

Unit 1

INTRODUCTION TO EXCEL

Lesson 1 Getting Acquainted with Excel EX-2

Lesson 2 Developing Workbooks EX-52

Lesson 3 Developing Editing and Formatting
Skills EX-94

UNIT 1 APPLICATIONS EX-136

Lesson 1

Getting Acquainted with Excel

OBJECTIVES After completing this lesson, you will be able to:

1. Navigate in a workbook.
2. Edit data in a worksheet.
3. Work with columns and rows.
4. Save workbook files.
5. Print Excel files.
6. Get acquainted with Excel functions.
7. Use alignment, borders, and fill.
8. Get acquainted with an Excel chart.

Estimated Time: 1½ hours

Microsoft Excel is an *electronic spreadsheet*. The term “spread” comes from ledger sheets that spread across facing pages in a journal used many years ago by bookkeepers and accountants. These paper pages had rows and columns used for entering names and numbers that allowed the accountant to track, calculate, and analyze business activities. The accountant used a separate calculator and manually entered arithmetic results when needed into a paper worksheet. If a letter, report, or presentation were needed, data might need to be copied or reentered somewhere else to prepare it.

Figure 1-1 is a sample of a ledger page that tracks sales of eyeglass frames for AllAround Vision Care for a 4-year period. It shows the name of the frame and the total number sold per year. There is also a column that shows the average for the 4-year period and another column for the total.



PREPARE

Point out to students that the learning objectives show what they will learn in the lesson. Each heading in the lesson correlates to a learning objective.

Required file: Excel_Lesson1



TEACH

Teaching Resources:

This text is supported by Classroom Presentations in a PowerPoint format. For this lesson, use In Excel Classroom Presentation 1.

Figure 1-1
Illustration of ledger
page



AllAround Vision Care							
Web Sales of Frames (Worldwide)							
Frame Name	Year 1	Year 2	Year 3	Year 4	Average	Total	
1 Antilles	100	110	90	100	100	400	
2 Chaos	120	130	80	120	113	450	
3 Flashy	140	120	110	130	125	500	
4 Independence	170	140	100	120	133	530	
5 Moonlight	120	80	120	110	108	430	
6 Never Blue	180	160	140	90	143	570	
7 Newton	100	120	130	70	105	420	
8 Now or Never	180	190	170	60	150	600	
9 Poppy	200	180	160	100	160	640	
10 Techno	210	170	150	120	163	650	
11 Ubie	190	150	120	140	150	600	
12 Vermont	170	140	140	130	145	580	
13 Winifred	150	130	180	120	145	580	
14 Zonked	120	110	120	110	115	460	
15 Frame Totals	2,150	1,930	1,810	1,520	1,853	7,410	

An Excel workbook moves this type of work to the computer. Data are entered in a similar way, in rows and columns. Arithmetic results, when needed, are calculated by Excel. Changes to the data are accomplished by keying new values, and arithmetic results are automatically updated. The data are easily formatted into an attractive report that can be printed or electronically distributed. You will be working with the data shown in Figure 1-1 throughout this lesson and will be able to compare your Excel worksheet to this illustration.

Companies and individuals use Excel to monitor and track information, to compute various results, and to prepare easy-to-read formatted reports. AllAround Vision Care, an eye care center, uses Excel to keep and track patient accounts, to monitor sales of products, to compare and analyze office procedures and surgeries, to manage payroll and insurance information, and much more. In this course, you will be working with workbooks from AllAround Vision Care to learn about Excel's features and commands.

OBJECTIVE 1

Navigating in a Workbook

A *workbook* is the file Excel creates to store your data. Generally, a workbook should deal with related data. A company such as AllAround Vision Care might keep one workbook for current patient accounts. In that workbook, there might be a sheet for each doctor that lists his or her patients. Or the company might list all patients on one worksheet with doctors and insurance



companies shown on separate sheets. The company might then have another workbook that maintains employee payroll information, separate from the patient data.

A *worksheet* is an individual page or sheet in a workbook. A workbook must have at least one worksheet and can have as many as your computer's memory allows.

**NOTE**

In a cell address, the column letter is first.

Each worksheet is divided into *rows* and *columns*. The rows are numbered and reach row 1,048,576. There are 16,384 columns, lettered from A to Z, then AA to AZ, BA to BZ, AAA to AAZ, ABA to ABZ, and so on, up to column XFD.

The intersection of a row and a column forms a rectangle known as a *cell*. You enter data (text, a number, or a formula) into a cell. Cells have *cell addresses* or *cell references*, which identify where a cell is located on the worksheet. Cell B2, for example, is the cell in column B, row 2.

The *active cell* is the cell that appears outlined with a thick border. It is ready to accept data or a formula, or if it already contains data or a formula, it is ready to be modified. When you open a new workbook, the active cell is cell A1, the top-left cell in the worksheet. Cell A1 is referred to as "Home."

The mouse pointer displays as a thick white cross when you move it across cells in a worksheet. When you point at a Ribbon or worksheet tab, a command button, or a menu item, the pointer turns into a white arrow.

**NOTE**

Pointing and resting the mouse pointer on a button or command name is known as "hovering."

Figure 1-2
Excel worksheet
screen

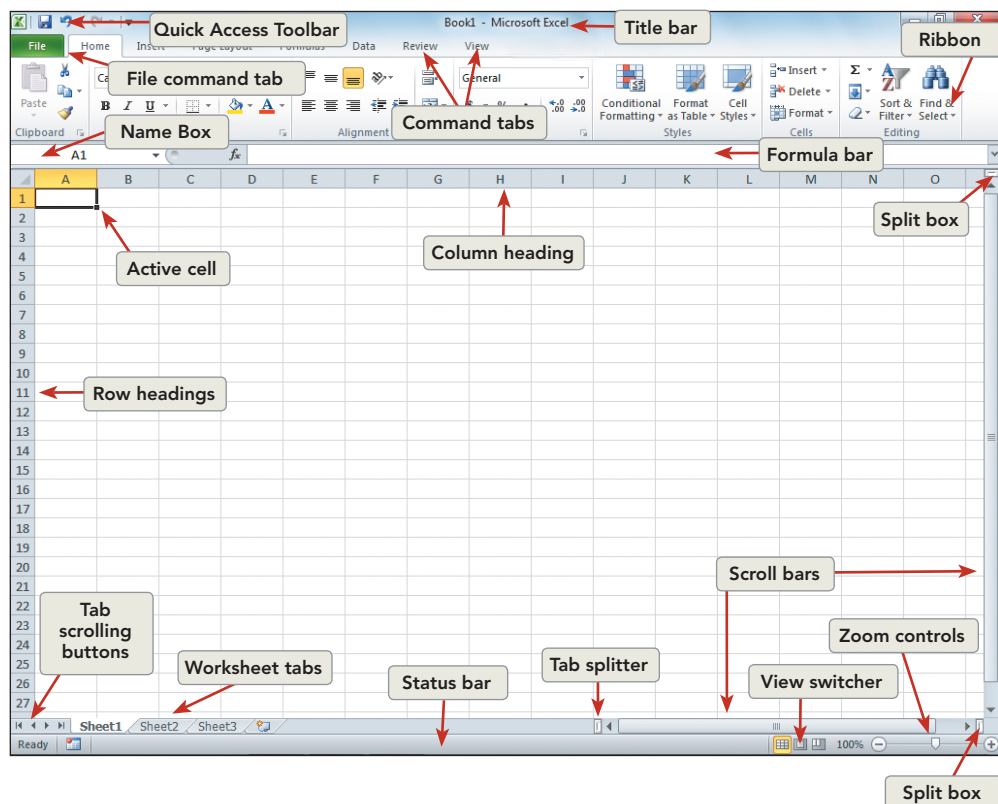


TABLE 1-1 Parts of the Excel Screen

Part of Screen	Purpose
Active cell	The cell outlined in a heavy black border. It is ready to accept new data, a formula, or your edits.
Column headings	Alphabetic characters across the top of the worksheet that identify columns.
Command tabs	Ribbon tab controls with command buttons, galleries, and other controls for creating, managing, editing, and formatting data.
Formula bar	Displays the contents of the active cell. You can enter text, numbers, or formulas in the formula bar. It can be expanded and collapsed.
File command tab	Opens Backstage view with information about the current state of the workbook and access to commands for saving, printing, and distributing workbooks.
Name Box	A drop-down combo box that shows the address of the active cell. You can use it to move the pointer to a specific location.
Quick Access Toolbar	Toolbar with shortcut command buttons for common tasks.
Ribbon	Organizes and displays command tabs.
Row headings	Numbers down the left side of the worksheet that identify rows.
Scroll bars	Used to move different parts of the screen into view.
Split box	Divides the window into two panes showing the same worksheet. There is a vertical and a horizontal split box.
Status bar	Displays information about the current task and mode of operation as well as view choices and the Zoom control.
Tab scrolling buttons	Navigation buttons to scroll through worksheet tabs.
Tab splitter	Adjusts the width of the horizontal scroll bar to show more or fewer worksheet tabs.
Title bar	Contains the program name and the name of the workbook.
View switcher	Buttons to change the current view to Normal, Page Layout, or Page Break Preview.
Worksheet tabs	Indicators at the bottom of the worksheet to identify sheets in the workbook.
Zoom controls	Buttons and slider to change the view magnification.

Exercise 1-1 EXPLORE THE EXCEL WINDOW



Excel opens with a new, blank workbook. You can see the the Quick Access Toolbar and the Ribbon (see Figure 1-2). New workbooks are named **Book1**, **Book2**, and so on during a work session; those names are replaced by the file names you provide when you save your work.

The *File* command tab is the green tab at the left of the window. It opens Backstage view, an interactive window that consolidates information about the workbook and provides access to Save, Print, and Share commands. Backstage view has a Navigation pane to choose a category of tasks. Then each pane has Quick commands for saving, printing, or distributing your



Give students time to review a Windows tutorial if they need general Windows practice. Show and tell students how to start Excel in the classroom.

workbook. The *Ribbon* is a set of command tabs across the top of the Excel window. Each command tab (except the File tab) has buttons, galleries, or other controls related to a specific task group or object. Some command tabs are context-sensitive and appear only when needed to accommodate what you are doing. The *Quick Access Toolbar* is above the Ribbon and provides one-click access to frequently used commands. You can add command buttons to this toolbar, and you can reposition it below the Ribbon. In Excel 2010, you can also customize the Ribbon to add your own group (or tab) with command buttons.

**NOTE**

The command tabs in the Ribbon are similar to panes or tabs in a dialog box.

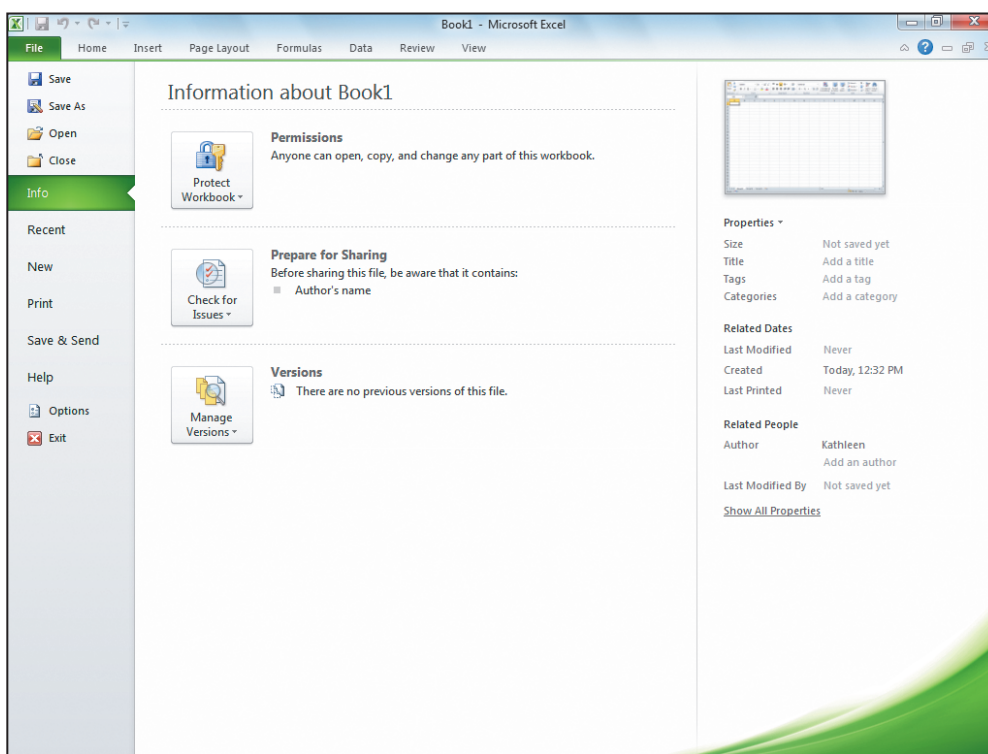
Your screen size and resolution affect how the command buttons look and how much data you see at once. Your buttons may include explanatory text, and you may see more or fewer rows and columns than what appears in illustrations in this text.

Use the left mouse button to carry out commands unless the instructions explicitly say to right-click.



1. Start Excel. A blank workbook named **Book1** opens.
2. Click the **File** command tab. When a workbook is open, Backstage view opens to the Information pane. The Quick command groups are Permissions, Prepare for Sharing, and Versions. The right panel displays some of the file properties and provides access to others. A *property* is a piece of information about the workbook. It might include a descriptive title, file size, revision dates, and more.

Figure 1-3
Backstage view
information



Backstage view gathers and displays information about the document that was previously distributed among several dialog boxes.



In Excel Classroom
Presentation 1.

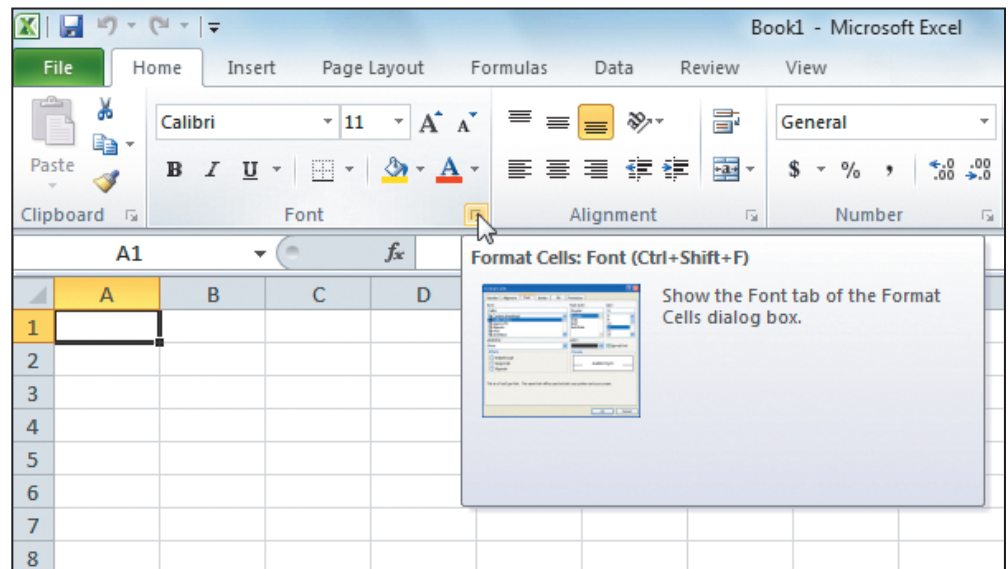
1



**NOTE**

Super ScreenTips explain the purpose of the button, provide a keyboard shortcut, and when appropriate, describe when you might use the feature

3. Click the **Home** command. Commands on this tab are organized into seven groups: Clipboard, Font, Alignment, Number, Styles, Cells, and Editing.
4. In the **Font** group, rest the mouse pointer on the Bold button **B**. A *super ScreenTip* includes the button name, a brief description of the button's function, and its keyboard shortcut.
5. In the **Font** group, rest the mouse pointer on the Dialog Box Launcher. A super ScreenTip describes and previews the dialog box that will be opened when you click this button. Many command groups have a dialog box launcher, and it opens the dialog box that includes commands for that group.

