

Welcome to *Teach Yourself*: Introduction to Microsoft Excel

This *Teach Yourself* tutorial explains the basic operations and terminology of Microsoft Excel, a spreadsheet program used to organize data. This is the same tutorial we use in our Microsoft Excel class, but it has been adjusted so you can take the course on your own. If you would like to attend Introduction to Microsoft Excel or any other class offered by LFPL, just go to the LFPL website www.lfp.org and click on 'Events' on the left side of the screen to find when and where the next class meets.



Introduction to Microsoft Excel

Class learning objectives

1. What is Excel?

- Spreadsheet uses & samples
- Touring the Excel window
- Learning important definitions
- Navigating around the workbook

2. The Basics

- Entering & editing data in cells
- Inserting cells, rows, & columns
- Formatting cells
- Renaming, adding, & reorganizing worksheets

3. Formulas

- Using mathematical operators
- Using four sum methods
- AutoCalculate

4. Customizing Your Spreadsheet

- Titles
- Gridlines

5. Finishing Up

- The Help Menu
- Closing Excel

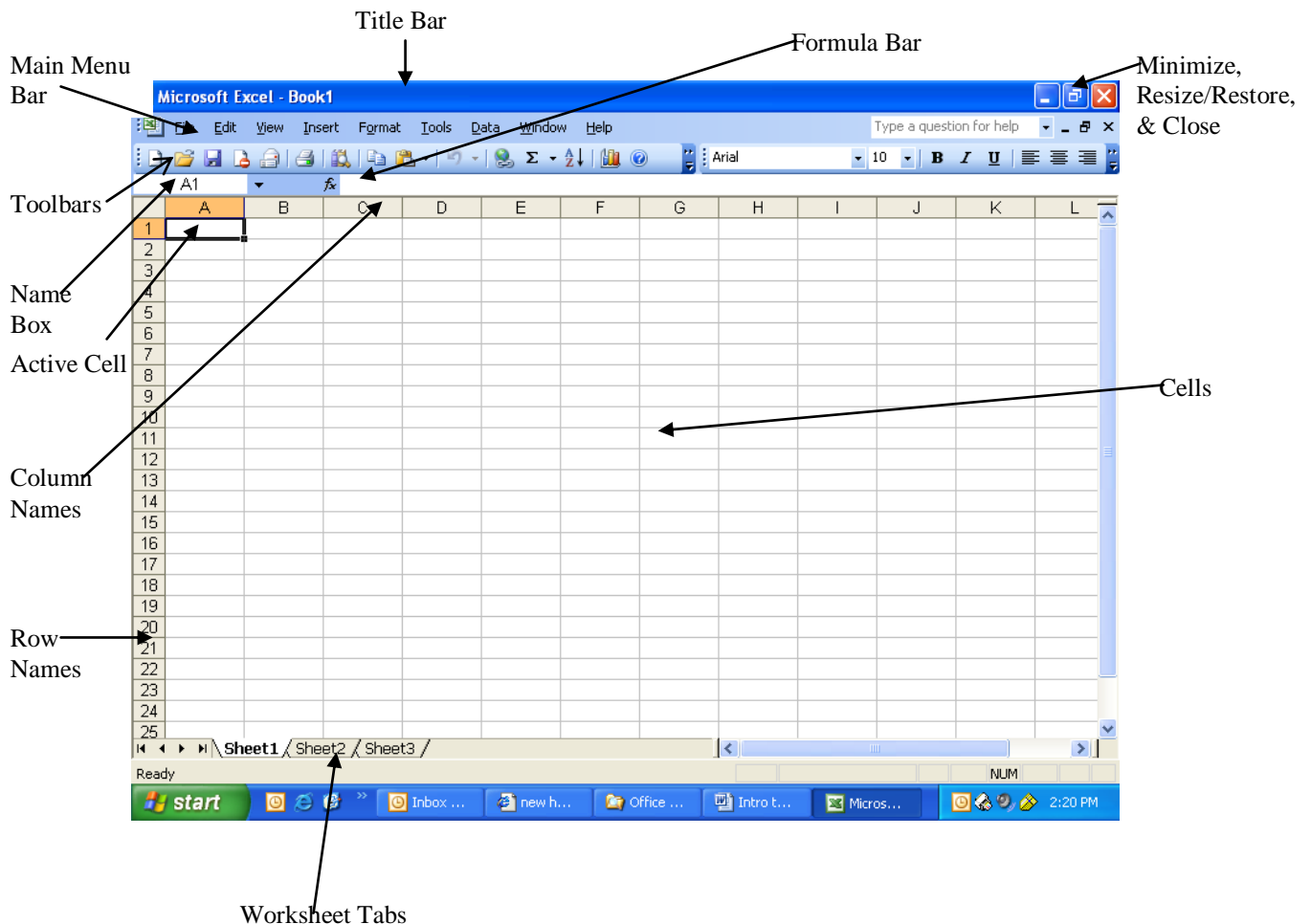


What is Excel?

Excel is a spreadsheet program that can be used to organize, manipulate and analyze data. Excel is often used in the workplace to track statistics, create sales reports, financial modeling, scientific engineering, and making charts and graphics. However, it can also be useful at home to create budgets or even make a list of family members' birthdays. Excel is a versatile and powerful program with a lot to offer.

The Excel Window

When you first open up Excel you will see a blank sheet that looks a lot like a grid. If you have ever used other Microsoft programs such as Microsoft Word, you will recognize several parts already such as the Title Bar. Other parts might be unfamiliar, so let's look at the parts of an Excel window.



Title Bar – The Title Bar is the blue bar across the top of the window. It tells you the program you are using and the name of the document you are viewing. On the right side of the title bar you will find three buttons: minimize, resize/restore and close.

Main Menu Bar – The menu bar lists the various menus that can be accessed in Excel. Clicking on any of these will open a drop down menu that lists different commands you can execute. Menu commands that display submenus are indicated by the dark triangle symbol next to the word. The submenu displays more choices that cascade to the side when you select a menu command with the dark triangle. Take note of the help menu because it contains a lot of useful information.

