

# Learning Series



## **Learning Microsoft Excel 2010**

- ☑ Easy to follow
- ☑ Step-by-step instructions
- ☑ An excellent reference resource

*By Cheryl Price*

# Learning Excel 2010

This book covers all the topics that are covered in the Easy Way – Excel 2010 Levels 1-3 with advanced topics such as PivotTables, PivotCharts, Excel database concepts, advanced functions and chart options, Goal Seek, Scenario Manger, Data Tables, Data Validation, Conditional Formatting, Workbook Security etc.

This is a comprehensive book which can be used for step-by-step learning or as a reference book.

Retrievable exercise files are used with this book. These are available for free download from our web site at [www.cherylprice.co.nz](http://www.cherylprice.co.nz). Instructions for downloading are included on the next page.

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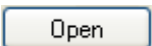




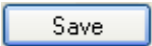
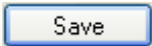
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# Downloading Exercise Files

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1	In your web browser, type: <b>www.cherylprice.co.nz</b>
2	Press Enter on the keyboard to display the Cheryl Price website.
3	Click on the Resources tab as shown at the right. 
4	Under the <b>Learning Series Books</b> heading click on <u>Learning Excel 2010</u>
5	Under the <b>Exercise Files</b> heading click on the underlined blue hyperlink, ie Learning Excel 2010 <u>Free Download</u> The File Download dialog box will display.
6	If you have Winzip use the following instructions otherwise move to step 7.
	a Click on  .
	b Click on the  of the  button.
	c If My Documents folder is not displayed click on <b>Set default unzip folder</b> at the bottom of the list. Ensure My Documents is selected then click on Select Folder.
	d Click on the  of the  button and click on the My Documents folder. The files will be unzipped.
7	Click on  and ensure My Documents folder is displayed. Click on 
8	Click on Open Folder which will display My Documents folder. Right click on the zipped exercise file and select Extract All. Click on Extract. A folder will be created containing the exercise files. You will need to double click on this folder to use the exercise files in this book.

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## Exercise Files used in this book

(Instructions are at the front of this book for downloading retrievable files from our web site.)

Names of files	
Active Sports	Engineering Course
Albany Joinery for Charts	Enrolments - 2011
Assets	Exclusive Services – Quarterly Report
Auckland, Jan-Mar	Fashion House
Balance Sheet	Fashion Xpress
Baxter Sports	Fiji Landing Apartments
Best Deals for Charts	Fire Shop - Brisbane
Bonus	Fire Shop - Melbourne
Box Up Supermarkets	Fire Shop - Perth
Brighton Winery	Fire Shop - Sydney
Busy Bee Company	Flower Shop
Charts - Classes	Forms - Investment Calculator
Charts - Cleantec	Functions
Charts - Goodwins	Garden Soils Ltd
Chatswood	Glen Miller - Writer
Classic Images Income	Goodall Superannuation
Cleantec	Gym Membership
Company List	Hats Income Statement
Computer Consumables Ltd	Housekeeping Services
Computer Courses	Investment Calculator
Cookery and Gardening Book Sales	Jessie's Clothing Stores
Cool Shot Photography	Kite Extreme
Corp1	Learning Cheques
Costello's Product Sales	Lifestyle Books
Creative Caps	Lifestyle Images Products
Currency Rates	Loan Calculations
Cycle Stuff Sales - January	Mid Semester Exam
Davidsons	Mykas - Adelaide
Day Tripper	Mykas - Brisbane
Delphine's Cooking School	Mykas - Melbourne
Eats and Treats	Mykas - Sydney

November - Eats and Treats	Spartacus - Melbourne
PC Sales	Spartacus - Sydney
PC Sales – Pivot Chart	Sports Sales
Peter Hamilton Transport	Spreadsheet Design
PivotChart 2	Spreadsheet Plan
PivotTables	Staff Listing
Play Time Daycare	Sunshine Flowers
Premier Books	Supermarket
Quotation	Target Sales
Real Estate Sales	Te Kea Trading
Recreational Magazines	Townsville Jan-Mar
Rep Sales	Tracey's Budget
Retirement Scheme	Trade Supplies
Sales Commission	VitaHealth Products
Sales Ranking	Wellington, Jan-Mar
Series	Williams - Brisbane
Spartacus - Adelaide	Williams - Cairns
Spartacus - Auckland	Williams – Canberra
Spartacus - Brisbane	Williams - Sydney
Spartacus - Income Statements	Wilson Markers

