



BMS 'Excels'

Excel Terminology

Spreadsheet – combination of rows and columns in which data is entered and then manipulated

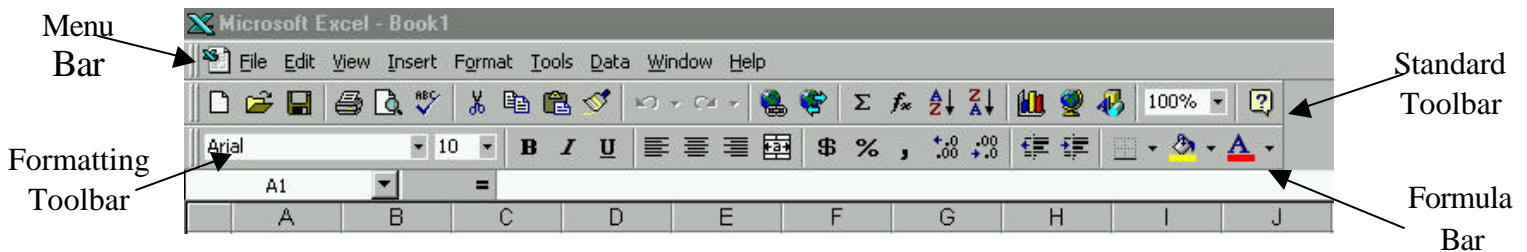
Worksheet – a collection of rows and columns in Excel – use the tabs or arrows across the bottom to move from one worksheet to another.

Workbook – a collection of Worksheets in Excel

Rows – are labeled 1 through 65,536 - vertical

Columns – are labeled A through IV – horizontal

Cells – more than 16 million of these! - the intersection of a row and column



The Menu Bar - There are nine items in the Menu Bar, all of which are *drop-down menus*.

- | | |
|---------------|---------------|
| File | Tools |
| Edit | Data |
| View | Window |
| Insert | Help |
| Format | |

The Standard Toolbar - You can use these icons in place of the drop-down menus in the Menu Bar. Here are the names/functions of the icons, in order from left to right –

New , Open, Save, Print, Print Preview, Spelling, Cut, Copy, Paste, Format Painter, Undo, Redo, Hyperlink, WebToolbar, AutoSum, Paste Function, Sort Ascending, Sort Descending, Chart, Map, Drawing, Zoom, and Office Assistant.

The Formatting Toolbar - This provides you with buttons that correspond to the formatting commands. Here are the names/functions of the icons, in order from left to right –

Font, Font Size, Font Style (Bold, Italic, Underline), Justification (left, center, right, merge and center), Currency Style, Percent Style, Comma Style, Increase Decimal, Decrease Decimal, Decrease Indent, Increase Indent, Borders, Fill Color, and Font Color.

The Formula Bar - This bar shows entries being created before they are actually entered into the worksheet. This includes the *Active Cell Name*, the *Edit Formula Button*, and the *Formula Bar*.

Inserting and Deleting Columns and Rows

- ◆ To insert a column or row in an already created spreadsheet - highlight the column to the right or the row below where you want the new column/row to appear. Go to *Insert* and pull down to either *Row* or *Column*. This should place a new row or column into your existing spreadsheet.
- ◆ To delete a column or row in an already created spreadsheet - highlight the row or column to be deleted. Go to *Edit* and pull down to *Delete*. A pop-up window will appear asking you what you want to do either delete and shift cells or delete an entire column or row. Select either column or row and click *OK*.

Some Excel special features:

Autofill - Excel has common series of words and numbers already in its memory and will complete the series for you. Some of the available series are months of the year, days of the week.

Formulas - the four basic operations that can be performed with a keystroke area: Addition +, Subtraction -, Multiplication *, and Division /.

To enter a formula, first enter an equal (=) sign as the first character in the cell.

There are three ways beyond this point to complete the formula -

- ◆ Method one -enter the = sign and then enter the specific numbers (ex. =2+2) and use Excel as you would a calculator.
- ◆ Method two - enter the = sign and then enter the address of the cell containing the number that you want to use, enter the operation sign, and then enter the address of the second number you want to use. Then press Enter. (ex =b1 + b2)

- ◆ Method three - enter the = sign and then add the word sum add a left (, next click and drag over a series of cells you wish to have added then add a right). Press enter to complete. (ex =sum(cell 1:cell 2))

AutoSum - to quickly add rows or columns of numbers, the AutoSum button on the toolbar is the one to use! All you need to do is to click and drag over the cells you wish to add and continue to one cell past the last in the row or column. Release the mouse button, then click on the AutoSum button on the toolbar and your answer will appear,



The easiest way to learn how to do some of the exciting things in Excel is to actually try! So here is what we are going to do



Procedure:

- ⊗ **Fill out pre-activity forms.**
- ⊗ **Open the first bag of M&M's, count the total number of candies in the bag.**
- ⊗ **Sort the candies by color, then count the number of M&M's of each color.**
- ⊗ **Write this data down on your handout.**
- ⊗ **Open the second bag of M&M's and follow the same procedure for it.**

Assignment 1 - Entering the Data

- 🖨 At the top of your spreadsheet place the title of our activity - Candy is dandy! (In cell A1)
- 🖨 Next, enter your row titles and column headings - **row titles** should be the colors of the M&M's (A3 - Blue, A4 - Brown, A5 - Green, A6 - Orange, A7 - Red, A8 - Yellow, A9 - Total); **column headings** should be Color (A2), Bag 1(B2), and Bag 2(C2), and Average(D2).

	A	B	C	D
1	Candy is Dandy!			
2	Color	Bag 1	Bag2	Average
3	Blue	5	6	5.5
4	Brown	7	5	6
5	Green	7	8	7.5
6	Orange	8	6	7
7	Red	9	4	6.5
8	Yellow	4	8	6
9	Total	40	37	

- 🖥 In Cells B3-B8 enter the data for Bag 1.
- 🖥 In Cells C3-C8 enter the data for Bag 2.
- 🖥 Now using one of the methods described earlier, add the amounts listed in column B.
- 🖥 Now add the amounts listed in column C.
- 🖥 To figure the average out for column D follow the next steps! Highlight cell D3. Click on the *fx* (function) button on the toolbar. From the pop-up window that appears, select *Average* from the right-hand side. Another pop-up window will appear to verify what the cell addresses are for those to be averaged. Double check to make sure that they are correct. If they are, click *OK*.
- 🖥 To copy this function to the other cells in column D follow the next steps! Highlight cell D3. Go to *Edit* and pull down to *Copy*. In your spreadsheet, click and drag to select the cells that you want to copy that function to. Go to *Edit* and pull down to *Paste*. This should copy that function into the cells that you highlighted and figure out the average!

Assignment 2 - Creating the Chart

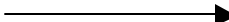
- 🖥 Using the M&M worksheet, click and drag the mouse from cell A3 to C3 and then down to A8 to C8. This should select/highlight all of the data in the worksheet except for the average column. This will give us a chart that compares the results from bag1 to bag 2.
- 🖥 From the Toolbar select the *Chart Wizard* button. 
- 🖥 A series of Chart Wizard prompt screens will appear complete the following steps:



Chart Wizard Step 1 - select *Column* and then select *next*. (Note - if you click and hold on button in bottom right corner, you can view a sample of the type you have selected!)

Chart Wizard Step 2 - select **Columns** for the Data Range Tab, then click on the Series tab. In this area, you should see along the left side a Series 1 and Series 2 item. You will want to have these say Bag 1 and Bag 2 instead of series one and series two. To change these just highlight each (one at a time) and then type in Bag 1 and Bag 2 where it says Name. Click **next**.

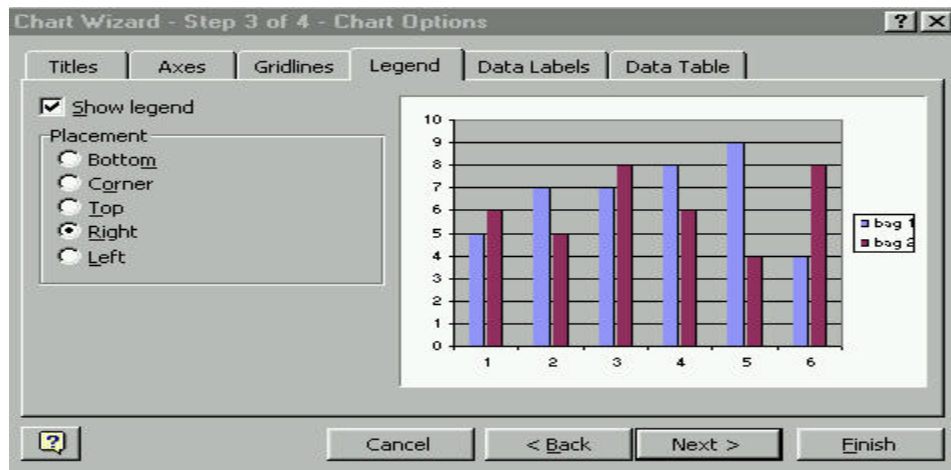


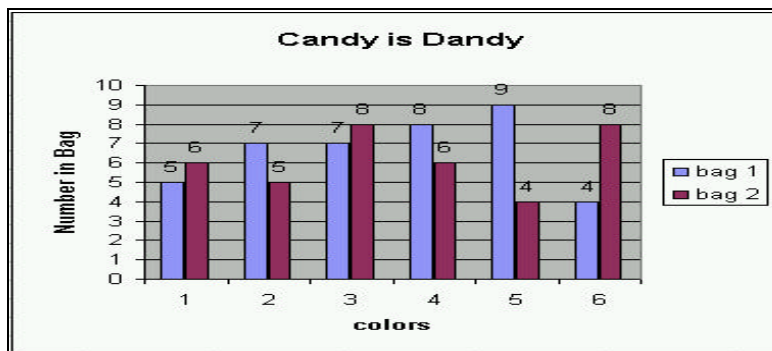
Chart Wizard Step 3 -

- ◆ **Under the Titles tab**, in the area **Title**, type **Candy is Dandy!**
- ◆ Under **X axis**, type **Colors**
- ◆ Under **Y axis**, type **Number in Bag**
- ◆ **Under the Legend tab**, change the placement of your legend.
- ◆ **Under Data Labels tab**, add the value of each into the chart.
- ◆ Select **Next**

Chart Wizard Step 4 - Chart location

- ◆ Select **As Object In**
- ◆ Select **Finish**

Click and drag the chart to the desired location on your spreadsheet.



I would now like for you to create a Pie chart for Bag 1

- ◆ Click and drag to highlight the data in cells A3 to B3 and down to A8 and B8.
- ◆ Click on the **Chart Wizard** button on the toolbar.
- ◆ Select a **Pie chart**.
- ◆ Give the chart a name such as Bag One. (titles tab)
- ◆ Be sure the add the values to each segment. (data labels tab)
- ◆ This time add the chart as a New Sheet and give the sheet a name such as Bag One Pie Chart.

Repeat the same procedure for Bag 2

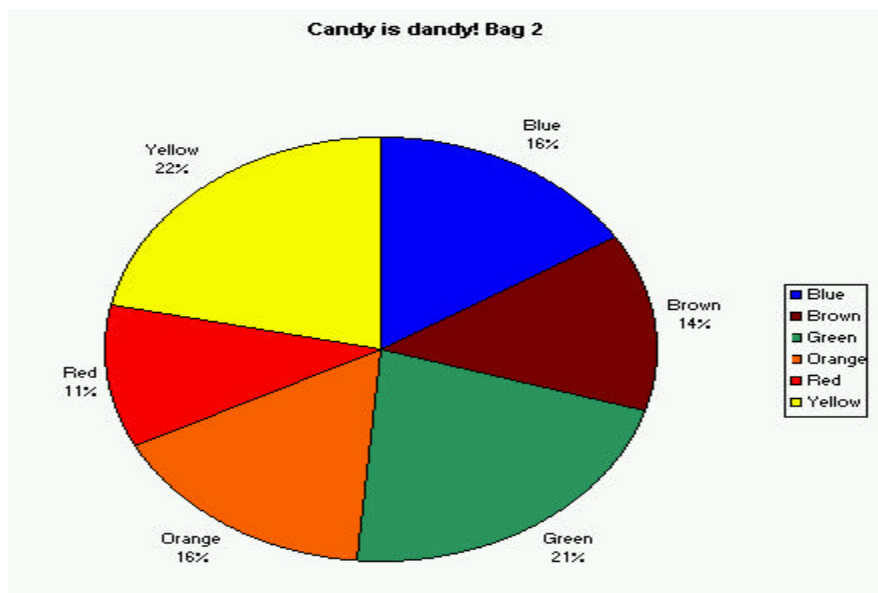
- ◆ To select data from columns that are not adjacent, follow this procedure...
- ◆ Click and drag from A3 to A8.
- ◆ Press and hold down the Control key.
- ◆ Click and drag from C3 to C8.
- ◆ Follow the same process as above to create the Pie Chart and be sure to place it on a New Sheet.

- 🖥️ You can use the tab located at the bottom of the screen to "flip" back and forth between the chart and the spreadsheet
- 🖥️ Save the spreadsheet
- 🖥️ Make changes to the numbers in the spreadsheet and "flip" back to the chart - the chart changes along with the spreadsheet data.

Activity 3 - Modifying the Chart

- 🖥️ Make sure you are back at the original worksheet which shows our data and the Bar chart comparing Bags 1 and Bag 2.
- 🖥️ Select the Chart by single clicking on it. This will give you handles on the chart.
- 🖥️ At this point you can resize or re-position the chart on the worksheet.
- 🖥️ If you single click on the title of the chart, you can change it. Change the Chart title to say, Bag 1 and Bag 2 comparison.
- 🖥️ Single click the other text items to select and then click again to insert your cursor to edit. Change Colors to singular and change Number to Quantity.
- 🖥️ Double click on one of the bars representing Bag 1 and you will get a color palette where you can change the bar colors. Also in this window you can change the border, etc. Change the bar color for bag one to red and the bar color for bag two to blue.

🖥️ Note that when you change the pattern of a bar or segment, the legend will change also.



Now go to the Pie Chart for Bag 1.

🖥️ For the purpose of our chart, select each of the segments of the pie graph one at a time and change the segment color to the color of the M&M. Make sure that you are selecting the individual segments as opposed to the entire Pie Chart.

Do the same procedure for the Pie Chart for Bag 2.

🖥️ Experiment with other options that are available to you.

Thanks for being such an Excel-lent group!