Figure 1-4
Dialog Box Launcher
for the Font group



6. Click the Dialog Box Launcher for the **Font** group. The Format Cells dialog box opens with the **Font** tab visible.
7. Click **Cancel** to close the dialog box.
8. Click the **View** command tab. Commands on this tab are organized into five groups: Workbook Views, Show, Zoom, Window, and Macros.
9. In the **Workbook Views** group, move the mouse pointer to the Full Screen button  and click. A Full Screen view shows only worksheet cells with row and column headings.
10. Press **[Esc]** on the keyboard to return to normal view.
11. Click the Page Layout view button . This view is an interactive preview of how the page will print and shows margins, the ruler, header, and footer areas.

**NOTE**

The **[Esc]** key is at the top left of most keyboards.

1





The Ribbon interface and Backstage view can be cumbersome for students who have not used Office 2007. They will become more comfortable with it as they move through the lessons. Check display settings on classroom computers to determine how students' screens may differ from text figures.




In Excel Classroom Presentation 1.

**NOTE**

When Key Tips are visible, press **[Tab]** or an arrow key to move through tasks in the current group.

12. Click the Normal button .
13. Press and release the **[Alt]** key. *Key Tips* appear over a command name when you press the **[Alt]** key. They show keyboard shortcuts.
14. Key **h** to activate the **Home** command tab.
15. Press **[Tab]**. The focus moves to the Paste button  in the Clipboard group, and the Key Tips are no longer visible.
16. Press **[Tab]** again. The focus moves to the Cut button  in the Clipboard group.
17. Press **[Esc]**.
18. Press **[F10]**. This is another keyboard shortcut to display Key Tips. Note that the keyboard shortcuts for commands in the Quick Access Toolbar use numbers rather than letters.
19. Key **m** to open the **Formulas** command tab. Press **[Tab]**. The focus moves to the Insert Function button .
20. Double-click the **Formulas** command tab. The Ribbon collapses and more working space is available.
21. Click the **Home** command tab.
22. Right-click the **Home** command tab. Remove the checkmark for **Minimize the Ribbon**. You can right-click any tab to expand or collapse the Ribbon.

**TIP**

The keyboard shortcut to collapse or expand the Ribbon is **[Ctrl]+[F1]**. You can also collapse or expand it from the up or down arrow next to the Microsoft Office Excel Help button .

Exercise 1-2 MOVE BETWEEN WORKSHEETS



As you work with a new or an existing workbook, you must know how to move around within it. A new workbook has three worksheets named **Sheet1**, **Sheet2**, and **Sheet3**. **Sheet1** is displayed when a new workbook is opened. The worksheet names appear on the tabs, located along the bottom of the sheet above the status bar. Colors on your computer may be different from illustrations in this text if your workstation is set to use a different color scheme.

**NOTE**

Cell A1 is the active cell on all three worksheets in a new workbook.

**NOTE**

When keyboard combinations (such as **[Ctrl]+[PageUp]**) are shown in this text, hold down the first key without releasing it and press the second key. Release the second key and then release the first key.

1. Click the **Sheet2** worksheet tab. The tab for the active sheet is white, and the tab name is bold.
2. Click the **Sheet3** tab. All three sheets are empty.
3. Press **[Ctrl]+[PageUp]**. This shortcut moves to the previous worksheet, **Sheet2**, in this case.
4. Press **[Ctrl]+[PageDown]**. This command moves to the next worksheet, **Sheet3**.
5. Click the **Sheet1** tab to return to **Sheet1**.



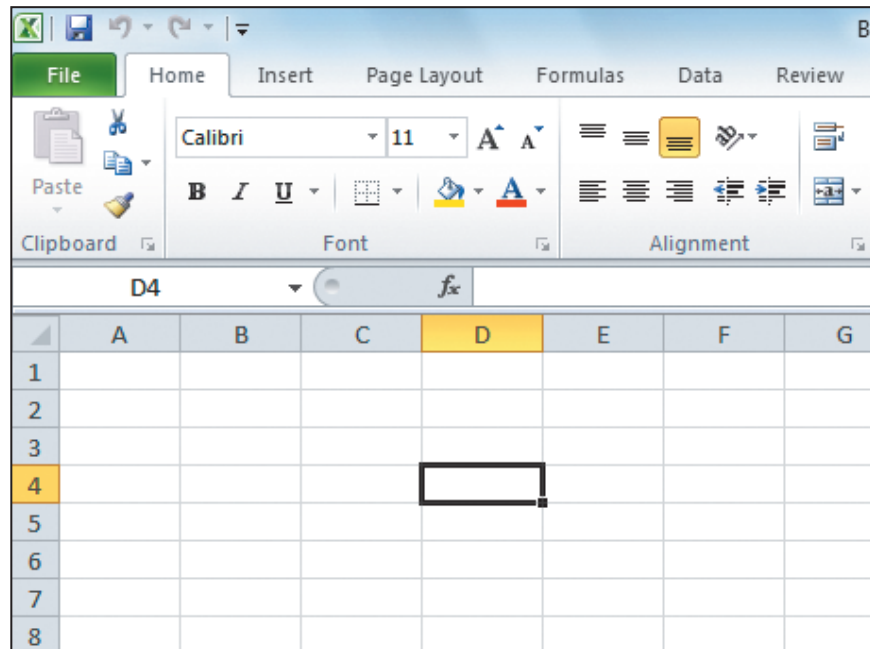
Illustrations in this text show the default silver color scheme (File tab, Options, General).

Exercise 1-3 GO TO A SPECIFIC CELL


When you move the mouse pointer to a cell and click, the cell you click becomes the active cell. The active cell is the one that will be affected when you give a command. It is outlined with a thick border, and you see its address in the *Name Box*. The Name Box is a drop-down combo box at the left edge of the formula bar. You can also determine the active cell address by the orange-shaded column and row headings. Rows and columns are separated by *gridlines* on screen which, as a default, do not print.

1. Move the mouse pointer to cell D4 and click. Cell D4 is the active cell, and its address appears in the Name Box. The column D and row 4 headings are shaded.

Figure 1-5
Active cell showing
a thick border



TIP

As an alternative, open the Go To dialog box by clicking the Find & Select button  in the Editing group on the Home command tab and choosing Go To.



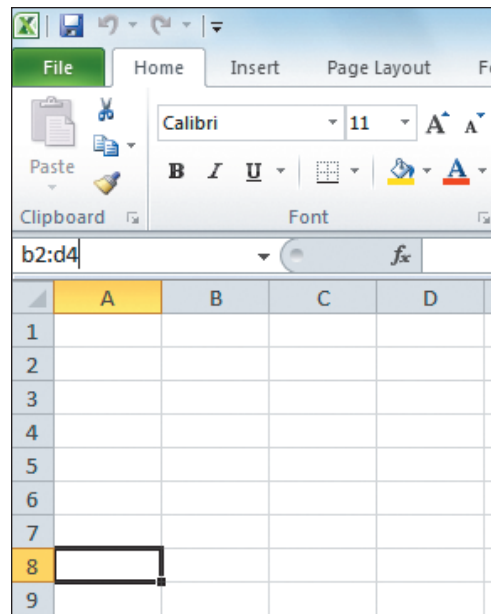
2. Press **Ctrl**+**Home**. This shortcut makes cell A1 the active cell.
3. Press **Ctrl**+**G** to open the Go To dialog box.
4. Key **b19** in the **Reference** box and press **Enter**. Cell B19 becomes the active cell, and its address is shown in the Name Box.
5. Press **Ctrl**+**G**. Recently used cell addresses are listed in the **Go to** list in the Go To dialog box.
6. Key **c2** and click **OK**.
7. Click in the **Name Box**. The current cell address is highlighted.
8. Key **a8** in the Name Box and press **Enter**.
9. Click in the **Name Box**. Key **b2:d4** in the Name Box and press **Enter**. This identifies and highlights a *range* or group of cells (see Figure 1-6 on the next page).



EX-10

UNIT 1 Introduction to Excel

Figure 1-6
Keying a range
address in the Name
Box



10. Press **Ctrl**+**Home** to return to cell A1.

TABLE 1-2 Navigation Commands in a Workbook

Press	To Do This
Ctrl + Home	Move to the beginning of the worksheet.
Ctrl + End	Move to the last used cell on the worksheet.
Home	Move to the beginning of the current row.
Click	Move to the cell that is clicked.
Ctrl + G or F5	Open the Go To dialog box.
Enter	Move one cell down in the current column.
Shift + Enter	Move one cell up in the current column.
Tab	Move to the next cell in a left-to-right sequence.
Shift + Tab	Move to the previous cell in a right-to-left sequence.
PageUp	Move up one screen.
PageDown	Move down one screen.
Alt + PageUp	Move one screen to the left.
Alt + PageDown	Move one screen to the right.
↑ , ↓ , ← , →	Move one cell up, down, left, or right.
Ctrl +arrow key	Move to the edge of a group of cells with data.
Ctrl + Backspace	Move to the active cell when it has scrolled out of view.
Ctrl + PageUp	Move to the previous worksheet.
Ctrl + PageDown	Move to the next worksheet.



Exercise 1-4 SCROLL THROUGH A WORKSHEET

Because a worksheet has millions of cells, it can hold a lot of data, much of which are out of view at any given time. If you need to verify a name or number in row 235, you need to scroll through the sheet. Scrolling through a worksheet does not change the active cell. Instead, the worksheet moves on the screen so that you see different columns or rows. The number of rows and columns you see at once depends on screen resolution and the Zoom size in Excel.

TABLE 1-3 Scrolling Through a Worksheet

To Move the View	Do This
One row up	Click the up scroll arrow.
One row down	Click the down scroll arrow.
Up one screen	Click the scroll bar above the scroll box.
Down one screen	Click the scroll bar below the scroll box.
To any relative position	Drag the scroll bar up or down.
One column to the right	Click the right scroll arrow.
One column to the left	Click the left scroll arrow.

1. On the vertical scroll bar, click below the scroll box. The worksheet has been repositioned so that you see the next group of about 20 to 30 rows.
2. Click above the vertical scroll box. The worksheet has scrolled up to show the top rows.
3. Click the right scroll arrow on the horizontal scroll bar once. The worksheet scrolls one column to the right.
4. Click the left scroll arrow once to bring the column back into view.
5. Click the down scroll arrow on the vertical scroll bar twice.
6. Drag the vertical scroll box to the top of the vertical scroll bar. As you drag, a ScreenTip displays the row number at the top of the window. During all this scrolling, the active cell is still cell A1.




NOTE

You cannot see the active cell (cell A1) during your scrolling.

Exercise 1-5 CHANGE THE ZOOM SIZE



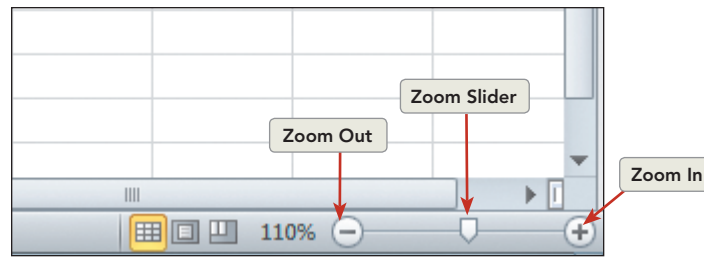
The *Zoom size* controls how much of the worksheet you see on the screen, how large the data appear, and your need to scroll. The 100% size shows the data close to print size. A Zoom slider and two buttons are at the right edge of the status bar.

1. Click the Zoom In button  on the status bar. The worksheet is resized to 110%, and you see fewer columns and rows (see Figure 1-7 on the next page).



The size of the screen, the display settings, the data, and formatting affect how many columns and rows appear at once. Remind students about differences between their screens and text illustrations.

Figure 1-7
Changing the zoom
size



2. Click the Zoom Out button . The worksheet is reduced to 100% magnification.
3. Click the Zoom Out button again. Each click changes the magnification by 10%.
4. Point at the Zoom slider , hold down the mouse button, and drag the slider slowly in either direction. You can set any magnification size.
5. Click the **View** command tab. There is a Zoom button on this tab.
6. Click the Zoom button . The Zoom dialog box opens.
7. Choose **200%**. Click **OK**.
8. Click **200%** in the status bar. The same dialog box opens.
9. Choose **100%** and click **OK**.



TIP

It is usually quicker to change magnification by using the Zoom tools on the status bar.

Exercise 1-6 CLOSE A WORKBOOK WITHOUT SAVING

Generally, you should save your work when closing a workbook. To ensure that you do, Excel will display a message box asking you to save the workbook if there have been changes made. However, you can close a workbook without saving. You might do this when you are experimenting with a new calculation or a new format for your work.

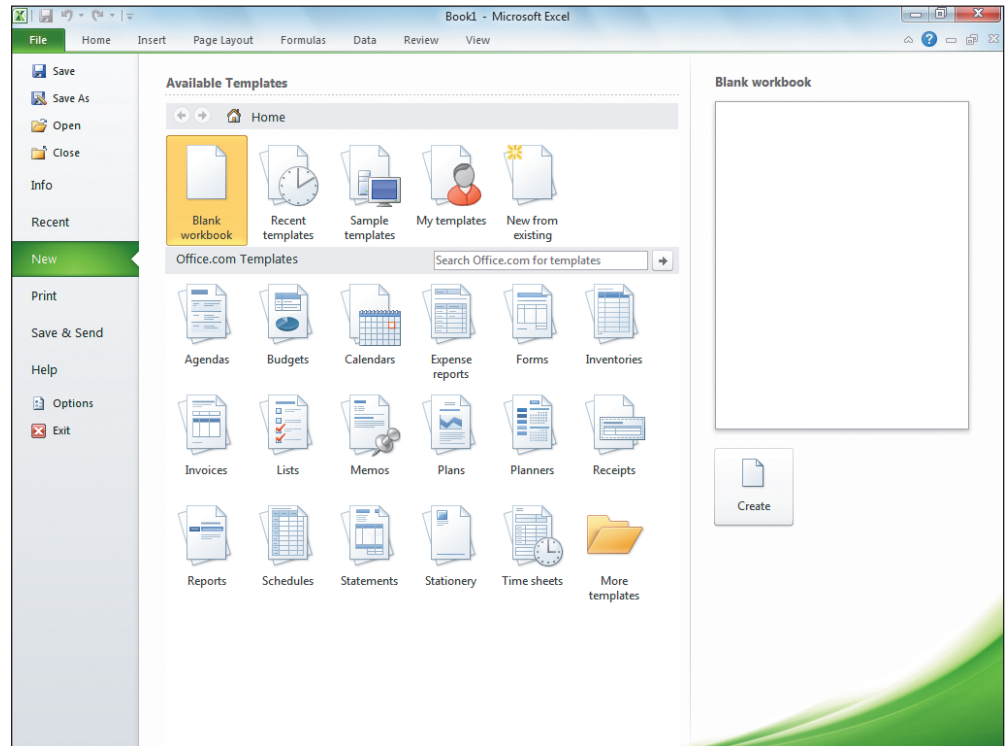
To close a workbook, you can:

- Click the Close Window button at the right end of the Ribbon.
 - Click the **File** command tab and choose **Close**.
 - Use keyboard shortcuts, **Ctrl+W** or **Ctrl+F4**.
1. Click the Close Window button at the right top edge of the Ribbon.
 2. If you have made a change to the workbook, a dialog box asks if you want to save the changes. Click **Don't Save** if this message box opens.
 3. The workbook closes, and a blank blue-gray screen appears. No workbook is open.
 4. Click the **File** command tab. When no workbook is open, Backstage view opens with the Recent Workbooks pane. This view lists the most recently used workbooks at your computer. You can choose one from the list when it is what you want to open.



