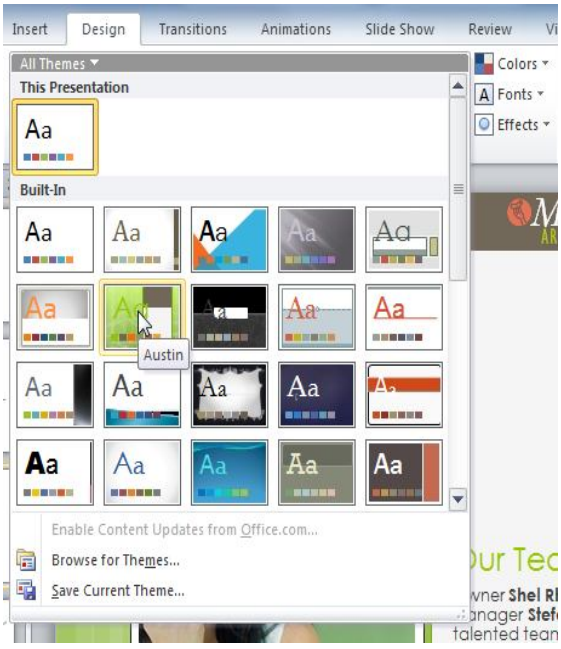
You will need to know how to **apply** a theme and how to switch to a different theme if you want to use this feature to create presentations. All of the themes that are included in PowerPoint are located in the **Themes** group on the **Design** tab. Themes can be applied or changed at any time.

To Apply a Theme:

1. Go to the **Design** tab.
2. Locate the **Themes** group. Each image represents a theme.



3. Click the drop-down arrow to access more themes.
4. Hover over a theme to see a **live preview** of it in the presentation. The name of the theme will appear as you hover over it.
5. Click a theme to apply it to the slides.



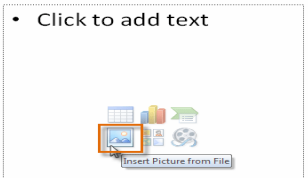
Inserting Images

Adding images to your presentations makes them more interesting and engaging. Pictures, clip art and screenshots can be inserted into PowerPoint to help you effectively communicate your ideas to your audience.

1. Select the **Insert** tab.
2. Click the **Picture** command in the **Images** group. The Insert Picture dialog box appears.

3. Select the desired image file and click **Insert**.
4. The picture will appear in your slide.

You can also select the **Insert Picture from File** command in a **placeholder** to insert images.

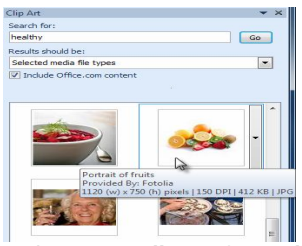


To Locate Clip Art:

1. Select the **Insert** tab.
2. Click the **Clip Art** command in the **Images** group.
3. The clip art options appear in the **task pane** to the right of the document.
4. Enter keywords in the **Search for:** field that are related to the image you wish to insert.
5. Click the drop-down arrow in the **Results should be:** field.
6. Deselect any types of media you do not wish to see.
7. If you would like to also search for clip art on Office.com, place a checkmark next to **Include Office.com content**. Otherwise, it will just search for clip art on your computer.
8. Click **Go**.

To Insert Clip Art:

1. Review the results from a clip art search in the **Clip Art** pane.
2. Select the desired image.
3. The clip art will appear in your slide.



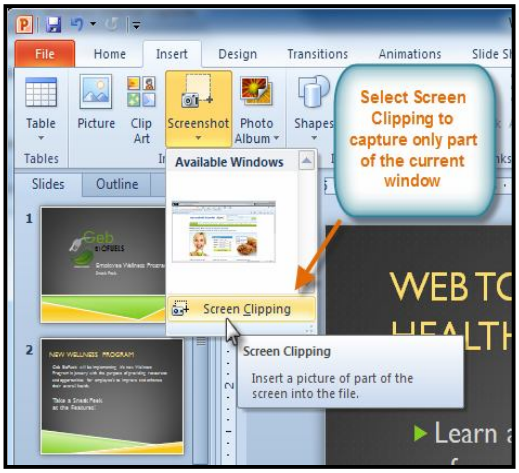
You can also select the **Insert Clip Art from File** command in a **placeholder** to insert clip art.

Inserting Screenshots

Screenshots are pictures that capture the visible windows and items displayed on your computer screen. They may include an open window of a website, items on your desktop or an open program, like the PowerPoint images displayed in this tutorial. These images can be useful for explaining or displaying computer programs, functions and websites. PowerPoint allows you to capture an image of an entire window or a **screen clipping** of part of a window.

To Insert Screenshots of a Window:

1. Select the **Insert** tab.
2. Click the **Screenshot** command in the **Images** group.
3. The **Available Windows** from your desktop will appear. Select the window you would like to capture as a screenshot.
4. The screenshot will appear in your slide.



Inserting a Screen Clipping from a Window:

1. Select the **Insert** tab.
2. Click the **Screenshot** command and select **Screen Clipping**.
3. A faded view of your current desktop will appear and your cursor will turn into a cross shape +.
4. Click, hold and drag on the area of the window that you want to capture.
5. The screen clipping will appear in your slide.

To Resize an Image:

1. Click on the image.
2. Position your mouse over any one of the **corner sizing handles**. The cursor will become a pair of directional arrows ⟷ .
3. Click, hold, and **drag** your mouse until the image is the desired size.
4. Release the mouse. The image will be resized.

The side sizing handles change the image's size, but do not keep the same proportions. If you want to keep the image's proportions, always use the corner handles.

To Move an Image:

1. Click on the image. The cursor will turn into a cross with arrows.
2. While holding down the mouse button, **drag the image** to the desired location.
3. Release the mouse button. The box will be moved.

To rotate the image, click and drag on the green circle located at the of the image.

Lesson: 4

Inserting WordArt, Shapes, Tables & Charts

Inserting Word Arts

PowerPoint allows you to add effects to the text inside of a text box, which is known as WordArt. For the most part, the types of effects you can add are the same as the ones you can add to shapes and text boxes (shadow, bevel, etc.). However, with WordArt, you can also Transform the text to give it a wavy, slanted, or inflated look.

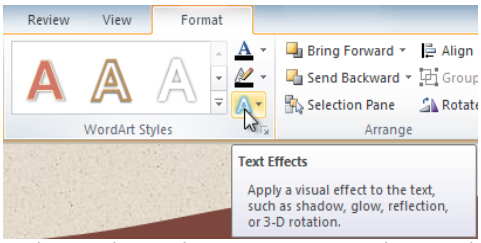
To Apply a WordArt Style to Text:

A **WordArt Style** will automatically apply several effects to your text at once. You can then refine the look of your text by adding or modifying text effects.

1. Select the text box, or select some text inside of the text box. The **Format** tab will appear.
2. Click the **Format** tab.
3. In the **WordArt Styles** group, click the **More** drop-down arrow to view all of the available styles.
4. Select the desired style preset to apply the style to your text.

To Add or Modify Text Effects:

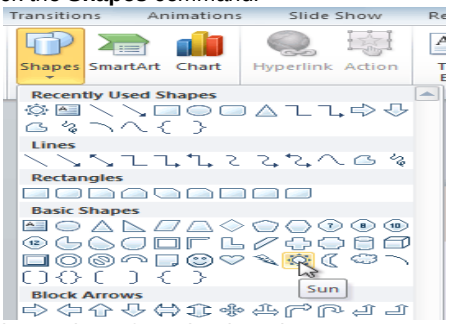
1. Select the text box, or select some text inside of the text box. The **Format** tab will appear.
2. Click the **Format** tab.
3. Click the **Text Effects** command in the **WordArt Styles** group. A drop-down menu will appear showing the different **effect categories**.
4. Hover over an effect category. A drop-down menu will appear. You can hover the mouse over the different presets to see a live preview.
5. Select the desired effect preset. The effect will be applied to your text. If you want, you can combine several different effects.



In the WordArt Styles group, you can also use the **Text Fill** and **Text Outline** drop-down boxes to modify the **fill**and **outline** color.

Inserting a Shape

1. Select the **Insert** tab.
2. Click the **Shapes** command.



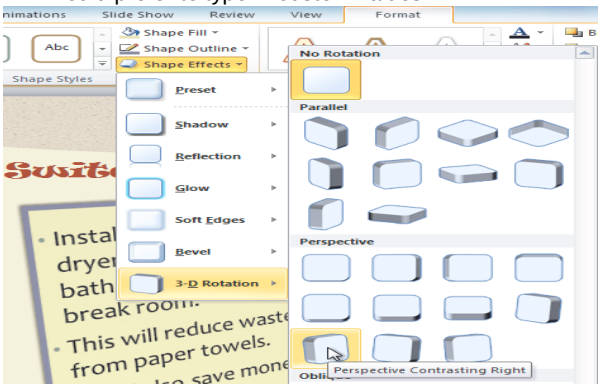
3. Select a shape from the drop-down menu.
4. Click and drag the mouse until the shape is the desired size.
5. Release the mouse button.

3-D Effects to Shapes

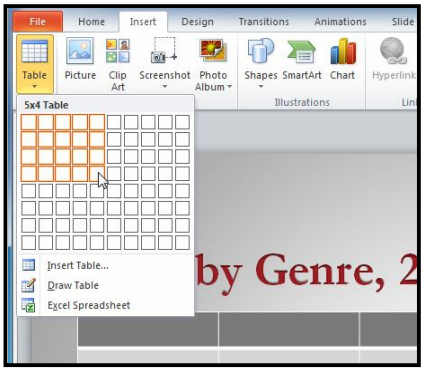
There are two kinds of effects that you can apply to your shapes and text boxes to give them a 3-D appearance: **3-D Rotation** and **Bevel**. **3-D Rotation** gives the appearance that you are viewing the object from a different angle, and it can be applied to any shape. **Bevel** adds thickness and a rounded edge to shapes, but it doesn't work with every type of shape.

To Use 3-D Rotation:

1. Select the shape or text box.
2. Click on the **Format** tab.
3. Click **Shape Effects** from the **Shape Styles** group.
4. Hover the mouse over **3-D Rotation**. A drop-down menu will appear.
5. Select the desired **rotation preset** from the drop-down menu. You can also click **3-D Rotation Options** if you would prefer to type in custom values.



Inserting Table



1. On the **Insert** tab, click the **Table** command.
2. Hover your mouse over the diagram squares to select the number of **columns** and **rows** in the table.
3. Click your mouse. The table will appear on the slide.
4. You can now place the insertion point anywhere in the table to add text.

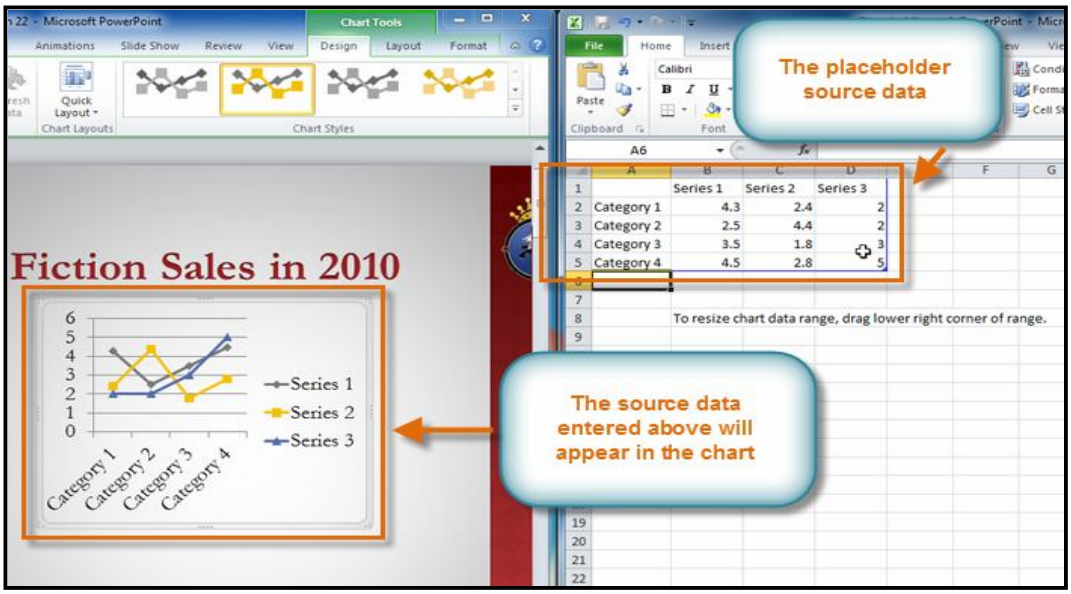
To make sure your table looks good with the slide layout, you can also insert a table using the **placeholder**. Click the **Insert Table** icon in the placeholder, then enter the desired number of rows and columns.

Inserting Charts

PowerPoint uses an **Excel worksheet** as a placeholder for entering chart data. Therefore, when you insert or edit a chart in PowerPoint, an Excel window will automatically open.

To Insert a Chart:

1. Select the **Insert** tab.
2. Click the **Insert Chart** command in the **Illustrations Group**. The **Insert Chart** dialog box will appear.
3. Select a **category** from the left pane of the dialog box and review the **charts** that appear in the center.
4. Select the desired chart.
5. Click **OK**. An Excel window will open with a placeholder for your data.



Lesson: 4

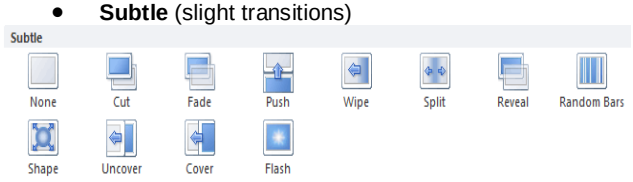
Transition & Slide Show

Transitions are motion effects that, when in Slide Show View, add movement to your slides as you advance from one slide to another. There are many transitions to choose from; each one allows you to control the speed, and even add sound.

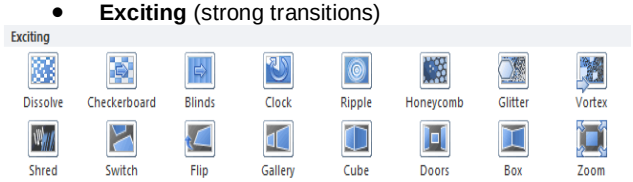
About Transitions

You can apply different transitions to some or all of your slides to give your presentation a polished, professional look. There are three categories of unique transitions to choose from, all of which can be found on the ***Transitions tab***:

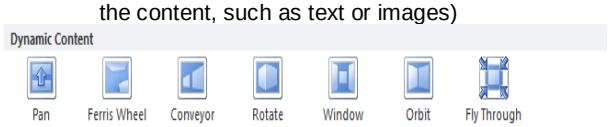
- **Subtle** (slight transitions)



- **Exciting** (strong transitions)

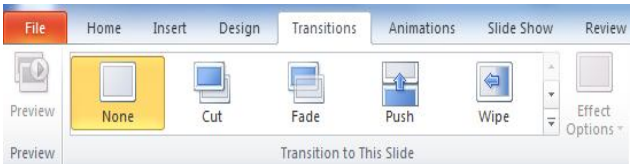


- **Dynamic Content** (strong transitions that affect only the content, such as text or images)



To Apply a Transition:

1. Select the **slide** you wish to modify.
2. Click the **Transitions** tab.
3. Locate the **Transition to This Slide** group. By default, **None** is applied to each slide.



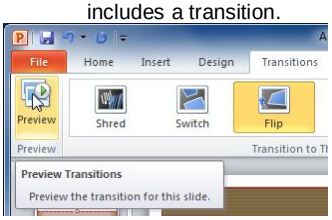
4. Click the **More** drop-down arrow to display all the transitions.
5. Click a **transition** to apply it to the selected slide. This will automatically preview the transition as well.

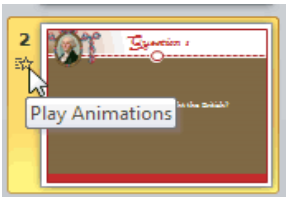
When working with transitions, the Apply To All command in the Timing group can be used at any time to make your presentation uniform. Use this command with caution. Not only does it apply the same transition to every slide; it also applies the settings in the Timing group, which you may not want to be the same throughout your presentation.

To Preview a Transition:

You can **preview** the transition for a selected slide at any time, using either of these two methods:

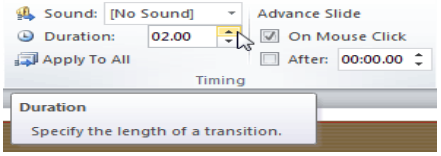
- Click the **Preview** command on the **Transitions** tab.
- Click the star **Play Animations** icon. The icon appears on the **Slides** tab in the **left pane** beside any slide that includes a transition.





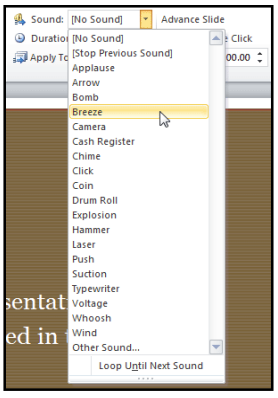
To Modify the Duration:

1. Select the slide that includes the **transition** you wish to modify.
2. In the **Duration** field in the **Timing** group, enter the amount of time you want the transition to take. In this example, we will specify the length as 2 seconds, or 02.00.



To Add Sound:

1. Select the slide that includes the **transition** you wish to modify.
2. Click the **Sound** drop-down menu in the **Timing** group.
3. You will hear the sound and see a live preview of the transition as you hover over each sound.
4. Click a **sound** to apply it to the selected slide.



To Remove a Transition:

1. Select the **slide** you wish to modify.
2. Choose **None** from the gallery in the **Transition to This Slide** group.
3. Repeat this process for each slide you want to modify.

To remove transitions from **all slides**, select a slide that uses **None**, and click the **Apply to All** command.

To Advance Slides Automatically:

Normally, in Slide Show View, you would advance to the next slide by clicking your mouse (or pressing Enter on your keyboard). Using the **Advance Slides** settings in the **Timing** group, you can set your presentation to advance on its own instead, and display each slide for a specific amount of time. This is useful for unattended presentations, such as at a trade show booth.

1. Select the slide you wish to modify.
2. Locate the **Timing** group on the **Transitions** tab.
3. Under **Advance Slide**, uncheck the box next to **On Mouse Click**.
4. In the **After** field, enter the amount of time you want to display the slide. In this example, we will advance the slide automatically after 1 minute 30 seconds, or 01:30:00.
5. Select another slide and repeat the process until all the desired slides have the appropriate timing.

Presenting Slide Show

Once your slide show is completed, you will need to learn how to present it to an audience. PowerPoint offers several tools and features that can assist you in making your presentation smooth, engaging and professional.

To Start Slide Show:

1. Select the **Slide Show** tab.
2. Click the **From Beginning** command in the **Start Slide Show** group to start the slide show with the first slide.

You can also start the slide show from the slide you prefer by selecting the slide and clicking on **From Current Slide** from the Start Slide Show group. This option is convenient if you only want to view or present certain slides.

Another option for starting the slide show is to select **Slide Show** view at the bottom of the window.

Starting Slide Show view option

To Advance and Reverse Slides:

1. Hover your mouse over the bottom right of the screen. A menu will appear.
2. Click on the **right arrow** to advance slides or click on the **left arrow** to reverse slides.

Advance or reverse slides

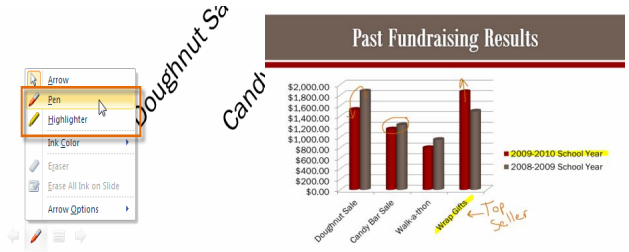
You may also use the **arrow keys** on your keyboard to advance and reverse slides.

To Stop or End Slide Show:

To end slide show, hover and select the **menu box options** command and click **End Show**. You can also press the **"Esc"** key at the top left of your keyboard to end show.

To Access the Pen or Highlighter:

1. Hover and click on the **pen menu option** in the bottom left of your screen.
2. Select **Pen** or **Highlighter** based on your preference.



3. Use the pointer to **draw on or mark your slides**.

From the same menu, you can also **change the color** of the pen or highlighter. Keep in mind that light color choices are best for the highlighter.

To Erase Ink Markings:

1. Hover and click on the **pen menu option** in the bottom left of your screen.
2. Select **Eraser** to erase individual ink markings or select **Erase All Ink on Slide** to erase all markings.

When you end your slide show, you also have the option to **Keep** or **Discard** (erase) any ink markings you made during your presentation.

To Jump to a Non-Adjacent Slide:

1. Hover and click on the **menu box option** in the bottom left of your screen.
2. Select **Go to Slide** and choose the slide you would like to jump to in your presentation.

To Access the Desktop:

Sometimes you may need to access the Internet or other files and programs on your computer during your presentation. PowerPoint allows you to access your desktop task bar without ending your presentation.

1. Hover and click on the **menu box option** in the bottom left of your screen.
2. Select **Screen** and then click on **Switch Programs**.
3. Your computer's **task bar** will appear. Choose a program you would like to switch to.

Menu Access Options:

You can also access any of the above menu items by **right-clicking** anywhere on the screen during your slide show.

- Switch between the pen pointer and mouse pointer by pressing **"Ctrl + P"** (pen) or **"Ctrl + M"** (mouse) on the keyboard.
- Press **"E"** on the keyboard to erase any ink markings while using the pen or highlighter.

To Access Slide Show Set Up Options:

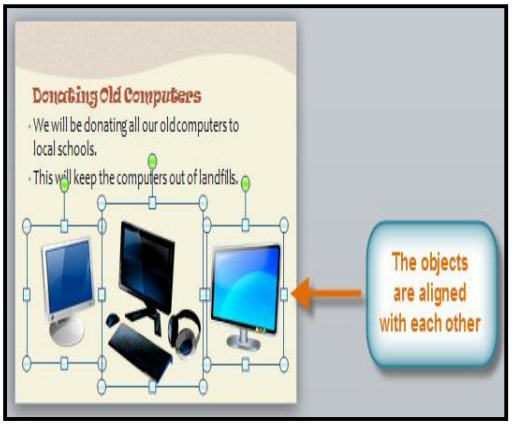
1. Select the **Slide Show** tab.
2. Click the **Set Up Show** command.
3. The Set Up Show dialog box will appear.
4. Click **OK** to apply the settings to the slide show.

Lesson: 5

Aligning & Animating Objects

In PowerPoint, each slide may have multiple items, such as pictures, shapes and text boxes. PowerPoint lets you arrange the objects the way you want by aligning, grouping, rotating, and ordering them in various ways.

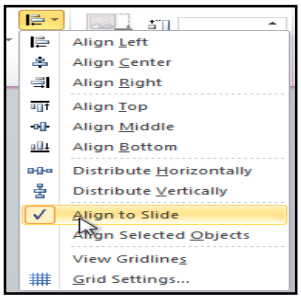
Aligning Objects



You can **click** and **drag objects** to align them manually, but guesswork will never give you the best result. Additionally, aligning objects in this way can take a great deal of time. Luckily, PowerPoint provides you with several commands that allow you to **easily arrange** and position objects

To Align Two or More Objects:

1. Click and drag your mouse to form a **selection box** around the objects you want to align. All of the objects will now have **sizing handles** to show that they are selected.
2. From the **Format** tab, click the **Align** command and select **Align Selected Objects**.
3. Click the **Align** command again and select one of the six **alignment options**.
4. The objects will align to each other based on the option that you have selected.



To Align Objects to the Slide:

Sometimes, you may wish to align one or more objects to a specific location within the slide, such as the top or bottom. You can do this by simply selecting the Align to Slide option before you align the objects.

1. Click and drag your mouse to form a **selection box** around the objects you want to align. All of the objects will now have **sizing handles** to show that they are selected.
2. From the **Format** tab, click the **Align** command and select **Align to Slide**.
3. Click the **Align** command again and select one of the six **alignment options**.
4. The objects will align to the slide based on the option that you have selected.

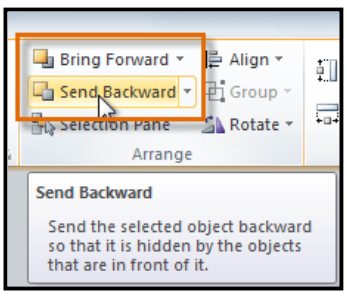
To Distribute Objects Evenly:

If you have arranged objects in a row or column, you may want them to be an equal distance from one another for a neater appearance. You can do this by distributing the objects horizontally or vertically.

