

Introduction to Excel

May, 1999

by Sheri Phillip and Suzanne Czurylo

Overview

- Excel is a spreadsheet application in the Office Suite.
- Spreadsheets are reports that are used for business and financial applications that analyze data in a table format.
- Perfect for:
 - juggling numbers and formulas
 - organizing data
 - producing polished professional worksheets and reports
 - creating charts
 - can be used as a simple database program

The background is a dark blue gradient with several lighter blue, wavy, ribbon-like shapes that flow across the frame, creating a sense of movement and depth. The word "Structure" is centered in a light blue, serif font.

Structure

Structure

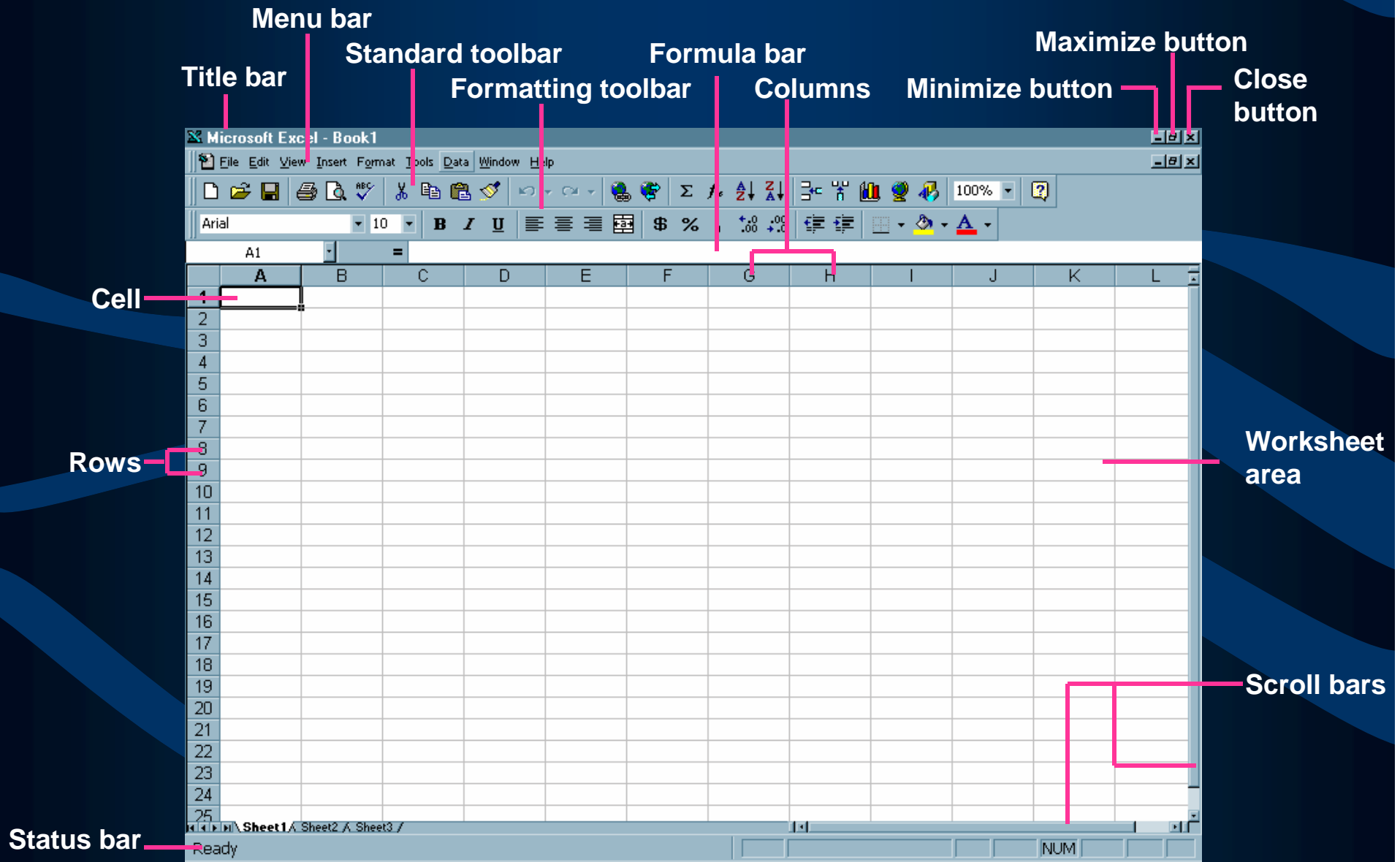
- An Excel file is called a workbook that is made up of one or more worksheets. The file has an .xls extension.
- Worksheets are made up of “cells.” Users enter data and calculation formulas into cells.
- Each worksheet has 256 columns and 65,536 rows.

Structure - Charts

(continued)

- Worksheets can also contain embedded objects like charts and pictures.
- Charts are visual displays based on Excel data such as graphs, pie chart, etc. A chart can be its own worksheet or embedded in a worksheet.

Screen Elements



The background is a dark blue gradient with several lighter blue, wavy, horizontal bands that create a sense of movement and depth. The word "Navigating" is centered in a light blue, serif font.

Navigating

Navigating from Cell to Cell

You can move from cell to cell using the mouse or keyboard.

- To move from cell to cell
 - Click on the cell to which you want to move
(a dark border called a *cell selector*, surrounds a selected cell)
- To select more than one cell at a time
 - Click the first cell you want
 - Hold the left mouse button and drag over the cells you want to select

Navigating to Different Areas of a Worksheet

Use the scrollbars to move to different areas of a worksheet.

- Click the up or down arrow to move up or down.
- Click the left or right arrow to move left or right.
- Drag the scrollbar to move quickly
 - The row number or column heading is displayed to help you know where you are in a worksheet

Navigating from Worksheet to Worksheet

- Move from worksheet to worksheet by clicking on the tab at the bottom of the workbook.

Navigating with Cell Addresses

A cell address indicates which cell on the worksheet you are referring to. There is a navigation box in the formula bar where you can type in the cell reference and it will go to that cell. You can also use the F5 key.

Variations on Cell Addresses

There are two types of cell addresses used by Excel:

- the A1 reference method
- The R1C1 reference method

Excel uses, by default, the A1 reference method.

A1 Reference Method

- Columns are lettered A through IV
(A to Z, AA to AZ, BA to BZ, and so on, up to IV, which is the 256th column)
- Rows are numbered from 1 to 16384

Example: B3 (Column B, Row 3)

R1C1 Reference Method

Excel can also use the R1C1 method

- Rows and columns are both numbered
- Example: R3C2 (Row 3, Column 2)

Identical cell - represented by B3

Changing Reference Methods

To toggle between the two reference methods

- From A1 to R1C1
 - Select Tools from the menu bar
 - Choose Options
 - Select the General tab
 - Select the check box marked R1C1
 - Click OK
- From R1C1 to A1
 - Follow above process
 - Uncheck the check box marked R1C1

Adding and Deleting Worksheets

You can add and delete worksheets from your workbook file.

- Excel will delete not only the sheet but all the data on that sheet.
- Be sure that you don't delete sheets that contain information you need.
- When Excel deletes a worksheet, the sheet and all of the data on it are permanently gone.

Adding Worksheets

To add a worksheet:

- Click the worksheet tab before which you want to insert a new sheet.
- Open the Insert menu and select Worksheet.
- Excel inserts a new sheet and gives it a default name.

Deleting Worksheets

To delete a worksheet:

- Select the sheet you want to delete.
- Open the Edit menu and select the Delete Sheet command (or right-click the sheet, choose Delete from the shortcut menu).
- You are prompted to confirm the deletion.
- Click OK.
- Excel deletes the worksheet and all its data.

Entering Data

Active Cells and Data Entry

- When you type on the keyboard, the data is entered into the “active” cell. Only one cell at a time can be active.
 - A cell is made active by clicking on it. If there is already data in the cell it will be replaced.
- Enter your data by moving to another cell (Enter or arrow keys, or by clicking) or by clicking the checkbox.
 - When you are in the process of entering data, the status bar in the lower left corner will say “enter” - when you have entered your data it will say “ready”

Types of Excel Data

Worksheets can contain three types of entries:

- Text or “Labels” - Excel cannot perform calculations on entries that are strictly text.
- Values - Excel refers to numerical data as a value. Excel can calculate value entries which can include numbers, dates and times.
- Formulas and Functions - entries that tell Excel to perform calculations on the values in another cell or group of cells.

The First Character in a Cell Determines the Type of Data

- When an alphabetical character or symbol (‘ ~ † ! † # % ^ & * () _ \ [] { } ; : < > , ?) is entered as the first character in a cell, the cell contains a “Label.” A label is generally text data.
- When a number or symbol (+ - , = \$) is entered as the first character of a cell, the cell contains a value. To enter a number that will not be used as a value it is necessary to begin the entry with a label prefix, an apostrophe (’).
- A formula is an instruction to calculate numbers. An equal (=) sign always precedes a formula.

Plan the Layout of Your Data

You should first plan where you want data to be placed on the worksheet. Then, to begin entering data, click inside a cell and start typing.

- Labels will flow over into the next cell if the next cell is empty. If there is data in the next cell the text will truncate.
- If a value is too long for the width of the cell, Excel displays number signs (####) in the cell so you don't see a partial value.

Entering Data (Continued)

The screenshot shows a Microsoft Excel spreadsheet titled "Microsoft Excel - Book1". The spreadsheet contains a budget for 1998. The data is organized as follows:

	A	B	C	D	E	F	G	H	I	J	K	L
1	1998 Household Budget											
2												
3		January	February	March	April	May	June	July	August	September	October	November
4	Car Expen	432	302									
5	Groceries		125									
6	Utilities		350									
7	Mortgage		968									
8	Taxes		540									
9	Supplies		110									
10	Miscellaneous		75									
11												
12	Total		2470									
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												

The formula bar shows the formula for cell C12: `=SUM(C4:C11)`. The spreadsheet is annotated with pink lines and text boxes:

- Labels:** Points to the text "1998 Household Budget" in cell A1.
- Entries are truncated if adjacent cells contain data:** Points to the text "Car Expen" in cell A4, which is truncated because cell B4 contains data.
- Long text entries spill over into adjacent cells:** Points to the text "Miscellaneous" in cell A10, which spills over into cell B10.
- Values:** Points to the numerical value "2470" in cell C12.
- Formula:** Points to the formula bar showing `=SUM(C4:C11)`.

Labels

Entries are truncated if adjacent cells contain data

Long text entries spill over into adjacent cells

Values

Formula

Formulas

In a spreadsheet program like Excel, you can use formulas to perform all kinds of calculations for you.

