

Microsoft Excel 2010 – Level 1

11 – Number formatting



CORPORATE LEARNING & DEVELOPMENT

NUMBER FORMATTING

INFocus

Given that a spreadsheet program like Microsoft Excel is really geared to performing calculations and crunching numbers, it is only logical to assume that there are special considerations that apply to number formatting.

In Excel, *number formatting* refers to making the numbers appear with a specific number of decimal places, with percentage and currency signs, and even as dates and times.

Number formatting is one of the key aspects of ensuring that the data in your worksheets is easy to read and comprehend.

In this booklet you will:

- ✓ gain an understanding of what number formatting is
- ✓ learn how to apply general number formats to cells and ranges
- ✓ learn how to format a range of cells as currency
- \checkmark learn how to apply percentage formatting to cells
- ✓ learn how to format cells as fractions
- ✓ learn how to format dates
- ✓ learn how to apply the thousands separator to cells in the worksheet

UNDERSTANDING NUMBER FORMATTING

With numbers, in Excel what you see is definitely NOT what you get! In Excel there are always two aspects to a number: how the number presents on the screen (known as formatting) and the underlying value of a number. Take 2% as an example – on the screen it is formatted to appear as a number with a percentage sign, whereas the real value in the cell is .02!

Number Formatting – The Veil Placed Over Numbers

All calculations in Excel are done using numbers – this is only logical. So, when you want to perform a calculation you type the numbers in various cells and then create formulas to reference those numbers. But how exactly do you explain to your reader what those numbers represent? For example, how do you tell the reader that you are working with currency, or percentages, or even dates (which in Excel are really numbers)?

The answer to this question lies in *number formatting*. With number formatting you change the way a number looks so that it makes immediate sense to the reader of your worksheet – the underlying value of number, however, remains unchanged. For example, instead of show sales tax in a worksheet as **.1** you show it as **10%**, to show **12889.95** as currency it would appears **\$12,889.95** or **€12,889.95** (depending upon the country you have configured your computer to), and to show **39345** as a date you show it as 20-Sep-2007.

The following worksheet contains formatted numbers.

	Α	В	С	D	E	F	G	Н	I
1	Sales Ea	rnings							
2									
	Employee			Date	Height	Weight		Com'n	
3	No	First Name	Last Name	Started	(Mtr)	(Kg)	Total Sales	%	Commission
4	2344	John	Smith	3/10/2003	1.85	69.3	8220266	0.02	164405.32
5	3433	Mary	Henry	12/04/2004	2.1	75.22	12771833	0.02	255436.66
6	3233	Harry	Ulin	2/03/1999	1.797	87.9	35324399	0.02	706487.98
7	5445	Jim	Harrison	4/07/1992	2.21	95.66	17338194	0.02	346763.88
8	3333	Larry	Graham	14/05/2005	1.935	89.44	9670630	0.02	193412.6
9	4444	David	Jenkins	6/02/2007	1.65	68.3	6152310	0.03	184569.3
10	3332	lan	Quinn	26/03/1995	1.862	69.32	36973644	0.03	1109209.32
11	9887	Horace	Smyth	23/12/2001	1.77	80.48	10755146	0.03	322654.38
12	4646	Yolanda	Victor	5/06/1989	1.62	80.52	5061883	0.04	202475.32
13	5555	Quentin	Engels	3/04/2001	1.9	78.4	13329586	0.05	666479.3
14									

With the formatting removed from the numbers the worksheet looks as follows:

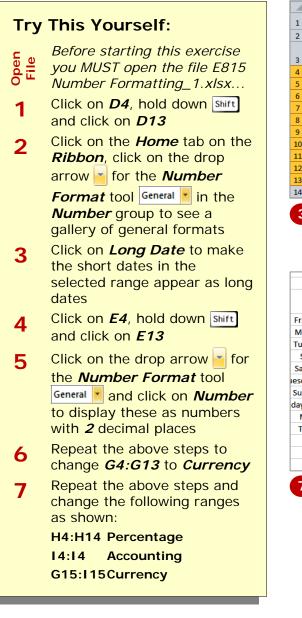
	Α	В	С	D	E	F	G	Н	I
1	Sales Ea	rnings							
2									
	Employee			Date	Height	Weight		Com'n	
3	No	First Name	Last Name	Started	(Mtr)	(Kg)	Total Sales	%	Commission
4	2344	John	Smith	03-Oct-03	16/7	69	\$8,220,266	2.0%	164,405
5	3433	Mary	Henry	12-Apr-04	2 1/9	75	\$12,771,833	2.0%	255,437
6	3233	Harry	Ulin	02-Mar-99	14/5	88	\$35,324,399	2.0%	706,488
7	5445	Jim	Harrison	04-Jul-92	2 1/5	96	\$17,338,194	2.0%	346,764
8	3333	Larry	Graham	14-May-05	2	89	\$9,670,630	2.0%	193,413
9	4444	David	Jenkins	06-Feb-07	1 2/3	68	\$6,152,310	3.0%	184,569
10	3332	lan	Quinn	26-Mar-95	16/7	69	\$36,973,644	3.0%	1,109,209
11	9887	Horace	Smyth	23-Dec-01	1 7/9	80	\$10,755,146	3.0%	322,654
12	4646	Yolanda	Victor	05-Jun-89	1 5/8	81	\$5,061,883	4.0%	202,475
13	5555	Quentin	Engels	03-Apr-01	1 8/9	78	\$13,329,586	5.0%	666,479
14									

Formatting can actually be applied as you type. For example, if you type **20/9/07** Excel will place the number **39345** in the cell but will actually format this number as a date and show it as you typed. There are also a whole range of number formatting options on the *Ribbon* that allow you to apply formatting to numbers after they have been entered into a worksheet.

APPLYING GENERAL FORMATTING

The *Number Format* tool in the *Number* group on the *Home* tab contains a drop arrow that provides a gallery of some of the more commonly used general number

formats. You can apply these formats easily and quickly to a selected cell or range of cells in the worksheet.



	Α	В	С	D	E	F
1	Sales Ea	rnings				
2						
	Employee			Date	Height	Weight
3	No	First Name	Last Name	Started	(Mtr)	(Kg)
4	2344	John	Smith	Friday, 3 October 2003	1.85	69.3
5	3433	Mary	Henry	Monday, 12 April 2004	2.1	75.22
6	3233	Harry	Ulin	Tuesday, 2 March 1999	1.797	87.9
7	5445	Jim	Harrison	Saturday, 4 July 1992	2.21	95.66
8	3333	Larry	Graham	Saturday, 14 May 2005	1.935	89.44
9	4444	David	Jenkins	Tuesday, 6 February 2007	1.65	68.3
10	3332	lan	Quinn	Sunday, 26 March 1995	1.862	69.32
11	9887	Horace	Smyth	Sunday, 23 December 2001	1.77	80.48
12	4646	Yolanda	Victor	Monday, 5 June 1989	1.62	80.52
13	5555	Quentin	Engels	Tuesday, 3 April 2001	1.9	78.4
14						

Date	Height	Weight		Com'n	
Started	(Mtr)	(Kg)	Total Sales	%	Commission
Friday, 3 October 2003	1.85	69.3	\$8,220,266.00	2.00%	\$ 164,405.32
Monday, 12 April 2004	2.10	75.22	\$12,771,833.00	2.00%	\$ 255,436.66
Tuesday, 2 March 1999	1.80	87.9	\$35,324,399.00	2.00%	\$ 706,487.98
Saturday, 4 July 1992	2.21	95.66	\$17,338,194.00	2.00%	\$ 346,763.88
Saturday, 14 May 2005	1.94	89.44	\$9,670,630.00	2.00%	\$ 193,412.60
iesday, 6 February 2007	1.65	68.3	\$6,152,310.00	3.00%	\$ 184,569.30
Sunday, 26 March 1995	1.86	69.32	\$36,973,644.00	3.00%	\$ 1,109,209.32
day, 23 December 2001	1.77	80.48	\$10,755,146.00	3.00%	\$ 322,654.38
Monday, 5 June 1989	1.62	80.52	\$5,061,883.00	4.00%	\$ 202,475.32
Tuesday, 3 April 2001	1.90	78.4	\$13,329,586.00	5.00%	\$ 666,479.30
			\$155,597,891.00		\$4,151,894.06

For Your Reference...

