

Basic Skills Using Excel 2007

LEARNING OUTCOMES

1. Describe how to open, close, and save an Excel workbook.
2. Explain how to insert and delete an Excel worksheet.
3. Describe how to insert, delete, merge, and split cells in an Excel worksheet.
4. Explain how to set up a worksheet in Excel for printing.
5. Describe how to insert and delete rows and columns in an Excel worksheet.
6. Explain how to create and edit formulas in Excel using the formula bar.
7. Describe how to create a chart using Excel.

Introduction to Excel

Microsoft Excel 2007 is a spreadsheet program that enables you to enter, manipulate, calculate, and chart data. An Excel file is referred to as a *workbook*, which is a collection of worksheets. Each *worksheet* is comprised of rows and columns of data that you can perform calculations on. It is these calculations that make Excel such a powerful tool.

You can use Excel for a wide variety of purposes, from calculating payments for a personal loan, to creating a personal budget, to tracking employee sales and calculating bonuses for your business.

This plug-in introduces the basics of using Excel 2007. It is designed to show you the nuts and bolts, along with a few fancy features, to get you off to a good start using the program. However, you should review the CD, *MISource*, which accompanies this text for additional material, animated tutorials, and simulated practice files that go beyond what we cover in the text. Figure T2.1 displays all the tasks and lessons that are provided on the *MISource CD*. This plug-in will focus on the following six areas:

1. Workbooks and worksheets.
2. Working with cells and cell data.
3. Printing worksheets.
4. Formatting worksheets.
5. Formulas.
6. Working with charts and graphics.

Introduction to Excel 2007

- Introduction to Excel 2007
- Creating a New Blank Workbook
- Creating Workbooks Using Templates

Setting up Workbooks for Printing

- Setting and Clearing the Print Area
- Previewing a Print Area
- Scaling Worksheets for Printing
- Changing Worksheet Orientation
- Setting Up Margins for Printing
- Using Page Breaks
- Printing Titles
- Printing Selections, Worksheets, and Workbooks

Managing Workbooks

- Inserting Worksheets
- Deleting Worksheets
- Hiding and Unhiding Worksheets
- Moving and Copying Worksheets
- Changing the Color of Tabs
- Naming Worksheets
- Arranging Workbooks
- Splitting Workbooks
- Changing Worksheet Views

Working with Cells and Cell Data

- Entering Data in Cells
- Editing Data in Cells
- Inserting Data Using AutoFill
- Clearing Cell Content
- Cutting, Copying and Pasting Cells
- Applying Cell Styles
- Applying Number Formats
- Wrapping Text in Cells
- Changing Text Orientation
- Converting Text to Columns
- Changing Cell Borders

Organizing Data

- Highlighting Cells with Conditional Formatting
- Applying Conditional Formatting
- Creating New Conditional Formatting Rules
- Converting Data into Tables
- Formatting Tables
- Sorting Data
- Using AutoFilter
- Using Advanced Filter
- Creating an Outline
- Adding Subtotals to Worksheets
- Adding Data Validation Criteria to Cells
- Removing Duplicate Rows
- Naming Ranges of Cells
- Working with Named Ranges

Working with Charts and Graphs

- Inserting a Chart
- Changing the Chart Type
- Changing the Chart Design
- Changing the Chart Layout
- Moving a Chart
- Adding Graphics

(Continued)

FIGURE T2.1

MISource Excel Lessons



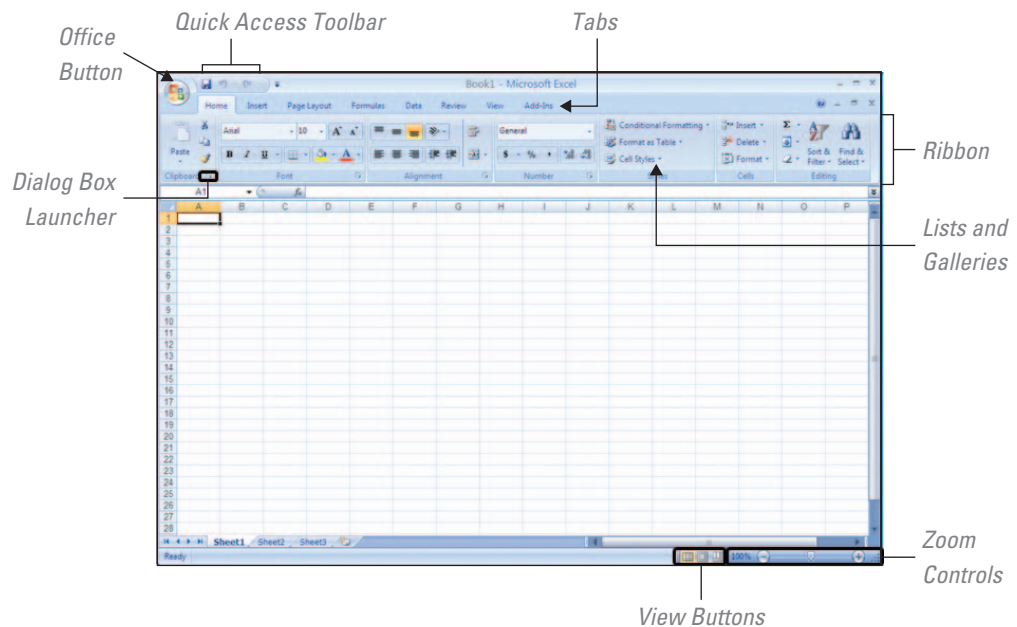
FIGURE T2.1

(Continued)

MISource CD Microsoft Excel Lessons	
Working with Formulas and Functions <ul style="list-style-type: none">■ Entering Simple Formulas■ Using Absolute and Relative References■ Creating Formulas Referencing Data in Another Worksheet■ Creating Formulas Using the SUM Function■ Creating Formulas Using the AVERAGE Function■ Creating Formulas Using the COUNT Function■ Creating Formulas Using the MIN and MAX Functions■ Formatting Text by Using Formulas■ Using Financial Functions in Formulas■ Using Conditional Logic in Formulas■ Using Lookup and Reference Functions■ Checking Formulas for Errors■ Troubleshooting Formulas	Formatting Worksheets <ul style="list-style-type: none">■ Inserting Cells■ Deleting Cells■ Merging and Splitting Cells■ Inserting and Deleting Rows and Columns■ Hiding and Unhiding Rows and Columns■ Freezing and Unfreezing Rows and Columns■ Modifying Row Heights and Column Widths■ Applying Themes■ Showing and Hiding Gridlines■ Formatting Worksheet Backgrounds■ Adding Headers and Footers■ Working with Others
	Sharing Workbooks <ul style="list-style-type: none">■ Locking Cells and Protecting Worksheets■ Tracking Changes in Workbooks■ Adding Comments to Workbooks■ Setting Workbook Properties

FIGURE T2.2

Viewing the Excel Window



Excel 2007 has been redesigned so that you can find and use program capabilities more easily (see Figure T2.2). The overall look and feel has been streamlined from previous versions. New technologies have been introduced that give you the ability to “browse, pick, and click” rather than select from complicated dialog boxes. You can also produce

better results faster by taking advantage of the rich feature sets presented in the application's new user interface.

Workbooks and Worksheets

Opening a file retrieves it from storage and displays it on your computer screen. To open an existing workbook:

1. Open Excel 2007.
2. Click the **Office** button, and then click **Open**.
3. The **Open** dialog box appears; make sure the location in the **Look in:** box is correct.
4. Select the workbook name in the large list box.
5. Click the **Open** button in the dialog box (see Figure T2.3).

Closing a workbook removes it from your computer screen and stores the last saved version for future use. If you have not saved your latest changes, Excel prevents you from losing work by displaying a dialog box that asks if you want to save the changes you made before closing. To close a workbook and save your latest changes:

1. Click the **Office** button and then select **Close Window**.
2. Click **Yes** in the dialog box.

When the Open dialog box appears, the last location you used appears as the default location in the box. If this is not the location of the workbook you want, click the **up one level button** to the right of the Look in: box until the correct location is displayed (you may have to double-click a different folder or drive). Another method is to click the arrow on the Look in: box to open the drop-down list, which displays different drives. Next, click the desired drive and double-click folders until you see your workbook name in the large list box.

If you have made no changes since the last time you saved the workbook, it will close immediately. If changes have been made, Excel displays a dialog box asking if you want to save the changes you made before closing. Click **Yes** to save the changes. Click **No** to close the workbook without saving your latest changes. Click **Cancel** to keep the workbook open.

CREATING WORKBOOKS USING TEMPLATES

A *template* is a file with predefined settings that you can use as a starting point for your workbook. An Excel template makes creating a new workbook easy and results in a professional appearance. Some examples of workbook templates are Balance Sheet, Sales Invoice, and Loan Amortization.

To create a workbook using a template:

1. Click the **Office** button, and then click **New**.
2. Click the **Installed Templates** category, and then click a template.
3. Click **Create** (see Figure T2.4).