## **Spreadsheet Theory**

### **The Excel Screen**

#### **Opening and Exploring a Workbook**

#### **Creating a New Workbook**

---

## **Learning Outcomes**

*At the end of this section you should be able to -*

- ☐ Understand what a spreadsheet is
- ☐ Start and exit Excel 2010
- ☐ Understand the Excel 2010 screen
- ☐ Open and explore an existing workbook
- ☐ Create and save a new workbook
- ☐ Enter text, numbers and formulas into a worksheet
- ☐ Apply basic formatting to a worksheet
- ☐ Print a worksheet

# Spreadsheets

A spreadsheet is essentially a large working area composed of rows and columns. The intersection of a row and column is called a cell. Text and numbers are entered into these cells and formulas are used to manipulate the data to provide information required.

Microsoft Excel 2010 (or any spreadsheet program) makes calculations easy - it replaces your pencil, paper and calculator. If you change data in a worksheet, every formula associated with that data will be automatically recalculated accordingly.

Data can therefore be altered to re-calculate budgets and to forecast results using different sales projections. Worksheets can be saved on disk, retrieved and printed as required.

**Note** In this book Microsoft Excel 2010 will be referred to as Excel 2010.

Spreadsheets are widely used -

- 1 **In industry and commerce for**
  - financial accounts
  - forecasting and projection results
  - recording and comparing data
  - personnel details
- 2 **At home for**
  - budgeting
  - calculations, eg painting, wallpapering
  - savings and travelling expenses
- 3 **At schools for**
  - test and examination results
  - timetables
  - school rolls
- 4 **At clubs for**
  - membership fees
  - sports results
  - sponsorship details

Examples of other spreadsheet programs include Lotus 1-2-3, Corel Quattro Pro and OpenOffice Calc (the last of which can be freely downloaded from the Internet).

## Spreadsheet/Worksheet

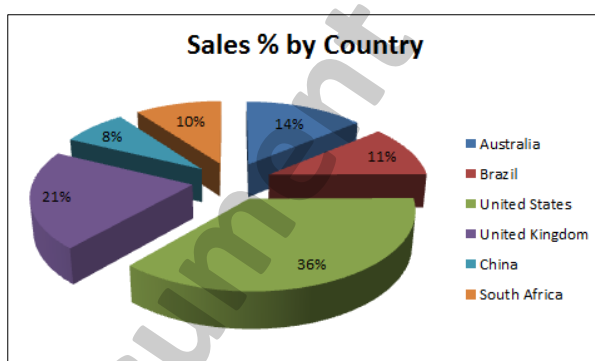
The word *spreadsheet* is a general term for any document created by a spreadsheet program; a spreadsheet is referred to in Excel 2010 as a *worksheet*. Both of these terms are used throughout this book but they refer to the same thing.



## Samples of Spreadsheets

	A	B	C	D	E	F	G	H
1	<b>Day Trippers</b>							
2								
3	<b>Tours</b>	<b>January</b>	<b>February</b>	<b>March</b>	<b>April</b>	<b>May</b>	<b>June</b>	<b>Total</b>
4	Hinterland Tour	256	353	178	125	374	322	1608
5	The Coast Tour	312	262	285	310	345	370	1884
6	Bryon Bay and Tweed Heads	408	478	324	314	423	384	2331
7	Fraser Island	993	810	826	786	874	882	5171
8	Brisbane in a Day	554	487	512	456	492	414	2915
9	Brisbane at Night	452	435	478	398	416	488	2667
10	<b>Total</b>	<b>2975</b>	<b>2825</b>	<b>2603</b>	<b>2389</b>	<b>2924</b>	<b>2860</b>	<b>16576</b>

	A	B	C	D	E	F
1	<b>VitaHealth Products - Worldwide Sales</b>					
2	<b>2011</b>					
3						
4		<b>Q1</b>	<b>Q2</b>	<b>Q3</b>	<b>Q4</b>	<b>Total</b>
5	Australia	105,000	95,600	87,500	160,200	448,300
6	Brazil	85,000	92,300	75,000	96,000	348,300
7	United States	199,000	357,000	224,785	391,255	1,172,040
8	United Kingdom	153,000	169,000	158,700	180,250	660,950
9	China	62,500	52,500	49,000	82,000	246,000
10	South Africa	75,000	84,000	70,400	96,100	325,500
11						
12	<b>Total</b>	<b>679,500</b>	<b>850,400</b>	<b>665,385</b>	<b>1,005,805</b>	<b>3,201,090</b>
13						
14						
15	<b>2010</b>					
16						
17		<b>Q1</b>	<b>Q2</b>	<b>Q3</b>	<b>Q4</b>	<b>Total</b>
18	Australia	55,000	88,000	76,000	155,350	374,350
19	Brazil	75,000	85,300	72,400	95,000	327,700
20	United States	155,000	225,000	123,950	250,780	754,730
21	United Kingdom	125,000	255,690	155,890	175,500	712,080
22	China	65,000	45,650	45,000	75,000	230,650
23	South Africa	78,000				
24						
25	<b>Total</b>	<b>553,000</b>				