Toolbars – The toolbars contain buttons that act as shortcuts to common commands.

Cells –The gray boxes that make up the Excel grid are called cells. Cells are arranged in rows and columns. They are used to store numbers, text and formulas, such as mathematical calculations. In addition to numbers, worksheets can also contain graphical objects, such as charts, arrows and pictures. Each worksheet consists of a tabular grid of cells. There are more than 65,000 rows of cells, starting with number 1 along the left margin of the worksheet. There are 256 columns along the top margin of the worksheet. These columns are labeled alphabetically, using a single-digit and then double-digit alphabetization scheme.

Active Cell –There is always an active cell on your worksheet. You can tell which cell is the active one because it has a thicker border than the other cells. The active cell is the cell you last selected by clicking on it or moving to it using your keyboard. It is the cell you are currently working with.

Name Box –The cell name box identifies the name of the active cell. Cells are named by giving the column letter and then the row number. For example, B3 means the active cell is located in column B and is in the third row.

Formula Bar –The formula bar displays the contents of the active cell whether the cell contains a formula, data or just text.

Workbook – An Excel file is called a workbook. It is helpful to think of a workbook as being like a 3 ring binder in that it can contain many sheets.

Worksheets –The individual pages in the workbook are called worksheets. They are often referred to as simply “sheets.”

Worksheet Tabs –There is a tab for each sheet in your workbook. Clicking on the tab will take you to that sheet.

Navigating Around the Workbook

Excel has scroll bars to help you move up and down through a sheet quickly. You can also click in a cell using your mouse to jump to a specific cell. This allows more efficient movement across the worksheet. Sometimes it may be easier to move around in Excel using the keyboard instead of the mouse. The table below explains some keystrokes you can use to navigate around worksheets.

