Foam squares

Functional Maths / ICT investigation

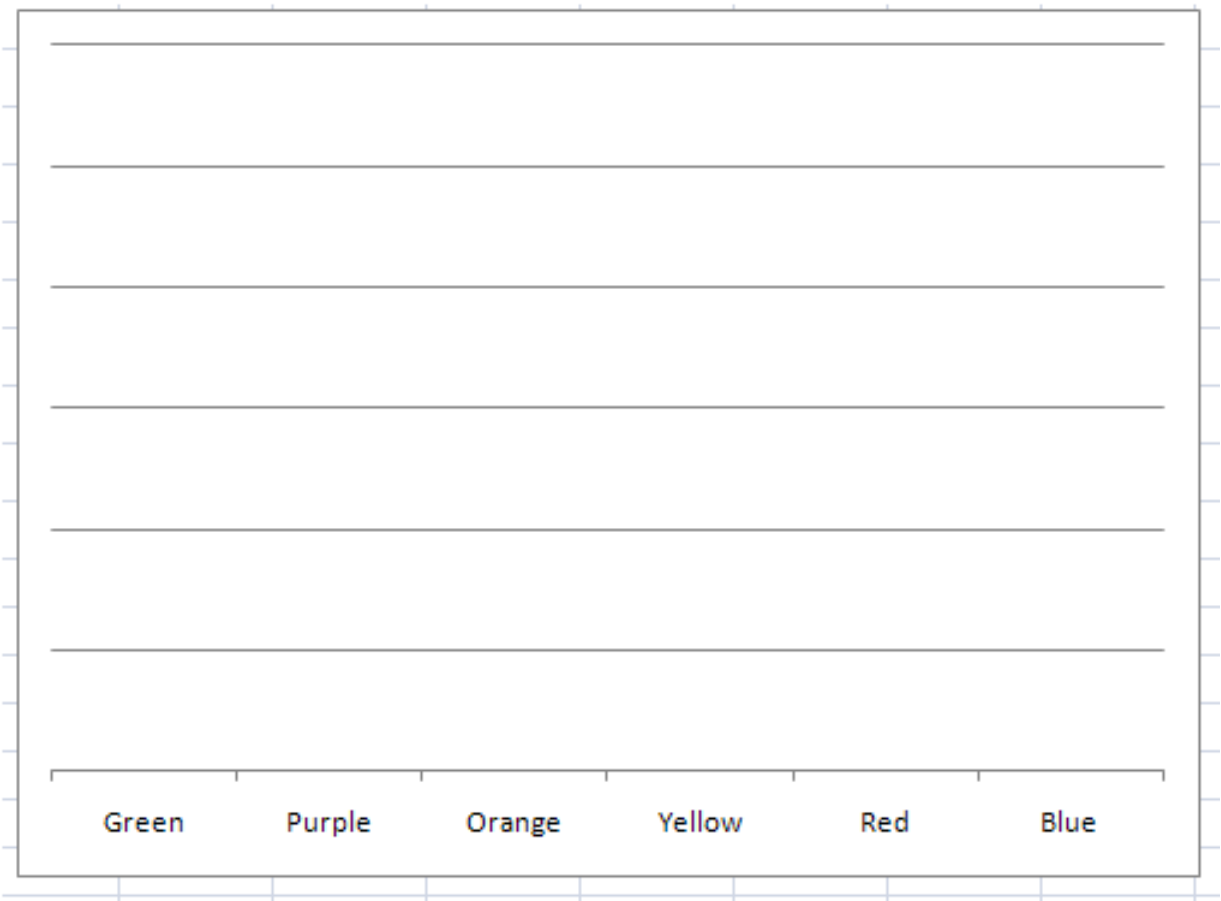
Name: _____ Date:_____

The purpose of this exercise is to grab a handful of foam squares and classify the data.

1. Count and record the number of colours using a tally table.

Colour	**Tally**	**Number or Frequency**
Green		
Purple		
Orange		
Yellow		
Red		
Blue		
Total number of foam squares		

2. Create a vertical bar chart to display the data collected in the data table above.



Sep 2011. Kindly contributed by John Thompson, Devon Adult & Community Learning, who adapted and extended it from the original Smarties investigation by Di Mellor (also available on skillsworkshop.org). Search for John on www.skillsworkshop.org. Foam squares: www.craftpacks.co.uk
L1-2 Functional Maths and ICT. For further curriculum links and related resources visit the download page for this resource at skillsworkshop.org

Foam squares

Functional Maths / ICT investigation

Name: _____ Date:_____

3. Use the computer to compare your results:

Open the Excel application and enter the following text titles in each of these cells as shown here:

	A	B	C
1			
2		Green	3
3		Purple	5
4		Orange	7
5		Yellow	9
6		Red	3
7		Blue	4

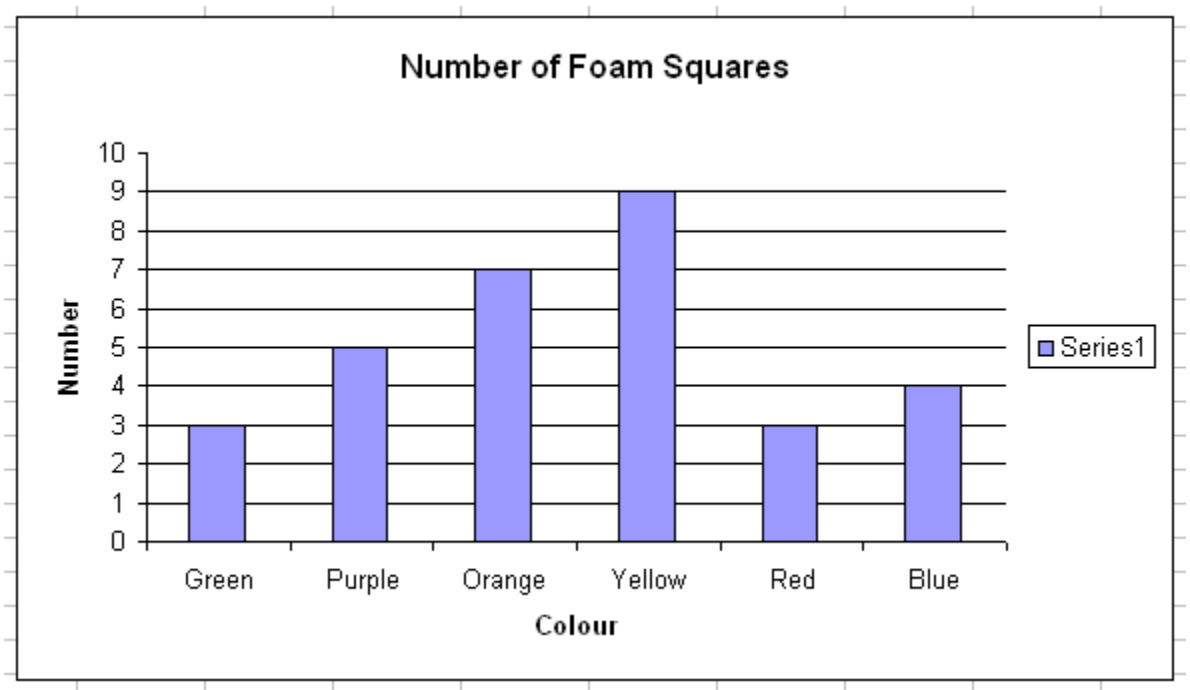
In cell B2 type in the text Green

Repeat the names of the colours in Cells B3 – B7 as shown

Enter the number of colours in column C2 to C7 from the data you collected in step 1.

4. Create a chart from the data entered in step 3.

Highlight the cells B2:C7 and select **Insert a Chart** from the menu bar. This will launch the chart wizard. Your tutor will guide you through the chart wizard if need be.
The final chart should look something like this:



Important learning points:

- Charts must have a title
- Each axis must have a title
- The legend must be meaningful – 'Series 1' is not acceptable and should be deleted

Sep 2011. Kindly contributed by John Thompson, Devon Adult & Community Learning, who adapted and extended it from the original Smarties investigation by Di Mellor (also available on skillsworkshop.org). Search for John on www.skillsworkshop.org. Foam squares: www.craftpacks.co.uk
L1-2 Functional Maths and ICT. For further curriculum links and related resources visit the download page for this resource at skillsworkshop.org

Foam squares

Functional Maths / ICT investigation

Name: _____ Date:_____

5. From the data collected in Step 1 calculate the range of the numbers of colours.

Max Value	Min Value	Range = Max – Min Values

6. From the data collected in Step 1 calculate the mean (average) of the data recorded.

[Remember that the mean is the sum of the colours divided by the number of colours]

							Mean

7. From the data collected in Step 1 calculate the mode of the data.

[Remember that mode is the value that occurs the most. You can also have two or more modes depending on the data]

							Mode

8. From the data collected in Step 1 calculate the median of the data.

[Remember to sort the data in ascending order before finding the middle value]

							Median

Sep 2011. Kindly contributed by John Thompson, Devon Adult & Community Learning, who adapted and extended it from the original Smarties investigation by Di Mellor (also available on skillsworkshop.org). Search for John on www.skillsworkshop.org. Foam squares: www.craftpacks.co.uk
L1-2 Functional Maths and ICT. For further curriculum links and related resources visit the download page for this resource at skillsworkshop.org

Foam squares

Functional Maths / ICT investigation

Name: _____ Date:_____

9. Check your results using Excel. Enter the text in the following cells as shown below:

   Cell B9 – B12

B9	Mean
B10	Mode
B11	Median
B12	Range

10. Enter the following formulae in cells as shown below:

C9	=average(C2:C7)
C10	=mode(C2:C7)
C11	=median(C2:C7)
C12	=Max(C2:C7)-Min(C2:C7)

This is not a computer course but there are some points to understand about Excel.

- *Microsoft Excel doesn't recognise 'mean' as a function. Instead it uses 'average' which, in Excel, means the same thing.*
- *There is also no function for range. Excel uses two separate functions' Max' and 'Min'.*
- *The 'Median' function automatically sorts the data into ascending order.*

11. The results should look something like this for the data shown.

Mean	5.166667
Mode	3
Median	4.5
Range	6

Check your results with your answers in steps 5, 6, 7 & 8 and compare the results

12. Experiment with the data in step 3 and find out which set of data would create an identical value for Mean, Mode and Median.

Sep 2011. Kindly contributed by John Thompson, Devon Adult & Community Learning, who adapted and extended it from the original Smarties investigation by Di Mellor (also available on skillsworkshop.org). Search for John on www.skillsworkshop.org. Foam squares: www.craftpacks.co.uk
L1-2 Functional Maths and ICT. For further curriculum links and related resources visit the download page for this resource at skillsworkshop.org