	A	B	C	D	E	F	G
1	<b>Te Kea Trading Company</b>						
2	<b>Pricing Structure for December Sale</b>						
3							
4							
5		<b>Product</b>	<b>Cost Price</b>	<b>Retail Price</b>	<b>% Margin</b>	<b>Quantity in Stock</b>	<b>Value of Stock</b>
6							<b>Sale Price</b>
7	Calendars	\$11.00	\$18.95	41.95%	50	\$550.00	\$17.06
8	Saucepans	75	95	21.05%	25	1,875.00	85.5
9	Electric Jug	42	75.5	44.37%	32	1,344.00	67.95
10	Men's Sweatshirt	24	42.95	44.12%	55	1,320.00	38.66
11	Weedeater	185	269.9	31.46%	24	4,440.00	242.91
12	T-Shirts	15	24.85	39.64%	75	1,125.00	22.37
13	Garden Shed	295	375.5	21.44%	11	3,245.00	337.95
14	Crockpot	120	159.9	24.95%	30	3,600.00	143.91

## Advantages of Spreadsheets

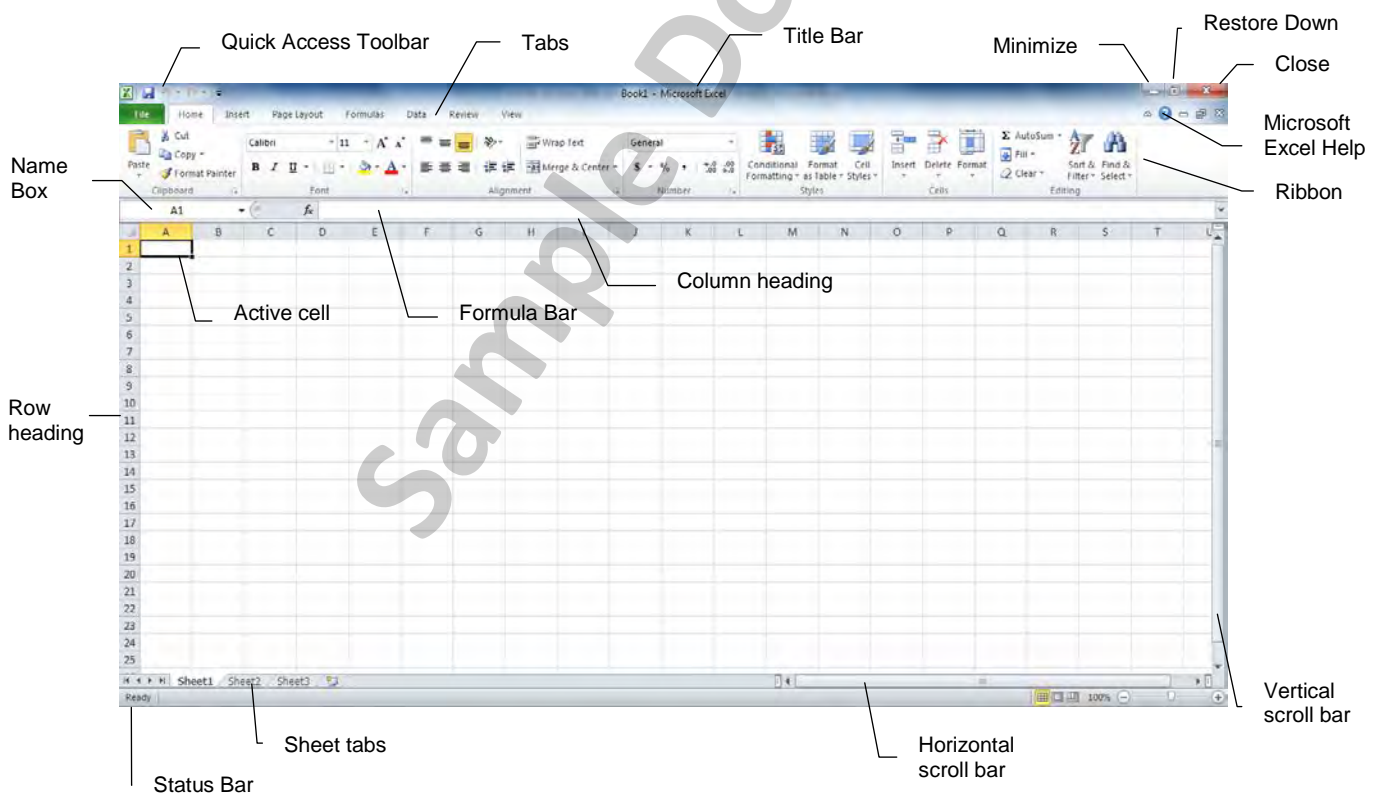
- Calculations can be performed quickly and easily.
- If data is altered, the calculations automatically adjust.
- Worksheets within a workbook can be used for different groups of data. Data from a group of worksheets can be calculated onto one summary worksheet.
- Charts can be used to visually display data, eg bar, column, pie, line.
- Data can be manipulated, grouped and sorted into a specific order for lists, databases, etc. Data within a spreadsheet can then be quickly located.



