Microsoft® Excel® 2013

BRAINSTORM
Teaching Software. Teaching People.

Getting Started

With Microsoft® Excel® 2013, creating and customizing a worksheet has never been easier. With brand new features like Quick Analysis and Flash Fill, along with a slick new look, Excel 2013 helps you organize your information and extract important data quicker than ever before. You can even save and share your workbooks online, making collaboration with coworkers a snap. Excel 2013 delivers everything you need to crunch numbers and present them in an eye-pleasing, professional, and highly customizable format.

Quick Access Toolbar: Find frequently used commands or customize the toolbar the way you want it.

Contextual Tabs: Access specific functionality related to the item you're working on, while you're working on it. Done? The contextual tab goes away, leaving less clutter on your screen.

Interface Redesign: New — See your document in a modern, tablet-friendly format.

Conditional Formatting: Use rules to highlight or call out data matching criteria you define.

Quick Analysis: New — Add instant emphasis to your data with context-sensitive analytic features.

**Worksheet Tabs:** Keep several worksheets at your fingertips for easy and instant access.

Sparklines: Conceptualize data to see trends more easily with sparklines that update as your data does.

Charts: Make your data pop and view information at a glance. New tools make it easy to give all your numbers instant visual appeal.

PivotTables: Turn your data into an interactive table to single out the information you want.

Slicers: Use advanced filters to view only the categories and information you want to see.

Using the Ribbon
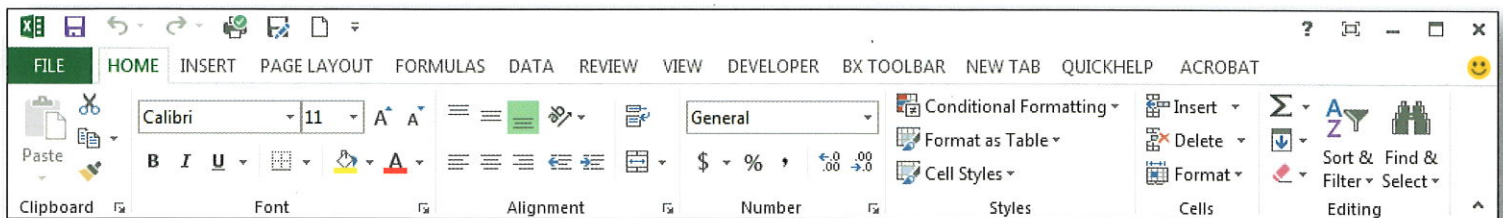
The Ribbon replaces the traditional file menu system and contains all the features you need to create professional and dynamic worksheets. The Ribbon is contextually organized into tabs and groups, and you can customize it to meet your specific needs.

NEW AND IMPROVED: Get familiar with the new, modern interface and all it has to offer

Using Shortcuts

| Description	Shortcut Key	Description	Shortcut Key	Description	Shortcut Key
Next cell	Tab	Select row	Shift+Spacebar	Jump to top cell of series	Ctrl+Up Arrow
Move to first column in a row	Home	Select column	Ctrl+Spacebar	Jump to bottom cell of series	Ctrl+Down Arrow
Move up a screen	Pg Up	Hide row	Ctrl+9	Jump to left edge of series	Ctrl+Left Arrow
Move down a screen	Pg Dn	Hide column	Ctrl+0	Jump to right edge of series	Ctrl+Right Arrow
Move one screen left	Alt+Pg Up	Insert sum formula	Alt+=	Go to first cell in worksheet	Ctrl+Home
Move one screen right	Alt+Pg Dn	Format cell to currency	Ctrl+Shift+$	Go to last cell in worksheet	Ctrl+End
Repeat last action	Ctrl+Y	Insert current date	Ctrl+;	Move between worksheets	Ctrl+Pg Up/Pg Dn

Understanding the Backstage View

Click the File tab and take a look at the redesigned Microsoft Office Backstage® view, where all your frequently used commands are right at hand. Access your files anywhere with an Internet connection by saving them on Microsoft OneDrive® or on the web.