SAVING A WORKBOOK

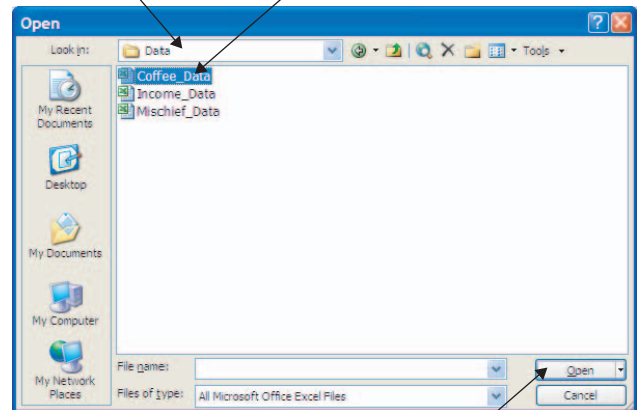
Sometimes when you are saving a workbook, you will want to create a new folder, where you can later save other, similar workbooks. You can create this new folder at the same time you save the workbook.

To create a new folder:

1. Click the **Office** button and select **Save As**, and then select **Excel Workbook** from the Save as type: drop-down list.
2. Click the **Create New Folder** button to the right of the Save in: box.

Verify the location in the Look in: box.

Click the workbook in the list box.



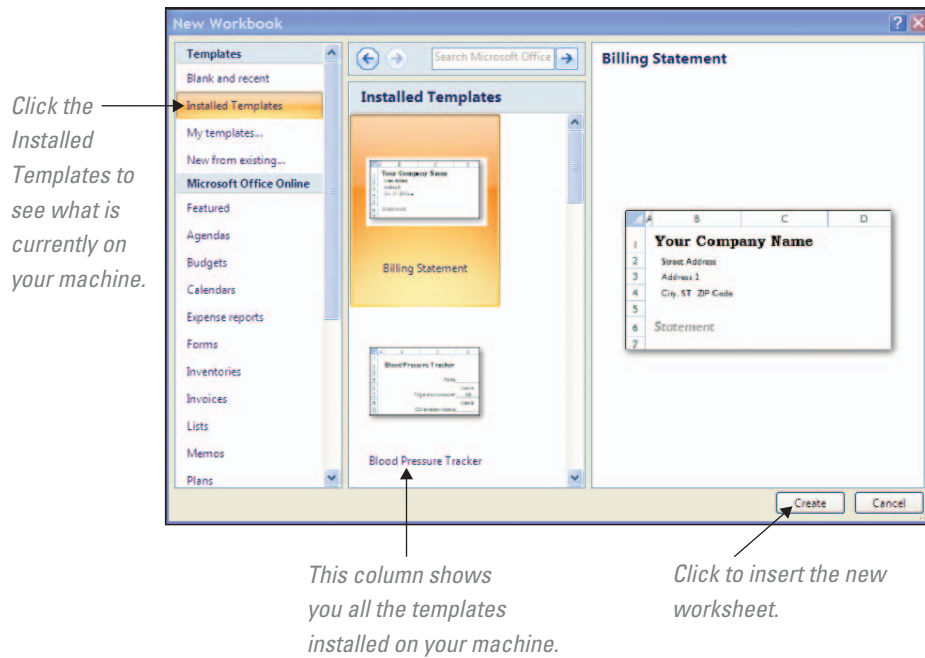
Click here to open the workbook.

FIGURE T2.3

Opening a Workbook

FIGURE T2.4

Workbook Template



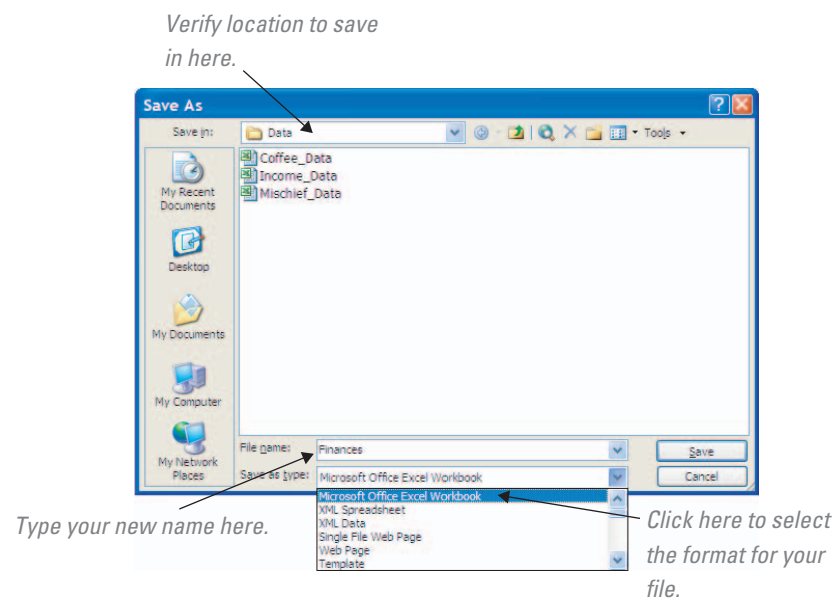
3. Enter the name for the new folder in the dialog box that appears.
4. Click **OK**.
5. Enter the name for the file in the File **name:** box.
6. Click the **Save** button.

You can also use the Save As dialog box to save the workbook with a new name (refer to Figure T2.5):

1. Click the **Office** button, select **Save As**, and then select **Excel Workbook** from the Save as type: drop-down list.
2. Click in the **File name:** box.
3. Type in the new file name.
4. Click the **Save** button in the Save As dialog box.

FIGURE T2.5

Saving a Workbook



INSERTING AND DELETING WORKSHEETS

When you create a new workbook, it contains three worksheets. However, a workbook can contain as many worksheets as you need.

To add a worksheet:

1. Right-click on any **Sheet tab**.
2. Select **Insert** from the shortcut menu.
 - a. To insert a simple worksheet, click the **Worksheet** icon in the dialog box.
 - b. To insert a formatted worksheet, click the **Spreadsheet Solutions** tab, and click any of the template icons.
3. Click **OK** (see Figure T2.6).

You can insert more than one worksheet at once. First, select the number of worksheets you want to add, by clicking on one **Sheet tab**, then holding down the **CTRL** key and selecting as many more tabs as you want worksheets. Next, right-click and select **Insert**. Click the **Worksheet** icon, and click **OK**.

Sometimes you may need only one worksheet in your workbook. Limiting the worksheets in your workbook to those that contain information can make your workbook appear organized and professional.

To delete a worksheet:

1. Right-click on a **Sheet tab**.
2. Select **Delete** from the menu.

You can delete more than one worksheet at once. First, select all the sheet tabs you want to remove by holding the **CTRL** key down and clicking on the **Sheet tabs** you wish to delete. Next, right-click and select **Delete**. If a worksheet contains data, Excel will display a dialog box, warning that the sheet may contain data and asking if you are sure you want to permanently remove that data from your workbook.

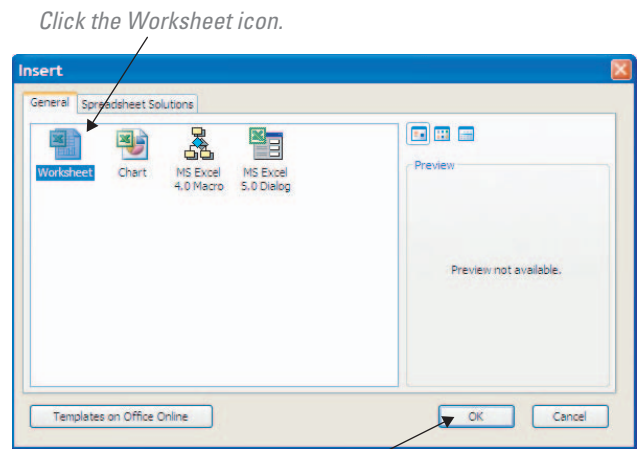


FIGURE T2.6

Inserting a New Worksheet

Working with Cells and Cell Data

INSERTING AND DELETING CELLS

You may find you want to add some extra space or more information into your worksheet. To do this, you must insert a new cell. This new cell can be left blank, or you can enter information into the cell. When you insert a new cell, you have the option to shift the existing data to the right or down, allowing you to place the new cell exactly where you want it.

To insert a cell:

1. Select the cell or cells where you want to insert the new cell(s).
2. Click the **Home** tab.
3. Click the **Insert Cells** button arrow, and then click **Insert Cells**.
4. Click the **Shift cells right** or **Shift cells down** radio button (see Figure T2.7).
5. Click **OK**.

You can customize your workbook and change the layout of data by deleting cells. Deleting cells not only deletes the information and formatting in the cell, but it also shifts the layout of the workbook. By deleting an empty cell, you shift all the surrounding cells as well.

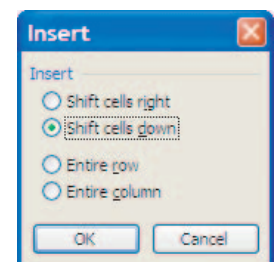


FIGURE T2.7

Inserting a New Cell

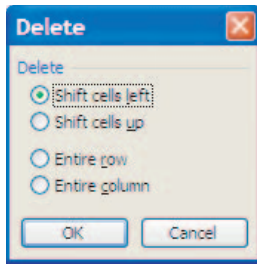


FIGURE T2.8
Deleting a Cell

To delete a cell:

1. Select the cell or cells that you want to delete.
2. Click the **Home** tab.
3. Click the **Delete Cells** button arrow, and then click **Delete Cells**.
4. Click the **Shift cells left** or **Shift cells up** radio button (see Figure T2.8).
5. Click **OK**.

Pressing the **Delete** key on the keyboard will delete the contents of the cell but not the cell itself.