# Starting Excel 2010

## Exercise 1

- 1 Click on the Start button  at the bottom left-hand corner of the screen.
- 2 Select  All Programs from the Start Menu.
- 3 Select  Microsoft Office from the Programs menu.  

- 4 Select  Microsoft Excel 2010 from the list to start Excel 2010.

## The Excel Screen



**Note** The Office button  in Excel 2007 has been replaced with a File tab  which contains all basic tasks such as opening, saving and printing a spreadsheet.

## Quick Access Toolbar

The Quick Access Toolbar contains commands to Save, Undo and Redo. Frequently used commands can be added to this menu.



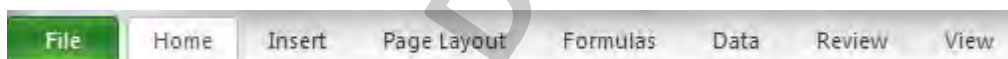
## The Ribbon

The toolbars and menus from Excel 2003 were replaced by the ribbon in Excel 2007 and is very similar in Excel 2010. The ribbon provides access to all the tools required for working with a spreadsheet.

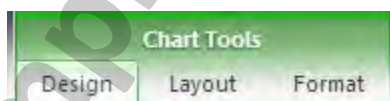


### Ribbon Tabs

The ribbon has a series of tabs along the top; click on the tab to display the ribbon required. There are seven default tabs:

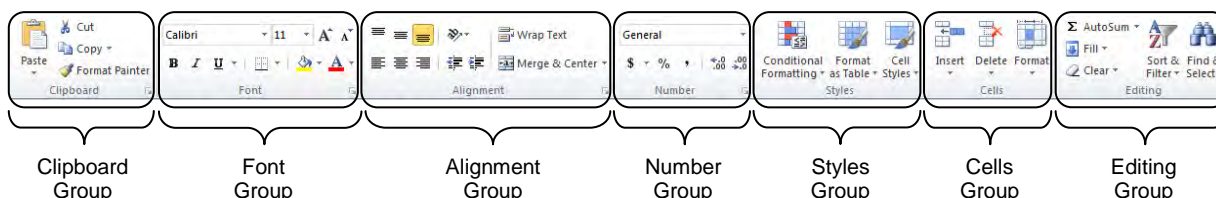


There are also hidden tabs that appear when appropriate, such as the Chart Tools. These are displayed when you are working on a chart and disappear again when you have finished.



### Groups

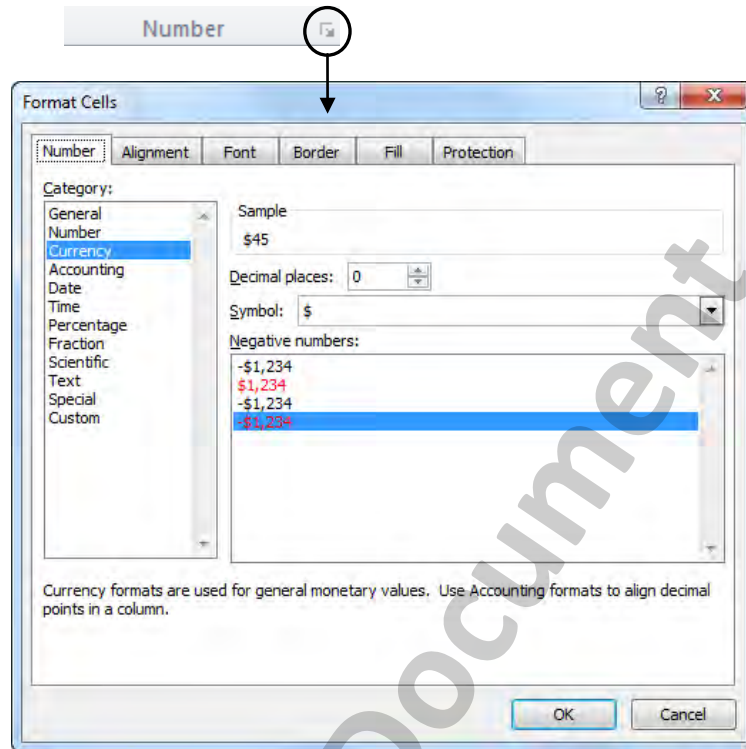
Ribbons are split into groups, (eg the Font Group). Each group contains command buttons appropriate to a particular action; the font formatting tools are located in the Font Group.