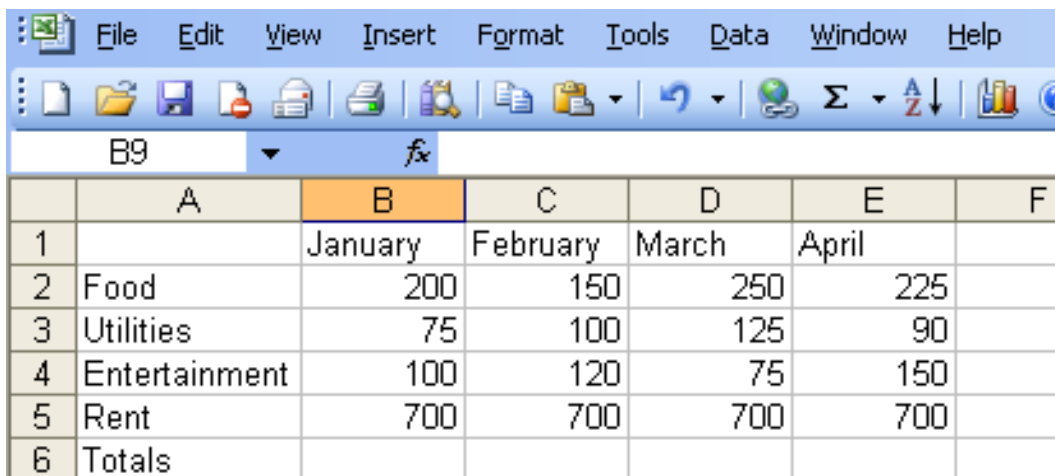
| This Keystroke | Moves |
|-------------------|--|
| TAB key | Move to the next cell in the row |
| ENTER key | Move to the cell in the column below |
| Shift+TAB | Move to preceding cell |
| Arrow keys (→←↑↓) | Right, left, up, and down (one cell at a time) |
| CTRL+arrow keys | To the edge of the current data region (region the cell is currently in) |
| Home | To the beginning of row |
| CTRL+Home | To Cell A1 |

Entering and Editing Data

To enter data into a cell, simply do the following:

1. Select the cell by clicking on it. The cursor will not blink (as it does in Microsoft Word), but instead the cell will be outlined in a thick black line. This tells you that is the active cell.
2. Type numbers, text, or a combination of both into the cell.
3. Press **Enter** OR click on the green check mark in the Formula bar. Pressing Enter will enter the information into that cell and move you down to the next cell. Pressing the green check mark will enter your data but keep the same cell active.

Create the spreadsheet below.



The screenshot shows the Microsoft Excel interface. The menu bar includes File, Edit, View, Insert, Format, Tools, Data, Window, and Help. The toolbar contains various icons for file operations and editing. The active cell is B9, and the formula bar shows a function symbol (fx). The spreadsheet data is as follows:

| | A | B | C | D | E | F |
|---|---------------|---------|----------|-------|-------|---|
| 1 | | January | February | March | April | |
| 2 | Food | 200 | 150 | 250 | 225 | |
| 3 | Utilities | 75 | 100 | 125 | 90 | |
| 4 | Entertainment | 100 | 120 | 75 | 150 | |
| 5 | Rent | 700 | 700 | 700 | 700 | |
| 6 | Totals | | | | | |

Editing a cell:

If you discover a mistake you made when entering data into a cell, there are two places where you can do your editing: in the formula bar or in the cell itself.

- **Formula Bar:** Select the cell, then click in the formula bar. Make the needed correction. Then press **Enter** or click on the green check mark in the Formula bar.
- **In the Cell:**
 - Select the cell and begin typing. What you type will erase the current information in the cell.
 - Double click on the cell. A cursor will appear in the cell. Move the cursor to where you need to make your changes. Make the changes. Then press **Enter**.

Canceling/Undoing Changes

- If you haven't yet pressed Enter while entering or editing information in a cell, press **Esc** or click on the “**X**” button on the formula bar.
- If you notice a mistake just after you pressed **Enter**, click on the **Undo** button to undo the change.

Clearing a Cell

Clearing a cell is like erasing a mistake. The quickest way to clear a cell is to select the cell or cells, then press the **Delete** key or the **Backspace** key. This clears the contents, but leaves formatting and other cell contents intact.

To delete the cell entirely, click **Edit** on the main menu and select **Delete**. It will then ask you which way you would like to shift the other cells.

Inserting Cells, Rows and Columns.

