

# Beyond the Basics of Spreadsheets

**Microsoft Excel**

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## **Workshop Outline for Beyond the Basics of Spreadsheets Microsoft Excel**

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### **Beyond the Basics of Creating Spreadsheets**

Learn how to use comments, create conditional formatting, work with IF statements, link workbooks, insert headers & footers, sort lists, do more with charts, and create mailing lists.

#### **Objectives**

- Learn how to use comments
- Create conditional formatting
- Work with IF statements
- Learn how to link workbooks
- Work with headers & footers
- Use a chart as a graphic example
- Sort and filter information
- Create a mailing list or labels



To view the comment:

- ◆ Hover the selection tool over the cell that contains the comment-Comment appears

Or to view all comments:

- ◆ Click on the “Show All Comments” Button on the “Review” tab of the Ribbon
- ◆ Use the buttons in the Comments section of the Review tab to edit, move through comments, hide all, or delete comments

To turn off viewing all comments:

- ◆ Click on “Show All Comments” button on the Review Tab of the Ribbon to view all the comments or turn off viewing the comments.

To edit a comment:

- ◆ Select the cell that contains the comment
- ◆ Click on the “Review” Tab select “Edit Comment”

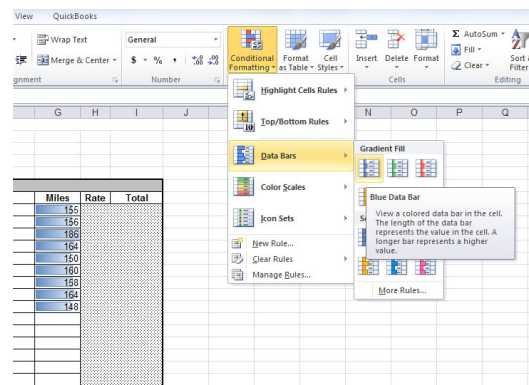
## Conditional Formatting

Conditional formatting will allow you to create formatting that will automatically change depending upon the information that appears in a cell. This is useful to provide you with a visual reflection of when a number exceeds or falls below a given amount.

### ***OPEN EXPENSE REIMBURSEMENT – CONDITIONAL FORMATTING***

To create conditional formatting:

- ◆ Select the cell or range of cells that you want the formatting to appear in. (Column G)
- ◆ Click on the “Home” Tab, Select Conditional Formatting in the Styles section.
- ◆ A gallery appears on the many different types of Conditional Formatting that are available. Look through the options of Data Bars, Color Scales, and Icon Sets.



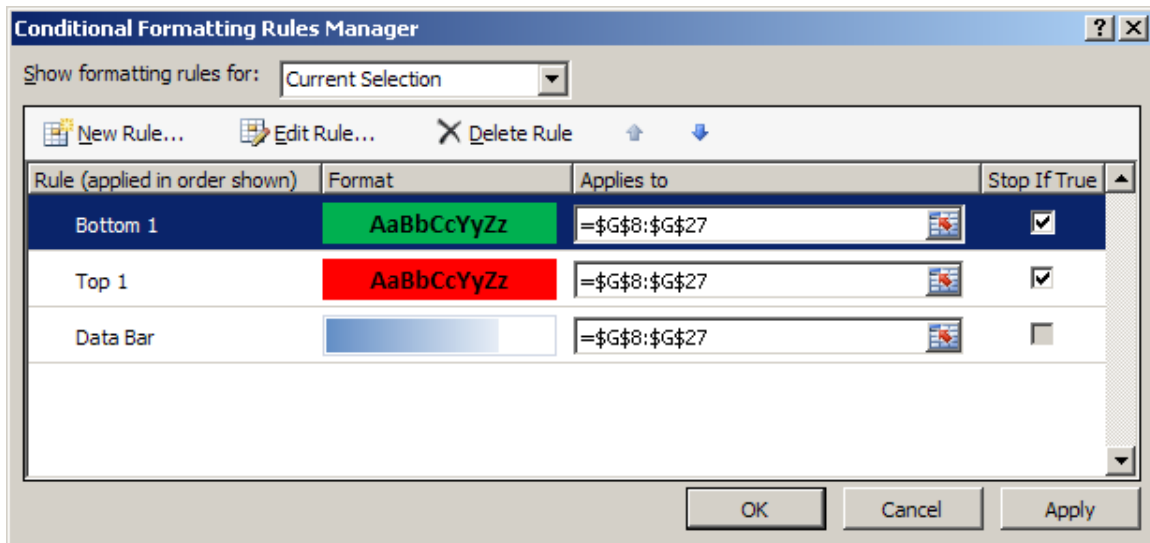
Change or adjust the rules of the Conditional:

- ◆ Click the Conditional Formatting button and go to the “Manage Rules...” Menu Item
- ◆ Use the Edit Rule... button to change how the format behaves (color or style)
- ◆ Click on OK – Click on OK again.

### Add in additional Conditions

What if we want the highest mileage to be red and the lowest mileage to be green. We can add additional rules.