MERGING AND SPLITTING CELLS

Merging and splitting cells is one way to control the appearance of your worksheet. Titles of worksheets are typically centered across the top of the columns of information. Excel allows you to merge and center cells to create a title that appears centered in one cell across the top of your workbook. Excel also allows you to reverse this action by splitting the cell. Splitting a cell converts a merged cell back to several cells, with the information displayed in the uppermost left cell.

To center and merge cells:

1. Select the cells you want to merge, making sure the text you want centered is in the uppermost left cell.
2. Click the **Home** tab.
3. Click the **Merge & Center** button (see Figure T2.9).

To split merged cells:

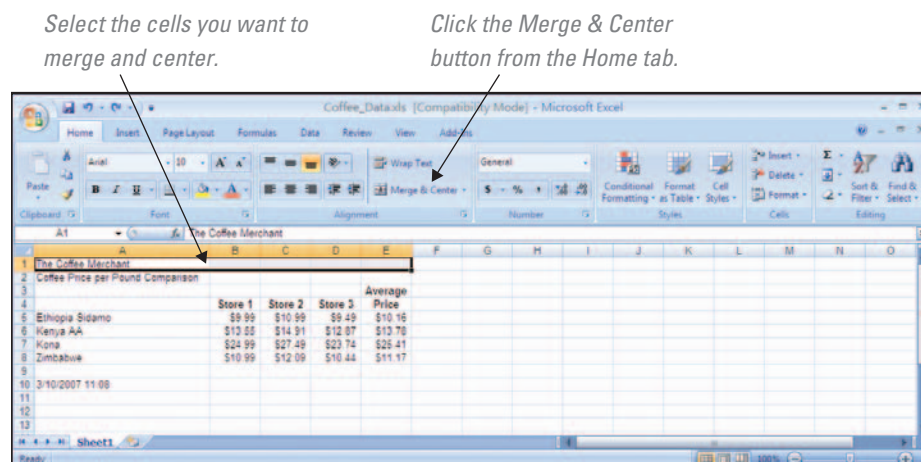
1. Select the **merged cell** you want to split into several cells.
2. Click the **Home** tab.
3. Click the **Merge & Center** button arrow, and then click **Unmerge Cells**.

When you select cells to be merged, Excel will center only the data in the uppermost left cell. All other data will be lost.

CUTTING, COPYING, AND PASTING CELLS

The *Cut*, *Copy*, and *Paste* commands are used to move data and other items within a workbook and between applications. Data that are cut are removed from the document and placed on the Clipboard for later use. The Copy command places a duplicate

FIGURE T2.9
Merging Cells



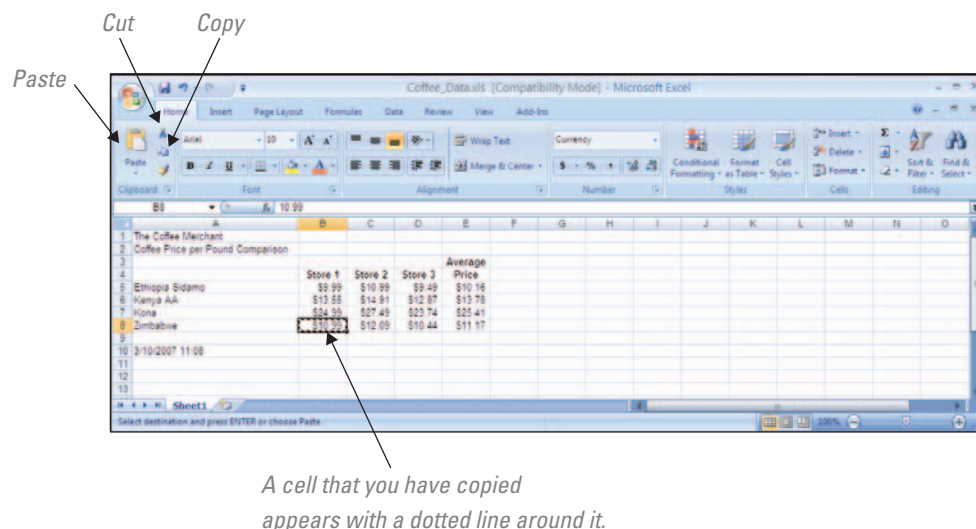


FIGURE T2.10
Copying and Pasting Cells

of the selected data on the Clipboard without changing the workbook. The Paste command is used to insert items from the Clipboard into a workbook.

To cut or copy data within a workbook:

1. Select the cell or cells you want to cut or copy.
2. Click the **Home** tab.
3. Click the appropriate toolbar button:
 - a. **Cut** or
 - b. **Copy**
 - c. The cell appears with a flashing dotted line around it.
4. Place the cursor where you want to insert data from the Clipboard.
5. Click the **Paste** toolbar button (see Figure T2.10).

When you cut or copy items, they are placed on the Clipboard. The Clipboard can store up to 24 items for use in the current document or any other application. You can view the contents of the Clipboard at any time by selecting **Clipboard** from the **Home** tab. The icons in the Clipboard identify the type of document from which each item originated (Word, Excel, Paint, etc.). A short description of an item will appear when you select it or move the cursor over its icon.

ENTERING TEXT IN CELLS

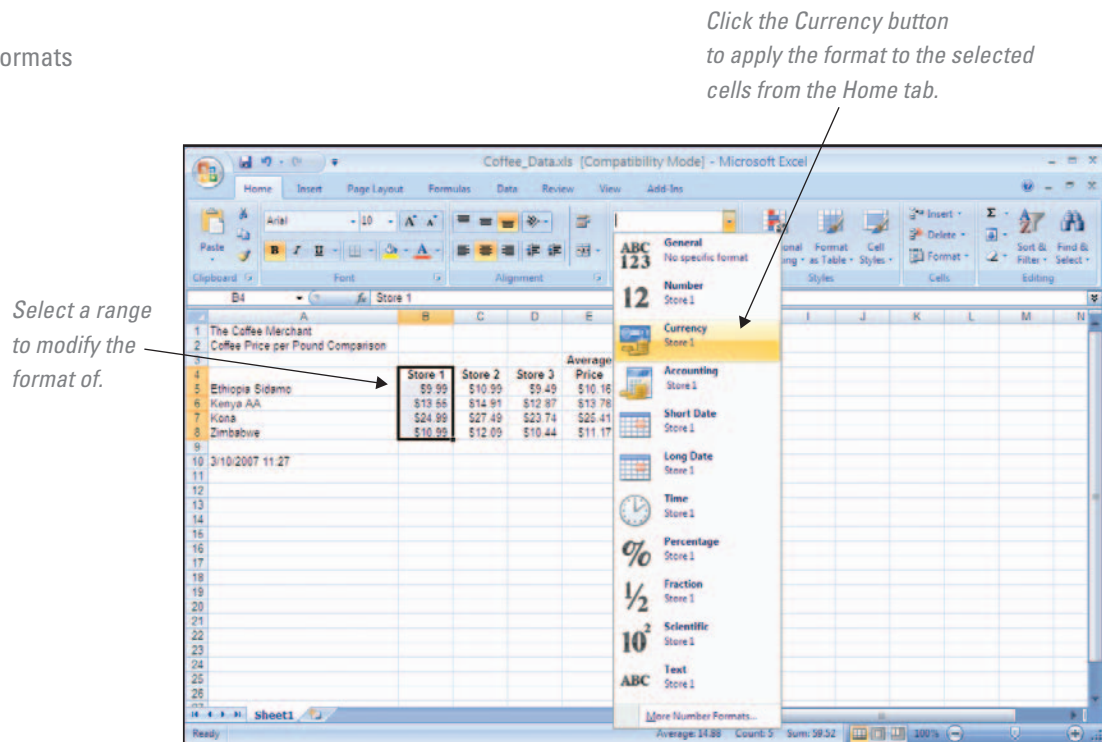
Without text headers, descriptions, and instructions, your workbook would consist of numbers and formulas without any structure. Adding text headers to your rows and columns creates the structure for you to enter data into your workbook.

To add text to your workbook:

1. Click in the cell in which you want to add text.
2. Type your text.
3. Click outside the cell to have your entry accepted.

APPLYING NUMBER FORMATS

Formatting your numbers changes the appearance of the data in your worksheet, but does not change their value. The formatted number is displayed in the cell, and the actual value is displayed in the formula bar. Excel provides several numeric formats for you to use in your workbook, including Currency, Percentage, Date, Time, and Accounting.

FIGURE T2.11**Applying Number Formats**

To format numbers:

1. Select the cells you want to format.
2. Click the **Home** tab.
3. Click the **Number Format** list arrow, and then click the number format from the list (see Figure T2.11).

Under each number category, you can choose predefined formatting or create and edit formats of your own.

The Formatting toolbar allows you to add default number styles. Select the cell you want to format, and then do one of the following:

- To add the default currency style, click the **Currency Style** button on the **Home** tab.
- To add the default percent style, click the **Percent Style** button on the **Home** tab.
- To add the default comma style, click the **Comma Style** button on the **Home** tab.