## Dialog Box Launcher

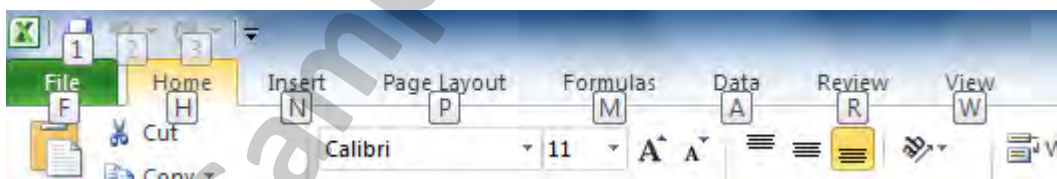
The Dialog Box Launcher is the small diagonal arrow in the bottom right corner of some groups. When you click on this button, it displays an associated dialog box.

Dialog boxes usually contain more settings or advanced features. For example, the Number dialog box allows you to make formatting changes to the contents of the current cell.



## Key Tips

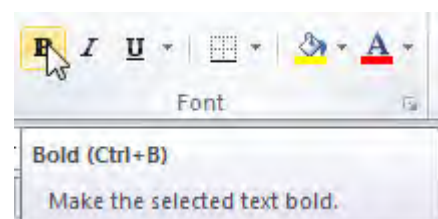
The keyboard can be used to select tabs on the Ribbon and buttons on the Quick Access Toolbar. If you press Alt, Key Tips become active.



These small badges are labelled with various letters and numbers, that when pressed on the keyboard, will trigger the associated command or function. For example, to save the workbook press Alt and then 1.

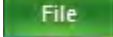
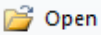


## ScreenTips

When you rest the mouse pointer over a button or command, a screen tip appears. This is a small window describing the function of that command and any shortcut key it may have.

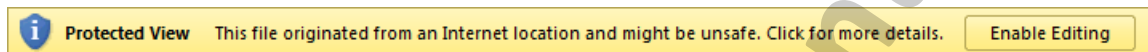


# Opening a Workbook

## Exercise 2

- 1 Click on the File tab  at the far left of the Ribbon. When you click on the File tab Backstage view will appear. This view allows you to create, open, print and save a workbook. Excel options, accessing help along with exiting Excel are available in this view.
- 2 Click on  to display the Open dialog box.
- 3 Double click on the *Learning Excel 2010 Exercise Files* folder, ie  *Learning Excel 2010 Exercise Files*.
- 4 Select **Fashion House**. Click on .

**Note** If Protected View is turned on the following may appear. Click on .

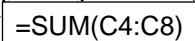


## Cell Contents

Microsoft Excel allows you to enter data into any cell in a worksheet. Data may consist of text, numbers or a formula based on selected cells.

Various parts of a worksheet are shown below.

	A	B	C	D
1	<b>The Fashion House - Conference Budget</b>			
2				
3		<b>Australia</b>	<b>America</b>	<b>Britain</b>
4	Air Fares	897.00	1,586.95	2,425.28
5	Accommodation	1,200.00	1,800.50	2,000.00
6	Meals	950.00	1,060.96	1,250.25
7	Car Rental	660.50	501.23	680.25
8	Travel Insurance	80.00	100.00	95.00
9	<b>Total</b>	<b>\$3,787.50</b>	<b>\$5,049.64</b>	<b>\$6,450.78</b>

Formula  
  
 (ie adds the values in cells C4 to C8)

## Labels

Text/numbers that are not used in a mathematical formula or equation are called labels. They help the reader understand different parts of a worksheet, ie column headings, row headings, title of a worksheet, etc.

## Values

Data that is used to calculate results or the end result of a calculation.