Inserting a Cell

1. Click on the cell where you would like to insert a new cell.
2. Click on **Insert → Cell**.
3. Decide which direction you would like to shift the existing cells.

Inserting a Row

1. Click on the row where you would like to insert a new row.
2. Click on **Insert → Row**.

Inserting a Column

1. Click on the column where you would like to insert a new column.
2. Click on **Insert → Column**.

Formatting Cells

Selecting Cells

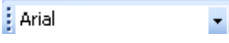
Before making any formatting adjustments you must first select the cell(s) to be changed.

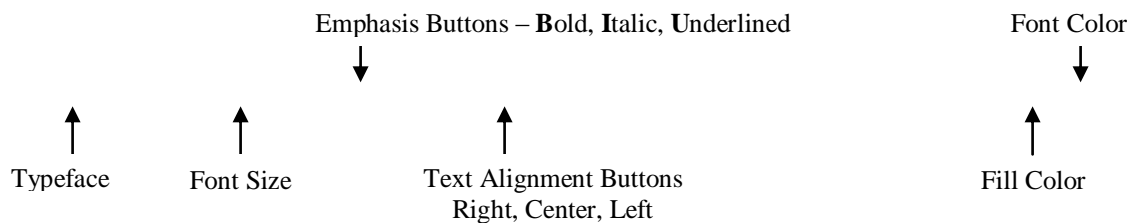
- To select a single cell, click on it. You will know it is selected because it has a darker border around it and the cell's coordinates are given in the cell name box.
- To select a range of cells, click on a corner cell in the desired range, hold down your mouse button and drag your mouse pointer over the desired range of cells
- To select a range of cells using the keyboard, hold down the **Shift** key and press the arrow keys to expand or contract the selection area.
- To select all of the cells in a column, click on the column heading.
- To select all of the cells in a row, click on the row heading.
- To select all of the cells in a worksheet, press **Ctrl + A** on your keyboard OR click in the gray area to the left of the column A heading and above the row 1 heading.
- To select nonadjacent cells, select the first cell or range of cells, and then hold down the **CTRL** key on your keyboard and select additional cells or cell ranges.

NOTE: Even when a range of cells is selected, one cell is still the active cell (the one in your selected area that did not turn blue).

Using the Formatting Toolbar

You can format the appearance of a cell, or range of cells, by selecting the cells you want to format and then make adjustments to the options on the formatting toolbar:

You should see on your screen the formatting toolbar underneath the standard toolbar; however, in some cases both toolbars will appear on the same line. If this happens to you, look to the left of the font dropdown menu and you should see four dots arranged vertically . Place your cursor over those dots, and your cursor will change to a four-sided arrow. Hold down your mouse button, and drag the formatting toolbar underneath the standard toolbar and all the way to the left of the screen. Let go when you have the formatting toolbar in place.



Formatting Numbers

The default format for numbers entered is a general format, the numbers appear as you typed them into the cells. Sometimes it is useful to adjust the appearance of numbers to reflect the type of data with which you are working. Examples: dates, currency, percentages, scientific numbers or rounded numbers.

To change the number format,

1. Select the cells with the numbers to be changed.
2. Click on **Format** → **Cells**.
3. Select the desired format from the list of those available. (Click on Custom if you want to create your own customized format.)
4. Click on **OK**.

Renaming, Adding, Reorganizing Worksheets

When you first open a new Excel Workbook, it gives you three sheets to work with and they are just called sheet 1, sheet 2, and sheet 3.

Renaming Worksheets

It is a good idea to rename the sheets to reflect what kind of information is found on that sheet. To rename the sheet do one of the following:

- Double click on the **Sheet1** tab.
- Right click on the sheet tab and select rename.
- Click on **Format** → **Sheet** → **Rename**

Any of these actions will cause the name in the sheet tab to be highlighted. Once it is highlighted, you simply type in the new name and hit the **Enter** key.

Adding Worksheets

If you need more than three sheets you can easily add more.
Click on **Insert** → **Worksheet**.