Formulas are simply mathematical operations you can perform on entries in your worksheet:

- Addition (+)
- Subtraction (-)
- Multiplication (*)
- Division (/)

Elements of Formulas

- A formula consists of the following key elements.
 - The Equal Sign (=)
 - The values or cell references you want to calculate
 - The mathematical operators (+ - * /)

Structure of Formulas

- All formulas always start with an equal sign:

=A1+A2

This formula takes the value in cell A1 and adds it to A2. The answer will appear in the cell. The formula will appear in the formula bar.

Order of Operations in Formulas

You can make compound formulas, mixing cell references, values and operator signs.

Excel performs the series of operations from left to right in the following order:

- 1st All operations in parentheses
- 2nd Exponential equations or operations
- 3rd Multiplication and division
- 4th Addition and subtraction

Example of Operational Order

Example 1 =A1+A2+D7/12

- In the above example, Excel would divide D7 by the value 12, then add A1 and A2.
- To divide all three references by 12, put them in parentheses:

Example 2 =(A1+A2+D7)/12.

This can lead to very different answers. If A1 holds the value 2, and A2 holds the value 10, and D7 holds the value 36, in Example 1 the answer would be 15. In Example 2, the answer would be 4!

Functions

Functions are built-in Excel formulas.

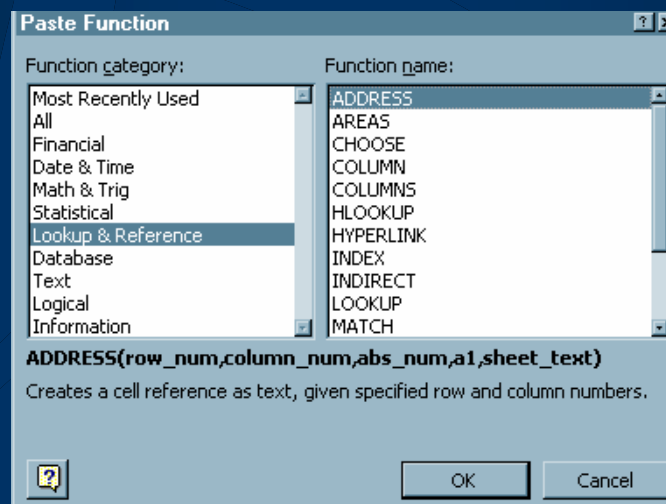
- Like a formula, a function begins with an equal (=) sign
- The next part is the function name
 - usually a short abbreviated word that indicates what the function does
- After the function name you will see a set of parentheses, and inside the parentheses, you see the arguments (values used in the calculation)

Inserting Functions

Inserting a function using the Paste Function button



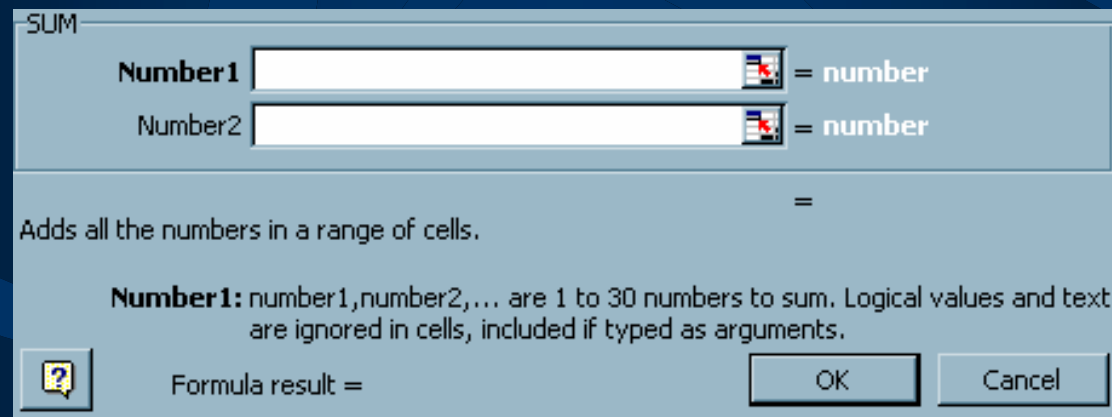
- Select the cell you wish to place the function in
- Click the Paste Function button
 - The Paste Function dialog box appears



Inserting Functions

(Continued)

- Select the Function category
- Select the Function name
- Click OK
 - The Formula Palette will appear prompting you for more information



The image shows a dialog box for the SUM function. At the top, the title bar says "SUM". Below the title bar, there are two input fields: "Number1" and "Number2". Each field has a small icon to its right that looks like a grid with a red cross, representing a cell range. To the right of each field is the text "= number". Below the input fields, there is a section with the text "Adds all the numbers in a range of cells." followed by an equals sign. Below that, there is a paragraph of text: "Number1: number1,number2,... are 1 to 30 numbers to sum. Logical values and text are ignored in cells, included if typed as arguments." At the bottom left, there is a question mark icon in a box. To its right is the text "Formula result =". At the bottom right, there are two buttons: "OK" and "Cancel".

Inserting Functions

(Continued)

Formula Palette

Required arguments are listed in bold

Function argument field

The value of each argument

SUM

Number1 E46:E47 = {67500;83000}

Number2 = number

= 150500

Adds all the numbers in a range of cells.

Number1: number1,number2,... are 1 to 30 numbers to sum. Logical values and text are ignored in cells, included if typed as arguments.

Formula result = 150500

OK Cancel

The result of the function

Brief description of the function

Brief description of the selected argument

Inserting Functions

(Continued)

- When you have completed the required information Click OK
 - The function is performed and the result placed in the selected cell

Formulas or Functions?

- Both formulas and functions begin with an = sign.
- Using a formula, you can calculate a series of cells with mathematical operators:
 $=A1+A2+A3 - (B7*C6)/12$ (adds the values in the cells A1 through A3 and subtracts the value determined by the value in B7 multiplied by the value in cell c6 and divides this all by 12 according to the order of operations.

Formulas or Functions?

(continued)

- Using a function, you can refer to a series of cells as a range, and use Excel's predefined functions as shortcuts:

`=sum(A1:A3)` (adds the values in cells A1 through A3)

- You can even mix functions with formulas:

`=sum(A1:A3)-(B7*C6)/12`

(returns the same value as the first example).

Relative Cell Addresses

- Excel uses a concept known as *relative addressing* to make it easy to copy and move formulas and functions.
- Excel doesn't think of the cells you include in a formula or function as absolute locations on the sheet.
- Instead, Excel thinks of the cells as relative to each other.

Relative Cell Addresses (Continued)

When you create a formula in cell A3

Example $A3=A1+A2$

Excel identifies the first cell in the formula as two cells above the current one.

Excel thinks, “go up two cells, take this value, then go up one cell, take this value, and add the two.”

Relative Cell Addresses in Formulas

(Continued)

If you move or copy the formula, the same set of instructions work in different columns and rows.

If you move or copy the formula created in cell A3 to cell B3, the formula would adjust itself.

$A3=A1+ A2$ would become $B3=B1+B2$

Absolute vs. Relative Cell Addresses

In some formulas you may want to always refer to a specific cell.

Example: You have several columns of pricing information that refer to one discount rate in cell A1. You always want to refer to cell A1 (you don't want the references to adjust)

In this case you would use an *absolute reference*.

Absolute Cell Addresses

- An Absolute reference doesn't change if the formula is moved or copied to another cell.
- You can tell Excel to adjust the column but keep the row reference the same, or adjust the row but keep the column reference the same, or both.

Changing Cell References from Relative to Absolute

To change a reference from relative to absolute, type a \$ sign before the part you want to remain absolute

\$A1 — Refers always to Column A
(Row will vary)

A\$1 — Refers always to Row 1
(Column will vary)

\$A\$1 — Refers always to cell A1

Building Formulas that Contain Absolute References

- Select the cell that will contain the formula
- Type an equal (=) sign
- Click the cell reference you want to include in the formula as an absolute reference
- Press F4 — Excel enters dollar signs before the column letter and row number of the cell reference

(you can also type in a dollar sign in front of the cell reference)

Building Formulas that Contain Absolute References

(Continued)

- Continue building the formula until it is complete, pressing F4 every time you want to make a cell reference absolute.
- When finished, press Enter and Excel creates the formula.

Mixed References

- In some cases you may want to use a mixed reference in a formula.

Example: You might want the row reference to stay fixed and the column to be relative.

- Mixed references can contain both absolute and relative cell addresses

Example \$C6 keeps the column from changing, but the row is relative. If the address is written C\$6, the column is relative, but the row is absolute.

Building Mixed References

- Mixed references can be entered in the same way as absolute references.
- Use the F4 key to cycle through adding dollar signs to the reference.

Example — If you enter the reference C6, pressing F4 will cycle through \$C\$6, C\$6, \$C6 and C6

The background features a dark blue gradient with several overlapping, wavy, translucent bands in a lighter teal color. These bands create a sense of movement and depth, framing the central text.

Editing

Cut, Copy and Paste

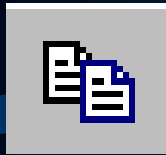
When you Cut or Copy something it is placed on the Windows clipboard.

You can then use the paste command to paste the item into the same file, another file, or even into another application.

Copying Data

To Copy Data from one cell to another

- Select the cell or range you want to copy
- Select Edit, Copy or click the Copy button
- Select the cell at the *upper left corner* of where you want to paste the information
- Choose Edit, Paste or click the Paste button
 - Excel copies the selected cell or range to the selected area

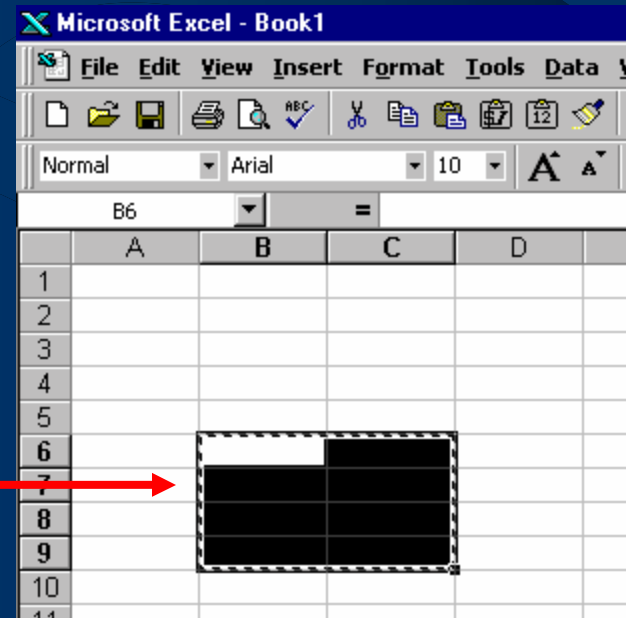


Copying Data

(continued)

NOTE: A lasso or marquis will remain around the cells that have been cut or copied and placed on the clipboard.

