Year 7 Knowledge Organiser: Unit 1 Analysing and Displaying Data S/C

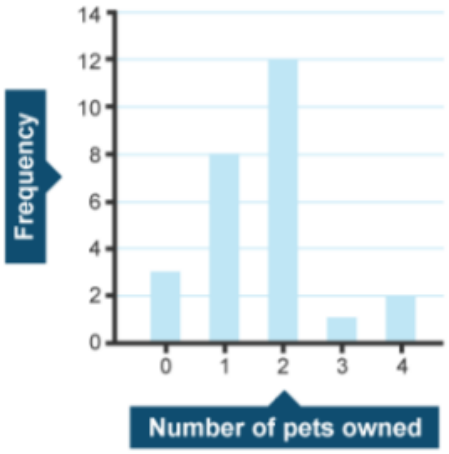
What you need to know:

1. Frequency Tables

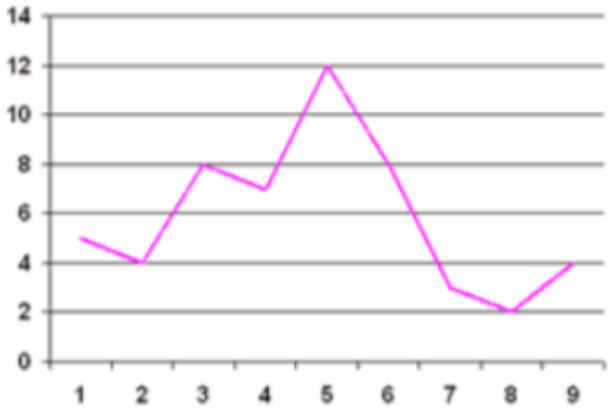
Number of marks	Tally marks	Frequency
1	𝍸 ||	7
2	𝍸	5
3	𝍸 |	6
4	𝍸	5
5	|||	3
Total		**26**

2. Pictograms

3. Bar Charts



4. Line Graphs



Key terms:

Averages: Mean, Mode, Median & Range

Discrete Data: This is data that be counted and can only take certain values.

Most Likely: The likelihood of something happening.

Data Collection: Is a process of gathering information

Hegarty maths clip numbers:

Averages: 404 – 421

Displaying Data 1: 422 – 436

Displaying Data 2: 437 - 454

Key Facts:

1. Frequency Tables: Shows a record of how often each value in a set of a data occurs.
2. Pictograms: Uses pictures or symbols to show the value of the data. Each Pictogram needs a key
3. Bar Charts: Represents data as vertical blocks. Has an x & y axis – labelled. Each bar has to be the same width.
4. Line Graph: Points connected by a straight line to show how data changes in values

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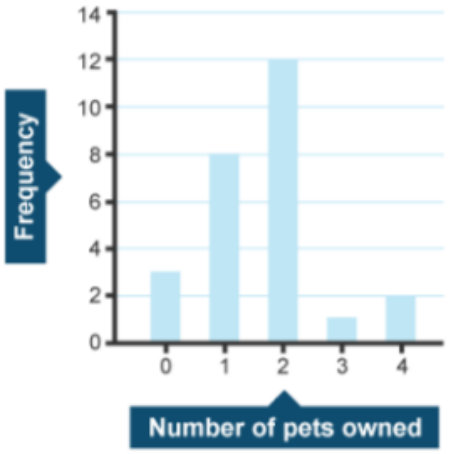
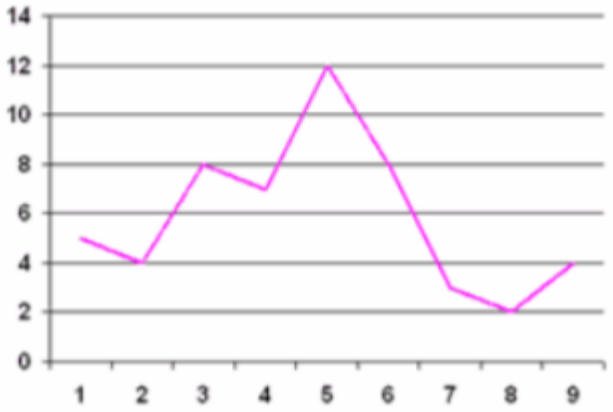


4. Line Graphs



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What you need to know:

1. Two Way Tables

	Left Handed	Right Handed	Total
Boys	10		58
Girls			
Total		84	100

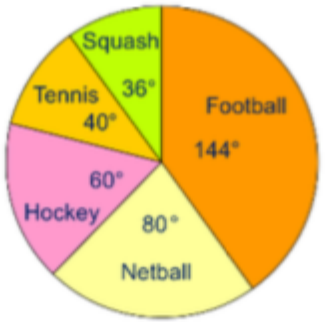
Answer: Step 1, fill out the easy parts (the totals)

