Formulas These are calculated values. Formulas can contain a combination of values, cell addresses, operators for performing arithmetic, and built-in calculation commands called functions.

Entering Text or Labels

To enter information, click a cell to select it and then type the entry.

- Use the Backspace key or Delete key to correct any input errors.

- When you finish typing, press Enter to move to the next cell below, or press Tab to move to the next cell to the right. You can also click another cell or press any arrow key to enter the text you typed into the current cell.

 The best way to begin any worksheet is to enter labels to identify the values you will enter.

The worksheet shown in the following figure includes text entries indicating individual student names in Column A and labels for the various assignments that have been graded so far in the term in Row 2. Each row beneath the column labels in row 2 shows the individual marks for each student for each given assignment or test. You can see which students are doing well, and which ones are not.

	A	B	C	D	E	F	G	H	I
1	Class A - Mrs. Davis								
2		Quiz 1	Mid-Test	Test 1	Project 1	Quiz 2	Mid-Test	Test 2	Project 2
3	Abigayle Whitley	10	19	48	85	10	20	50	92
4	Barbie Hernandez	9	15	42	83	10	18	48	90
5	Colin King	6	14	45	80	8	18	45	88
6	Diana Ramont	8	15	45	86	9	17	46	86
7	Eddie Wong	10	16	46	85	10	19	42	85
8	Gregory Adams	7	12	43	82	8	16	45	82
9	Harry Wong	7	13	45	85	8	16	46	86
10	Joey Himato	6	13	44	88	8	18	42	81
11	Jon Lee	8.5	17	43	75	9	18	47	87
12	Kim Jo Sun	9.5	20	50	92	10	20	50	95
13	Maria Hernandez	7	15.5	48	90	8	18	47	93
14	Nan Singh	7	17	45	73	8	16	46	80
15	Paul Martins	8	18	47	78	9	16	42	82
16	Terry Greggs	7.5	16	46	79	9	15	40	86

Entering Numbers or Dates

Numbers are numeric values. They can be used in calculations (that is, formulas). However, if you type characters and numbers together in the same cell, Excel treats the entire cell as a label, and you cannot include the cell in any calculations.

By default, Excel displays values with no formatting, but you can format them yourself to display as dollars, or percentages, or with a certain number of decimal places, and so on.

When entering dates, you can enter them in a numeric form (such as 2-26-05) or in a text form (such as, Month-Day-Year).

Managing Workbooks

Remember that using an application program means you want to save your files to use again in the future. Here is a quick review of the most common file management techniques in Excel.

Saving Documents

How often you save a workbook depends on how much work you put into it. If you make a lot of changes, save the file frequently as you work. Save even if you're not sure you'll need the workbook again.

Starting a New Workbook

You can create blank workbooks, or create a workbook using a pre-designed template when you select the **New** command in the Backstage view.

Opening a Document

Workbooks can be opened in Backstage using the Recent Folders/Workbooks list as well as using the Ctrl + O keyboard shortcut.

Try It! Exercise

In this exercise you will create new workbooks and enter data. You will also save files.

1. Start Microsoft Excel. Click **Blank workbook** to create a new workbook.

    Excel displays a new blank workbook that contains a blank worksheet.

2. Press Ctrl + N to quickly create another new blank workbook.

    This new workbook should show *Book2* in the title bar. The active cell is cell A1 – it has a dark border around it and both the Column A and Row 1 headings are highlighted to show that this cell is currently active.

    As you move the cursor or click in different cells, the column heading and row number highlights will change to indicate the current active cell.

3. In cell **A1** of Book2, type: Measurements and press Enter.

    The cursor should now be in cell A2 (you are still in column A but now in row 2).

4. Press Enter once more to move to cell **A3**, type: Imperial and press Tab.

5. Type: Conversion and press Tab once more. Type: Metric and press Enter.

Notice that when you pressed Tab you moved to the next cell to the right. When you press Enter you move to the next cell down, or if you have been entering items along a particular row, you will move to the first position in the next row down. The active cell should now be cell A4.

6. Type: 1 inch and press Enter. Type: 1 foot and press Enter. Continue entering the rest of the labels, as shown in the following figure.

	A	B	C
1	Measurements		
2			
3	Imperial	Conversion	Metric
4	1 inch		
5	1 foot		
6	1 yard		
7	1 mile		
8	1 ounce		
9	1 pound		
10	1 ton		

7. On the Quick Access toolbar, click the **Save** button.

8. Click **Computer** as the location, click **Browse** and then navigate to the *7328 Student Files\Spreadsheet* folder.

