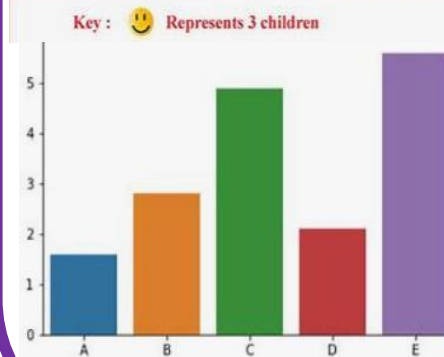


## Week 1

Mode of transport	Number of students
Bus	6 smiley faces
Car	4 smiley faces
Walking	5 smiley faces
Bicycle	3 smiley faces

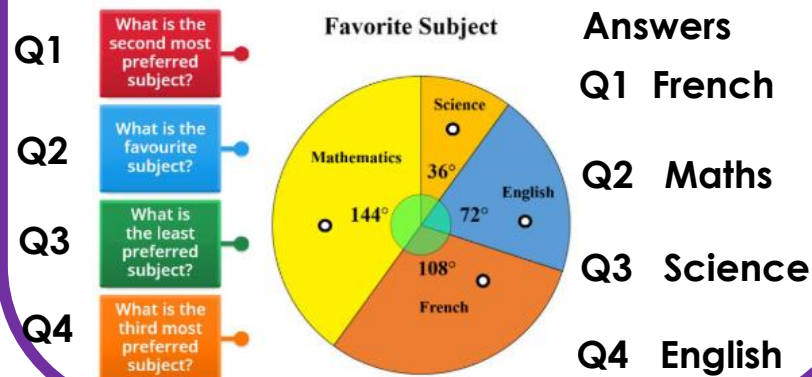
In this topic we will be working with the 'Data handling cycle'. First, we will set up a statistical enquiry. We will then design and criticise questionnaires. We will then draw and interpret pictograms (top diagram), bar charts (bottom diagram),



Vertical line graphs & multiple bar charts

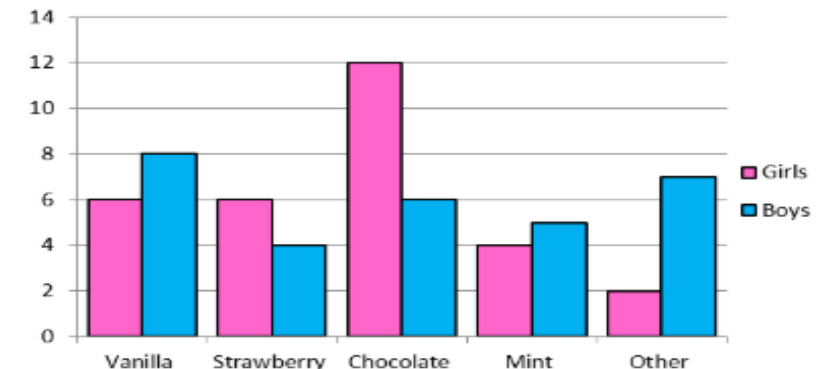
## Week 2

This week we will draw and interpret pie charts. We will then draw and interpret line graphs. We will look at how to choose the most appropriate diagram for a given set of data. We will then represent and interpret grouped quantitative data. Quantitative data in statistics is numerical and acquired through counting or measuring. Example:



## Week 3

This week we will find and interpret range. Range is the measure of spread of the data and can be found by subtracting the lowest score of the data from the highest. We will then compare distributions using charts and then identify misleading graphs. Example:



Q. How many boys like vanilla flavour? 8  
Q Which is the most popular flavour? Chocolate

## Term 6 Year 8 Maths Topics 16 and 17 Handling Data and Measures of Location

## Week 4

This week we will start the topic 'measures of location'. We will first look at understanding and using the mean, median (middle value when in rank order) and mode (value which occurs the most) (all 3 are statistical averages).

Example: find the mean, mode and median for the following set of numbers

2, 2, 3, 4, 7, 8, 9 mean =  $35/7 = 5$

Mode = 2 median = 4

We will then find the mean from an ungrouped frequency table. Example:

Number of people	Frequency	Number × Frequency
8	3	$8 \times 3 = 24$
9	7	$9 \times 7 = 63$
10	6	$10 \times 6 = 60$
11	4	$11 \times 4 = 44$
	<b>n = 20</b>	<b>Total = 191</b>

$$\text{mean} = \frac{\sum fn}{n} = 9.55$$

## Week 5

This week we will Find the mean from a grouped frequency table. Example: the frequency table shows the marks scored in a test by 20 students.

Marks scored	Frequency	Mid-point	Frequency × Mid-point
0 - 9	3	$\frac{0+9}{2} = 4.5$	$3 \times 4.5 = 13.5$
10 - 19	5	$\frac{10+19}{2} = 14.5$	$5 \times 14.5 = 72.5$
20 - 29	8	$\frac{20+29}{2} = 24.5$	$8 \times 24.5 = 196$
30 - 39	4	$\frac{30+39}{2} = 34.5$	$4 \times 34.5 = 138$
	<b>n = 20</b>		<b>Total = 420</b>

$$\text{Estimated mean} = \frac{\text{total}}{n} = \frac{420}{20} = 21$$

We will then identify outliers (a data point that differs significantly from other observations) for a data set and then compare distributions using averages (mean, mode & median) and the range (spread of the data).

## Week 6

This week we will be completing our aiming for excellence questions taken from the last assessment. We will also be using sparx maths to address any misconceptions and practice skills that have been identified as 'areas to develop'.



## Week 1

Questions	Answers
From the pictogram how many people travelled by bus?	21.
From the pictogram how many people travelled by car?	12.
From the pictogram how many people travelled by walking?	18.
From the pictogram how many people travelled by bicycle?	9.
From the pictogram key how many people are represented by 😊 ?	3.

## Week 2

Questions	Answers
What does the biggest slice of a pie chart tell you?	The most popular option.
What does the smallest slice of the pie chart tell you?	The least popular option.
What do the angles in a pie chart add up to?	360°.
What is quantitative data?	Quantitative data in statistics is numerical and acquired through counting or measuring.
What do the angles in half a pie chart add up to (in this case Mathematics + Science)?	180°.

## Week 3

Questions	Answers
What is the range of data?	The spread of the data.
How can you calculate the range?	Highest score- lowest score.
On the bar chart, how many boys liked Vanilla?	8.
On the bar chart what was the most popular flavour?	Vanilla.

# Term 6 Year 8 Maths Topics 16 and 17 Handling Data and Measures of Location

## Week 4

Questions	Answers
Define Mode?	Value that occurs the most.
Define median?	The middle value.
What are the statistical averages?	Mean, mode and median.
What is the formula to find the mean for ungrouped data in a frequency?	Mean = $\frac{\sum F \times N}{F}$
What are the three columns in an ungrouped frequency table?	n (data set), F (frequency), Fn (frequency x data set).

## Week 5

Questions	Answers
How do you calculate an estimate of the mean?	Total ÷ n.
How do you find 'n' (for the estimate of the mean calculation)?	Add all the frequency's together.
How do you find the 'total' (for the estimate of the mean calculation)?	The sum of all the frequency's x mid-points.
What is an outlier?	An outlier is a data point that differs significantly from other observations.
How do you find the mid-point?	Find the mean of the two 'mark scores'.

## Week 6

This week we will be completing our aiming for excellence questions taken from the last assessment. We will also be using Sparx maths to address any misconceptions and practice skills that have been identified as 'areas to develop'.