Create a new workbook or find a template to jump-start your workbook.

Quickly open, save, or print a workbook.

Collaborate easily with coworkers when you set up a common access location for your files.
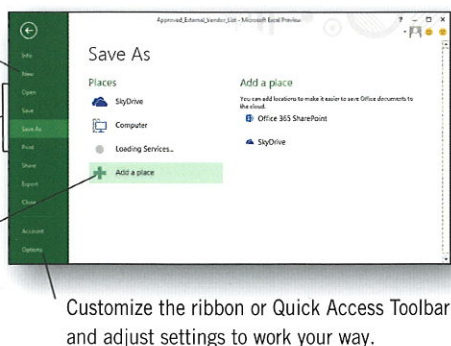
Customize the ribbon or Quick Access Toolbar and adjust settings to work your way.

Using Workbooks

A workbook can contain one or several worksheets so you can keep related data together. In Excel 2013, every workbook opens in its own window. Using two monitors? Put one workbook on each. To name a worksheet, simply double-click the worksheet tab and enter a new title. Insert a new worksheet by clicking the **New sheet** button.

| Sales Summary Q1 | Sales Summary Q2 | **Sales Summary Q3** | Sales Summary Q4 | ⊕ |

Viewing Data

View the cell reference of the active cell.

The Formula bar displays the formula used to generate the cell contents.

The active cell is easily distinguished by the thick border around the cell.

	A	B	C	D
4			CONTOSO	
5				
6	Day	SUN	MON	TUES
7	Air Transportation	$750.00		
8	Auto Rental	$239.50		
9	Auto Mileage & Gas	$107.00		
10	Tolls & Parking Fees	$7.00		
11	Taxi, Limo, Bus	$0.00		
12	Breakfast	$15.64		
13	Lunch	$25.75		
14	Dinner	$57.86		
15	Lodging	$129.98		
16				
17				
18	Total	$1,332.73		

B18 — =SUM(B7:B15)

Using Flash Fill `New`

Who wants to spend all day creating a list of names, numbers, or other data when you don't have to? Flash Fill finds patterns in your data and suggests possibilities that you can click to insert. Flash Fill is useful when you've imported data from another source (like a comma-separated value list) or when splitting columns of data such as names.

	A	B	C
1	Name	First Name	Last Name
2	Alan Steiner	Alan	Steiner
3	Alicia Thomber	Alicia	Thomber
4	Amy Alberts	Amy	Alberts
5	Andy Jacobs	Andy	Jacobs
6	Anna Lidman	Anna	Lidman
7	Brad Sutton	Brad	Sutton
8	Carlos Grilo	Carlos	Grilo

Flash Fill suggests possible data based on the information you've entered. Simply click to accept the data suggestion.

FANTASTIC FILLER: Learn more about how Flash Fill can save time and effort by entering columns of data for you.

Using AutoFill Features

With AutoFill, creating a repeating or consecutive list of days, months, or numbers is as simple as clicking and dragging your mouse.

10 — Click and drag the fill handle to repeat the number.

Sunday — Click and drag the fill handle to list days of the week.

January — Click and drag the fill handle to list months of the year.

10   11 — Hold the **Ctrl** key and drag the fill handle to continue a numeric list. The Live Preview feature shows what the next number will be.

Adding and Removing Cells, Rows, and Columns

Need to add, delete, or format worksheet elements? On the **Home** tab, in the Cells group, click **Insert**, **Delete**, or **Format** for a list of options.

Insert   Delete   Format
Cells
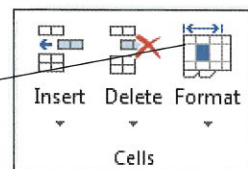
Formatting Numbers

Numbers aren't just numbers. You work with quantities, currency, percentages, time, and more. To make your numbers easier to understand, specify a number format, and its corresponding symbol will automatically appear in the cell.

