Topic: Representing Data

Topic/Skill	Definition/Tips	Example
1. Frequency Table	A record of **how often each value** in a set of data **occurs**.	
2. Bar Chart	Represents data as vertical blocks. $x-axis$ shows the **type** of data $y-axis$ shows the **frequency** for each type of data Each bar should be the **same width** There should be **gaps** between each bar Remember to **label** each axis.	
3. Types of Bar Chart	**Compound/Composite** Bar Charts show data stacked on top of each other. **Comparative/Dual** Bar Charts show data side by side.	 Dual Bar Chart
4. 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. Remember to **label** 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.

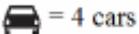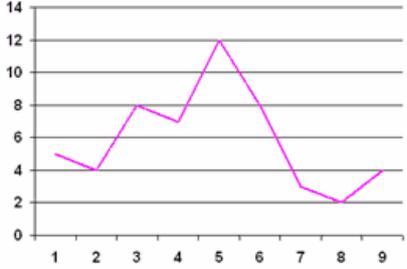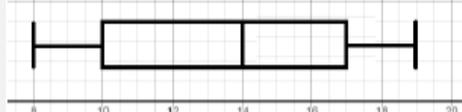|		
5. Pictogram	Uses **pictures** or symbols to **show the value** of the data. A pictogram must have a **key**.	Black Red Green Others = 4 cars
6. Line Graph	A graph that uses **points connected by straight lines** to show how data changes in values. This can be used for **time series data**, which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