- ◆ Click the Conditional Formatting button and go to the “Manage Rules...” Menu Item
- ◆ Click on New Rule...
- ◆ Select “Format only top or bottom ranked values”
- ◆ Change the 10 to a 1 and select the Format... button
- ◆ Change the Font style to Bold and the Fill to Red
- ◆ Do the same thing for the Bottom 1 making it Bold and Green. The Rules manager should look like below.
- ◆ The “Stop if True” says no additional formatting will occur to the cells that already match this condition.
- ◆ The Order from Top to Bottom is how the rules are applied. If they are not in the correct order, use the blue button at the top to adjust the rules placement.



### To delete conditional formatting:

- ◆ Select the rule to be deleted in the Conditional Formatting Rules Manager
- ◆ Select “Delete Rule”

### Time Saving Tip to Remember:

#### Entering Simple formulas:

##### Using one operator:

Select a cell and Type =8+4, Click on the Checkmark on the formula bar or hit the Enter Key the result is 12

##### Using two operators:

Select a cell and Type =4+2\*3, hit Enter, the result is 10

##### Key factor: Order of Operator Precedence - multiple and division are completed before adding and subtracting in a formula, unless you use parentheses to override the precedence.

Select a cell and Type =(4+2)\*3, hit Enter, the result is 18

## If Statements

IF return a value if one condition is TRUE and returns another value if the condition is FALSE. The IF function is one of the most commonly used logical functions and can be embedded within itself to perform up to seven logical tests. IF statements can be used to track grades, calculate shipping costs, etc.

### OPEN THE FILE “IF EXAMPLES”

To create a single IF Function:

- ◆ Select the cell you want the statement to appear in
- ◆ Choose the *fx* from the Formula Bar
- ◆ Choose “Select a function”, “IF” from the right hand side of “Most Recently Used” “Function category”
- ◆ Click on OK
- ◆ Move the IF box so you can see the section of the spreadsheet you are working on
- ◆ In logical test text box, select cell you want to test (click on the actual cell in the spreadsheet)
- ◆ In this example, type in a =”PASS”
- ◆ Tab or click in “Value if true” text box, type in that value
- ◆ Tab or click in “Value if false text box, type in that value

PASS/FAIL	PASS/FAIL	RESULT
JOHN	PASS	GRADE 7
BILL	PASS	
PATRICK	FAIL	
ANDY	FAIL	
CHRIS	PASS	

=IF(C3="PASS","GRADE 7","GRADE 6")

(Return A Result If There Is A Condition)

PROJECT	DATE	COST	CUMULATIVE TOTAL
RIDGE CREEK	1/15/00	\$ 92,000	\$
RIDGE CREEK	1/22/00	\$ 87,000	
RIDGE CREEK	1/29/00	\$ 75,000	
RIDGE CREEK	2/5/00	\$ 72,000	
RIDGE CREEK	2/12/00	\$ -	

IF

Logical\_test: C3="PASS" = TRUE

Value\_if\_true: "GRADE 7" = "GRADE 7"

Value\_if\_false: "GRADE 6" = "GRADE 6"