APPLYING STYLES

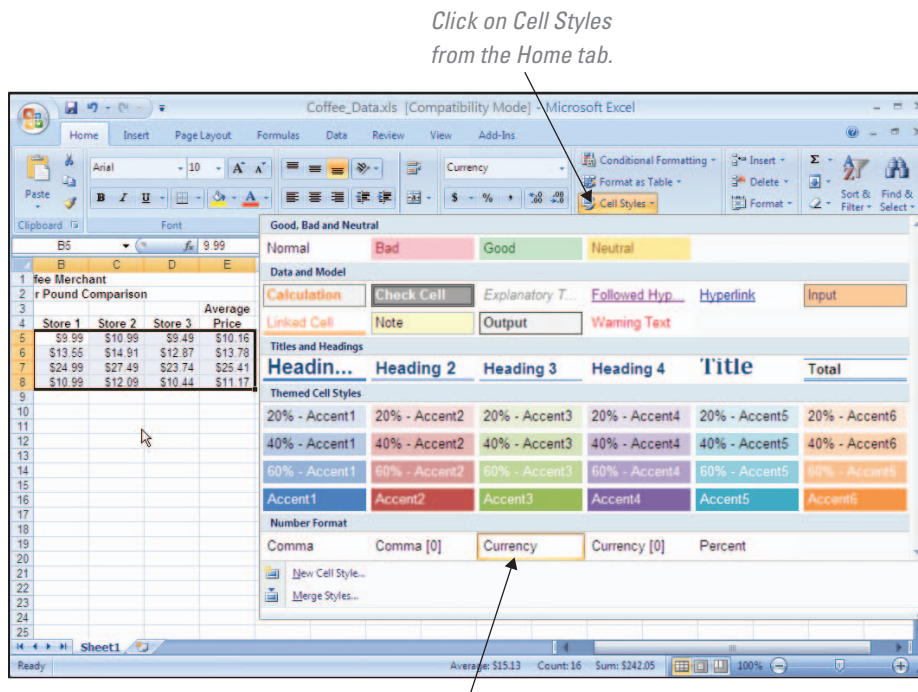
A *style* is the combination of effects that can be applied at one time. Styles can include formatting such as character effects, background color, typefaces, and number formatting. Excel comes with predefined styles including Currency, Comma, and Percent styles, but also gives you the ability to create your own styles in the Style dialog box.

To apply a basic style:

1. Select the cells you want to format.
2. Click the **Home** tab.
3. Click the **Cell Styles** button, and then click the cell style that you want to apply (see Figure T2.12).

FIGURE T2.12

Applying Styles



Printing Worksheets

SETTING UP THE PAGE FOR PRINTING

You may find that your worksheet is too wide to print on one sheet of paper, even with landscape orientation. Excel allows you to adjust how your worksheet will print. In the dialog box, you can adjust the scale of your worksheet, making it smaller and forcing it to fit on one page, or you can print your worksheet across multiple pages.

To set up a page to print:

1. Click the **Page Layout** tab.
 - To change the page orientation click the **Orientation** button. Click **Portrait** or **Landscape** from the submenu.
 - To change the page size, click the **Size** button from the submenu.
2. Click the **Office** button, select **Print**, then click on the **Print Preview** button to see what your printed worksheet will look like (see Figure T2.13).

Click Page Setup to modify the print settings.

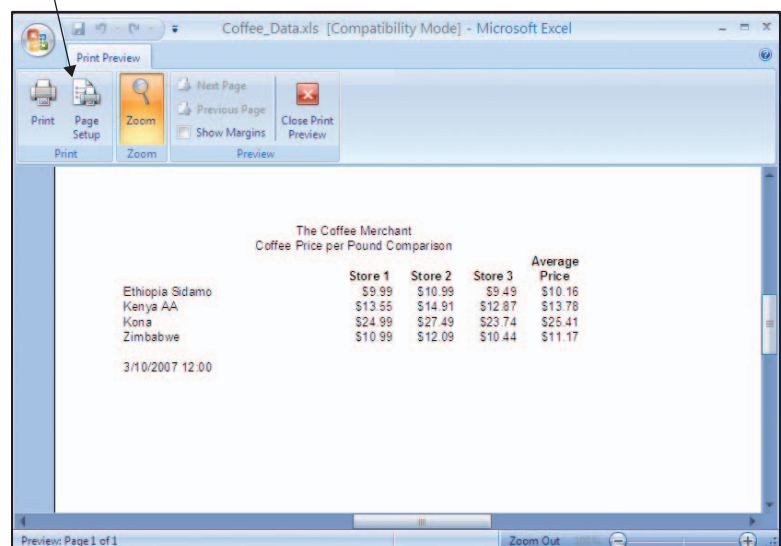


FIGURE T2.13

Page Preview

SETTING MARGINS FOR PRINTING

Margins are the blank spaces at the top, bottom, left, and right of a printed page. Excel's default margins are typically 1 inch for the top and bottom, and 0.75 inches for the left and right. Using the Page Setup dialog box, you can easily adjust these margins.

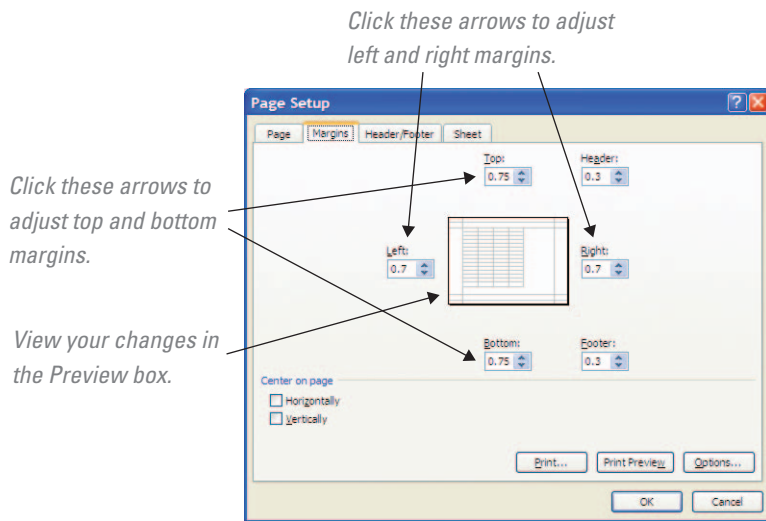


FIGURE T2.14
Setting Up Margins for Printing

To adjust the margins for a document:

1. Click the **Page Layout** tab.
2. Click the **Margins** button and then click **Custom Margins**.
3. Click the arrows to adjust the top, bottom, left, and right margins.
4. The Preview box shows you which part of the page you are changing (see Figure T2.14).
5. Click **OK**.

The Margins tab also allows you to adjust the placement of the header and footer. Further, you can choose to horizontally and/or vertically center the information on the printed page.

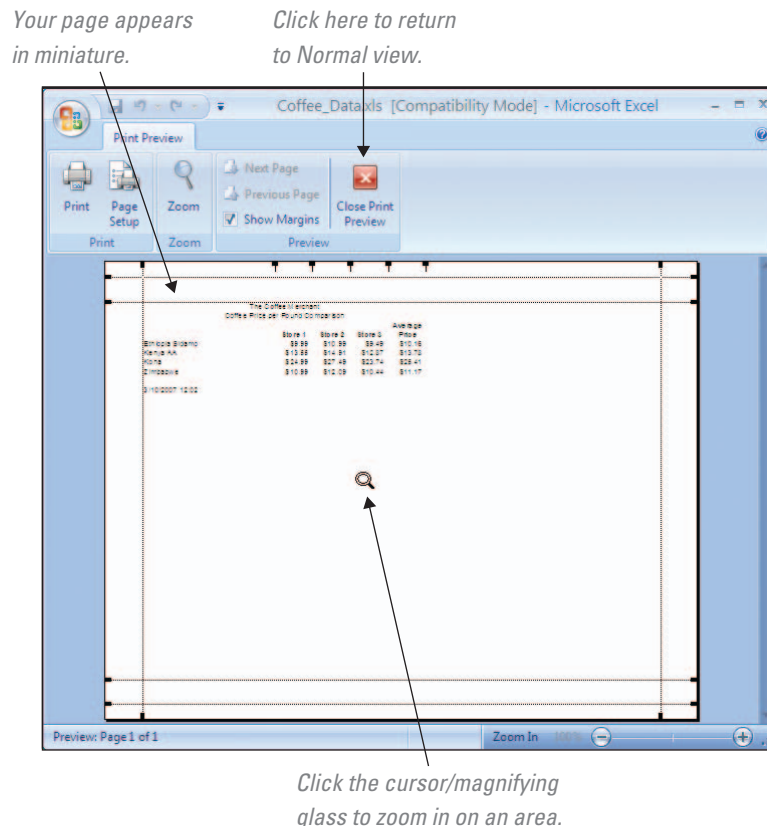
PREVIEWING A PRINT AREA

The *Print Preview* window shows you a reduced version of your worksheet as it will appear when printed. Save time and printing by always checking your layout in Print Preview before you print. Use this view to see how your information fits on each page and to verify such things as placement of page numbers, headers, and column and row labels.

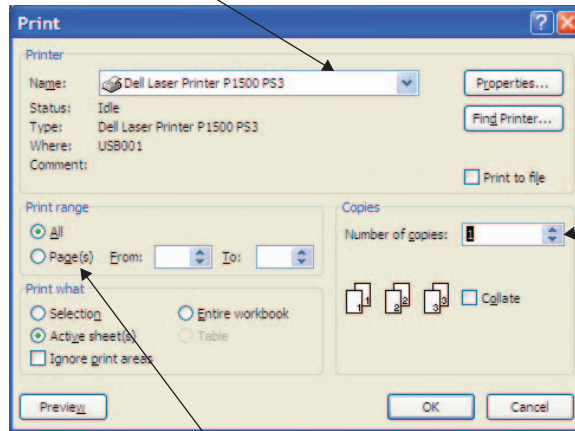
To preview your worksheet before printing it:

1. Click the **Office** button, select **Print**, then click **Print Preview**.
2. When the **Print Preview** window opens, scroll the window to view the pages.
3. Notice that the mouse pointer has changed to a magnifying glass. Click on a portion of the document to see it full-size (see Figure T2.15).