To specify a number format for a cell or group of cells:

1. Select the cell or cells you want to format.
2. On the **Home** tab, in the Number group, click an available number format such as currency or percentage, OR click the **Number Format** list arrow to select another format for your cells.

Number
$ ▾ % , .0 .00
Number
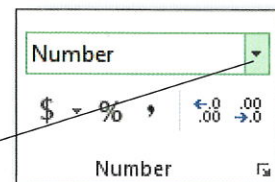
Adjusting Cell Styles

Give your data some visual pizzazz! Adjusting cell styles gives a heading row, a sum total cell, or even a list of names a pop of color to draw attention or keep things visually organized. You can even customize a cell style to match your company colors.

To format your cells using cell styles:

1. Select the cells you want to format.
2. On the **Home** tab, in the Styles group, click **Cell Styles** to view all available cell styles.
3. Hover over a cell style. Live Preview automatically shows how the cell will appear.
4. Select a cell style, OR click **New Cell Style** to create a new style.
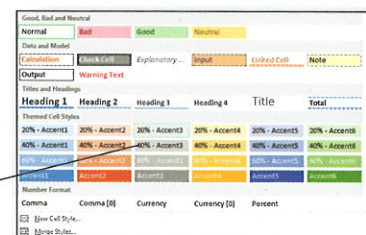
Using Live Preview

Live Preview shows format changes before you commit to them. Just select the cell or cells you want to format, and then hover over the feature or command on the ribbon to see how the change will look.

Using Conditional Formatting

Want to make a certain kind of data stand out from the rest? Not a problem. With conditional formatting, you specify criteria, and Excel highlights or formats cells based on the criteria, helping you more easily spot trends and patterns in your data.

To apply a rule:

1. Select the cells you want to format.
2. On the **Home** tab, in the Styles group, click **Conditional Formatting**.
3. Click **Highlight Cells Rules** to set rules based on greater than, less than, between, equal to, text that contains, a date occurring, or duplicate values. OR click **Top/Bottom Rules** to set rules based on highest and lowest values.
4. In the dialog box that appears, enter the parameters for your rule and choose how you want qualifying cells to appear.
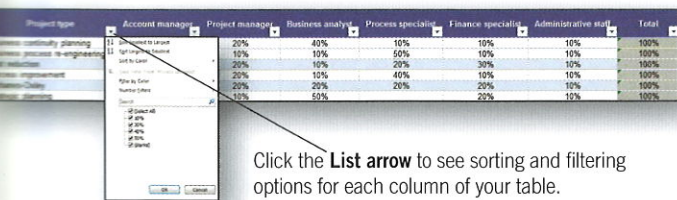5. Click **OK**. Qualifying cells format as specified in your rule.
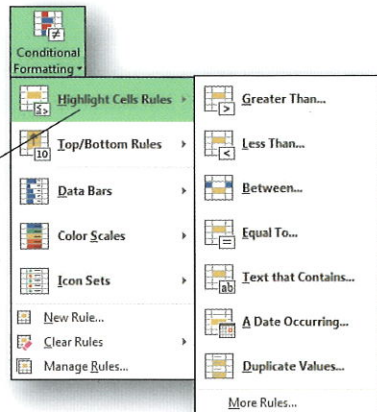
Working with Tables

Make your job easier by using tables to manage and analyze data. With your data in a table, you can manage it in rows and columns without affecting the other data in your worksheet. Additionally, you can format tables to make your data pop and to improve readability.

To create a table:

1. Select the cells you want in your table.
2. On the **Insert** tab, in the Tables group, click **Table**.
3. In the Create Table dialog box, verify that your data range and headers are correct. Click **OK**.

Click the **List arrow** to see sorting and filtering options for each column of your table.