- Choose **New** from the navigation list. Available templates are categorized in Backstage view. A template is a model workbook with margin settings, font choices, and more. To create a new blank workbook, you choose **Blank workbook**. You can either double-click that icon or click **Create** in the preview area.

Figure 1-8
Creating a new
workbook from
Backstage view



TIP

You can press **Ctrl+N** to create a new workbook, bypassing Backstage view.

- Create a new workbook.
- Click the **File** command tab and choose **Close**. You are back to the blank blue-gray screen with no workbook open.

OBJECTIVE 2

Editing Data in a Worksheet

For AllAround Vision Care, common tasks include editing a patient's account, updating payment information, or adding a new eyeglass frame to the inventory. If calculations are involved, they are automatically updated as soon as changes are made. You can edit data by keying new data or by changing existing information.

Worksheet cells contain text, numbers, or formulas. Any of these data types can be keyed, edited, or deleted. A *formula* calculates an arithmetic result and is placed in the cell where the results are to be displayed. The formula bar above the column headings displays the contents of the active cell, whether it is text, a number, or a formula.



Exercise 1-7 OPEN A WORKBOOK



NOTE

All workbooks in this course relate to the case study about AllAround Vision Care, a fictional eye care establishment (see frontmatter).

You will use the **Excel_Lesson1** workbook for your work in this lesson. This workbook has two worksheets. The sheets have been named **EyeglassSales** and **Chart** to indicate what is on each sheet. The **EyeglassSales** worksheet shows an eyeglass frame name in the first column (A). The next four columns (B through E) show values, the number of each frame sold per year. The sixth column (F) calculates the total number sold for each frame style. The numbers in this column were not keyed; they are calculated.

The worksheet named **Chart** is a chart sheet. It does not have worksheet cells; instead it has a bar chart that depicts the values shown in column F and names in column A on the **EyeglassSales** worksheet.

There are several ways to open an existing workbook.

- Click the File command tab and choose Open.
- Use the keyboard shortcut **Ctrl+O** or **Ctrl+F12**.
- Navigate through folders in Windows Explorer or Computer to find and double-click the workbook name.

When you open a workbook from the Internet, from an e-mail attachment, or from a potentially unsafe location, it will open in Protected View. In Protected View, a workbook cannot be edited. A default setting in Excel's Trust Center Settings opens workbooks from such locations with restricted editing because they might contain malware which can harm your computer. You can view the workbook to evaluate its source and its contents. When you are confident that the file is safe, you can exit Protected View and edit the workbook as usual. Protected View displays a security message panel across the top of the worksheet, below the command tabs. The file name in title bar shows [Protected View].

Figure 1-9
Protective View

	A	B	C	D	E	F	G	H	I	J	K	L
1	Vision											
2	Web Sales of Eyeglasses (Worldwide)											
3	Frame Name	Year 1				Frame Total						
4	Antilles	100	110	90	100	400						
5	Chaos	120	130	80	120	450						



1. Click the **File** command tab and choose **Open**. The navigation line shows the most recently used folder.
2. Navigate to the drive and folder where the data files for this lesson are located.



NOTE

Your instructor will advise you on the drive and folder to use for this course.

3. Find and double-click **Excel_Lesson1**. The workbook opens with the **EyeglassSales** worksheet visible. If you have opened this workbook from an Internet location, you'll see the security message panel below the command tabs.



Show and tell students where and how data files are stored. Demonstrate how to change the layout of the Open dialog box. Highlight differences in the appearance of the Computer dialog box, an Explorer window, and the Open dialog box.

- If the security message panel for Protected View is open, click **Enable Editing** to continue.
- Click the **Chart** worksheet tab. This bar chart illustrates total sales for each eyeglass frame listed.
- Press **Ctrl**+**PageUp**. This moves to the **EyeglassSales** worksheet.
- Press **Ctrl**+**PageDown**. The active tab is the **Chart** sheet.
- Click the **EyeglassSales** tab.



Exercise 1-8 REVIEW AND EDIT CELL CONTENTS

1



REVIEW

If you cannot see column F or row 21, adjust the zoom size.

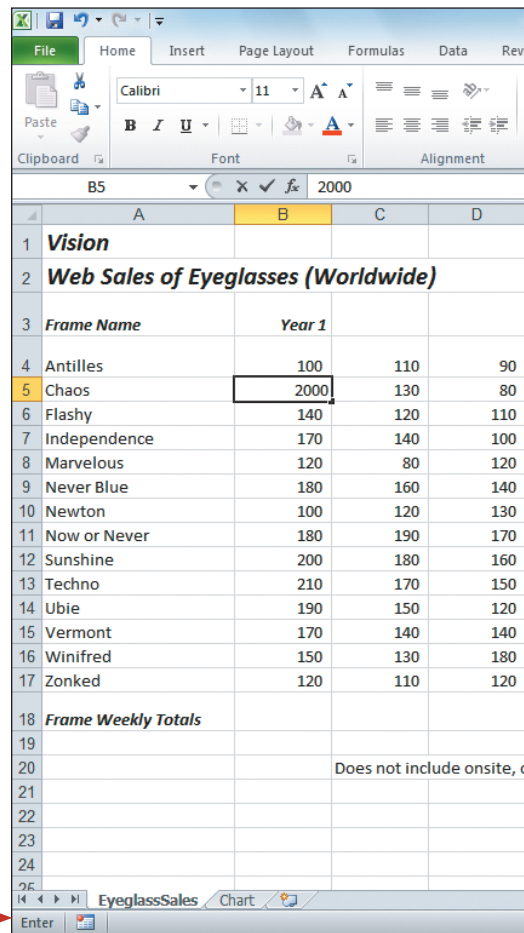
When the workbook is in Ready mode, you can key, edit, or replace the contents of a cell. To replace a cell's contents, make it the active cell, key the new data, and press **Enter**. You can also click the Enter button  in the formula bar or press any arrow key on the keyboard to complete any editing. The Enter button  appears to the left of the formula bar only when you are keying or editing a cell's contents.

If you replace a number used in a formula, the formula automatically recalculates when you complete your change.

Figure 1-10
Editing cell contents
Excel_Lesson1.xlsx
EyeglassSales
Sheet



Mode indicator



	A	B	C	D
1	Vision			
2	Web Sales of Eyeglasses (Worldwide)			
3	Frame Name	Year 1		
4	Antilles	100	110	90
5	Chaos	2000	130	80
6	Flashy	140	120	110
7	Independence	170	140	100
8	Marvelous	120	80	120
9	Never Blue	180	160	140
10	Newton	100	120	130
11	Now or Never	180	190	170
12	Sunshine	200	180	160
13	Techno	210	170	150
14	Ubie	190	150	120
15	Vermont	170	140	140
16	Winifred	150	130	180
17	Zonked	120	110	120
18	Frame Weekly Totals			
19				
20			Does not include onsite, c	
21				
22				
23				
24				

- Press **F5** to open the Go To dialog box.
- Key **a5** and press **Enter**. The active cell is changed to cell A5. This cell contains the name of one of the frames (Chaos), which you can see in the formula bar and on the worksheet.
- Press **F5**, key **c10**, and press **Enter**. Cell C10 contains a number, a value.
- Click cell F17. Cell F17 contains a formula, which you can see in the formula bar. Formulas calculate a result.
- Click cell B5 to make it the active cell.
- Key **2000** without a comma. As you key the number, it appears in the cell and in the formula bar. The status bar shows "Enter" to indicate that you are in Enter mode (at the far left).

1

Ask students to determine what the formula calculates.



In Excel Classroom
Presentation 1.



TIP

Commas are part of the cell format in this worksheet.



NOTE

Ctrl+**Enter** keeps the insertion point in the current cell.

- 7. Press **Enter**. Excel inserts a comma, and the next cell in column B is active. The “Frame Total” (cell F5, 2,330) is recalculated. The worksheet returns to Ready mode.
- 8. Press **↑** to move to cell B5. Key **1000** without a comma. Click the Enter button at the left in the formula bar. Notice that when you use the Enter button , the pointer stays in cell B5.
- 9. Click the **Chart** sheet tab. Notice the length of the Chaos bar; Excel also adjusted the number scale to better show the value differences.
- 10. Click the **EyeglassSales** worksheet tab.
- 11. In cell B5, key **0**, and press **Ctrl**+**Enter**. Notice that cell B5 is active, and that a zero is represented as a short dash in this worksheet.
- 12. Click the **Chart** sheet tab. The chart is based on the data in the **EyeglassSales** sheet. Everything has been recalculated.
- 13. Click the **EyeglassSales** worksheet tab, and key **100** in cell B5. Press .



Exercise 1-9 **USE EDIT MODE**

If a cell contains a long or complicated text entry or a formula with a minor error, you can edit it rather than rekeying an entire entry. This, of course, saves time and can contribute to accuracy since fewer keystrokes are required. There are several ways to start Edit mode:

- Double-click the cell.
- Click the cell and press **F2**.
- Click the cell, and then click anywhere in the formula bar.

TABLE 1-4 Keyboard Shortcuts in Edit Mode

Key	To Do This
	Complete the edit, return to Ready mode, and move the insertion point to the next cell.
	Move the insertion point to a new line within the cell, a line break.
	Cancel the edit and restore the existing data.
	Move the insertion point to the beginning of the data.
	Move the insertion point to the end of the data.
	Delete one character to the right of the insertion point.
	Delete everything from the insertion point to the end of the line.
	Delete one character to the left of the insertion point.
or	Move the insertion point one character left or right.
	Move the insertion point one word left.
	Move the insertion point one word right.



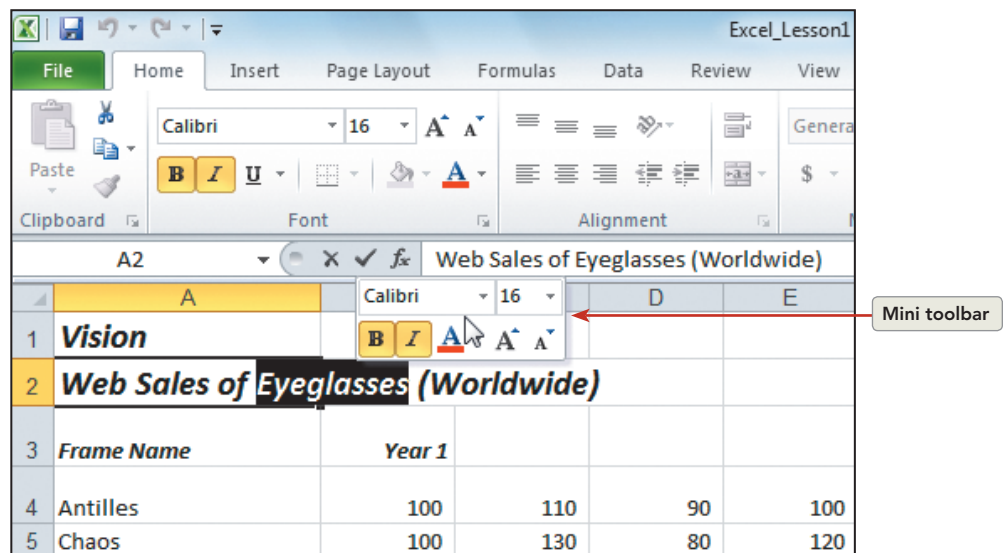
Automatic Calculation is toggled on and off on the Formulas pane of Excel Options (File command tab).

**TIP**

In Edit mode, double-clicking highlights or selects a word.

1. Click cell A2. The text in cell A2 is longer than the width of column A, and its display overlaps into columns B and C.
2. Press **[F2]**. Edit mode is shown in the status bar. An insertion point appears in the cell at the end of the text.
3. Double-click **Eyeglasses** in the cell. A *Mini toolbar* appears with buttons for font editing. This toolbar appears when text within a cell or a chart object is highlighted.
4. Point at the Mini toolbar. Its appearance brightens for easy viewing. The Mini toolbar duplicates buttons in the Font group on the Home command tab.

Figure 1-11
Using Edit mode
Excel_Lesson1.xlsx
EyeglassSales Sheet



5. Key **Frames**. It replaces the word “Eyeglasses.” The Mini toolbar has disappeared.
6. Press **[Enter]** to complete the edit. Pressing **[Enter]** does not start a new line in the cell when the worksheet is in Edit mode.
7. Double-click cell A1. This starts Edit mode, and an insertion point appears in the cell.
8. Press the **[Home]** key on the keyboard. The insertion point moves to the first position in the cell.
9. Key **AllAround** and press **[Spacebar]**.
10. Press the **[End]** key on the keyboard. The insertion point moves to the end of the text.
11. Press **[Spacebar]** and key **Care**. Press **[Enter]**.
12. Double-click cell A18. Edit mode starts.
13. Double-click **Weekly** and press **[Delete]** on the keyboard two times. The first press of the key deletes the word; the second press deletes the space.

**NOTE**


Text is usually referred to as a “label” in Excel.



14. Press **[Enter]**. The new label is “Frame Totals.”
15. Click cell A22. There is nothing in this cell.
16. Key **[Your First and Last Name]** and press **[Enter]**. If your name is longer than column A, part of its display might overlap into column B.

Exercise 1-10 CLEAR CELL CONTENTS

1


When you clear the contents of a cell, you delete the text, number, or formula in that cell. You can clear cell contents by simply pressing the Delete key on the keyboard while the cell is active. You can also click the Clear button  on the Home command tab in the Editing group.



NOTE

A green triangle in the top left corner of a cell indicates that a formula error has occurred if this error type is active at your computer. Ignore the triangles for now.

2

1. Click cell B5. Press **[Delete]** on the keyboard. The number is deleted, and Excel recalculates the formula results in cell F5. This cell is now empty, and there may be a small green triangle in the top left corner.
2. Press **[→]** to move the pointer to cell C5.
3. On the **Home** command tab in the **Editing** group, click the Clear button .
4. Choose **Clear Contents**. The value is deleted, and formula is recalculated.


Exercise 1-11 USE UNDO AND REDO

The Undo command reverses the last action you performed in the worksheet. For example, if you delete the contents of a cell, the Undo command restores what you deleted. The Redo command reverses the action of the Undo command. It “undoes” your Undo. These commands enable you to try a value or a format and then change your mind.

To use the Undo command, you can:

- Click the Undo button  on the Quick Access Toolbar.
- Press **[Ctrl]+[Z]** or **[Alt]+[Backspace]**.

To use the Redo command, you can:



- Click the Redo button  on the Quick Access Toolbar.
- Press **[Ctrl]+[Y]** or **[F4]**.



NOTE

The ScreenTip for the Undo button includes the most recent task, such as Undo Clear.

Excel keeps a history or list of your editing commands, and you can undo several at once.

1. Click the Undo button . The number in cell C5 is restored.
2. Click the Redo button . The number is cleared again.
3. Click cell A8 and key **Moonlight**. Press **[Enter]**.

1

Error indicators display if the option to show formulas that refer to empty cells has been selected (File command tab, Options, Formulas, Error checking rules).

2

Students may notice that an empty cell does not show the dash that they saw earlier for a zero. Explain that zero and empty are not the same.


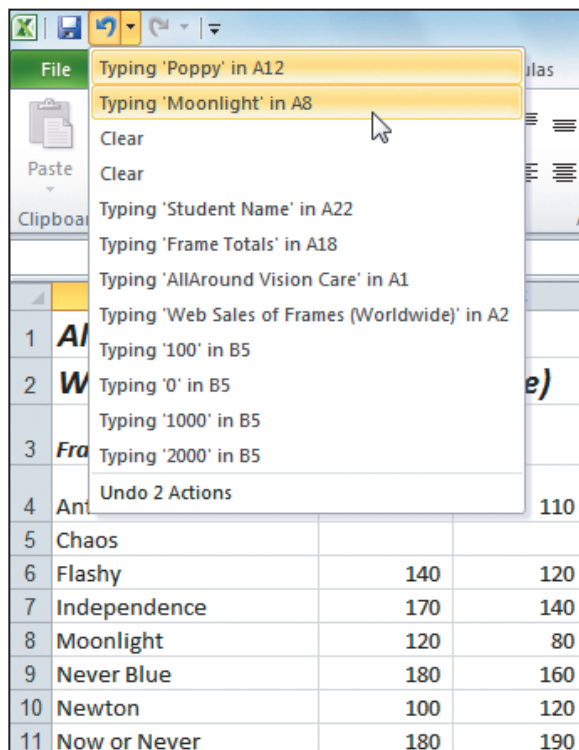


4. In cell A12 key **Poppy** and press **[Enter]**.
5. Click the arrow next to the Undo button  to display the history list.
6. Move the mouse to highlight the top two actions and click. The last two changes are undone, and the original frame names are restored.