This indicates what data is actively on the clipboard.



To Move Data from One Cell to Another with Cut and Paste

- Select the cell or range you want to move
- Select Edit, Cut or click the Cut button
- Select the cell at the upper left corner of where you want to paste the information

(Excel will overwrite any cells in the destination area.)

- Choose Edit, Paste or click the Paste button

- Excel moves the selected cell or range.



Paste Special

- Paste Special is used when you only wish to copy certain cell attributes from one cell to another.
- For example, you might want to copy only the formula or just the values from a cell.

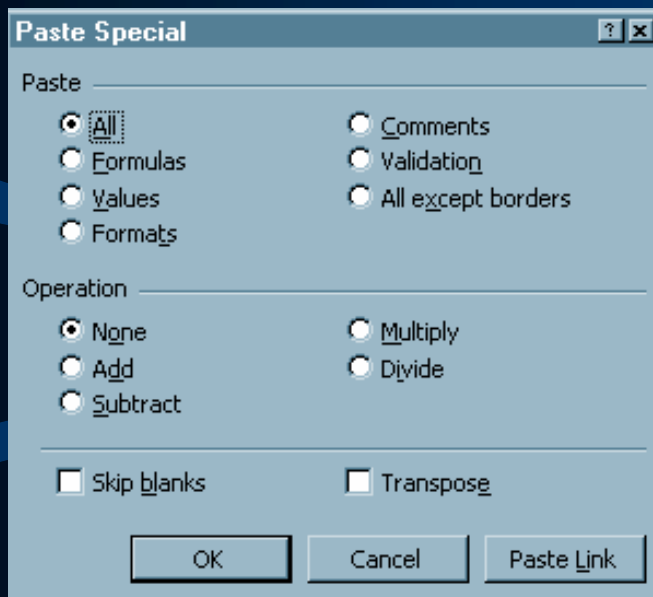
Paste Special

(Continued)

- Select the cell or range you want to copy.
- Choose Edit, Copy or click the Copy button.
- Select the cell or range where you want to copy to.
- Choose Edit, Paste Special.
 - The Paste Special Dialog box appears

Paste Special

(Continued)



- Under the Paste options
 - Choose the attributes you want copied to the new cells
- Under the Operations options
 - Choose how you want the copied attributes combined with the cell or range you're copying to

Paste Special

(Continued)

- If you don't want to paste any blank cells over the existing cells, select the Skip Blanks check box.
- To change columns to rows or rows to columns, select the Transpose check box.
- Click OK and Excel transfers the attributes you selected.

Drag and Drop

If you want to move or copy a selected range, you can drag and drop it.

To use this method you have to get the mouse pointer in just the right spot.

You then have to drag the range to the new location.

Drag and Drop

(Continued)

- Select the cell or range you want to move or copy
- Move the mouse pointer over the selection's border
 - The mouse pointer should change to an arrow

Drag and Drop

(Continued)

- To copy the range
 - Hold down the Ctrl key. A plus sign should appear next to the mouse pointer.
- To move the range
 - You don't need to hold down any key, just use the mouse

Drag and Drop

(Continued)

- Drag the boarder
 - As you drag, you see an outline of the selected data
- When the data is in the desired spot, release the mouse button
 - The data is moved or copied

Insert and Delete Cells

To Insert a Cell

- Select the cell
 - Choose Insert, Cell
 - Select an option from the Insert dialog box
- Excel inserts the cell and shifts the existing cells

To Delete a Cell

- Select the cell(s)
 - Choose Edit, Delete
 - Select an option from the Delete dialog box
- Excel deletes the cell(s) and shifts the existing cells

Inserting Rows and Columns

To Insert Rows or Columns

- Select the row or column
 - New rows are inserted above the selected row
 - New columns are inserted to the left of the selected column
- Choose Insert, Rows to insert a row or Insert, Column to insert a column
 - Excel inserts the row or column and shifts the existing cells over

Deleting Rows and Columns

To Delete Rows or Columns

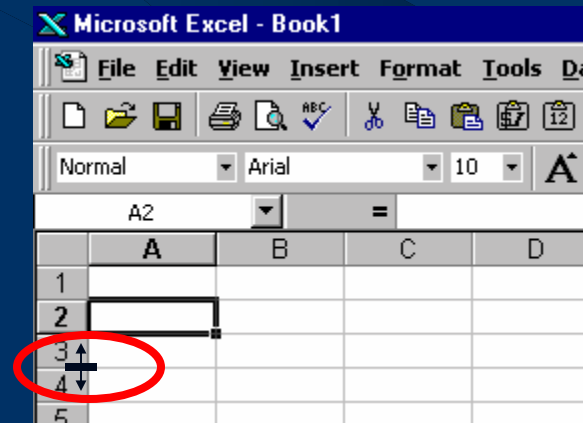
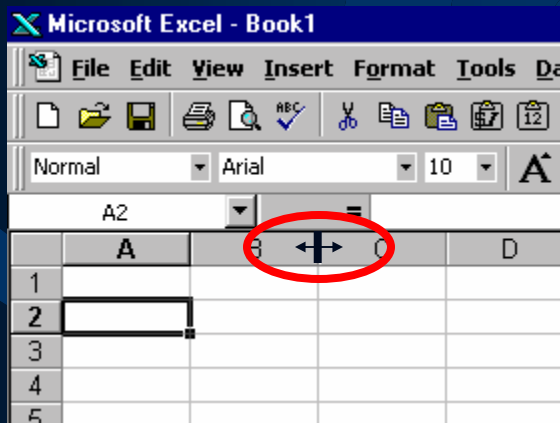
- Select the row(s) or column(s) you wish to delete
- Choose Edit, Delete
 - Excel deletes the row(s) or column(s) and shifts the remaining cells over

Sizing Columns and Rows

- Changing column widths and heights can be done three ways
 - Manually
 - Using the Column width/height dialog boxes
 - AutoFit selection

Sizing Columns and Rows Manually

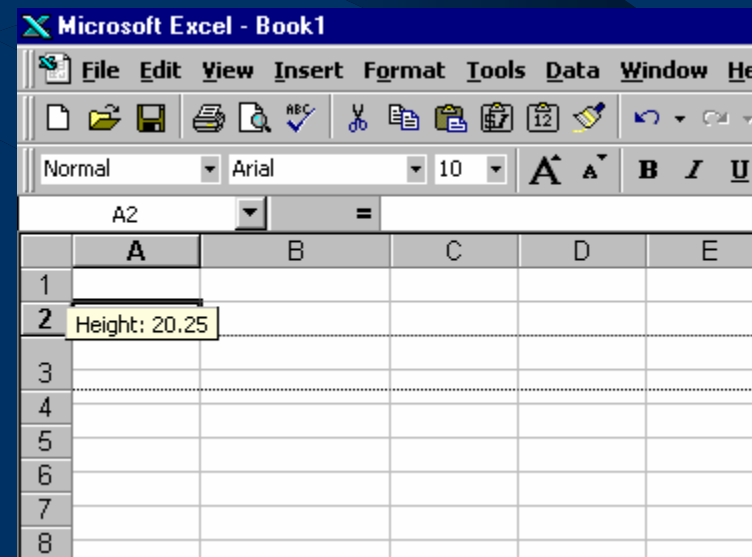
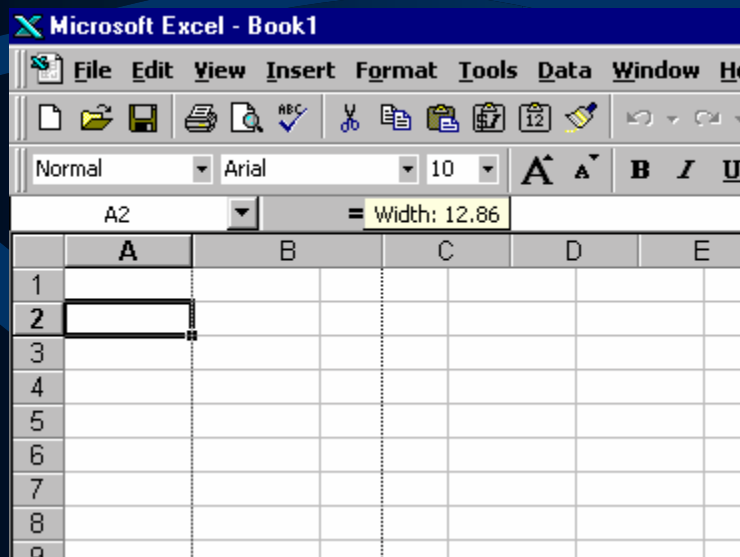
- Point to the right of the column heading border (or the border below the row number) that you want to change
 - The pointer will change to a thick vertical (or horizontal) line with an arrow on either side



Sizing Columns and Rows Manually

(continued)

- Hold down the mouse button to drag to a new width (or height)
 - Note the size is displayed as a screen tip next to the pointer



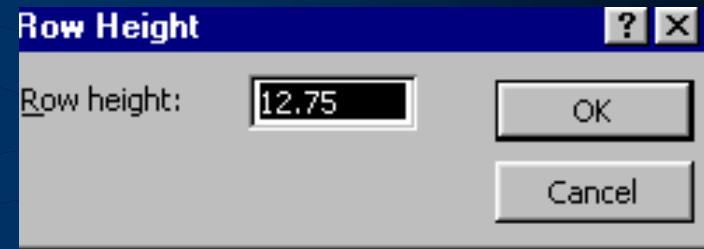
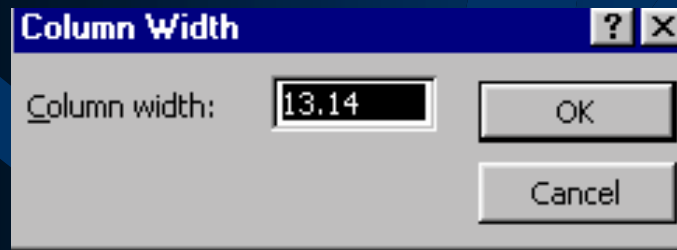
Sizing Columns and Rows Manually

(continued)

- When the column (or row) is the width (or height) you want, release the mouse button

Sizing Columns and Rows Precisely with a Dialog Box

- Select the column(s) you want to change
- Choose Format, Column, Width
- Type a width in the Column width box
- Click OK



- Select the rows(s) you want to change
- Choose Format, Row, Height
- Type a height in the Row Height box
- Click OK

Excel adjusts the column or row to the size you specified.

