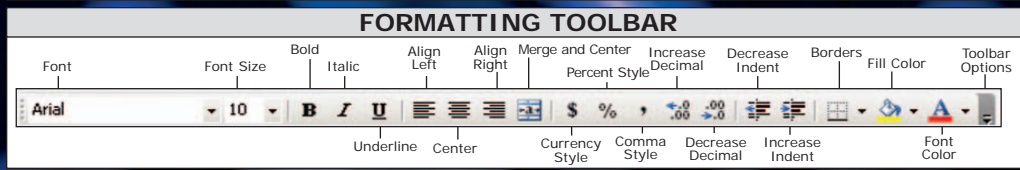
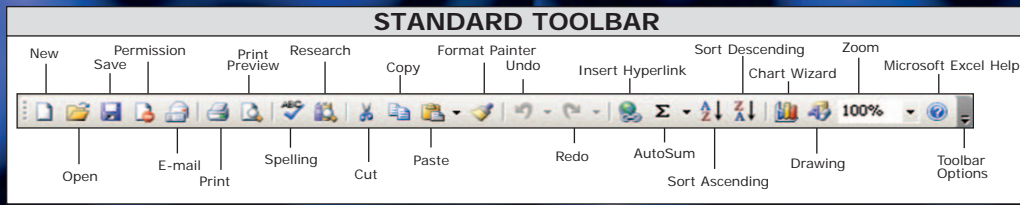


# Excel 2003 for Windows



## KEYBOARD SHORTCUTS

**HELP**  
**Help/Office Assistant:** F1  
**EDIT DATA**  
**Cancel a cell entry:** Esc  
**Check spelling:** F7  
**Complete cell entry/go to next cell:** Enter  
**Copy selected cells:** Ctrl+C  
**Cut selected cells:** Ctrl+X  
**Delete text to end of line:** Ctrl+Delete  
**Display Format Cells dialog box:** Ctrl+1  
**Display MS Office Clipboard:** Ctrl+C twice  
**Display or hide formulas:** Ctrl+ (above tab)  
**Edit a cell comment:** Shift+F2  
**Edit the active cell:** F2  
**Enter date:** Ctrl+; (semicolon)  
**Enter time:** Ctrl+: (colon)  
**Fill down:** Ctrl+D  
**Fill right:** Ctrl+R  
**Go to named cell:** Ctrl+G  
**Insert blank cells:** Ctrl+Shift+  
**Insert hyperlink:** Ctrl+K  
**Name a cell:** Ctrl+F3  
**Paste copied cells:** Ctrl+V  
**Redo last action:** Ctrl+Y or F4  
**Spelling:** F7  
**Start new line in same cell:** Alt+Enter  
**Undo last action:** Ctrl+Z

## GETTING STARTED

**Create a new, blank workbook:** File: **N**ew... and select **B**lank workbook from the New Workbook task pane, or {Ctrl+N} (task pane does not appear)  
**Create a new workbook based on the default template:** Click **N**ew **T** on the Standard toolbar or {Ctrl+N}  
**Create a workbook based on another template:** File: **N**ew... • Under the Templates heading in the New Workbook task pane select one of the following **T**emplates on Office Online  
 • Click **O**n my computer... • Click **O**n my Web sites...

## GETTING HELP

**Accessing Help:** **H**elp or {F1}  
**Customize Office Assistant:** **H**elp: Show the **O**ffice Assistant • Right-click on the Assistant and click **O**ptions  
 • Select the desired **O**ptions • Click on the **G**allery tab and select the desired Assistant  
**Show/hide Office Assistant:** **H**elp: Show the **O**ffice Assistant or **H**elp: Click **H**ide the **O**ffice Assistant  
**View ScreenTips for dialog box options:** On the **T**ools menu, click **C**ustomize... • Click the **O**ptions tab  
 • Under **O**ther, check  **S**how **S**creen**T**ips on **T**oolbars  
**Note:** Changing this setting affects all of your Microsoft Office System programs