Using Table Styles

Table styles give your table bright color themes to make rows and columns easier to read. And because table styles are applied dynamically, they easily adapt to any stylistic modifications you make—delete a row, apply a filter, and the style adjusts to accommodate your customizations!

To add a table style:

1. In your worksheet, select the table.
2. Click the Table Tools **Design** contextual tab.
3. In the Table Styles gallery, hover over a theme to preview it on your table, OR click the **More** arrow and select **New Table Style** to create your own style.

Table Styles
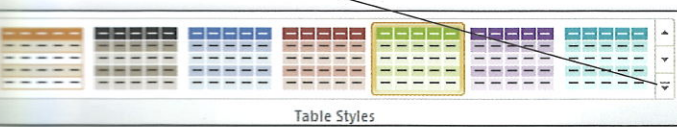
Customizing the Ribbon

Make Excel fit the way you work. Because the ribbon is fully customizable, you don't have to display commands you don't use. Place the commands you use the most at the forefront to reduce visual clutter and streamline the way you use your worksheets.

Creating a New Custom Tab

If you repeatedly use the same set of tools to perform your job, why not put all of those tools on the same tab to keep them right at hand? Creating a customized tab is easy and makes it a snap to find all your favorite commands. Work smarter, not harder!

To create a custom tab:

1. On the **File** tab, click **Options**.
2. In the Excel Options window, click **Customize Ribbon**.
3. In the Customize Ribbon column on the right, click **New Tab**.
4. With the new tab selected, click **Rename** to name your custom tab.
5. Click **OK** to save your new tab.
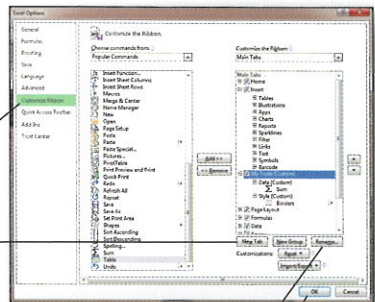
Creating a Custom Group

Don't stop there! When you create your custom tab, a custom group is automatically added, but you can give it more organization by adding more groups to arrange similar commands together.

To create a custom group and add commands to it:

1. On the **File** tab, click **Options**.
2. In the Excel Options window, click **Customize Ribbon**.
3. With the newly created tab selected, click **New Group**.
4. Select the new group and click **Rename** to customize the name of your group.
5. Under **Choose commands from**, click the list arrow to select a category of commands.
6. With the new group selected, choose a command from the left column and click **Add** [Add >>] to add the selected command to your custom group. Repeat the process to add as many commands as needed.
7. Click **OK** to save your changes.

Customizing the Quick Access Toolbar

The Quick Access Toolbar contains frequently used commands. You can customize it to include commands like Print, Save, or Undo. You can even include your favorite tabs or macros!

To customize the Quick Access Toolbar:

1. On the **File** tab, click **Options**.
2. Click **Quick Access Toolbar**.
3. Under Choose commands from, click the **List arrow** to select a category of commands.
4. Select a command from the left column and click **Add** to include the command on the Quick Access Toolbar. Repeat the process to add as many commands as you need. Click **OK**.
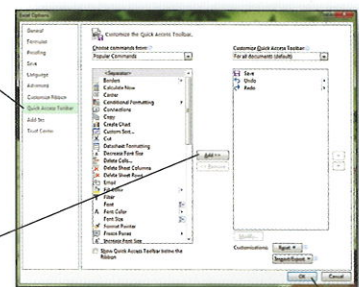
Protecting Your Workbooks

Setting permissions for your worksheets helps keep confidential information safe. With security features in Excel, you can encrypt your workbook or protect a single worksheet by restricting access to only those people you give the password to.

To encrypt your worksheet with a password:

1. On the **File** tab, click **Info**, and then click **Protect Workbook**.
2. Select **Encrypt with Password**.
3. In the dialog box that appears, enter your password and click **OK**.
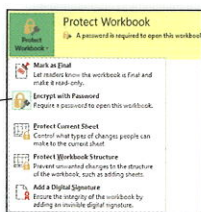
Sorting and Filtering Data

Don't waste time picking through rows and columns of data to find what you need. Use the sorting and filtering capabilities in Excel to quickly organize your data or single out just what you're looking for.

Sorting

Sorting data by hand is tedious and inefficient. With just the click of a button, the Sort & Filter command can arrange text alphabetically, sort numbers from high to low, and even display dates in descending order.

To sort information in a column:

1. Select the column of data you want to sort.
2. On the **Home** tab, in the Editing group, click **Sort & Filter**.
3. If the column you selected is numeric, click **Sort Smallest to Largest** or **Sort Largest to Smallest**. OR if the column you selected uses text, click **Sort A to Z** or **Sort Z to A**.
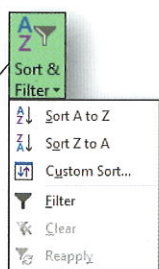
Filtering

Even though all of your data is important, sometimes only some of it is important right now. For example, maybe you want to show data for only certain dates or a particular department. Simple! Use filtering tools to show only what you need to show and hide the rest. You can filter rows, columns, lists, numbers, or even cell colors.

To filter data:

1. Select the group of cells you want to filter.
2. On the **Home** tab, in the Editing group, click **Sort & Filter | Filter**.
3. Click the **List arrow** that appears at the top of your selection to access the filter criteria settings.
4. Choose the criteria you want to filter by selecting the box next to each value you want to include.

Instead of filtering by values, you can use text filters to show only data associated with a certain category or name.

To use text filters:

1. Select the cells that contain the text you want to filter.
2. On the **Home** tab, in the Editing group, click **Sort & Filter | Filter**.
3. Click the **List arrow** that appears at the top of your selected column.
4. Select **Text Filters** and then choose a filtering criteria.
5. In the dialog box, select the text you want to filter by.
6. Add another filtering criterion if desired. You can filter by two conditions. Select **AND** if both conditions must be met, or select **OR** if either condition must be met. Click **OK** to filter the data.
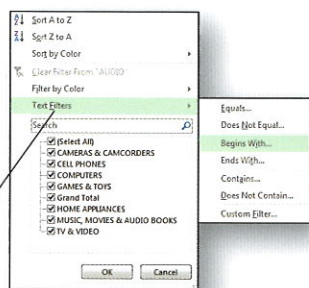
Using Formulas

Formulas and functions are the true power of Excel. Whether you need to calculate simple sums, a mortgage payment, or complex equations in your worksheet, a formula will handle the calculations for you, reducing your workload and ensuring accuracy in your data.

Writing Formulas

Formulas always begin with an equal sign (=) and follow the basic mathematical order of operations. Items enclosed in parentheses are calculated first, then multiplication and division operations, followed by addition and subtraction operations.

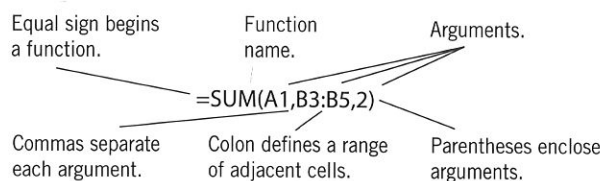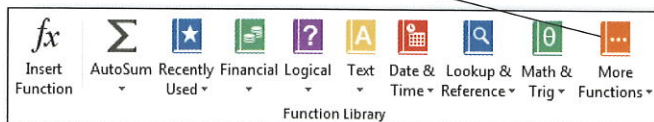|	
=5*3+2	Five (5) is multiplied by three (3) and then added to two (2). Produces a result of 17.
=5*(3+2)	Three (3) is added to two (2) and then multiplied by five (5). Produces a result of 25.

Understanding Functions

To make common calculations in Excel, use one of the many predefined formulas, called functions. Functions start with the function name (for example SUM, AVERAGE, MAX), an open parenthesis, arguments separated by commas, and a closing parenthesis.

Equal sign begins a function.   Function name.   Arguments.

$$=SUM(A1,B3:B5,2)$$

Commas separate each argument.   Colon defines a range of adjacent cells.   Parentheses enclose arguments.

All of the functions in Excel are found on the Formulas tab, in the Function Library. In the More Functions gallery, you'll find the new Excel 2013 Web functions.

fx Insert Function | Σ AutoSum | Recently Used | Financial | Logical | Text | Date & Time | Lookup & Reference | Math & Trig | More Functions

Function Library

Demystifying Formulas

Don't be intimidated by formulas! Use the grid on the right and the examples below to see how they work.

◢	A	B	C	D
1	1	2	3	4
2	2	3	4	1
3	3	4	1	2
4	4	1	2	3

=SUM(A1,B3:B4,2)	Total values in A1 and B3 through B4; add 2.	**8**
=AVERAGE(A1:D1)	Add values in A1 through D1; divide by 4.	**2.5**
=B1+10*D4	Multiply 10 by value in D4; add value in B1.	**32**
=A4/C4+33	Divide value in A4 by value in C4; add 33.	**35**
=(C2+80-3)*D4	Add value in C2 to 80, subtract 3; multiply by D4.	**243**

Understanding Absolute versus Relative References

A reference is a cell or a range of cells that tells Excel where to look for the values or data to use in a formula (for example, A1:A10). By default, Excel uses relative references, which means if the position of the cell that contains the formula changes, the reference changes. By contrast, absolute references always refer to a cell in a specific location. You can create an absolute reference by preceding the cell reference with a dollar sign ($).

A1   Both the column and the row values are absolute references.
$A1   Only the column value is absolute; the row is relative.
A$1   Only the row value is absolute; the column is relative.

Applying Quick Analysis [New]

Your busy schedule means the time you spend on your worksheet is at a premium. Cut to the chase by using context-sensitive Quick Analysis tools. Select a range of data in your worksheet and quickly create charts, totals, tables, sparklines, or apply formatting with a couple of clicks.

FORMATTING quickly applies conditional formatting to your data by using specific rules.

CHARTS offer recommended charts. If you need more recommendations, click **More Charts**.
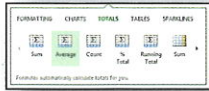
Use **TOTALS** to calculate the sum, average, count, total, and more.

Select **TABLES** to organize, filter data, or create PivotTables.

SPARKLINES display miniature charts inside a single cell on your worksheet.

GET IT FASTER: Learn more about how you can perform quick analysis and data summerizations in just a few steps!

Using Slicers

Slicers are a set of buttons you use to quickly filter data in your PivotTable without using filter lists. You're in control: you pick what data you want to see and when. Create a single slicer or several to see how your data interrelates.

To create a slicer in a PivotTable:

1. Click any cell in your PivotTable data to display the contextual PivotTable Tools Analyze and Design tabs on the ribbon.
2. Click the **Analyze** tab.
3. In the Filter group, click **Insert Slicer**.
4. In the Insert Slicer dialog box, select the box(es) next to the PivotTable field(s) you want to include. A slicer will be created for each field you select. Click **OK**.

The slicer header shows the category.

An item turns blue when it is selected. You can select as many items as you want by pressing and holding Ctrl as you click multiple items.
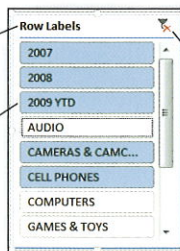
Click the **Clear Filter** button to clear and reset your filters.

Creating Sparklines

Sparklines are tiny graphs that appear in an individual cell next to your data. They provide a quick visual that illustrates trends, like the sales for a particular item, without creating a full-scale chart.

To create a sparkline:

1. Click the cell(s) where you want to insert a sparkline.
2. On the **Insert** tab, in the Sparklines group, click the type of sparkline you want to insert.
3. In the dialog box, enter your data range and click **OK**.
4. Sparkline(s) appears in the cell(s) below or next to the selected cell(s).

Understanding PivotTables

When you have a lot of data, analyzing and summing it up can be a daunting and time-consuming challenge. Let a PivotTable do the work for you, creating an interactive summary that you can manipulate based on the information you want to view. Want it even quicker? With Excel 2013, use recommended PivotTables to create it in an instant.

Creating a PivotTable

Before creating a PivotTable, you need to prepare your source data. Be sure that your data is labeled and that it includes no blank rows or columns.

| Category	Sales	Cost of Sales	Quantity
AUDIO	1,000,561,035	35,904,917	747,107
CAMERAS & CAMCORDERS	1,759,265,762	588,422,900	3,739,818
CELL PHONES	503,667,320	225,679,215	7,517,727
COMPUTERS	1,831,337,533	795,693,474	6,003,342
GAMES & TOYS	75,783,888	34,626,081	3,212,830
HOME APPLIANCES	2,211,476,691	982,238,467	5,842,618
MUSIC, MOVIES & AUDIO BOOKS	95,532,321	37,667,292	877,339
TV & VIDEO	765,877,797	350,851,253	1,960,158
Grand Total	7,328,201,759	3,051,083,599	29,900,939

Column labels — Row labels — Source data

To create a PivotTable:

1. Select the range of cells you want to include in the PivotTable.
2. On the **Insert** tab, in the Tables group, click **PivotTables**.
3. In the Create PivotTable dialog box, you can edit the table or range for your PivotTable and choose to place the PivotTable in the current worksheet or a new worksheet.
4. Click **OK**. The table appears in your workbook. Use the PivotTable Field list and PivotTable Tools contextual tabs to edit your PivotTable.
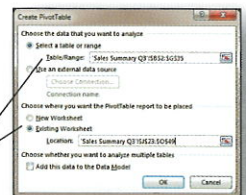
Creating Recommended PivotTables [New]
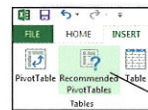
To create a recommended PivotTable:

1. In the range of cells you want to include in the PivotTable, click any cell.
2. On the **Insert** tab, in the Tables group, click **Recommended PivotTables**.
3. In the Recommended PivotTables dialog box, clicking a sample PivotTable shows a preview. Choose the PivotTable that shows your data the way you want. Click **OK**.
4. The PivotTable appears in a new worksheet within your workbook. Want to reorganize the data? Not a problem! Just click the **Field** list arrow for sorting and filtering options.
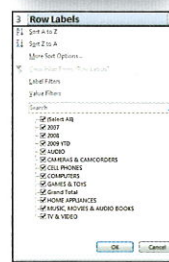
Working with PivotTable Fields

One of the many great things about PivotTables is their dynamic nature. Use PivotTable fields to add and arrange your data in a variety of ways.

Use the PivotTable Fields pane to include or exclude fields from your PivotTable by selecting or clearing the box(es) next to the field name(s).
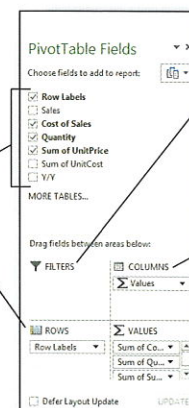
Use a report filter to identify specific data. Just drag a field into the filter area. Filter fields are shown above PivotTables.

Column fields appear along the top of PivotTables.

Row fields are shown along the left side of a PivotTable.

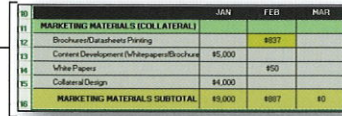Values fields appear as summarized values inside the PivotTable.

Working with Charts

Charts give your data instant visual impact, showing trends in a way that columns and rows can't. Use the Recommended Charts feature to pick a chart that matches your data style and instantly convey the big picture your audience will appreciate.

Using Recommended Charts [New]
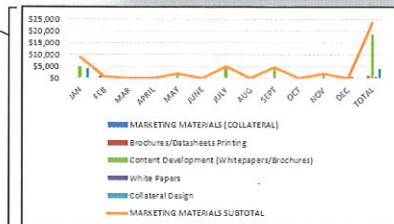
To create a chart using existing data:

1. Select the cells you want to represent in your chart.
2. On the **Insert** tab, in the Charts group, click **Recommended Charts**.
3. Select a style from the suggested charting options and click **OK** to insert your chart.

Note: Need to change data in your worksheet? No worries! Your chart will automatically update as you revise the data it uses.

Customizing Charts

Don't settle for cookie-cutter visuals! Customizing your chart to be exactly what you want is easier than ever with the simplified Chart Tools contextual tabs. And three new quick-access chart buttons make fine-tuning your chart design a breeze.
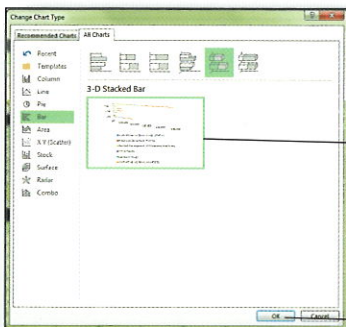
Using Quick-Access Buttons [New]

Select your chart on the worksheet and three buttons appear, providing quick options to customize your chart elements, style, color, and data filters.
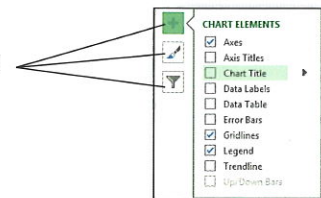
Changing Chart Types

Don't like the kind of chart you picked? Switch it up! The Chart Tools Design contextual tab offers dozens of chart types to choose from.

To change a chart type:

1. On the **Design** tab, click **Change Chart Type**.
2. Select a new chart type. The preview area shows what your chart will look like. Repeat as necessary until you find an acceptable chart.
3. To apply the new chart type, click **OK**.

Customizing Chart Format

Use the Format contextual tab to alter your chart's shape, WordArt, size, and more.

MAKE YOUR DATA POP: Find out about more cool things to do with your charts to give your data even greater impact.

Saving Your Work Online

It's the 21st century. You're on the move, and so are your coworkers. You're not tied down to one computer or even one office, and collaborating with coworkers isn't limited to who's one cubical away.

Saving to OneDrive

Saving to Microsoft OneDrive means you can access your workbooks no matter where you are or what device you're using.

To save to OneDrive:

1. On the **File** tab, click **Save As**.
2. Click **Add a place**.
3. On the right, click **OneDrive**.
4. Enter your Microsoft account user name and password and click **Sign in**. If you do not have an account, click **Sign up**.
5. Your OneDrive account appears under the Places heading. Select **OneDrive**, and then under Recent Folders, select or browse to your OneDrive Documents folder.
6. Type the name of your file, and then click **Save**.
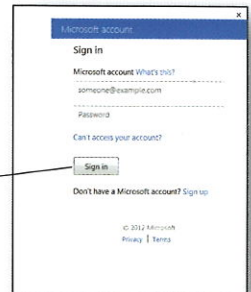
Sharing Through Links

Once you save your workbook to OneDrive, you can share it by creating a link. Use a View Link to allow colleagues to only view the workbook. Use an Edit Link to allow colleagues to make changes to the workbook.

To share through a link:

1. On the **File** tab, click **Share**.
2. Click **Get a Link**.
3. Next to either View Link or Edit Link, click **Create Link**.
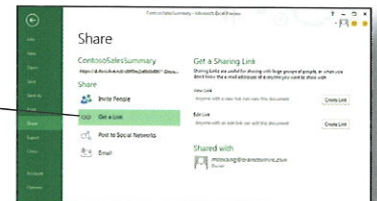
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