Sizing Columns and Rows with AutoFit Selection Command

- Select the column(s) or row(s) you want to adjust
- Choose Format, Column or Row, AutoFit Selection

Excel adjusts the Column or Row to fit the widest or tallest entry

Hiding Columns and Rows

If you plan to share a worksheet with others, you may want to hide confidential information from view.

There are two ways to hide Columns and Rows.

- Manually
- Using the Hide Command

Hiding Columns and Rows Manually

To hide a column

- drag the right border past the left border

To hide a row

- drag the bottom border up past the top

Hiding Columns and Rows Using the Hide Command

Select the column(s) or row(s) you want to hide

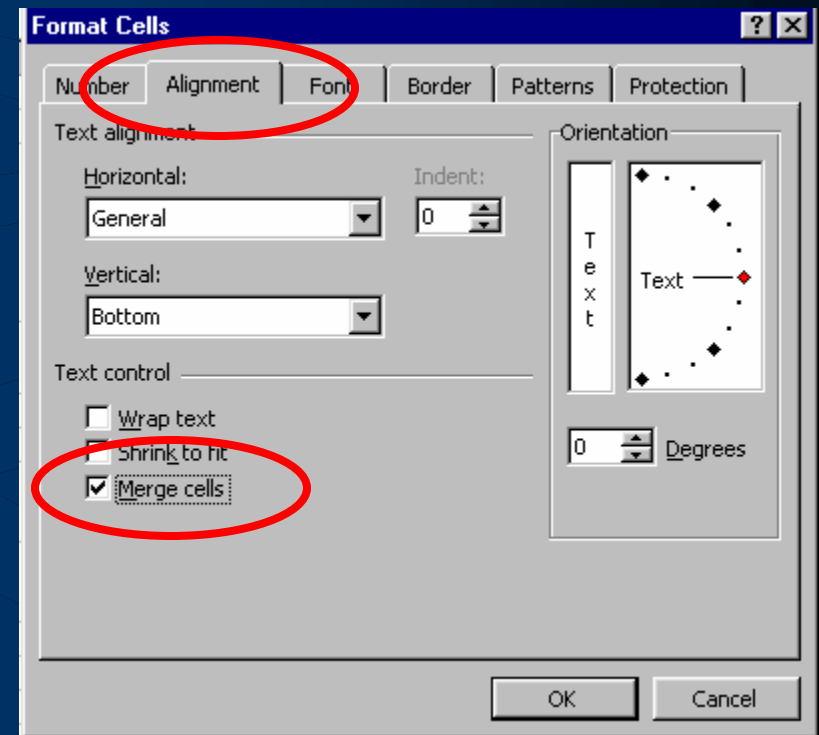
- To hide a column
 - choose Format, Column, Hide
- To hide a row
 - choose Format, Row Hide

Unhide Columns and Rows

- To unhide columns
 - select the columns on both sides of the hidden column(s), then choose Format, Column, Unhide
- To unhide rows
 - select the rows on both sides of the hidden row(s), choose Format, Row, Unhide

Merging Cells in Columns or Rows

- Select the cells or range of cells you want to merge
- Choose Format, Cells to display the Format Cells dialog box
- Click the Alignment tab
- Select the Merge Cells check box
- Click OK and Excel merges the selected cells into one
- To split the cells, simply uncheck the Merge Cells box.



Formatting

The background of the slide is a dark blue color with several lighter blue, wavy, horizontal lines that create a sense of movement and depth. The word "Formatting" is centered in a light blue, serif font.

Formatting

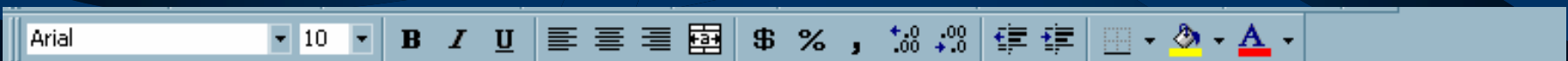
To Format Data in your worksheet you must first select the cell or range of cells you wish to format.

Formatting

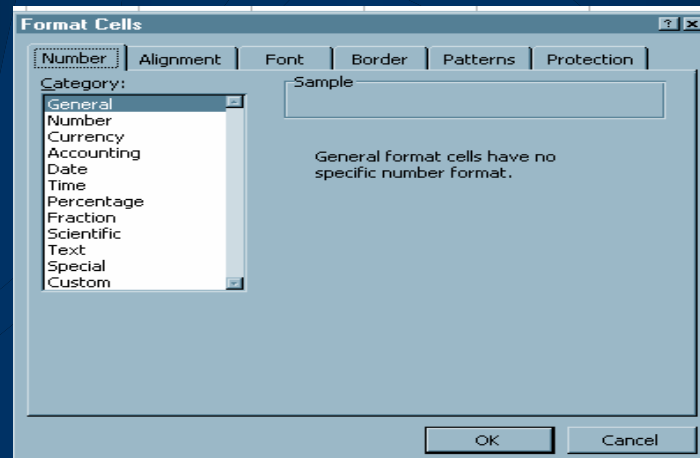
(Continued)

Formatting can be done two ways

– Using the Format Toolbar



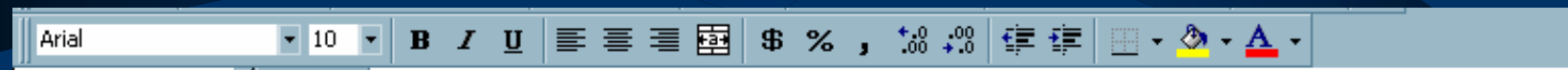
– Using the Format, Cells dialog box



The Format Tool Bar

To Format using the Format Tool Bar

- Select the cell(s) you want to format
- Click on the button for the type of formatting you want to apply



Character
Formatting

Numeric
Formatting

Border, Fill Color
and Text Color
Formatting

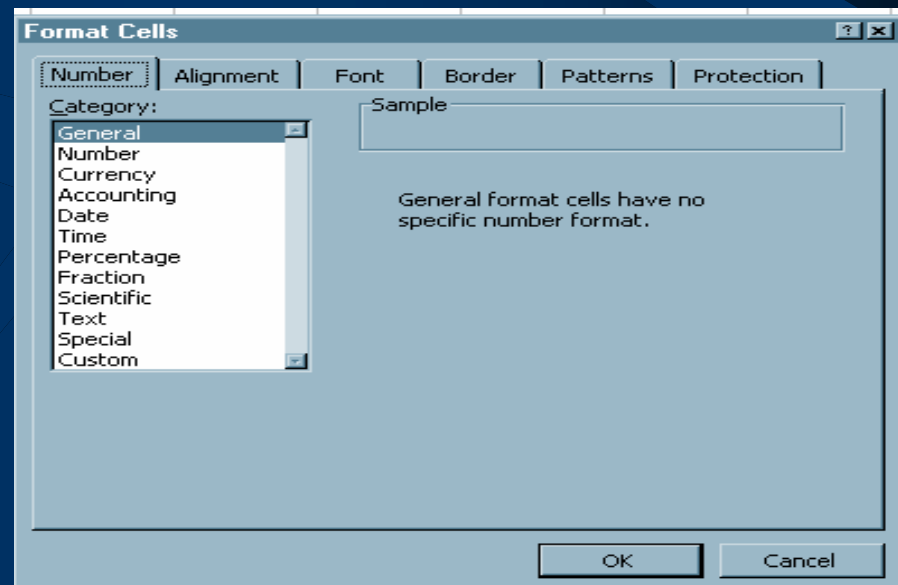
Paragraph
Formatting

Paragraph Indent
Formatting

Using the Format Cells Dialog Box

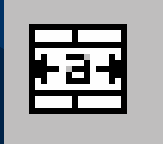
The Format, Cells dialog box allows you to change the formatting of

- Numbers
- Alignment
- Fonts
- Cell Colors
- Borders
- Patterns
- Cell Protection



Centering Headings

To Center a Heading

- Select the cell that contains the heading and the range that you want to center across
- Click the Merge and Center button 
- Excel centers the headings across the selected columns

Using AutoFormat

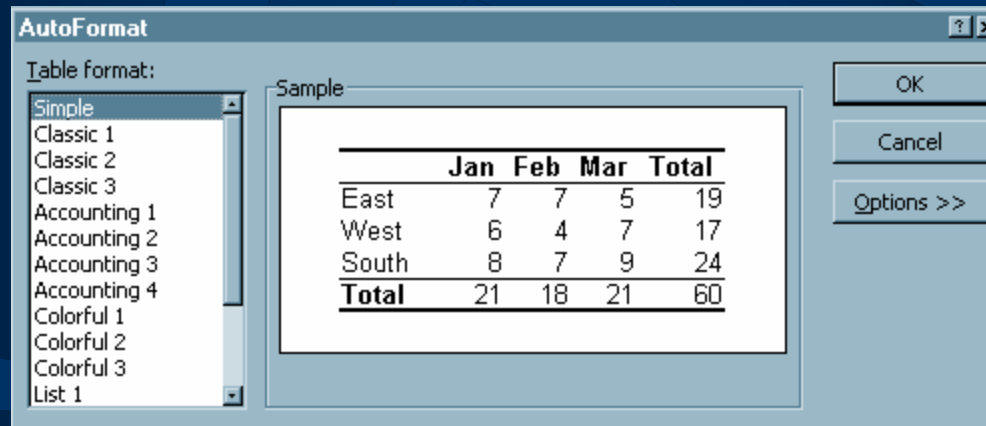
If you don't know how to format your spreadsheet, Excel's AutoFormat feature gives you some professional help.

Excel provides 16 different AutoFormats to choose from.

Using AutoFormat

(Continued)

- Select the data you want to format.
- Choose Format, AutoFormat
 - The AutoFormat dialog box appears



Using AutoFormat

(Continued)

- Look through the Table Format list to find a formatting style you want to use, then select a style from the list
- Look at the sample area to see if you like this style
- Click OK when you have found a style you like
 - Excel formats your data accordingly

Using the Format Painter Tool

(Continued)

Once you've formatted a range the way you want it, you may wish to use it on other areas of your worksheet.