## MENUS AND TOOLBARS

**Create a custom toolbar:** Right-click blank toolbar area and click **C**ustomize... • **T**oolbars tab • Click **N**ew... • Type a **T**oolbar name: and click **O**K (Toolbar appears on screen)  
 • Click **C**ommands tab • Click **i**tem in **C**ategories: box  
 • Click+drag icons from **C**ommands: box onto the custom toolbar • Click **C**lose when done  
**Rename a custom toolbar:** **V**iew: **T**oolbars ▶ click **C**ustomize... • Click **T**oolbars tab • In the **T**oolbars: box, click the custom toolbar to rename • Click **R**ename... • Type a new name in the **T**oolbar name: box • Press **E**nter • Click **C**lose  
**Reposition a toolbar:** Click+drag the left edge of a toolbar to desired location • Click+drag title bar if toolbar is floating  
**Show all buttons on a docked toolbar:** Click the arrows **▾** at the end of a toolbar to show available buttons • When a button that is not displayed on a docked toolbar is used, that button now appears on the toolbar and replaces a rarely used button  
**Show/hide a toolbar:** Right-click any toolbar  
 • Check  toolbar to show or hide from the shortcut menu

## AUTOFILL

**Change/delete a custom fill series:** **T**ools: **O**ptions..., **C**ustom **L**ists tab • In the **C**ustom **L**ists: box, select a desired list • Make the changes in the **L**ist entries: box and click **A**dd] or click **D**elete] to delete the list • **O**K  
**Create a custom fill series:** **T**ools: **O**ptions..., **C**ustom **L**ists tab • Click **I**mport] or select **N**EW **L**IST in the **C**ustom **L**ists: box • Type the entries in the **L**ist entries: box (press **E**nter after each entry)  
 • Click **A**dd] when complete • Click **O**K  
**Create a list of consecutive dates:** Type the first day or date of list in a cell • Select the cell and click+drag the fill handle [**July 22** -Fill Handle] across cells to fill, or click the **A**uto **F**ill **O**ptions icon **▢** that appears and select an item from the menu  
**Fill data within a row or column:** Select cell(s) to copy • Click+drag the fill handle [**July 22** -Fill Handle] across the cells to fill (drag across, up or down desired cells) • Release mouse button • Click the **A**uto **F**ill **O**ptions icon **▢** to select an option

## FUNCTIONS

**Create a formula that contains a function:** Click an empty cell to enter the formula into • Click **I**nsert **F**unction icon **fx** on the formula bar or {Shift+F3} • Browse the categories in the **O**r select a **C**ategory: box and **S**elect a **F**unction: • Click **O**K] or **S**earch for a **F**unction: (by typing in a description, clicking **G**o), selecting the function and clicking **O**K] • Enter the arguments **Note:** To enter cell references as an argument, click **C**ollapse **D**ialog icon **▢** to temporarily hide the dialog box • Select the cells on the worksheet and then press **E**xpand **D**ialog icon **▢** • Press **O**K] or **E**nter]  
**Example:** =AVERAGE(A1:C2) Averages all numbers in the range; =SUM(B:B) Adds all the numbers in column B  
**Create a formula with nested functions:** Click an empty cell to enter the formula into • Click **I**nsert **F**unction icon **fx** on the formula bar • Select a **F**unction:, **S**earch for a **F**unction:, or browse for a **C**ategory in the **O**r select a **C**ategory: box, followed by choosing a function from the **S**elect a **F**unction: box • Click **O**K]  
 • Enter the arguments • To enter cell references as an argument, click **C**ollapse **D**ialog icon **▢** • Select the cells on the worksheet • Press **E**xpand **D**ialog icon **▢** • To enter another function as an argument, enter the function in the desired argument box • Press **O**K]

**FORMATTING** (select text first)  
**Apply the Currency format with two decimal places** (negative numbers in parentheses): Ctrl+Shift+\$  
**Apply the Percentage format with no decimal places:** Ctrl+Shift+%  
**Bold text:** Ctrl+B  
**Display style dialogue box:** Alt+'(apostrophe)  
**Hide selected columns:** Ctrl+0 (zero)  
**Hide selected rows:** Ctrl+9  
**Italics:** Ctrl+I  
**Underline text:** Ctrl+U  
**Unhide selected columns:** Ctrl+Shift+0  
**Unhide selected rows:** Ctrl+Shift+9  
**FUNCTIONS & FORMULAS**  
**Calculate all worksheets in all open workbooks:** F9  
**Display Insert Function box:** Shift+F3  
**Insert an AutoSum formula:** Alt+=  
**NAVIGATING**  
**Move among menu choices:** [↑] / [↓]  
**Next/previous option:** Tab or Shift+Tab  
**Switch between open workbooks:** Ctrl+F6 or Ctrl+Tab