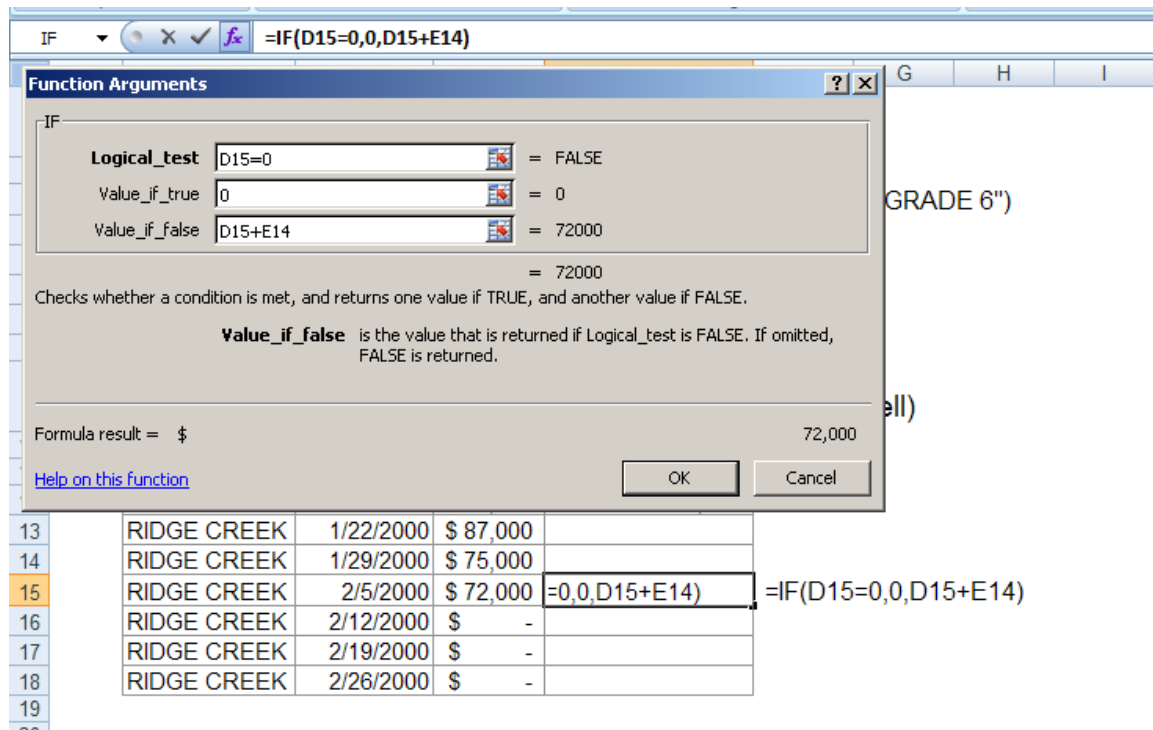
Formula result: =GRADE 7

OK Cancel

IF	B	C	D
	2	PASS/FAIL	PASS/FAIL RESULT
	3	JOHN	PASS GRADE 7
	4	BILL	PASS GRADE 7
	5	PATRICK	FAIL GRADE 6
	6	ANDY	FAIL GRADE 6
	7	CHRIS	PASS GRADE 7

=IF(C3="PASS","GRADE 7","GRADE 6")

To create a single IF Function where there's a number in the cell:



The screenshot shows the Excel IF function dialog box. The Logical\_test is set to D15=0, which evaluates to FALSE. The Value\_if\_true is set to 0, and the Value\_if\_false is set to D15+E14, which evaluates to 72000. The formula result is displayed as \$72,000. Below the dialog box, a spreadsheet is visible with the following data:

	PROJECT	DATE	COST	
13	RIDGE CREEK	1/22/2000	\$ 87,000	
14	RIDGE CREEK	1/29/2000	\$ 75,000	
15	RIDGE CREEK	2/5/2000	\$ 72,000	=IF(D15=0,0,D15+E14)
16	RIDGE CREEK	2/12/2000	\$ -	
17	RIDGE CREEK	2/19/2000	\$ -	
18	RIDGE CREEK	2/26/2000	\$ -	

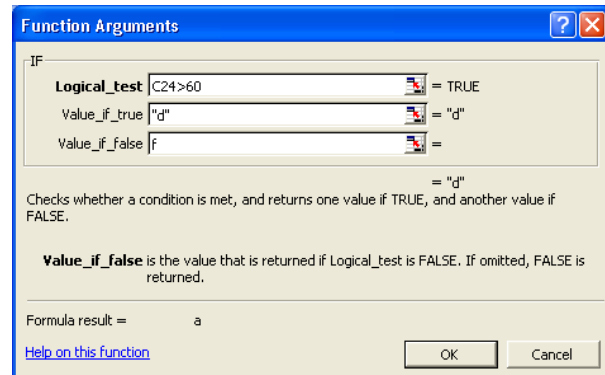
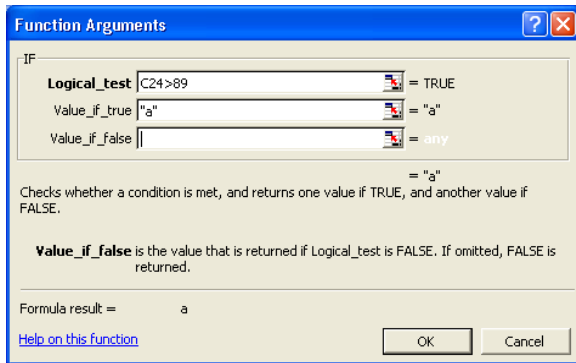
## IF (Return A Result If There's A Number In The Cell)

A	B	C	D	
PROJECT	DATE	COST	CUMULATIVE COST	
RIDGE CREEK	1/15/00	\$ 92,000	\$ 92,000	=IF(D12=0,0,D12)
RIDGE CREEK	1/22/00	\$ 87,000	\$ 179,000	=IF(D13=0,0,D13+E12)
RIDGE CREEK	1/29/00	\$ 75,000	\$ 254,000	
RIDGE CREEK	2/5/00	\$ 72,000	\$ 326,000	=IF(D15=0,0,D15+E14)
RIDGE CREEK	2/12/00	\$ -	\$ -	
RIDGE CREEK	2/19/00	\$ -	\$ -	
RIDGE CREEK	2/26/00	\$ -	\$ -	



To create a nested IF statement:

When your cursor is in the first “Value if false” text box, click on the IF from the dropdown menu on the formula bar and continue entering if statements until all embedded statements are entered.