FIGURE T2.15
Previewing a Print Area



Verify the correct printer name is displayed here.



Select the number of copies to print here.

Select which pages to print in this section.

FIGURE T2.16

Print Dialog Box

4. Click again to reverse the magnification.
5. Click the **Next Page** and **Previous Page** buttons to view the pages of your workbook.
6. To return to Normal view, click the **Close Print Preview** button on the toolbar.

You can adjust page breaks, page setup, margins, headers and footers, and other page options from the Print Preview window. You can also print the worksheet from the Print Preview window by clicking the **Print** button to bring up the Print dialog box.

PRINTING SELECTIONS, WORKSHEETS, AND WORKBOOKS

Printing a print area and printing your worksheet or workbook operate the same way as other Microsoft Office applications. Use the *Print dialog box* to check your print settings before printing. Be sure your printer's name is displayed in the section, and select the number of pages you want to print in the **Print range** section. Remember, if you have set a Print Area, then only that part of your worksheet will print.

To check your print settings and print:

1. Click the **Office** button, select **Print**, then click the **Print** button.
2. Verify that the correct printer name is displayed in the **Printer** section.
3. Verify that **All** is selected in the **Print range** section (see Figure T2.16).
4. Click **OK**.

In the Print dialog box, you can also specify to print the selection, the entire workbook, or just the active worksheet.

Formatting Worksheets

INSERTING ROWS AND COLUMNS

You may need to add *rows* or *columns* of new information into your worksheet.

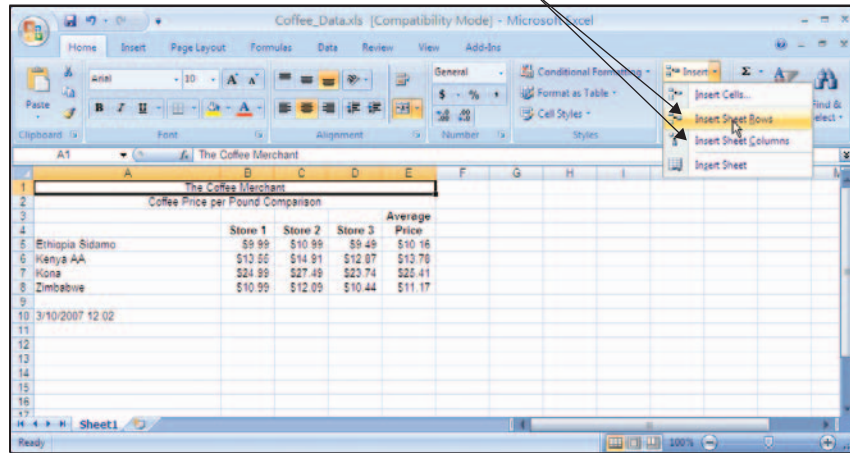
To insert a row:

1. Click the row immediately below the location of the row you want to insert.
2. Click the **Home** tab.
3. Click the **Insert** button arrow, and click **Insert Sheet Rows**.

FIGURE T2.17

Inserting a Row or Column

Click rows or columns
from the Insert button.



To insert a column:

1. Click to the right of the location of the new column you want to insert.
2. Click the **Home** tab.
3. Click the **Insert** button arrow, and click **Insert Sheet Columns** (see Figure T2.17).

When you insert a row or column, a smart tag will appear. Click the smart tag to choose formatting options—Format Same As Left, Format Same As Right, or Clear Formatting.

DELETING ROWS AND COLUMNS

When you delete a row or column, you are removing all of those cells from your workbook. Once you have deleted the row or column, it disappears and the rest of the columns and rows move to replace it.

To delete a row or column:

1. Select the row header or column header you want to delete.
2. Click the **Home** tab (see Figure T2.18).
3. Click the **Delete** button arrow and then click **Delete Sheet Rows** or **Delete Sheet Columns**.

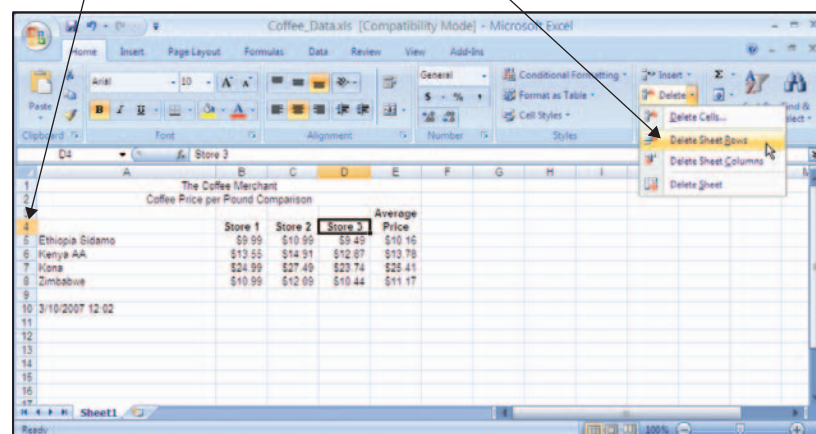
Be careful. If you delete a row or column containing data, that data will be lost.

FIGURE T2.18

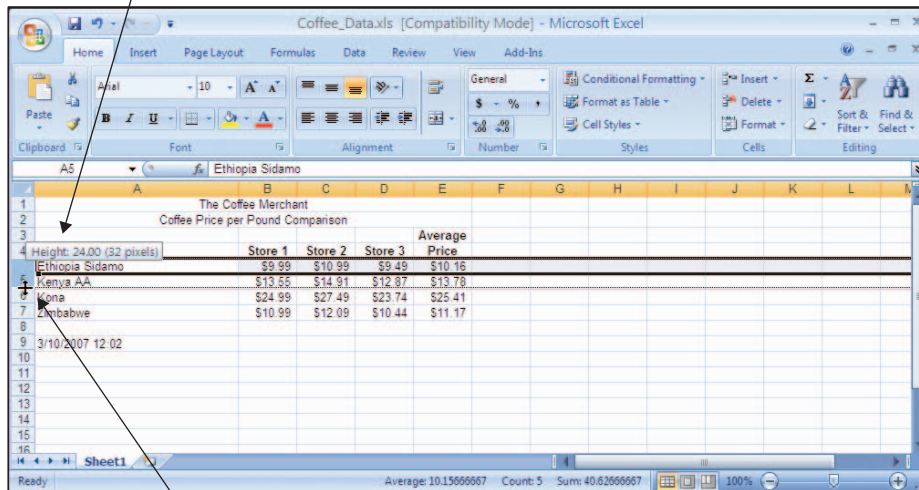
Delete a Row or Column

Click here to select the
row you want to delete.

Click Delete Sheet Rows
from the Delete button.



As you drag, a ToolTip indicates the current height.



When the cursor changes to this shape, drag down to desired height.

FIGURE T2.19

Modifying Row Heights

MODIFYING ROW HEIGHTS

When you first enter data in your workbook, Excel automatically sets the rows of your worksheet according to preferences. You may want to make rows a different height from this default setting.

To modify row heights:

1. Select the row or rows you want to change.
2. Drag the *boundary* (the physical line that separates each column and row) until the row is the height you want (see Figure T2.19).

If you want to change all the rows in your worksheet to the same height, click the **Select All** button (the gray box above Row 1 and to the left of Column A) and then drag the boundary of any row to the height you want.

Double-click the boundary to make the row automatically fit the contents.

MODIFYING COLUMN WIDTHS

When you first enter data in your workbook, Excel automatically sets the widths of the columns. As you type data into multiple columns, you may find that Excel does not display all the text in a cell. You can change the widths of columns in your workbook so that all your information is displayed.

To modify column widths:

1. Select the column or columns you want to change.
2. Drag the boundary until the column is the width you want (see Figure T2.20).

If you want to change all the columns in your worksheet to the same width, click on the **Home** tab, then the

When the cursor changes to this shape, drag across to desired width.

As you drag, a ToolTip indicates the current width.

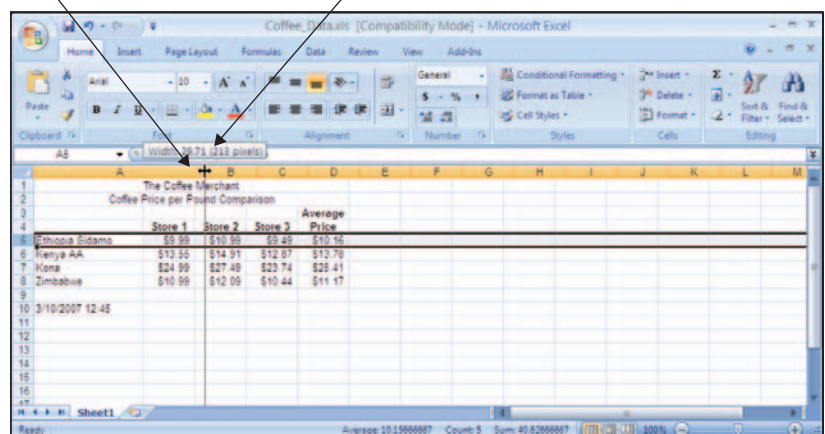


FIGURE T2.20

Modifying Column Widths

Format button, and then **Column Width**, and type in the width you want. Alternatively, you can click the **Select All** button (the gray box above Row 1 and to the left of Column A) and then drag the boundary. To make the column automatically fit the contents of the selected cell, double-click the boundary to the right of the column.