## Formulas

A mathematical equation using cell references/constraints to produce a result. The result of a formula is seen in the worksheet; clicking on a cell will display the formula itself in the Formula Bar. When values change, the result of the formula will be updated automatically in the worksheet.

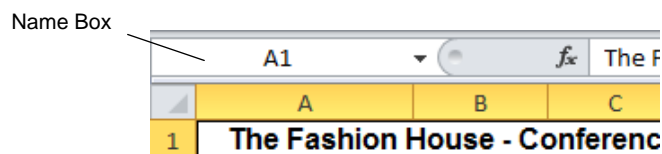
Formula Bar

fx		=SUM(C4:C8)	
B	C	D	
House - Conference Budget			
Australia	America	Britain	
897.00	1 586.95	2 425.28	



### Exercise 3

- 1 Click in the Name Box at the top left of the worksheet.



- 2 Type: **C9**
- 3 Press Enter. The cursor will move to cell C9 within the current worksheet.  
The Formula Bar displays the formula that has been used to calculate the total for the America column.
- 4 Double click on the selected cell (C9) to display the data range. The data range displays cells that are included in the formula.

	A	B	C	D	E
1	<b>The Fashion House - Conference Budget</b>				
2					
3		<b>Australia</b>	<b>America</b>	<b>Britain</b>	
4	Air Fares	897.00	1,586.95	2,425.28	
5	Accommodation	1,200.00	1,800.50	2,000.00	
6	Meals	950.00	1,060.96	1,250.25	
7	Car Rental	660.50	501.23	680.25	
8	Travel Insurance	80.00	100.00	95.00	
9	<b>Total</b>	<b>\$3,787.50</b>	<b>=SUM(C4:C8)</b>		
10			SUM(number1, [number2], ...)		
11					

- 5 Press Esc to turn off.

- Ctrl W
- 6 Click on the File tab  and click on  Close. If asked to save changes click on Don't Save.

The formula used to add the total for the America column can be broken down as follows.

## Equal to

To determine that this is a *formula* (equation) = is placed at the beginning of a formula.

## Function

A built-in formula designed for ease of use. Functions can perform tasks such as addition, calculating the average of a group of values, inserting the date, calculating angles, calculating the value of an investment over a period, etc. (SUM will add together the contents of selected cells.)

## Range

Reference to cells containing values, C4:C8 (ie C4 to C8). The range is used instead of typing =C4+C5+C6+C7+C8 when using the SUM function.

# Moving around a Worksheet

## Exercise 4

In this exercise you will learn how to move the cursor around a worksheet, select cells, total columns/rows and create basic formulas.

- Ctrl O 1 Click on **File** then click on **Open**. Select the file called **Wilson Markers** found in the *Learning Excel 2010 Exercise Files* folder. Click on Open.
- 2 Practise cursor movements as described below.

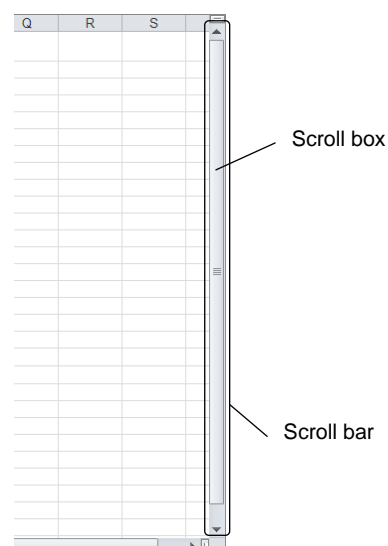
## Cursor Movements

	Keyboard	Mouse
A column at a time	→ or ←	Move mouse and click
A row at a time	↑ or ↓	Move mouse and click
Beginning of a row	Home	Move mouse and click
End of a row of data	End →	Move mouse and click
Beginning of a row of data	End ←	Move mouse and click
Down one window	Page Down	Point and click below vertical scroll box
Up one window	Page Up	Point and click above vertical scroll box
Cell A1	Ctrl Home	Point and drag vertical scroll box up
Bottom right corner cell of data	Ctrl End	Point and drag vertical scroll box down
Next worksheet	Ctrl Page Down	Move mouse and click
Previous worksheet	Ctrl Page Up	Move mouse and click
Beginning and end of a row of data	Ctrl → or ←	Move mouse and click
Beginning and end of a column of data	Ctrl ↑ or ↓	Move mouse and click
Across one window to the right	Alt Page Down	Point and drag the horizontal scroll box right
Across one window to the left	Alt Page Up	Point and drag the horizontal scroll box left

## Scroll Bars

The vertical and horizontal scroll bars at the right and bottom of the screen will move you around the worksheet area, beyond what you can initially see on your screen. Click on the ▼ at the bottom right of your screen, on the vertical scroll bar, to move down the worksheet. Click on the ▲ to move up the worksheet. Click in the required cell to make that cell “active”.