1. Click and drag your mouse to form a **selection box** around the objects you want to align. All of the objects will now have **sizing handles** to show that they are selected.
2. From the **Format** tab, click the **Align** command.
3. From the menu, select **Distribute Horizontally** or **Distribute Vertically**.

To Change the Ordering by One Level:

1. Select an object. The Format tab will appear.
2. From the **Format** tab, click the **Bring Forward** or **Send Backward** command to change the object's ordering by **one level**. If the object overlaps with more than one other object, you may need to click the command **several times** to achieve the desired ordering.
3. The objects will reorder themselves.



To Bring an Object to the Front or Back:

If you want to move an object behind or in front of several objects, it's usually faster to bring it to front or send it to back rather than clicking the ordering commands multiple times.

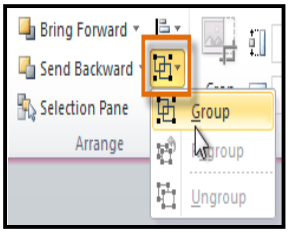
1. Select an object. The Format tab will appear.
2. From the **Format** tab, click the **Bring Forward** or **Send Backward** drop-down box.
3. From the drop-down menu, select **Bring to Front** or **Send to Back**.
4. The objects will reorder themselves.

To Rotate an Object:

1. Select an object. The Format tab will appear.

2. From the **Format** tab, click the **Rotate** command. A drop-down menu will appear.
3. Select the desired **rotation option**.
4. The object in the slide will rotate.

To Group Objects:



1. Click and drag your mouse to form a **selection box** around the objects you want to align. All of the objects will now have **sizing handles** to show that they are selected.
2. From the **Format** tab, click the **Group** command and select **Group**.

3. The selected objects will now be grouped. There will be a **single box with sizing handles** around the entire group to show that they are one object.

If you select the objects and the Group command is disabled, it may be because one of the objects is inside a place holder. If this happens, try reinserting the images or cutting and pasting them into the same slide outside of any placeholders.

To Ungroup Objects:

1. Select the grouped object that you wish to ungroup.
2. From the **Format** tab, click the **Group** command and select **Ungroup**.
3. The objects will be ungrouped.

Animating Text and Objects

In PowerPoint you can animate text and objects such as clip art, shapes, and pictures. Animation, or movement, on the slide can be used to draw the audience's attention to specific content or to make the slide easier to read.

The Four Types of Animations

There are many different animation effects that you can choose from, and they are organized into four types:

- **Entrance:** These control how the object enters the slide. For example, with the **Bounce** animation, the object will "fall" onto the slide and then bounce several times.

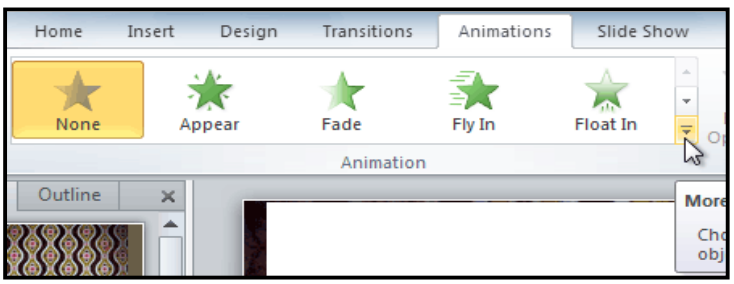
- **Emphasis:** These animations occur while the object is on the slide, often triggered by a **mouse click**. For example, you can set an object to **Spin** when you click the mouse.

- **Exit:** These control how the object exits the slide. For example, with the **Fade** animation, the object will simply fade away.

- **Motion Paths:** These are similar to **Emphasis** effects, except the object moves within the slide along a pre-determined path, for example a **circle**.

To Apply an Animation to an Object:

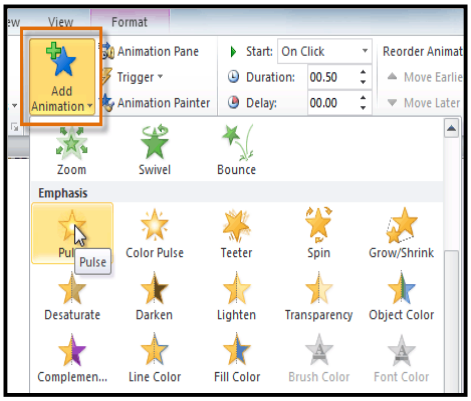
1. Select an object.
2. Click the **Animations** tab.
3. In the **Animation** group, click the **More** drop-down arrow to view the available animations.
4. Select the desired animation effect.
5. The object will now have a small **number** next to it to show that it has an animation. Also, in the Slide pane, the slide will now have a **star** symbol next to it.
   At the bottom of the menu, you can access even more effects.



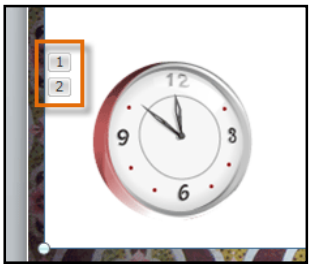
Effect Options

Some effects will have options that you can change. For example, with the Fly In effect, you can control which direction the object comes from. These options can be accessed from the **Effect Options** command in the **Animation group**.

To Add Multiple Animations to an Object:

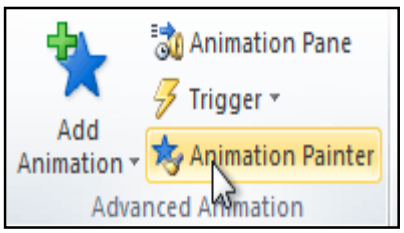


If you select a new animation from the menu in the Animation group, it will replace the object's current animation. However, you'll sometimes want to place more than one animation on an object, for example an Entrance and an Exit effect. To do this, you'll need to use the Add Animation command, which will allow you to keep your current animations while adding new ones.

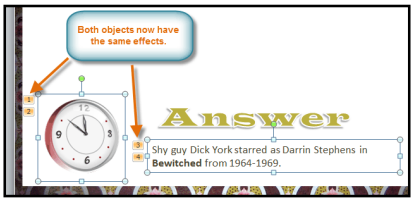


1. Select the object.
2. Click the **Animations** tab.
3. In the **Advanced Animation** group, click the **Add Animation** command to view the available animations.
4. Select the desired animation effect.
5. If the object has more than one effect, it will have a different **number** for each effect. The numbers indicate the **order** in which the effects will occur.

To Copy Animations with the Animation Painter:



In some cases, you may want to apply the same effects to more than one object. You can do that by copying the effects from one object to another using the Animation Painter.



1. Click on the object that has the effects that you want to copy.
2. From the **Animations** tab, click the **Animation Painter** command.
3. Click on the object that you want to copy the effects to. The effects will be applied to the object.

To Reorder the Animations:

1. Select the **number** of the effect that you want to change.
2. From the **Animations** tab, click the **Move Earlier** or **Move Later** commands to change the ordering.

To Preview Animations:

Any animation effects that you have applied will show up when you play the slide show. However, you can also quickly preview the animations for the current slide without viewing the slide show.

1. Navigate to the **slide** that you want to preview.
2. From the **Animations** tab, click the **Preview** command. The animations for the current slide will play.

The Animation Pane

The Animation Pane allows you to view and manage all of the effects that are on the current slide. You can modify and reorder effects directly from the Animation Pane, which is especially useful when you have a large number of effects.

To Open the Animation Pane:

1. From the **Animations** tab, click the **Animation Pane** command.
2. The Animation Pane will open on the right side of the window. It will show all of the effects for the current slide in the order that they will appear.

To Reorder Effects from the Animation Pane:

1. On the **Animation Pane**, click and drag an effect up or down.
2. The effects will reorder themselves.

To Preview Effects from the Animation Pane:

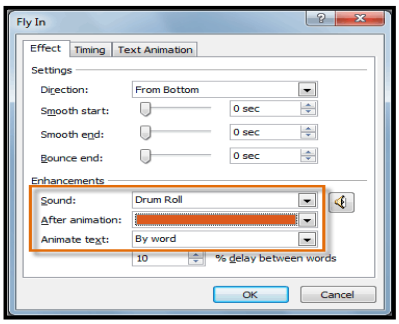
1. From the **Animation Pane**, click the **Play** button.
2. The effects for the current slide will play. On the right side of the Animation Pane, you will be able to see a **timeline** that shows the progress through each effect.
   If the timeline is not visible, click the drop-down arrow for an effect and select **Show Advanced Timeline**.

To Change an Effect's Start Option:

By default, an effect starts playing when you click the mouse during a slide show. If you have multiple effects, you will need to click multiple times to start each effect individually. However, by changing the start option for each effect, you can have effects that automatically play at the same time or one after the other.

1. From the **Animation Pane**, select an effect. A drop-down arrow will appear next to the effect.
2. Click the drop-down arrow. You will see three **start options**:
   - **Start on Click:** This will start the effect when the mouse is clicked.
   - **Start With Previous:** This will start the effect at the same time as the previous effect.
   - **Start After Previous:** This will start the effect when the previous effect ends.

To Open the Effect Options Dialog Box:



1. From the **Animation Pane**, select an effect. A drop-down arrow will appear next to the effect.
2. Click the drop-down arrow and select **Effect Options**. The Effect Options dialog box will appear.
3. From here, you can add various **enhancements** to the effect:
   - **Sound:** Adds a sound effect to the animation.
   - **After animation:** Changes the color or hides the object after the animation is over.
   - **Animate text:** If you are animating text, you can choose to animate it **all at once**, **one word at a time**, or **one letter at a time**.

   Some effects have **additional options** that you can change. These will vary depending on which effect you have selected.

To Change the Effect Timing:

1. From the **Effect Options** dialog box, select the **Timing** tab.
2. From here, you can add a **delay** before the effect starts, change the **duration** of the effect, and control whether or not the effect **repeats**.
3. Select the desired start option.

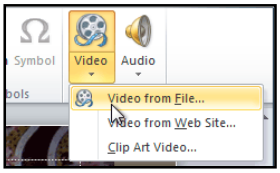
   When you **preview** the animations, all of the effects will play through automatically. To test effects that are set to**Start on Click**, you will need to play the slide show.

Lesson: 6

Inserting Video & Audio

Inserting Video

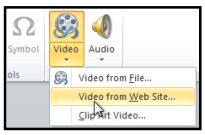
Videos are a great way to make your presentations more engaging for your audience. PowerPoint allows you to insert a video from a file on your computer or from a web site such as ***YouTube***. You can even edit the video within PowerPoint and customize its appearance with a Video Style.



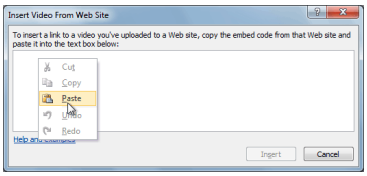
To Insert a Video from a File on Your Computer:

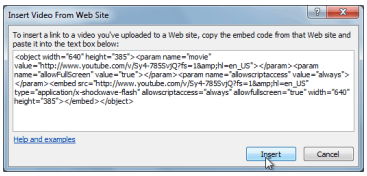
1. From the Insert tab, click the Video drop-down arrow and select Video from File.
2. Locate and select the desired video file and then click **Insert**.
3. The video will be added to the slide.

To Insert a Video from a Web Site:



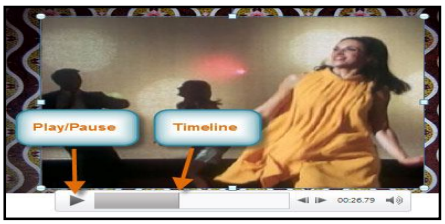
Some web sites, like ***YouTube or Hulu***, allow you to embed videos in a blog, Facebook profile, or other web page. In PowerPoint, you can embed videos in your slides in a same way. This feature only works with web sites that provide embed code, and the embed code from some sites may not work with PowerPoint.





1. On the web site that contains the video (YouTube, for example), locate and copy the **embed code**.
2. In PowerPoint, click the **Insert** tab.
3. Click the **Video** drop-down arrow, and select **Video from Web Site**.
4. In the space provided, right-click and select **Paste**. The embed code will appear.
5. Click **Insert**. The video will be added to the slide.

To Preview the Video:



1. Make sure the video is selected.
2. Click the **Play/Pause** button below the video. The video will start playing, and the **timeline** next to the Play/Pause button will begin to advance.
3. To jump to a different part of the video, click anywhere on the **timeline**.

If you are using an embedded video from a web site, you may need to click the **Play** button in the **Playback** tab in order to view the video's playback controls (the Play button is also located on the Format tab).

To Resize the Video:

1. Select the video. A box with **resizing handles** will appear around the video.
2. Click and drag any of the handles to resize the movie.

Edit and Format Video

The **Playback** tab has several options that you can use to edit your video. For example, you can **trim** your video so that it will only play an excerpt, add a **fade in** and **fade out**, and add **bookmarks** that allow you to jump to specific points in the video.
Most of the features on the Playback tab can only be used with videos that are inserted from a file. They will not work with embedded videos.

To Trim the Video:

1. From the **Playback** tab, click the **Trim Video** command. The Trim Video dialog box will appear.
2. Use the **green** and **red** handles to set the start time and end time.
3. To preview the video file, click the **Play** button.
4. Adjust the green and red handles again if necessary, and then click **OK**.

To Add a Fade In and Fade Out:

1. On the **Playback** tab, locate the **Fade In** and **Fade Out** fields.
2. Type in the desired values, or use the **up** and **down** arrows to adjust the times.

To Add a Bookmark:

1. Click the **Play/Pause** button to play the video, and when you have located the part that you want to bookmark, **pause** it. You can also click the **timeline** to locate the desired part of the video.
2. From the **Playback** tab, click **Add Bookmark**.
3. A small circle will appear on the timeline to indicate the bookmark.
4. You can now click the bookmark to jump to that location.

To Remove a Bookmark:

1. Select the bookmark.
2. From the **Playback** tab, click **Remove Bookmark**. The bookmark will disappear.

Video Options

There are other options that you can set to control how your video plays, and these are found in the **Video Options** group on the **Playback** tab:-

- **Volume:** Changes the audio volume in the video.
- **Start:** Controls whether the video file starts **automatically** or when the mouse is **clicked**.
- **Play Full Screen:** Lets the video fill the entire screen while it is playing.
- **Hide While Not Playing:** Hides the video when it is not playing.
- **Loop until Stopped:** Causes the video to repeat until it is stopped.
- **Rewind after Playing:** Causes the video to return to the beginning when it is finished playing.

To Create a Poster Frame:

1. Select the video.
2. Start playing the video. When you see the frame that you want to use, click the **Play/Pause** button to pause it.
3. From the **Format** tab, click the **Poster Frame** command. A drop-down menu will appear.
4. Select **Current Frame**.
5. The current frame will become the poster frame.

If you would prefer to use a picture from your computer, you can select **Image from file** from the menu.

To Apply a Video Style:

1. Select the video. The **Format** tab will appear.
2. Select the **Format** tab.
3. In the **Video Styles** group, click the **More** drop-down arrow to display all the video styles.
4. Select the desired style.
5. The new style will be applied to the video.

To Insert Audio from a File on Your Computer:

1. From the **Insert** tab, click the **Audio** drop-down arrow and select **Audio from File**.
2. Locate and select the desired audio file and then click **Insert**.
3. The audio file will be added to the slide.

To Record Audio:

1. From the **Insert** tab, click the **Audio** drop-down arrow and select **Record Audio**.
2. Type a **name** for the audio recording, if desired.
3. Click the red **Record** button to start recording.
4. When you're finished recording, click the **Stop** button.
5. To preview your recording, click the **Play** button.
6. When you're done, click **OK**. The audio file will be inserted into the slide.

To Insert Clip Art Audio:

1. From the **Insert** tab, click the **Audio** drop-down arrow and select **Clip Art Audio**. The Clip Art pane will appear on the right.
2. Enter keywords in the **Search for:** field and click **Go**.
3. The results will appear in the Clip Art pane. To preview an audio file, right-click the file and select **Preview/Properties**.
4. A dialog box will appear, and the audio file will start playing automatically (it may take a few seconds to load). To play it again, press the **Play** button.
5. When you're finished previewing the file, click **Close**.
6. Once you have found the audio file that you want to use, click it to insert it into the slide.

To Trim the Audio:

1. From the **Playback** tab, click the **Trim Audio** command. The Trim Audio dialog box will appear.
2. se the **green** and **red** handles to set the start time and end time.
3. To preview the audio file, click the **Play** button.
4. Adjust the green and red handles again if necessary, and then click **OK**.

To Add a Fade In and Fade Out:

1. On the **Playback** tab, locate the **Fade In** and **Fade Out** fields.
2. Type in the desired values, or use the **up** and **down** arrows to adjust the times.

To Add a Bookmark:

1. Click the **Play/Pause** button to play the audio file, and when you have located the part that you want to bookmark, **pause** it. You can also click the **timeline** to locate the desired part of the audio file.
2. From the **Playback** tab, click **Add Bookmark**.
3. A small circle will appear on the timeline to indicate the bookmark.
4. You can now click the bookmark to jump to that location.

Audio Options

There are other options that you can set to control how your audio file plays, and these are found in the **Audio Options** group on the **Playback** tab.

- **Volume:** Changes the audio volume.
- **Start:** Controls whether the audio file starts **automatically** or when the mouse is **clicked**.
- **Hide During Show:** Hides the audio icon while the slide show is playing.
- **Loop until Stopped:** Causes the audio file to repeat until it is stopped.
- **Rewind after Playing:** Causes the audio file to return to the beginning when it is finished playing.

Lesson: 7

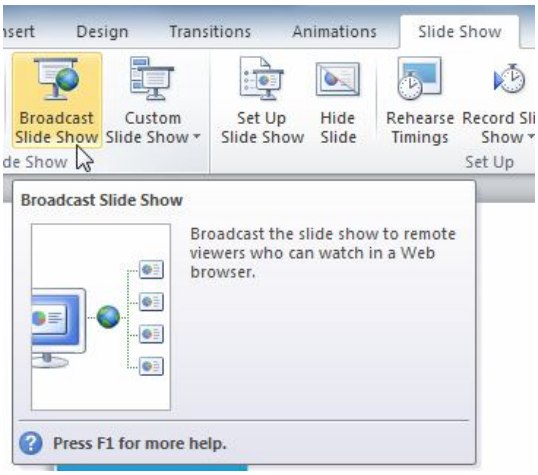
Advance Presentation Options

Broadcasting Your Slide Show to Remote Audiences

Broadcasting a presentation remotely is surprisingly easy. All you and your viewers need is an internet connection-- they don't even need PowerPoint. Once your viewers are connected, you can start the presentation as you normally would.
Please note that you cannot edit your presentation or mark it with a highlighter or pen while you are broadcasting a slide show. You also cannot use PowerPoint to speak to your audience. Plan to communicate with your viewers through teleconferencing, or pre-record your narration.

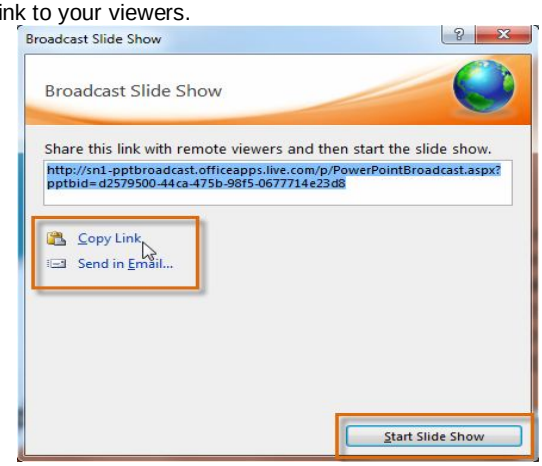
To Broadcast a Slide Show:

1. Select the **Slide Show** tab and locate the **Start Slide Show** group.
2. Click the **Broadcast Slide Show** command. The **Broadcast Slide Show** dialog box will open.

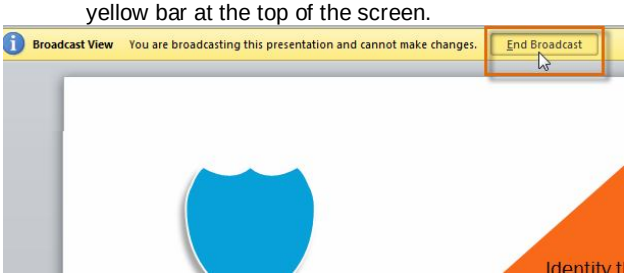


3. Click **Start Broadcast**. A status bar will appear as PowerPoint prepares your broadcast.

4. A link will appear. Select the link, and click **Copy Link** to make a copy of the link, or **Send in Email** to send an email with the link to your viewers.



5. Click **Start Slide Show**.
6. Present your slide show.
7. When you are finished, click **End Broadcast** in the yellow bar at the top of the screen.



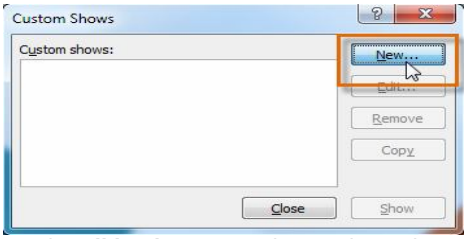
Customizing Your Slide Show

Sometimes you might want to **hide** a slide while still keeping it in your presentation. For instance, if you are presenting a slide show to more than one group of people, hiding or even rearranging certain slides could help you tailor your slide show to each group you present it to. You could also choose to create a shortened version of your slide show to present when you're short on time. The **Custom Slide Show** feature allows you to create and name different versions of your slide show with hidden or rearranged slides.

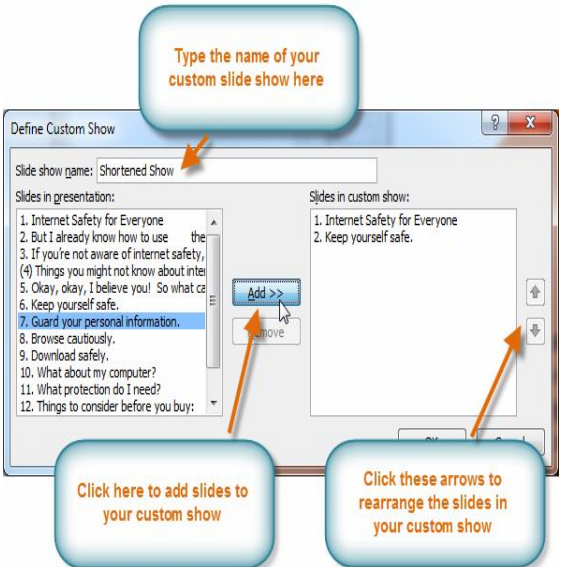
To Create a Custom Show:

1. Select the **Slide Show** tab and locate the **Start Slide Show** group.
2. Click the **Custom Slide Show** command.

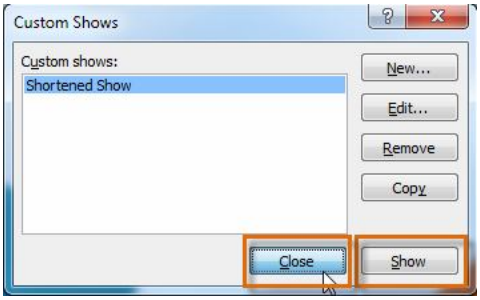
3. Select **Custom Shows...**. The **Custom Shows** dialog box will appear.
4. Click **New**. The **Define Custom Show** dialog box will appear.



5. Locate the **Slide show name** box and type in a name for your custom show.
6. Select the slides in the **Slides in presentation:** box that you would like to include in your custom show, then click **Add>>** to add them to the **Slides in custom show:** box. If necessary, use the **up** and **down arrows** to reorder the added slides.



7. Click **OK**.
8. Select **Close** to exit or **Show** to view your custom show.



You can also hide slides by selecting the **Hide Slide** command, which can be found on the **Slide Show** tab. To unhide a slide, simply click the **Hide Slide** command again.

Creating Handouts of a Presentation

Printing handouts with images of your slides can be helpful to your audience, as it gives them a hard copy of the information you're presenting. Plus, they can take notes on the handouts as you present your slide show.

To Create Handouts of a Presentation:

1. Click the **File** tab. This takes you to the **Backstage view**.
2. Click **Print**.
3. Click the drop-down arrow in the box that says **Full Page Slides**, and locate the **Handouts** group.
4. Select a page layout for your handouts. Up to nine slides can be displayed per page. Note that the **3 slides** layout offers lined space for your viewers to take notes.
5. Click the **Print** command.

If you would like to add a header or footer to your handouts, click the **View** tab on the Ribbon, then select **Handout Master**. Just type your header or footer information into the boxes provided. To return to the normal view, click **Exit Master View**.