## NESTED IF (Automate Grades)

	B	C	D
23	NAME	AVG. SCORE	GRADE
24	John	92	A
25	Andy	87	B
26	Sandy	75	C
27	Bill	72	C
28	Al	65	D
29	Albert	61	D
30	Mitch	58	F

=IF(C24>88,"A",IF(C24>79,"B",IF(C24>69,"C",IF(C24>59,"D",  
"F")))))

**Grade Key:**

A = 89-100

B = 80-88

C = 70-79

D = 69-60

F = 59-below

## Linked Workbooks

This is used when there is more than one workbook involved and the information needs to be linking into another spreadsheet. For example, if 3 different departments have budget information and you need to create a budget from all 3.

### >OPEN>LINKING – SUMMARY, LINKING – DEPT A, LINKING – DEPT B, LINKING – DEPT C

- ◆ Open all of the workbooks that need to be linked (make sure only those 4 are open)
- ◆ Click on the “View” Tab.
- ◆ Select the “Arrange All” button in the Window Section.
- ◆ Select Tiled
- ◆ Click on OK

The screenshot shows four Excel workbooks arranged in a tiled view. The top-left workbook is 'Linking - Summary', the top-right is 'Linking - Dept B', the bottom-left is 'Linking - Dept C', and the bottom-right is 'Linking - Dept A'. Each workbook displays budget data for various categories across different months.

**Linking - Summary [Compatibility Mode]**

	A	B	C	D	E	F	G	H
1								
2		Dept A	Dept B	Dept C				
3	Wages				-			
4	Payroll Taxes				-			
5	Benefits				-			
6	Office Supplies				-			
7	Postage				-			
8	Total	-	-	-	-			

**Linking - Dept B [Compatibility Mode]**

	A	B	C	D	E	F	G	H	I	J
1										
2		Jul-00	Aug-00	Sep-00	Oct-00	Nov-00	Dec-00			
3	Wages	50,000	50,000	50,000	50,000	50,000	50,000	300,000		
4	Payroll Taxes	7,500	7,500	7,500	7,500	7,500	7,500	45,000		
5	Benefits	5,000	5,000	5,000	5,000	5,000	5,000	30,000		
6	Office Supplies	750	750	750	750	750	750	4,500		
7	Postage	500	500	500	500	500	500	3,000		
8	Total	63,750	63,750	63,750	63,750	63,750	63,750	382,500		

**Linking - Dept C [Compatibility Mode]**

	A	B	C	D	E	F	G	H	I	J
1										
2		Jul-00	Aug-00	Sep-00	Oct-00	Nov-00	Dec-00			
3	Wages	75,000	75,000	75,000	75,000	75,000	75,000	450,000		
4	Payroll Taxes	11,250	11,250	11,250	11,250	11,250	11,250	67,500		
5	Benefits	7,500	7,500	7,500	7,500	7,500	7,500	45,000		
6	Office Supplies	1,000	1,000	1,000	1,000	1,000	1,000	6,000		
7	Postage	750	750	750	750	750	750	4,500		
8	Total	95,500	95,500	95,500	95,500	95,500	95,500	573,000		

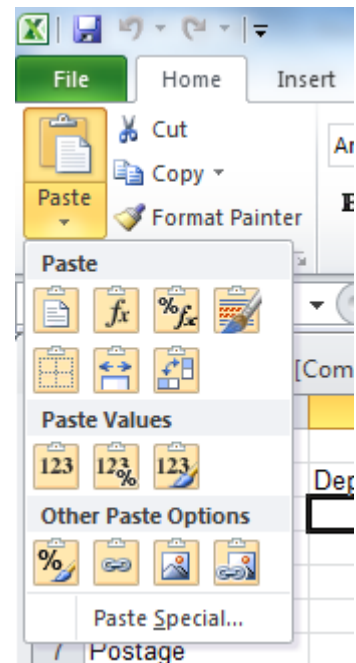
**Linking - Dept A [Compatibility Mode]**

	E	F	G	H	I	J	K	L	M	N
1										
2	Oct-00	Nov-00	Dec-00							
3	30,000	30,000	50,000	200,000						
4	4,500	4,500	7,500	30,000						
5	3,000	3,000	5,000	20,000						
6	500	500	500	3,000						
7	250	250	250	1,500						
8	38,250	38,250	63,250	254,500						

◆ Creating the link

- Select the range of cells from Dept. A that represent the totals for Wages thru Postage.
- Copy the cells
- Click in the Summary Worksheet and click in B3
- Click on the “Paste” Dropdown on the Home Tab and select “Paste Link”
- Repeat for Dept’s B and C