To *apply general formatting* to *numbers*: 1. Select the range to format

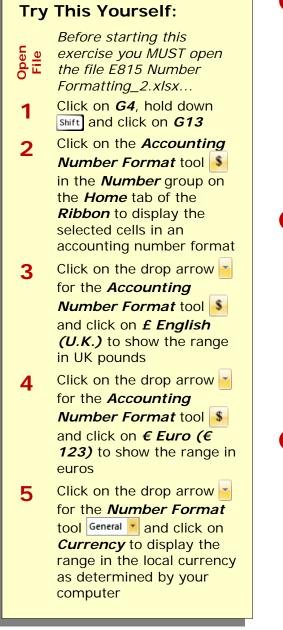
- 2. Click on the drop arrow for the
- Number Format tool General r in the Number group on the Home tab
- 3. Click on the desired number format

Handy to Know...

 Remember, changing the format does not change the underlying value. When decimals are used, Excel may appear to round values up or down as necessary – however, the value in the cell does not change. This can sometimes result in minor worksheet rounding errors.

FORMATTING AS CURRENCY

If you use *Currency* or *Accounting* from the *Number Format* list Excel will format the selected range using the currency format as defined in the setup of your computer. For example, if you are in



Australia you will receive \$ signs, while in the UK you will receive £ signs. The *Accounting Number Format* command, however, provides you with access to other currencies.

Height	Weight		Com'n	
(Mtr)	(Kg)	Total Sales	%	Commission
1.85	69.3	\$ 8,220,266.00	0.02	164405.32
2.1	75.22	\$ 12,771,833.00	0.02	255436.66
1.797	87.9	\$ 35,324,399.00	0.02	706487.98
2.21	95.66	\$ 17,338,194.00	0.02	346763.88
1.935	89.44	\$ 9,670,630.00	0.02	193412.6
1.65	68.3	\$ 6,152,310.00	0.03	184569.3
1.862	69.32	\$ 36,973,644.00	0.03	1109209.32
1.77	80.48	\$ 10,755,146.00	0.03	322654.38
1.62	80.52	\$ 5,061,883.00	0.04	202475.32
1.9	78.4	\$ 13,329,586.00	0.05	666479.3
		155597891		4151894.06

Height	Weight		Com'n	
(Mtr)	(Kg)	Total Sales	%	Commission
1.85	69.3	£ 8,220,266.00	0.02	164405.32
2.1	75.22	£ 12,771,833.00	0.02	255436.66
1.797	87.9	£ 35,324,399.00	0.02	706487.98
2.21	95.66	£ 17,338,194.00	0.02	346763.88
1.935	89.44	£ 9,670,630.00	0.02	193412.6
1.65	68.3	£ 6,152,310.00	0.03	184569.3
1.862	69.32	£ 36,973,644.00	0.03	1109209.32
1.77	80.48	£ 10,755,146.00	0.03	322654.38
1.62	80.52	£ 5,061,883.00	0.04	202475.32
1.9	78.4	£ 13,329,586.00	0.05	666479.3
		155597891		4151894.06

Height	Weight		Com'n	
(Mtr)	(Kg)	Total Sales	%	Commission
1.85	69.3	\$8,220,266.00	0.02	164405.32
2.1	75.22	\$12,771,833.00	0.02	255436.66
1.797	87.9	\$35,324,399.00	0.02	706487.98
2.21	95.66	\$17,338,194.00	0.02	346763.88
1.935	89.44	\$9,670,630.00	0.02	193412.6
1.65	68.3	\$6,152,310.00	0.03	184569.3
1.862	69.32	\$36,973,644.00	0.03	1109209.32
1.77	80.48	\$10,755,146.00	0.03	322654.38
1.62	80.52	\$5,061,883.00	0.04	202475.32
1.9	78.4	\$13,329,586.00	0.05	666479.3
		155597891		4151894.06

For Your Reference...

To format a range as *Currency*:

- 1. Select the range to format
- 2. Click on the drop arrow **r** for the

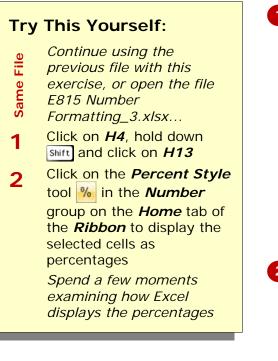
Accounting Number Format tool in the Number group and click on the desired currency format

Handy to Know...

• There is virtually no difference between the *Accounting* and the *Currency* formats except that with the *Accounting* format the currency symbol appears aligned along the left of the cell whereas with *Currency* the currency symbol is slammed up against the value.

FORMATTING PERCENTAGES

Formatting percentages can be a little tricky at first. The *percentage formats* in Excel appear to multiply a value by 100 and add on a % sign to the cell value. However, again no underlying value is changed. The percentage format simply shows the number as a percentage of 100. Therefore if you want Excel to show a value as **20%** you will need to have **.2** in the cell.



Height	Weight		Com'n	
(Mtr)	(Kg)	Total Sales	%	Commission
1.85	69.3	\$8,220,266.00	0.02	164405.32
2.1	75.22	\$12,771,833.00	0.02	255436.66
1.797	87.9	\$35,324,399.00	0.02	706487.98
2.21	95.66	\$17,338,194.00	0.02	346763.88
1.935	89.44	\$9,670,630.00	0.02	193412.6
1.65	68.3	\$6,152,310.00	0.03	184569.3
1.862	69.32	\$36,973,644.00	0.03	1109209.32
1.77	80.48	\$10,755,146.00	0.03	322654.38
1.62	80.52	\$5,061,883.00	0.04	202475.32
1.9	78.4	\$13,329,586.00	0.05	666479.3
		155597891		4151894.06

Height	Weight		Com'n	
(Mtr)	(Kg)	Total Sales	%	Commission
1.85	69.3	\$8,220,266.00	2%	164405.32
2.1	75.22	\$12,771,833.00	2%	255436.66
1.797	87.9	\$35,324,399.00	2%	706487.98
2.21	95.66	\$17,338,194.00	2%	346763.88
1.935	89.44	\$9,670,630.00	2%	193412.6
1.65	68.3	\$6,152,310.00	3%	184569.3
1.862	69.32	\$36,973,644.00	3%	1109209.32
1.77	80.48	\$10,755,146.00	3%	322654.38
1.62	80.52	\$5,061,883.00	4%	202475.32
1.9	78.4	\$13,329,586.00	5%	666479.3
		155597891		4151894.06

For Your Reference...

- To *format cells* as *Percentages*: 1. Select the range to format
 - 2. Click on the *Percent Style* tool <u>%</u> in the *Number* group on the *Home* tab of the *Ribbon*

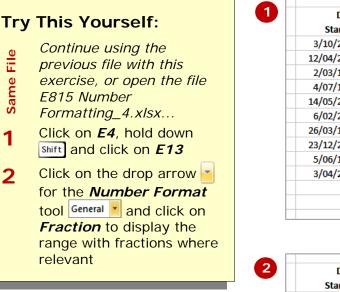
Handy to Know...

• You can actually type a formatted percentage directly into a new cell. For example, if you type 15% into cell D20 the value in D20 will actually be entered as .15 but will display as typed.

FORMATTING AS FRACTIONS

Excel allows you to format numbers with decimal places as *fractions*. This may sound cool but in fact it is rather limiting simply because the display of the fractions

is difficult to read. For example, if you format **3.5** as a fraction it would be nice to see $3\frac{1}{2}$ in the cell – however in reality you will receive $3\frac{1}{2}$ which is less than useful.



	Date	Height	Weight		Com'n
	Started	(Mtr)	(Kg)	Total Sales	%
	3/10/2003	1.85	69.3	\$8,220,266.00	2%
	12/04/2004	2.1	75.22	\$12,771,833.00	2%
	2/03/1999	1.797	87.9	\$35,324,399.00	2%
	4/07/1992	2.21	95.66	\$17,338,194.00	2%
	14/05/2005	1.935	89.44	\$9,670,630.00	2%
	6/02/2007	1.65	68.3	\$6,152,310.00	3%
	26/03/1995	1.862	69.32	\$36,973,644.00	3%
	23/12/2001	1.77	80.48	\$10,755,146.00	3%
	5/06/1989	1.62	80.52	\$5,061,883.00	4%
	3/04/2001	1.9	78.4	\$13,329,586.00	5%
-				155597891	

Date	Height	Weight		Com'n
Started	(Mtr)	(Kg)	Total Sales	%
3/10/2003	16/7	69.3	\$8,220,266.00	2%
12/04/2004	2 1/9	75.22	\$12,771,833.00	2%
2/03/1999	14/5	87.9	\$35,324,399.00	2%
4/07/1992	2 1/5	95.66	\$17,338,194.00	2%
14/05/2005	2	89.44	\$9,670,630.00	2%
6/02/2007	1 2/3	68.3	\$6,152,310.00	3%
26/03/1995	16/7	69.32	\$36,973,644.00	3%
23/12/2001	1 7/9	80.48	\$10,755,146.00	3%
5/06/1989	15/8	80.52	\$5,061,883.00	4%
3/04/2001	18/9	78.4	\$13,329,586.00	5%
			155597891	

For Your Reference...

