

**CURRICULUM INTENT**

**We aim to develop the Mathematical thinking and reasoning to allow our students to strategically solve problems and apply their Mathematical knowledge in the real world.**

The Mathematics curriculum at Avanti Fields aims to develop the love and curiosity for the subject. Our students are ambitious and ready to learn. Students are encouraged to analyse and reason mathematically and present logical arguments to allow them to apply their knowledge of the subject to solve problems. Throughout their time at Avanti Fields, students will deepen their understanding of Mathematics and value its contribution to everyday life.

Students will appreciate that studying Mathematics will give them the knowledge to approach scientific problems. It will also help to build the skills to manage everyday situations such as planning projects, managing budgets and finances.

**THE AVANTI WAY**

**EDUCATIONAL EXCELLENCE**



**CHARACTER FORMATION**



**SPIRITUAL INSIGHT**



In Maths we aim to develop the intellectual curiosity and explore ideas around the subject. Students are encouraged to become independent learners and critical thinkers. We guide students to see that the content of Mathematics is interlinked and not seen as arbitrary objects.

The Mathematics curriculum is taught so that students can recognise the importance of the subject to everyday life. During the assessment cycle, students take ownership of their own learning experience to further develop their understanding which requires self-discipline and integrity.

The Mathematics curriculum allows students to appreciate the importance of how all things are connected. Mathematics is defined by rules, laws, relationships and patterns. Our students solve problems and build their resilience by persevering.

**PROGRAMME OF STUDY**

Students will be provided opportunities to develop the following knowledge, skills and understanding in Mathematics:

- Mental calculations
- Calculator skills to carry out complex calculations
- Use of mathematical equipment and tools
- Forming and solving problems
- Rounding and estimation
- Numerical literacy
- Algebraic skills
- Graphical skills
- Mathematical reasoning

TERM	YEAR 7	YEAR 8	YEAR 9
<b>AUTUMN 1</b>	Baseline Assessment	Indices and Standard Form	Number Calculations
	Number Calculations	Expressions	Powers and Irrational Numbers
	Powers and Roots	Equations	Quadratic Expressions
	Expressions and Equations	Inequalities	
<b>AUTUMN 2</b>	Decimals, Rounding and Approximations	Percentages and Fractions (calculator)	Statistics
	Fractions and Percentages	Calculations (non-calculator)	Equations
	Ratio and Proportion	Probability	Sequences and Graphs
	Probability	Ratio	Transformations
<b>SPRING 1</b>	Angles and lines	Angles and Polygons	Volume and surface area
	Constructions	Pie Charts and Scatter Graphs	Pythagoras
	Mensuration	Circles	
	Volume and 3D Shapes	Volume	
<b>SPRING 2</b>	Sequences	Statistics	Constructions
	Coordinates, Functions and Graphs	Constructions and Loci	Probability
<b>SUMMER 1</b>	Statistics – collecting and representing data	Rearranging formulae	Functions
	Statistics – averages and range	Sequences	Algebraic Fractions

SUMMER 2	Transformations	Straight line graphs	Trigonometry
	Using a calculator	Algebraic graphs	Mathematical Reasoning
		Transformations	

### ASSESSMENT AND FEEDBACK

Students are assessed regularly in maths through a combination of formative and summative assessments. Students receive feedback after each assessment, following the whole school ‘Strengths, Improvements, and Actions’ (SIA) policy.

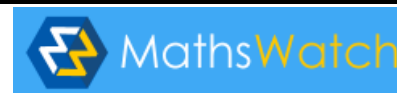
Dedicated Improvement and Reflection Time (DIRT) is built into lessons, post assessments to allow students to reflect and act upon the feedback received. This could be an improvement and/or challenge task to improve and make further progress in their knowledge, skills and understanding. Students will have teacher support and support through digital platforms.

**FORMATIVE ASSESSMENT:** Key mathematical skills and application are assessed regularly through low stakes testing in lessons which have a focus on both current content and recalling previous knowledge and skills.

**SUMMATIVE ASSEMENT:** There are several summative assessment tests per year. These are cumulative in nature and the purpose is to confirm the track point of the student and to promote longer term recall by testing earlier topics and to meet the demands of a linear course.

### SUPPORT AND GUIDANCE

- 1) Use the online platform **Mathswatch** to watch video tutorials.  
Log onto [www. https://vle.mathswatch.co.uk/vle/](https://vle.mathswatch.co.uk/vle/)



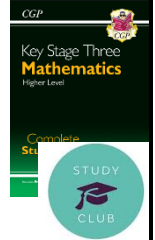
**Username:** First letter of name(Capital)Surname(first letter capital)  
@avantifields  
(e.g. JBloggs@avantifields)



**Password:** Avanti123

Maths

- 2) Use **BBC Bitesize**: <https://www.bbc.com/bitesize> to learn the key concepts, try quizzes and watch video clips.
- 3) Use the **KS3 CGP Revision Guide and Workbook** to aid with explanations and further practise.
- 4) Attend the **Study club** if you need some further support outside of your lessons with your classwork or homework.
- 5) Regularly **review** classwork and **revise** in small chunks as this is much more effective rather than leaving it to the last minute before assessments and exams.



### EXTRA-CURRICULAR / SUPER-CURRICULAR OPPORTUNITIES

**Maths study club:** Wednesday lunchtimes open to all students to gain further support with their homework, classwork or revision.

**Maths enrichment club:** Every Tuesday afterschool 3:30-4:30pm. Open to all students who wish to seek further support with classwork or homework.

Throughout the year, students will have the opportunity to engage in events and competitions through the 'Take it Further' provision. Students and parents will be informed of all opportunities as and when they are organised.