## COMMENTS

Notes that can be attached to cells to act as useful reminders  
**Delete a comment:** Right-click comment cell • Click **D**elete **C**omment  
**Edit a comment:** Right-click comment cell • Click **E**dit **C**omment • Edit text • Click outside comment box  
**Insert comment:** Click cell to comment on • **I**nsert: **C**omment or right click **I**nsert **C**omment • **T**ype comment **V**iew • Click outside comment box  
**Text comments:** Rest pointer **8%** over cell containing red indicator triangle

## FORMULAS

Formulas are equations that perform calculations on values in a worksheet • Formulas start with an equal sign (=)  
**Create a formula:** Click cell to enter the formula into • In the formula bar, type an equal sign (=) followed by the formula • Press **E**nter]  
**Create a formula that contains references or names:** Click cell to enter the formula into • In the formula bar, type an equal sign (=)  
 • To create a reference: select a cell, type a range of cells, type the name of the cell, or type the location from another workbook • **E**nter]  
**Examples:**  
 =B3 Uses the value in cell B3  
 =Sheet2!B3 Uses the value in cell B3 on Sheet2  
 =TeamA-TeamB Subtracts a cell named TeamB from a cell named TeamA  
**Note:** To create a reference to a named range: Press **F**3 • Select name in the **P**aste **N**ame box • Click **O**K]  
**Create an array formula:** Click the cell to enter an array formula into • Type the array formula • Press {Ctrl+Shift+Enter}  
**Note:** Excel automatically inserts array formulas between {} (braces) • Array formulas produce single or multiple results  
**Edit a formula:** Select the cell with the formula • Press **F**2 or click in the **F**ormula **B**ar • Edit the formula • Press **E**nter]  
**Find errors in formulas:** If a formula cannot evaluate a result, Excel displays an error value **Example:** [#VALUE!] appears when wrong type of argument or operand is used • Click cell with error • Hold pointer over **T**race **E**rror button **⚡** that appears and click it to view options • Select **H**elp on this error • Review possible solutions **Note:** If the column width is not wide enough to accommodate all text or numbers, double-click the column divider to expand cell width

## TRACKING CHANGES

Tracking changes (change tracking) retains the full history of changes in a shared workbook • Changes appear as a blue marker in a cell [8%] • Hold the mouse pointer over the marker to see the changes **Note:** To retain the full change history, do not remove the workbook from shared use • Make a copy of the workbook and stop sharing on the copy version only, to work with features that are unavailable when the workbook is shared

**Copy the history to another workbook:** Tools: Track Changes ► Highlight Changes... • In the When: box, select All • Clear Who: and Where: check boxes • Select the List changes on a new sheet check box • Click [OK] • Select the cells to copy • Click the Copy of {Ctrl+C} • Switch to another workbook and select empty cell(s) • Click Paste or {Ctrl+V} • Click Paste Options in the toolbar • Select a paste method from the menu

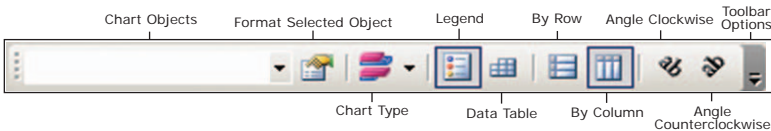
**Display the History worksheet:** Tools: Track Changes ► Highlight Changes... • Select When: check box and select All • Clear Who: and Where: check boxes • Select List changes on a new sheet check box • Click [OK] **Note:** If Track changes while editing check box is not selected, Microsoft Excel has not recorded any change history

**Print the Change History:** Tools: Track Changes ► Highlight Changes... • In the When: box, select All • Clear Who: and Where: check boxes • Select the List changes on a new sheet check box • Click [OK] • Click Print icon or File: Print...