Figure 1-12
Undoing multiple
edits
Excel_Lesson1.xlsx
EyeglassSales Sheet



NOTE

Depending on the actions that have been undone and redone on your computer, your list might be different from the one shown in Figure 1-11.

7. Click the Redo button . The first action is restored.
8. Click the Redo button  again. The revised names are back.

Exercise 1-12 FILL A LABEL SERIES

A *series* is a list of labels (text), values (numbers), dates, or times that follows a pattern. An example of a label series for this worksheet is “Year 1, Year 2, Year 3, and Year 4” in row 3. Excel can complete many series automatically which speeds data entry. Some series are recognized by your keying one of the items; others require that you key at least two of the items.

The *Fill handle* is the easiest way to fill a series. The Fill handle is a tiny square at the lower right corner of a selected cell. Depending on the cell contents, the Fill handle can fill or copy data.



**TIP**

If you drag too far when filling a series, drag back to the desired ending point.



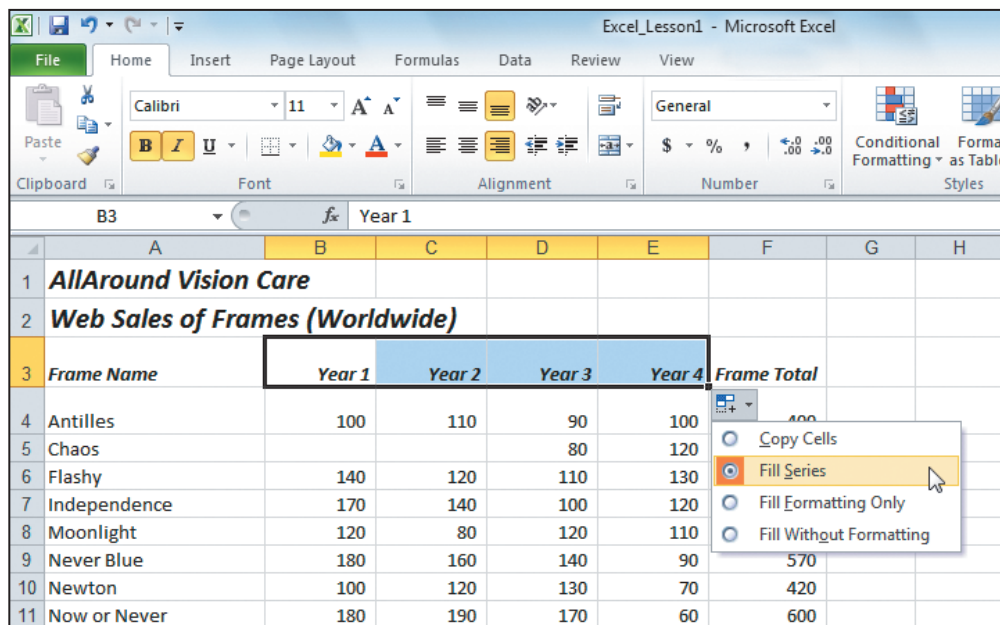
1. Click cell B3. This label is correct and is the first in a series that should end with “Year 4” in cell E3.
2. Rest the mouse pointer on the Fill handle for cell B3. The Fill handle is active when the pointer changes to a black cross.
3. Click the Fill handle, and drag right across cells C3 and D3 to reach cell E3. The labels are completed, and the AutoFill Options button  appears next to the cell E3.
4. Rest the mouse pointer on the AutoFill Options button . Click its arrow. The options depend on the type of data and whether you gave the Fill command using the handle or the Ribbon. In this case, you just want to fill a series.

Figure 1-13
Filling a label series
Excel_Lesson1.xlsx
Eyeglass Sheet

The screenshot shows the Excel interface with the 'Excel_Lesson1 - Microsoft Excel' window. The ribbon is set to 'Home'. The active cell is B3, containing the text 'Year 1'. The formula bar shows 'Year 1'. The worksheet is titled 'Eyeglass Sheet'. The data is as follows:

	A	B	C	D	E	F	G	H
1	AllAround Vision Care							
2	Web Sales of Frames (Worldwide)							
3	Frame Name	Year 1	Year 2	Year 3	Year 4	Frame Total		
4	Antilles	100	110	90	100			
5	Chaos			80	120			
6	Flashy	140	120	110	130			
7	Independence	170	140	100	120			
8	Moonlight	120	80	120	110			
9	Never Blue	180	160	140	90	570		
10	Newton	100	120	130	70	420		
11	Now or Never	180	190	170	60	600		

The AutoFill Options menu is open, showing the following options:

- Copy Cells
- Fill Series** (selected)
- Fill Formatting Only
- Fill Without Formatting

5. Press **[Esc]** on the keyboard. The option menu is closed, and no changes are made.
6. Press **[Ctrl] + [Home]**.

OBJECTIVE 3

Working with Columns and Rows


In a new workbook, columns are 8.43 spaces (64 pixels) wide, usually not wide enough to accommodate a long name or large number. If the column on the right of a cell is empty, a label (text) wider than 8.43 spaces spills into it so that you can see the entire label or name on screen. If the column on the right is not empty, the label is truncated or cut off so that you only see part of it. If a number is too long or wide for a cell, the cell displays a series of number symbols (####). In either situation, you can widen the column so that the data are visible.

Rows in a new workbook are 15 points (20 pixels) high to fit the default 11-point Calibri font. Font size is measured in points; a *point* is 1/72 inch. If



you format labels or values with larger font sizes, the row may not be tall enough. Generally, Excel resizes the row height if you use a larger font, but you can size it manually too.

Resizing column widths and row heights is a formatting method to increase readability. Here are the ways you can resize column widths and row heights:

- Drag a column or row border to a different size.
- Double-click a column's right border to autofit the column. *Autofit* means the column is widened to fit the longest entry in the column.
- Double-click a row's bottom border to autofit the row height. A row is autofitted to fit the largest font size currently used in the row.
- On the Home tab in the Cells group, click the Format button  and then choose **Row Height** or **Column Width**.

When you use the mouse to change the row height or column width, you will see the size in a ScreenTip. For rows, the height is shown in points (as it is for fonts) as well as in pixels. For columns, the width is shown in character spaces and in pixels. A *pixel* is a screen dot, a single point of color on the screen. A *character space* is the average width of a numeric character in the standard font used in the worksheet.

If you use Ribbon commands to change the column width or row height, you must key the entry by using points for row height or character spaces for column width.

Exercise 1-13 **MODIFY ROW HEIGHT**

1

As you adjust the row height and column width in these exercises, use settings as close as possible to the values shown in the step.

1. Place the pointer on the horizontal border between the headings for rows 4 and 5. The pointer turns into a two-headed, solid black arrow.
2. Drag up until the ScreenTip shows **15.00 (20 pixels)** and release the mouse button.

Figure 1-14
Resizing rows




	A	B	C	D
1	AllAround Vision Care			
2	Web Sales of Frames (Worldwide)			
3	Frame Name	Year 1	Year 2	Year 3
4	Antilles	100	110	90
5	Chaos			80
6	Flashy	140	120	110
7	Independence	170	140	100
8	Moonlight	120	80	120
9	Never Blue	180	160	140
10				

1

Demonstrate selecting two rows and then setting the row height.



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- Click anywhere in row 18.
- In the **Cells** group, click the Format button  and choose **Row Height**. The Row Height dialog box opens.
- Key **15** and press **[Enter]**. The row is 15 points (20 pixels) high.

Exercise 1-14 MODIFY COLUMN WIDTH

1



TIP


Be careful about autofitting columns that include titles in rows 1 or 2. Excel will autofit a column to accommodate long labels.

- Place the pointer on the vertical border between the column headings for columns A and B. The pointer changes to a two-headed arrow with a wide vertical bar.
- Drag the sizing pointer to the left until the ScreenTip shows **17.86 (130 pixels)**, and release the mouse button.
- Place the pointer between the column headings for columns A and B. Double-click. Excel autofits column A to fit the longest label in the column in cell A2.
- Place the pointer on the vertical border between the column headings for columns A and B. Drag the sizing pointer to set **17.86 (130 pixels)**.
- Double-click the border between the column headings for columns B and C. Excel autofits column B.
- Click anywhere in column C.



NOTE



If you change data in a column that you've autofitted, the column does not automatically autofit for the new entry.

- In the **Cells** group, click the Format button  and then choose **Column Width**. The Column Width dialog box opens.
- Key **10** and press **[Enter]**. The column width is changed to 10 spaces (75 pixels).

Exercise 1-15 INSERT ROWS

In the worksheet you are editing, the eyeglass frame names are in alphabetical order. If the company acquires a new frame named “Beacon,” it should be positioned at row 5 between “Antilles” and “Chaos.” To make this update, you simply insert a row at that location.

Inserted or deleted rows and columns extend across or down the entire worksheet. If you have used different parts of the worksheet (columns A to F and columns AA to FF), you could interrupt data elsewhere on the sheet (which you may not see) when adding or deleting rows or columns.

- Right-click cell A13 and choose **Insert**. The Insert dialog box opens.
- Choose **Entire row** and click **OK**. A new row is inserted, and the existing rows shift down. The new row spans the worksheet, and the Insert Options button  appears.
- Rest the mouse pointer on the Insert Options button . Click its arrow. The options depend on what has been inserted.

1

Discuss points and pixels. One inch equals 72 points. Typically, 96 pixels equals one inch.

- Press **[Esc]** on the keyboard. The option menu is closed, and the new row uses the same format as the row above it.
- Click the row heading for row 15. The entire row is selected.
- With the black right arrow pointer, drag to select the row headings for rows 15 through 17. Three rows are selected or highlighted.
- Right-click any of the selected row headings. The Mini toolbar and a shortcut menu opens.
- Choose **Insert**. Three rows are inserted, because you selected three rows before giving the Insert command.

Figure 1-15
Inserting three rows
at once
Eyeglass_Sheet.xlsx
EyeglassSales Sheet



	A	B	C	D	E	F
1	AllAround Vision Care					
2	Web Sales of Frames (Worldwide)					
3		Year 1	Year 2	Year 3	Year 4	Frame Total
4		100	110	90	100	400
5				80	120	200
6		140	120	110	130	500
7		170	140	100	120	530
8		120	80	120	110	430
9		180	160	140	90	570
10		100	120	130	70	420
11		180	190	170	60	600
12		200	180	160	100	640
13						
14		210	170	150	120	650
15		190	150	120	140	600
16	Vermont	170	140	140	130	580
17				180	120	580
18				120	110	460
19						
20						

Exercise 1-16 DELETE ROWS

Data below deleted rows shift up in the worksheet.

- Click cell A13 and press **[Ctrl]+[-]**. The Delete dialog box opens.
- Choose **Entire row** and click **OK**. The row is deleted.
- Click the row heading for row 14. Drag to select the row headings for rows 14, 15, and 16.
- Right-click one of the selected row headings. Choose **Delete**. Three rows are deleted.



NOTE

You can use the **[-]** in the numeric keypad or in the top row of keys to delete cells.



Exercise 1-17 INSERT A COLUMN

When you insert a column, it extends from row 1 to row 1,048,576. If you insert a column in a location that affects an existing formula, Excel may update the formula depending on how it was created.

1. Click cell F4. The cells in column F include a formula that sums or adds the contents of cells B4 through E4. The formula does not specifically refer to each cell but identifies a group of cells (B4:E4), meaning those two cells and everything between them.
2. Right-click the column F heading. The column is selected and the shortcut menu opens. The Mini toolbar appears, too.



NOTE

When you choose **Insert** or **Delete** from the shortcut menu, the dialog box does not open.

3. Choose **Insert**. One column is inserted, and what was column F is now column G.

4. Click cell G4. The formula still sums the contents of cells B4 to E4. However, if you key a value in column F, the formula will update to include it.

5. Click cell F4. Key **100** and press **Enter**. The formula in cell G4 now sums cells B4 to F4.

6. Delete the contents of cell F4. The formula recalculates.

7. Click cell F3. Key **4-Year** and press **Alt+Enter**. This inserts a *line break* within the cell which places the next word on a new line.



8. Key **Average** and press **Enter**. Excel copies the format from the columns that precede the new column.

9. Click cell F3. In the formula bar, you initially see only the first line of the entry.



TIP

If you place the pointer in cell A1 when you save a workbook, cell A1 is the active cell the next time you open the workbook.

10. Click the Expand Formula Bar button . The formula bar is taller so that you can see more than one line of the entry.

11. Double-click the border between the column headings for columns F and G to autofit the column.

12. Press **Ctrl+Home** to place the pointer in cell A1.

OBJECTIVE 4

Saving Workbook Files

When you create a new workbook or make changes to an existing one, you must save the workbook to keep your changes. Until you save your changes, your work can be lost if there is a power failure or a computer problem.



The Extend Data Range Formats and Formulas option applies the same format and/or copies a formula. The cell must be preceded by three rows or columns with the same format or formula. This option is in the Excel Options dialog box on the Advanced pane.

Objective 4 Assignment: Exercise 1-30 (Skills Review) can be assigned after completing Objective 4.

To save a new workbook, give it a file name. A *file name* is what you see in the Information pane in Backstage view, in the Recent Workbooks list, in the Open dialog box, in Computer, or in Windows Explorer. You can use up to 255 characters in a file name. Included in those 255 characters are the drive and folder names, so the actual file name is limited to fewer than 255 characters. Generally, it is a good idea to keep file names as short and descriptive as possible. However, some companies develop a naming convention for all documents. This might include a department name, a client name, and/or the date. AllAround Vision Care, for example, might name all workbooks like this: **AA_Boston_SalesOrders**, indicating company initials, the city, and the topic.

You can use upper- or lowercase letters, or a combination of both, for file names. Windows is case-aware, which means it does recognize upper- and lowercase that you key. However, it is not case-sensitive, so it does not distinguish between “BOOK1” and “book1.” You can use spaces in a file name, but you cannot use the following characters: \ ? : * “ < > |

File names are followed by a period and a three- or four-letter extension, supplied automatically by the software. Excel 2010 workbooks have the extension “.xlsx.” Extensions identify the type of file.

For a new workbook, you can use either the Save or the Save As command. If you make changes to a workbook and want to save it with the same file name, use Save. If you want to save a workbook with a different file name and preserve the original, use Save As.

Excel saves workbooks in the current drive or folder unless you specify a different location. A *folder* is a named location on a disk, network, or other media. You can navigate to any folder in the Save dialog box.

The exercises in this book use a naming convention. The main workbook for the lesson is named **Excel_LessonN**. The Skills Review exercises are named **Excel_SRN-n** in which *N* is the lesson number and *n* is the exercise number. Lesson Applications follow the form **Excel_LAN-n**.