Lesson: 8

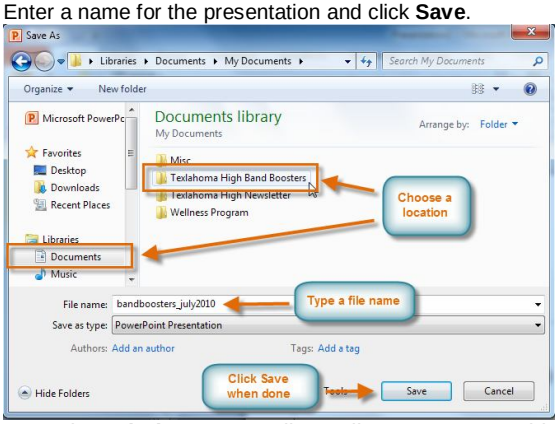
Saving & Printing

Are you saving for the first time? Do you need to share your presentation with someone who does not have PowerPoint 2010? Would you like to print handouts of your presentation? Perhaps you need a printout that shows your notes with your slides? All of these things will affect how you **save and print your PowerPoint presentations**.

To Use the Save As Command:

Save As allows you to choose a name and location for your presentation. It's useful if you've first created a presentation or if you want to save a different version of a presentation while keeping the original.

1. Click the **File** tab.
2. Select **Save As**.
3. The **Save As** dialog box will appear. Select the location where you wish to save the presentation.
4. Enter a name for the presentation and click **Save**.



If you're using **Windows 7**, you'll usually want to save things to your **Documents library**, and in other versions of Windows you'll save them to the **My Documents folder**..

To Use the Save Command:

1. Click the **Save** command on the **Quick Access Toolbar**.
2. The presentation will be saved in its current location with the same file name.

If you are saving for the first time and select **Save**, the **Save As** dialog box will appear.

AutoRecover

PowerPoint automatically saves your presentation to a temporary folder while you're working on them. If you forget to save your changes, or if PowerPoint crashes, you can recover the autosaved file.

1. Open a presentation that was previously closed without saving.
2. In **Backstage view**, click **Info**.
3. If there are autosaved versions of your file, they will appear under **Versions**. Click on the file to open it.
4. To save changes, click **Restore** and then click **OK**.

By default, PowerPoint autosaves every 10 minutes. If you are editing a presentation for less than 10 minutes, PowerPoint may not create an autosaved version.

To Save As PowerPoint 97 - 2003 Presentation:

You can share your presentation with anyone using PowerPoint 2010 or 2007, since they use the same file format. However, earlier versions of PowerPoint use a different file format, so if you want to share your presentation with someone using an earlier version of PowerPoint, you'll need to save it as a PowerPoint 97-2003 presentation.

1. Click the **File** tab.
2. Select **Save As**.
3. In the **Save as type** drop-down menu, select **PowerPoint 97-2003 Presentation**.
4. Select the location you wish to save the presentation.
5. Enter a name for the presentation and click **Save**.

To Save as a Different File Type:

If you would like to share your presentation with someone who does not have PowerPoint, you have several different file types to choose from.

1. Click the **File** tab.
2. Select **Save & Send**.
3. Choose from three special **File Types**.

- **Create PDF/XPS Document:** Saves the contents of your slide show as a document instead of a PowerPoint file.
- **Create a Video:** Saves your presentation as a video that can be shared online, in an email, or on a disc.
- **Package Presentation for CD:** Saves your presentation in a folder along with the Microsoft PowerPoint Viewer, a special slide show player that anyone can download and use.

To View the Print Pane:

1. Click the **File** tab to go to **Backstage view**.
2. Select **Print**. The Print pane appears, with the print settings on the left and the **Preview** on the right.

To Print:

1. Go to the **Print** pane.
2. Determine and choose how you want the slides to appear on the page.
3. If you only want to print certain pages, you can type a **range** of pages. Otherwise, select **Print All Pages**.
4. Select the **number of copies**.
5. Check the **Collate** box if you are printing multiple copies of a multi-page document.
6. Select a **printer** from the drop-down list.
7. Click the **Print** button.

Unit-IV- MS-Access 2010

Lesson: 1

Getting Started with M.S Access 2010

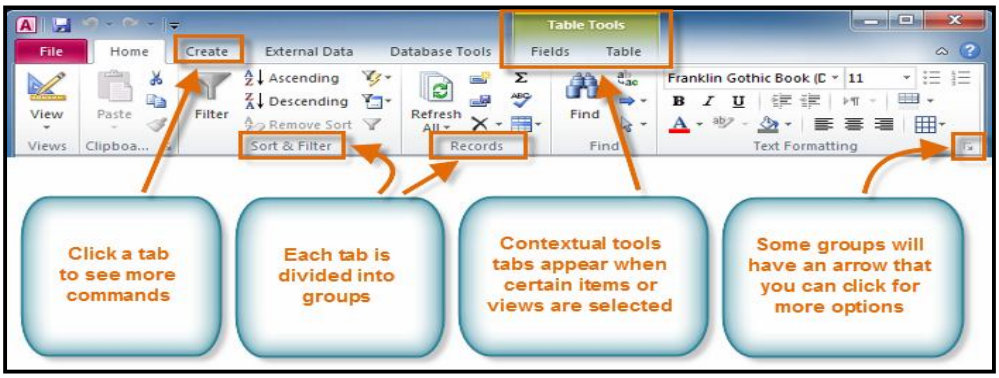
Access 2010 is relational database software in the Microsoft 2010 Office Suite that allows users to enter, manage and run reports on large amounts of data. Whenever you're learning a new program, it's important to familiarize yourself with the program window and the tools within it. Working with Access is no different. Knowing your way around the Access environment will make learning and using Access much easier. You will familiarize yourself with the Access environment, including the Ribbon, the ***Backstage view***, the ***Navigation Pane***, the ***Document Tabs bar***, and the ***Record Navigation bar***. You will also learn how to navigate with navigation form, if your database includes one.

Working with Your Access Environment

The **Ribbon** and the **Quick Access Toolbar** are where you will find the commands you will use to do common tasks in Access. If you are familiar with Access 2007, you will find that the main difference in the ***Access 2010 Ribbon*** is that commands such as **Open** and **Print** are now housed in **Backstage view**.

The Ribbon

The Ribbon contains multiple **tabs**, each with several **groups** of commands. Some tabs, like **Form Layout Tools** or **Table Tools**, may appear only when you are working with certain objects like forms or tables. These tabs are called **contextual tabs**, and are highlighted in a contrasting color to distinguish them from normal tabs.

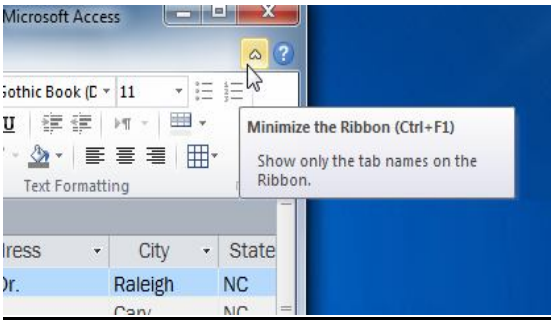


To Minimize and Maximize the Ribbon:

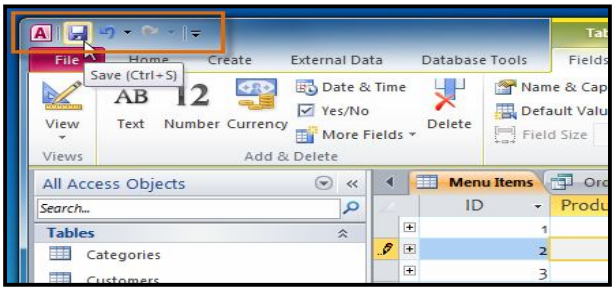
The Ribbon is designed to be easy to use and responsive to your current task, but if you feel that it's taking up too much of your screen space, you can minimize it.

1. Click the **arrow** in the upper-right corner of the Ribbon to minimize it.
2. To maximize the Ribbon, click the arrow again.

When the Ribbon is minimized, you can make it reappear by clicking on a tab. However, the Ribbon will disappear again when you are not using it.



The Quick Access Toolbar



The **Quick Access Toolbar** is located above the Ribbon, and it lets you access common commands no matter which tab you are on. By default, it shows the **Save**, **Undo**, and **Repeat** commands. If you'd like, you can **customize** it by **adding additional commands**.

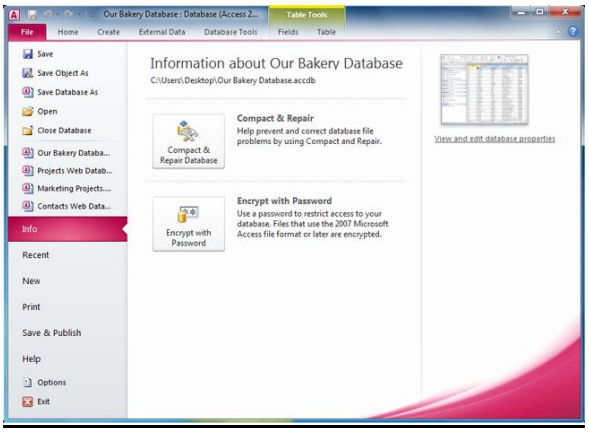
Note that the **Save** command only saves the current open object. In addition, the **Undo** command will not undo certain actions, like adding a record. Pay close attention to your information when using the **Undo** command to make sure it has the desired effect.

Backstage View

Backstage view **gives you various options for opening, saving, printing, and viewing more information about your database. It is similar to the** Office Button Menu **from Access 2007 or the** File Menu **from earlier versions of Access. However, unlike those menus, it is a full-page view, which makes it easier to work with.**

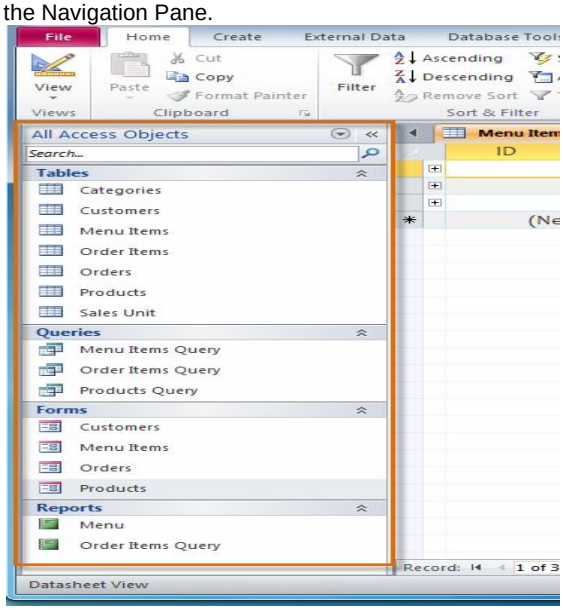
To Get to Backstage View:

1. Click the **File** tab.
2. You can choose an option on the left side of the page.
3. To get back to your database objects, just click any tab on the Ribbon.



The Navigation Pane

The **Navigation Pane** is a list containing every object in your database. For easier viewing, the objects are organized into groups by type. You can **open**, **rename**, and **delete** objects using the Navigation Pane.

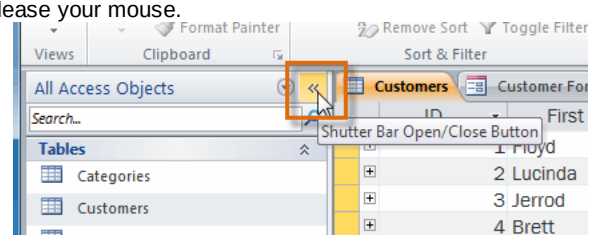


To Minimize and Maximize the Navigation Pane:

The Navigation Pane is designed to help you manage all your objects, but if you feel that it takes up too much of your screen space, you can **minimize** it.

1. Click the **double arrow** « in the upper-right corner of the Navigation Pane to minimize it.
2. To make the Navigation Pane visible again, click the **double arrow** » to maximize it.

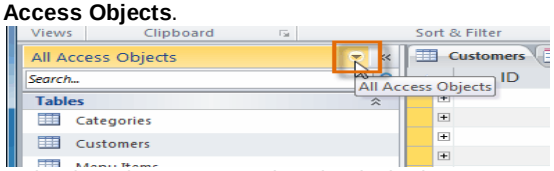
If you would like to make the Navigation Pane smaller without fully minimizing it, you can **resize** it. Simply **click** and **drag** the right border of the Navigation Pane. When it is the desired size, release your mouse.



To Sort the Objects in the Navigation Pane:

By default, your objects are sorted by type, with the tables in one group, the forms in another, and so on. However, if you wish, you can sort the objects in the Navigation Pane into groups of your choosing.

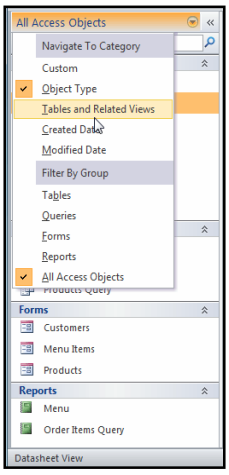
1. Click the **drop-down arrow** to the right of the words **All Access Objects**.



2. In the drop-down menu, select the desired sort.

- Select **Custom** to create a custom group for sorting the objects. After applying the sort, simply drag the desired objects to the new group.
- Select **Object Type** to group the objects by type. This is the default setting.
- Select **Tables and Related Views** to group forms, queries, and reports together with the tables they refer to.
- Select **Created Date** or **Modified Date** to sort the objects from most to least recently created or modified.

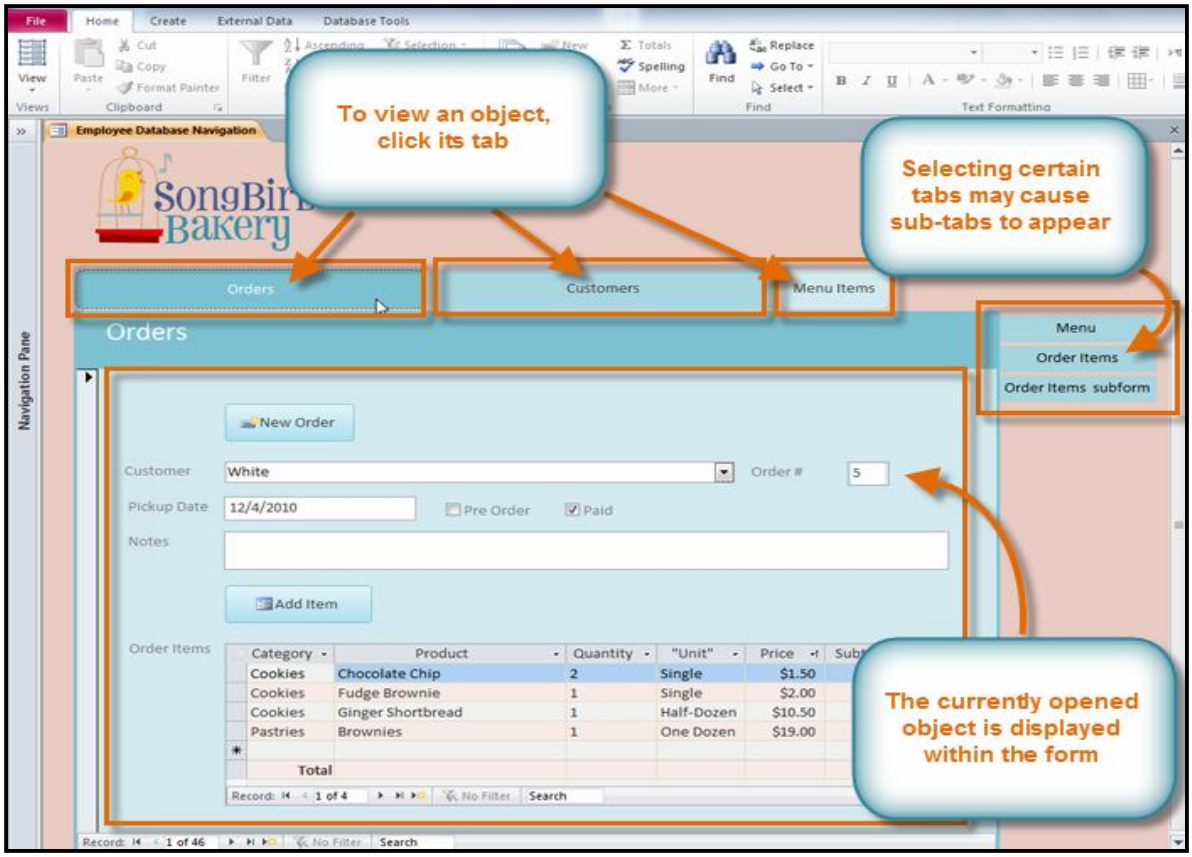
3. The objects in the Navigation Pane will now be sorted to reflect your choice.



To further customize the appearance of the Navigation Pane, you can also **minimize groups** of objects you don't want to see. Simply click the upward double arrow » next to the name of the group. To restore the group to its full size, click the downward double arrow ».

Databases with Navigation Forms

Some databases include a **navigation form** that opens automatically when the database is opened. Navigation forms are designed as a **user-friendly** replacement for the **Navigation Pane**. They contain **tabs** that allow you to view and work with common forms, queries, and reports. Having your frequently-used objects available to you in one place lets you access them quickly and easily.
To **open** an object from a navigation form, simply click on its tab. The object will be displayed within the navigation form. Once an object is open, you can work with it as you normally would.



(Viewing the Orders form using a navigation form)

Generally, navigation forms include only the objects a typical user will need to work with fairly regularly, which is why your navigation form may not include every single form, query, or report. This makes it easier to navigate around the database. By hiding tables and rarely used forms, queries, and reports, it also reduces the chance of the database being damaged by users accidentally editing or deleting necessary data.
For this reason, it's important to ask your database designer or administrator before you work with objects that are not available in your navigation form. Once you have the go-ahead, you can simply **maximize** the **Navigation Pane** and open the objects from there.

Lesson: 2

Introduction to Database & Objects

Databases

Access 2010 is a **database creation and management** program. To understand Access, you must first understand **databases.** You will familiarize yourself with the differences between data management in **Access** and **Microsoft Excel**.

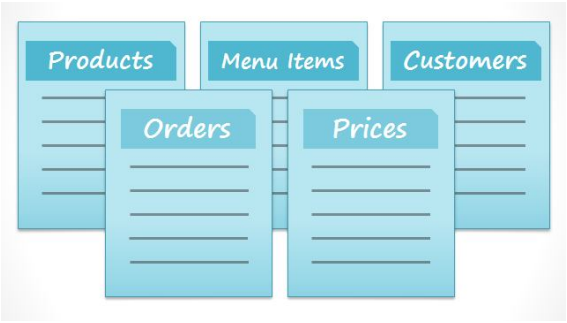
What is a Database?

A **database** is a collection of data that is stored in a computer system. Databases allow their users to **enter**, **access**, and **analyze** their data quickly and easily. They're such a useful tool that you see them all the time. Ever waited while a doctor's receptionist entered your personal information into a computer, or watched a store employee use a computer to see whether an item was in stock? Then you've seen a database in action.

The easiest way to understand a database is to think of it as a **collection of lists**. Think about one of the databases we mentioned above-- the database of patient information at a doctor's office. What lists are contained in a database like that? Well, to start with, there's a list of the customer names. Then, there's a list of past appointments, a list with medical history for each patient, a list of contact information... and so on, and so on.

This is true of all databases, from the simplest to the most complex. For instance, if you like to bake, you might decide to keep a database containing the types of cookies you know how to make and the friends you give those cookies to. This is one of the simplest databases imaginable. It contains two lists: a list of your friends, and a list of cookies.

However, if you were a professional baker, you would have many more lists to keep track of: a list of customers, a list of products sold, a list of prices, a list of orders... it goes on and on. The more lists you add, the more **complex** the database will be.



In Access, lists are a little more complex than the ones you write on paper. Access stores its lists of data in **tables**, which allow you to store even more detailed information. *In the table below*, the "***People***" list in the amateur baker's database has been expanded to include other relevant information about the baker's friends.

ID	Name	Cell Phone	Birthday	Nut Allergy?
1	Dad	555-0404	June 3	Yes
2	Aunt Aida	555-9890	July 8	No
3	Joakim	555-0462	September 19	No
4	Dwane	555-9975	January 5	No
5	Allegra	555-0099	January 14	Yes

(A table in Access)

If you are familiar with other programs in the Microsoft Office suite, this might remind you a lot of Excel, which allows you to organize data in a similar way. And in fact, you could build a very similar table in Excel.

Why Use a Database?

If a database is essentially a collection of lists stored in tables, and you can build tables in Excel, why do you need a real database in the first place? While Excel is great at storing and organizing numbers, Access is far stronger at handling non-numerical data like names and descriptions. Non-numerical data plays a big role in almost any database, and it's important to be able to sort and analyze it.

However, the thing that really sets databases apart from any other way of storing data is **connectivity**. We call a database like the ones you'll work with in Access a **relational database**. A relational database is able to understand how lists and the objects within them **relate** to one another. ***To explore this idea, let's go back to the simple database with two lists:*** names of your friends, and the types of cookies you know how to make. You decide to create a third list to keep track of the batches of cookies you make and who they're for. Since you're only making cookies you know the recipe for, and you're only going to give them to your friends, this new list will get all its information from the lists you made earlier.

See how the third list uses words that appeared in the first two lists? A database is capable of understanding that the "Dad" and "Oatmeal" cookies in the "Batches" list are the same things as the "Dad" and "Oatmeal" in the first two lists. This relationship seems

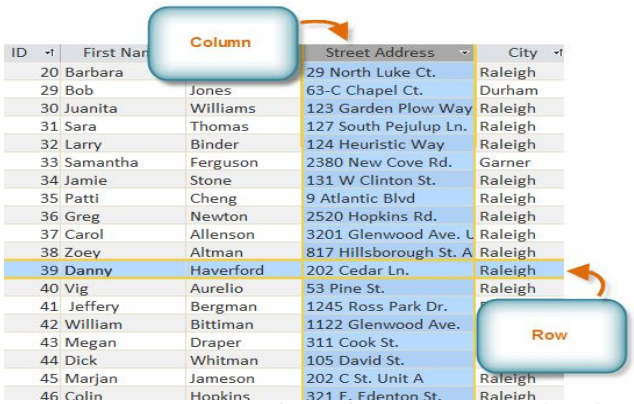
obvious, and a person would understand it right away. However, an Excel workbook wouldn't.
Excel would treat all of those things as distinct and unrelated pieces of information. In Excel, you'd have to enter every single piece of information about a person or type of cookie all over again each time you mentioned it, because that database wouldn't be **relational** like an Access database is. Simply put, relational databases can recognize what a human can: that if the same words appear in multiple lists, they **refer** to the same thing.
The fact that relational databases can handle information this way allows you to **enter**, **search**, and **analyze** data in more than one table at a time. All of these things would be very difficult to do in Excel, but in Access, even complicated tasks can be simplified and made fairly user-friendly.

Introduction to Objects

Databases in Access 2010 are composed of four objects: **tables**, **queries**, **forms**, and **reports**. Together, these objects allow you to enter, store, analyze, and compile your data as you wish.

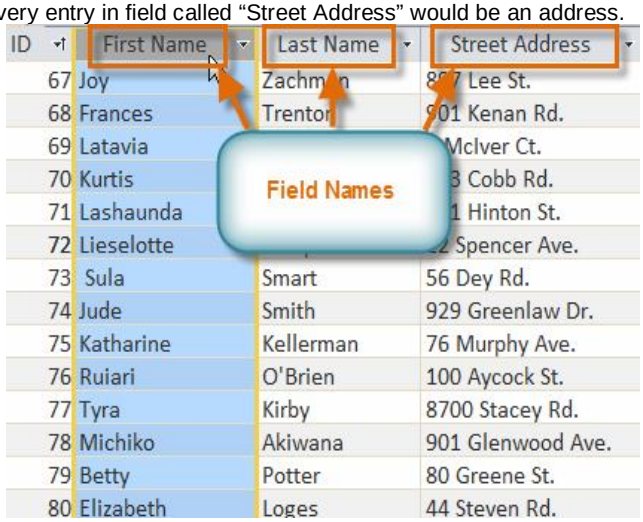
Tables

By this point, you should already understand that a database is a collection of data organized into many connected **lists**. In Access, all data is stored in **tables**, which put tables at the heart of any database. You might already know that tables are organized into vertical **columns** and horizontal **rows**.