- **Select the cell or cells containing the formatting you want to copy.**



- **Click the Format Painter button on the toolbar.**

(The mouse pointer displays a little paintbrush next to the cross)

- **Select the cells that you want to format with the same options.**

(When you release the mouse button, Excel applies the formatting to the selected range)

Conditional Formatting

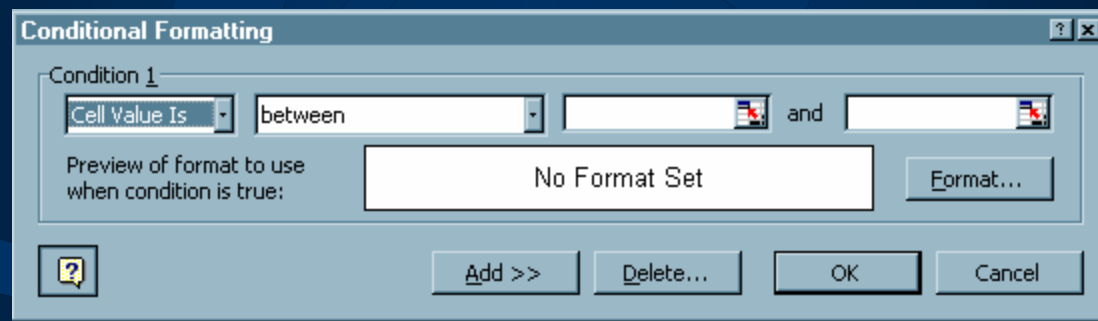
You can instruct Excel to change the formatting for a cell automatically if the cell's value changes, based on the criteria you establish for a change.

- **EXAMPLE** - If the value of a cell falls below zero, you can instruct Excel to flag the cell with a heavy red line and shading, and boldface the text.

Conditional Formatting

(Continued)

- Select the cell(s) containing the value or formula you want to format with conditional formatting.
- Choose Format, Conditional Formatting.
 - The Conditional Formatting dialog box appears



Conditional Formatting

(Continued)

- Click the drop-down list at the far left of the box and choose the Cell Value Is option.
 - This is the option you want to use if the cell's formula produces a value.
 - If the cell contains a formula whose value is True or False, choose the Formula Is option.

Conditional Formatting

(Continued)

- In the next drop-down list, designate an argument to activate the conditional format in the cell.
 - Click the drop-down arrow to display a list of arguments.
 - Depending on the argument you select, the remaining text boxes will vary.

Conditional Formatting

(Continued)

- In the remaining text boxes, finish entering the data to complete the condition for formatting the cell.
- To specify formatting for the cell, click the Format button.
 - The Format Cells dialog box appears.

Conditional Formatting

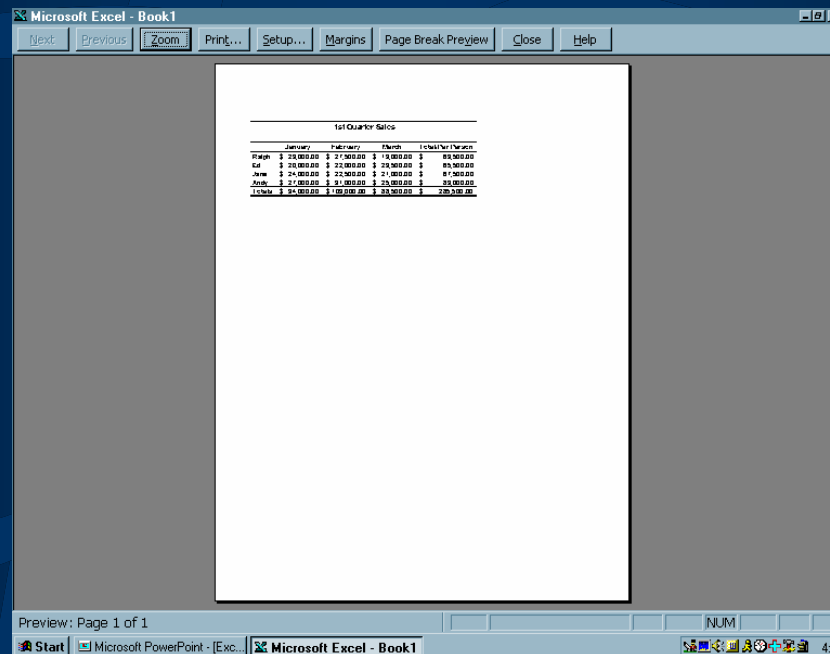
(Continued)

- When you finish assigning formatting, click OK
 - You will be returned to the Conditional Formatting dialog box where you can see a preview of the formatting you've selected.
- Click OK to exit the dialog box
 - Anytime the cell value meets the requirements for conditional formatting, Excel applies the formatting options you selected.

Previewing Worksheets

Preview a Worksheet

- To preview a worksheet, click the Print Preview button.
 - The preview window appears



Preview Toolbar



– Displays the next page.



– Displays the previous page.



– Makes the preview screen larger, Click the button again to return to the original size.



– Prints the worksheet.



– Displays the Page Setup dialog box so you can make changes to the layout of the page.

Preview Toolbar

(Continued)

Margins

– Displays on-screen margin indicators you can drag to change margins.

Page Break Preview

– Lets you designate page breaks within your worksheet.

Close

– Closes the preview window.

Help

– Displays help information about preview.



Printing

Print Area

Unless you tell Excel differently, the portion of the worksheet with data and formatting is printed when you choose the print command.

You can also define a specific range to print.

Defining the Print Area

To Define a Print Area

- Choose File, Page Setup to open the Page Setup dialog box.
- Click the Sheet tab to bring it to the front of the dialog box.
- Click the Print Area text box.
- Select the range of cells you want to define as the print area.
- Click OK to exit.

Printing

- To print a single copy of the default print selections, you can click the Print button.



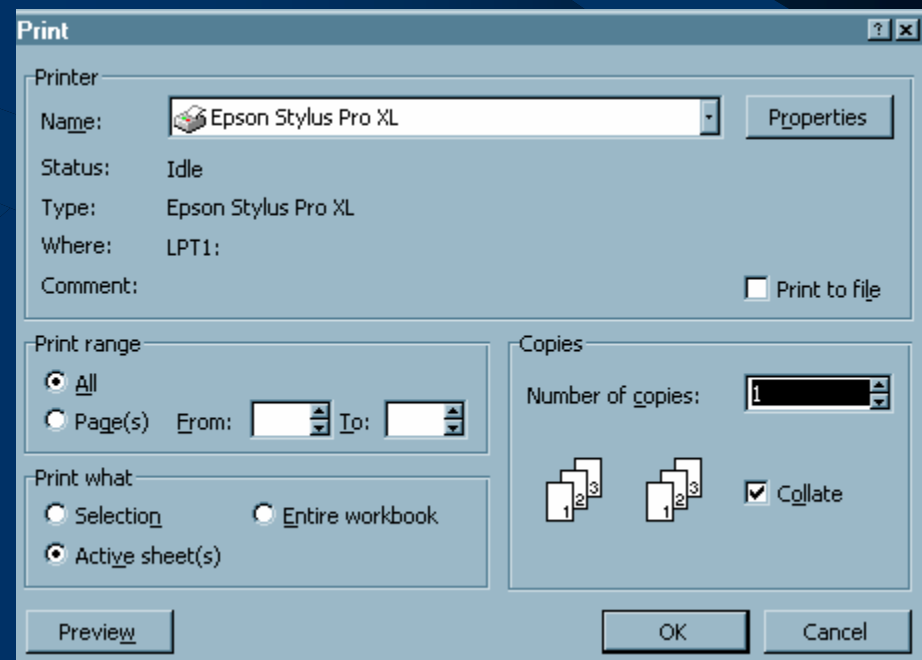
- To print only certain pages, multiple copies or control how the file is printed, use the print dialog box.

– Select File, Print

- **The print dialog box appears**

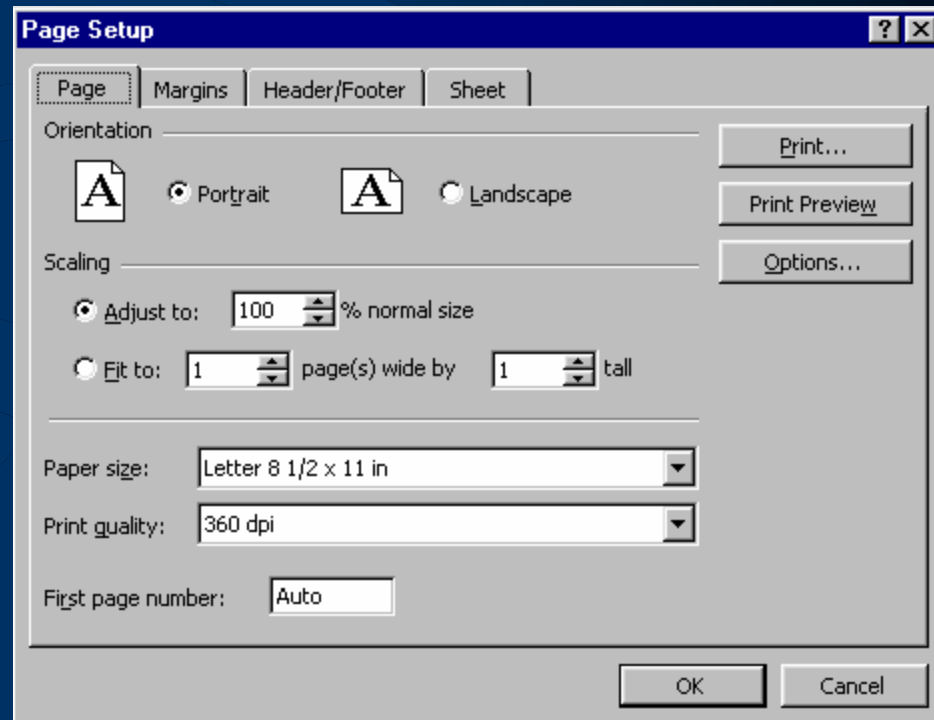
Printing (Continued)

- Under the Print Range options, select which pages to print.
- To print the entire file select All
- Type the number of copies you want or use the spin arrows to set a number
- To print certain portions of your worksheet, use the print What options
- Click Ok to print



Setting Print Options in Page Setup

Additional Print Options such as orientation, margins, headers and footers and gridlines can be assigned using the Page Setup dialog box found under the File menu.



Charts

The image features a dark blue background with several lighter blue, wavy, horizontal bands that create a sense of movement and depth. The word "Charts" is centered in a light blue, serif font.