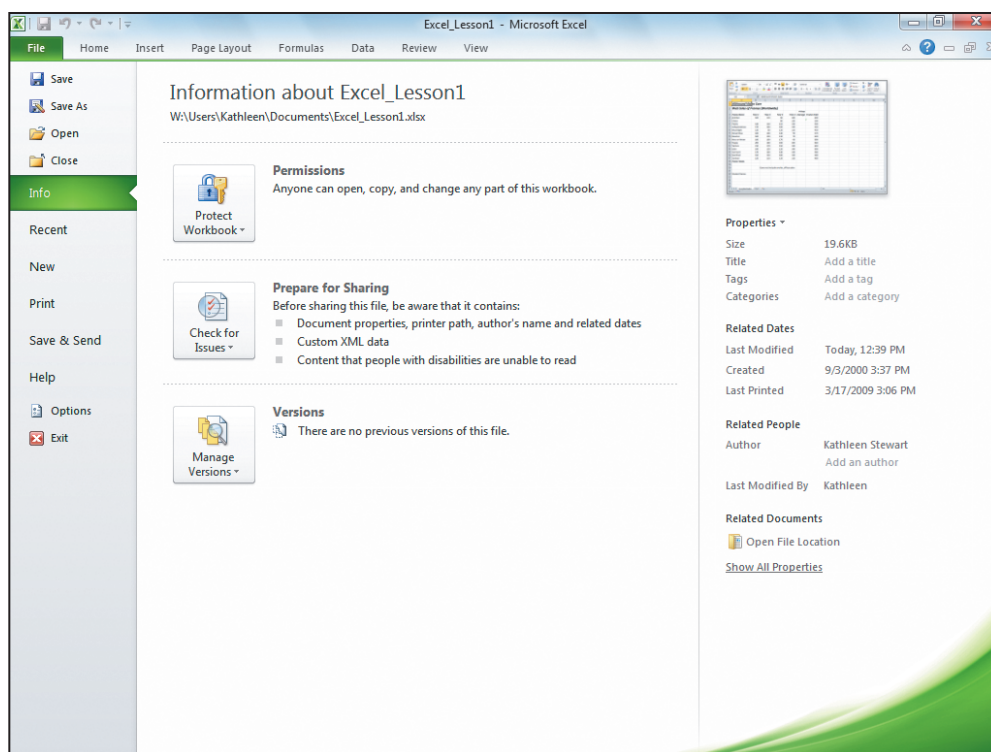
The exercise instructions will suggest a similar naming convention for saving your work. These names consist of two parts:

- **[your initials]**, which might be your initials, such as **kms**, or an identifier that your instructor provides
- The number of the exercise, such as **1-18** or **Lesson1-18**

Exercise 1-18 USE THE SAVE AS COMMAND

1. Click the **File** command tab. Backstage view displays more information about this workbook than a blank one. You can see the location from which you opened the file, the author, size, and dates.

Figure 1-16
Backstage view for
existing workbook
Excel_Lesson1.xlsx
Eyeglass Sheet



1

2. Choose **Save As** in the Navigation pane. The Save As dialog box opens. This will allow you to save **Excel_Lesson1** with a new file name in a lesson folder.

2

3. Navigate to and create or choose the drive and folder location for your work.
4. In the **File name** box, make sure the file name **Excel_Lesson1** is highlighted or selected. If it is not highlighted, click to select it.



NOTE

Excel_Lesson1 may be a read-only file if you opened it from a protected or restricted location. You cannot save such a file with its existing file name.

5. Key **[your initials]1-18** and click **Save**. The dialog box closes, and your new file name appears in the title bar.
6. Click the **File** command tab. The new file name and location are now shown.
7. Click the **Home** command tab.



NOTE

Excel automatically assigns the **.xlsx** extension to files you save, but your computer may not be set to display file name extensions in Computer and Explorer windows.



1


2

OBJECTIVE 5


Printing Excel Files

Printed output remains a commonly used method of distributing work, so it is necessary to know what options are available for printing worksheets. Backstage view for printing has Quick commands for choosing the printer, setting margins, and specifying what should be printed.

You can use any of these methods to print a worksheet or a chart sheet:

- Click the **File** command tab and choose **Print**.
- Press **Ctrl+P**.
- Click the Quick Print button  on the Quick Access Toolbar.





1

The Quick Print button , if it is on the Quick Access Toolbar, sends the active sheet to the printer with your default print settings. The other methods open Backstage view for printing where you can set printing options.

Exercise 1-19 USE BACKSTAGE VIEW FOR PRINTING

Most Excel users work in Normal view, a view that is optimized for working on the screen. Because there are often differences in how you perceive things on the screen versus how it looks printed, Backstage view provides a preview of the printed page. For example, it may look like the data fit on a single page on the screen, but when printed, it requires two pages.

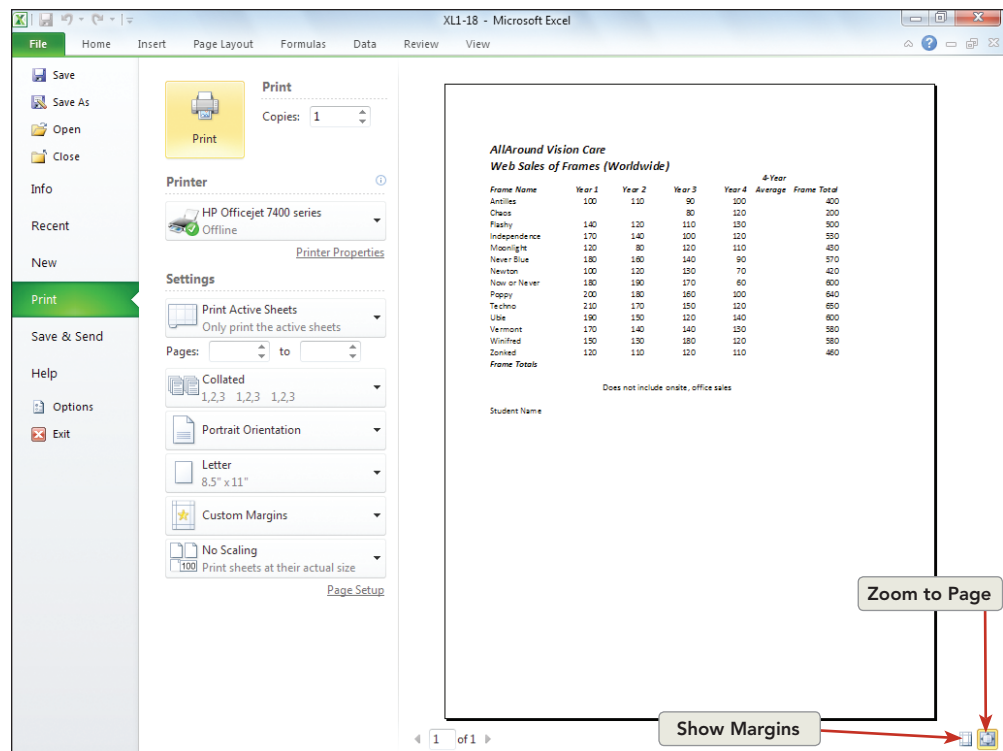
Page Layout view displays your worksheet with margin and header-footer areas visible. This can give you a better idea of the overall layout of the data on a printed page. You can edit your work in Page Layout view just as in Normal view. Backstage view also shows your worksheet as it will print in a normal or reduced view, but you cannot make data changes in this view.



1. In the status bar, click the Page Layout view button . The page shows margin areas and the horizontal and vertical rulers.
2. Click the Zoom Out button  in the status bar. The worksheet is reduced to 90% magnification.
3. Click the Zoom Out button  to reach 50% magnification. Unused pages appear grayed out.
4. Click **50%** in the status bar. Choose **100%** and click **OK**.
5. Click the Normal button  in the status bar.
6. Click the **File** command tab and choose **Print**. Backstage view includes a preview of the current sheet as well as basic printing commands and choices. The worksheet is shown in a reduced size so that you can see the entire page. Note that there are no gridlines or borders; the grid that appears in Normal and Page Layout view does not print by default. Column and row headings do not print either.

1

You may want to show students how to add the Quick Print button to the Quick Access Toolbar. Click the Customize Quick Access Toolbar arrow and choose Quick Print.

Figure 1-17
Worksheet in
Backstage view for
printing
1-18.xlsx
EyeglassSales Sheet



7. Click the Zoom to Page button . The worksheet is shown close to actual print size. Scroll bars appear too, so that you can view different areas of the worksheet.
8. Click the Zoom to Page button  to return to a reduced view.
9. Click the **Home** command tab.
10. Click the **Chart** sheet tab. Click the **File** command tab and choose **Print**. Charts usually are set to print in landscape orientation.
11. Click the **Home** command tab.

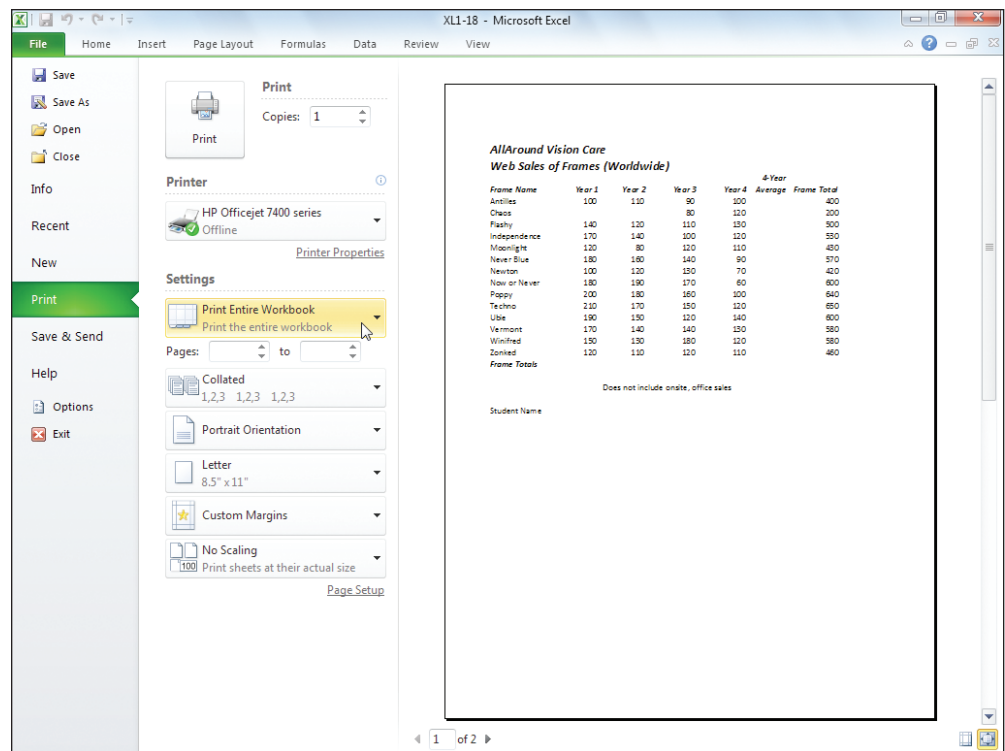
Exercise 1-20 PRINT A WORKBOOK

By default, Excel prints the active sheet. You can print all sheets in a workbook with one command from the Print dialog box. Make sure that you have access to a printer that is ready.

1. Click the **Eyeglass Sales** worksheet tab.
2. Press **[Ctrl]+[P]**. This is the keyboard shortcut to open Backstage view. Your default print settings and the active sheet are shown.
3. In the **Settings** group, click **Print Active Sheets**. Choose **Print Entire Workbook**. The reduced size shows the first page, the **EyeglassSales** sheet. Below the thumbnail image, you can see that this is page “1 of 2.”



Figure 1-18
Changing print
settings in Backstage
view
1-18.xlsx
EyeglassSales Sheet



- Click the Next Page button . This is the second sheet, the **Chart** sheet. It is set to print in landscape orientation.
- Click the Previous Page button to return to the worksheet.
- Click the Print button . Both sheets are sent to the printer and Backstage view closes.

OBJECTIVE 6

Getting Acquainted with Excel Functions

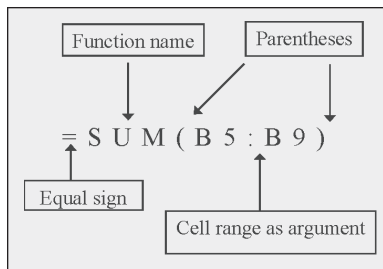
Formulas and functions are a primary reason for using Excel, and it is essential that you start learning how easy they are to master. Although there are some subtle differences between a formula and a function, many people use the words interchangeably.

The AllAround Vision Care worksheet you are using has a formula in column G that adds the values in each of the cells indicated in the formula. A *formula* is an equation that performs a calculation. You enter a formula in a cell at a location when some arithmetic is required. When you press **Enter**, the results are displayed in the cell. A *function* is a built-in Excel formula. These built-in formulas cover many categories of commonly used mathematical, statistical, financial, and scientific operations.

An Excel function has *syntax*, which defines the necessary parts of the formula and the order of those parts. The syntax consists of an equal sign and the name of the function, followed by parentheses. Inside the parentheses, you place arguments. An *argument* is the information the function needs to complete its calculation, usually one or more values or cell addresses. Many functions use a cell range as an argument, a group of cells with a single address. A cell-range address includes the first cell, a colon, and the last cell.



Figure 1-19
Syntax for the SUM
function



Exercise 1-21 USE SUM

The SUM function adds columns or rows of values. Because it is so commonly used in business and personal calculations, there is a SUM button on the Home command tab as well as on the Formulas command tab.



TIP

If the assumed range is incorrect, just click and drag the correct cells.

1. Click cell B5 and key **120**. In cell C5, key **130**.
2. Click cell B18. The SUM function in this cell will add the values from cells B4 to B17.
3. On the **Home** command tab in the **Editing** group, click the SUM button . Excel inserts the function in the cell and automatically highlights the assumed range.

Figure 1-20
Using SUM
1-18.xlsx
EyeglassSales Sheet

	A	B	C	D
1	AllAround Vision Care			
2	Web Sales of Frames (Worldwide)			
3	Frame Name	Year 1	Year 2	Year 3
4	Antilles	100	110	90
5	Chaos	120	130	80
6	Flashy	140	120	110
7	Independence	170	140	100
8	Moonlight	120	80	120
9	Never Blue	180	160	140
10	Newton	100	120	130
11	Now or Never	180	190	170
12	Poppy	200	180	160
13	Techno	210	170	150
14	Ubie	190	150	120
15	Vermont	170	140	140
16	Winifred	150	130	180
17	Zonked	120	110	120
18	Frame Totals	=SUM(B4:B17)		
19				
20				

Formula bar: SUM(number1, [number2], ...)



Does not include onsite,



- Press **[Enter]**. The results are calculated as 2,150.
- Click cell B18. The formula bar shows the formula, and the cell displays the results.

Exercise 1-22 COPY A FUNCTION

When a cell contains a function or a formula, the Fill handle acts as a copy tool. It copies the formula across the dragged range, adjusting the cell references as needed. The SUM function in cell B18, when copied to column C, should be =SUM(C4:C17). This concept is known as *relative reference*. It means that, when copying a formula, Excel knows to change it to reflect the row and/or column in which the copy is located.

- Click cell B18, and rest the mouse point on the Fill handle.
- Click and drag the Fill handle right to cell E18. The formulas are copied, and the AutoFill Options button  appears next to the cell E18.
- Rest the mouse pointer on the AutoFill Options button . Click its arrow. The options are slightly different from those for a Fill command.
- Press **[Esc]**.
- Click cell D18. Look at the formula bar to see that the cell references are relative to where this copy is located.

Exercise 1-23 USE AVERAGE AND EDIT A FUNCTION

AVERAGE adds values and divides by the number of values. It is a widely used calculation and is an option next to the SUM button. In your worksheet, you can calculate an average yearly sales number for each eyeglass frame.


- Click cell F4. The AVERAGE function will add the values from cells B4 to E4 and then divide the result by 4.
- Click the arrow next to the SUM button  and choose **Average**. Excel inserts the function and highlights the assumed range.