**Turn on Track Changes:** Tools: Share Workbook..., click Editing tab • Select Allow changes by more than one user at the same time check box • Click Advanced tab • Under Track changes, click Keep change history for: • Type desired number of days to keep change history • Click [OK] • If prompted, save the file • Right-click blank toolbar area and select Protection toolbar • Click Protect and Share Workbook • Select Sharing with track changes • Click [OK]

**View tracked changes:** Tools: Track Changes ► Highlight Changes... • Click and select options from When:, Who: and Where: check boxes • Select Highlight changes on screen check box if not already selected • Click [OK]

## CHART TOOLBAR AND CHARTS



**Add a second axis:** In the chart, click the data series you want to plot along a secondary value axis • Format: Selected Data Series... or {Ctrl+1}, click Axis tab • Select Secondary axis • Click [OK]

**Adding/changing headings:** Highlight chart • In Chart toolbar, select Chart Options... • Click Titles tab, enter Chart title:, enter name of X axis in Category (X) axis:, enter name of Y axis in Value (Y) axis: • Click [OK]

**Change the plotting order of data series:** Click a data series in the chart • Format: click Selected Data Series... or {Ctrl+1} or double click on the data series in the chart • Click Series Order tab • In Series order: box, click the series you want to move • Click [Move Up] or [Move Down] to place the series in desired order • Click [OK]

**Control plotting empty cells in a chart:** Click the chart • Tools: Options..., click the Chart tab • Click the options you desire under Plot empty cells as: • Click [OK]

**Create a chart using Chart Wizard:** Select cells that contain data to chart • On Standard toolbar, select Insert: Chart... • In Standard Types tab, select Chart type • Select Chart sub-type • Click [Press and Hold to View Sample] to see preview of chart • Click [Next >] • In Series in: select Rows or Columns • Click [Next >] • In the Titles tab, enter Chart title:, enter name of X axis in Category (X) axis:, enter name of Y axis in Value (Y) axis: • In Gridlines tab, select desired options • Click [Next >] • Place chart As new sheet or As object in • Click [Finish]

**Create a custom chart type** (use when creating several similarly formatted charts): Right-click chart or chart area • In Chart menu, select Chart Type... • Click Custom Types tab • In Select from check User-defined • Click [Add...] • Type a name in the Name: box • If desired, add a Description: • Click [OK], [OK]

**Delete a chart:** Click on chart area to select it • Press [Delete] key

**Plot data series in similarly formatted charts:** Select cells that contain data to chart • In Chart menu, select Chart Type... • Click Custom Types tab • In Select from check User-defined • In Chart type, select user predefined custom chart

**Plot data series from worksheet rows or columns:** Right-click the chart • Select Source Data..., click Data Range tab • Click Series in: Rows or Columns • Click [OK]

**Show Chart toolbar:** View: Toolbars ► Chart

## FORMULA ERRORS

Click cell with error • Click the information button (Trace Error) • Click Help on this error and correct

**Correct common problems using error checking:** Select worksheet to check for errors • Press F9 to recalculate (if manually calculated) • Tools: Error Checking... • If there are previously ignored errors, click [Options...], click [Reset Ignored Errors] • Click [OK] • [Resume] • Select options by clicking buttons on right side of the dialog shown • Options are different for each type of problem • Continue until error check is complete **Note:** If [Ignore Error] is clicked, the problem is marked to be ignored for each consecutive check

**Hide error indicators in cells:** Tools: Options..., Error Checking tab • Clear Enable background error checking check box

**#####:** The column is not wide enough to display the contents, or a negative date or time is used • Double-click column divider to expand the column width or make date/time a positive value

**#DIV/0!:** A number is divided by zero • Change divisor to a number other than zero or enter the value #N/A

**#NAME?:** The text in a formula is not recognized

**#NULL:** Occurs when an intersection of two areas that do not intersect is specified • The intersection operator is a space between references • Change the reference so that it intersects or use the union operator comma (,) to refer to two areas that do not intersect

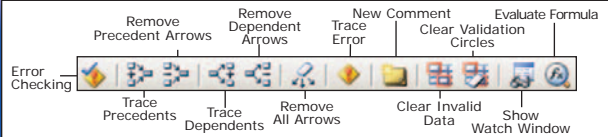
**#NUM!:** Invalid numeric values in a function or formula