Charts

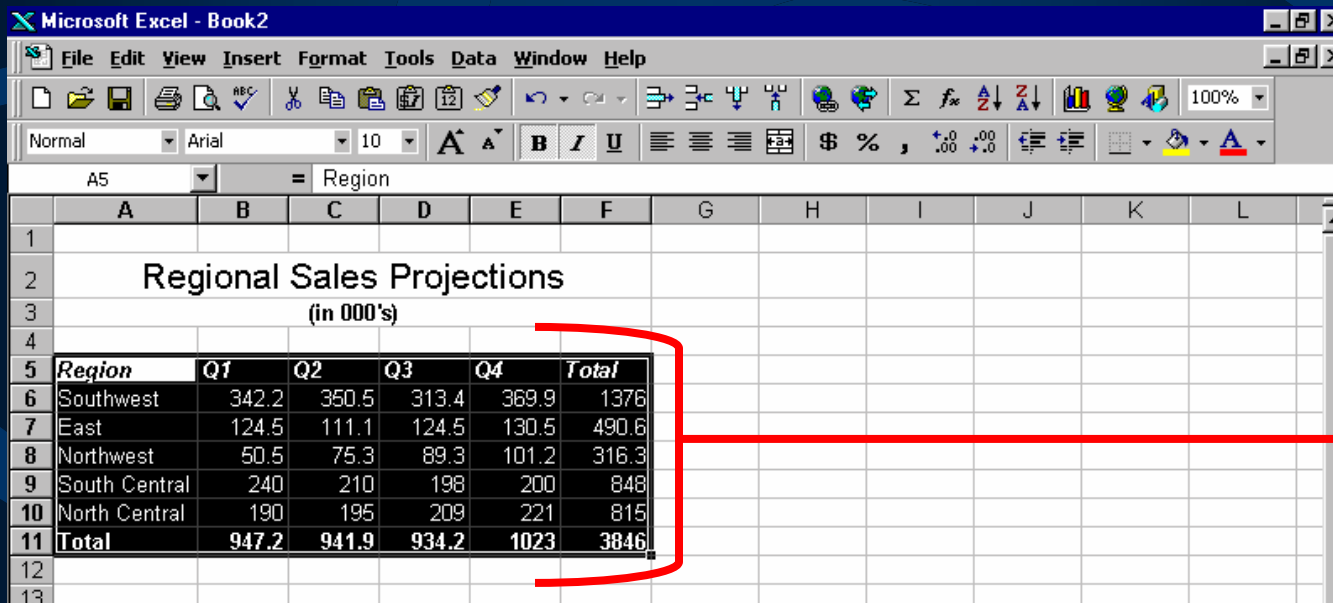
- ...are a visual representation of the data contained in your worksheet.
- ...communicate data and results more concisely and powerfully.
- ...let the reader instantly see the point that you want to make.

Chart Elements

- Data Series - the values the chart represents
- Series Labels - labels that identify each data series shown in the Legend.
- Category Labels - labels that identify the data series on the horizontal x-axis.

Creating Charts with Chart Wizard

- Select both the data itself along with any labels that describe the data that you want to chart (you don't have to, but it saves time)



Microsoft Excel - Book2

File Edit View Insert Format Tools Data Window Help

Normal Arial 10

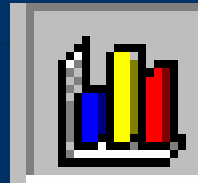
A5 = Region

	A	B	C	D	E	F	G	H	I	J	K	L	
1													
2	Regional Sales Projections												
3	(in 000's)												
4													
5	Region	Q1	Q2	Q3	Q4	Total							
6	Southwest	342.2	350.5	313.4	369.9	1376							
7	East	124.5	111.1	124.5	130.5	490.6							
8	Northwest	50.5	75.3	89.3	101.2	316.3							
9	South Central	240	210	198	200	848							
10	North Central	190	195	209	221	815							
11	Total	947.2	941.9	934.2	1023	3846							
12													
13													

**Selected
Data**

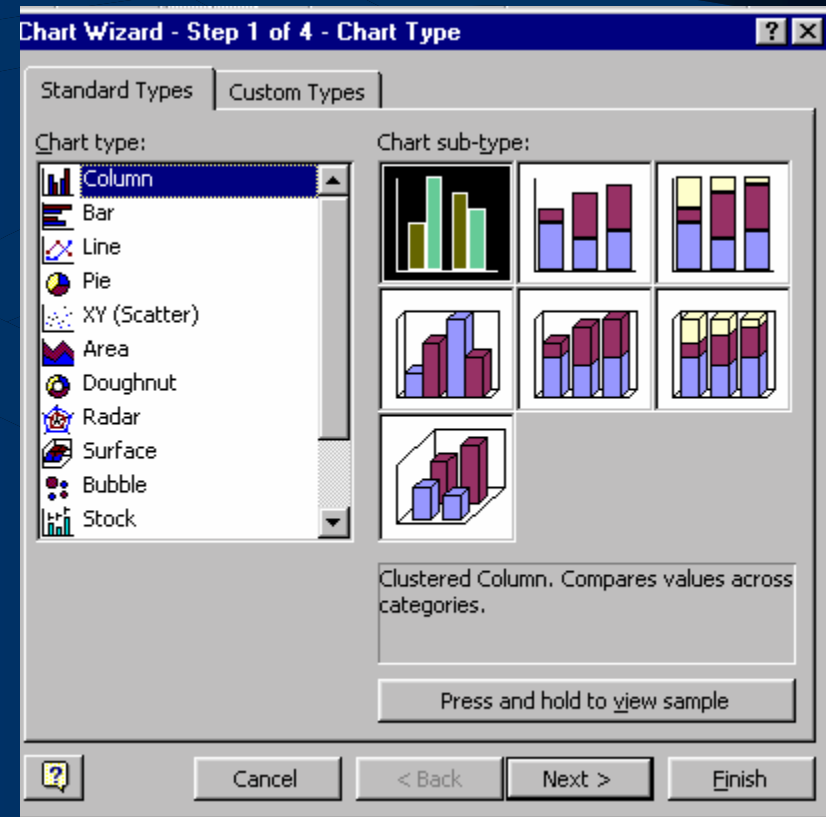
Starting Chart Wizard

- After selecting the data, click the Chart Wizard button



Choosing the Chart Type and Sub-type

- On the Standard Types tab you can click on the various types of Excel charts, then choose the style.
 - You can also choose from a variety of other chart types by clicking the Custom Types tab
 - Custom Types are charts are based on standard charts that have modified and saved as a chart type by the user.

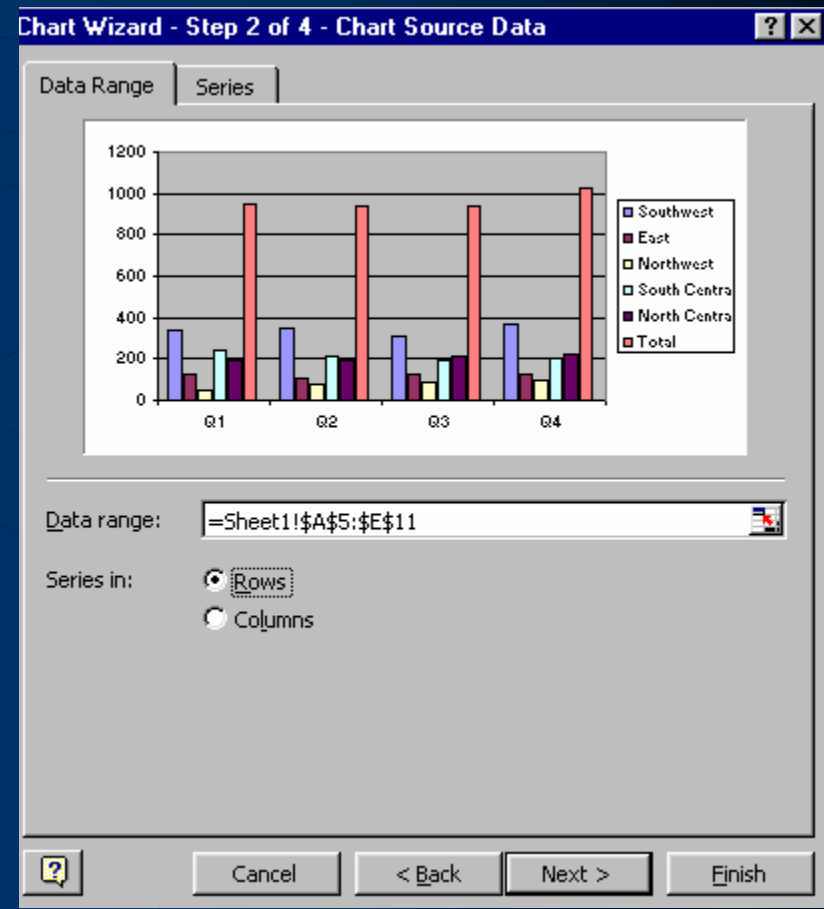


Common Types of Charts

- Column Charts - Compare individual or sets of values. The height of each bar corresponds to the value in the worksheet.
- Pie Charts - show the relationship of each value to the other values in the range in a circular graph. Only one data range can be used to represent the values for the pie slices.
- Line Charts connect data points with lines, so they are useful for plotting trends to show changes over time effectively.

Select and Orient the Data Range and Series

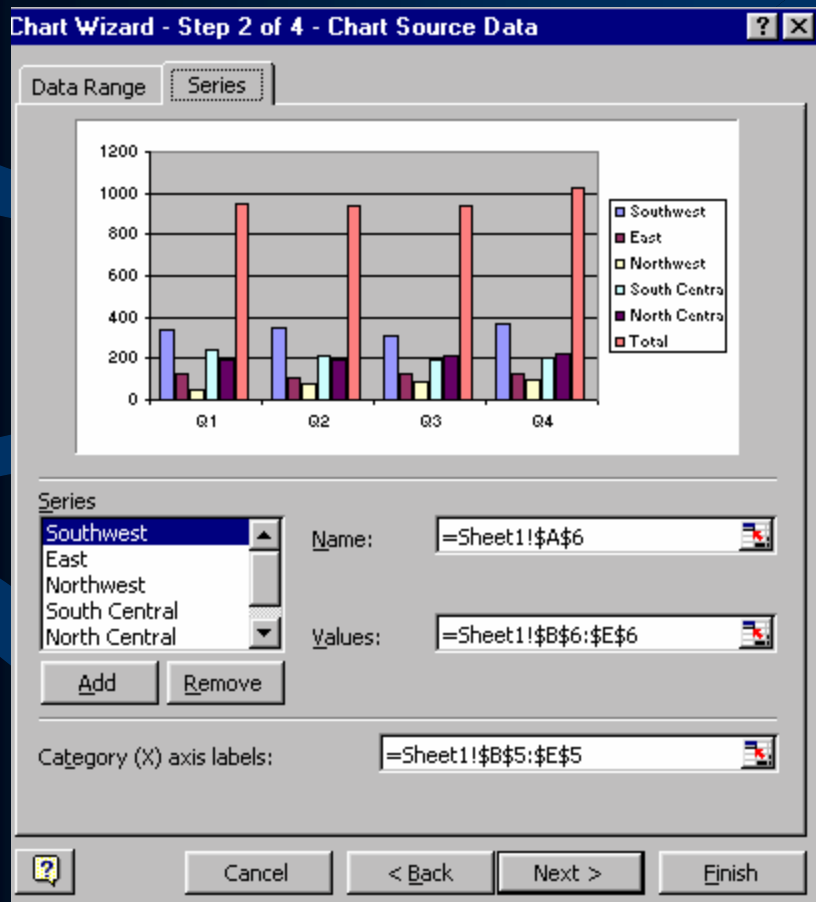
- On the Data Range tab, select the range on which the data is based using the Data Range field
(if you didn't select the range of data before starting Chart Wizard, you can do so now)



Select and Orient the Data

Range and Series

(Continued)



- The Series tab on Chart Wizard's Step 2 dialog box lets you control how the data is displayed in series.