Figure 1-21
Using AVERAGE
1-18.xlsx
EyeglassSales Sheet

SUM				=AVERAGE(B4:E4)				
	A	B	C	D	E	F	G	H
1	AllAround Vision Care							
2	Web Sales of Frames (Worldwide)							
3	Frame Name	Year 1	Year 2	Year 3	Year 4	4-Year Average	Frame Total	
4	Antilles	100	110	90	100	=AVERAGE(B4:E4)		
5	Chaos	120	130	80	120	AVERAGE(number1, [number2], ...)	500	
6	Flashy	140	120	110	130			
7	Independence	170	140	100	120		530	

- Press **[Ctrl]+[Enter]**. The result is 100, and the insertion point stays in cell F4.
- Rest the mouse point on the Fill handle for cell F4.
- Click and drag the Fill handle down to cell F18. The formulas are copied.

6. Click cell F10. The formula was adjusted during copying to show the correct row.
7. Click cell G4. Excel has updated this formula to include the inserted column (from Exercise 1-17). The average, however, should not be included in this sum.
8. Press **[F2]**. The function appears in the cell and in the formula bar. The cells are highlighted, too.
9. In the cell, edit the formula to show **e4** in place of “F4.” Press **[Enter]**. The other formulas in this column are unchanged, because you never keyed values in column F for rows 5 through 17.
10. Click cell G18. Click the SUM button **[Σ]** and press **[Enter]**. The results are calculated as 7,410.
11. Click the Collapse Formula Bar button **[^]**. More screen space is available for the rows.

**NOTE**

There is a green error triangle in cell F18, because Excel notes that this formula is different from others in the row. The function is correct, so ignore the triangle for now.

OBJECTIVE 7

Using Alignment, Borders, and Fill

There are many elements of formatting a worksheet including cell alignment, borders, and fill (shading). As you key data in a cell, it is formatted as *General*. This style or format displays a label so that it is aligned at the left of the cell. It formats a value so that it is right-aligned in the cell and displays any decimal numbers that you key. The General format does not usually contribute to the best readability of your work, so you will likely choose more appealing formats.

Cell alignment establishes how the contents of a cell are positioned in the cell. Cell contents can be aligned horizontally and vertically.

TABLE 1-5 Horizontal Alignment Options

Setting	Result
General	Aligns numbers and dates on the right, text on the left, and centers error and logical values.
Left (Indent)	Aligns cell contents on the left of the cell indented by the number of spaces entered in the Indent box.
Center	Aligns contents in the middle of the cell.
Right (Indent)	Aligns cell contents on the right side of the cell indented by the number of spaces entered in the Indent box.
Fill	Repeats the cell contents until the cell's width is filled.
Justify	Spreads text to the left and right edges of the cell. This works only for wrapped text that is more than one line.
Center across selection	Places text in the middle of a selected range of columns.
Distributed (Indent)	Positions text an equal distance from the left and right edges including the number of spaces entered in the Indent box.

Objective 7 Assignment:




Exercises 1-32 (Skills Review); 1-34, 1-35, and 1-37 (Lesson Applications); and 1-39 and 1-40 (On Your Own) can be assigned after completing Objective 7.

If a label (or text) is too wide for a cell, it generally spills into the cell to the right if that cell is empty and if the label is left-aligned. If the adjacent cell is not empty, the label is partially visible in the cell but completely visible in the formula bar.

Exercise 1-24 CHANGE HORIZONTAL ALIGNMENT



The Alignment group on the Home command tab contains three horizontal alignment buttons: the Align Text Left button, the Center button, and the Align Text Right button.

1. Click cell A3. This label is left-aligned, the default for text.
2. Click the Center button  in the **Alignment** group on the **Home** command tab. The label is centered within the cell.
3. Click cell A18. Click the Align Text Right button . This label is emphasized by right alignment and stands out from the other left-aligned data in the column.
4. Click cell B3 and then cell C3. These labels are right-aligned to balance with the right-aligned values below them.
5. Click cell G3. This label is centered. You can determine that by noting which button is active in the Alignment group.
6. Click the Align Text Right button .
7. Click cell A1. This label is left-aligned as is the label in cell A2.
8. With the white cross pointer, click cell A1 and drag right and then down to reach cell G2. Cells A1:G2 represent the selection. This range or group of cells includes the labels to be centered and identifies the width over which they should be centered.
9. Click the Dialog Box Launcher in the **Alignment** group. The Format Cells dialog box opens to the Alignment tab.
10. Click the arrow for the **Horizontal** box to display the options.
11. Choose **Center Across Selection** and then click **OK** (see Figure 1-22).



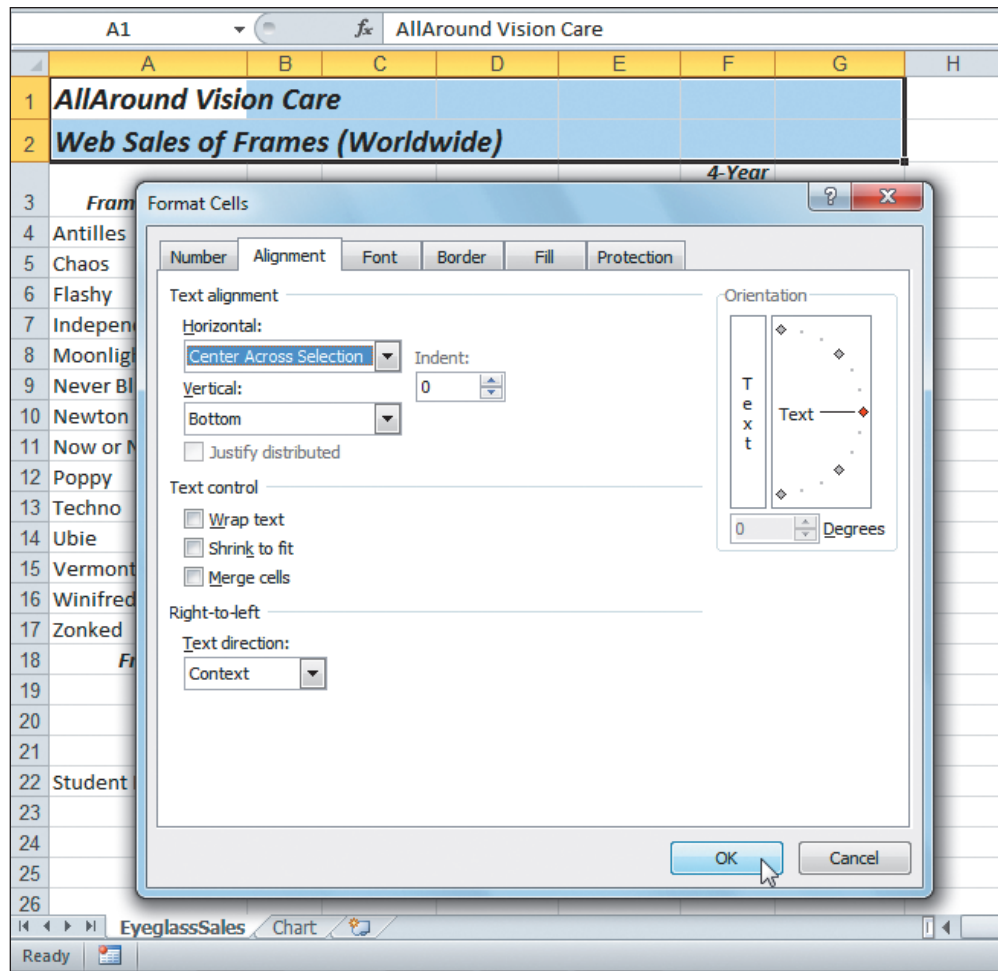
NOTE

If you have difficulty selecting the range, click any cell and try again.



Cell alignment also depends on the width and height of the cell. For example, if a cell is set for vertical centering but the row height is not high enough, the centering effect may not be apparent.

Figure 1-22
Centering across a
selection
1-18.xlsx
EyeglassSales Sheet




Exercise 1-25 APPLY BORDERS

A *border* is a line around a cell or a range of cells. You can use borders to draw attention to a part of a worksheet, to show totals, or to group information in your worksheet. Borders are also used to display a grid on the printed page, making it easier for a reader to follow the data from left to right. Although your worksheet has gridlines on the screen, these do not automatically print. They can be printed, but you can build more eye-appealing borders.

Cells share borders, so adding a border to the bottom of cell A1 has the same effect as adding a border to the top of cell A2.

You should first select the cell(s) to which the border is to be applied. Excel provides two methods to apply a border to a cell or a range of cells:

- Use the Borders button  in the Font group.
- Use the Format Cells dialog box.
 1. Click cell A4 and press **[F8]**. This starts Extend Selection mode, indicated in the status bar.
 2. Press **[→]** 6 times to highlight up to column G.

- Press **↓** 13 times to reach row 17. Cells A4:G17 will be formatted with the border you design.

**TIP**

Inside borders are applied to multiple cells, not to a single cell.

- Click the Dialog Box Launcher for the **Font** group. Click the **Border** tab. When setting a border, set the **Style**, then the **Color**, and finally the location.

- In the **Style** box, choose a dotted line (first column, first choice below **None**).

- Click the arrow for the **Color** box. Note that Automatic, which is black, is the current color.

- Press **[Esc]** to remove the color palette.

- Click **Outline**. The Border buttons around the preview show the top, bottom, and left and right side borders active in an outline border.

- Click **None** in the **Presets** group to remove the border in the preview.

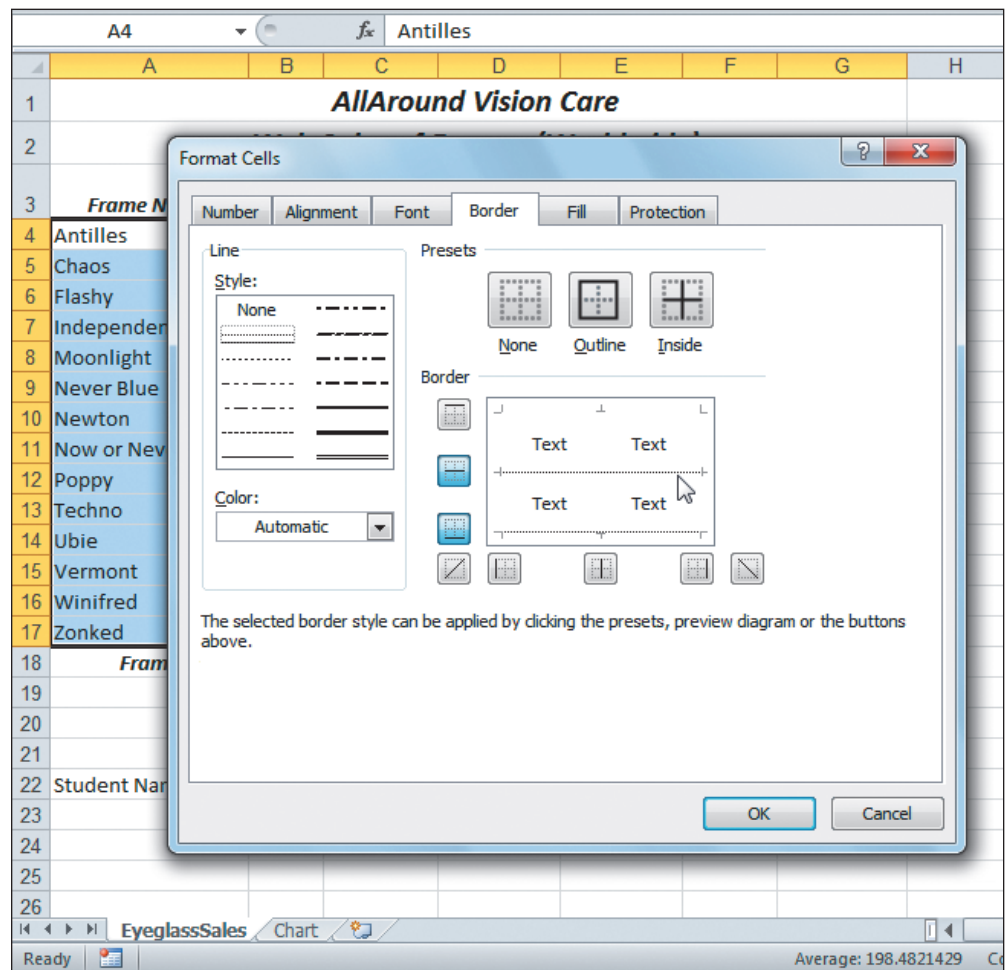
- In the **Text** preview area, click where a bottom horizontal border will be located.

- In the **Text** preview area, click where a middle horizontal border will be located.

**NOTE**

Click in the **Text** preview to turn the borders on and off.




Figure 1-23
Border tab in the
Format Cells dialog
box
1-18.xlsx
EyeglassSales Sheet



Demonstrate how to apply and remove borders by clicking in the preview area. Also tell students that they can draw borders. Encourage them to experiment with this command.







Excel Classroom
Presentation 1.

12. Click **OK**.
13. Click a cell in column H to better see the borders.
14. Click cell A3. Hold down the **Shift** key and press  6 times. This selects up to and including cell G3. Holding down the **Shift** key while pressing any arrow key works in all the Office applications for selecting data.
15. In the **Font** group on the **Home** command tab, click the arrow next to the Borders button . A gallery of border styles opens.
16. Choose **Bottom Border**. A thin solid bottom border is applied to the cell range.
17. Select cells A18:G18.
18. Click the arrow next to the Borders button . Click **Top and Double Bottom Border**.





**TIP**

Totals in accounting and financial reports are often shown with a single border above and a double border below.

19. Click an empty cell to see the border. Notice that the Borders button  shows the last-used style.
20. Click cell A3. Hold down the **Shift** key and press  6 times. Continue holding down the **Shift** key, and press  15 times to reach row 18.
21. Press **Ctrl**+**1**. Click the **Border** tab.
22. In the **Style** box, choose a single line (first column, last line).
23. Click the Middle Vertical button  below the preview box. Click **OK**.

Exercise 1-26 ADD SOLID FILL

Shading or *fill* is a background color or pattern for a cell or a range of cells. You can use fill in much the same way as a border—to group data or to add emphasis. Fill can be used to differentiate one row from the next, too. Excel provides two methods for applying fill to a cell or a range of cells:

- Use the Fill Color button  in the Font group.
 - Use the Format Cells dialog box.
1. Select cells A1:G2. In the **Font** group, click the Fill Color button . Excel applies the color shown beneath the paint bucket icon.
 2. Click in row 5 to see the fill.
 3. Click the Undo button . The fill is removed, and the cells are still selected.
 4. Click the arrow next to the Fill Color button . The color palette opens.
 5. Choose **White, Background 1, Darker 25%** in the first column.
 6. Select cells A18:G18. Press **Ctrl**+**1** and click the **Fill** tab.
 7. For the **Background Color**, choose the first color in the third row below the horizontal line that separates theme colors from the variations. Click **OK**.
 8. Press **Ctrl**+**Home**.

OBJECTIVE 8

Getting Acquainted with an Excel Chart

A *chart* uses cells in a worksheet to create a graph of the data. Your workbook for this lesson includes a 3-D bar chart that illustrates the total number of frames sold over a 4-year period. The higher the sales, the longer the bar. The chart is on a separate sheet and uses data from columns A and G in the worksheet. From a quick glance at the chart, you can identify the best and worst sellers and compare the sales of all frames to one another.

Many organizations can use an Excel chart to better illustrate and highlight data. Your school, for example, could use a chart to track enrollment patterns, illustrating how numbers go up and down from semester to semester. Your phone service provider might include a chart in your monthly statement to compare minutes used each month.