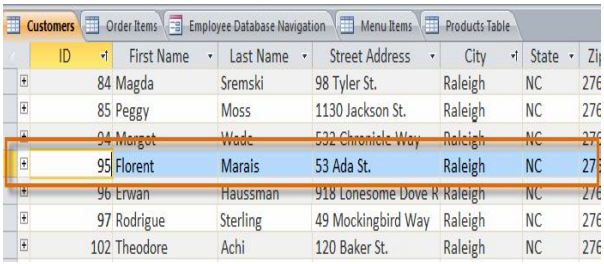
ID	First Name	Last Name	Street Address	City
20	Barbara		29 North Luke Ct.	Raleigh
29	Bob	Jones	63-C Chapel Ct.	Durham
30	Juanita	Williams	123 Garden Plow Way	Raleigh
31	Sara	Thomas	127 South Pejulup Ln.	Raleigh
32	Larry	Binder	124 Heuristic Way	Raleigh
33	Samantha	Ferguson	2380 New Cove Rd.	Garner
34	Jamie	Stone	131 W Clinton St.	Raleigh
35	Patti	Cheng	9 Atlantic Blvd	Raleigh
36	Greg	Newton	2520 Hopkins Rd.	Raleigh
37	Carol	Allenson	3201 Glenwood Ave. L	Raleigh
38	Zoey	Altman	817 Hillsborough St. A	Raleigh
39	Danny	Haverford	202 Cedar Ln.	Raleigh
40	Vig	Aurelio	53 Pine St.	Raleigh
41	Jeffery	Bergman	1245 Ross Park Dr.	
42	William	Bittiman	1122 Glenwood Ave.	
43	Megan	Draper	311 Cook St.	
44	Dick	Whitman	105 David St.	
45	Marjan	Jameson	202 C St. Unit A	Raleigh
46	Colin	Hopkins	321 E. Edenton St.	Raleigh

In Access, rows and columns are referred to as **Records** and **Fields**. A **field** is more than just a column: it's a way of organizing information by the **type** of data it is. Every piece of information within a field is of the same **type**. ***For example***, every entry in a field called "First Name" would be a name, and every entry in field called "Street Address" would be an address.



ID	First Name	Last Name	Street Address
67	Joy	Zachm	8?7 Lee St.
68	Frances	Trentor	901 Kenan Rd.
69	Latavia		McIver Ct.
70	Kurtis		3 Cobb Rd.
71	Lashaunda		1 Hinton St.
72	Lieselotte		2 Spencer Ave.
73	Sula	Smart	56 Dey Rd.
74	Jude	Smith	929 Greenlaw Dr.
75	Katharine	Kellerman	76 Murphy Ave.
76	Ruiari	O'Brien	100 Aycock St.
77	Tyra	Kirby	8700 Stacey Rd.
78	Michiko	Akiwana	901 Glenwood Ave.
79	Betty	Potter	80 Greene St.
80	Elizabeth	Loges	44 Steven Rd.

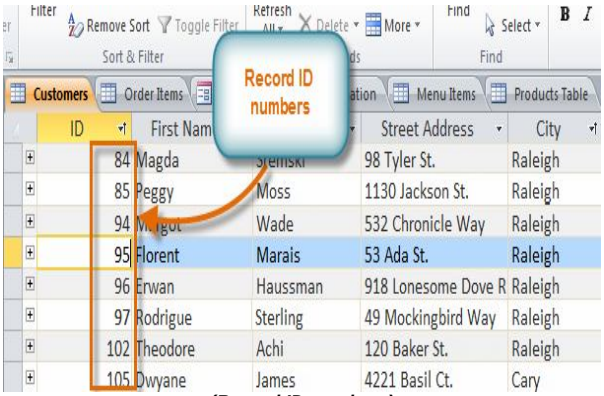
Likewise, a **record** is more than just a row-- it's a unit of information. Every cell in a given row is part of that row's record.



ID	First Name	Last Name	Street Address	City	State
84	Magda	Sremski	98 Tyler St.	Raleigh	NC
85	Peggy	Moss	1130 Jackson St.	Raleigh	NC
94	Margot	Wade	532 Chronicle Way	Raleigh	NC
95	Florent	Marais	53 Ada St.	Raleigh	NC
96	Erwan	Haussman	918 Lonesome Dove R	Raleigh	NC
97	Rodrigue	Sterling	49 Mockingbird Way	Raleigh	NC
102	Theodore	Achi	120 Baker St.	Raleigh	NC

(A record)

Notice how each record spans several fields. Even though the information in each record is organized into fields, it belongs with the other information in that record. See the **number** at the left of each row? That's the **ID number** that identifies each record. The ID number for a record refers to every piece of information contained on that row.



ID	First Name	Last Name	Street Address	City
84	Magda	Sremski	98 Tyler St.	Raleigh
85	Peggy	Moss	1130 Jackson St.	Raleigh
94	Margot	Wade	532 Chronicle Way	Raleigh
95	Florent	Marais	53 Ada St.	Raleigh
96	Erwan	Haussman	918 Lonesome Dove R	Raleigh
97	Rodrigue	Sterling	49 Mockingbird Way	Raleigh
102	Theodore	Achi	120 Baker St.	Raleigh
105	Dwyane	James	4221 Basil Ct.	Cary

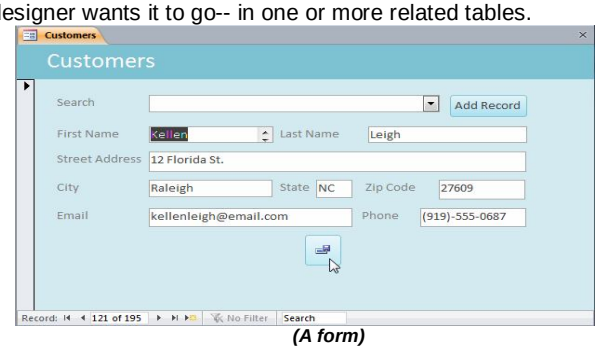
(Record ID numbers)

Tables are good for storing **closely related information**. Say that you own a bakery and have a database that includes a table with your customers' names and information like their phone numbers, home addresses, and email addresses. Since these pieces of information are all details about your customers, you'd include them all in the same **table**. Each customer would be represented by a unique **record**, and each type of information about those customers would be stored in its own field. If you decided

to add any more information-- say, the customer's birthday-- you would simply create a new field within the same table.

Forms

Forms are used for**:** **entering**, **modifying**, and **viewing** records. You have probably had to fill out forms on many occasions, like when visiting a doctor's office, applying for a job, or registering for school. The reason forms are used so often is that they're an easy way to guide people into entering data correctly. When you enter information into a form in Access, that data goes exactly where the database designer wants it to go-- in one or more related tables.

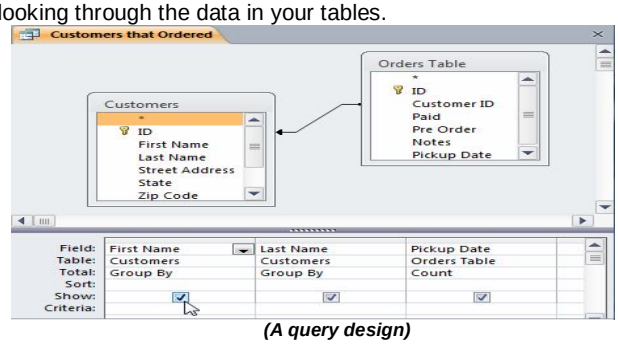


(A form)

Forms make entering data easier. Working with extensive tables can be confusing, and when you have connected tables, you might need to work with more than one at once to enter a set of data. However, with forms, it's possible to enter data into multiple tables at once, all in one place. Database designers can even set restrictions on individual form components to ensure that all of the needed data is entered in the correct format. All in all, forms help keep data consistent and well-organized, which is essential for an accurate and powerful database.

Queries

Queries are a way of **searching** for and **compiling** data from one or more tables. Running a query is like asking a detailed **question** of your database. When you build a query in Access, you are **defining specific search conditions** to find exactly the data you want. Queries are far more powerful than the simple searches you might carry out within a table. While a **search** would be able to help you find the name of one customer at your business, you could run a **query** to find the name and phone number of every customer who's made a purchase within the past week. A well-designed query can give information that you might not be able to find out just by looking through the data in your tables.



(A query design)

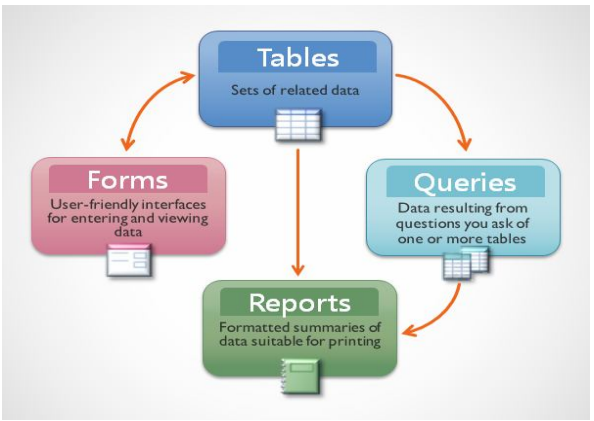
Reports

Reports offer you the ability to **present** your data **in print**. If you've ever received a computer printout of a class schedule or a printed invoice of a purchase, you've seen a database report. Reports are useful, because they allow you to present components of your database in an easy-to-read format. You can even customize a report's appearance to make it visually appealing. Access offers you the ability to create a report from any **table** or **query**.

(A report)

Putting it All Together

Even if you have a good idea of how each object can be used, it can initially be hard to understand how they all work together. It helps to remember that they all work with the same data. Every piece of data a **query**, **form**, or **report** uses is stored in one of your database **tables**.



(The four Access 2010 objects)

Forms allow you to both add data to tables and view data that already exists. Reports present data from tables and also from queries which, in turn, search for and analyze data within those same tables.

These relationships sound complicated, but in fact, they work together so well and naturally that we often don't even notice when we're using connected database objects.

Managing Databases and Objects

Each Access database consists of multiple **objects** that let you interact with data. Databases can include **forms** for entering data, **queries** for searching within it, **reports** for analyzing it, and of course, **tables** for storing it. Whenever you work with your database, you are working with many of these objects at once. Fortunately, Access makes managing these objects pretty easy.

To Open an Existing Database:

1. Click the **File** tab. This takes you to **Backstage view**.
2. Select **Open**. A dialog box will appear.
3. Locate and select the desired database, then click **Open**.
4. One or more **warning messages** may appear when you open your database.
    - If the database contains customized functions, a yellow bar with a security warning may appear below the Ribbon. If you trust the source of your database, click **Enable Content** for your database to display correctly.
    - After enabling all content in the database, you may see a message asking if you want to make the database a **Trusted Document**. Click **yes** if you would like all content to be automatically enabled each time you open the database.
    - You may be prompted to **Log In** to the database. Select your name from the log in list. If your name does not appear, click **Add User** to enter your information.

If you have opened the existing database recently, it may be easier to look for your database in the short list that appears in the sidebar or to select **Recent** and choose a database from the list that appears.

To Close a Database:

1. Click the **File** tab to go to **Backstage View**.
2. Select **Close Database**.
3. If you have any unsaved objects, a dialog box will pop up for each one asking if you would like to save it. Select **Yes** to save the object, **No** to close it without saving, or **Cancel** to leave your database open.

To Open an Object:

1. In the **Navigation Pane**, locate the object you would like to open.
2. **Double-click** the desired object. It will open and appear as a **tab** in the **Document Tabs bar**.

By default, the most recently opened object will display in the main window as the **current object**. To view another open object, simply click its tab in the **Document Tabs bar**.

Saving Objects

As in other Microsoft Office programs, you will be prompted to save any unsaved work when you attempt to close your database. However, it is a good idea to save your work as you go along. Saving your work often is the best way to ensure that you don't lose any information if your computer crashes.

To Save a New Object:

1. Select the object you wish to save by clicking its tab in the **Document Tabs bar**.
2. Select the **File** tab to navigate to **Backstage View**.
3. Click **Save**.
4. The first time you save an object, you will be prompted to name it. Enter the desired object name, and click **OK**.

To save an existing object, select **save** in **Backstage View**, or simply click the **Save** command in the Quick Access Toolbar.

To Close an Object:

1. Select the object you wish to close on the **Document Tabs bar**.
2. Click the on the far right of the Document Tabs bar.
3. If there are any unsaved changes to the object, you will be prompted to save it. Select **Yes** to save, **No** to close it without saving your changes, or **Cancel** to leave the object open.

You can also close an object by right-clicking its tab on the Document Tabs bar. A drop-down menu will appear. Select **Close** to close that object, or **Close All** to close all open objects.

To Rename an Object:

1. If the object you wish to rename is open, **close** it.
2. In the **Navigation Pane**, **right-click** the object you would like to rename.
3. Select **Rename**.
4. Type the new name, then press the **Enter** key.

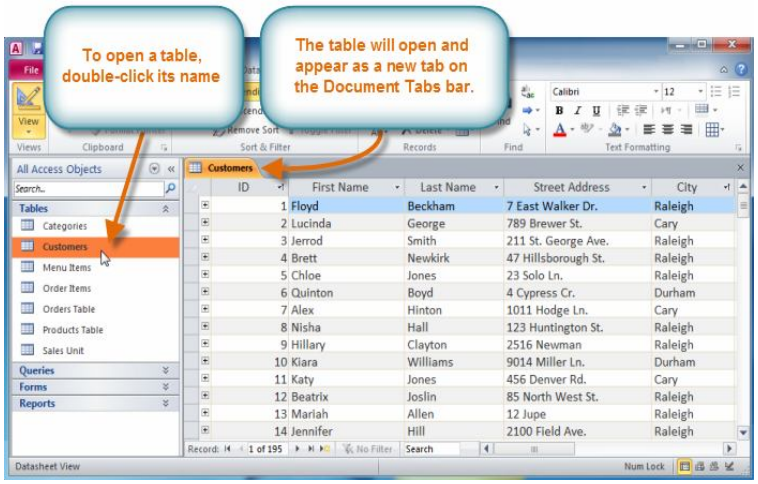
Lesson: 3

Working with Tables

While there are four types of database objects in Access 2010, **tables** are arguably the most important. Even when you're using forms, queries, and reports, you're still working with tables, since that's where all your **data** is stored. Tables are at the heart of any database, so it's important to understand how to use them.

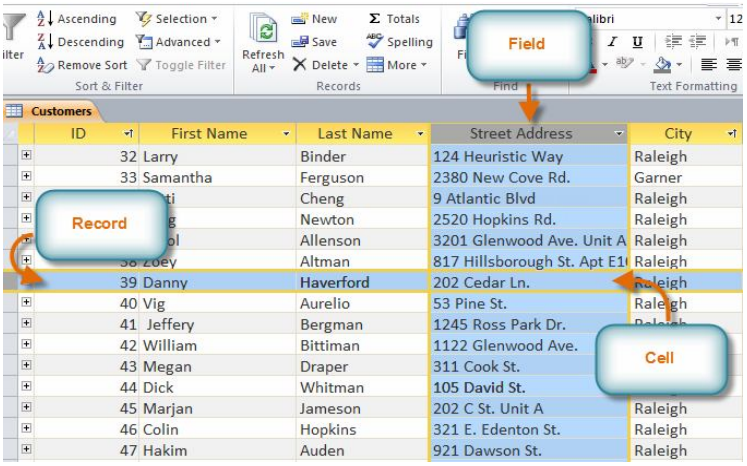
To Open an Existing Table:

1. **Open** your database and locate the **Navigation Pane**.
2. In the **Navigation Pane**, locate the table you would like to open. Tables are marked with the icon.
3. **Double-click** the name of the table. It will open and appear as a **tab** in the **Document Tabs bar**.

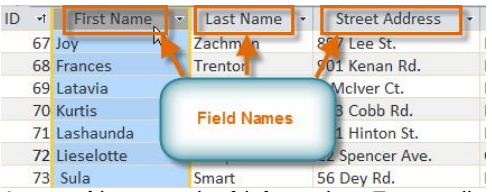


Understanding Tables

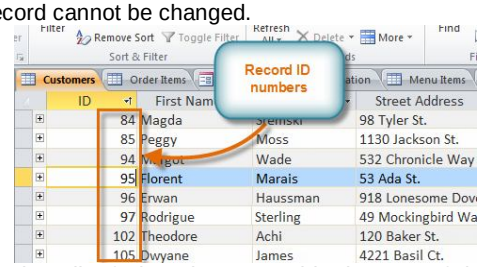
All tables are composed of horizontal **rows** and vertical **columns**, with small rectangles called **cells** in the places where rows and columns intersect. In Access, rows and columns are referred to as **records** and **fields**.



A **field** is a way of organizing information by type. Think of the **field name** as a question, and every cell within that field as a response to that question.



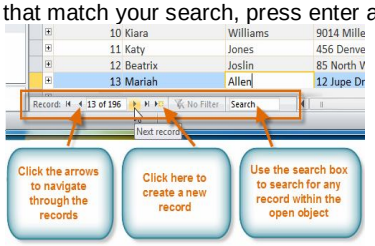
A **record** is one unit of information. Every cell on a given row is part of that row's record. Each record has its own **ID number**. Within a table, each ID number is unique to its record, and refers to all the information within that record. The ID number for a record cannot be changed.



Each cell of data in your table is part of both a **field** and a **record**. For instance, if you had a table of names and contact information, each person would be represented by a record, and each piece of information about them-- their name, phone number, address, and so on-- would be contained within a distinct field on that record's row.

Navigating Within Tables

To navigate through records in a table, you can use the **up and down arrow keys**, **scroll up and down**, or use the arrows in the **record navigation bar** located at the bottom of your table. You can also find any record in the currently open table by **searching** for it using the **record search box**. Simply place your cursor in the search box, type any word that appears in the record you would like to find, and press the **enter** key. To view additional records that match your search, press enter again.

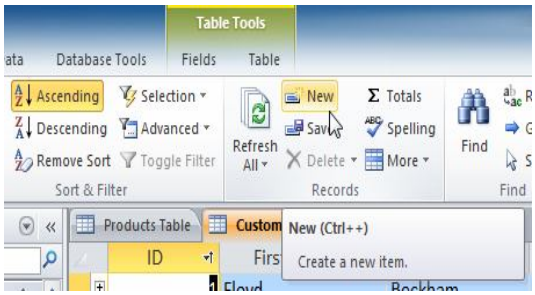


To navigate between fields, you can use the **left and right arrow keys** or **scroll left and right**.

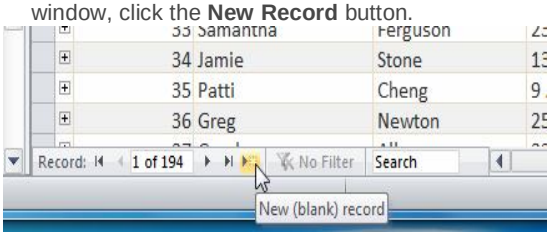
To Add a New Record:

There are three ways to add a new record to a table:

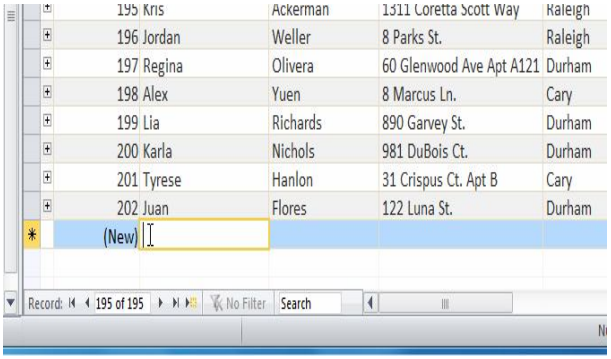
- In the **Records** group on the **Home** tab, click the **New** command.



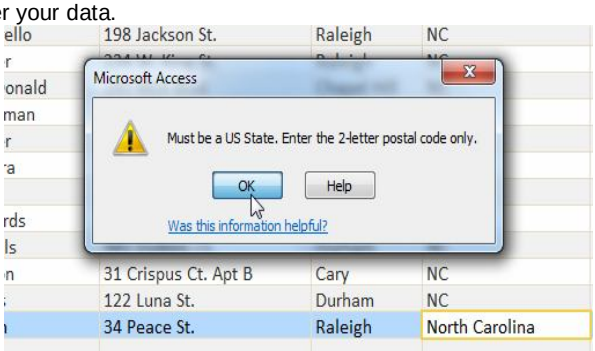
- On the **Record Navigation bar** at the bottom of the window, click the **New Record** button.



- Simply begin **typing** in the row below your last added record.



Occasionally when you enter information into a record, a window will pop up to tell you that the information you've entered is invalid. That means the field you're working with has a validation rule, which is a rule about the type of data that can appear in that field. Click OK, then follow the instructions in the pop-up window to re-enter your data.



To Save a Record:

1. Select the **Home** tab, and locate the **Records** group.
2. Click the **Save** command.

Be sure to save any unsaved records before closing a table. Access will not prompt you to save them when you close the table.

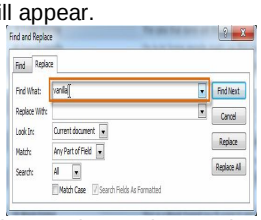
Editing Records

To quickly edit any record within a table, you can just click on it and type in your changes. However, Access also offers you the ability to **find and replace** a word within multiple records and to **delete** records entirely.

To Replace a Word within a Record:

You can edit multiple occurrences of the same word by using **Find and Replace**, which searches for a term and replaces it with another term.

1. Select the **Home** tab and locate the **Find** group.
2. Select the **Replace** command. The **Find and Replace** dialog box will appear.



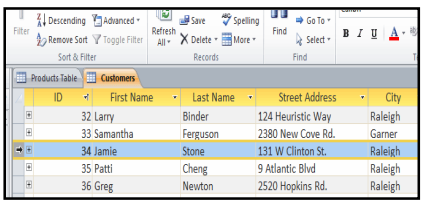
3. Click the **Find What:** box and type the word you would like to find.
4. Click the **Replace With**: box and type the word you would like to replace the original word.
5. Click the **Look In:** drop-down arrow to select the area you would like to search.
   - Select **Current Field** to limit your search to the currently selected field.
   - Select **Current Document** to search within the entire table.
6. Click the **Match:** drop-down arrow to select how closely you'd like results to match your search.
   - Select **Any Part of Field** to search for your search term in any part of a cell.
   - Select **Whole Field** to search only for cells that match your search term exactly.
   - Select **Beginning of Field** to search only for cells that start with your search term.
7. Click **Find Next** to find the next occurrence of your search term.
8. Click **Replace** to replace the original word with the new one.

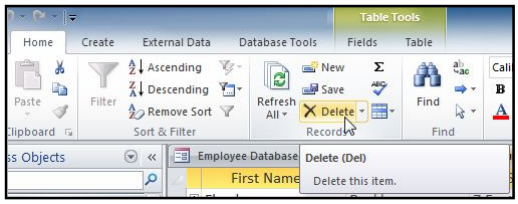
While you can use **Replace All** to replace every instance of a term, replacing them one at a time allows you to be absolutely certain that you edit only the data you want. Replacing data unintentionally can have a negative impact on your database.

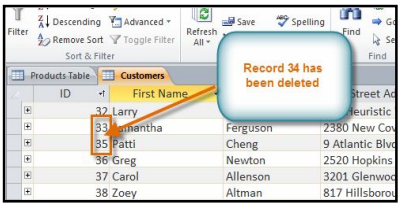
To Delete a Record:

1. Select the entire record by clicking the **gray border** at the left side of the record.
2. Select the **Home** tab and locate the **Records** group.
3. Click the **Delete** command. The record will be permanently deleted.

The ID numbers assigned to records stay the same even after you delete a record. For example, if you delete the 34th record in a table, the sequence of record ID numbers will read "...32, 33, **35**, 36...", rather than "...32, 33, **34**, 35, 36...".







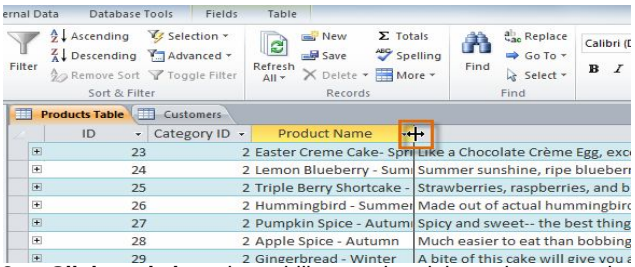
Resizing Fields and Rows

If your fields and rows are too small or large for the data contained with them, you can always **resize** them so that all the text is displayed.

To Resize a Field:

1. Place your cursor over the **right gridline** in the **field title**.

   Your mouse will become a **double arrow** ↔.



2. **Click and drag** the gridline to the right to increase the field width or to the left to decrease the field width.
3. **Release** the mouse. The field width will be changed.

To Resize a Row:

1. Place your cursor over the **bottom gridline** in the **gray area** to the left of the row. Your mouse will become a **double arrow** ↕.
2. **Click and drag** the gridline downward to increase the row height or upward to decrease the row height.
3. **Release** the mouse. The row height will be changed.

