



## Year 7 Maths

### Aims:

- Create students who think, write, and speak like mathematicians.
- Develop their level in mathematical fluency by building effectively from Year 6 mathematics
- Understand how to structure and record their thoughts and processes in a clear and logical way
- Improve techniques for problem solving through generating links between topics

### Content:

The first half term is a key transitional phase. Students will complete a programme of number topics to re-visit and build upon their experiences at Key Stage 2. It is an important element of the Scheme of Learning that links to other areas of maths, such as averages and geometry, are highlighted to show where number work can be applied. The second part of the term continues to build confidence and competence with number techniques Students will engage with the driving question “How do we conquer terrain?” by considering area and perimeter.

In term 2, students will delve into their knowledge on fractions from Key Stage 2 and solve applied problems after ensuring fluency. Following this, students will spend time on data. Students will investigate answers to the driving question “Why are new discoveries important?” through use of data and statistics methods including percentages and pie charts. This topic also lends itself well to interleave the previous topics of median and mean from earlier in the year to test their recall of the methods.

During term 3 students will have a sustained focus in the first half to further their algebraic manipulation skills. Following that, students will be faced with ratio and scale drawing – once again creating string inks between topic areas that can sometimes appear as two isolated skills.

### Curriculum Map

Year	Term	Curriculum	Assessment
7	Term 1	Developing fluency and understanding in number whilst providing key links to other topic areas to show how the methods can be applied	Topic Assessments End of Unit Assessments
	Term 2	Improving depth of understanding in fractions using different manipulatives and representations  Calculate statistics from data sets and present visually in pie charts.	Topic Assessments End of Unit Assessments
	Term 3	Algebraic notation, simplification and substitution including positive, negatives and fractions  Ratio and accurate drawing to produce scale drawings	Topic Assessments End of Unit Assessments



### Assessment:

In class feedback will be provided throughout lessons using a variety of methods that check for understanding such as mini-whiteboards, vote cards, and carefully selected questioning. Students will receive regular and specific feedback between lessons using peer and self-review techniques to develop the reflective and resilient STRIPE habit. Teacher input in these feedback routines will be given if, and when, needed to support and personalise the student review process.

Low stakes quizzes and retrieval practice will be used regularly to provide students with self-assessment opportunities.

Pre-topic tests will be carried out using online, multiple choice questions to highlight any areas of improvement before the topic begins to inform teacher planning.

Topic assessments will be carried out at the end of each topic. These will be short 15-20 minutes paper-based quizzes containing questions from each of the BASE levels. The aim of these assessments is to determine the understanding of a topic at the point of study.

End of unit assessments will be used one a half term to assess the retention of a mixture of topics after a period of 'forgetting'. This method determines whether the content has been truly assigned to long term memory rather than just understanding and the time of study.

### Extended Learning:

Extended learning in Maths will take two forms: retrieval via online platforms and open-ended tasks based upon the driving question for that term. The online extended learning will be set once a week and there is an expectation that even though it is computer-based, a clear record of methods is recorded in the exercise book. Open-ended tasks investigating the mathematical contribution to the driving question will be set over a longer period of time, normally two weeks.

### Connection to the JTFS Approach

Whole School Theme	How does <i>Maths</i> support this?
STRIPE	STRIPE habits that produce the most effective and efficient mathematics will be highlighted. Reflective review tickets will be used to promote understanding of the students' pathway through the topic. Following each unit assessment there will be a review to measure the impact of STRIPE during preparation
STEAM	In class discussions to show how mathematical topics can be applied in job roles in conjunction with other STEAM subjects
Literacy	Key words will be integrated into every lesson. Student explanations will need to contain subject specific vocabulary when presenting their thoughts to promote improved oracy.
Numeracy	'Know your Numeracy' tags will be used across all subjects with a maths emphasis so common teaching methods are used throughout the school. Fluency quizzes to be used weekly so numeracy skills are embedded regularly.
SMSC, British Values and Citizenship	Negative numbers will link to the school's behaviour system to create a tangible link. Students will understand the role that data plays in society and how a statistic can describe a whole population but can sometime blur the overall picture.