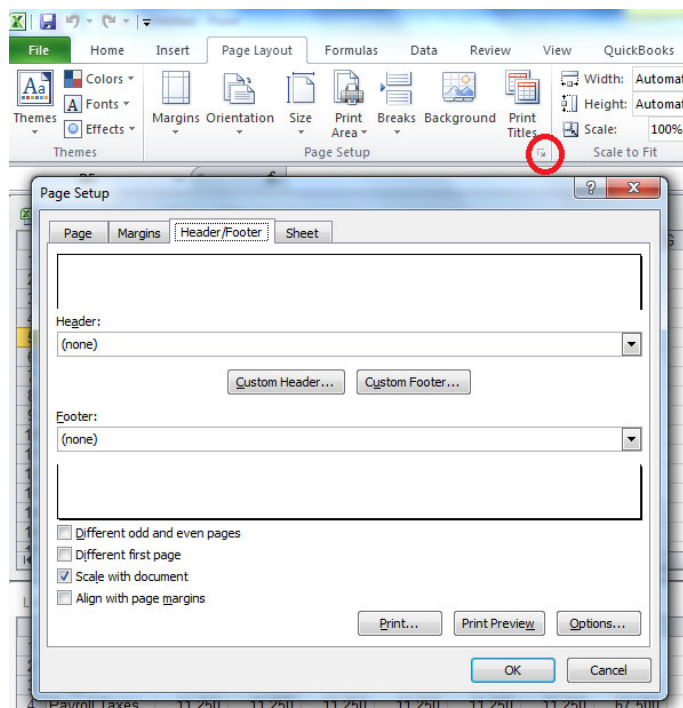
Dept A	Dept B	Dept C	Totals
200,000	300,000	450,000	950,000
30,000	45,000	67,500	142,500
20,000	30,000	45,000	95,000
3,000	4,500	6,000	13,500
1,500	3,000	4,500	9,000
254,500	382,500	573,000	1,210,000



**Working with Headers & Footers**

You can add Headers and Footers to Workbooks or to different Sheets within a Workbook.

- ◆ Click on the “Page Layout” tab on the ribbon
- ◆ Select on the Fly-out button in Sheet Options
- ◆ Choose predefined Headers and Footers from the dropdown menus
- ◆ Create your own Headers and Footers from the “Custom Header” or “Custom Footer” buttons



## Charts

### >OPEN>MORE CHARTS

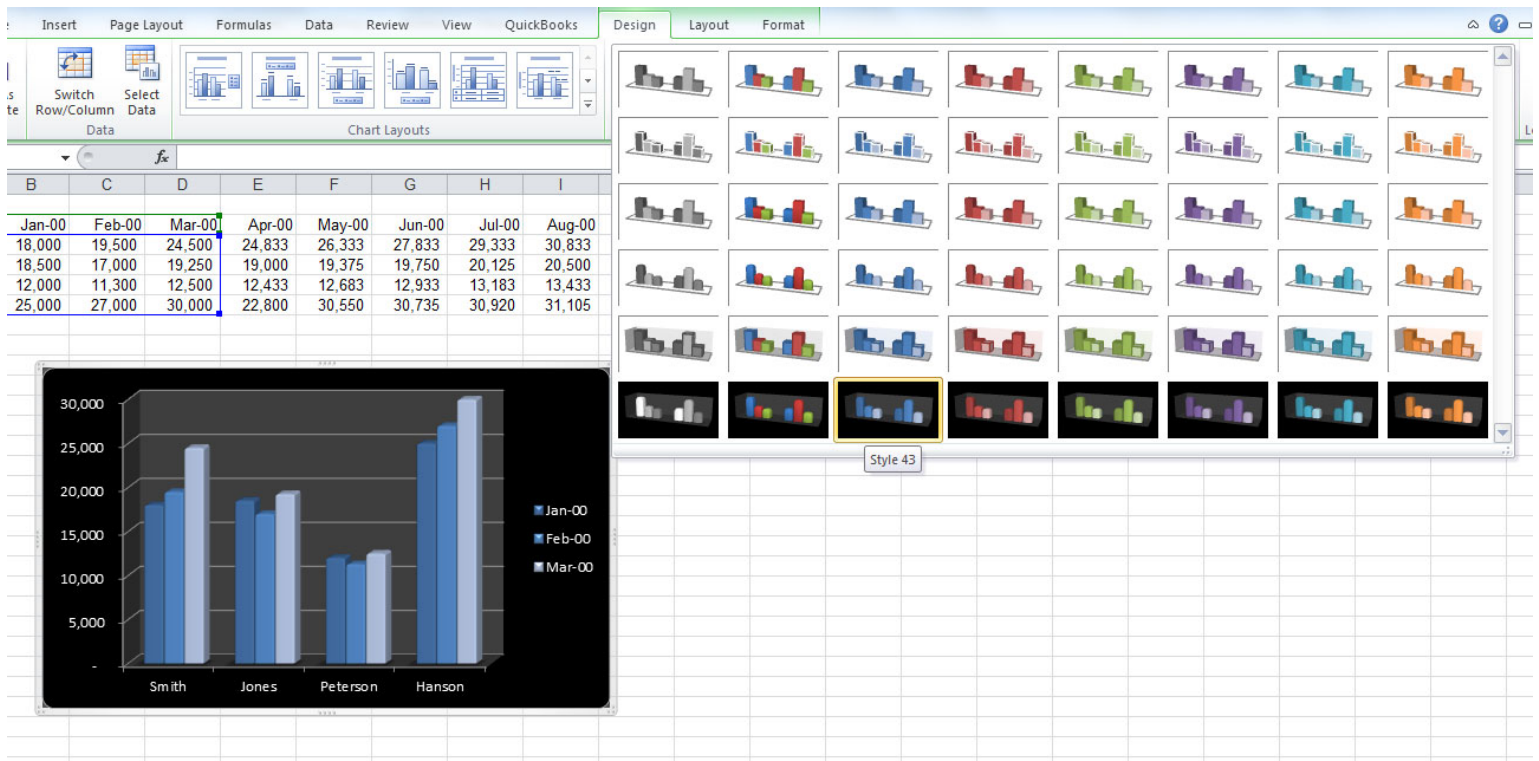
#### Changing existing charts:

The following changes can be made to Y Axis, for example:

- ◆ Patterns
- ◆ Scale
- ◆ Font
- ◆ Number
- ◆ Alignment

Double click on the area that needs to be changed, and from the dialog box, select option.

#### Change the design easily using the Gallery in the Chart Tools



## Sorting Lists

You can sort and filter information in Excel by creating a table. There are a few rules to follow. Make sure you have a Blank row at the end of the table. DO NOT leave a blank row after the column headings and before the data. DO leave a blank row after all the records and before any totals. Each column must have a field name (label at the top of the data indicating the contents of that column) and it must be unique.

### >OPEN>SORTING LISTS

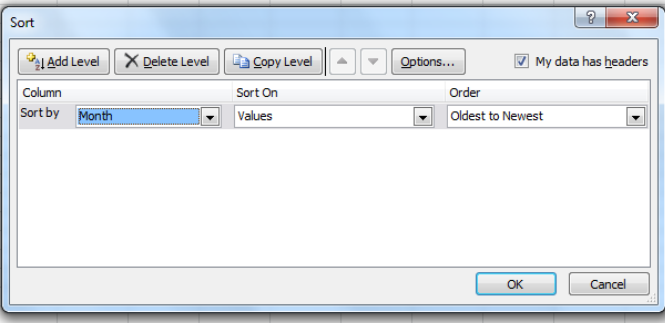
To sort in a list by one item:

- ◆ Click into a cell in the table in the column you first want to sort on
- ◆ On the Home Tab of the Ribbon, in the Editing Section, click on “Sort & Filter”

To sort in a list by multiple items:

- ◆ Click into a cell in the table you want to sort
- ◆ Click on the dropdown on the “Sort & Filter” icon and select “Custom Sort”
- ◆ In the drop down, select on the column to sort on and order
- ◆ Click on “Add Level” to sort on additional columns.
- ◆ Click on OK

Month	County	Type	Quantity	Bundles
April-00	St. Louis	White Pine	37,000	74
April-00	Itasca	Blue Spruce	22,500	45
April-00	Itasca	White Pine	15,500	31
April-00	Itasca	Concolor Fir	13,500	27
April-00	St. Louis	Blue Spruce	15,000	25
April-00	Itasca	Scotch Pine	15,000	22
April-00	St. Louis	Frazier Fir	6,500	13
May-00	Itasca	Blue Spruce	42,500	85
May-00	Lake	White Pine	32,000	64
May-00	Lake	Frazier Fir	14,500	29
May-00	Lake	Blue Spruce	13,500	27
May-00	Cook	Concolor Fir	12,000	24
May-00	Cook	Concolor Fir	10,000	20
September-00	Lake	Frazier Fir	7,500	15
September-00	Lake	Blue Spruce	3,100	62
September-00	St. Louis	White Pine	26,500	53



To filter contents:

- ◆ Select any cell in the table
- ◆ Click on the dropdown on the “Sort & Filter” icon and select “Filter”
- ◆ Click on any dropdown arrow for the field you want to use to filter and choose a filter from the criteria dropdown list.
- ◆ To see all records again, reset all filter criteria to “all”

4	Month	Count	Type	Quantit	Bundle
5	April-00	St. Louis	White Pine	37,000	74
7	April-00	Itasca	White Pine	15,500	31
13	May-00	Lake	White Pine	32,000	64
20	September-00	St. Louis	White Pine	26,500	53
21					
22	Totals			280,100	616
23					

## Subtotals

You can automatically calculate subtotals and grand totals in a list for a column by using the **Subtotal** command.

### IMPORTANT:

The **Subtotal** command will appear grayed out if you are working with a Microsoft Excel table. To add subtotals in a table, you must first convert the table to a normal range of data, and then add the subtotal. Note that this will remove all table functionality from the data except table formatting.

When you insert subtotals:

- **Subtotals** are calculated with a summary function, such as **Sum** or **Average**, by using the SUBTOTAL function. You can display more than one type of summary function for each column.
- **Grand totals** are derived from detail data, not from the values in the subtotals. For example, if you use the **Average** summary function, the grand total row displays an average of all of the detail rows in the list, not an average of the values in the subtotal rows.