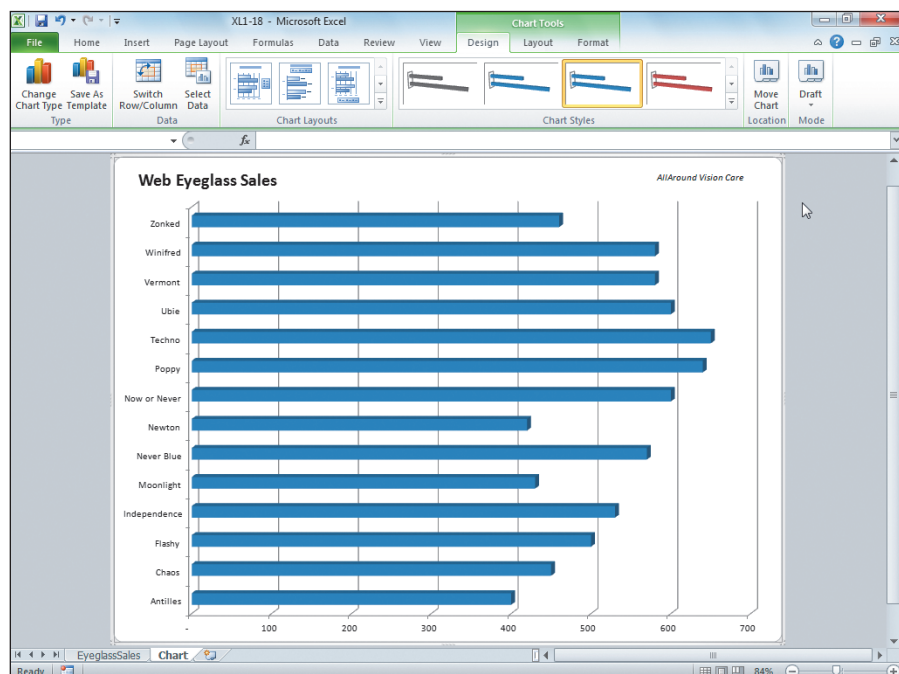
A chart is an *object*, a clickable element that you can select and edit. A chart has smaller objects within it that can also be edited.

Exercise 1-27 CHANGE THE CHART STYLE

A *chart style* is a preset selection of colors and special effects for the overall appearance of the chart. There are many chart styles available from the Chart Tools Design command tab. A style is assigned when you create the chart, but it is a simple step to apply a different design.

1. Click the **Chart** sheet tab.
2. Click in the white chart background near the top middle of the chart. The chart is selected, and the Chart Tools command tabs are available. These command tabs are *context-sensitive* because they are available only when a chart is selected.
3. Click the **Chart Tools Design** command tab. The tab includes groups with commands for building charts.

Figure 1-24
Chart Tools Design
tab
1-18.xlsx Chart
Sheet



Objective 8 Assignment:

Exercises 1-33 (Skills Review) and 1-36 (Lesson Applications) can be assigned after completing Objective 8.





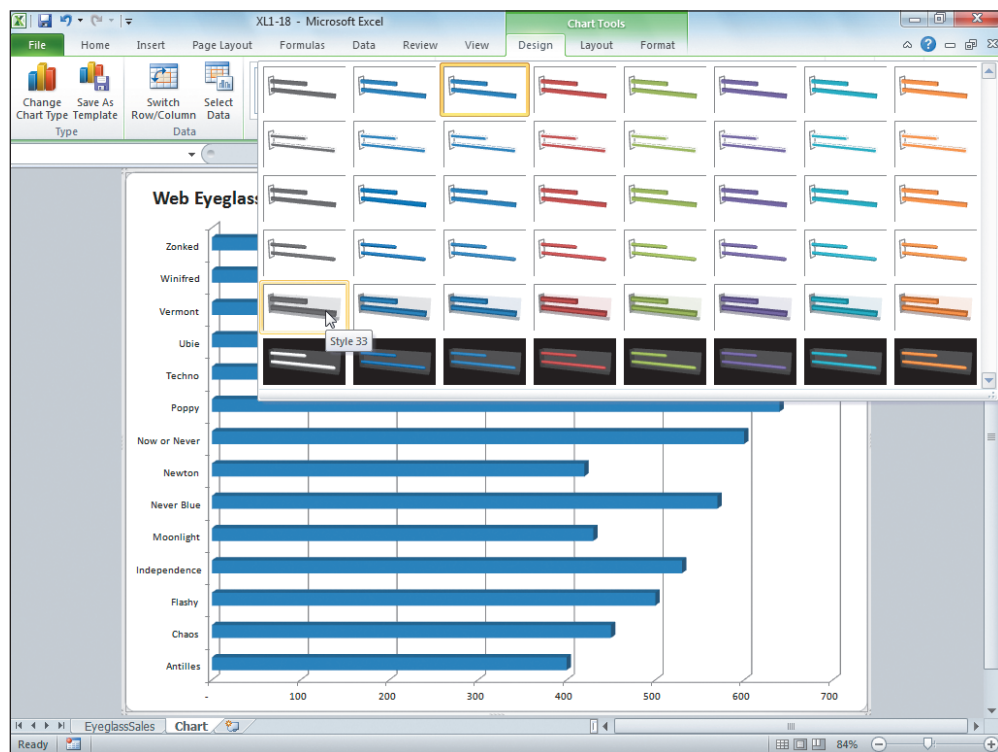
4. Click the Select Data button  in the **Data** group. The worksheet is displayed, and the data used to build the chart is highlighted by a moving marquee. The data include the labels in column A and the values in column G.
5. Click **Cancel**. The chart sheet is active.
6. Click the **Chart Tools Layout** command tab. This tab has commands for working with parts of a chart. The **Chart Area** is active and listed in the **Chart Elements** box in the **Current Selection** group.
7. Click the **Chart Tools Format** command tab. The commands available on this tab affect the style of various elements in the chart, the size, and the layering. This command tab also has a **Chart Elements** box.
8. Click the **Chart Tools Design** tab. The Chart Layouts and Chart Styles commands are located on this tab.
9. Click the More button  in the **Chart Styles** group. The Chart Styles gallery opens. A style consists of colors, shadows, bevels, and backgrounds.

Figure 1-25
Chart Styles gallery
1-18.xlsx Chart
Sheet



10. Find and click **Style 33**. The color of the bars, the background, and labels are changed.



Exercise 1-28 EDIT THE CHART TITLE AND ADD DATA LABELS


The chart has a title, “Web Eyeglass Sales” in the top left corner. This is an individual chart element or object that you can edit. The bars in the chart are plotted against the horizontal axis, which are the numbers along the bottom of the chart. In the chart, you can estimate the number of units sold but cannot determine the specific number. A *data label* is the actual value from the worksheet displayed on the chart near the bar. It is another chart element or object that can be added and edited.

1. Click the chart title. There is a solid border around the words along with its selection handles. A *selection handle* is a tiny circle or square at the corner and/or edges of a selected object to indicate it is active and ready for editing.
2. Click inside the title’s bounding box. A text insertion point and a dashed line border mean you can edit the text.
3. Click to the left of the **S** in “Sales.” Key **Frame** and press Spacebar. Click in the white chart background to deselect the title.
4. Select the title again and click the **Home** command tab. You can use basic format commands from this tab for chart objects.
5. In the **Font** group, click the **Font Size** arrow. Choose **24**.
6. Right-click any one of the bars. All the bars are selected, because they represent values from one column. This is a single data series. A shortcut menu has opened with available commands for the data series.
7. Choose **Add Data Labels**. The actual value from column G in the worksheet is displayed next to each bar.
8. Point and click one of the data labels. All of them are selected.
9. Click the **Home** command tab and change the font size to **14**.
10. Click in the blue-gray window background. The chart is deselected, and the Chart Tools command tabs are no longer visible.
11. Click the **EyeglassSales** worksheet tab. Compare your completed Excel worksheet to the handwritten version in Figure 1-1.

Exercise 1-29 SAVE A WORKBOOK AND EXIT EXCEL

You can exit Excel and close the workbook at the same time. If you give the command to exit Excel, you will see a reminder to save the workbook if you have not yet done so.

There are several ways to close a workbook and exit Excel:

- Click the File command tab and choose Exit.
 - Use the Close button  to first close the workbook and then to close Excel.
 - Use the keyboard shortcut **Alt+F4** to exit Excel.
1. Click the **File** command tab. The Info tab displays for an open workbook.

2. Choose **Save As**. You will save **[your initials]1-18** with a new file name in the lesson folder.
3. Navigate to and choose your lesson folder.
4. In the **File name** box, key **[your initials]1-29** and click **Save**. Your new file name appears in the title bar.
5. Click the **File** command tab. Choose **Exit**. Do not save changes if asked.

Using Online Help



Online Help is available at your computer and on the Microsoft Office Web site. An easy way to use Help is to key a short request in the search text box at the top of the opening Help window.

GET ACQUAINTED WITH USING HELP

1. Start Excel and click the Microsoft Office Excel Help button
2. In the search box, key **backstage view** and press **[Enter]**. Click the topic and read the information.
3. In the search box, key **protected view** and press **[Enter]**. Choose a topic and read the Help information. Close the Help window.

Lesson 1 Summary



- An Excel workbook provides functionality similar to handwritten ledger pages used to track financial information.
- Data in an Excel worksheet can be quickly edited and formatted to build a professional report.
- Excel opens with a blank workbook and the Ribbon. The File command tab provides information about the open workbook and access to Open, Print, and Save & Send commands.
- A new workbook opens with three worksheets. A worksheet is an individual page or tab in the workbook.
- Press **[Ctrl]+[PageUp]** and **[Ctrl]+[PageDown]** to move between worksheets in a workbook.
- Worksheets are divided into cells, which are the intersections of rows and columns. The location of the cell is its address (also called its cell reference).
- Move the pointer to a specific cell with the Go To command or by clicking the cell.
- The active cell is outlined with a black border. It is ready to accept new data or a formula or to be edited.










Encourage students to follow the steps in “Using Online Help” (with a blank document open). Software companies are increasingly using their Help programs—rather than paper-based documentation—to train users and assist in answering questions. Make sure all Help files are installed.



Encourage students to use the Lesson Summary to review the important concepts in this lesson.

- The Name Box shows the address of the active cell. You can also use it to change the active cell.
- If you use the scroll box or arrows to reposition the worksheet on the screen, the active cell does not change.
- The Zoom size controls how much of the worksheet you can see at once.
- Replace any entry in a cell by clicking the cell and keying new data. Edit long or complicated cell data rather than rekeying them.
- The Undo and Redo buttons have history arrows so that you can undo or redo multiple commands at once.
- Use the Fill handle to fill a series of labels or to copy a formula.
- Column widths and row heights can be changed, and columns and/or rows can be inserted or deleted.
- A workbook file has an **xlsx** file name extension.
- Preview your worksheet or the entire workbook before printing it. To preview and print all the sheets in a workbook, open Backstage view for printing and choose **Entire workbook** from the **Print What** group.
- A function is a built-in formula. Commonly used functions such as SUM and AVERAGE can be inserted from a button on the Home tab.
- Cell alignment affects how the contents are horizontally or vertically positioned within the cell.
- Fill and borders can be used to differentiate and emphasize parts of the worksheet for greater readability.
- A chart is a graphic representation of data in a worksheet.
- Charts have various elements that can be edited to change the look of the chart.




















LESSON 1		Command Summary	
Feature	Button	Ribbon Location	Keyboard
Align text right		Home, Alignment	
AutoFill options			
Average		Home, Editing	
Backstage view for printing		File, Print	Ctrl + F2
Borders		Home, Font	
Center		Home, Alignment	
Chart style		Chart Tools, Design, Chart Styles	
Clear cell contents		Home, Editing	Delete

continues



Point out that the Command Summary lists a variety of ways to accomplish a specific task. Students can decide which method they prefer to use for a specific purpose.

LESSON 1		Command Summary <i>continued</i>	
Feature	Button	Ribbon Location	Keyboard
Close window		File, Close	Ctrl + W or Ctrl + F4
Collapse formula bar			Ctrl + Shift + U
Collapse Ribbon			Ctrl + F1
Column width		Home, Cells	
Delete column or row		Home, Cells	Ctrl + -
Exit Excel		File, Exit	Alt + F4
Expand formula bar			Ctrl + Shift + U
Fill		Home, Font	
Full screen		View, Workbook Views	
Go To		Home, Editing, Find & Select	Ctrl + G or F5
Insert column or row		Home, Cells	Ctrl + +
Key Tips			Alt or F10
Line break			Alt + Enter
Normal view		View, Workbook Views	
Open workbook		File, Open	Ctrl + O
Page Layout view		View, Workbook Views	
Print		File, Print	Ctrl + P
Redo			Ctrl + Y or F4
Row height		Home, Cells	
Save as		File, Save As	F12 or Alt + F2
Sum		Home, Editing	Alt + =
Undo			Ctrl + Z or Alt + Backspace
Zoom in			
Zoom out			
Zoom size		View, Zoom	

Concepts Review

CLOSE

TEST BANK

True/False Questions

Each of the following statements is either true or false. Indicate your choice by circling T or F.

- T ☐ F 1. A worksheet contains at least one workbook.
- ☒ F 2. The Name Box shows the address of the active cell.
- T ☐ F 3. The Zoom size for a particular worksheet is permanent.
- T ☐ F 4. A chart is updated with a Refresh command after the data are edited.
- ☒ F 5. You can replace a cell's contents by clicking the cell and keying new data.
- T ☐ F 6. The default alignment for data keyed in a cell is center.
- ☒ F 7. Edit mode starts when you press **F2**.
- T ☐ F 8. The SUM function adds the values in a range and then divides by the number of values.

Short Answer Questions

Write the correct answer in the space provided.

- 1. What is the name for the cell with a heavy black border that is ready to accept new data or a formula?
The active cell
- 2. Give an example of a cell address in the first column of a worksheet.
A1, A2, A5, A26, etc.
- 3. What is the screen element that contains command tabs?
The Ribbon
- 4. Name two design or formatting features that can be used to emphasize parts of the data.
Alignment, Borders, Fill
- 5. What is the keyboard shortcut to move the pointer to cell A1?
Ctrl+Home
- 6. Name the preset arrangements of colors, backgrounds, and effects that can be applied to charts.
Chart styles

CLOSE

Concepts Review:
Allows students to check their understanding.

TEST BANK

Consider using the Test Bank to provide an additional review of lesson concepts. It may also be used as an assessment tool.

7. How do you print all three sheets in a workbook with one command?

Click **File** and choose **Print** or press **Ctrl+P**. Choose **Print entire workbook** in the **Settings** group

8. What handle can be used to copy a function?

Fill handle

Critical Thinking

Answer these questions on a separate page. There are no right or wrong answers. Support your answers with examples from your own experience, if possible.

- What types of worksheets and data are (or could be) maintained at your place of employment? What types of worksheets and data might be helpful for your personal use?
- In addition to SUM and AVERAGE, what other types of calculations might be common to business and/or personal use?

Skills Review

Exercise 1-30

Navigate in a workbook. Work with columns and rows and edit data. Save a workbook file.



NOTE

If you open a student data file from an Internet location, click **Enable Editing** to exit **Protected View**.

This workbook tracks Web-based sales of eyeglass frames and calculates average and total sales. You need to adjust the column widths and row heights and edit some of the data. Then you need to save the workbook with a new name.

- Navigate in a workbook and work with columns and rows by following these steps:
 - Click the **File** tab and choose **Open**.
 - Navigate to the drive and folder according to your instructor's directions.
 - Find **Excel_SR1-30** and double-click it.
 - Press **[Ctrl]+[PageDown]** to view the chart.
 - Click the **EyeglassSales** sheet tab.
 - Position the pointer on the vertical border between the column headings for columns A and B. Drag the pointer to make the column **17.14 (126 pixels)** spaces wide.
 - Make column B **11.43 (85 pixels)** spaces wide.
 - Click the column heading for column C. Hold down the **[Shift]** key and click the column heading for column G. Position the pointer on the vertical border between the headings for columns C and D. Drag the pointer to make the selected columns **11.43 (85 pixels)** spaces wide.

Critical Thinking:

Answers will vary based on students' preferences, observations, experiences, and research.

Skills Review:



Provides guided practice for students. Objectives are indicated for each exercise.

Exercise 1-30:

Objectives: 1–4

Required File: Excel_SR1-30

Solution File: Excel_Sol1-30 on Online Learning Center.

