**Maths** Knowledge Organiser 9B3c.i: Representing Data

Frequency Table	A record of <b>how often each value</b> in a set of data	Number of marks	Tally marks	Frequency	
rrequency rable	occurs.	1	JH1 II	7	
		2	Ш	5	
		3	JH1 I	6	
		4	Ш	5	
		5	Ш	3	
		Total		26	
Bar Chart	Represents data as vertical blocks. $x - axis$ shows the <b>type</b> of data $y - axis$ shows the <b>frequency</b> for each type of data Each bar should be the <b>same width</b> There should be <b>gaps</b> between each bar Remember to <b>label</b> each axis.	14 1 12 - 10 - 8 - 6 - 4 - 4 - 4 - 4 - 4 - 4 - 4 - 4 - 4			
	Remember to label each axis.	0 1 2 3 4  Number of pets owned			
Types of Bar Chart	Compound/Composite Bar Charts show data stacked on top of each other.	Weight (gm)  A  B  Carbon  Aluminum		c	
	Comparative/Dual Bar Charts show data side by side.	30 cm 20 10 Jan Feb	o Mar Apr May Month Bar Chart	Key: London Bristol	
Pie Chart	Used for showing how data breaks down into its constituent parts.  When drawing a pie chart, divide 360° by the total frequency. This will tell you how many degrees to use for the frequency of each category.	Tennis 36° Football 144° Hockey 80° Netball			
	Remember to <b>label</b> the category that each sector in the pie chart represents.	If there are 40 people in a survey, then each person will be worth 360÷40=9° of the pie chart.			

Pictogram	Uses <b>pictures</b> or symbols to <b>show the value</b> of the data.	Black 🚍 🚍 🐔	
	A pictogram must have a <b>key</b> .	Red 🚍 🚍	
		Green 🐔 = 4 cars	
		Others 🚍 🚍 🚍	
Line Graph	A graph that uses <b>points connected by straight lines</b> to	14	
	show how data changes in values.	12	
	This can be used for <b>time series data</b> , which is a series of	8	
	data points spaced over uniform time intervals in time	6	
	order.	2	
		0	
Torra Maria Talalan	A deble that approximate data approved to a set of the	1 2 3 4 5 6 7 8 9  Question: Complete the 2 way table below.	
Two Way Tables	A table that <b>organises data</b> around <b>two categories.</b>	Left Handed   Right Handed   Total	
	Fill out the information step by step using the		
	information given.	Answer: Step 1, fill out the easy parts (the totals)  Left Handed Right Handed Total	
		Boys 10 48 58 Girls 42	
	Make sure all the totals add up for all columns and rows.	Total 16 84 100  Answer: Step 2, fill out the remaining parts	
		Left Handed   Right Handed   Total     Boys   10   48   58	
		Girls 6 36 42  Total 16 84 100	
Box Plots	The minimum, lower quartile, median, upper quartile	Students sit a maths test. The highest	
	and maximum are shown on a box plot.	score is 19, the lowest score is 8, the	
	A box plot can be drawn independently or from a	median is 14, the lower quartile is 10 and the upper quartile is 17. Draw a box	
	cumulative frequency diagram.	plot to represent this information.	
	aumaianis iroquanis, aragianis		
		0 10 12 14 16 18 20	
Comparing Box	Write two sentences.	'On average, students in class A were more successful on the test than class B	
Plots	1. Compare the <b>averages</b> using the <b>medians</b> for two sets of data.	because their median score was higher.'	
	2. Compare the <b>spread</b> of the data using the <b>range or</b>		
	IQR for two sets of data.	'Students in class B were more	
	The smaller the range/IOP the more consistent the	consistent than class A in their test scores as their IQR was smaller.'	
	The <u>smaller</u> the range/IQR, the <u>more consistent</u> the data.	scores as their IQR was smaller.	
	You must compare box plots in the context of the		
	problem.		