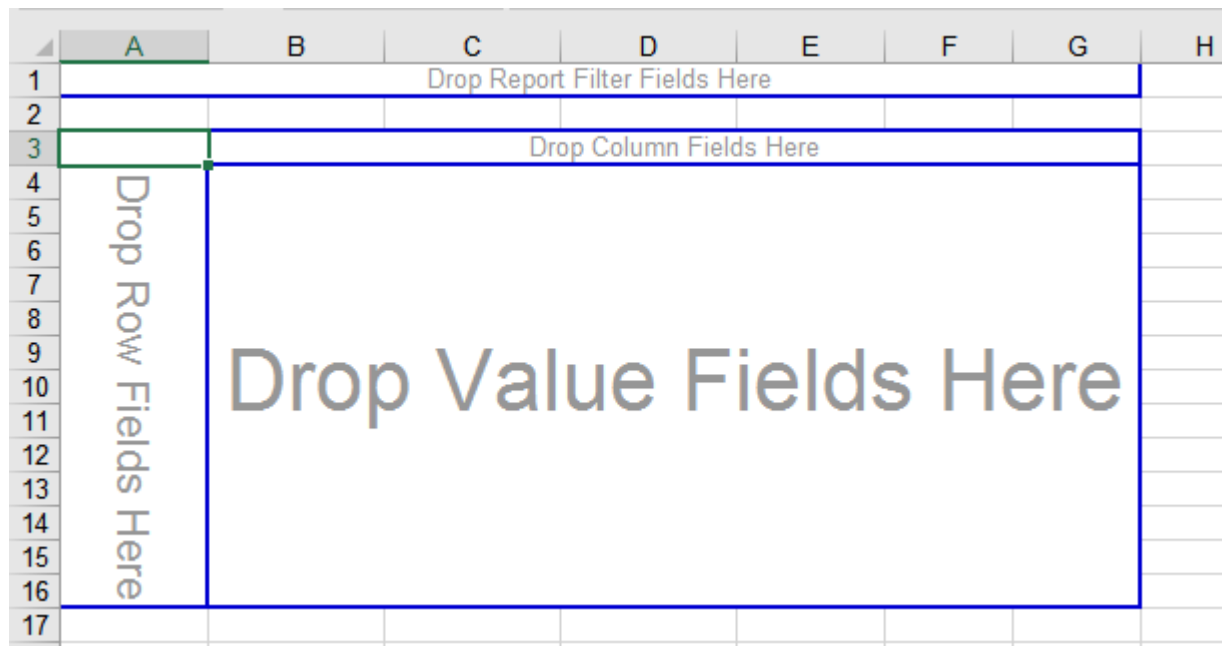


	A	B
1	<b>Sport</b>	<b>Sales</b>
2	Golf	\$5,000
3	Golf	\$2,000
4	Golf	\$1,500
5	<b>Golf Total</b>	<b>\$8,500</b>
6	Safari	\$9,000
7	Safari	\$4,000
8	<b>Safari Total</b>	<b>\$13,000</b>
11	<b>Tennis Total</b>	<b>\$2,000</b>
12	<b>Grand Total</b>	<b>\$23,500</b>

If the workbook is set to automatically calculate formulas, the **Subtotal** command recalculates subtotal and grand total values automatically as you edit the detail data. The **Subtotal** command also outlines the list so that you can display and hide the detail rows for each subtotal.

## Create a PivotTable

If you have limited experience with PivotTables, or are not sure how to get started, a **Recommended PivotTable** is a good choice. When you use this feature, Excel determines a meaningful layout by matching the data with the most suitable areas in the PivotTable. This helps give you a starting point for additional experimentation. After a recommended PivotTable is created, you can explore different orientations and rearrange fields to achieve your specific results. The Recommended PivotTables feature was added in Excel 2013.