	Left Handed	Right Handed	Total
Boys	10	*48*	58
Girls			*42*
Total	*16*	84	100

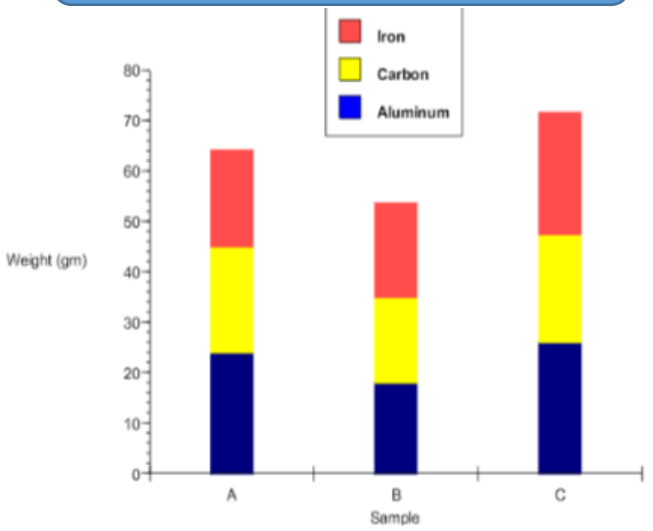
Answer: Step 2, fill out the remaining parts

	Left Handed	Right Handed	Total
Boys	10	*48*	58
Girls	*6*	*36*	*42*
Total	*16*	84	100

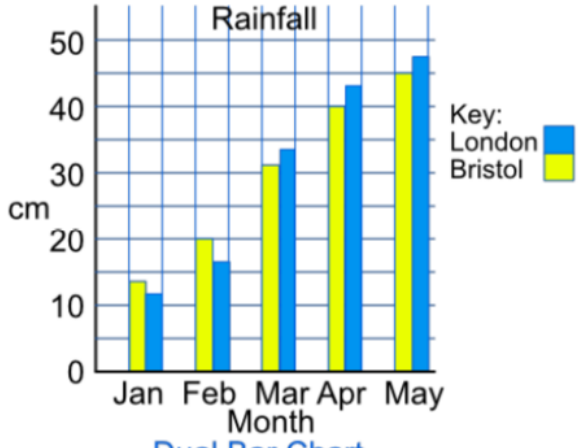
2. Pie Charts



3. Compound/Composite Bar Charts



4. Comparative/ Dual Bar Charts



Dual Bar Chart

Key Facts:

1. Two Way Tables: A table that organises data around 2 categories. All columns and rows need to add up.

2. Pie Charts: These are used to show how data splits 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 each category. All sectors need to be labelled

3. Compound/Composite Bar Charts: Bar Charts that show data stacked on top of each other.

4. Comparative/Dual Bar Charts: Bar Charts that show data side by side.

Hegarty maths clip numbers:

Averages: 404 – 421

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Displaying Data 2: 437 - 454

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Key Terms

Year 7 Knowledge Organiser:
Unit 1 Analysing and Displaying Data C/E

Types of Data	**Qualitative** Data – **non-numerical** data **Quantitative** Data – **numerical** data **Continuous** Data – data that can take **any numerical value** within a given range. **Discrete** Data – data that can take **only specific values** within a given range.	Qualitative Data – eye colour, gender etc. Continuous Data – weight, voltage etc. Discrete Data – number of children, shoe size etc.
Grouped Data	Data that has been **bundled in to categories**. Seen in grouped frequency tables, histograms, cumulative frequency etc.	<table><tr><th>Foot length, l, (cm)</th><th>Number of children</th></tr><tr><td>$10 \leqslant l < 12$</td><td>5</td></tr><tr><td>$12 \leqslant l < 17$</td><td>53</td></tr></table>
Mean	**Add** up the values and **divide** by how many values there are.	The mean of 3, 4, 7, 6, 0, 4, 6 is $\frac{3+4+7+6+0+4+6}{7} = 5$
Median Value	The **middle** value. Put the data in order and find the middle one. If there are **two middle values**, find the number half way between them by **adding them together and dividing by 2**.	Find the median of: 4, 5, 2, 3, 6, 7, 6 Ordered: 2, 3, 4, **5**, 6, 6, 7 Median = 5
Mode /Modal Value	**Most** frequent/common. Can have more than one mode (called bi-modal or multi-modal) or no mode (if all values appear once)	Find the mode: 4, 5, 2, 3, 6, 4, 7, 8, 4 Mode = 4
Range	**Highest value subtract the Smallest value** Range is a 'measure of spread'. The smaller the range the more consistent the data.	Find the range: 3, 31, 26, 102, 37, 97. Range = 102-3 = 99
Mean from a Table	1. Find the midpoints (if necessary) 2. Multiply Frequency by values or midpoints 3. Add up these values 4. Divide this total by the Total Frequency If **grouped** data is used, the answer will be an **estimate**.	<table><tr><th>Height in cm</th><th>Frequency</th><th>Midpoint</th><th>F × M</th></tr><tr><td>$0 < h \leq 10$</td><td>8</td><td>5</td><td>8×5=40</td></tr><tr><td>$10 < h \leq 30$</td><td>10</td><td>20</td><td>10×20=200</td></tr><tr><td>$30 < h \leq 40$</td><td>6</td><td>35</td><td>6×35=210</td></tr><tr><td>Total</td><td>24</td><td>Ignore!</td><td>450</td></tr></table> **Estimated** Mean height: 450 ÷ 24 = 18.75cm