9. In the File name field, type: Measurements - Student as the new file name and then click **Save**.

Now try opening a file created by someone else.

10. Click **File** and click **Open**. Click **Computer** for the location and then click **Spreadsheet** in the Current Folder section to access the *Spreadsheet* folder.

    Notice that you were able to simply click the folder location in the Open tab in Backstage view. Microsoft Office remembers the last location you were using and displays that location whenever you click Open or Save. You can, of course, still navigate to another location as necessary.

11. Click the **Comparing Planet Stats** file and then click **Open**.

As with all programs in Windows, you can switch between files by selecting a button on the Taskbar.

12. On the Taskbar, point at the **Excel** icon to preview the two workbooks open in Excel.

13. Click **Book 1** to go to the blank workbook.

14. Point at the **Excel** icon on the taskbar once more and click the **Measurements** file.

15. Press Ctrl+W to close this file.

16. Click the **Close** button at the top right corner to close the next workbook.

17. Press Ctrl+W to close the remaining workbook.

You should now have an "empty" Excel application window. The Ribbon displays across the top and a grey screen displays beneath it instead of a worksheet. This is how Excel looks when no files are open.

18. Click **File** and ensure **Open** is highlighted in the left panel. With Recent Workbooks highlighted in the location area, click **Measurements - Student** in the list of Recent Workbooks.

    The file you created earlier is now open and available for changes.

19. Click cell **B4** and type: 2.5. Press Tab, type: cm as the measurement unit and press Enter.

20. In cell **B5**, type: 30, press Tab, type: cm and press Enter.

21. Enter the remaining data as indicated in the figure below:

6	1 yard	91	cm
7	1 mile	1.6	km
8	1 ounce	28	mg
9	1 pound	0.45	kg
10	1 ton	907	kg

22. Press Ctrl+S to save the changes.

Working with Worksheet Data

IC3 **Objective 2-1.1, 2-3.2**

In a spreadsheet program, the data is the information that you enter into the cells of the worksheet. You can work with worksheet data in much the same way that you work with text in a word processing program, but instead of selecting blocks of text, you select one or more worksheet cells.

When you want to work with a single cell, simply click it to select it.

Editing the Contents of a Cell

There are two basic methods of editing the contents of a worksheet cell – overwriting the contents or editing the

contents. To overwrite the contents of a cell that contains data, click the cell, type a new entry and press Enter. The new data replaces the old data.

If you want to change only part of a cell's contents, you can activate Excel's Edit mode by pressing F2 or double-clicking on the cell; Excel will display the insertion point and you can proceed in one of the following ways:

- Select the specific characters in the cell that you want to change, type the replacement text, and press Enter to exit the Edit mode; or

- use the Delete key to remove any unwanted characters from the cell contents.

Selecting Ranges

A range is a set of cells. A range can be a single cell, several cells, or the entire worksheet. When you select cells in Excel, you are selecting ranges. Selected cells remain selected or highlighted until you click another cell or press an arrow key. The following table lists methods for selecting ranges.

Single cell	Click the cell.
Extend the selection	Click the first cell and drag to the end of the required range; or click the first cell, hold the Shift key, and click the end cell in the range.
Entire row	Click the row header when you see the ➡.
Entire column	Click the column header when you see the ⬇.
Entire worksheet	Click the **Select All** button in the cupper-left corner of the worksheet (at the intersection of the row and column headings).
Non-adjacent cells, columns, or rows	Click the cell, column, or row, hold the Ctrl key, then click to select the next cell, column, or row.
Multiple rows	Click the first row number and drag for the number of rows to select.
Multiple columns	Click the first column letter and drag for the number of columns to select.

Applying Formatting

You can apply basic formatting to selected cells in much the same way you would apply formatting to selected text in a word processing program. You can click options in the Font group on the Home tab of the Ribbon, or use features in the Font dialog box.

Try It! Exercise

In this exercise you will select cells and apply some basic formatting.

1. Click cell **A1** to select it.

2. On the Home tab, in the Font group, click **Bold** to make the text bold.

3. Click the arrow for the Font Size drop-down list, then click **18** to change the font size.

4. Click the arrow for the Font Color menu, then click **Blue** in the Standard Colors section at the bottom of the menu.

5. Click cell **A3**, then click and drag right to select cells **B3** and **C3**. You should now have three cells selected.

6. On the Home tab, in the Font group, click **Bold** to make the contents of all the selected cells bold.

7. Press Ctrl+S to save your changes.

IC3 **Objective 2-3.1**

When we talk about the layout of a worksheet, we are talking about the columns and rows. Changing the widths and heights of columns and rows, or inserting columns and rows changes the layout of the worksheet.