Formulas

ENTERING FORMULAS

A *formula* is an equation that performs calculations between cells in a worksheet or table. A formula always begins with an equal sign. A simple formula may contain cell references and operators.

To enter a formula:

1. Click the cell in which you want to enter the formula.
2. Type = (an equal sign).
3. Type the formula.
4. Click outside the cell or press **Enter** (see Figure T2.21).

If a formula has more than one operator, Excel will perform mathematical operations in this order:

- Exponentiation.
- Multiplication and division.
- Addition and subtraction.

Adding parentheses around an operation will override this order, forcing Excel to perform calculations within the parentheses first.

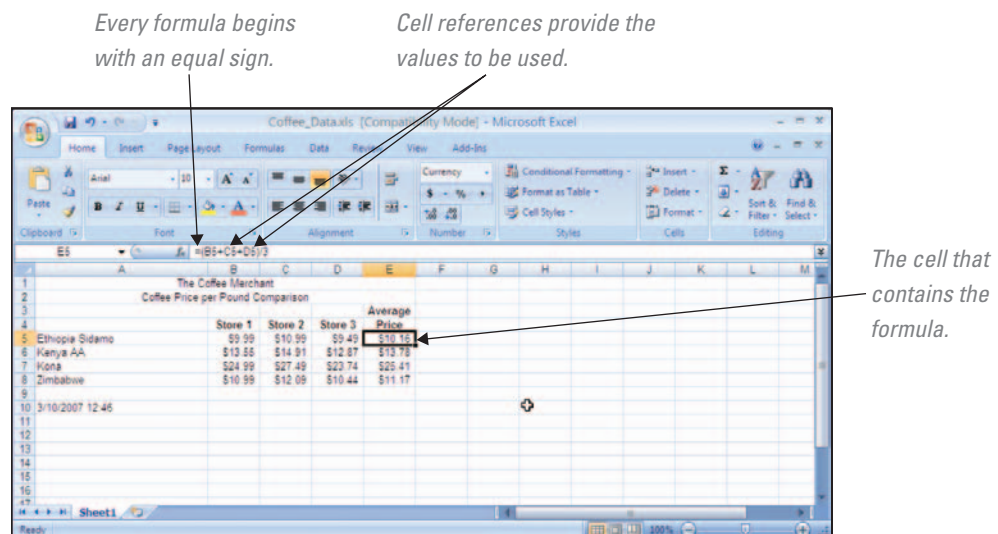
USING THE FORMULA BAR

To enter a formula in the formula bar:

1. Select the cell in which you want to add the formula.
2. In the formula bar, type = (an equal sign).
3. Enter the formula (including any functions, operators, references, and/or constants).
4. Click the **Enter Formula** button (see Figure T2.22).

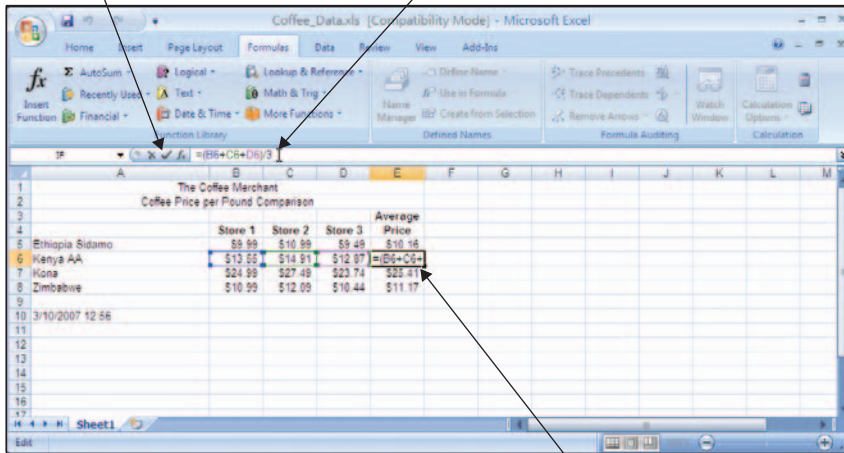
Formulas can be complex equations. Often when you first enter a formula, you will not get the result you intended. This may be because a cell reference has changed, or

FIGURE T2.21
Entering a Formula



Click the Enter Formula button when you are done.

Click inside the formula bar to edit the formula.



Select the cell with the formula you want to edit.

FIGURE T2.22

Using the Formula Bar

because the operations are being performed in an undesired order. Use the formula bar when you need to edit a formula.

To edit a formula using the formula bar:

1. Select the cell containing the formula you want to change.
2. Click inside the formula bar.
3. Click and drag to highlight the part of the formula you want to change.
4. Make the changes to the formula.
5. Click the **Enter Formula** button.

USING ABSOLUTE AND RELATIVE REFERENCES

Cell references can be relative, absolute, or mixed. A *relative reference* is a reference that adjusts to the new location in the worksheet when the formula is copied. An *absolute reference* is a reference whose location remains constant when the formula is copied. A *mixed reference* is a reference that contains both a relative and an absolute reference. Figure T2.23 displays an example of each.

To enter an absolute or relative reference:

1. Select the cell to enter a formula.
2. Type the = (equal sign) and the *name of the cell*.
 - To enter an absolute reference, type a \$, the column name, **another \$**, and the row name (e.g., \$A\$1).
 - To enter a mixed reference, type a *relative reference* and an *absolute reference* in the cell reference (e.g., A\$1 or A1\$).

By default, formulas use relative references. If you want your formula to have an absolute reference, you must change the reference to absolute.

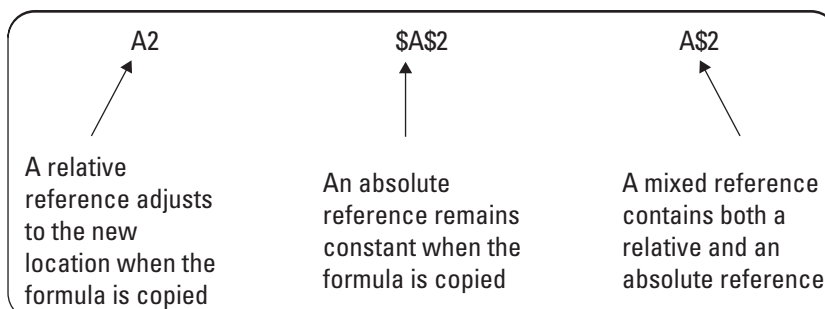


FIGURE T2.23

Using Absolute and Relative References

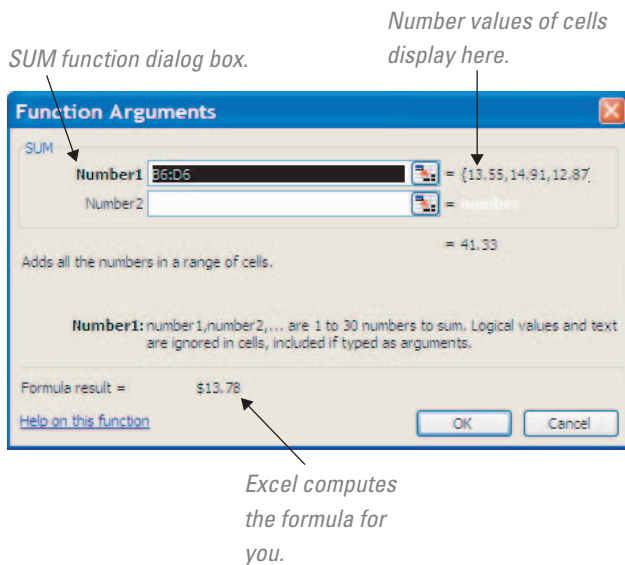


FIGURE T2.24

Using the SUM Function

USING THE SUM FUNCTION

The *SUM mathematical function* is used to add several cells together. Instead of writing a formula with several references separated by a plus sign, you can sum a range of cells. A SUM function looks like this: **=SUM(A3:A6)**.

To use the SUM function:

1. Select the cell in which you want to enter the function.
2. Click the **Insert Function** button (*fx*) to the left of the formula bar (view in Figure T2.21).
3. Click **SUM** from the list of **Most Recently Used** in the **Or select a category:** drop-down box, and click **OK**.
4. Enter the range of cells that you want to add.
5. Click **OK** (see Figure T2.24).

When you click an *argument box*, a description of the argument appears below the description of the function. An *argument* is a name for a value, expression, or cell reference that is passed to the function for its use in calculating an answer.

As you enter arguments, the dialog box will display the results of your formula.

If the SUM function is not in your list of most recently used functions, click the arrow next to the **Or select a category:** box, click **Math & Trig**, and select **SUM** from that list of functions.

USING THE MIN AND MAX FUNCTIONS

The *MIN (minimum) statistical function* will give you the smallest value in a range of values. The *MAX (maximum) statistical function* will give you the largest value in a range of values. These functions look like this:

MIN function: **=MIN(A3:A6)**

MAX function: **=MAX(A3:A6)**

To use the MIN and MAX functions:

1. Select the cell in which you want to enter the function.
2. Click the **Insert Function** button on the formula bar.
3. Click **MIN** or **MAX** from the list of **Most Recently Used** functions and click **OK**.
4. If necessary, enter the range of cells.
5. Click **OK** (see Figure T2.25).

If the MIN or MAX functions are not in your list of **Most Recently Used** functions, click the arrow next to the **Or select a category:** box, click **Statistical**, and select **MIN** or **MAX** from that list of functions.

