

Numeracy Level 2 Adult Continuing Education



Smarties Investigation on 19 May 2007

As a part of our data handling lesson, each student took ownership of a sample tube (now a hexagonal prism) of Smarties.

Before the grand opening of the tube, we estimated the number we would find, and tried to guess whether the contents and colours would vary from tube to tube. Estimates ranged from 30 to 100!

We were all surprised to discover that Smarties packs are fairly overpriced – there was an average of 42 Smarties in each pack, so the price per Smartie was approximately 1 pence. The range was 4 – there were only 40 Smarties in one pack, and as many as 44 in another.

The number of colours varied widely, and most tubes had a variety of orange, pink, purple, green, yellow, red and brown. It seemed random on an individual basis; some students had 14 pinks while others had only 5 pinks, for example. As we gathered the results from across the class, though, it became clear that there was a pattern emerging. Even though the numbers of colours varied randomly, and one of the colours (brown) was left out of two tubes, we began to see that there were far more oranges and pinks than there were browns, greens and reds. Smarties are now made with natural colours, so there were no blues and the colours were less vibrant than people remembered.

After we counted the total numbers of colours, and saw that pattern, we looked at the averages of those numbers. We found no benefit to examining the mode, since the colours were totally random. We could not find any order for the colours, so we could not find their median. We were left with the mean. So we would need to add up the total number of each colour, and divide by the number of tubes. These findings backed up the suggestion that there are more oranges and pinks than browns. (When we averaged the brown Smarties, we remembered to include the two brown-less tubes and so divide by 8 – so the average would be consistent.)

In conclusion, we found the number of Smarties per tube was quite consistent and we were surprised by the variety of colours across the class. We used the opportunity to gather and handle data, presenting the information in a graph, and using the group's data to furnish a large investigation. We practised gathering the mean and mode across a large number of results, and discussed the best situations in which to find the mean, median and mode. Finally we talked about how the larger class-wide sample had affected the results, and agreed that a larger sample was necessary for a clearer picture.

Gabrielle Adnitt
Adult Continuing Education Tutor, Milton Keynes.