Reorganizing Worksheets

If you need to reorganized your worksheets,

1. Click on the sheet tab of the sheet you wish to move.
2. Hold down your mouse button and drag it to where you want it.
3. Release your mouse button to drop it.

Formulas

Formulas allow you to manipulate and analyze the information you have entered into your Workbook. A formula is a calculation that can be entered into any cell and consists of a series of numbers (or cell references) and mathematical operators.

- **Begin EVERY formula with an equal sign (=).**
- **After entering a formula, press ENTER to display the total.**

Using Mathematical Operators

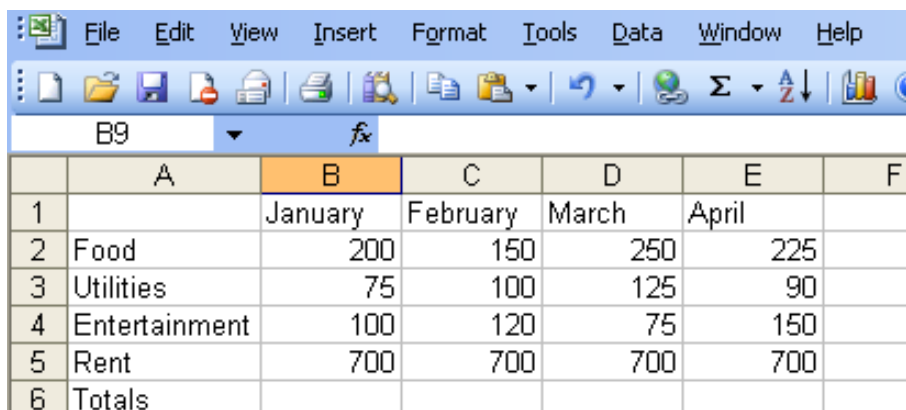
The math operators you can use in constructing a formula include the following:

- + for addition - for subtraction
- * for multiplication / for division

For example, you could enter =4+6 into a cell to get the result 10.

Using Four Sum Methods

Let us explore four methods of adding in Excel and the advantages and disadvantages of each.



The screenshot shows the Microsoft Excel interface. The menu bar includes File, Edit, View, Insert, Format, Tools, Data, Window, and Help. Below the menu bar is a toolbar with various icons. The active cell is B9, and the formula bar shows a function icon. The spreadsheet contains the following data:

| | A | B | C | D | E | F |
|---|---------------|---------|----------|-------|-------|---|
| 1 | | January | February | March | April | |
| 2 | Food | 200 | 150 | 250 | 225 | |
| 3 | Utilities | 75 | 100 | 125 | 90 | |
| 4 | Entertainment | 100 | 120 | 75 | 150 | |
| 5 | Rent | 700 | 700 | 700 | 700 | |
| 6 | Totals | | | | | |

Sum Method 1:

1. Click on cell **B6**.
2. Enter the simple formula **=200+75+100+700** into B6.
3. Press **Enter**.

Sum Method 2:

1. Click on cell C6.
2. Enter the formula **=C2+C3+C4+C5** into cell C6.
3. Press **Enter**.

Once you have entered the formulas and found the totals, try entering a different number in both column B and C for Food. What happened to the totals in cell B6 and C6?

The total for column B stayed the same. The total for column C adjusted to the updated information. The formula for column B was inflexible because it used actual numbers. The formula for column C was more flexible because it referenced the position of the information being added.

Sum Method 3:

If you wanted to add many cells of information together, you probably do not want to type in the cell reference for each cell such as in Method 2. Excel has several shorthand formulas for common calculations, one of which is the sum formula below:

=SUM(beginning cell:ending cell)

1. Click on cell **D6**.
2. Enter the formula **=SUM(D2:D5)**
3. Press **Enter**.

The colon : between the two cell references tells Excel to include all of the cells within that range.

Sum Method 4:

Excel also has a convenient **AutoSum** button that automatically generates a sum formula.

1. Start by selecting a cell below a column of numbers or to the right of a row of numbers.
2. Then click on the **AutoSum** button on the standard toolbar.
3. Finally press **Enter** for the total.

