Year 7 higher topic 1
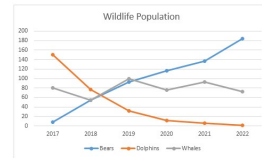
Analysing and displaying data

What careers would use these skills?

Sports coach, scientist, engineer, market researcher, computer analyst, business manager, advertising, medical researcher, midwife, sports journalist, marine biologist

Line graphs

Line charts are used to display trends over time. Use a **line chart** if you have text labels, dates or a few numeric labels on the horizontal axis.
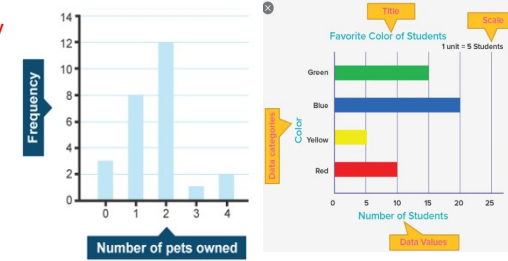

Bar charts

Represents data as vertical or horizontal 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.

Frequency Table

A record of **how often each value** in a set of data **occurs**.

Number of marks	Tally marks	Frequency
1	IIII II	7
2	IIII	5
3	IIII I	6
4	IIII	5
5	III	3
Total		26

Averages and range

There are three types of average: mean, median and mode.

To find the MEAN you add all of the values together and divide by how many values there are

To find the MEDIAN you must first put all the values in order from smallest to largest and then find the middle value. If there are two you must find the MEAN of the two

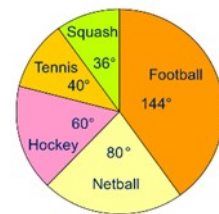To find the MODE you must find the value that appears the most in a list.

To find the RANGE you must subtract the smallest value from the largest value

Pie charts

Used for showing **how data breaks down into** its constituent **parts**.
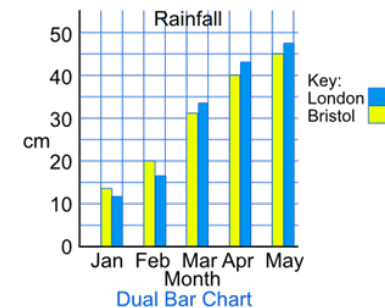
When drawing a pie chart, **divide 360° by the total frequency**. This will tell you how many degrees to use for the frequency of each category.

If there are 40 people in a survey, then each person will be worth 360÷40=9° of the pie chart.
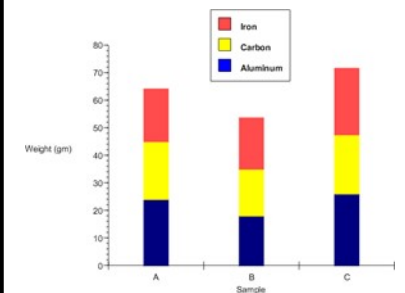
Comparative/Dual Bar Charts

Comparative/Dual Bar Charts show data side by side.

Comparative/composite bar charts

Compound/Composite Bar Charts show data stacked on top of each other

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.

Grouped data

Data that has been ordered and sorted into groups called classes, often displayed in a frequency table.

Foot length, l, (cm)	Number of children
$10 \leqslant l < 12$	5
$12 \leqslant l < 17$	53

Scatter graphs and correlations

A scatter graph is a diagram where points are plotted to show the relationship (correlation) between two variables.