



What should I already know?

- How to solve problems with frequency trees
- How to solve problems with bar charts and line charts
- How to interpret simple pie charts using proportion
- How to interpret pie charts using a pie chart
- How to draw pie charts

What will I know by the end of the unit?

- How to set up a statistical enquiry
- How to design and criticise questionnaires
- How to draw and interpret pictograms, bar charts and vertical line charts
- How to draw and interpret pie charts
- How to draw and interpret line graphs
- How to choose the most appropriate diagram for given set of data
- How to represent and interpret grouped quantitative data
- How to find and interpret the range
- How to compare distributions using charts
- How to identify misleading graphs

Vocabulary

Hypothesis	Multiple choice	Scale	Change
Investigation	Response box	Axes	Read off
Enquiry	Biased	Comparison	Read from
Primary data	Pictogram	Key	Scatter graph
Secondary data	Bar chart	Pie chart	Bivariate
Sample	Line chart	Fraction	Line graph
Questionnaire	Tally	Full turn	Proportion
Questions	Frequency	Proportion	Compare
Design	Multiple Bar chart	Line graph	Grouped data
Frequency diagram	Discrete	Continuous	Intervals
Range	Spread	Consistent	Average
Distribution	Mislead	Difference	Broken axis

Investigate/Homework tasks

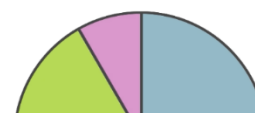
- Homework will be set by your teacher using google classroom
- You should complete at least 30 minutes of maths tasks using the website and log in provided by your teacher. Please attend help sessions if you do not have access to the internet at home
- Additional work you could complete:
 - Find out more about the meaning of the vocabulary list using <http://www.amathsdictionaryforkids.com/>
- To challenge yourself: Answer the key questions to deepen your knowledge

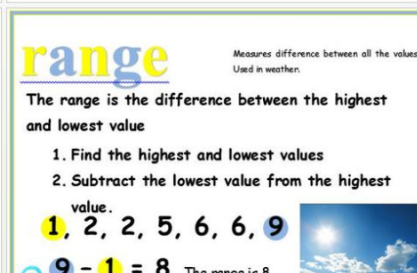
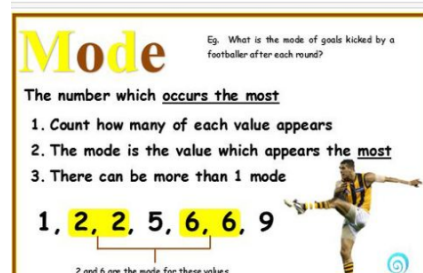
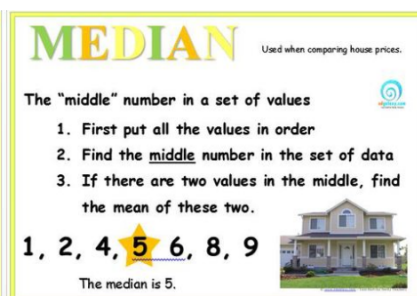
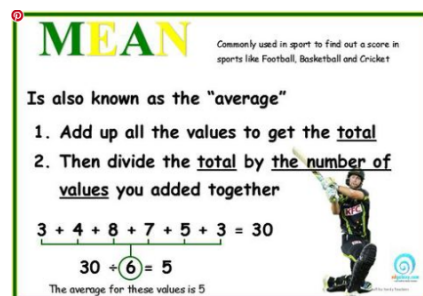
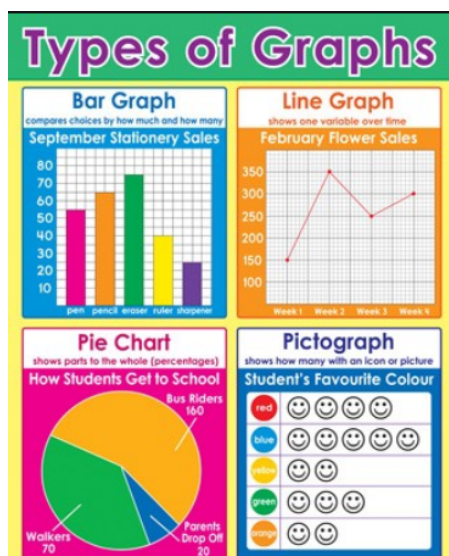
Key Information/Diagrams

PIE CHARTS

$$24 + 16 + 15 + 5 = 60$$

Treatment	Clients	Degrees
Manicure	24	$24 \times 6 = 144^\circ$





Key Questions

What is a hypothesis? Why do you need a hypothesis?
 What is the difference between discrete and continuous data?
 What are the advantages/disadvantages of using primary/secondary data?
 What features do you need on a data collection sheet?

Imagine you are completing this questionnaire, which questions would you find difficult to answer? Why?
 Why could having multiple choice answers/ranges make a questionnaire easier to answer?
 Do you think a name should be included on a questionnaire? What influence might this have?

Why is it important to include e.g. a key, labels on the axes etc.?
 Is this discrete or continuous data? Is the data qualitative or quantitative?
 How are a line chart and bar chart the same? How are they different?

When might it be useful to create a multiple bar chart?
 Why do multiple bar charts need a key?
 What other questions could you ask about the bar chart?
 What would you put on each of the axes? How can you decide your scale for the vertical axes?

What are the factors of 360?
 If you had e.g. 36 people in total, would you use the fraction of 360 or a multiplier to get to 360 in order to find the number of degrees? What about e.g. 35 people?
 What type of data would you represent in a pie chart?

Does the line graph have to start at 0? How can you show that your axis has not started from 0?
 Is it possible to read off points between those given?
 Would it be better to use a solid or a dotted line here?
 What other information/comparisons can you make from the line graph? What other questions could you ask?

In which situation is a pie chart/bar chart/line graph the most useful? Why?
 Which chart best shows changes over time/proportion/comparison?
 When would you/wouldn't you use a scatter graph to represent a set of data?

Why do we leave a space between the bars on a bar chart, but we don't on a frequency diagram?
 How do we know which group/class a data item belongs to?
 Why is it helpful to tally data to find the frequencies?

What is the same and what is different the charts?
 Is the data symmetrical or not? How does this compare to the other distribution?

What can you, and what can't you, tell about each distribution from the charts?

Who has made the chart/graph? Why might the data/representation of data be biased?
 What information should you check on a graph to ensure the data is not misleading?
 How could the information be represented more clearly/more fairly?

How can you work out the range? What does the range tell you about a set of data? Is it an average?
 Does a large range mean the data is more spread out or less spread out?
 If the data has a range of 0, what does this tell you about the data?