- i. Click anywhere in row 3. In the **Cells** group on the **Home** command tab, click the Format button . Choose **Row Height**, key **26.25**, and press **Enter**.
 - j. Make row 18 **26.25 (35 pixels)** points tall.
2. Edit data by following these steps:
 - a. Press **Ctrl**+**G**, key **d15**, and press **Enter**. Key **120** and press **Enter**.
 - b. Change cell C11 to **100**.
 - c. Press **Ctrl**+**↓** and then click cell A23. Key **[Your First and Last Name]**.
 - d. Press **Ctrl**+**Home**.
3. Save a workbook by following these steps:
 - a. Click the **File** command tab and choose **Save As**.
 - b. Navigate to your drive and folder.
 - c. Click the current file name and key **[your initials]1-30**. Click **Save**.
 - d. Click the Close Window button . Do not save the workbook if a message box appears.
4. Prepare and submit your work.

Exercise 1-31



Edit data and save a workbook. Use an Excel function. Print Excel files.

This workbook monitors how many appointment reminder messages were sent out by AllAround Vision Care offices in each of the four cities. You need to complete the labels and calculate totals.



NOTE

This worksheet has an icon set, a conditional format. The flag color depends on the value.

1. Edit data and save a workbook by following these steps:
 - a. Click the **File** command tab and choose **Open**.
 - b. Find **Excel_SR1-31** and double-click it.
 - c. Click cell A2, key **Appointment Reminders** and press **Alt**+**Enter**. Key **by Location** and press **Enter**.
 - d. Make column A **17.86 (130 pixels)** spaces wide.
 - e. Click the Fill handle for cell B3 and drag right to cell D3.
 - f. Press **F12**. Navigate to your drive and folder.
 - g. Click the file name and key **[your initials]1-31**. Click **Save**.
2. Use an Excel function by following these steps:
 - a. Click cell E4. On the **Home** command tab in the **Editing** group, click the SUM button . Press **Enter**.
 - b. Click the Fill handle for cell E4 and drag down to cell E7. Click the arrow with the AutoFill Options button  and choose **Fill Without Formatting**.

Exercise 1-31:

Objectives: 1, 2, 4, 5, 6

Required File: Excel_SR1-31

Solution File: Excel_Sol1-31 on Online Learning Center.





Icon sets are part of the conditional formatting options. Students will learn how to set them soon.











EX-46

UNIT 1 Introduction to Excel



NOTE








When you click the SUM button  for a range of cells, you need not press .

- c. Click cell B8 and press . Press  three times to select cells B8:E8.
 - d. Click the SUM button  in the **Editing** group.
 - e. Click cell A10 and key **[Your First and Last Name]**. Press .
 - f. Press +.
3. Print Excel files by following these steps:
 - a. Press +. Preview the worksheet in Backstage view.
 - b. Click the Print button .
 - c. Click the Close Window button . Click **Save** if prompted to save your file.
 4. Submit your work.

Exercise 1-32

Edit data and save a workbook. Use an Excel function. Use alignment, borders, and fill.

AllAround Vision Care cooperates with and aids a nonprofit organization called the Worldwide Campaign. This organization provides funding and/or services to various efforts across the globe. This workbook displays yearly cash contribution totals collected by AllAround Vision Care offices. You will calculate an average, edit labels, and do some reformatting.

1. Open **Excel_SR1-32**.
2. Edit data and save a workbook by following these steps:
 - a. Click cell B4 and press . Double-click “Guatemala” and key **South American**. Press .
 - b. Double-click cell B5. An en dash (–) is a special character used to separate ranges of numbers. Without changing the en dash (–), edit the dates to show 2009–2011. Press .
 - c. Click cell B8. Rest the mouse pointer on the Fill handle and drag down to cell B11.
 - d. Click cell B12, key **Averages**, and press .
 - e. Click the **File** command tab and choose **Save As**. Navigate to your folder. Click the file name, key **[your initials]1-32**, and click **Save**.
3. Use an Excel function by following these steps:
 - a. Click cell C12 and hold down the  key. Press  two times to select cells C12:E12.
 - b. Click the arrow with the SUM button  in the **Editing** group. Choose **Average**.
 - c. Click cell A16 and key **[Your First and Last Name]**.




REVIEW

The Mini toolbar appears when you select text for editing.



TIP

If you choose the wrong command, click the Undo button  and try again.

Exercise 1-32:








Objectives: 1, 2, 4, 6, 7

Required File: Excel_SR1-32

Solution File: Excel_Sol1-32 on Online Learning Center.

**NOTE**

This worksheet uses rows and columns as separators.

4. Use alignment, borders, and fill by following these steps:
 - a. Click cell C7. Hold down the **[Shift]** key and press **[→]** two times. Click the Align Text Right button  in the **Font** group.
 - b. Select cells C6:E6. Click the Dialog Box Launcher in the **Alignment** group. Click the arrow for the **Horizontal** box and choose **Center Across Selection**. Click **OK**.
 - c. Click the Borders button  in the **Font** group while cells C6:E6 are selected.
 - d. Click cell B7. Hold down the **[Shift]** key and press **[→]** three times. Continue holding down the **[Shift]** key and press **[↓]** four times.
 - e. Click the arrow with the Borders button  and choose **More Borders**. In the **Style** box, choose the dotted line (first choice below **None**). In the **Text** preview area, click where the middle horizontal border will be located. Then click where the bottom horizontal border will be located. Do not click **OK** yet.
 - f. In the **Style** list, choose the single solid line (last choice, first column). In the **Text** preview area, click where a middle vertical border will be located. Click **OK**.
 - g. Select cells C12:E12. Click the arrow with the Border button  and choose **Bottom Double Border**.
 - h. Select cells B12:E12. Click the arrow with the Border button  and choose **More Borders**. Set a solid middle vertical border.
 - i. Select cells A1:F1. Click the arrow with the Fill Color button  and choose **White, Background1, Darker 25%** in the first column.
 - j. Select cells A13:F13 and apply the same fill color.
 - k. Apply a single bottom border to cells B5:E5.
5. Press **[Ctrl]+[Home]**. Click the Close Window button  and choose **Save** to save your workbook with the same name.
6. Prepare and submit your work.

**NOTE**

You can click the buttons that surround the Border preview to locate borders too.

Exercise 1-33

Work with columns and rows. Use alignment and fill. Work with an Excel chart.

AllAround Vision Care tracks appointment reminders so that it can monitor patients' responses to calls and cards. This workbook shows how many reminders were sent by each office for the second quarter. You are to adjust some of the formatting of the worksheet and edit its corresponding chart.

1. Open **Excel_SR1-33**. Press **[F12]**. Navigate to your folder. Name the file **[your initials]1-33** and click **Save**.

Exercise 1-33:




Objectives: 2, 3, 4, 7, 8

Required File: Excel_SR1-33

Solution File: Excel_Sol1-33 on Online Learning Center.

**NOTE**

The main labels will not be clearly visible until you adjust the alignment.

2. Work with columns and rows by following these steps:
 - a. Rest the pointer on the border between the column headings for columns A and B.
 - b. Drag the pointer to the left to make column A **17.86 (130 pixels)** spaces wide.
 - c. Click the row heading for row 4 and drag down to select rows 4:7. Rest the pointer on the border between the row headings for rows 7 and 8.
 - d. Drag the pointer down to make the rows **22.50 (30 pixels)** points tall.
3. Use alignment and fill by following these steps:
 - a. Click cell A1. Hold down the **[Shift]** key and press **[→]** four times. Continue holding down the **[Shift]** key and press **[↓]** one time. Cells A1:E2 should be selected.
 - b. Click the Dialog Box Launcher in the **Alignment** group. Click the arrow for the **Horizontal** box and choose **Center Across Selection**. Click **OK**.
 - c. While cells A1:E2 are selected, click the arrow with the Fill Color button  and choose **Black, Text 1, Lighter 50%** in the second column.
 - d. Click cell A15 and key **[Your First and Last Name]**. Press **[Ctrl]+[Home]**.
4. Work with an Excel chart by following these steps:
 - a. Click the **ReminderChart** sheet tab.
 - b. Click in the white chart background. Click the **Chart Tools Design** command tab.
 - c. Click the More button  in the **Chart Styles** group. Choose **Style 41**.
 - d. Click the chart title and then click inside the bounding box. Press **[Home]**. Key **Appointment** and press **[Spacebar]**.
 - e. Click just to the left of “b” in “by” and key **Notices** and press **[Spacebar]**.
 - f. Press **[End]** and press **[Spacebar]**. Key **[Your Last Name]**. Click anywhere in the black chart background.
 - g. Right-click one of the white columns. Choose **Add Data Labels** tab. Click one of the data labels.
 - h. Click the **Home** command tab and change the font size to **12** and then click the Bold button **[B]**.
 - i. Add and format data labels for the remaining two columns. Click the blue-gray window background when finished.
5. Click the Close Window button  and save changes.
6. Prepare and submit your work.

**NOTE**

This column chart has three data series or three sets of values, one set for each month.

Lesson Applications

1

Exercise 1-34

Navigate and edit data. Work with columns and rows. Use an Excel function. Use alignment, borders, and fill.

AllAround Vision Care pays close attention to eyeglass frame sales from its office locations in addition to Web sales. You are to complete the labels for the on-site sales worksheet, add the appropriate calculations, and build the sheet into a professional-looking report.



NOTE

If you open a student data file from an Internet location, click Enable Editing to exit Protected View.

1. Open **Excel_LA1-34**. Save the workbook as *[your initials]1-34* in your folder.
2. Edit cell A2 to show “On-Site Sales of Frames (Domestic).” Delete the label in cell C20.
3. In cell B3, key **Year 1**. Fill the rest of this label series.
4. Center the labels in cells A1:A2 across a selection that includes column F.
5. Delete the formulas in cells F4:F17. Then use AVERAGE in cells F4:F17. Use SUM in cells B18:E18. Cell F18 should be blank.
6. Select columns B:F and make them **12.14 (90 pixels)** spaces wide. Make rows 4:17 **24.00 (32 pixels)** points tall.
7. Apply a bottom border to cells A3:F3. Apply a double bottom border to cells A18:F18. For cells A4:F17, design borders that use solid middle vertical borders and dotted horizontal middle and bottom borders. Add vertical borders where needed in row 18.
8. For cells A1:F2, use a medium gray fill and outside borders.
9. Key your first and your last name in cell A20. Press **Ctrl+Home**.
10. Prepare and submit your work. Save and close the workbook.

Exercise 1-35

Edit data. Use functions, alignment, and borders. Print a workbook.

At each location, AllAround Vision Care counts the number of times that certain equipment is used each day. This worksheet needs labels added as well as its calculation(s). It is also to be formatted more attractively.



NOTE

Some averages may result in a decimal value.

1. Open **Excel_LA1-35**. Save the workbook as *[your initials]1-35* in your folder.
2. Fill the labels in row 3 to Sunday. Then edit cell H3 to show “Total.” Edit the label in cell A8 to show “Daily Average.”

ASSESS

Lesson Applications:

Provide independent practice for students and may be used for assessment. Objectives are indicated for each exercise.

Exercise 1-34:

Objectives: 1–4, 6, 7
Required File: Excel_LA1-34
Solution File: Excel_Sol1-34 on
Online Learning Center.

1

Inform students how they should submit work to you—by print copy or the Excel file. The exercises tell them only to submit their work.

Exercise 1-35:

Objectives: 2–7
Required File: Excel_LA1-35
Solution File: Excel_Sol1-35 on
Online Learning Center.

3. Use AVERAGE in row 8. Use SUM in column H, leaving cell H8 empty.
4. Select cells A1:H2 and recenter these labels across the selection.
5. Make rows 4:8 the same height as row 3.
6. Apply a bottom border to cells A3:H3. Apply a double bottom border to cells A8:H8. For cells A4:H7, design borders that uses solid middle vertical borders and dotted horizontal middle and bottom borders. Add vertical borders where needed in row 8.
7. Key your first and your last name in cell A11. Press **Ctrl**+**Home**.
8. Press **Ctrl**+**P** to open Backstage view for printing. Choose the option to print the entire workbook, review it, and then print both sheets.
9. Prepare and submit your work. Save and close the workbook.

Exercise 1-36

Work with an Excel chart. Save a workbook.

The number of cataract screenings is tracked by office to guide in training staff and developing marketing. The chart for this worksheet needs some editing before it is ready for distribution.

1. Open **Excel_LA1-36**. Save the workbook as *[your initials]1-36* in your folder.
2. On the **ScreeningChart** sheet, click in the white chart background and apply **Style 40** from the **Chart Tools Design** tab.
3. Select and edit the chart title to add **(Chicago Offices)** in parentheses, like the label on the worksheet.
4. Select and edit the small text box with the company name and change “AllAround” to your last name.
5. Save and close the workbook. Prepare and submit your work.

Exercise 1-37 ♦ Challenge Yourself

Edit data. Use Excel functions and fill.

The worksheet with eyeglass frame sales data is to be edited so that it shows the best and worst years for each frame. These two functions (MAX and MIN) are similar to SUM, so you are expected to complete this work. MAX will display the largest value in the cell range; MIN will display the smallest. The sheet is to use fills instead of borders to differentiate the rows.



NOTE

Hold down the **Ctrl** key to select cells and/or rows that are not next to each other.

1. Open **Excel_LA1-37**. Save the workbook as *[your initials]1-37* in your folder.
2. Complete the labels in row 3.
3. Use the MAX function in column F. It is an option with the SUM button **Σ**. Then use MIN in column G and verify the argument range.

Exercise 1-36:

Objectives: 4, 8

Required File: Excel_LA1-36

Solution File: Excel_Sol1-36 on Online Learning Center.

Exercise 1-37:

Objectives: 2, 3, 4, 6, 7

Required File: Excel_LA1-37

Solution File: Excel_Sol1-37 on Online Learning Center.

4. After you copy the formulas, fix the fill color if necessary for cells F5:G5.
5. Apply the same fill color as is used in row 5 to the data in the odd-numbered rows up to and including row 17.
6. Insert a row at row 18 and apply **No Fill**. Add vertical borders where you think they might enhance readability.
7. In cell A21, key **Prepared by[Your First and Last Name]**. Press **Ctrl**+**Home**.
8. Prepare and submit your work. Save and close the workbook.

On Your Own

In these exercises you work on your own, as you would in a real-life work environment. Use the skills you've learned to accomplish the task—and be creative.

Exercise 1-38

Open **Excel_Lesson1**. On the **EyeglassSales** sheet, practice each of the navigation shortcuts shown in Table 1-2. Then use cell A2 and Edit mode to practice the keyboard shortcuts shown in Table 1-4. Close the workbook without saving.

Exercise 1-39

Open **Excel_SR1-33**. Edit all of the labels to reflect and measure four items of interest to you. You might list four Web site addresses and count how many times you visit each one. You could list four employee names and how many sick or vacation days each one took or accrued. Change the alignment and borders, or add a fill to give a different look to the data. Key your first and last name in cell A15. Save the workbook as **[your initials]1-39** in your folder. Prepare and submit your work.

Exercise 1-40

Open **Excel_LA1-37**. Delete columns F and G. Complete the labels in row 3. Change each of the frame names to a different name that you find, develop, or like. Change the fill color in rows 1, 2, 5, and 18 to create a new look. Then apply the fill to the odd-numbered rows. Key your first and last name in cell A21. Save the workbook as **[your initials]1-40** in your folder. Prepare and submit your work.

On Your Own:

These exercises are entirely free-form and do not provide steps or suggestions. No solutions are provided. Encourage students to be creative. You might assign some exercises as group projects. Some exercises might be appropriate for inclusion in a student's portfolio.

Exercise 1-38:

Objectives: 1
Required File: Excel_Lesson1

Exercise 1-39:

Objectives: 1, 2, 4, 7
Required File: Excel_SR1-33

Exercise 1-40:

Objectives: 1-4, 7
Required File: Excel_LA1-37