

**Subject:** Maths      **Year** 9      **Ability** Foundation

Half Term 3 / weeks	Week 1-3	Week 4-6	
<b>Topic</b>	Unit 6 - Sampling and Averages	Unit 7 - Fractions	Reteach and Retention
Topic overview	To use and understand the different averages available in maths understanding their strengths and understanding spread of data	To understand and use the four operations with fractions and then use these in context.	Focus on the process of reteach and retention, knitting together the learning in reaction to the assessments completed
<b>Pupils will learn...</b>			
<b>Components</b>	<ul style="list-style-type: none"> <li>To understand what a sample is and how a random sample is taken</li> <li>To be able to calculate the mode, median, mean and range for discrete data sets</li> <li>To be able to calculate the mean, median and mode from frequency tables</li> <li>To be able to calculate the mean, median and modal class from grouped data</li> <li>To be able to combine the mean for two sets of data, add in extra values, or find missing values</li> </ul>	<ul style="list-style-type: none"> <li>To understand equivalent fractions and how to write a fraction in simplest form</li> <li>To be able to compare the sizes of fractions using a common denominator</li> <li>To use common denominators to add and subtract fractions</li> <li>To be able to multiply and divide fractions by other fractions and whole numbers</li> <li>To be able to convert between fractions, decimals and percentages and order them when necessary</li> <li>To be able to calculate a given fraction of a given quantity</li> </ul>	Staff complete a program of adaptive reteaching on specific topics based on the individual/class needs within their groups. Regular assessments are used to identify gaps in learning. Any gaps found are then addressed in lessons to help support learning and retention. Clear areas for improvement are monitored by individual staff and at a departmental level.
<b>What pupils should already know (prior learning components)</b>	A working understanding of the four basic rules of +-/ * and how to use them in questions.	Pupils will need to understand what a fraction is, and can explain the conversions between FDP. Students should be able to simplify fractions, multiplication and division skills with fractions and convert between a mixed number and improper fraction	All the half term content will have been covered by this point. Staff will use departmental tracking documents to analyse the gaps in learning from the most recent assessments and all previous assessments. The ability to structure and breakdown a problem-solving question as exemplified in the TFI questions throughout the course.
<b>Transferrable knowledge (skills)</b>	Averages will be used when doing topics that require understanding and interpretation data this will be a focus when looking at statistical diagrams all the way KS4 and into KS5 in statistics.	The topic will build students' confidence with basic fraction skills. These skills can underpin almost all of subsequent mathematics where fractions are used as part of a larger question. This is particularly the case with confidence with mixed values which will be used repeatedly in any unit that uses substitution and formulae.	This activity should serve to highlight and address areas of weakness in teaching and learning or retention. This early intervention to understand specific key areas for improvement or development. This should help to build confidence and improve students' ability to answer these and directly sequential problems.
<b>Key vocabulary pupil will know and learn</b>	Sampling, Random, Stratified, Average, Mean, Mode, Median, Range, Interquartile range, Discrete, Outlier, Frequency, Grouped	Fractions, Compare, Denominator, Simplify, Equivalent fractions, Multiply, Divide, Improper, Mixed number, Decimals, Percentages, Convert	
<b>Assessment activities</b>	Year 9 Half term test 3 Homework Unit 6 – Sampling and Averages	Year 9 Half term test 3 Homework Unit 6 – Fractions	AFL and adaptive teaching will continue to support staff to assess the address areas.

<b>Resources available</b>	Maths Watch clip numbers 62, 130a, 130b	Maths Watch clip numbers 25, 26, 70, 71, 73, 74, 84, 85, 72	Before any assessments are completed, revision and guidance materials are provided for students to assist in independent study.
Notes <b>Why this topic is important...</b>	The unit starts with the understanding that the word average has a different context than what is used in the wider world. This leads to an understanding between the different averages and when they can be used to help or hinder clarity. The concept of spread is introduced through the range at this point which will be used later in KS5 with standard deviation becoming at central part.	The start of this unit uses the 4 basic operations which have been covered numerous times in earlier years. Although it is often seen as basic more topics/marks visit the skills of fractions than many other that we teach. An advancement through these skills will lead to increasingly challenging values being used to work with and then into problems that use these skills "in context".	This is an important point in the curriculum plan that enables individual teachers to review the gaps in learning for the classes they teach. The half-termly assessments are used to track students' progress and enable teachers to react quickly to any gaps in knowledge and prepare students for the next assessment. The feedback and modelling of the exam answers enables students to pick up exam techniques and the ability to communicate effectively.