Select and Orient the Data Range and Series

(Continued)

- Orient the range of data on the chart using the rows and columns option buttons
 - When you choose Rows, each row of data on the worksheet will be treated as a chart series
 - Choosing Columns causes each column of data to become a chart series.

Series Options

- Add or Remove a Series
 - When you click Add a new series, a new series is instantly created
 - You then use the other fields in the Series tab to fill in the details
 - To remove a series, select it in the Series list and then click remove

Series Options (Continued)

(Continued)

- Name a series
 - Select a series in the Series List
 - use the Name field to choose a different chart cell that contains the label for that series (you can also type any label that you want in the name field)

Series Options

(Continued)

- Select (or reselect) the data on which a series is based
 - Chose one of the series listed in the Series List
 - Use the Values field to choose a new range of data (you can also type the values you want to use by entering them directly with each value separated from the next with a comma

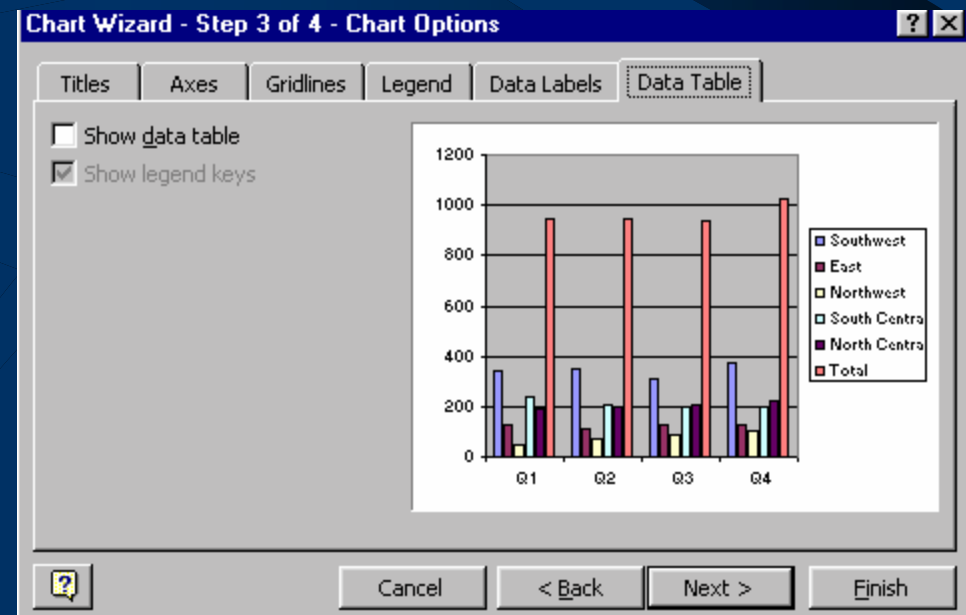
Series Options (Continued)

- Change the category labels
 - Use the Category (X) Axis Labels field to change the names used to identify each cart category along the bottom axis of the chart
 - You can choose a new worksheet range in this field, or you can type each label, separating each from the next with a comma

Setting Chart Options

The options you can select from in this dialog box are

- **Titles**
- **Axis**
- **Gridlines**
- **Legend**
- **Data Labels**
- **Data Table**



Choose a Location for the Chart

Determine the location for the chart you are creating.

You can

- Embed the chart as an object in a worksheet
- Create a separate *chart sheet* in the workbook that displays the chart

Choose a Location for the Chart

(Continued)

- Choose New Sheet or As Object In...
 - As New Sheet field lets you name the resulting chart tab in the workbook
 - As an Object In field lets you select from existing worksheets
- Make the appropriate changes to the associated fields
- After you've made your selections, click Finish

Modifying Charts

- The Chart Wizard isn't only for creating charts - you can modify existing charts
- Each step of the Chart Wizard can be accessed individually through commands in the Chart menu and there are shortcuts in the Chart Toolbar.
- You must select the chart to see the Chart menu and the Chart Toolbar!

Working with Charts

Chart Wizard's dialog boxes don't let you choose chart element colors, add floating text to the chart, or choose different data markers.

To make these other types of changes, you have to edit the chart directly.

You can right click on the various chart elements for a shortcut menu of relevant commands, or use the Chart Toolbar.

Using the Chart Toolbar

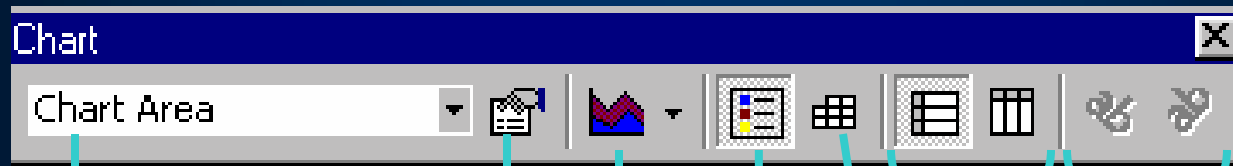


Chart Object

Format Object

Chart Type

Legend

Data Table

**By Row and
By Column**

**Angle Text Downward
and Angle Text Upward**

Using the Chart Toolbar

(Continued)

The buttons on the Chart toolbar operate as follows:

- **Chart Objects** - shows all of the selected objects in a chart
- **Format Object** - displays the format dialog box for whatever object is selected
- **Chart Type** - lets you quickly choose different types of charts
- **Legend** - an on/off toggle that lets you add or remove a legend in a chart
- **Data Table** - an on/off toggle that lets you add or remove a data table
- **By Row and By Column** - determine whether the data series being charted are arranged with the series being derived from rows or columns in the worksheets
- **Angle Text Downward and Angle Text Upward** - rotates text 45-degrees down or up

Selecting Chart Elements

Normally, you can select chart elements by clicking them.

Sometimes it is difficult to select some of these elements.

- There are two other routes open to you.
 - The Chart toolbar's Chart Objects drop down list
 - Select any element, then repeatedly press the right or left arrow keys until the chart element you want to modify is selected

Selecting Chart Elements

(Continued)

One exception to the single click rule applies to certain chart types (bar, column, line, and XY scatter) and also to elements and markers in chart legends.

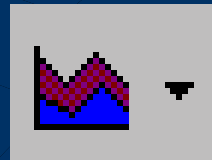
Some objects contain sub-objects

- To choose sub-objects
 - **Click once to select the container object**
 - **Wait a brief moment**
 - **Click again to select the sub-object**

Choosing a Different Chart Type

There are more than 100 different types and sub-types from which you can choose.

- Use the Chart Type button on the Chart toolbar



- Select the chart then choose Chart Type to select a different type

(The first method is faster but yields fewer choices.)

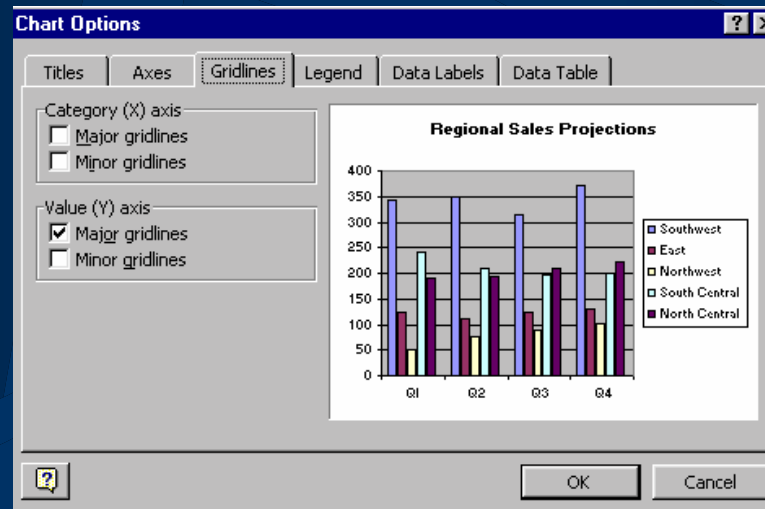
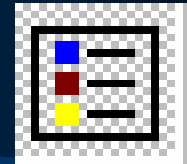
Adding Elements to Charts

There are many elements you can add to charts .

- Legends
- Labels
- Callouts
- Data Tables
- New Series

Adding Legends to Charts

- Click the Legend button on the Chart toolbar OR
- Choose Chart, Chart Options to open the Chart Options dialog box



Adding Labels to Charts

There are a variety of labels you can use on charts

– The main types of chart labels are

- Chart Title
- Axis Titles
- Free Floating Text Labels

To create one of the main labels

- Choose Chart, Chart Options
- Click the Titles tab
- Type the titles you want in the available fields

Adding Labels to Charts

(Continued)

- To create a free-floating label
 - Select the Chart area by clicking the chart's background
 - Type whatever text you want
 - The Text is created in a box that appears in the middle of the chart when you press Enter
 - Drag the text to any location you want

Adding Callouts to Charts

- A *callout* is typically a line (with or without an arrow) that points out a particular area of interest on a chart.
- To create a callout you must first draw the callout line, and then you add the text for the callout.

Adding Callouts to Charts

(Continued)

- **Activate the Drawing toolbar**
- **Choose either the Line or Arrow line types on the Drawing toolbar**
- **Draw the line directly on the chart**
- **Add the text for the callout by selecting the chart background and typing the text you want. Press Enter when done.**
- **Move the text (and the line or arrow, if necessary) to an appropriate location for the callout.**

Adding Data Tables to Charts

Data tables offer the reader the ability to see the actual numbers used for the data in the chart

- On the Chart toolbar, click the Data Table button OR
- Choose Chart, Chart Options and click the Data Table tab and select the Show Data Table check box to activate the data table



Adding New Series to Charts

Adding a new series of data to charts is often necessary when updating.

