



# Using Excel for Simple Data Analysis

For illustration purposes I will refer to an example class who have taken part in CensusAtSchool.

To start with their spreadsheet looks like this:

The screenshot shows an Excel spreadsheet with the following structure:

- Row 1: Key Stage 2, School Out (up to 3 digits before a 0), School Name, The First School of Excellence
- Row 2: Summary, First Number, 10 digits after the 0, School Address, School Lane, Use the number 1 to 4, Please include Q7 if
- Row 3: Form, Class name or reference e.g. 1b, Y9/9e
- Row 4: Use the number 1 for a tick, else type in letters, numbers or full postcode for Q8
- Row 5: Please include Q7 in Q12 but leave space; Mark in Q's 4, 7, 10, 13 & 17
- Row 6: Name of teacher responsible for this reply, Sum
- Columns: Q1 (Height in cm), Q2 (Age), Q3 (Year), Q4 (England/Wales/Scotland/Northern Ireland/Republic of Ireland/Other European/Other non-European), Q5 (Citizenship), Q6 (Homeless), Q7 (Mobile phone), Q8 (Computer), Q9 (Internet), Q10 (Main postcode), Q11 (Local post code), Q12 (Yes/No/Phone/Fax/Other), Q13 (People), Q14 (Male), Q15 (Female), Q16 (Other), Q17 (Dog), Q18 (Cat), Q19 (Fish), Q20 (Pig), Q21 (Goat)

In order to use Excel easily, it is better to delete the top 6 rows completely so that row 1 has got your column headings. Also delete lines 8 and 9 that have the example data in them. It should now look like this:

The screenshot shows the Excel spreadsheet after deleting the top 6 rows. The data now starts from row 1, with the same column headings as the previous screenshot.

Use the scroll bar on the left to move down the sheet to row 33 where we will do some counting up and averages.

e.g. in order to work out the Mean, Mode and Median of the height data in cell N33 type the formula =AVERAGE(N2:N31) and the mean height of 133 will be calculated. Put =MODE(N2:N31) into cell N34 and =MEDIAN(N2:N31) into N35

You can pull formulas by using the little black dot on the bottom right corner of the cell they are in. Try

The screenshot shows the Excel spreadsheet with the following data and formulas:

	England	Wales	Scotland	Northern Ireland	Republic of Ireland	Other Europe	Other non-Eu	N	O	P	Q	F
1								centimetres	centimetres	mobile phone	computer	Internet
29	1							134	21		1	
30	1							138	23		1	
31	1							131	20	1	1	
32												
33							Mean	133				
34							Mode	134				
35							Median	133				



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doing this to pull the formulae across to work out the averages for foot length.

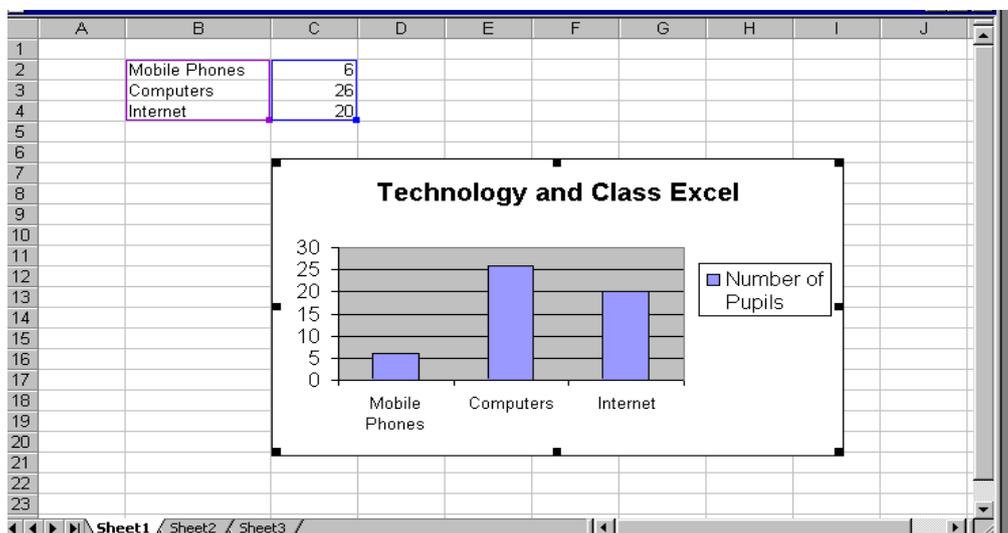
	Oth	cent	cent
Mean		133	20.7
Mode		134	21
Median		133	21

To count totals we use the function called COUNTIF. Try putting =COUNTIF (P2:P31,1) into cell P33 and it will count up how many 1's it can find in the cells from P2 to P31 so giving you the total number of pupils who answered yes to the mobile phone question. Pulling the formula across the next 2 rows will give you the totals for computers and Access to the Internet.

To draw simple graphs in Excel you can either use the summarised results or for the more advanced use the Pivot table command. Let us start using some very simple data from our class on a separate sheet.

Click the new sheet button on the left of the page under file and enter the counts for Mobiles, Access to computers and the Internet in cells B2 to C4. (If you wish to widen column B to see all the writing move your cursor to the grey column headings and as you put it on the line between B and C it will change from a white cross to become a black line, if you now hold down the left hand mouse button you can make the column as wide or narrow as you wish.)

Now highlight the 6 cells with your information in them by holding down the left mouse button. Go to Insert on the top tool bar and choose Chart from the drop down menu. This will start a chart wizard that will lead you through the process of making a graph. Investigate the options you are given especially in step 3, chart options.





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With practice you can easily make your graph look better. Play with all the options available. You will find that you can edit the graph in lots of different ways, change colours, borders, fonts, axis, change the whole graph into a pictogram or Pie Chart etc etc etc. Excel will automatically calculate percentages within Pie Charts. The pets question is another good one to use but be careful; as it is a multiple response question a Pie Chart is not suitable for this data.

### Technology and Class Excel