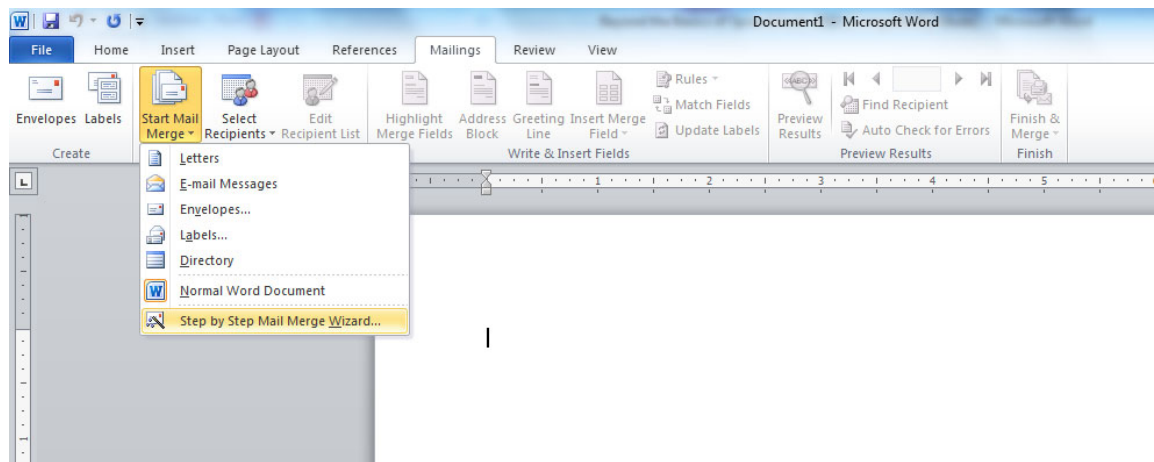
	A	B	C	D	E	F	G	H
1	Month	(All)						
2								
3	Sum of Quantity	Type						
4	County	Blue Spruce	Concolor Fir	Frazier Fir	Scotch Pine	White Pine	Grand Total	
5	Cook		22000				22000	
6	Itasca	65000	13500		15000	15500	109000	
7	Lake	16600		22000		32000	70600	
8	St. Louis	15000		6500		63500	85000	
9	Grand Total	96600	35500	28500	15000	111000	286600	
10								

In the **Field Name** area at the top, select the check box for any field you want to add to your PivotTable. By default, non-numeric fields are added to the **Row** area, date and time fields are added to the **Column** area, and numeric fields are added to the **Values** area. You can also manually drag-and-drop any available item into any of the PivotTable fields, or if you no longer want an item in your PivotTable, simply drag it out of the Fields list or uncheck it. Being able to

## Creating a Mailing List or Labels

You can use this procedure to create form letters, mailing labels, and other merged documents by merging a list of data with a Word document. You must create the list before you perform this procedure in Word. The list must include column labels and contain no blank rows.

In the Microsoft Word program, use the Letters and Mailings command from the Tools menu or use the Other Task Pane option to locate Mail Merge. Follow the steps in the Wizard.



### Step One: What do you want to do?

- Letter
- E-mail
- Envelope
- Label
- Directory

### Step Two: Select Document

- Current
- Template
- Existing Document

### OPEN Document *Merge Letter*

August 21, 2012

Dear

Congratulations, you have been selected as this year's winner. You will receive a free 10 day trip to the Bahamas. This trip includes airfare from Duluth, four star hotel accommodations, a chauffeured limousine and all meals and \$10,000 spending money.



## Microsoft® Excel – Beyond the Basics of Spreadsheets

Sincerely,

Ima Rich, President, Winning Travel

### Step Three: Select Recipients (Browse to locate file Mailing list for Excel)

<b>Fname</b>	<b>Lname</b>	<b>Address</b>	<b>City</b>	<b>State</b>	<b>Zip</b>
Peter	Smith	55 West Melrose Place	Superior	WI	54880
Cathy	Burns	9843 Waverly Lane	Duluth	MN	55804
Tammy	Frest	34 North Oak	Duluth	MN	55811
Sam	Anderson	123 Main Street	Superior	WI	54880
Dana	Johnson	34 North 8th Street	Duluth	MN	55804
Paula	Wilson	135 Tower Avenue	Superior	WI	55480
Howard	Snyder	456 Central Entrance	Duluth	MN	55811
Karl	Jablonski	2020 East Superior Street	Duluth	MN	55812
Rene	Phillips	545 E. 5th Street	Duluth	MN	55805
Fran	Wilson	11 E. Superior Street	Duluth	MN	55802

### Step Four: Write your Letter

- Address Block
- Greeting Line
- Electronic Postage
- Bar Code
- More Items

### Step Five: Preview your Letter

### Step Six: Complete Merge

## Excel Shortcuts

Activity	Shortcut Keys
Alternate between displaying cell values and displaying cell formulas	CTRL+` (single left quotation mark)
Calculate all sheets in all open workbooks	F9
Calculate the active worksheet	SHIFT+F9
Copy	CTRL+C
Create a chart that uses the current range	F11 or ALT+F1
Display the <b>Format Cells</b> dialog box	CTRL+1
Display the <b>Go To</b> dialog box	F5
Fill the selected cell range with the current entry	CTRL+ENTER
Insert the current time	CTRL+:
Insert today's date	CTRL+;
Move to the beginning of the worksheet	CTRL+HOME
Move to the last cell on the worksheet, which is the cell at the intersection of the rightmost used column and the bottommost used row (in the lower-right corner), or the cell opposite the home cell, which is typically A1	CTRL+END
Open	CTRL+O
Paste	CTRL+V
Paste a function into a formula	SHIFT+F3
Print	CTRL+P
Save	CTRL+S
Select all (when you are not entering or editing a formula)	CTRL+A
Select the current column	CTRL+SPACEBAR
Select the current row	SHIFT+SPACEBAR
Undo	CTRL+Z
When you enter a formula, display the <b>Formula Palette</b> after you type a function name	CTRL+A

## Notes: