

Excel

Spreadsheet functions

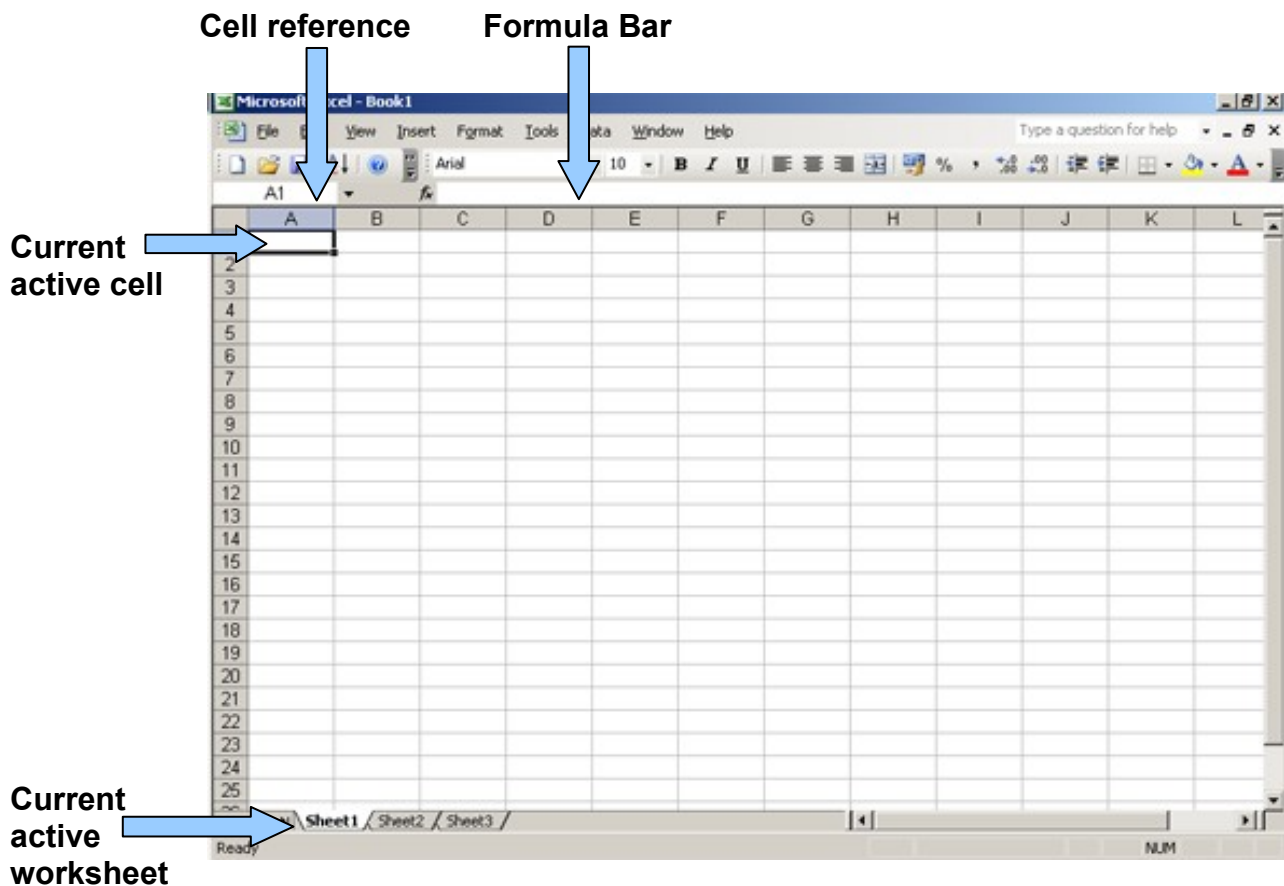
Objectives – Week 1

By the end of this session you will be able to :-

- Move around workbooks and worksheets
- Insert and delete rows and columns
- Calculate with the Auto Sum function
- Calculate using +, -, * and /
- Copy formula
- Create charts using the chart wizard
- Print worksheets and charts

Opening a new workbook

In Microsoft Excel, a workbook is the file in which you work and store your data. Because each workbook can contain many sheets (worksheets), you can organise various kinds of related information in one single file. You can enter and edit data on several worksheets simultaneously. The names of the sheets appear on tabs at the bottom of the workbook window. To move from sheet to sheet, click the sheets tab. The name of the active sheet is in bold type.



Moving around the worksheet

- Use the cursor (arrow) keys on the keyboard
- Use your mouse pointer to move to the cell required
- Use the horizontal and vertical scroll bars

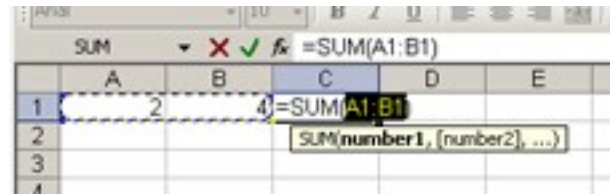
Inserting columns and rows

- To insert a new row above row 1, put your cursor in any cell in row 1 and select Insert > Row, from the menu bar. This will insert a row above the active cell.
- To insert a new column between columns B and C, put your cursor in any cell in column C and select Insert > Column, from the menu bar. This will insert a column before the active cell.

Simple Calculations

AutoSum Σ

- In cell reference A1 type 2, in cell B1 type 4.
- In C1 click on the AutoSum button on the menu bar.
- You should see the details opposite.



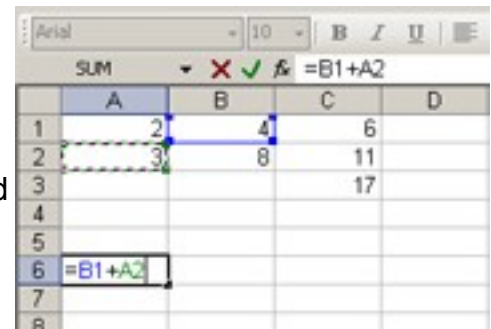
This shows the formula that is going to be calculated – the sum of cells A1 to B1. The dashed lines (around A1 and B1) shows the cells to be used for the calculation, C1 shows the actual formula and this is where the results will be displayed. Also note the formula bar shows the same as the cell that contains the formula (C1).

- Now press enter to see the result in C1
- Now move your cursor back into C1 to see the result in C1 and also the formula in the formula bar
- In A2 type 3, in B2 type 8
- Use AutoSum in C2 to add the two together
- Use AutoSum in C3 to add the results from C1 and C2 together

Addition +

Another way to add multiple numbers together is to use the + key. This is particularly useful if the cells you wish to add together are not next to each other.

- In A6 type =
- Then click into B1
- Then type +
- Then click into A2
- The formula in A6 and the formula bar should read =B1+A2
- Press enter to see the result



Note – You always start a formula with an = sign

- In B6 type =B1+A2
- Press enter to see the result

Note – you can either use the mouse to click into cells you want to use in a formula or you can type the cell references into the formula

- In E1 type 11, in F1 type 8
- Add the two together in G1
- In E2 type 5, in F2 type 9
- Add the two together in G2

Subtraction (-), Multiplication (*) and Division (/)

In the same way that you used + complete the following calculations:-

- In A11 type 36, in B11 type 25
- Subtract B11 from A11 in C11
- In A12 type 12, in B12 type 8
- Subtract B12 from A12 in C12
- In A14 type 5, in B14 type 3
- Multiply them together in C14
- In A15 type 8, in B15 type type 6
- Multiply them together in C15
- In A17 type 25, in B17 type 5
- Divide A17 by B17 in C17
- In A18 type 12, in B18 type 2
- Divide A18 by B18 in C18

8			
9			
10			
11	36	25	=SUM(A11-B11)
12	12	8	
13			
14	5	3	
15	8	6	
16			
17	25	5	
18	12	2	
19			
20			
21			

Copying Formula

Open the Holidays worksheet from the excel folder from the R: drive. You will see a breakdown of holidays sold during the last year and you need to calculate totals where indicated.

- To calculate the Total by Month column click into E2 and click on AutoSum
- Check the dashed lines are for the cells you require
- Press enter
- To copy this formula for each month click into E2
- Move your mouse to the square at the bottom right of the cell
- Your pointer will become a cross (+)
- Click and hold the left mouse button
- Drag your mouse to the last cell (E13)
- You will see a grey outline around the cells
- Release the mouse button
- You will see the formula results

Note that when you copy and paste formula, the formula automatically changes its cell references to the cells in the new row or column. Check this by looking at the formula for rows 6 and 12.

Microsoft Excel - holidays.xls

	A	B	C	D	E	F
1		UK	Europe	Rest of World	Total by Month	
2	Jan	150	369	84	=SUM(B2:D2)	
3	Feb	89	512	214		
4	Mar	132	452	165		
5	Apr	246	520	154		
6	May	218	498	271		
7	June	276	714	213		
8	July	643	1005	505		
9	Aug	879	1534	489		
10	Sept	511	1200	462		
11	Oct	189	296	167		
12	Nov	112	245	101		
13	Dec	601	966	701		
14	Total by Region					




Microsoft Excel - holidays.xls

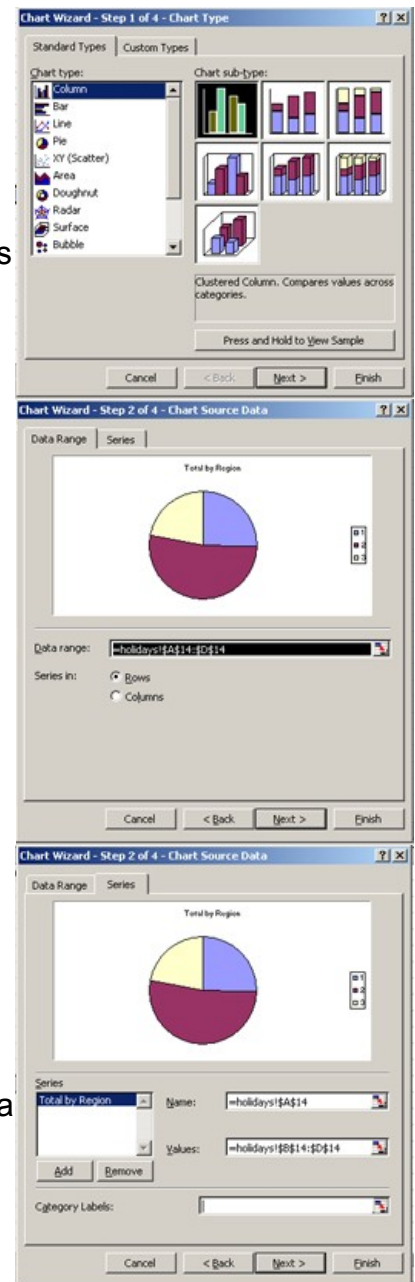
	A	B	C	D	E	F
1		UK	Europe	Rest of World	Total by Month	
2	Jan	150	369	84	603	
3	Feb	89	512	214	815	
4	Mar	132	452	165	749	
5	Apr	246	520	154	920	
6	May	218	498	271	987	
7	June	276	714	213	1203	
8	July	643	1005	505	2153	
9	Aug	879	1534	489	2902	
10	Sept	511	1200	462	2173	
11	Oct	189	296	167	652	
12	Nov	112	245	101	458	
13	Dec	601	966	701	2268	
14	Total by Region					

- Use the same procedure calculate the Totals by Region

Using the Chart Wizard


You have been asked to produce a pie chart showing the breakdown of holidays by region for the year.

- Highlight the cells A14 to D14
- Click on the Chart Wizard icon 
- You see the Chart Wizard – Step 1
- Down the left hand side you will see the various chart types available
- Move down the list and as you highlight each option you will see examples of the charts on the right
- Click on the Press and hold to view sample, to see an example of what the chart will look like.
- Highlight the pie option
- Click on next to go to Step 2
- On the data range tab you can check the data range is correct by clicking on the 
- On the Series tab you need to tell the wizard where to get the names for the actual values
- Click on the  by the category labels option
- You will be taken back to the worksheet with a Source Data box



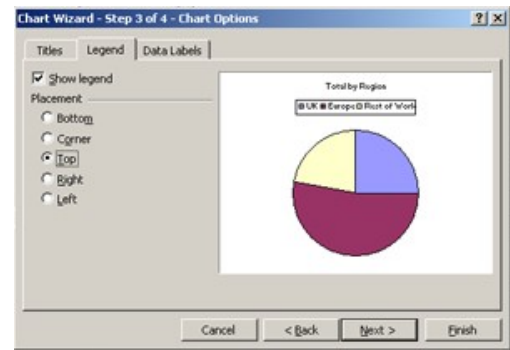
	D1	Total by Region								
	A	B	C	D	E	F	G	H	I	J
1		UK	Europe	Rest of World	Total by Month					
2	Jan	150	369	84	603					
3	Feb	89	512	214	815					
4	Mar	132	452	165						
5	Apr	246	520	154						
6	May	218	498	271						
7	June	276	714	213	1203					

- Highlight the cells that contain the column headings you wish to use (B1 to D1)
- These cell references will appear in the source data box

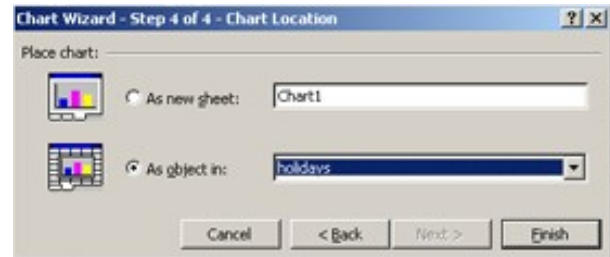
- Click on the  to return to the wizard
- You will now see the Series screen has labels
- Click on Next to go to step 3

Here you get to choose the layouts for your chart

- Click on the 3 tabs and the various options available and see the changes on the preview
- Click on next to go to Step 4



- Here you can choose where to place your chart – either as a new sheet or as an object in a sheet
- Click in the 'As object in' section
- Then click on finish
- Your chart will appear!



To move the chart's positioning click on the chart box, click and drag with the mouse.

Printing

Depending on the amount of data on the page you can decide the best way to print.

If there isn't much data you can just press print and it should print OK. If you click on a chart and press print the chart will print and fill a whole A4 page.

If you have quite a lot of data you need to do two or three things:-

1. Set your print area (so that the correct data only shows)

- Click and drag the area you want to print
- Select File
- Print Area
- Set Print Area
- Dashed lines will appear around the area on screen

2. Change the layout of the paper (e.g. Portrait or landscape) or margins

- Select File
- Page Setup
- On the page tab you can change the orientation
- You can click into the fit to 1 page tall (This will ensure your data will fit to one page but if there is a lot of text it may be small in which case you could for example change it to fit by 2 pages wide and 1 page tall)
- You can change the margins on the margins tab
- You can set the sheet to print gridlines around your data on the sheet tab

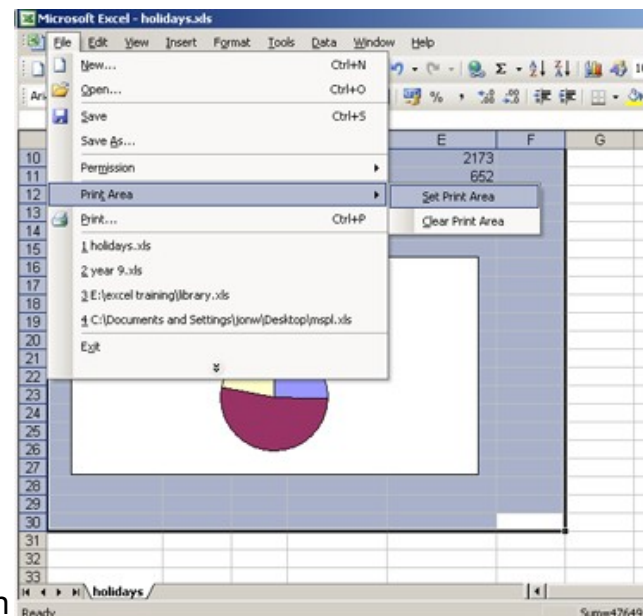
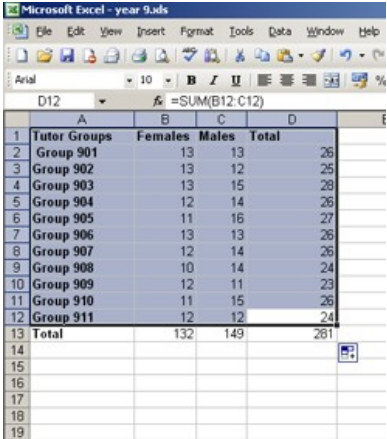


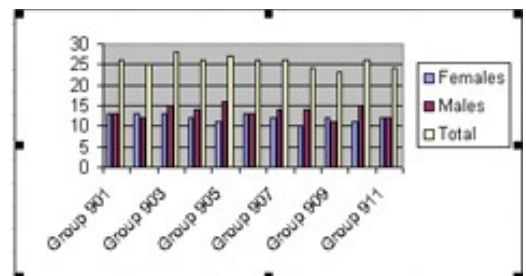
Chart Wizard

For the chart wizard we have used data from adjoining columns; you can also use data from columns that are not adjoining. Details of both are below. For these examples I have used the Year 9 data and a column chart.

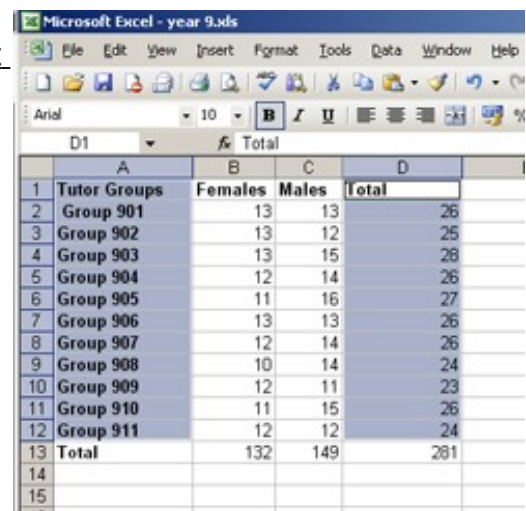
- If you want to use data from adjoining columns on a workbook highlight all the columns (including row and column headings) using your mouse so that the area becomes blacked out.
- Click on the Chart Wizard icon
- Follow the Chart Wizard's steps (remember you can go backwards if the preview does not look how you would expect it to)
- When you click on finish your graph should look like this



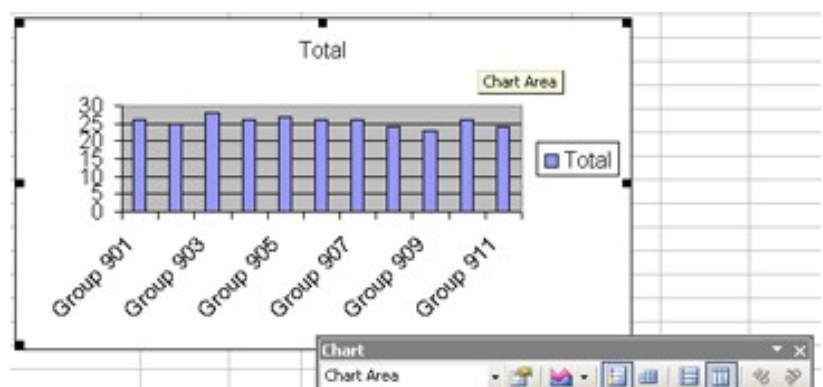
Tutor Groups	Females	Males	Total
Group 901	13	13	26
Group 902	13	12	25
Group 903	13	15	28
Group 904	12	14	26
Group 905	11	16	27
Group 906	13	13	26
Group 907	12	14	26
Group 908	10	14	24
Group 909	12	11	23
Group 910	11	15	26
Group 911	12	12	24
Total	132	149	281



- If you want to use data from columns that are not adjoining highlight the first column
- Press and hold the Ctrl key
- Highlight the other column(s) you wish to use
- Click on the Chart Wizard icon
- Follow the Chart Wizard's steps (remember you can go backwards if the preview does not look how you would like it to)
- When you click on finish your graph should look like this
- If you want to remove the key, click on it and press the delete key



Tutor Groups	Females	Males	Total
Group 901	13	13	26
Group 902	13	12	25
Group 903	13	15	28
Group 904	12	14	26
Group 905	11	16	27
Group 906	13	13	26
Group 907	12	14	26
Group 908	10	14	24
Group 909	12	11	23
Group 910	11	15	26
Group 911	12	12	24
Total	132	149	281



Excel Practice 1

Open the worksheet named Year 9

Using the functions we have covered today complete the following exercise:

- Using calculations we have covered today fill in the missing numbers
- In cell A1 write Tutor Groups
- Make the text in row 1 and column A bold
- Under the appropriate column in row 14 calculate the total number of students in each of the tutor groups
- Give the chart a suitable title
- Ensure your chart and data fit on one page and print it out

Excel Practice 2

Open the worksheet named Library and complete the following exercises:

- Centre the text in columns B – I
- Using calculations we have covered today calculate the totals for columns H and I
- Make the totals, column and row titles bold
- Using the Chart Wizard create 2 pie charts showing the totals for the two quarters
- Move the charts so they are side by side under the data
- Ensure your chart and data fit to one landscape page and print it out