Hiding Fields

If you have a field that you don't plan on editing or don't want other people to edit, you can **hide** it. A hidden field is invisible but is still part of your database. Data within a hidden field can still be accessed from forms, queries, reports, and any related tables.

To Hide a Field:

1. Right-click the **field title**.
2. From the drop-down menu, select **Hide Fields**.
3. The field will be hidden.

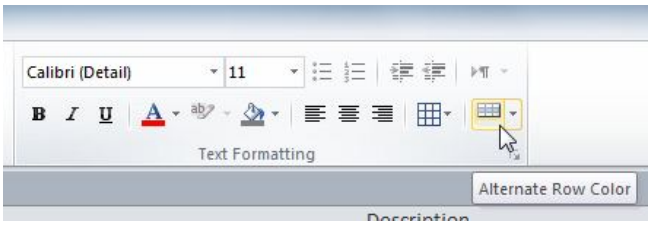
If you decide you would like the field to be visible again, you can **unhide** it. Simply right-click any field title, then select **Unhide Fields**. In the dialog box, click the checkboxes of any fields you would like to be visible again, then click **OK**.

Alternate Row Color

By default, the background of every other row in an Access table is a few shades darker than the background of the rest of the table. This darker **alternate row color** makes your table easier to read by offering a **visual distinction** between each record and the records directly above and below it.

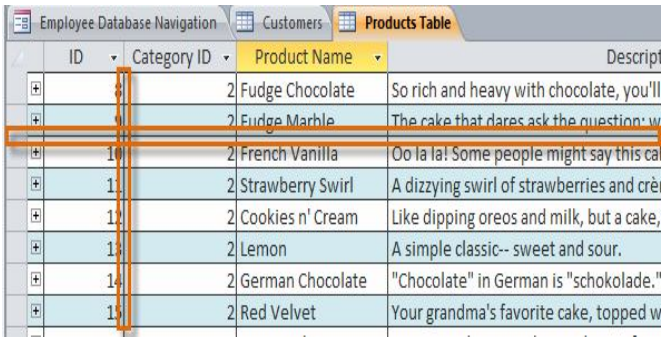
To Change the Alternate Row Color:

1. Select the **Home** tab and locate the **Text Formatting** group.
2. Click the **Alternate Row Color** drop-down arrow.
3. Select a color from the drop-down menu, or select **No Color** to remove the alternate row color.
4. Your alternate row color will be updated.



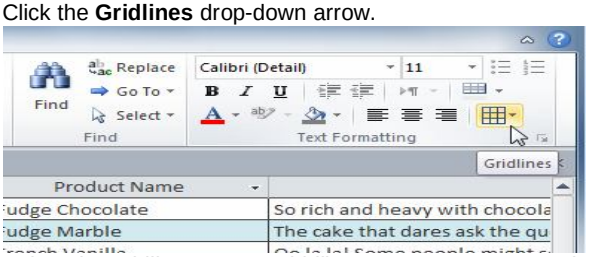
Modifying Gridlines

Another way Access makes your tables easier to read is by adding **gridlines** that mark the borders of each cell. Gridlines are the **thin lines** that appear between each cell, row, and column of your table. By default, gridlines are dark gray and appear on every side of a cell, but you can **change** their **color**, or **hide** undesired gridlines.

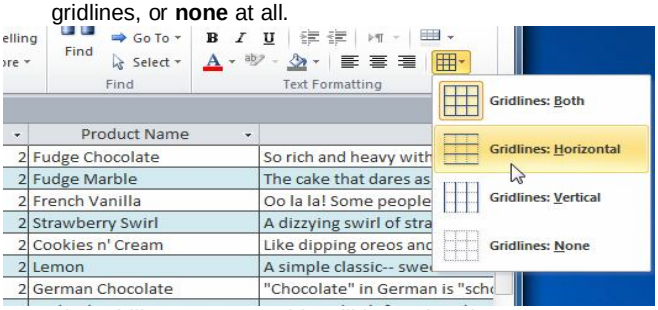


To Customize Which Gridlines Appear:

1. Select the **Home** tab and locate the **Text Formatting** group.
2. Click the **Gridlines** drop-down arrow.



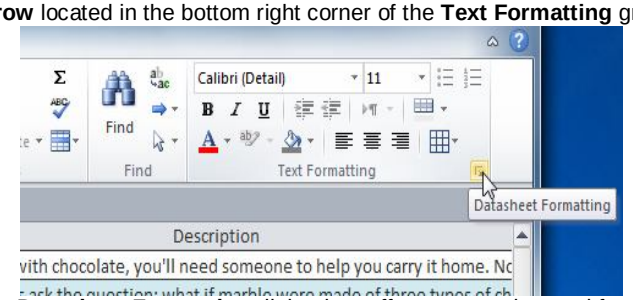
3. Select the gridlines you would like to appear. You can choose to have **horizontal** gridlines between the rows, **vertical** gridlines between the columns**, both** types of gridlines, or **none** at all.



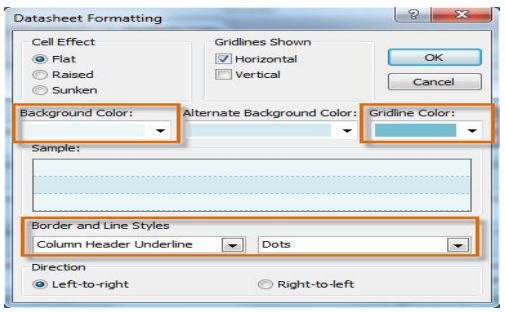
4. The gridlines on your table will be updated.

Additional Formatting Options

To view additional formatting options, click the **Datasheet Formatting arrow** located in the bottom right corner of the **Text Formatting** group.



The **Datasheet Formatting** dialog box offers many advanced formatting options, including the ability to modify background color, gridline color, and border and line style. It even includes the ability to view a **sample** table with your formatting choices, so play around with the various formatting options until you get your table looking the way you want it.

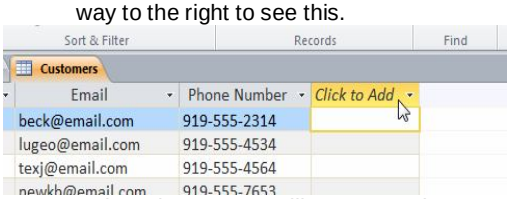


Adding and Rearranging Fields

Access makes it easy to rearrange existing fields and add new ones. When you add a new field, you can even set the **data type**, which dictates which **type** of data can be entered into that field.

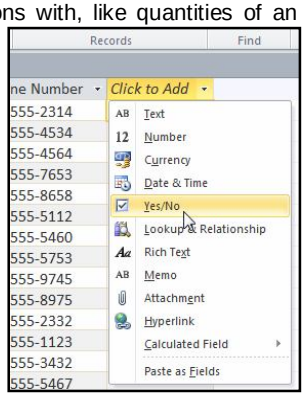
To Add a New Field to an Existing Table:

1. Open the table, then click the header with the text **Click to Add.** If you already have many fields, you may have to scroll all the way to the right to see this.



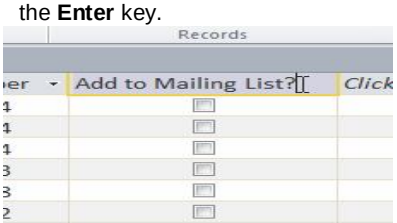
2. A drop-down menu will appear. Select the **data type** you'd like for the new field.

- **Text**: The default option, and best for text. You should also choose it for numbers you don't plan to do math with, like postal codes and phone numbers.
- **Number**: Best for numbers you might want to do calculations with, like quantities of an item ordered or sold.
- **Currency**: Automatically formats numbers in the currency used in your region.
- **Date & Time**: Allows you to choose a date from a pop-out calendar.



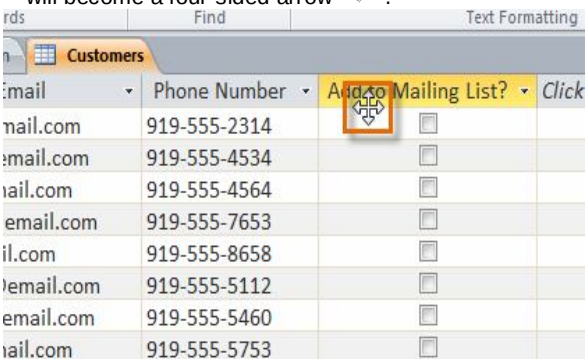
- **Yes/No**: Inserts a checkbox into your field.
- **Memo**: Ideal for large amounts of text, like product descriptions. You can format text entered in Memo fields.
- **Attachment**: Allows you to attach files, like images.
- **Hyperlink**: Creates a link out of web or email addresses.

3. Type a name for your field, then press the **Enter** key.

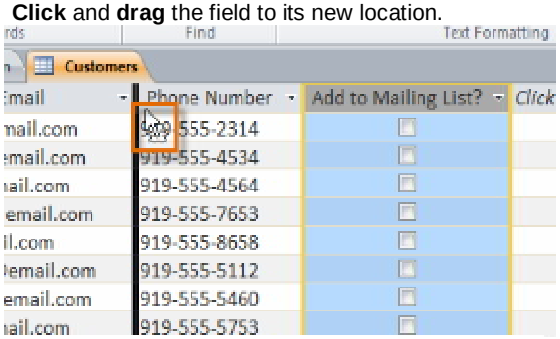


To Move a Field:

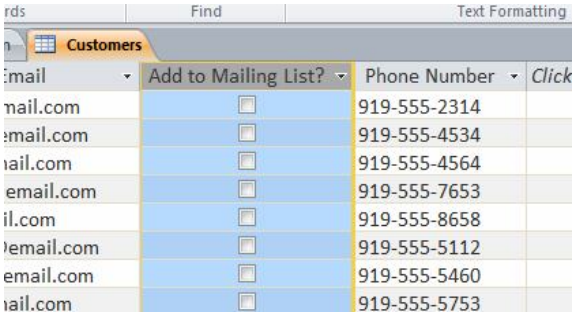
1. Locate the field you wish to move, then hover your mouse over the **bottom border** of the **field header**. Your cursor will become a four-sided arrow .



2. **Click** and **drag** the field to its new location.



3. **Release** your cursor. The field will appear in the new location.



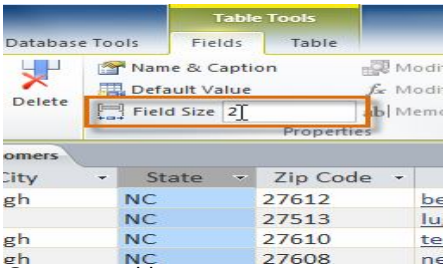
Field Character Limits

Setting the character limit for a field sets a rule about how many characters-- letters, numbers, punctuation, even spaces-- can be entered in that field. This can be useful to keep the data in your records concise, or even to force the user to enter the data a certain way.

For instance, in the example below, the user is entering records which include addresses. If you set the character limit in the "state" field as "2," the user can only enter 2 characters of information. This means that he must enter postal abbreviations for the states instead of the full name-- here, NC instead of North Carolina. Note that you can only set a character limit for fields defined as text.

To Set a Character Limit for a Field:

1. Select the desired field.
2. Click the **Fields** tab in the **Table Tools** tab group, then locate the **Properties** group.
3. In the box next to **Field Size**, type the maximum number of characters you would like to allow in your field.



4. **Save** your table.

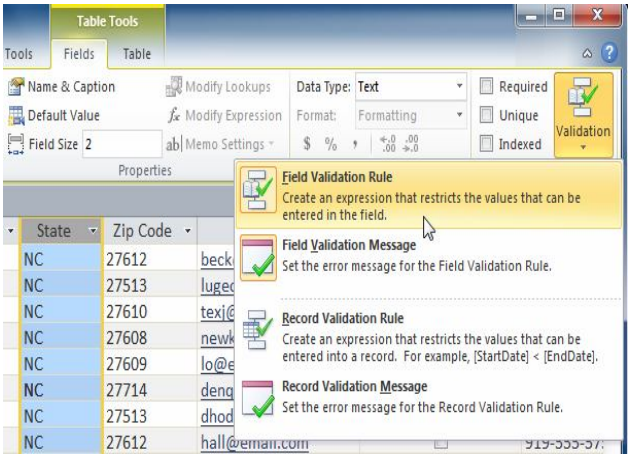
Validation Rules

A **validation rule** is a rule that dictates what information can be entered into a field. When a validation rule is in place, it is impossible for a user to enter data that violates that rule. For example, if we were asking the user to input a state name into a table with contact information, we might create a rule which limits the valid responses to U.S. state postal codes. This would prevent users from typing something that wasn't actually a real state postal code.

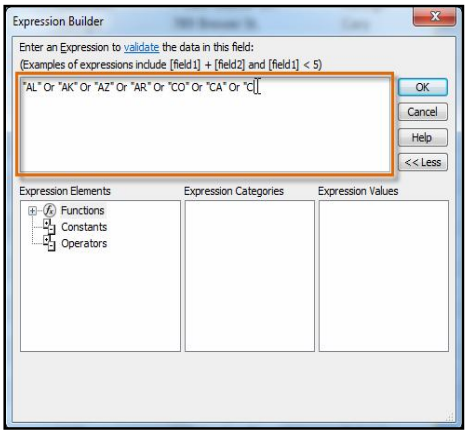
In the example below, we will apply that rule to our **Customers** table. It's a fairly simple validation rule-- we'll just name all of the valid responses a user could enter, which will mean the user can't type anything else into the record. However, it's possible to create validation rules that are much more complex.

To Create a Validation Rule:

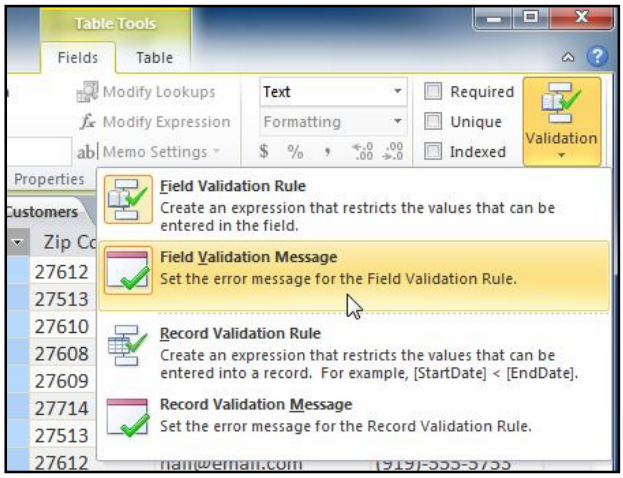
1. Select the field you wish to add a validation rule to. For our example, we'll set a rule for the **State** field.
2. On the Ribbon, select the **Fields** tab and locate the **Field Validation** group. Click the **Validation** drop-down command and select **Field Validation Rule**.



3. The **Expression Builder** dialog box will appear. Click the text box and type in your validation rule. In our example, we want to limit data in the **State** field to actual state postal codes. We'll type each of the valid responses in quotation marks, and separate them with the word **Or**, which lets Access know that this field can accept the response "AL" **or** "AK" **or** "AZ" or any of the other terms we've entered.



4. Once you're satisfied with the validation rule, click **OK**. The dialog box will close.
5. Click the **Validation** drop-down command again. This time, select **Field Validation Message**.
6. The **Enter Validation Message** dialog box will appear. Type the phrase you would like to appear in an **error message** when a user tries to enter data that **violates** the validation rule. Your message should let the user know what data is permitted.

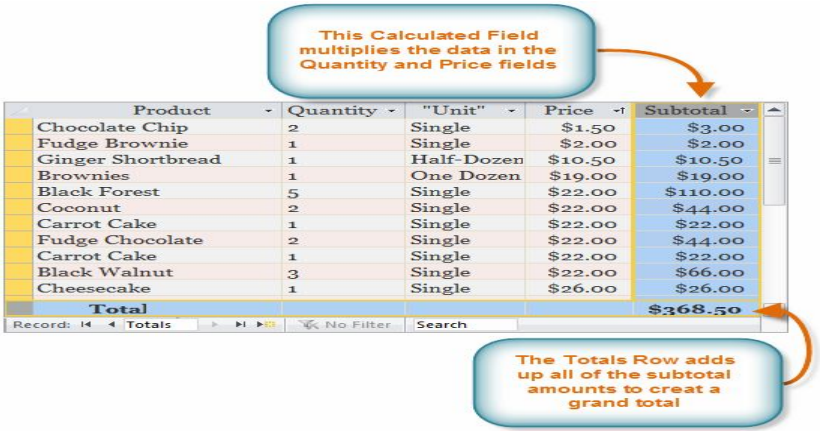


7. When you're satisfied with the error message, click **OK**.
8. The validation rule is now included in the field. Users will be unable to enter data that violates the rule.

Simple validation rules can be written exactly like **query criteria**. The only difference is that query criteria search for data, while an identical validation rule either **permits** or **rejects** data.

Calculated Fields and Totals Rows

Adding **calculated fields** and **totals rows** to your table lets you perform **calculations** using your table data. A calculated field calculates data within one record, while a totals row performs a calculation on an entire field of data. Whenever you see a **subtotal** for one record, you are looking at a calculated field. Likewise, a **grand total** at the bottom of a table is really a totals row.



Lesson: 4

Working with Forms

While you can always enter data directly into database tables, you might find it easier to use forms. Using a form to enter data lets you be certain that you're entering the right data in the right location and format. This can help keep your database accurate and consistent.

Why Use Forms?

Many of us fill out forms so often that we hardly even notice when we're asked to use them. Forms are so popular because they're useful for both the person asking for the information and the person providing it. They are a way of requiring information in a specific format, which means the person filling out the form knows exactly which information to include and where to put it.

Filling out a paper form

This is just as true of forms in Access. When you enter information into a form in Access, that data goes exactly where it's supposed to go-- into one or more related tables. While entering data into simple tables is fairly straightforward, data entry becomes more complicated as you start populating tables with records from elsewhere in the database. For instance, the orders table in a bakery's database might link to information about customers, products, and prices drawn from related tables. A record with information about a single order might look like this:

Employee Database Navigation | Order Items | Ord... | Orders Table

ID	Customer ID	Paid	Pre Order	Notes	Pickup Date
13	139	Yes	Yes	For a kindergarten party.	12/16/2011

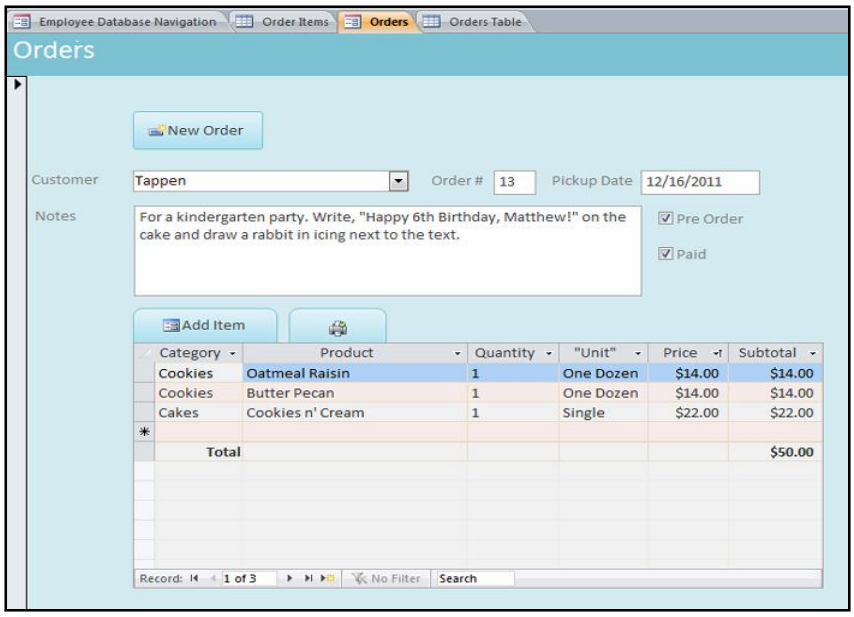
In fact, in order to see the entire order, you would also have to look at the order items table, where the menu items that make up each order are recorded.

Employee Database Navigation | Order Items | Ord... | Orders Table

ID	Order ID	Menu Item ID	Quantity
28	13	50	1
29	13	38	1
30	13	10	1

The records in these tables include ID numbers of records from other tables. You can't learn much just by glancing at these records, as the ID numbers don't tell you much about the data they relate to. Plus, since you have to look at two tables just to view one order, you might have a hard time even finding the right data. It's easy to see how viewing or entering many records this way could become a difficult and tedious task.

A form containing the same data might look like this:

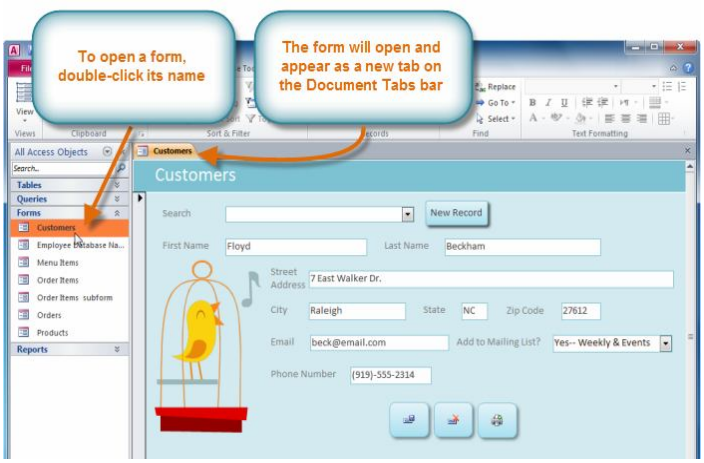


As you can see, this record is much easier to understand when viewed in a form. Modifying the record would be easier, too, since you wouldn't have to know any ID numbers to enter new data. When you're using a form, you don't have to worry about entering data into the right tables or in the right format-- the form can handle those things itself. There's no need to go back and forth between tables or search carefully within a table for a certain record, since forms let you see entire records one at a time.

Not only do forms make the data entry process easier for the user, they keep the database itself working smoothly. With forms, database designers can control exactly how users are able to interact with the database. They can even set restrictions on individual form components to ensure that all of the needed data is entered, and that it's all entered in a valid format. This is useful, as keeping the data consistent and well-organized is essential for an accurate and powerful database.

To Open an Existing Form:

1. **Open** your database and locate the **Navigation Pane**.
2. In the **Navigation Pane**, locate the form you would like to open. Forms are marked with the icon.
3. **Double-click** the name of the form. It will open and appear as a **tab** in the **Document Tabs bar**.



Entering and Modifying Data

Depending on the database you're using, the forms you work with may include special tools and features that let you do common tasks with one click of a button. You'll see examples of these tools in the interactive on the next page. However, no matter what type of form you're working with, you can follow the same procedures for carrying out certain basic tasks.

To Add a New Record:

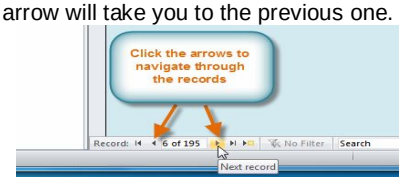
There are two ways to add a new record to a form:

- In the **Records** group on the **Home** tab of the **Ribbon**, click the **New** command.
- On the **Record Navigation bar** at the bottom of the window, click the **New Record** button.

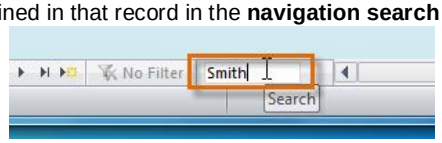
To Find an Existing Record to View or Edit:

There are two ways to find and view an existing record using a form, and they both use the **Navigation Bar** at the bottom of the screen:

- To look through records one at a time, click the **navigation arrows**. The right arrow will take you to the next record, and the left arrow will take you to the previous one.



- To **search** for a record, type a word that you know is contained in that record in the **navigation search box**.



To Save the Current Record:

1. Select the **Home** tab and locate the **Records** group.
2. Click the **Save** command. The current record will be saved.

To Delete the Current Record:

1. Select the **Home** tab and locate the **Records** group.
2. Click the **Delete** command. The record will be permanently deleted.

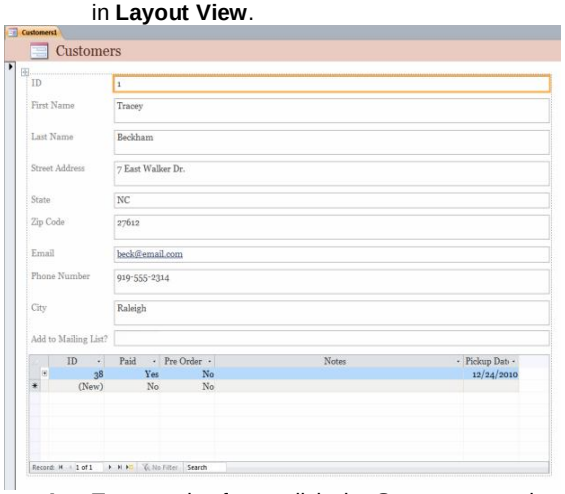
Creating Forms

Access makes it easy to create a form from any table in your database. Any form you create from a table will let you view the data that's already in that table and add new data. Once you've created a form, you can also modify it by adding additional fields and design controls such as combo boxes.

To Create a Form:

1. In the **Navigation Pane**, **select** the table you would like to use to create a form. You do not need to open the table.
2. Select the **Create** tab on the Ribbon and locate the **Forms** group. Click the **Form** command.

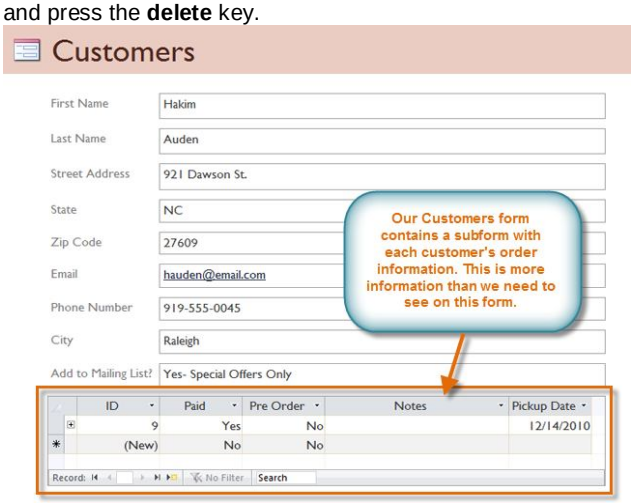
3. Your form will be created and opened in **Layout View**.



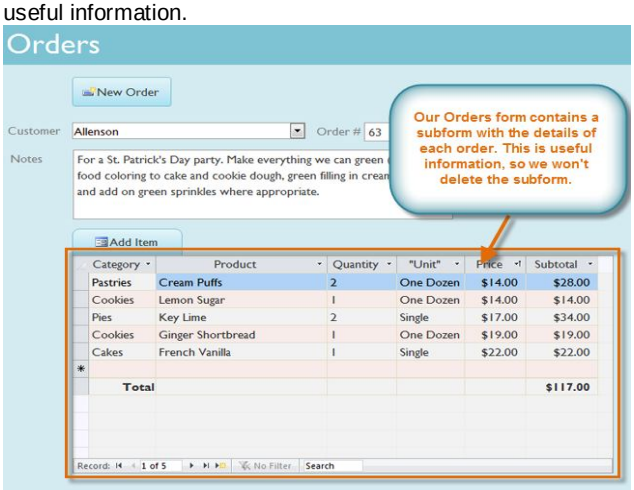
4. To **save** the form, click the **Save** command on the **Quick Access Toolbar**. When prompted, type a **name** for the form and then click **OK**.

About Subforms

If you created a form from a table whose records are linked to another table, your form probably includes a **subform**. A subform is a **datasheet form** that displays linked records in a table-like format. For instance, the subform included in the **Customers** form we just created displays linked customer **orders**. We probably don't need to include this subform, since we really just want to use the Customers form to enter and review contact information. If you find that you don't need a subform, you can easily **delete** it. Simply click it and press the **delete** key.



However, subforms aren't always useless. Depending on the content and source of your form, you might find that the subform contains useful information, as in the example below. In our **Orders** form, the subform contains the name, quantity, and price of each item contained in that order, which is all very useful information.



Adding Additional Fields to a Form

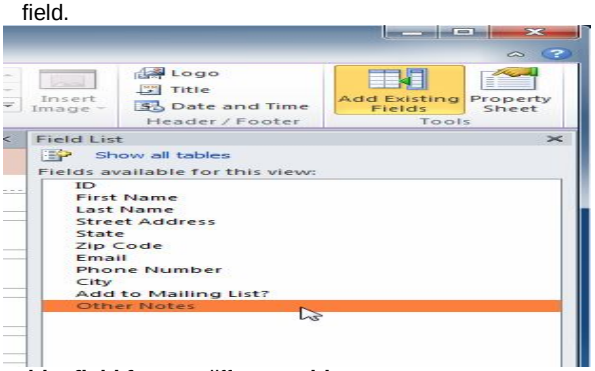
When you use the **Form** command on an existing table, all of the fields from that table are included in that form. However, if you later add additional fields to that table, those fields will **not** automatically show up in existing forms. In situations like this, you can **add** additional fields to a form.

To Add a Field to a Form:

1. Select the **Form Layout Tools Design** tab, then locate the **Tools** group on the right side of the Ribbon.
2. Click the **Add Existing Fields** command.

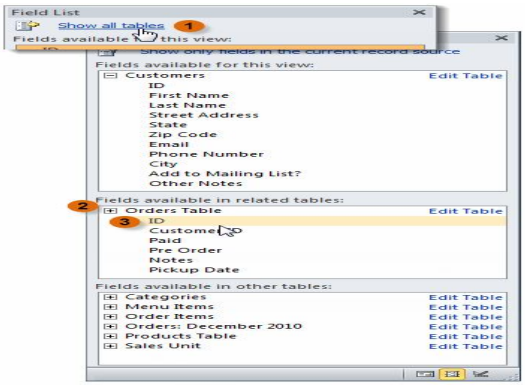
3. The **Field List** pane will appear. Select the field or fields to add to your form.

o If you want to add a field from the **same** table you used to build the form, simply **double-click** the name of the desired field.



To add a field from a different **table**:

1. Click **Show All Tables**.
2. Click the plus sign **+** next to the table that contains the field you wish to add.
3. Double-click the desired field.



4. The new field will be added.

You can also use the above procedure to add fields to a totally blank form. Simply **create a form** by clicking the **Blank Form** command on the **Create** tab, then follow the above steps to add the desired fields.

Adding Design Controls

Design Controls set restrictions on the fields in your forms. This helps you better control how the data is entered into your forms, which in turn helps keep the database consistent.

Combo Boxes

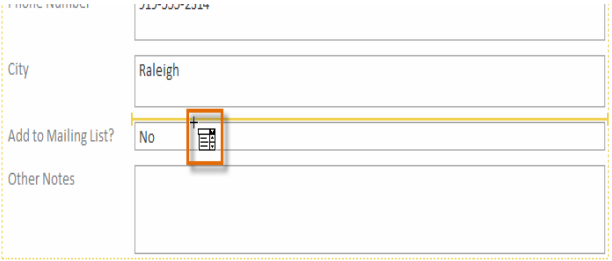
A **combo box** is a drop-down list that you can use in your form in place of a field. Combo boxes **limit** the information that a user can enter by forcing them to select only the **options** that you have specified.

Combo boxes are useful for fields that have a limited number of possible valid responses. For instance, you might use a combo box to make sure that people only enter a valid U.S. state while entering an address, or that they only choose products that already exist in your database while placing an order.

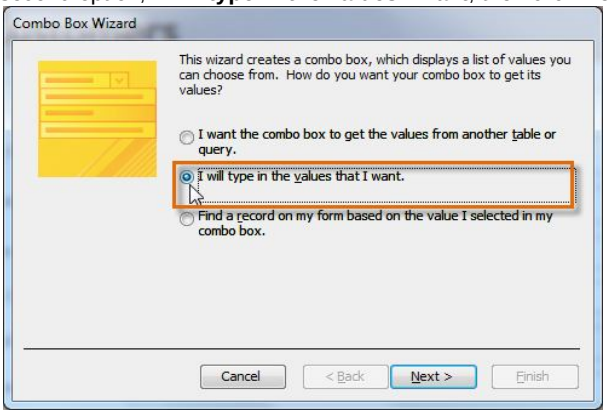
To Create a Combo Box:

1. In **Form Layout** view, select the **Form Layout Tools Design** tab and locate the **Controls** group.
2. Select the **Combo Box** command, which looks like a drop-down list.

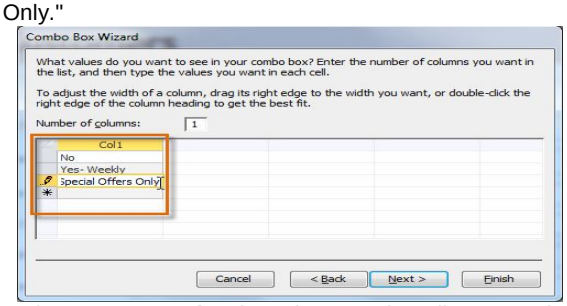
3. Your cursor will turn into a tiny **crosshairs and drop-down list** icon . Move the cursor to the place where you would like to insert the combo box, and click. A yellow line will appear to indicate the location where your combo box will be created. In our example, the combo box will be located **between** the **City** field and the **Add to Mailing List?** field.



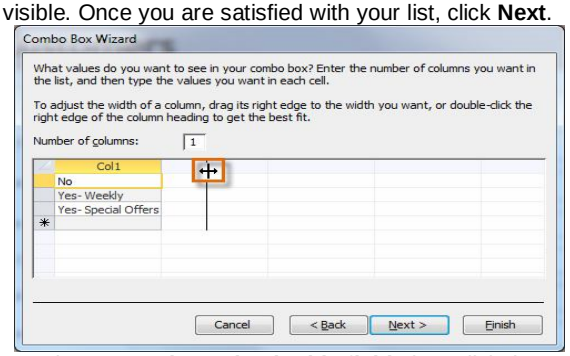
4. The **Combo Box Wizard** dialog box will appear. Select the second option, **I will type in the values I want**, then click **Next**.



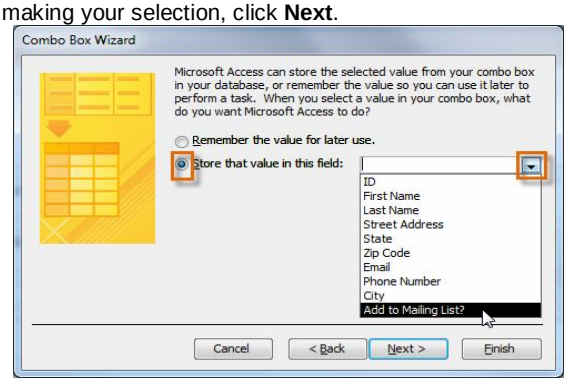
5. Type in the choices you would like to appear in your drop-down list. Each choice should be on its own row. In our example, we are creating a combo box for the **Add to Mailing List?** field in our form, so we will enter all of the possible valid responses for that field. Users will be able to select one of three choices from our finished combo box: "No," "Yes- Weekly," and "Special Offers Only."



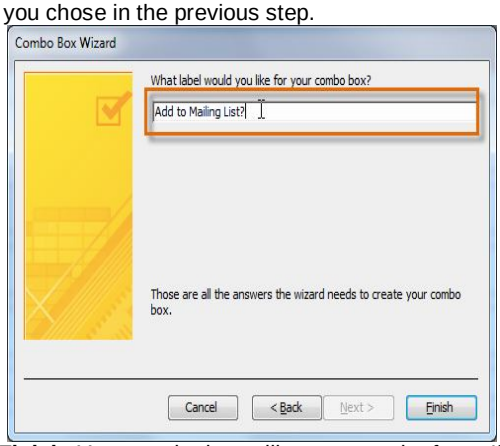
6. If necessary, **resize** the column so that all your text is visible. Once you are satisfied with your list, click **Next**.



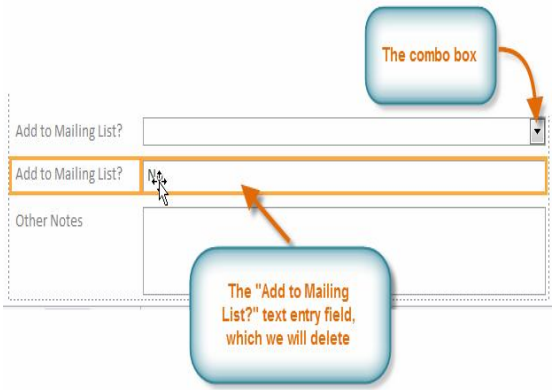
7. Select **Store that value in this field**, then click the drop-down arrow and **select** the **field** where you would like selections from your combo box to be recorded. After making your selection, click **Next**.



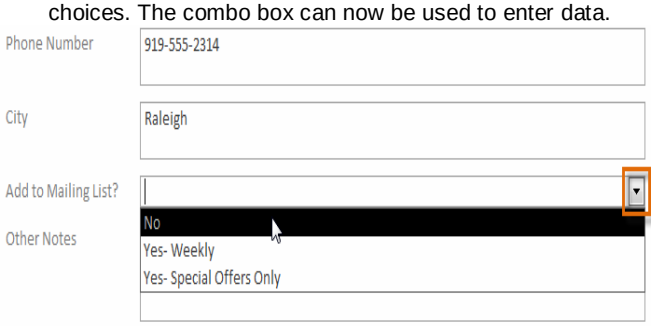
8. Enter the **label**, or **name** that will appear next to your combo box. Generally, it's a good idea to use the name of the field that you chose in the previous step.



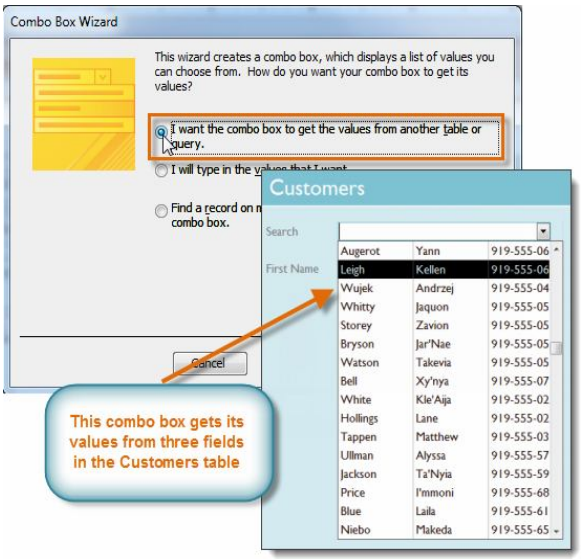
9. Click **Finish**. Your combo box will appear on the form. If you created your combo box to **replace** an existing field, you should **delete** the first field.
In our example, you might notice that we now have two fields with the same name. These two fields send information to the same place, so we don't need them both. We'll **delete** the one without the combo box.



10. Switch to **Form** view to **test** your combo box. Simply click the drop-down arrow and verify that the list contains the correct choices. The combo box can now be used to enter data.



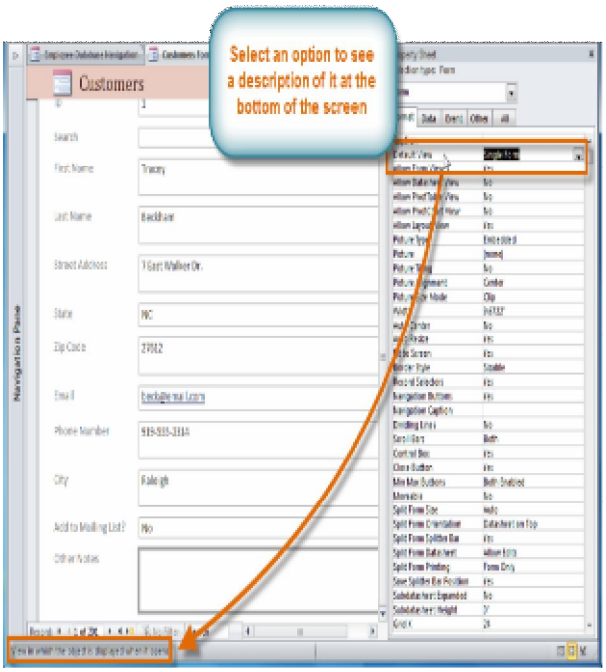
If you want to include a drop-down list with a long list of options and don't want to type them all out, create a combo box and choose the first option in the combo box wizard, **I want to get the values from another table or query**. This will allow you to create a drop-down list from a table field.



Some users report that Access malfunctions while working with forms. If you have a problem performing any of these tasks in Layout view, try switching to Design View.

Customizing Form Settings with the Property Sheet

The **Property Sheet** is a pane containing **detailed information** about your form and each of its components. From the Property Sheet, you can make changes to every part of your form, both in terms of function and appearance. The best way to familiarize yourself with the property sheet is to **open** it and **select** various options. When you select an option, Access will display a brief description of that option on the **bottom left border** of the program window.

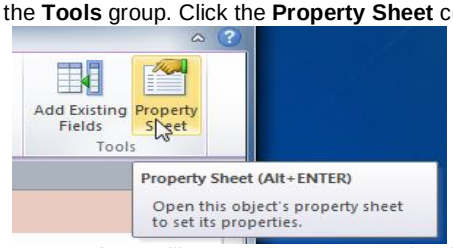


Modifying Form Settings

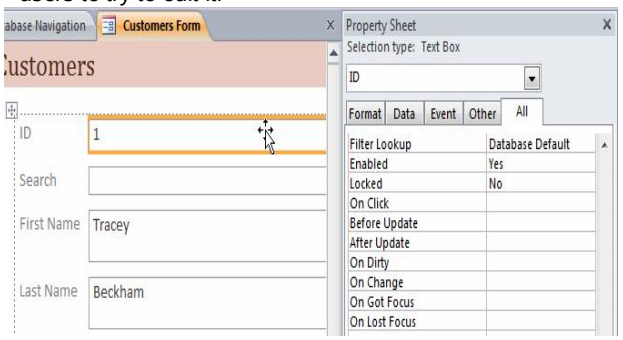
There are far too many options in the Property Sheet to discuss them all in detail. We'll review two useful ones here: **hiding** fields, and setting fields with **dates** to **automatically fill in the current date**. Practicing these procedures should give you a sense of how to work with other Property Sheet settings, as well.

To Hide a Field:

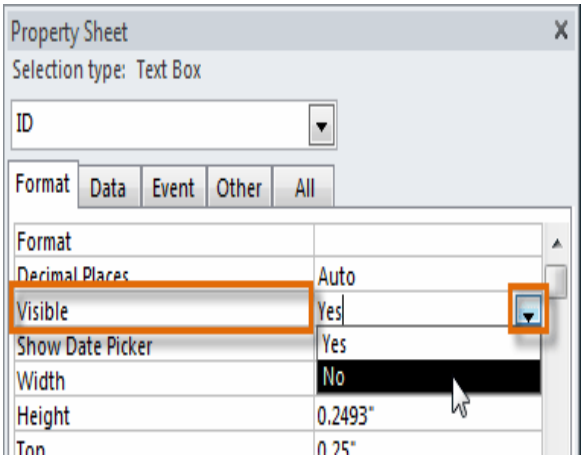
1. In either **Layout** or **Design** view, select the **Design** tab and locate the **Tools** group. Click the **Property Sheet** command.



2. The **Property Sheet** will appear in a pane on the right. On the form, **select** the field you wish to hide. In our example, we'll hide the **Customer ID** field, since we don't want any of our users to try to edit it.



3. In the **Property Sheet**, click the **Format** tab and locate the **Visible** option on the third row.
4. Click the drop-down arrow in the column to the right, and select **No**.



5. Switch to **Form** view to verify that the field is hidden.

To Set a Field to Auto-fill with the Current Date

1. In either **Layout** or **Design** view, select the **Design** tab and locate the **Tools** group. Click the **Property Sheet** command.
2. The **Property Sheet** will appear in a pane on the right. On the form, **select** the field you would like to automatically fill in the current date. This **must** be a field with the **date** data type. For our example, we'll select the **Pickup Date** field on our **Orders** form.
3. In the **Property Sheet**, click the **Data** tab and select the **Default Value** field in the fourth row. Click the **Expression Builder** button that appears in the column to the right.
4. The **Expression Builder** dialog box will open. In the **Expression Elements** list, click the words **Common Expressions**.
5. In the **Expression Categories** list, double-click **Current Date**.
6. The expression for Current Date will be added. Click **OK**.
7. Switch to **Form** view to verify that the expression works. When you **create** a **new record** with that form, the date field that you modified will automatically fill in the current date.

Formatting Forms

Access offers many options that let you make your forms look exactly the way you want. While some of these options, like command buttons, are unique to forms, others may be familiar to you.

Command Buttons

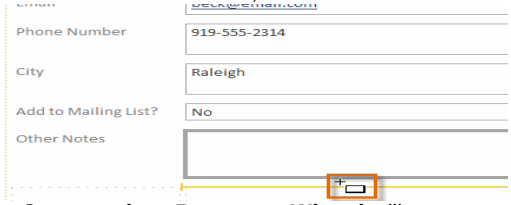
If you want to create a way for users of your form to quickly perform specific actions and tasks, consider adding **command buttons**. When you create a command button, you specify an action for it to carry out when clicked. By including commands for common tasks right in your form, you're making the form easier to use.
Access offers many different types of command buttons, but they can be divided into a few main categories, including:

- **Record Navigation** command buttons, which easily allow your user to move among the records in your database.
- **Record Operation** command buttons, which let your user do things like save or print a record.
- **Form Operation** command buttons, which give your user the ability to quickly open or close a form, print the current form, and other actions.
- **Report Operation** command buttons, which offer the user a quick way to do things such as preview or mail a report from the current record.

To Add a Command Button to a Form:

1. In **Form Layout** view, select the **Form Layout Tools Design** tab and locate the **Controls** group.
2. Select the **Button** command.

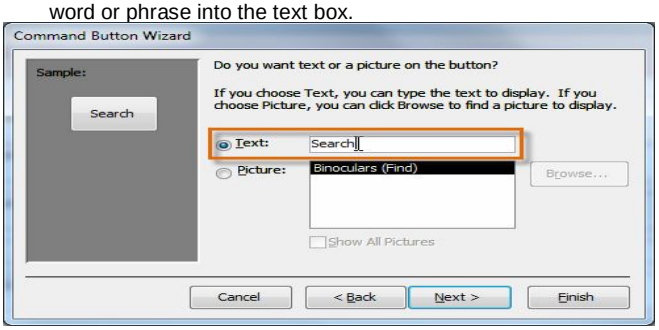
3. Your cursor will turn into a tiny **crosshairs with a button** icon . Place it in the spot where you would like your command button to be, and click.



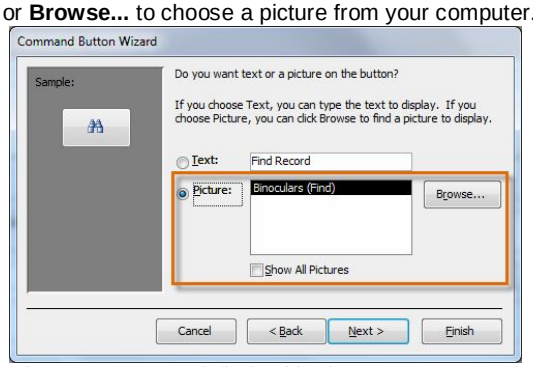
4. The **Command Button Wizard** will appear. In the **Categories** pane, select the category of button you want to add. We want to find a way to move more quickly to specific records, so we'll choose the **Record Navigation** category.
5. The list in the **Actions** pane will update to reflect your chosen category. Select the action you would like the button to perform, then click **Next**. For our example, we'll choose **Find Record**.

6. You can now decide whether you want your button to include **text** or a **picture.** A live preview of your button appears on the left.

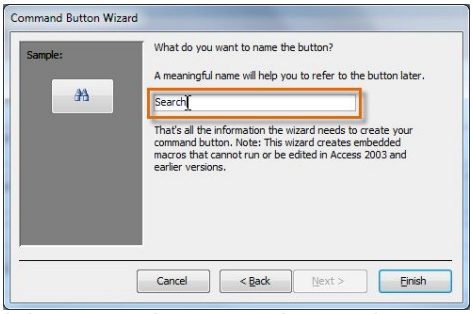
o To include **text**, select the **Text** option and type the desired word or phrase into the text box.



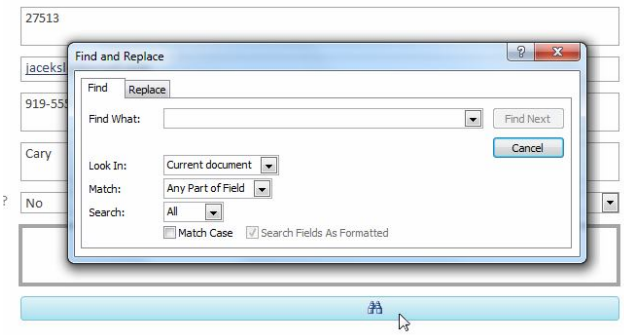
o To include a **picture**, select the **Picture** option. You can decide to keep the default picture for that command button, or select another picture. Click **Show All Pictures** to choose from another command button icon, or **Browse...** to choose a picture from your computer.