The **AutoSum** looks above the active cell for two or more numbers to add together. If there are no numbers above, it looks for two or more numbers to the left of the active cell to add together. If there is a break in the numbers above or below, the **AutoSum** will not include information past one empty cell in the summation.

Click on E6 and then the **AutoSum** button to AutoSum column E.

AutoCalculate

Excel also makes it possible to see the results of these common formulas without typing in the formula. Whenever you select a range of numbers (or individual cells by holding down your Ctrl key), Excel automatically does a calculation on those numbers. It can be found at the bottom of your spreadsheet.

The screenshot shows the Microsoft Excel interface. The spreadsheet has columns A through J and rows 1 through 25. The following table represents the data in the spreadsheet:

| | A | B | C | D | E | F | G | H | I | J |
|----|---------------|---------|----------|-------|-------|---|---|---|---|---|
| 1 | | January | February | March | April | | | | | |
| 2 | Food | 300 | 150 | 250 | 225 | | | | | |
| 3 | Utilities | 75 | 100 | 125 | 90 | | | | | |
| 4 | Entertainment | 100 | 120 | 75 | 150 | | | | | |
| 5 | Rent | 700 | 700 | 700 | 700 | | | | | |
| 6 | Totals | | | | | | | | | |
| 7 | | | | | | | | | | |
| 8 | Income | 1000 | 1100 | 900 | 1000 | | | | | |
| 9 | Black/Red | | | | | | | | | |
| 10 | | | | | | | | | | |
| 11 | | | | | | | | | | |
| 12 | | | | | | | | | | |
| 13 | | | | | | | | | | |
| 14 | | | | | | | | | | |
| 15 | | | | | | | | | | |
| 16 | | | | | | | | | | |
| 17 | | | | | | | | | | |
| 18 | | | | | | | | | | |
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| 20 | | | | | | | | | | |
| 21 | | | | | | | | | | |
| 22 | | | | | | | | | | |
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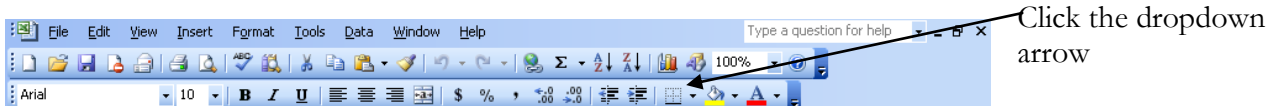
The status bar at the bottom right of the window shows 'Sum=1075'. An arrow labeled 'Selected Cells' points to the range B2:E5. Another arrow labeled 'Calculation type and result' points to the status bar.

If the calculation shown is not the one you want, simply right-click on the calculation that is displayed, then choose what kind of calculation you are interested in from the menu.

Customizing Your Spreadsheet

Gridlines – If you go to **Print Preview** by clicking on **File** and then **Print Preview**, you will notice that the gridlines do not print out on your spreadsheet. However, if you want the gridlines to print out, you can turn this feature on. Go to **File** and **Page Setup**. Then click on the **Sheet** tab, and click in the box for gridlines. Now look at your **Print Preview**, and you will see the gridlines will have appeared.

Adding gridlines to areas with colored backgrounds involves a separate step. Highlight the area that needs gridlines. Click the dropdown arrow to the right of the borders icon on the formatting toolbar



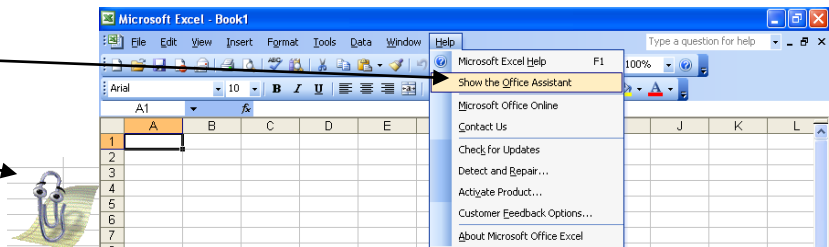
Sorting – You can sort your list of items. Select the data you would like to sort, then click on **Data**, then **Sort**. Then you can tell it which column you want to sort by and what order you want.