When you click an *argument box*, a description of the argument appears below the description of the function. As you enter arguments, the dialog box will display the results of your formula. By default, Excel will enter a range of contiguous cells for you.

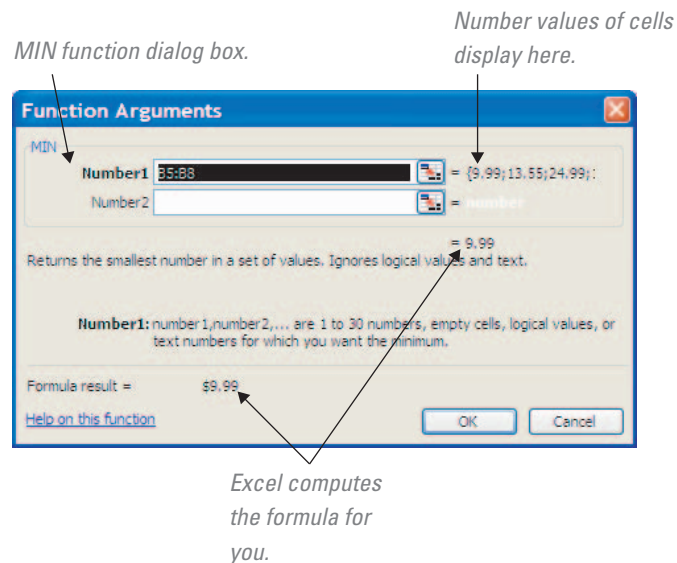


FIGURE T2.25

Using the MIN and MAX Function

USING THE DATE OR NOW FUNCTION

Use the *Date & Time* function or the *NOW* function to insert the date and time into your workbook. The date and time will be displayed at all times, but will only be updated when the worksheet is calculated. The NOW function looks like this:

=NOW()

To use the NOW function:

1. Select the cell in which you want to enter the function.
2. Click the **Insert Function** button on the formula bar.
3. Click **NOW** from the list of **Most Recently Used** or **Date & Time** functions and click **OK**.
4. The NOW function takes no arguments.
5. Click **OK** (see Figure T2.26).

The NOW function uses the computer's system clock to determine the date and time.

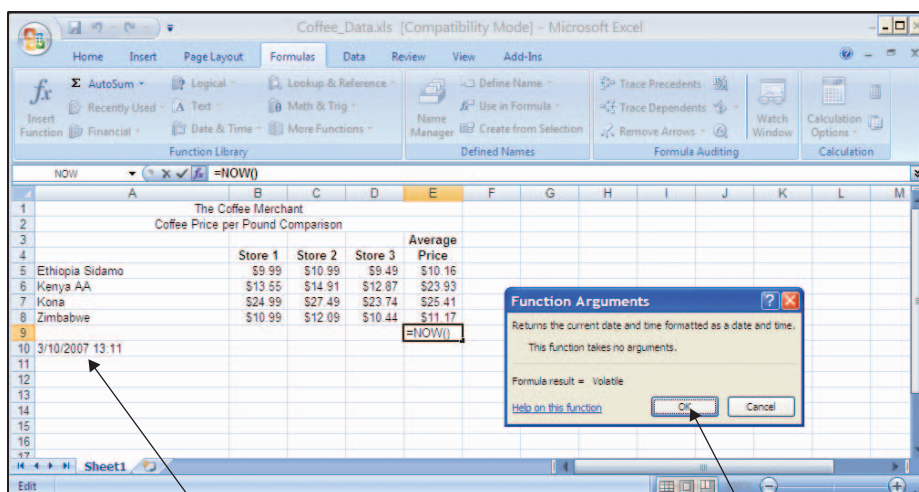


FIGURE T2.26

Using the NOW Function

Working with Charts and Graphics

CREATING A CHART

A *chart* is a visual representation of data from your workbook. Charts add a visual element to your workbook and help convey the information in a simple, easy-to-understand manner (see Figure T2.27).

To create a chart:

1. Select the data you want to use to create a chart.
2. Click the **Insert** tab.
3. Use one of the following methods:
 - **Basic Chart Types.** Click a **chart button** (Column, Line, Pie, Bar, Area, Scatter, Other Charts) in the Charts group, and then click the chart type you want.
 - **All Chart Types.** Click the **Charts Dialog Box Launcher**, click a **category** in the left pane, click a **chart**, and then click **OK**.

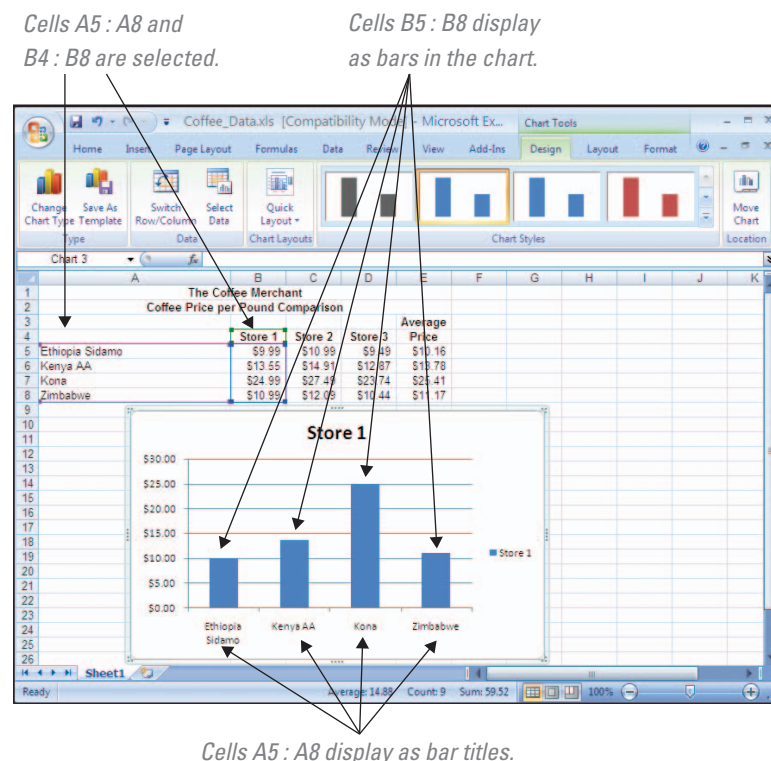
MODIFYING CHARTS

When you modify a chart, you can change any of the options that belong to that chart type. Modifying a chart allows you to change the text of the chart and how it appears on the chart. This includes titles, legends, axes, data labels, and data tables (refer to Figure T2.28).

To change chart elements:

1. Select the chart you want to modify and click the **Design** tab under **Chart Tools**.
 - To change a chart type, click the **Change Chart Type** button.
 - To change a chart layout and style, click the scroll-up or -down arrow, or click the **More** list arrow in the **Chart Layouts** group, and then click the layout you want.

FIGURE T2.27
An Excel Chart



- To change the chart title, click the **Chart Titles** button.
- To change the chart labels, click the **Legend** button.

To delete a chart, select the chart and press the **Delete** key.

MOVING A CHART

When you create a chart, Excel places the chart in the middle of the worksheet. However, the chart may be covering data that you want to view. You can move a chart by selecting it and then dragging it anywhere on the worksheet.

To move a chart by dragging:

1. Select the chart you want to move.
2. Click in the chart area margin.
3. With your left mouse depressed, drag the chart to the new location on the worksheet.
4. Release the mouse button.

ADDING GRAPHICS

A *graphic* is a drawing or illustration that can be added to your workbooks. You can add drawing objects such as AutoShapes from the Drawing toolbar. You can also insert clip art and other graphic files into your workbook. These images are embedded objects, meaning they become part of the new document.

To add a graphic to a workbook:

1. Place your cursor where you want the graphic to appear.
2. Click the **Insert** tab.
3. Click the **Picture** button (see Figure T2.29).
4. Select **Insert Picture from File**, then click the **Look in:** list arrow, and then select the drive and folder that contains the file you want to insert.
5. Click the file you want to insert and then click **Insert**.

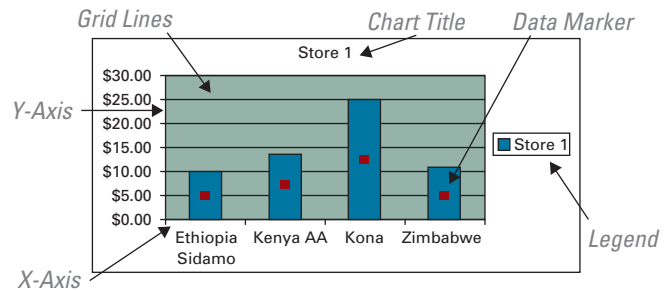


FIGURE T2.28
Modifying Charts

*Point to Picture
from the Insert tab.*

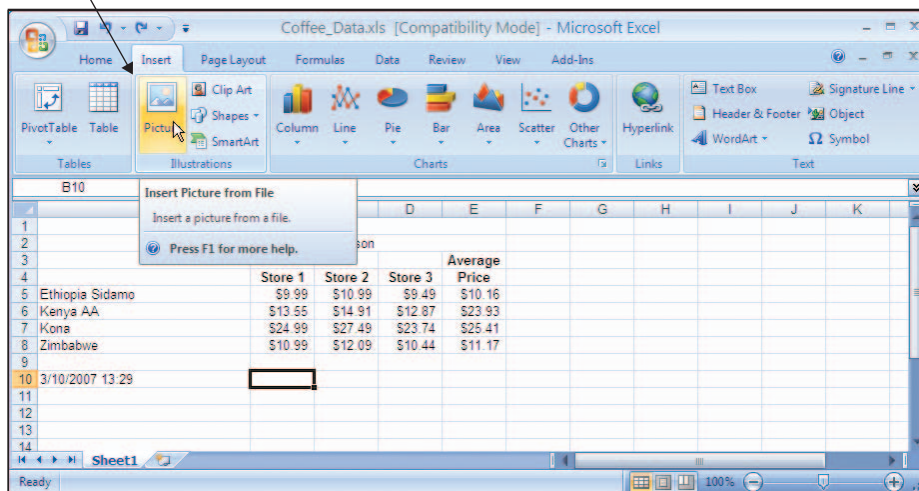


FIGURE T2.29
Adding Graphics



PLUG-IN SUMMARY

Microsoft Excel 2007 is a general-purpose electronic spreadsheet used to organize, calculate, and analyze data. The tasks you can perform with Excel range from preparing a simple invoice to managing an accounting ledger for a business.