Dragging the scroll box on the vertical scroll bar will move quickly up or down the worksheet. Use the horizontal scroll box at the bottom of the screen to move to the left or right of a worksheet.

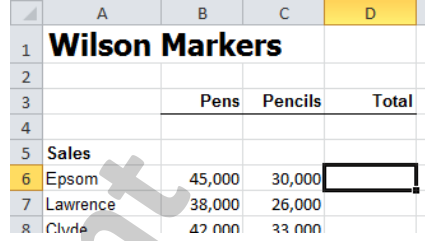
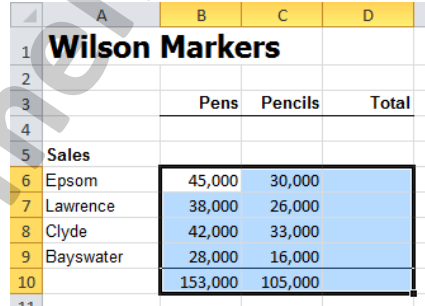
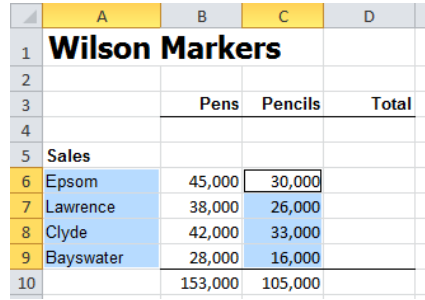
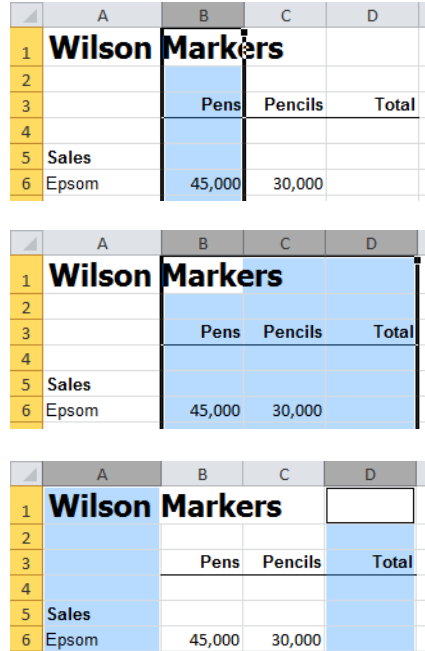


# Selecting Cells

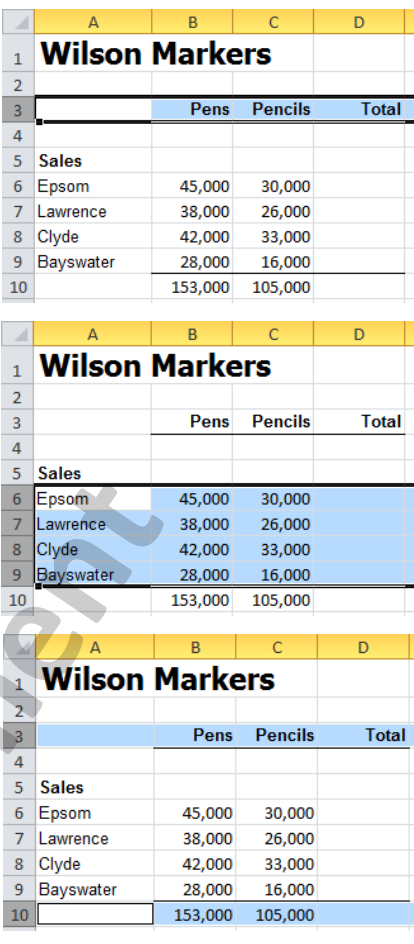
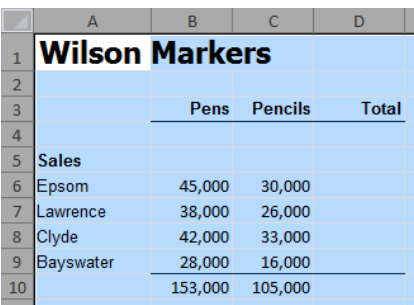
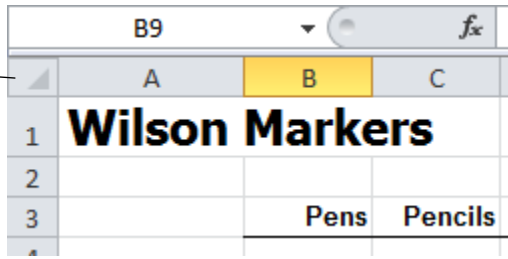
## Exercise 5

Cells within a worksheet are selected to enter, edit or format data.