2. When you are satisfied with the appearance of your command button, click **Next**.
3. Type a **name** for the button. This name won't appear on the button, but knowing the name will help you quickly identify the button if you ever want to **modify** it with the **Property Sheet**. After typing the button name, click **Finish**.



4. Switch to **Form** view to test the new button. Our **Find Record** button opens the **Find and Replace** dialog box.

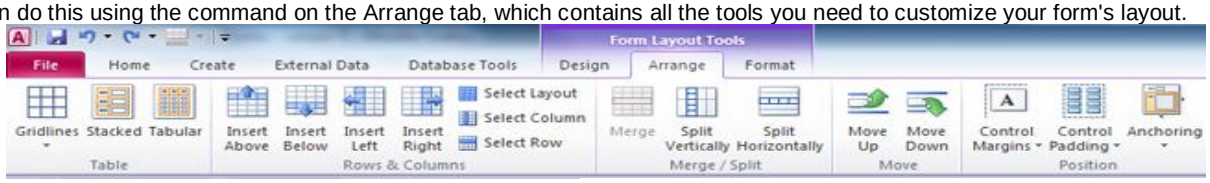


Some users report that Access malfunctions while formatting forms. If you have a problem performing any of these tasks in Layout view, try switching to Design View.

Modifying Form Layout

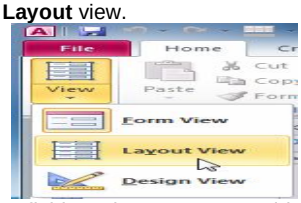
When you create a form, Access arranges the form components in a default layout where the fields are neatly stacked up on top of each other, all exactly the same width.

While this layout is functional, you might find that it doesn't best fit your information. For instance, in the form below, most of the fields are almost completely empty, since the data stored there doesn't take up much room.
The form would fit the data a little better if we made the fields and command buttons smaller, and even put some of them side by side. However, with the default layout, you won't be able to put two fields next to each other or resize one field or button without resizing them all. This is because Access lines up form components in rows and columns. When you resize a field, you're really resizing the column that contains it.
We can do this using the command on the Arrange tab, which contains all the tools you need to customize your form's layout.



To Resize Form Components:

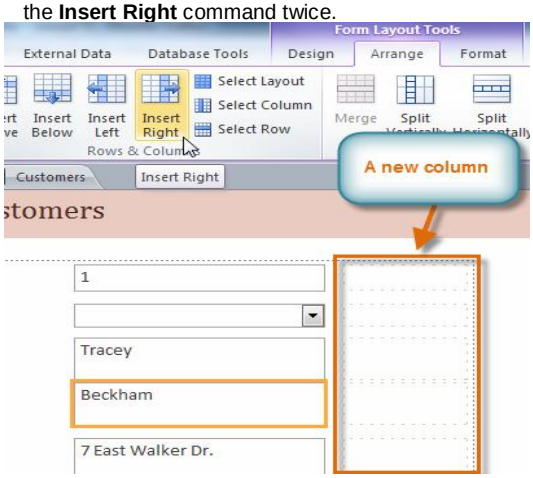
1. Switch to **Layout** view.



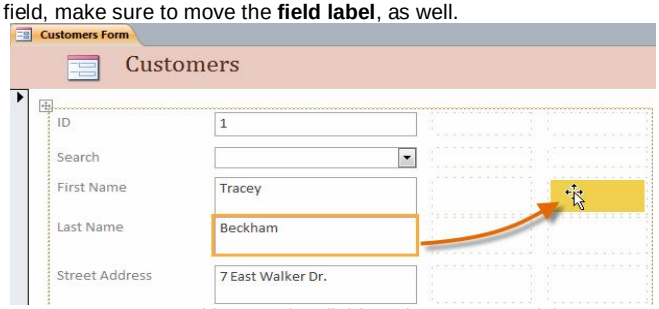
2. Select the field or button you would like to resize, and **hover your mouse** over the edge. Your cursor will become a double-sided arrow.
3. **Click** and **drag** the edge to resize, and release when the field or button is the desired size.
4. The field or button, as well as every other item in line with it, will be resized.

To Move Form Components:

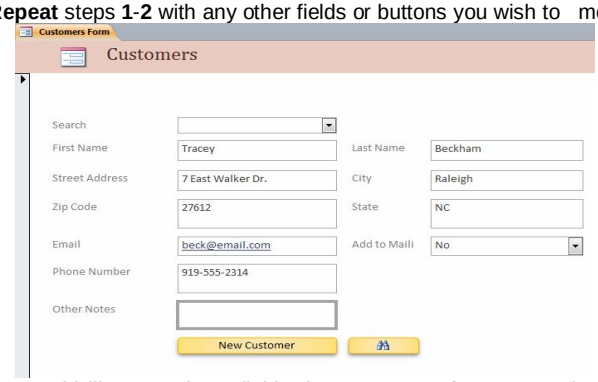
1. If necessary, **add columns or rows** to make room for the field or button you wish to move, by using the **Insert** commands in the **Rows & Columns** group. In our example, we want to move the **Last Name** field to the right of to the **First Name** field, so we'll have to create two new columns to the right: one for the field label, and one for the field itself. To do this, we'll click the **Insert Right** command twice.



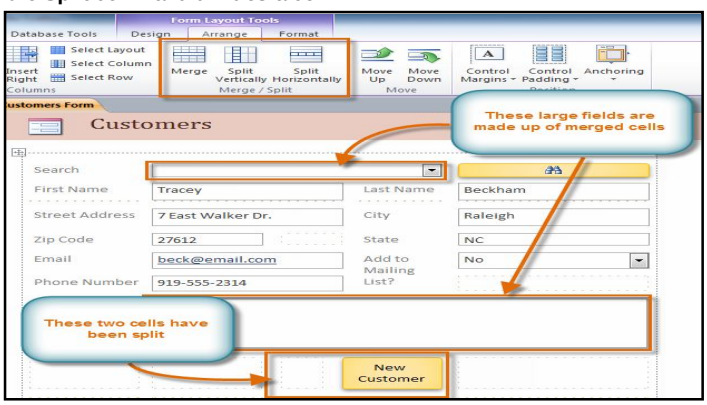
2. **Click** and **drag** the field or button to its new location. If you're moving a field, make sure to move the **field label**, as well.



3. **Repeat** steps **1-2** with any other fields or buttons you wish to move.



If you would like to make a field take up **more** or **less** space than one column, you can use the **Merge** and **Split** commands. The Merge command **combines** two or more cells, while the **Split** command **divides** a cell.



Lesson: 5

Sorting & Filtering Records

Access 2010 gives you the ability to work with enormous amounts of data, which means it can be hard to learn anything about your database just by glancing at it. Sorting and filtering are two tools that let you customize how you organize and view your data making it more convenient to work with. Essentially, sorting and filtering are tools that let you organize your data. When you sort data, you are putting it in order. Filtering data lets you hide unimportant data and focus only on the data you're interested in.

Sorting Records

When you **sort** records, you are putting them into a **logical order**, with **like data grouped together**. As a result, sorted data is often simpler to read and understand than unsorted data. By default, Access sorts records by their **ID numbers**. However, there are many other ways records can be sorted. For example, the information in a database belonging to a bakery could be sorted in a number of ways**:**

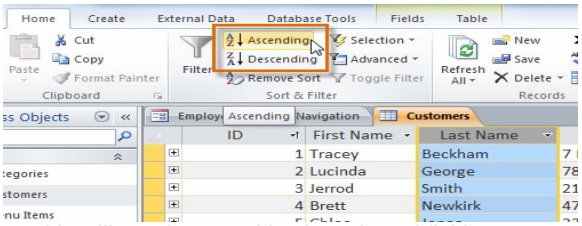
- Orders could be sorted by **order date** or by the **last name** of the customers who placed the orders.
- Customers could be sorted by **name** or by the **city** or **zip code** where they live.
- Products could be sorted by **name**, **category** (e.g., pies, cakes, cupcakes, etc.), or **price**.

You can sort both text and numbers in two ways: in ascending order or descending order. ***"Ascending"*** means ***"going up,"*** so an ascending sort will arrange numbers from smallest to largest and text from **A to Z**. ***"Descending"*** means ***"going down,"*** or largest to smallest for numbers and **Z to A** for text. The default ID number sort that appears in your tables is an ascending sort, which is why the lowest ID numbers appear first. In our example, we will be performing a sort on a table. However, you can sort records in any Access object. The procedure is largely the same.

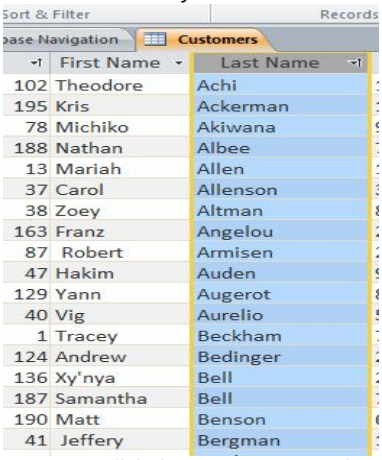
To Sort Records:

1. Select a field in the cell you wish to sort by. In this example, we will sort by customers' last names.

2. Click the **Home** tab on the Ribbon and locate the **Sort & Filter** group.
3. **Sort** the field by selecting the **Ascending** or **Descending** command.
    - Select **Ascending** to sort text A to Z or to sort numbers from smallest to largest. We will select this in our example, since we want the last names to be in A to Z order.
    - Select **Descending** to sort text Z to A or to sort numbers from largest to smallest.



4. The table will now be sorted by the selected field.



5. To save the new sort, click the **Save** command on the Quick Access toolbar.

After you save the sort, the records will stay sorted that way until you perform another sort or remove the current one. To remove a sort, simply click the **Remove Sort** command.

Filtering Records

Filters allow you to view **only the data you want to see**. When you create a filter, you set **criteria** for the data you want to display. The filter then **searches** all of the records in the table, **finds** the ones that meet your search criteria, and **temporarily hides** the ones that don't.

Filters are useful, as they allow you to **focus in** on specific records without being distracted by the data you're uninterested in. For instance, if you had a database that included customer and order information, you could create a filter to display only customers living within a certain city, or only orders that contain a certain product. Viewing this data with a filter would be far more convenient than searching for it in a large table.

In our examples and explanations, we will be applying filters to tables. However, you can apply filters to any Access object. The procedure is largely the same.

To Create a Simple Filter:

1. Click the **drop-down arrow** next to the field you would like to filter by.
2. A drop-down menu with a checklist will appear. Only checked items will be included in the filtered results. Use the following options to determine which items will be included in your filter:
    - **Select** and **deselect** items one at a time by clicking their checkboxes.
    - Click **Select All** to include every item in the filter. Clicking **Select All** a second time will deselect all items.
    - Click **Blank** to set the filter to find only the records with no data in the selected field.
3. Click **OK**. The filter will be applied.

Toggling your filter allows you to turn it on and off. To view the records without the filter, simply click the **Toggle Filter** command. To restore the filter, simply click it again.

Creating a Filter from a Selection

Filtering by selection allows you to **select specific data** from your table and find data that is **similar** or **dissimilar** to it. For instance, if you were working with a bakery's database and wanted to search for all products whose names contained the word "chocolate," you could select that word in one product name and create a filter with that selection. Creating a filter with a selection can be more convenient than setting up a simple filter if the field you're working with contains many items.

To Create a Filter from a Selection:

1. **Select** the cell or data you would like to create a filter with. If *We want to see a list of all of our products that contain the word "chocolate" in their names, so we'll select the word "**chocolate**" in the **Product Name** field*.
2. Select the **Home** tab on the Ribbon and locate the **Sort & Filter** group.
3. Click the **Selection** drop-down arrow.
4. Select the type of filter you would like to set up:
    - Selecting **Equals** will include only records with data that is identical to the selected data.
    - Selecting **Does Not Equal** will include all records **except** the data that is identical to the selection..
    - Selecting **Contains** will include only records with cells that contain the selected data. We'll select this, since we want to see records that contain the word "chocolate" anywhere in the title.
    - Selecting **Does Not Contain** will include all records **except** those with cells that contain the selected data.
5. The filter will be applied. Our table now displays only products with the word "chocolate" in their names.

Creating a Filter from a Search Term

You can also create a filter by entering a **search term** and specifying the way Access should match data to that term. Creating a filter from a search term is similar to creating a filter from a selection.

Filtering Text by a Search Term

When filtering text by entering a search term, you can use some of the same options you use when filtering by a selection, like **Equals**, **Does not Equal**, **Contains**, and **Does Not Contain**. You can also choose from the following options:

- **Begins With**, which includes only records whose data for the selected field **begins** with the search term
- **Does Not Begin With**, which includes all records **except** those whose data for the selected field begins with the search term
- **Ends With**, which includes only records whose data for the selected field **ends** with the search term
- **Does Not End With**, which includes all records **except** those whose data for the selected field ends with the search term

To Filter Text by a Search Term:

1. Click the **drop-down arrow** next to the field you would like to filter by. If We want to filter the records in our orders table to display only those that contain notes with certain information, so we'll click the arrow in the **Notes** field.
2. In the drop-down menu, hover your mouse over the words **Text Filters**. From the list that appears, select the way you would like the filter to match the term you enter. In this example, we want to view only records whose notes indicate the order was placed for a party. We'll select **Contains**, so that we can search for records that contain the word "party."
3. The **Custom Filter** dialog box will appear. Type in the word you would like to use in your filter.
4. Click **OK**. The filter will be applied.

Filtering Numbers with a Search Term

The process for filtering numbers with a search term is very similar to the process for filtering text. However, different filtering options are available to you when working with numbers. In addition to the **Equals** and **Does not Equal**, you can also choose:

- **Greater Than** to include only records with numbers in that field **greater than or equal to** the number you enter
- **Less Than** to include only records with numbers in that field **less than or equal to** the number you enter
- **Between** to include records with numbers that fall within a certain range

Lesson: 6

Designing A Query

The real power of a relational database is in the ability to quickly retrieve and analyze your data by running a query. Queries allow you to pull information from one or more tables based on a set of search conditions you define.
Running a query is like asking a detailed question of your database. When you build a query in Access, you are defining specific search conditions to find exactly the data you want.

How are Queries Used?

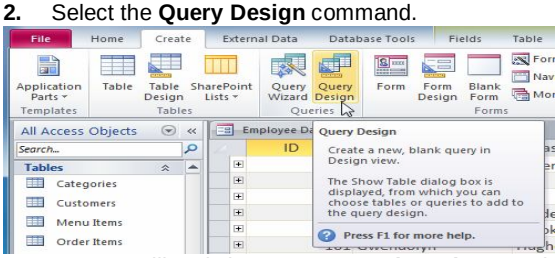
Queries are far more powerful than the simple searches or filters you might use to find data within a table. This is because queries can draw their information from multiple tables. For example, while you could use a search in the customers table to find the name of one customer at your business or a filter on the orders table to view only orders placed within the past week, neither of those would let you view both customers and orders at once. However, you could easily run a query to find the name and phone number of every customer who's made a purchase within the past week. A well-designed query can give information that you might not be able to find out just by examining the data in your tables.
When you run a query, the results are presented to you in a table, but when you design one, you use a very different view. This is called Query Design view, and it lets you see how your query is put together.

One-Table Queries

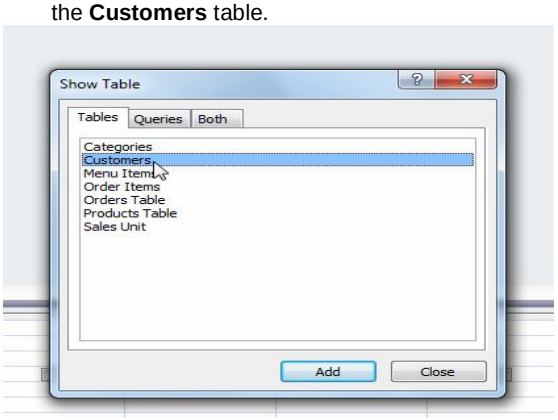
Let's familiarize ourselves with the query-building process by building the simplest query possible: ***a one-table query***.
We will run a query on the Customers table of our bakery database. Imagine that our bakery is having a special event, and we want to invite our customers who live nearby, since they are the most likely to come. This means we need to see a list of all the customers who live close by, and only those customers.
If you think this sound a little like applying a filter, you're right. A ***one-table query*** is actually just an advanced filter applied to a table.

To Apply a Simple One-Table Query:

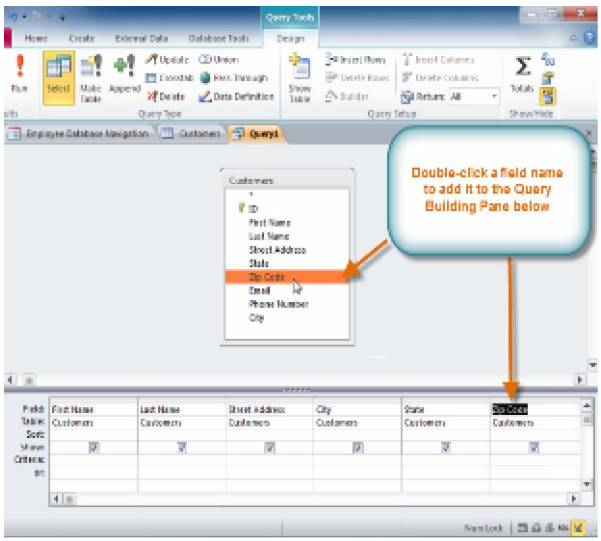
1. Select the **Create** tab on the Ribbon and locate the **Queries** group.
2. Select the **Query Design** command.



3. Access will switch to **Query Design view**. In the **Show Table** dialog box that appears, select the table you would like to run a query on. Click **Add**, then click **Close**. We are running a query about our customers, so we will add the **Customers** table.



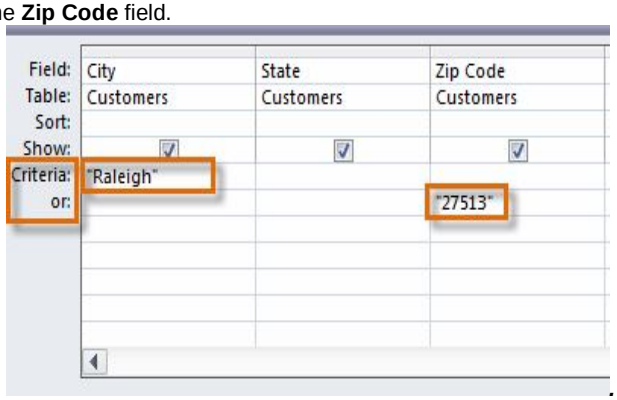
4. The selected table will appear as a small window in the **Object Relationship Pane**. In the table window, double-click the **field names** you would like to include in your query. They will be added to the **Design Grid** in the bottom part of the screen.
In our example, we want to mail invitations to customers who live in a certain area, so we'll include the **first** and **last name**, **street address**, **city**, **state**, and **zip code** fields. We aren't planning on calling or emailing our customers, so we don't have to include the **telephone** or **email** fields.



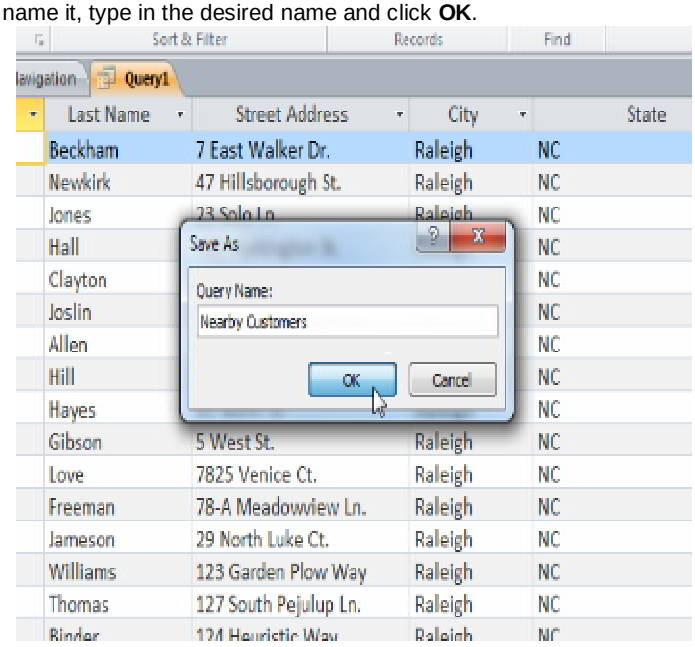
5. Set the **search criteria** by clicking on the cell in the **Criteria: row** of each **field** you would like to filter.

Typing criteria into more than one field in the Criteria: row will set your query to include only results that meet all the criteria. If you want to set multiple criteria, but don't need the records shown in your results to meet them all, type the first criteria in the Criteria: row and additional criteria in the **Or: row** and the rows beneath it.
For this one-table query, we'll use very simple search criteria.

- We want to find our customers who live in a city called **Raleigh**, so in our **City** field; we'll type**"Raleigh."** Typing "Raleigh" in **quotation marks** will retrieve all records with an **exact match** for "Raleigh" in the City field.
- Some customers who live in the suburbs live fairly close by, and we'd like to invite them as well. We'll add their **zip code**, **27513** as another criterion. Since we want to find customers who either live in Raleigh **or** the 27513 zip code, we'll type "27513" in the **or:** row of the **Zip Code** field.



6. After you have set your criteria, **run** the query by clicking the **Run** command on the **Query Tools Design** tab.
7. The query results will be displayed in the query's **Datasheet View**, which looks like a table. If desired, **save** your query by clicking the **Save** command in the Quick Access Toolbar. When prompted to name it, type in the desired name and click **OK**.



To Design a Multi-Table Query

Queries can be hard to understand and build if you don't have a good idea of what you're trying to find and how to find it. A one-table query can be simple enough to make up as you go along, but to build anything more powerful, you'll need to plan the query in advance.

Planning a Query

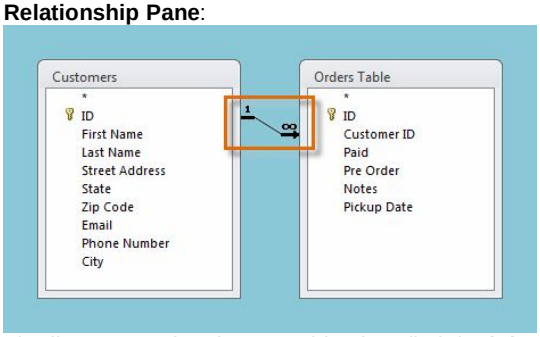
When planning a query that uses more than one table, you should go through these four steps:

1. **Pinpoint** exactly what you want to know. If you could ask your database any question, what would it be? Building a query is more complicated than just asking a question, but knowing precisely what question you want to answer is essential to building a useful query.
2. **Identify** every type of information you want included in your query results. Which fields contain this information?
3. **Locate** the fields you want to include in your query. Which tables are they contained in?
4. **Determine** the criteria the information in each field needs to meet. Think about the question you asked in the first step. Which fields do you need to search for specific information? What information are you looking for? How will you search for it?

This process might seem abstract at first, but as we go through the process of planning our own multi-table query, you should start to understand how planning your queries can make building them a lot easier.

Joining Tables in Queries

The final thing you need to consider when designing a query is the way you link, or **join**, the tables you're working with. When you add two tables to an Access query, this is what you'll see in the **Object Relationship Pane**:



The line connecting the two tables is called the **join line**. See how the join line is actually an arrow? This is because it indicates the order in which the query looks at data from the two tables. In the image above, the arrow is pointing from **left** to **right**, which means that the query will look at data in the **left** table first, then look at only the data in the

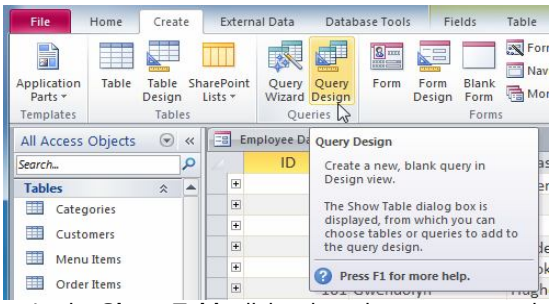
right table that **relates** to the records it's already seen in the left table.
Your tables won't always be joined this way-- sometimes Access will join them **right** to **left**. In either case, you might need to **change the direction** of the join to make sure your query includes the correct information. The join direction can affect **which information** your query **retrieves**.