To Add a series

- With the chart selected, choose Chart, Source Data
- In the Source Data dialog box that appears, click the Series tab
- Click the Add button
- Complete the Name and Values fields as appropriate
- Click OK to close the dialog box

Reordering Chart Series

Sometimes it is necessary to change the order of the series that are charted.


To change the order of series

- Right click any series and choose Format Data Series from the shortcut menu
- Move to the Series Order tab
- Select any of the series listed in the Series Order list and use the Move Up and Move Down buttons to reposition the series in the list
- Click OK and the chart series will be reordered

Formatting Charts

Formatting Charts

The Format Object command can be accessed in three ways

- Click the Format Object button on the Chart toolbar 
- Right click an element and from the shortcut menu that appears choose Format object (object changes in the command name depending on what object you've selected)
- Choose Format, Selected object, (object changes in the command name depending on what object you've selected)

Changing Chart Colors, Line Styles, and Patterns in Charts

You can choose the colors, line styles and drawing pattern that Excel uses for any aspect of its charts.

To format the color, line style, or pattern some element

- Right click the element to be formatted
- Choose Format from the shortcut menu
- Click the Patterns tab
- Use the Border and Area sections of the Patterns tab to make your choices

Formatting Axes

You can change the formatting of the text on the axis, the style of the axis, and the scale used for the axis.

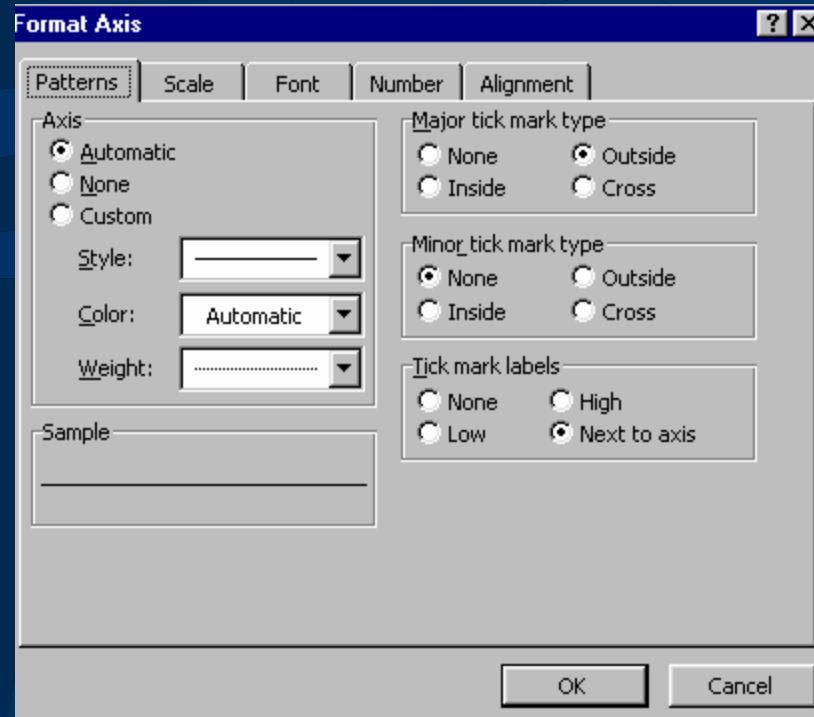
To format an axis, right click it and choose Format Axis from the shortcut menu.

- The Format Axis dialog box appears

Formatting Axes

(Continued)

- The Format Axis dialog box appears



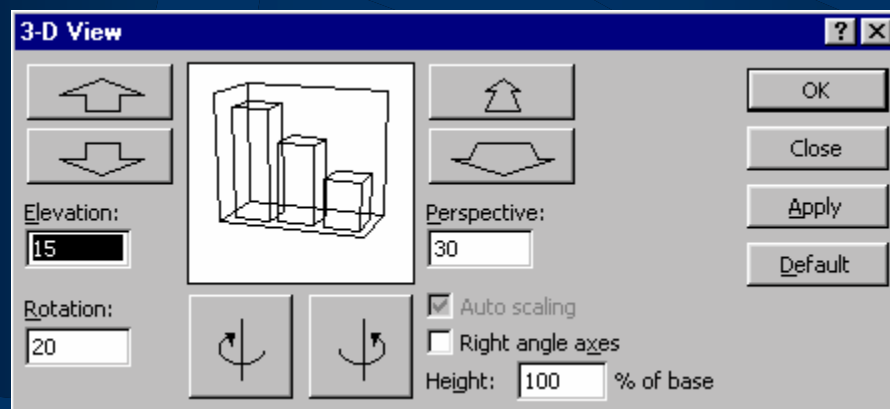
- Select the options of your choice

Changing Series Formatting

- To format a data series on a chart, right click the series and choose the Format option on the shortcut menu.
- Use the options tab to control how the series is arrayed on the screen (different options will be operative for different chart types).

Changing Chart 3-D View Angle

- To change the perspective for a 3-D chart type, right click the chart area and choose 3-D View from the shortcut menu
 - The 3-D view dialog box will appear



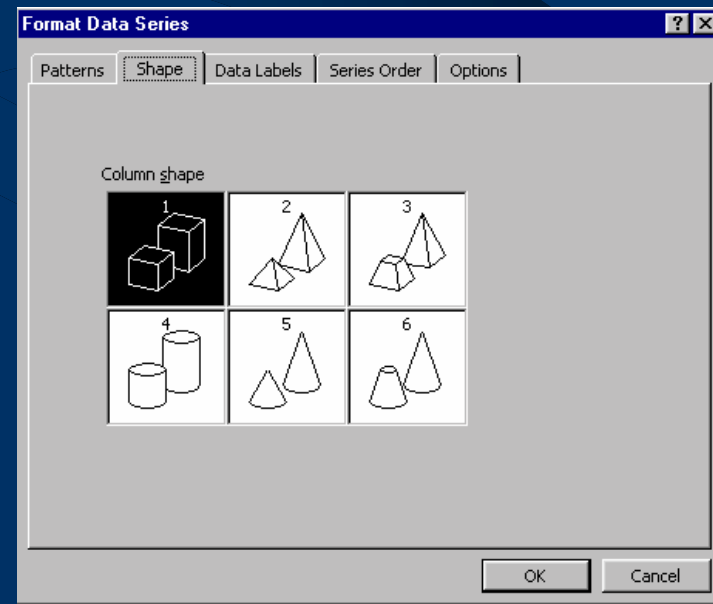
Changing Chart 3-D View Angle

(Continued)

- To use the 3-D View dialog box
 - Click the different arrow buttons to rotate the wire-frame chart in the direction you want to move it
 - You can also specify Perspective, Elevation, and Rotation fields directly
 - Once the wire-frame previews as you want, click the Apply button to view the chart in the background
 - If the new view is acceptable, click OK

Choosing 3-D Bar Shapes

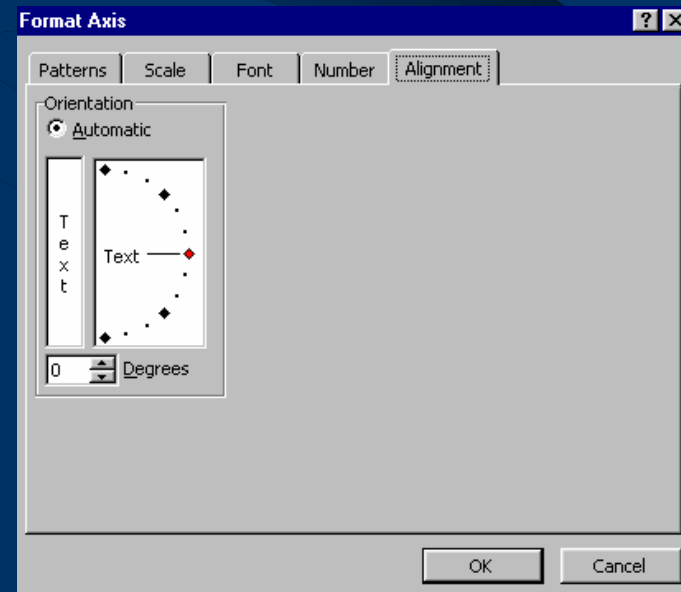
- Right click a series in a 3-D bar or column chart
- Choose the format option from the shortcut menu
- Click the shape tab
 - Choose from a bar, a cylinder or two different types of pyramids and cones



Using Rotating Text on Charts

To rotate text objects on charts to any angle you want

- Right click the text object you want to rotate and choose the Format command from the shortcut menu
- Click the alignment tab
- Select your choices
- Click OK



Creating Custom Chart Types

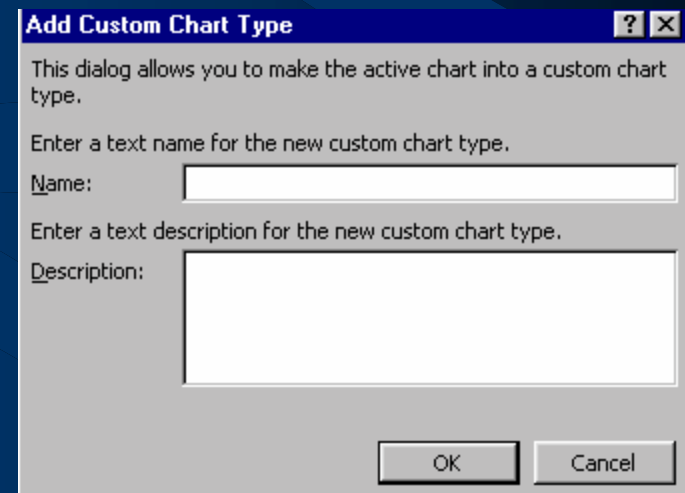
To create a custom chart type

- Format the chart the way you want it
- Select the chart, and choose Chart, Chart Type
- Click the Custom Types tab
- Click the User-Defined option button (you will see a preview of your current chart and a list of an previously defined custom chart types)
- Click the Add button

Creating Custom Chart Types

(Continued)

- The Add Custom Chart Type dialog box appears
- Fill in the Name and Description fields
- Click OK
 - Your custom chart type is added to the chart type list and can be chosen for new charts you create



Additional References

- Using Microsoft Excel97 - Que Publishers
- Learning Microsoft Office97 - DDC Publishers
- Microsoft Excel97 Support Line - (425) 635-7070
(free with a legitimate Product ID number from a legal copy purchased at full retail price.)
- Remember to use the Help Menu!