Finishing Up

The Help Menu

If you have a question about Excel that you need answered right away, you might want to consult the Help menu. The help menu has two interfaces: the Office Assistant and the standard Help menu. Let's examine the Office Assistant first. You've probably seen it before—it's a little dog, cat, paperclip, etc that you can click on to get help. If you don't see it, click **Help** on the main menu bar. Then click **Show the Office Assistant**, and the Office Assistant will appear. Once it appears, or if it was already visible, click on it to begin interacting with it.

Click **Show the Office Assistant**, and the Office Assistant will appear if it's not already visible.

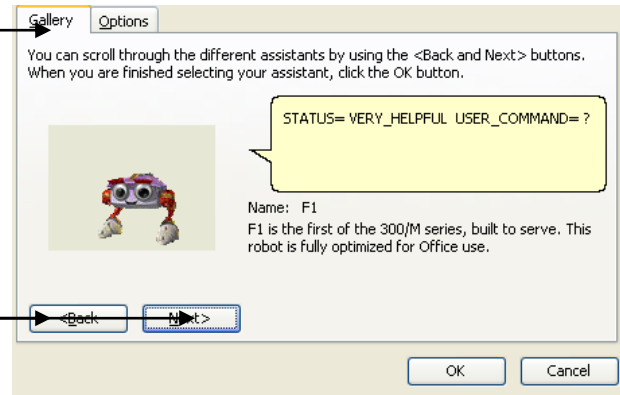


Clicking on the Office Assistant opens up a search bar into which you can type your help topic. Type "create a chart" (without the quotes) into the search bar, and click **Search**. You will see a task pane appear on the right side of the screen listing (usually) 30 results. You should see your help topic at or near the top of the list. Click on it to open another task pane with the solution to your problem. Close the two task panes when done.

Customizing the Office Assistant

Click on the Office Assistant again and click **Options**. Here you can change the look and behavior of the Office Assistant. You will see two tabs: **Gallery** and **Options**. Click on the **Gallery** tab. Here you can change the look of the Assistant. Click the **Back** and **Next** buttons to move back and forth between the selections. If one of these two buttons becomes grayed out, you must go in the opposite direction by pressing the other button.

Click **Gallery** to choose another character.

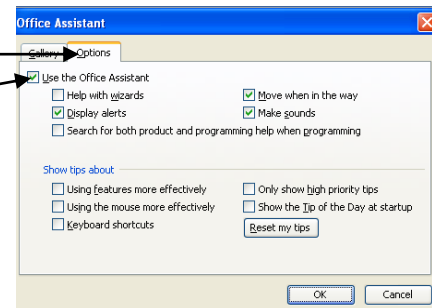


Click **Back** and **Next** to cycle between them.

Once you've examined the different characters, click the **Options** tab. **Options** presents several checkboxes with which you can customize the Assistant. Scan these over, and then uncheck the one at the top left that says **Use the Office Assistant**, and then click **OK**. The Office Assistant will disappear.

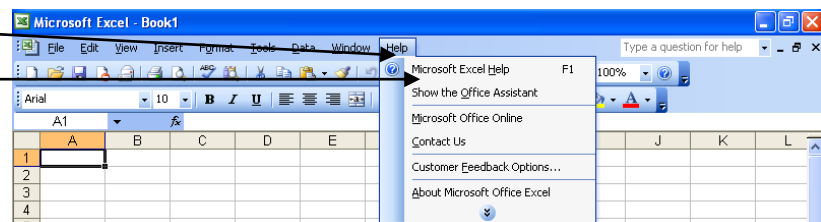
Click the **Options** tab to customize the Assistant's behavior.

Uncheck **Use the Office Assistant** to turn it off.



Now let's take a look at the standard Help menu. Click **Help** on the **Main Menu Bar**. Next, click **Microsoft Office Excel Help**. This will open a task pane on the right side of the screen. Type "create a chart" into the search bar provided, and then click the white arrow. You will see another task pane with the same 30 results you saw earlier. In other words, you get the same level of help whether or not you use the Office Assistant.

Click **Help** and then **Microsoft Excel Help**



Closing Excel

To close Excel simply click on the **X** in the upper right corner. Be sure to save your work.