Creating a Multi-Table Query

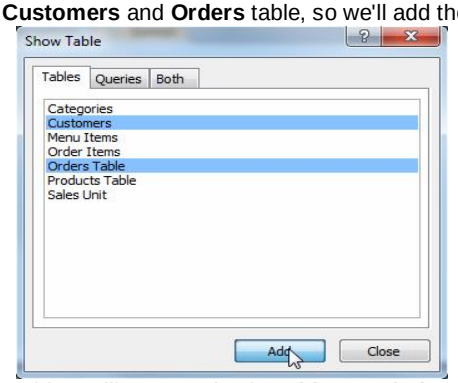
Now that we've planned our query, we're ready to design and run it. If you have created written plans for your query, be sure to reference them often throughout the query design process.

To Create a Multi-Table Query:

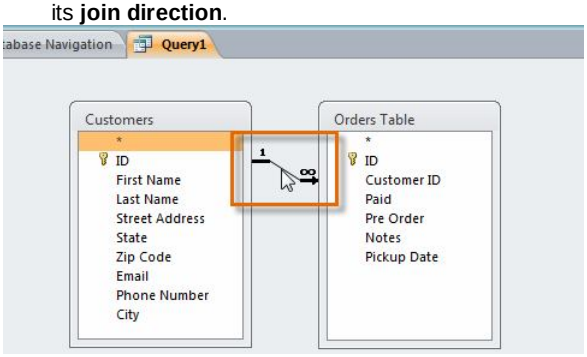
1. Select the **Query Design Command** from the **Create** tab on the Ribbon.



2. In the **Show Table** dialog box that appears, select each table you would like to include in your query and click **Add**. After you have added all of the tables you wish, click **Close**. When we planned our query, we decided we needed information from the **Customers** and **Orders** table, so we'll add those.

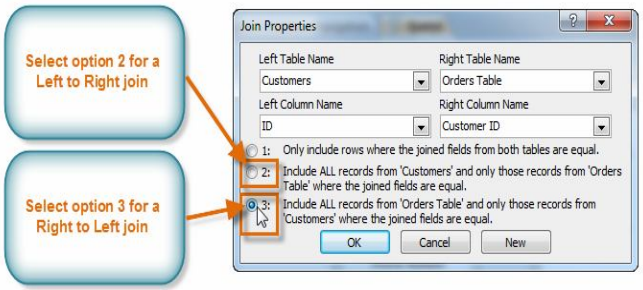


3. The tables will appear in the **Object Relationship Pane**, linked by a **join line**. Double-click the thin section of the join line between two tables to edit its **join direction**.

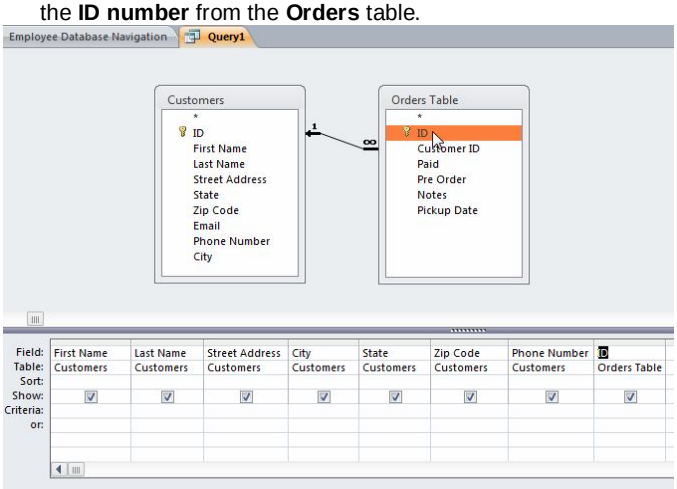


4. The **Join Properties** dialog box will appear. Select an option to choose the direction of your join.

- Choose option **2:** for a **Left** to **Right** join. In our query, the **left** table is the **Customers** table, so choosing this would mean that all of the customers who met our location criteria, whether or not they had placed an order, would be included in our results. We don't want to choose this option for our query.
- Choose option **3:** for a **Right** to **Left** query. Since our **right** table is our **Orders** table, selecting this option will let us work with records for **all** of the orders and **only** the customers who've placed orders. We'll choose this option for our query, since this is exactly the data we want to see.

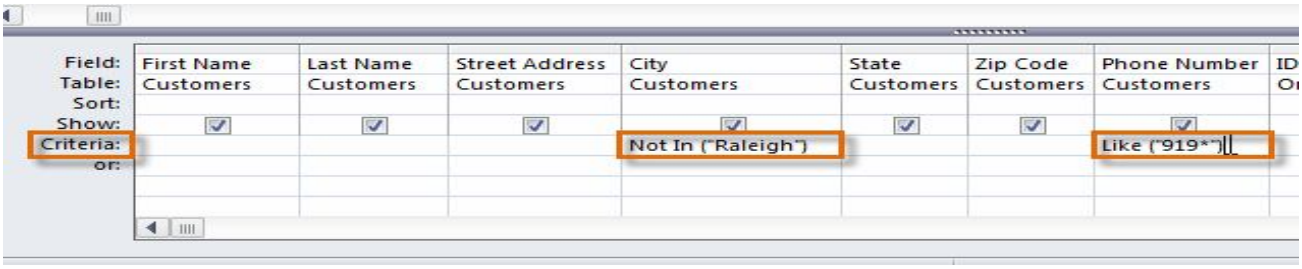


5. In the table windows, double-click the **field names** you would like to include in your query. They will be added to the **Design Grid** in the bottom part of the screen. In our example, we'll include most of the fields from the **Customers** table: **First Name**, **Last Name**, **Address**, **City**, **State**, **Zip Code**, and **Phone Number**. We'll also include the **ID number** from the **Orders** table.

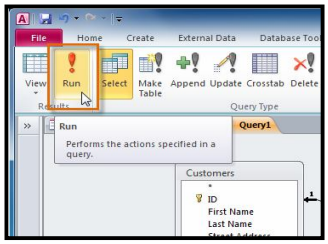


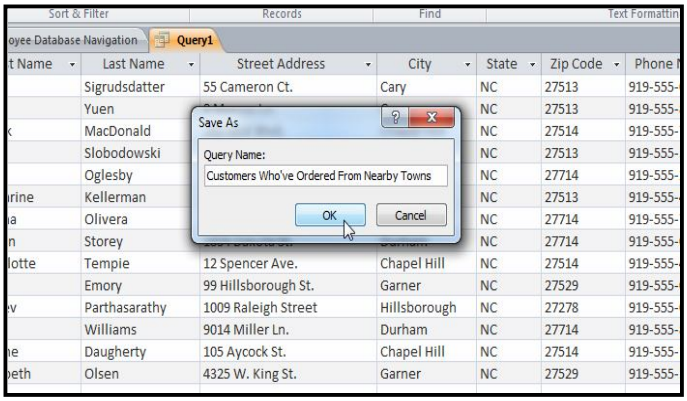
6. Set field **criteria** by entering the desired criteria in the criteria row of each field. We want to set two criteria**:**

- First, to find customers who do **not** live in Raleigh, we'll type **Not like ("Raleigh")** in the **City** field.
- Second, to find customers who have a phone number beginning with the area code **919**, we'll type **Like ("919*")** in the **Phone Number** field.

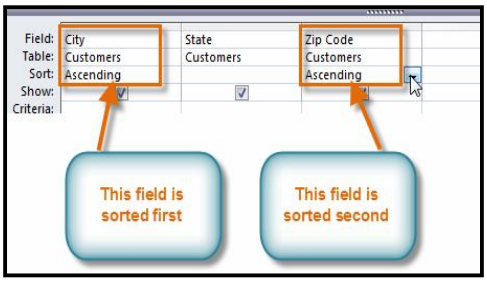


7. After you have set your criteria, **run** the query by clicking the **Run** command on the **Query Tools Design** tab.
8. The query results will be displayed in the query's **Datasheet View**, which looks like a table. If desired, **save** your query by clicking the **Save** command in the Quick Access Toolbar. When prompted to name it, type in the desired name and click **OK**.





To Sort Queries



Access allows you to apply multiple sorts at once while you're designing your query. This allows you to view your data exactly the way you want; every single time you view it. A sort that includes more than one sorted field is called a **multi-level sort**. A multi-level sort allows you to apply an initial sort, then further organize that data with additional sorts. For instance, if you had a table full of customers and their addresses, you might choose to first sort the records by city, then further sort them alphabetically by last name.

When more than one sort is included in a query, Access reads the sorts from **left to right**. This means that the leftmost sort will be applied first. So for instance, in the below example, the customers will be sorted first by the **City** they live in and then by the **Zip Code** within that city.

To Apply a Multi-Level Sort:

1. **Open** the query, and switch to **Design View**.
2. Locate the field you would like to sort first. In the **Sort:** row, click the drop-down arrow to select either an **ascending** or **descending** sort.
3. Repeat the process in the other fields to add additional sorts. Remember, the sorts are applied from left to right, so any additional sorts must be applied to fields located to the **right** of your primary sort. If necessary, you can **rearrange** the fields by **clicking** a field and **dragging** it to a new location.
4. To apply the sort, click the **Run** command.
5. Your query results will appear with the desired sort.

You can also apply multi-level sorts to tables that don't have queries applied to them. On the **Home** tab on the Ribbon, select the **Advanced** drop-down command in the **Sort & Filter** group. Select **Advanced Filter/Sort**, and create the multi-level sort as you normally would. When you're finished, click the **Toggle Filter** command to apply your sort.

Hiding Fields within Queries

Sometimes you might have fields that contain important criteria, but you might not need to actually see the information from that field in the final results. For example, take one of the queries we built in our last lesson-- a query to find the names and contact information of customers who had placed orders. We included Order ID numbers in our query, since we wanted to make sure that we only pulled customers who had placed orders. However, we really didn't need to see that information in our final query results. In fact, if we were just looking for customer names and addresses, seeing the order number mixed in there too might have even been distracting. Fortunately, Access makes it very easy to **hide** fields while still including any criteria they contain.

To Hide a Field within a Query:

1. **Open** the query, and switch to **Design View**.
2. Locate the field you would like to hide.
3. Click the **checkbox** in the **Show**: row to uncheck it.
4. To see the updated query, select the **Run** command. The field will be hidden.

To **unhide** a hidden field, simply return to Design View and click the checkbox in the field's **Show:** row again.

More Types of Queries

By this point, you should understand how to create a simple one- or multi-table query using multiple criteria. Additional queries offer you the ability to perform even more complex actions with your database. One of these is the totals query, which lets you perform calculations with your data.

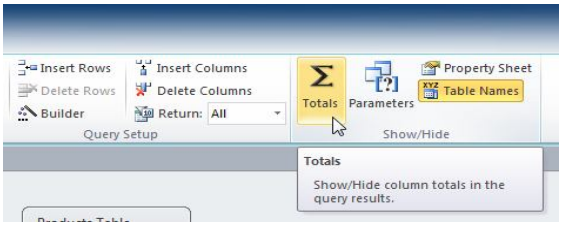
Totals Queries

Sometimes, setting simple criteria won't give you the results you need, especially when you're working with numbers. You may want to see your query results grouped or counted in some way. Access 2010 offers several options that make these functions possible. Perhaps the easiest of these is the **Totals** command. When you use the Totals function in your query, the data in your fields will be grouped by value, meaning that all items of one type are listed together. For instance, in a totals query about the items sold at our bakery, each type of item sold would be listed on a single row, no matter how many times that item had been sold. Once your records are grouped, you can perform calculations with them. ***These calculations include:***

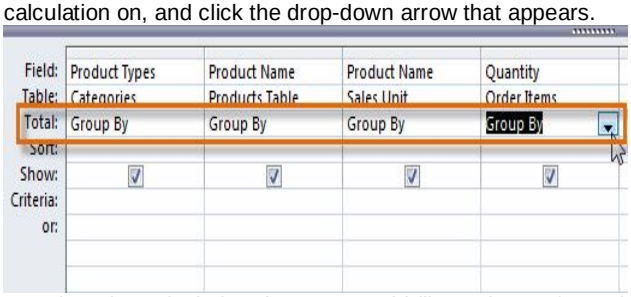
- **Count,** which counts the number of the same items in a field
- **Sum,** which adds the numbers in that field
- **Average,** which finds the average of the numbers that occur in that field
- **Maximum,** which returns the highest value that has been entered in that field
- **Minimum,** which returns the lowest value that has been entered in that field
- **First,** which returns the first, or earliest, value that has been entered in that field
- **Last,** which returns the last, or most recent, value that has been entered in that field

To Create a Totals Query:

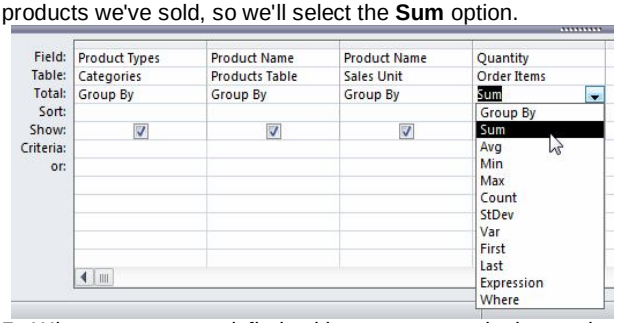
1. Create or open a query you would like to use as a **totals query**. For our example, we want to find the total number we've sold of each of our menu items, so we'll use a query showing us all of the menu items we've sold. If you want to follow along in our database, open the **Menu Items Ordered** query.
2. In the **Query Design** tab, locate the **Show/Hide** group and select the **Totals** command.



3. A row will be added to the table in the **Design Grid**, with all values in that row set to **Group By**. Select the cell in the **Total:** row of the field you would like to perform a calculation on, and click the drop-down arrow that appears.



4. Select the calculation that you would like to be performed in that field. In our example, we want to **add** the quantities of products we've sold, so we'll select the **Sum** option.



5. When you are satisfied with your query design, select the **Run** command on the **Query Tools Design** tab to **run** the query.

6. The query results will be displayed in the query's **Datasheet View**, which looks like a table. If desired, **save** your query by clicking the **Save** command in the Quick Access Toolbar. When prompted to name it, type in the desired name and click **OK**.

Other Types of Query

- **Parameter Query**

A **parameter query** allows you to create a query that can be updated easily to reflect a new criterion, or **search term**. When you open a parameter query, Access will prompt you for a search term, and show you query results that reflect that search.

- **Find Duplicates Query**

A **find duplicates query** lets you find all **duplicate records** in your database, so that you can **delete** them. Duplicate records can negatively affect the **integrity** of your database.

Lesson: 7

Creating A Report

Creating Reports

If you need to share information from your database with someone, but don't want them actually working with your database, you should consider creating a**Report**. Reports allow you to organize and present your data in a reader-friendly, visually appealing format. Access 2010 makes it easy to create and customize a report using data from any query or table in your database.

Reports give you the ability to present components of your database in an easy-to-read, printable format. Access 2010 lets you create reports from both **tables** and **queries**.

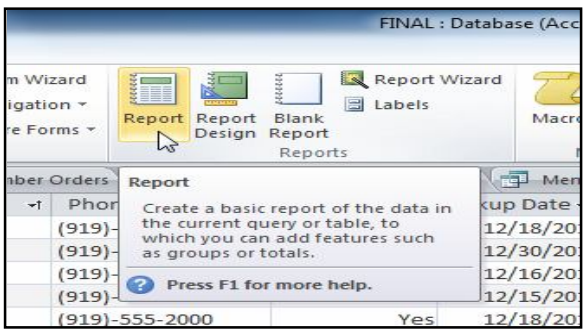
To Create a Report:

1. Open the table or query you would like to use in your report. We want to print out a list of last month's orders, so we'll open up our **Orders Query**.

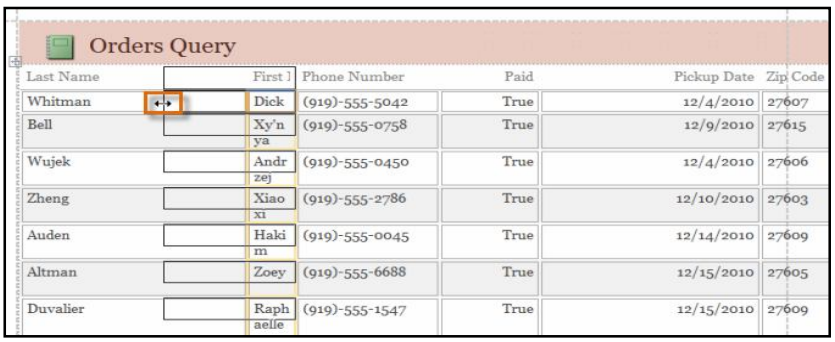
Orders Query

First Name	Last Name	Phone Number	Paid	Pickup Date	Zip Code
Xiaoxi	Zheng	(919)-555-2786	Yes	12/10/2010	27603
Andrzej	Wujek	(919)-555-0450	Yes	12/4/2010	27606
Carson	Woolf	(919)-555-0440	Yes	12/18/2010	27615
Kiara	Williams	919-555-8975	Yes	12/23/2010	27714
Janie	Widby	(919)-555-1025	Yes	12/23/2010	27615
Dick	Whitman	(919)-555-5042	Yes	12/24/2010	27607
Dick	Whitman	(919)-555-5042	Yes	12/4/2010	27607
Lashaunda	White	(919)-555-7895	Yes	12/19/2010	27607
George	Wein	(919)-555-3302	Yes	12/23/2010	27615
Lebron	Wade	(919)-555-1520	Yes	12/23/2010	27605
Xiaolin	Tu	(919)-555-2005	Yes	12/31/2010	27609

2. Select the **Create** tab on the Ribbon and locate the **Reports** group. Click the **Report** command.



3. Access will create a new report based on your object.
4. It's likely that some of your data will be located on the other side of the **page break**. To fix this, **resize** your fields. Simply select a field, then **click** and **drag** its edge until the field is the desired size. **Repeat** with additional fields until all of your fields fit.



Orders Query

Last Name	First	Phone Number	Paid	Pickup Date	Zip Code
Whitman	Dick	(919)-555-5042	True	12/4/2010	27607
Bell	Xy'n ya	(919)-555-0758	True	12/9/2010	27615
Wujek	Andr zej	(919)-555-0450	True	12/4/2010	27606
Zheng	Xiao xi	(919)-555-2786	True	12/10/2010	27603
Auden	Haki m	(919)-555-0045	True	12/14/2010	27609
Altman	Zoey	(919)-555-6688	True	12/15/2010	27605
Duvalier	Raph aelle	(919)-555-1547	True	12/15/2010	27609

5. To **save** your report, click the **Save** command on the **Quick Access Toolbar**. When prompted, type a **name** for your report and then click **OK**.

Just like tables and queries, reports can be **sorted** and **filtered**. Simply **right-click** the field you wish to sort or filter. Then, select the desired sorting or filtering option.

Deleting Fields

You might find that your report contains some fields you don't really need to view. For instance, our report contains the **Zip Code** field, which isn't really necessary in a list of orders. Fortunately, you can **delete** fields in reports without affecting the table or query you got your data from.

To Delete a Field in a Report:

1. Click any cell in the field you would like to delete.
2. Press the **delete** key.

When you delete a field, be sure to delete its header as well. Simply select the header and press the **delete** key.

Printing and Saving Reports in Print Preview

While you can print reports using commands in the ***Backstage*** view, you can also use ***Print Preview***. Print Preview shows you how your report will appear on the ***printed page***. It also allows you to modify the way your report is displayed, print it, and even save it as a different file type.

To Print a Report:

1. On the **Home** tab of the **Ribbon**, click the **View** command and select **Print Preview** from the drop-down list. Your report will be shown as it will appear on the printed page.
2. If necessary, modify the **page size**, **margin width**, and **page orientation** using the related commands on the Ribbon.
3. Click the **Print** command.
4. The **Print** dialog box will appear. Set any desired print options, then click **OK**.

Saving Reports

You can save reports in other formats so that they'll be viewable outside of Access. This is called **exporting** a file, and it allows you to view and even modify reports in other formats and programs.

Access offers options to save your report as an **Excel file,** a **Text** file, a **PDF**, an **XPS** file, an **email attachment**, a **Rich Text** file, or an **HTML document**. Experiment with the different export options to find the one that best suits your needs.

To Export a Report:

1. On the **Home** tab of the **Ribbon**, click the **View** command and select **Print Preview** from the drop-down list.
2. Locate the **Data** group on the Ribbon.
3. Select one of the file type options on the Ribbon, or click **More** to see options to save your report as a **Word** or **HTML** file.
4. Save your file.
   - If you're saving the report as a **PDF or XPS** file:
     1. Select the location where you wish to save the report.
     2. Place your cursor in the **file name** text box and type a name for your report if you wish to name it something other than the report title.
     3. In the **Save as Type** drop-down menu, select either **PDF** or **XPS**.
     4. Select the file **quality** by clicking either **Standard** for reports you plan on printing or **Optimized** for reports you plan to share primarily online.
     5. Once you are satisfied with your settings, click **Publish** to save your report.
   - If you're saving the report as any other type of file:
     1. Click **Browse** to specify your file location and name, then click **Save**.
     2. In the **Export** dialog box, click the checkboxes to select desired saving options where applicable,
     3. Click **OK** to export your report.
5. A dialog box will appear to notify you that your file has been successfully saved. Click **Close** to return to your report.

Lesson: 8

Designing Your Own Database

Designing Your Own Database

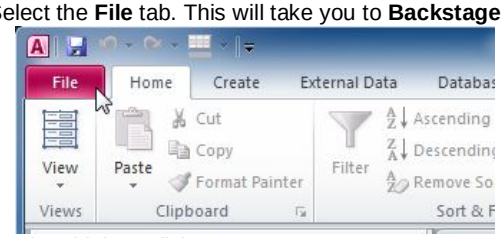
Now that you know how to use and modify existing databases, you might be interested in designing your own. Database design can be very complicated-- so complicated, in fact, that people take extensive courses just to learn how to plan databases. For that reason, we haven't focused on creating a database from scratch in this course. However, we can help you get started.
In this lesson, you will learn how to **create** a database from an existing **template**. You will also learn about **other resources** you can use to learn database design.

Creating a Database from a Template

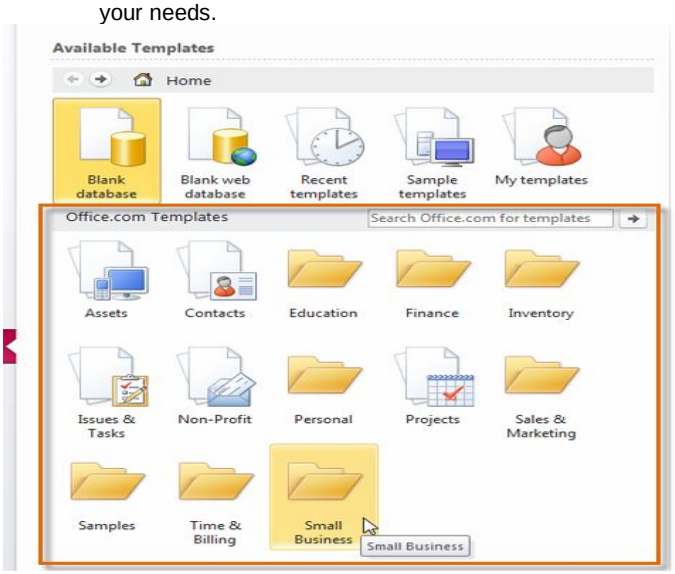
Before deciding to build your own database, you may want to look at the **templates** included in Access to see if any of them match your needs. When you select a template, Access creates a **new database** based on that template. Once it's created, you can fill the database with your own information, or modify it to suit your needs.

To Create a Database from a Template:

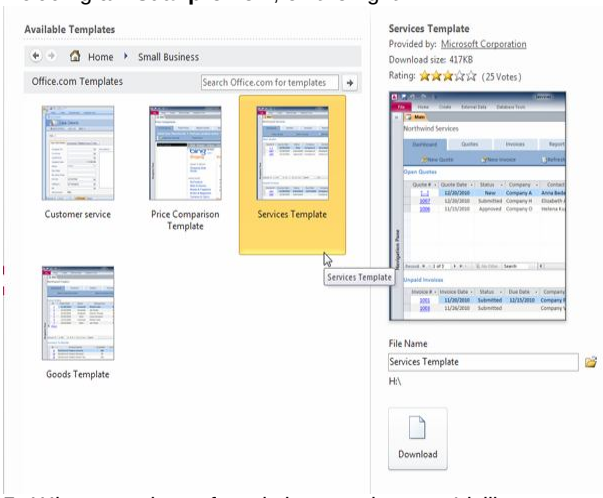
1. Select the **File** tab. This will take you to **Backstage View**.



2. On the sidebar, click **New**.
3. Template options will appear. Under the **Office.com Templates** heading, you can see a list of templates grouped by type. Select the template type that best fits your needs.



4. Access will display all of the available templates of that type. **Select** a template to see more information about it, including a **visual preview**, on the right.



5. When you have found the template you'd like to use, click **Download**. The template will open automatically once it's finished downloading.