# Excel Tips and Tricks

We discussed a number of features of Excel in our episode ‘We Need to Talk About Excel’, this guide is to help you feel more confident in using Excel and to help you be more productive by using Excel.

## Filter

In Excel there is a great feature simply labelled ‘Filter’. You will find it under the Sort and Filter menu. If you have a table you want to sort and filter in different ways, highlight the cells in with the headings in, then click Sort & Filter and then click on Filter. This will add dropdown menus to each of the cells with the headings in. This will allow you to sort by any column, filter by identified values or use a text filter. If you have a column with dates in, you can filter by year and then with the months in that year that appear and the same with days. It is a very clever feature that every Excel user should start using!

## Conditional Formatting

Do you colour in cells to make it easier to get an overview? Lots of people use RAG rating, colouring in cells to represent a judgement. This makes it easier to have a feel of the data by looking at the colours, instead of reading the values.

Excel can do this all for you. You can highlight a column or several columns and apply conditional formatting. It will format the cells based on its contents. If you want to highlight any pupil with under 95% attendance, you can tell Excel, for any cell (pupil) which has less than 95%, fill the cell in red or change the text to red. As you copy and paste values in, it will automatically change the formatting of the cells.

There are a number of pre-set options, but you can also make your own rules.

## Fill Down, Fill Right

When you add a formula or a value to Excel, you often want to apply that to multiple rows or columns. Fill down and fill right will copy what you have put in that cell across or down the selected cells. Unless you tell it otherwise, the cells it references are relative. If you have a formula that divides the value in the cell to the left by 2 and copy down across 100 cells, each cell you have now filled will use the cell to its left. If you want to fix a value, lets say you have a reason to reference a fixed cell, you can use the $ to fix the cells it is referring to. If I was in column C and I wanted to multiply the cell to the left in column B, by a value in A4, I would use a formula like =B6\*$A$4. If I copied it down to the next 100 cells, the first value would update and be relative, but the dollar symbols have fixed the row and the column for the second value. You can use fill right and fill down by using keyboard shortcuts – Ctrl+D (down) or Ctrl+R (right) or Under Editing, you will see Fill . Using the mouse you can also select the first cell and then click on the little square in the bottom left and drag down or right.

## Remove Duplicates

Sometimes we copy in data from different places and we might have duplicates. Remove Duplicates does what it says, it looks at selected cells and removes any duplicates it finds so that only unique values remain. Highlight the cells, go to Data at the top and then Remove Duplicates and it will delete the duplicate rows.

## Text to Columns

This will convert text into multiple columns. CSV files are a list of fields separated by commas for example – first name, last name, date of birth, class, upn etc. If you import this into Excel, it will move the data to the next column when it sees a comma. You can do the same manually with Text to Columns. I’ve often had data I have brought in that has been formatted badly, sometimes there is just a space between values. Text to Columns is really flexible, you can tell it to use anything as the delimiter. If you had 7 8 8 7 1 3 6 and told it to use a space as the delimiter, you will end up with those numbers split out over 7 columns. If you have first name and last name together, text to columns can split them into 2 separate columns. It will replace any content in the cells to the right, so make sure you have enough empty columns before you start.

## Ctrl + Shift and Cursor Keys

You can do lots with these keys. If you use shift and the cursor keys, it will highlight the selected cells. If you held down shift and pushed right 3 time and then down 3 times, it would highlight a block of cells 4 wide and 4 high. You can then copy and paste your selection or format as needed.

Ctrl and the cursor keys will jump to the last value in a table if the cell has data in it or to the next cell with data if there is no data. If you do Ctrl and right and then Ctrl and down on an empty spreadsheet, it will take you to the last column and the last row. If you are in a table with lots of data and are in the top left cell and do Ctrl and right and then Ctrl and down it will select all the data in that table.

## Paste Link

Paste Link can be used in lots of places, but typically it is used between Excel spreadsheets or between Excel and other documents. Copy and Paste is generally a one off action, you copy the current value and paste it into the new location. Paste Link will link the 2 locations. If you make a change in the original location, it is updated in the new location. This is useful if you have worksheets contain various information and you want to create one with an overview, you can use Paste Link so that the overview worksheet has the correct information any time the other worksheet is updated.

## Disabling Automatic Cell Formatting

If you enter 007 into a cell, it will change it to 7. If you enter 3 values separated by / like 01/01/02, it might change to 1-Feb-02, depending on your date settings. There are lots of automatic formatting things Excel does which is there to help, but sometimes you want it to NOT make those changes. If you start with ‘, it will not format the cells, it will treat what you enter as text. If I enter ‘007, it will display as 007.

## Multiple Worksheets

Talking of different worksheets, many years ago, Excel used to be one spreadsheet per file. Now you can have multiple spreadsheets/worksheets per workbook/excel file. This helps you organise your data. You can switch between them using tabs at the bottom of Excel. You can also rename and reorganise your worksheets.

## Freeze Panes

Generally tables have a header row with all the different options and then an identifier column. This is often a list of pupils down the left and then different subjects/dates across the top. As these tables get bigger and you have to start scrolling, you can lose track of which column or row you are looking at. Freeze Panes allows you to lock rows or columns so they are always visible. If you have a table with 200 pupils on, as you scroll down, you can get Excel to lock the top row so it is always visible. In Excel, click on View at the top and then Freeze Panes. You can choose to freeze the top row, 1st column or both. To turn it off, just repeat the same process to unfreeze the panes.

## New Window

I only found this feature in the last year and love it already. I often work with complex spreadsheets as I design databases, these will go across multiple worksheets and contain lots of data. Have you ever used a spreadsheet where you are referencing one part to update another and have to keep scrolling or switching between worksheets? The New Window allows me to open another copy of the same workbook into another window. I can use one window as a reference as I update the worksheet somewhere else. You can have multiple windows you aren’t just limited to 2.

## Wrap Text

If you fill a cell with information, it will either fill the cells either side (Depending on alignment) if they are empty or it will get cut off and you only see the first part. You can turn on Wrap Text, the text will wrap to fill the width of the cell, this will cause the row height to increase to fit all of the text in.

## Merge Cells, Column Width and Row Height

Excel is made up of lots of cells, this can be very limiting that everything has to be the same width and height.

You can change the height of rows or the width of columns, this allows you to be flexible with the layout and make columns fit your data. You can use it to have a row of text boxes that increase in height to fit in more text (using Wrap Text). If you see a cell filled with #######, it means the cell isn’t wide enough to show the value.

You can automatically adjust row height or column width to the maximum value by double click on the separator between the rows/columns in the top bar. If you hover between the A and B at the top the cursor changes to a vertical line with arrows pointing left and right. When you see this, double click on the mouse and the column will change to fit the longest value. You can also click and drag to make the column wider.

Merge Cells allows you to merge cells together (very clever name!), as you can see in the image to the right, I have merged 3 cells to create a header covering the 3 cells below, this helps me see the 3 dates are linked to that year. It is really easy to do, highlight the cells you want to merge together and click Merge & Center. It will take the value in the first cell and use this as the value across the merged cells. You can unmerge cells by clicking on the down arrow next to Merge & Center and click Unmerge cells.

# Basic Formulas

All formulas start with = and will show the result of what you tell it to do. You can do basic formulas like =6\*7 (\* means times and / means divide on computers, you will see these on your numeric keypad if you have one) and the cell will display 42. If you click on the cell, in the text box just below the menu, it will show the formula used in that cell. You can get Excel to use other cells in its calculations. You could do =A2\*B2. This will multiply the contents of the cell in A2 by what is in B2. You can either type in the values or after pushing =, you can use the cursor keys or mouse to select the first cell, then hit \* and select the next cell. When you have finished your formula, hit Enter. If the value in any cell a formula is referencing is updated, the calculation is updated.

I often use Excel as a calculator, I can type in the values and get Excel to total them, but I can check the values. If I have made a mistake or adjust 1 value, I can change that value and the total automatically changes.

## Sum

Instead of having to do a very long formula of =A2+A3+A4+A5…….A100, you can use the SUM formula and simply write =SUM(A2:A100). It will then add all the values in those cells together.

**One word of warning about SUM is that if you use the Filter function in Excel and filter the rows you are viewing, the SUM will not change. The SUM will add all rows together, even if they are hidden.**

## Average

This is similar to the SUM formula, but will divide the total by the number of values. Using the formula =AVERAGE(A2:A100) will add the values together and then divide by how many values there are. It is quite clever, if there are only 50 values in cells A2:A100 because you add values over time, it will add up all 50 values and divide by 50. When you add the next one, it will add 51 values together and divide by 51 and so on, without you having to change the formula.

**One word of warning about AVERAGE is that if you use the Filter function in Excel and filter the rows you are viewing, the AVERAGE will not change. The AVERAGE will add all rows together, even if they are hidden.**

## CountIf

This is a useful formula for counting values. If you have logic that displays text based on conditions (See the IF formula section), you may want to count how many cells have certain text. You could be using a nested IF statement to judge progress and to display either Below, Expected or Above. You can use COUNTIF to count how many of each value. You would have a formula like =COUNTIF(A2:A100,”Below”), this will return how many students have been judged as Below. You can then repeat for Expected and Above.

**One word of warning about COUNTIF is that if you use the Filter function in Excel and filter the rows you are viewing, the COUNTIF will not change. The COUNTIF will add all rows together, even if they are hidden. You can make this work with filtering, by using OFFSET, but is best to Google that to find out more**

## Subtotal

If you are like me and love the filter feature and want your calculations to update based on your filtering, you need to use the SUBTOTAL formulas. This is a collection of formulas bundled up into a single formula. If you have a spreadsheet with the attainment scores for pupils and all the different values like Pupil Premium etc., you can add averages etc. above the table in the first few rows. If you use the SUBTOTAL formula, as you switch between showing Pupil Premium or Not Pupil Premium, the averages etc. will update based on what you have selected.

The formula is similar to the SUM and AVERAGE formulas, but with 1 extra section. =SUBTOTAL(9,A2:A100). The first number tells Excel what you want the formula to do, in this case 9 means SUM. This will return the same values as the SUM formula, but will update as you filter rows. There are 11 different functions, here are the most useful:

* 1 – Average
* 2 – Count (how many cells with numerical values)
* 3 – CountA (how many cells with any value including text)
* 4 – Max, the highest value
* 5 – Min, the lowest value
* 9 – Sum, all the values added together

## If

This is where Excel starts to get powerful. You can ask it to perform logic and then display something based on this value. The basic formula is built using the following:

=IF(logic, value if true, value if false)

So using a very simple formula (that you wouldn’t really use) = IF(A2=”F”,”Female”,”Male). It is using the logic that if the cell A2 contains the text F, display Female in this cell, otherwise display Male. When you are using text, you have to put quotes around the values. The first great thing about the IF statement is you can insert any logic into the formula, the second great thing is you can NEST them. If you have an expectation of progress over a year for a mainstream class that they should make between 70% and 90% progress by the end of the year, we can use 2 nested IF statements to return if progress is Below, Expected or Above.

=IF(A2>90%,”Above”,IF(A2>70%,”Expected”,”Below)). The first bit of logic is have they made more than 90% progress, if they have, their progress is Above. If not then follow the next IF statement. The next IF statement is have they made more than 70% progress, if they have, their progress is Expected, if not it is below. You can create a very long list of nested statements and use much more complicated logic. It is best to build each one and then link them together, replacing the value if false, with the next IF statement.

## Next Steps

These are the key formulas I use regularly. I use one more called VLOOKUP which is extremely useful, but a little bit too heavy for a new user. However, there is lots of great help on the internet, there are websites setup to support you to use Excel. Just Google “Excel” and a formula or what you are trying to do for example Excel VLOOKUP. You will find lots of simple guides to help you learn even more.