

Subject: Maths **Year** 9 **Ability** Higher

Half Term 3 / weeks	Week 1-3	Week 4-5	Week 6	Final week of the half term
Topic	Unit 6 – Sampling and Averages	Unit 7 - Fractions	Extra Unit – Standard Form	Reteach and Retention
Topic overview Students will learn...	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.	The first introduction to standard form, using the notation to write big or small numbers understanding the notation this creates.	Focus on the process of reteach and retention for this half term, knitting together the learning in reaction to the assessments completed. Students will follow a bespoke set of lessons looking at errors seen this in the work covered in this half term and any supporting knowledge. If this is covered staff will look forward to cover historic supporting knowledge for the next half term.
Components	Students should be able: <ul style="list-style-type: none"> To understand what a sample is and how a random sample is taken To calculate the mode, median, mean and range for discrete data sets To calculate the mean, median and mode from frequency tables To calculate the mean, median and modal class from grouped data To combine the mean for two sets of data, add in extra values, or find missing values. 	Students should be able: <ul style="list-style-type: none"> To understand equivalent fractions and how to write a fraction in simplest form To compare the sizes of fractions using a common denominator To use common denominators to add and subtract fractions To multiply and divide fractions by other fractions and whole numbers To convert between fractions, decimals and percentages and order them when necessary To calculate a given fraction of a given quantity 	Students should be able: <ul style="list-style-type: none"> To write numbers in standard form and vice versa. To perform calculations in standard form. To use a calculator to perform calculations in standard form. 	Staff complete a program of adaptive reteaching on specific topics based on the individual/class needs within their groups that have been flagged in this block of learning. 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.
What students should already know (prior learning components)	A working understanding of the four basic rules of +-/• and how to use them in questions.	Students 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	Students will need knowledge of basic indices rules and place value	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.

Transferrable knowledge (skills)	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.	The topic will build students' confidence with basic standard form. These skills can underpin almost all of subsequent mathematics where standard form is used as part of a larger question. This is particularly the case with standard form notation which will be used repeatedly in density or speed questions when very large or small numbers are needed.	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.
Key vocabulary student will know and learn	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	Standard form, Ordinary number, Calculations, Mass, Speed	
Assessment activities	Sparx Homework – Sampling and Averages Year 9 Test 3 - This will be completed in lesson (~50mins) at the end of the half term before the R&R section. It will cover the topics taught in this unit primarily but other previous knowledge maybe included.	Sparx Homework – Fractions Year 9 Test 3 - This will be completed in lesson (~50mins) at the end of the half term before the R&R section. It will cover the topics taught in this unit primarily but other previous knowledge maybe included.	Year 9 Test 3 - This will be completed in lesson (~50mins) at the end of the half term before the R&R section. It will cover the topics taught in this unit primarily but other previous knowledge maybe included.	AFL and adaptive teaching will continue to support staff to assess the address areas.
Resources available	Sparx clips: M841, M940, M934, M328, M127, M287 Departmental lesson folder Departmental resource folder www.corbettmaths.com www.justmaths.co.uk www.mathsbox.org.uk www.mathsgenie.co.uk www.mathspad.co.uk	Sparx clips: M410, M335, M670, M835, M931, M157, M197, M110, M265, M264, M695, M684 Departmental lesson folder Departmental resource folder www.corbettmaths.com www.justmaths.co.uk www.mathsbox.org.uk www.mathsgenie.co.uk www.mathspad.co.uk	Sparx clips: M719, M678, U264, U290, M135, M608, M150, U985 Departmental lesson folder Departmental resource folder www.corbettmaths.com www.justmaths.co.uk www.mathsbox.org.uk www.mathsgenie.co.uk www.mathspad.co.uk	Before any assessments are completed, revision and guidance materials are provided for students to assist in independent study.
Notes Why this topic is important...	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".	In this unit the ideas to standard form are introduced to allow students the ability to see the need for a way of writing either very big or small numbers. The need and value of accuracy will also be visited. This unit should aim to allow students the ability to handle standard form when it appears as a part of a larger question.	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.