

Smartie Statistics!

- Count the number of smarties of each colour in your packet and record your results in the spreadsheet. Start in cell A1 (top left). Put your name in cell B1, and then enter your data.

For example:

Colour	Matilda
Red	5
Green	3
Blue	2
Yellow	3
Brown	3
TOTAL	

- Use the SUM spreadsheet function to calculate the total number of smarties. For example, to add the values in cells B2 to B6, you would type “= SUM(B2:B6)” in cell B7.
- Create a pie graph of your data: Highlight your data (including the headings, but NOT the total at the bottom). Go to Insert → Pie (in the Charts section).
- Ensure that the colours of the sectors on the graph reflect the actual colour of the smarties. Select a sector (you will need to click on the pie, then click on a sector so only it is highlighted), then right click and change the shape fill (bucket icon) to the correct colour. Repeat for all other sectors.
- Now collect the same data from at least 5 of your classmates and enter it into your spreadsheet. (You might need to insert rows for any new colours you come across.)

For example:

Colour	Matilda	Brad	Maddie	Josh	Riley
Red	5	3	1	2	4
Green	3	3	5	1	2
Blue	2	2	1	4	2
Yellow	3	4	5	3	3
Brown	3	3	2	5	4
TOTAL	16				

- To find the totals for each of the new data sets: Select the cell containing your total. Hold the cursor over the bottom right hand corner of this cell (the cursor should change to a cross). Now click, hold and drag to copy the formula across to the new columns. [This is called the “Fill” tool.]
- Put the headings “Colour total” and then “Average” in the two columns to the right of your data.
- Use the SUM spreadsheet function to calculate the total number of smarties for the first colour. For example, to find the total of the values in cells B2 to F2, you would type “=SUM(B2:F2)” into cell G2.
- Use the “Fill” tool (see step 6 above) to copy the formula to the cells below, so you have the total for each colour and the overall total.

10. Excel can help you find the average number of each colour of smartie in a packet. Click in the cell at the top of your "Average" column (probably cell H2), and type "=AVERAGE(B2:F2)".
11. Use the "Fill" tool to copy the formula to the cells below, so you have the average for each colour and the overall average.
12. If you have done these steps correctly, then the totals and averages will automatically be updated when you make any changes to the data. **Get the teacher or another student to check this!**

You will now make another pie chart, this time for the average colour distribution.

13. Highlight the Colour column, hold down Ctrl, and highlight the Average column (do not include the totals at the bottom of each column).
14. Now go to Insert → Pie.
15. Ensure that the colours of the sectors on the graph reflect the actual colour of the smarties.

If you have done all this correctly, then the chart should automatically update whenever any changes are made to the data. **Get the teacher or another student to check this!**

Reflecting on your Excel prowess

Make a new post on your blog, and answer the following questions in the blog:

(Note: Instead of answering questions 1 and 2, you can just copy and paste the data for your packet straight into the blog post.)

1. How many smarties were in your packet?
2. What colour is the most common for your packet?
3. On average, how many smarties are in a packet?
4. On average, what colour is the most common in a packet?
5. Was it easier to add up the totals and averages yourself, or for Excel to do this?
6. Why is the "Fill" tool useful?
7. Explain why you think that your packet was different to the "average" packet.
8. (Extension challenge) Use the information you have collected to predict how many smarties of each colour would be in a bigger pack with a total of 100 smarties.

Homework

Write in your planner two ways that Excel might be used in the "real world".