**#N/A:** A value is not available to a function or formula • Enter new data

**#REF!:** A cell reference is not valid

**#VALUE!:** The wrong type of argument or operand is used

## FORMULA AUDITING



**Dependent cells:** Cells that contain formulas that refer to other cells

**Display precedent cells and/or dependent cells of formulas:**

Tools: Options..., click the View tab • Under Objects, check Show all • Click [OK] • Tools: Formula Auditing ► Show Formula Auditing Toolbar • Select the cell that contains the formula to trace • Click Trace Precedents or click Trace Dependents on the Formula Auditing toolbar • To identify the next level of cells, click Trace Precedents or Trace Dependents again • To remove tracer arrows one level at a time, starting with the precedent or dependent cell farthest away from the active cell, click Remove Precedent Arrows or Remove Dependent Arrows • To remove another level of tracer arrows, click the button again • To remove all tracer arrows, click Remove All Arrows on the Formula Auditing toolbar **Note:** If a selected cell is referenced by a cell on another worksheet or workbook, a black arrow points from the selected cell to a worksheet icon • Make sure the other workbook is open before tracing dependencies • A red arrow shows cells that cause errors

**Precedent cells:** Cells that are referred to by a formula in another cell

**Select cell at other end of arrow:** Double-click the arrow

**Note:** If the cell is in another worksheet or workbook, double-click the black arrow and then double-click the desired reference in the Go to list

## WATCH WINDOW

Keep track of cells and their formulas, even when the cells are out of view • Track cell properties, names, values, and formulae

**Add cells to the Watch Window:** Right-click an empty part of the toolbar area and select Watch Window, or in the main menu, click on Tools: Formula Auditing ► Show Watch Window • Click + drag across desired cells to add to the Watch Window • Click Add Watch... • Click [Add]

**Note:** To display the cells from the Watch Window, double-click the entry

**Remove cells from Watch Window:** Right-click an empty part of the toolbar area and select Watch Window, or in the main menu, click on Tools: Formula Auditing ► Show Watch Window • Select the cell(s) in the Watch Window to remove • Click Delete Watch

## PROTECTING CELLS

**Password protect a workbook:** Open workbook to protect • Right click on toolbar, check Protection toolbar or Tools: Protection ► click Protect Workbook... • Select Structure check box to prevent workbook sheets from being renamed, moved, deleted, hidden, unhidden, or from having new worksheets inserted into workbook • Select Windows check box to protect the windows from being resized, repositioned or closed • Type a Password: and click [OK] • Reenter password to proceed • Click [OK]

**Prevent objects from moving and sizing with cells:** Select the object • Format: click the command for the type of object you selected • Click Properties tab • Under Object positioning, select an option • Click [OK]

**Protect a cell range in a workbook/worksheet:** Select each cell or range to protect, select Format: Cells... or {Ctrl+1}, click Protection tab • Select Locked (cells cannot be changed or moved) and/or Hidden (hides formula from showing in formula bar) • Click [OK] • Tools: Protection ► Protect Sheet... • Select Protect worksheet and contents of locked cells • Type Password to unprotect sheet • Select desired options from Allow all users of this worksheet to: select options • Click [OK] and Reenter password to proceed • Click [OK] • Click Protect and Share Workbook icon on Protection toolbar • Select Sharing with track changes • Type Password • Click [OK] • Reenter password to proceed • Click [OK] • Type File name: and click [Save]

**Protect a shared workbook:** Tools: Share Workbook..., click Editing tab • Make sure you are the only one listed in the Who has this workbook open now: box • Clear Allow changes by more than one user at the same time check box (if prompted to make workbook exclusive, click Yes) • Click [OK] • Tools: Protection ► click Protect and Share Workbook... • Check Sharing with track changes • Type Password • Click [OK] • Reenter password to proceed • Click [OK] • Type File name: and click [Save] **Note:** To protect a shared workbook, have all other users close the shared workbook • Unsharing the workbook deletes the change history • To retain the change history, print it out, or copy it to another workbook

**Unprotect a workbook/worksheet:** Tools: Protection ► click Unprotect Workbook... or Unprotect Sheet... • Enter a password if prompted • Click [OK]