➤ Practise *selecting* using the various methods shown below.

Selecting	Mouse
Single cell	<p>Click in the centre of the cell.</p> 
Range of cells	<p>Click in the first cell in the range and drag to the last cell in the range.</p> <p>Alternatively, click in the first cell, hold down the Shift key and click on the last cell.</p> 
Non-adjacent cells	<p>Select the first range of cells then hold down the Ctrl key on the keyboard and select the second range of cells and so on.</p> 
An entire column(s)	<p>Click on the column header <b>B</b> OR with the cursor in the column press Ctrl Spacebar.</p> <p><i>Adjacent columns</i> Click and drag on the column headers.</p> <p><i>Non-adjacent columns</i> Hold down the Ctrl key and click on each column header.</p> 

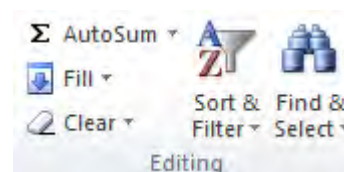


<p>An entire row(s)</p>	<p>Click on the row header <b>3</b> OR with the cursor in the row press Shift Spacebar.</p> <p><i>Adjacent rows</i> Click and drag on the row headers.</p> <p><i>Non-adjacent rows</i> Hold down the Ctrl key and click on each row header.</p>	
<p>Entire worksheet</p>	<p>Click on the Select All button above the first row header and to the left of the first column header OR press Ctrl A.</p>	 
<p>Deselecting selected cells</p>	<p>Click in a blank cell outside the selected cells.</p>	

**Tip** You can hold down the Shift key and use the arrow keys on the keyboard to select cells. Pressing an arrow key (with the Shift key released) will deselect cells.

# The AutoSum Button

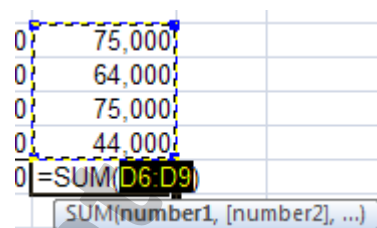
The AutoSum button  $\Sigma$  AutoSum  $\nabla$  is used for the addition of multiple cells in a worksheet. It is located in the Editing group on the Home tab. The drop-down arrow next to the AutoSum button is used to select other functions, eg average, maximum, etc.



Before clicking on this button, ensure the active cell is where the result is to appear.

The Sum function will look *upwards* from the cursor position (within a column) to find cells to add.

However, if cells above a total cell do not contain values then the Sum function will look to the *left* of the cursor position and select cells to add (across a row).



6	Epsom	45,000	30,000	=SUM(B6:C6)
7	Lawrence	38,000	26,000	SUM(number1, [number2], ...)

## Exercise 6

- Click on cell D6.
- Alt = Click on  $\Sigma$  AutoSum  $\nabla$  located in the Editing group on the Home tab (depending on your screen size this button may just display as  $\Sigma$ ).

		SUM	X	✓	$f_x$	=SUM(B6:C6)
	A	B	C	D	E	F
1	<b>Wilson Markers</b>					
2						
3		Pens	Pencils	Total		Increase
4						
5	Sales					
6	Epsom	45,000	30,000	=SUM(B6:C6)		
7	Lawrence	38,000	26,000	SUM(number1, [number2], ...)		
8	Clyde	42,000	33,000			
9	Bayswater	28,000	16,000			
10		153,000	105,000			

Notice that the formula displays = (Equal to) indicating the start of a formula. The SUM function adds the data in the cells indicated in the range. Brackets are used to display the range to be totalled (from cell B6 to cell C6).

- Click on the Enter button  $\checkmark$  on the Formula Bar to insert the formula (or you can click on  $\Sigma$  AutoSum  $\nabla$  again).
- Click on cell D7. Use the AutoSum button again to calculate the total for row 7.
- Click on cell D8. Click on  $\Sigma$  AutoSum  $\nabla$ .

You will notice that Excel has selected the cells *above* the result cell (ie column D). In this exercise we need the cells in row 8 to be calculated.