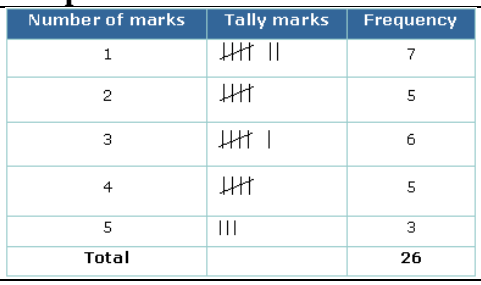
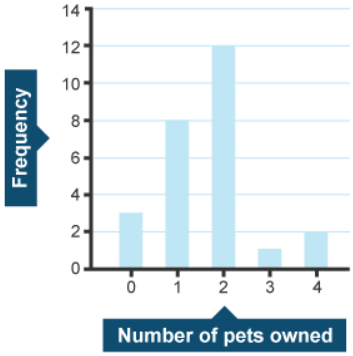
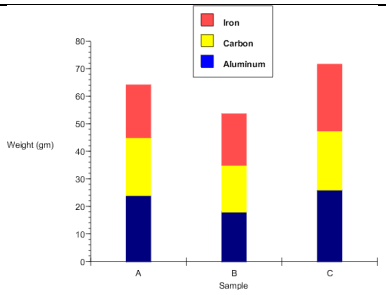
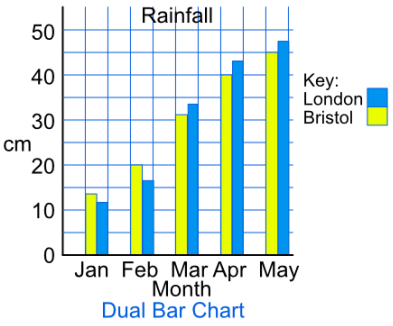
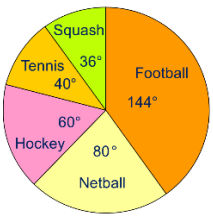
STM Knowledge Organiser Year: 10 Subject: Maths

Topic: Representing Data

Core Knowledge

Topic/Skill	Definition/Tips	Example
1. Frequency Table	The tally mark should represent the frequency	
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 There should be a title for the chart Each bar should be the **same width** Each bar should represent the correct height There should be the same sized **gaps** between each bar Are there **labels for** each axis. Each bar should be in the correct shading	
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.	 
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. There should be a title Each sector should be measured correctly	 If there are 40 people in a survey, then

Number of marks	Tally marks	Frequency
1	𝍸 ||	7
2	𝍸	5
3	𝍸 |	6
4	𝍸	5
5	|||	3
Total		26

Dual Bar Chart

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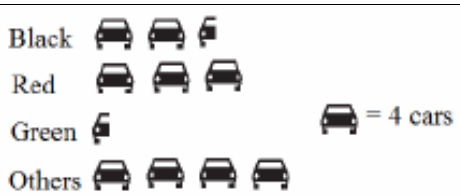
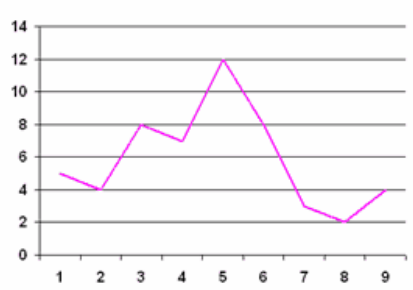
	with a calculator Remember to **label** the category that each sector in the pie chart represents.	each person will be worth 360÷40=9° of the pie chart.
5. Pictogram	Uses **pictures** or symbols to **show the value** of the data. A pictogram must have a **key**. There should be a title Shapes should be drawn accurately The number of shapes drawn should represent the frequency	
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**. There should be a title. The gaps between the numbers on both axes should be consistent.	
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 Boys: 10 / / 58 Girls: / / / Total: / 84 / 100 **Answer: Step 1, fill out the easy parts (the totals)** Boys: 10 / *48* / 58 Girls: / / *42* Total: *16* / 84 / 100 **Answer: Step 2, fill out the remaining parts** Boys: 10 / *48* / 58 Girls: *6* / *36* / *42* Total: *16* / 84 / 100

Links to comparing and interpreting information given in different diagrams, working out averages