To format decimals as fractions:

- 1. Select the range to format
- Click on the drop arrow register for the Number Format tool General register in the Number group on the Home tab
- 3. Click on Fractions

Handy to Know...

 Fortunately, most countries in the world have converted to decimal systems and there should be very little need to utilise fractions as shown above. Fractions in Excel are really only for the die-hards.

FORMATTING AS DATES

When is a date not a date? When it is in an Excel worksheet. *Dates* in Excel are really sequential numbers beginning from Jan 1, 1900 which is day number 1. So when you type a date in Excel it is converted to the

1

Try This Yourself:

- Continue using the
- previous file with this
- Same File exercise, or open the file
- E815 Number
- Formatting_5.xlsx...
- Click on **D4**, hold down 1 shift and click on **D13**
- Click on the dialog box 2 selector is on the Number group on the *Home* tab on the ribbon

This will display the Format Cells dialog box with the Number tab active and the Date category visible...

Scroll through the list, click 3 on 14-Mar-01 and click on [OK] to see the dates in the range in this particular date format

number that corresponds to the number of days from Jan 1, 1900. The really nice thing with Excel is that there are quite a few different date formats to work with.

Last Name	Date Started	Height (Mtr)	Weight (Kg)	Total Sales
Smith	3/10/2003	16/7	69.3	\$8,220,266.00
Henry	12/04/2004	2 1/9	75.22	\$12,771,833.00
Ulin	2/03/1999	14/5	87.9	\$35,324,399.00
Harrison	4/07/1992	2 1/5	95.66	\$17,338,194.00
Graham	14/05/2005	2	89.44	\$9,670,630.00
Jenkins	6/02/2007	1 2/3	68.3	\$6,152,310.00

General Number Currency Accounting Date Time Percentage Fraction Scientific Text Special Custom	3/10 Type: *14/03 14/03 14/3/ 14/3/ 14/3/ 14/3/ 14/3/ 14/03	3/10/2003		1
asterisk (*) respond	to changes in	regional da	te and time	te values. Date formats that begin with e settings that are specified for the ffected by operating system settings.

Last Name	Date Started	Height (Mtr)	Weight (Kg)	Total Sales
Smith	03-Oct-03	16/7	69.3	\$8,220,266.00
Henry	12-Apr-04	2 1/9	75.22	\$12,771,833.00
Ulin	02-Mar-99	14/5	87.9	\$35,324,399.00
Harrison	04-Jul-92	2 1/5	95.66	\$17,338,194.00
Graham	14-May-05	2	89.44	\$9,670,630.00
Jenkins	06-Feb-07	1 2/3	68.3	\$6,152,310.00

For Your Reference...

To change a date format:

- 1. Select the range to change
- 2. Click on the dialog box selector i on the Number group to see the Format *Cells* dialog box
- 3. Select the desired format and click [OK]

Handy to Know...

Excel also has time formats as well. These are useful for time arithmetic.

USING THE THOUSANDS SEPARATOR

Larger numbers can sometimes be difficult to read. For example, when you see 1324633 are we talking in millions or hundreds of thousands? You really need to

count the numbers to be sure. Using the *Comma Style* tool *h* this number can easily be formatted to appear as 1,324,633 which is instantly much easier to read.

Try This Yourself:

Continue using the

- File previous file with this
- exercise, or open the file E815 Number
- Same Formatting_6.xlsx...
- Click on **F4**, hold down 1 Shift and click on F13 to select the range F4:F13
- Click on the Comma Style 2 tool 🧈 in the **Number** group on the Home tab of the *Ribbon* to format the numbers

Well, perhaps not! This was a trick format. Nothing changed here because the numbers aren't large enough for the comma to be applied...