Six areas in Excel were covered in this plug-in:

1. Workbooks and worksheets.
2. Working with cells and cell data.
3. Printing worksheets.
4. Formatting worksheets.
5. Formulas.
6. Working with charts and graphics.



MAKING BUSINESS DECISIONS

1. Stock Watcher

Mark Martin has created a basic stock watcher worksheet that he uses to report on gains or losses from when he purchased the stock and the last recorded date and price. Mark has given you a snapshot of his spreadsheet (see Figure T2.30) that you can use to recreate this spreadsheet for yourself. Here are some basic steps to follow:

1. Create a new workbook.
2. Enter all the information provided in Figure T2.30.
3. Apply the Currency format to the respective columns.
4. The date should be entered as a function. **Hint:** Use the NOW function.
5. Enter a formula for the **Gain/Loss (%)** column. **Hint:** You should subtract the **Last** column from the **Purchase** column, and then divide by the **Purchase** column.
6. Format for percent in the **Gain/Loss (%)** column.

FIGURE T2.30
Stock Watcher Data

Company	Ticker	Purchase	Last	Date	Gain/Loss (%)
ABC Truck Parts	abct	\$ 25.00	\$ 27.50	3/10/2007	10.0%
Tasty Juice, Inc.	juce	\$ 7.50	\$ 7.50	3/10/2007	0.0%
FastChips Memory	fchp	\$ 67.00	\$ 39.50	3/10/2007	-41.0%
Internet Celebration	webc	\$ 12.50	\$ 75.00	3/10/2007	500.0%
Bouncy Balls, Ltd	bbbb	\$ 18.00	\$ 19.50	3/10/2007	8.3%
XYZ Steel	xstl	\$ 38.00	\$ 47.00	3/10/2007	23.7%

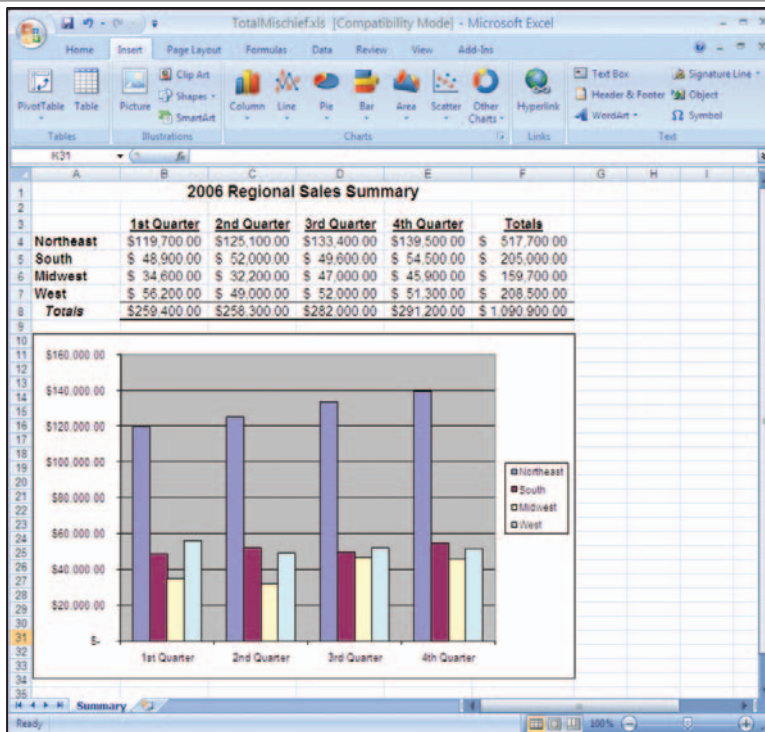


FIGURE T2.31

Total Mischief Spreadsheet

2. Total Mischief

Mischief, Inc., is a regional pet toy supplier that tracks its business sales in a spreadsheet. The owner, Lisa Derrick, has provided you with a skeleton worksheet, **T2_TotalMischief_Data.xls**, with the totals for each quarter by sales region. Lisa needs you to total each column and row, and then provide her with a clustered column chart of each region by quarter. See Figure T2.31 for a sample of what Lisa would like you to do.

3. Recycling Can

For the past 10 years, five Colorado cities have held a recycling contest to see which city does the best job of recycling plastic, glass, and aluminum. Those participating in this year's contest are Arvada, Centennial, Lakewood, Highlands Ranch, and Parker.

To make the contest fair for both large and small cities, the winning city will be the one that recycles the largest number of cans per capita—the number of cans recycled divided by the number of city residents.

You have been asked to help the coordinator, Jill Slater, to compile the numbers in an Excel worksheet and create the formulas to compute the total recycling by city each month, total recycling for all cities each month, and the per capita recycling value that determines the contest winner. In addition, Jill wants to know a few statistics about the monthly recycling efforts, including the minimum, average, and maximum number of cans recycled. Jill has provided you with sample data, **T2_RecyclingCans_Data.xls**. Figure T2.32 shows a sample of what Jill would like to see as a completed worksheet.

4. MusicPlayerz Sales Projections

MusicPlayerz is a wholesale MP3 distributor headquartered in Morrison, Colorado. Corporate buyers for the retail stores contract with MusicPlayerz to supply and ship MP3s to warehouses scattered throughout the western United States. MusicPlayerz chief procurement officer, Julianne Beekman, oversees the purchase and distribution operations for all divisions from the Morrison office.

FIGURE T2.32

Recycling Can Contest Worksheet

City	Population	Jan	Feb	Mar	Total	Per Capita
Anada	10,055	10,505	24,255	12,567	47,628	3.00
Centennial	20,901	24,567	21,777	26,719	73,063	2.52
Lakewood	142,547	102,376	105,876	121,987	330,239	2.32
Highlands Ranch	2,801,581	2,714,664	2,503,344	1,989,877	7,217,889	2.58
Palmer	1,609,908	1,223,955	1,487,650	1,002,245	4,013,870	2.38
Total		4,378,777	4,143,213	3,163,695	11,685,685	
Minimum		10,505	21,777	12,567		
Average		875,155	828,643	632,739		
Maximum		2,714,664	2,503,344	1,989,877		
Potential Revenue		\$ 87,516	\$ 82,864	\$ 63,274		

MusicPlayerz also maintains a small Web site from which it sells to consumers. While the online store is not a large part of the revenue stream, it is an essential and growing part of MusicPlayerz's business. Julianne has developed a sales report for the coming year, using the previous year's figures as the basis of the projection. Julianne wants to investigate sales predictions based on the assumption that next year's wholesale sales will increase by 10 percent for each product included in the projection.

Julianne has asked you to complete the worksheet she has provided you, **T2_MusicPlayerz_Data.xls**, for her presentation at the annual board meeting next month. You will have to calculate the following:

- Projected 2007 sales (this is 10 percent more than 2006 figures).
- Gross sales (this is the projected 2007 sales times the price).
- Profit.
- Percent of sales.

Figure T2.33 shows a sample of what Julianne would like to see as a completed worksheet.

FIGURE T2.33

MusicPlayerz Sales Projection Worksheet

Item	Cost	Price	Actual 2006 Sales	Projected 2007 Sales	Gross Sales	Profit	% of Sales
5. Creative Zen Nano	\$ 59.00	\$ 89.99	121,000	133,100	\$ 11,915,899	\$ 1,483,789	8.9%
6. Apple iPod Shuffle 512MB	\$ 52.99	\$ 89.99	169,200	175,120	\$ 15,644,449	2,977,040	17.9%
7. Sandisk e140 Series 1GB	74.99	89.99	98,000	107,800	\$ 9,700,322	1,617,000	9.7%
8. Sony Walkman Bean 512MB	74.99	89.99	100,700	110,770	\$ 9,988,192	1,661,550	10.0%
9. iRiver Jukebox w/Color Display 512MB	82.99	99.99	97,067	106,774	\$ 10,676,302	1,816,169	10.9%
10. Apple iPod nano 1GB	131.99	149.99	197,000	216,700	\$ 32,502,833	3,900,600	23.5%
11. Creative Labs Zen Micro 4GB	177.99	189.99	101,970	112,167	\$ 21,310,608	1,346,004	8.1%
12. Toshiba Silver 20GB	181.99	199.99	82,000	101,200	\$ 20,238,988	1,821,600	11.8%
Totals			866,937	1,063,631	\$ 125,870,164	\$ 16,601,716	100.0%