Most of these tasks begin with the selection of one or more rows or columns. Remember, to select a column, click the column header. To select a row, click the row header.

# Changing the Column Widths

Column widths can be set between zero and 255 characters. To change the width of a column, use one of the following methods:

• Select the column, then on the Home tab, in the Cells group, click **Format**, and then **Column Width** to open the Column Width dialog box. Type in a number for the width you want and click **OK**; or
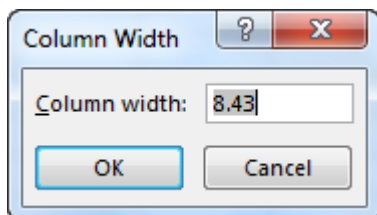
• position the mouse pointer on the line at the right edge of the column header of the column to be adjusted; when you see ✛, click and drag to the desired width for the column; or


	A	B	C	D	E	F	G
1	Top Sport Salaries						
2		2015	2014	2013	2012	2011	
3	Soccer	22470000	80000000	########	24000000	40000000	
4	Baseball	30000000	26000000	28000000	29000000	32000000	
5	Football	1200000	17500000	15000000	18000000	15000000	
6	Basketbal	25000000	23500000	30450000	27850000	20320000	
7	Hockey	12000000	9550000	9550000	9550000	9550000	
8							

• position the mouse pointer on the line at the right edge of the column header of the column to be adjusted; when you see ✛, double-click to automatically set the column width to a setting just wide enough to fully display the widest entry in the column.

Adjusting the Row Height

When you need to adjust the row height to make a row smaller or larger than others in the worksheet, use one of the following methods:

• Select the row, then on the Home tab, in the Cells group, click **Format**, and then **Row Height** to open the Row Height dialog box. Type in a number for the height you want and click **OK**; or
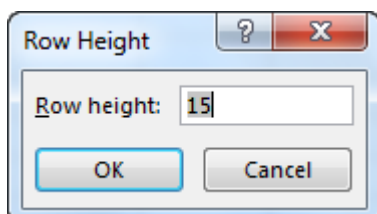
• position the mouse pointer at the bottom edge of the row header of the row to be adjusted. When it changes

to ✛ (thick vertical double-headed crosshair), click and drag to the height desired.

		C	D	E	F	G
Height: 25.50 (34 pixels)						
	Top Sport Salaries					
1		2015	2014	2013	2012	2011
2	Soccer	22470000	80000000	51000000	24000000	40000000
3	Baseball	30000000	26000000	28000000	29000000	32000000
4	Football	1200000	17500000	15000000	18000000	15000000
5	Basketball	25000000	23500000	30450000	27850000	20320000

Inserting Rows or Columns

You can insert rows or columns anywhere in a worksheet. Select a row or column to begin.

To insert a column to the left of the selected column, use one of the following methods:

- On the Home tab, in the Cells group, click the arrow for **Insert**, and then **Insert Sheet Columns**; or

- on the Home tab, in the Cells group, click **Insert**; or

- press Ctrl + + from the numeric keyboard; or

- right-click the selected column and then click **Insert**.

To insert a row above the selected row, use one of the following methods:

- On the Home tab, in the Cells group, click the arrow for **Insert**, and then **Insert Sheet Rows**; or

- on the Home tab, in the Cells group, click **Insert**; or

- press Ctrl + + from the numeric keyboard; or

- right-click the selected row and then click **Insert**.

Notice that in either operation, you can click the arrow for **Insert** and make a selection, or simply click the **Insert** button itself. Whenever you select an entire row or column, Excel automatically recognizes what you want to insert.

Insert

Insert
- Shift cells right
- ⦿ Shift cells down
- Entire row
- Entire column
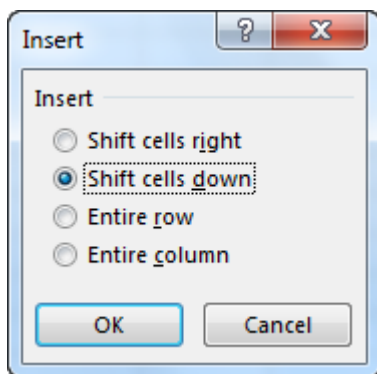
OK   Cancel

If you are trying to insert a row or column and the Insert dialog box displays, this indicates that you have not selected a row or column and Excel will insert individual cells into the worksheet. Click **Cancel**, then begin again by selecting an entire row or column.