- Click on *I4*, hold down 3 Shift and click on cell 113 to select the range *14:113*
- Click on the Comma Style 4 tool 🗾 in the **Number** group on the Home tab of the *Ribbon* to format the numbers to show commas after thousands and millions

Height	Weight		Com'n	
(Mtr)	(Kg)	Total Sales	%	Commission
16/7	69.3	\$8,220,266.00	2%	164405.32
2 1/9	75.22	\$12,771,833.00	2%	255436.66
14/5	87.9	\$35,324,399.00	2%	706487.98
2 1/5	95.66	\$17,338,194.00	2%	346763.88
2	89.44	\$9,670,630.00	2%	193412.6
1 2/3	68.3	\$6,152,310.00	3%	184569.3
16/7	69.32	\$36,973,644.00	3%	1109209.32
17/9	80.48	\$10,755,146.00	3%	322654.38
15/8	80.52	\$5,061,883.00	4%	202475.32
18/9	78.4	\$13,329,586.00	5%	666479.3
		155597891		4151894.06

Height	Weight		Com'n	
(Mtr)	(Kg)	Total Sales	%	Commission
16/7	69.30	\$8,220,266.00	2%	164405.32
2 1/9	75.22	\$12,771,833.00	2%	255436.66
14/5	87.90	\$35,324,399.00	2%	706487.98
2 1/5	95.66	\$17,338,194.00	2%	346763.88
2	89.44	\$9,670,630.00	2%	193412.6
1 2/3	68.30	\$6,152,310.00	3%	184569.3
16/7	69.32	\$36,973,644.00	3%	1109209.32
17/9	80.48	\$10,755,146.00	3%	322654.38
15/8	80.52	\$5,061,883.00	4%	202475.32
18/9	78.40	\$13,329,586.00	5%	666479.3
		155597891		4151894.06

	Com'n		Weight	Height
Commissio	%	Total Sales	(Kg)	(Mtr)
164,405.32	2%	\$8,220,266.00	69.30	16/7
255,436.66	2%	\$12,771,833.00	75.22	2 1/9
706,487.98	2%	\$35,324,399.00	87.90	14/5
346,763.88	2%	\$17,338,194.00	95.66	2 1/5
193,412.60	2%	\$9,670,630.00	89.44	2
184,569.30	3%	\$6,152,310.00	68.30	1 2/3
1,109,209.32	3%	\$36,973,644.00	69.32	16/7
322,654.38	3%	\$10,755,146.00	80.48	17/9
202,475.32	4%	\$5,061,883.00	80.52	15/8
666,479.30	5%	\$13,329,586.00	78.40	18/9
4151894.0		155597891		

For Your Reference...

To show numbers with commas:

- 1. Select the range to format
- 2. Click on the *Comma Style* tool 🧈 in the *Number* group on the *Home* tab of the Ribbon

Handy to Know...

As a default, the *Comma Style* tool also displays 2 decimal places. You can adjust this later to either increase or decrease the decimal places if required.

CONCLUDING REMARKS

Congratulations!

You have now completed the **Number formatting** booklet. This booklet was designed to get you to the point where you can competently perform a variety of operations as listed in the objectives on page 2.

We have tried to build up your skills and knowledge by having you work through specific tasks. The step by step approach will serve as a reference for you when you need to repeat a task.

Where To From Here...

The following is a little advice about what to do next:

- Spend some time playing with what you have learnt. You should reinforce the skills that you have acquired and use some of the application's commands. This will test just how much of the concepts and features have stuck! Don't try a big task just yet if you can avoid it small is a good way to start.
- Some aspects of the course may now be a little vague. Go over some of the points that you may be unclear about. Use the examples and exercises in these notes and have another go these step-by-step notes were designed to help you in the classroom and in the work place!

Here are a few techniques and strategies that we've found handy for learning more about technology:

- visit CLD's e-learning zone on the Intranet
- read computer magazines there are often useful articles about specific techniques
- if you have the skills and facilities, browse the Internet, specifically the technical pages of the application that you have just learnt
- take an interest in what your work colleagues have done and how they did it we don't suggest that you plagiarise but you can certainly learn from the techniques of others
- if your software came with a manual (which is rare nowadays) spend a bit of time each day reading a few pages. Then try the techniques out straight away over a period of time you'll learn a lot this way
- and of course, there are also more courses and booklets for you to work through
- finally, don't forget to contact CLD's IT Training Helpdesk on **01243-752100**