Mathematics at Avanti Fields

AVANTI FIELDS SCHOOL

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. Students will learn to appreciate that Maths is interleaved across topics and cross-curricular. Maths at Key Stage 3 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.

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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
AUTUMN 1	Baseline Assessment Sequences Understand and use algebraic notation Equality and equivalence	Ratio and scale Multiplicative change Multiplying and dividing fractions	Straight line graphs Forming and solving equations Testing conjectures
AUTUMN 2	Place value and ordering integers and decimals Fraction, decimal and percentage equivalence	Working in the cartesian place Representing data Tables and probability	Three dimensional shapes Constructions and congruency
SPRING 1	Solving problems with the four operations Fractions and percentages of amounts	Brackets, equations and inequalities Sequences Indices	Numbers Using percentages Maths and money
SPRING 2	Four operations with directed number Adding and subtracting fractions	Fractions and percentages Standard index form Number sense	Deduction Rotation and translation Pythagoras' Theorem
SUMMER 1	Constructing, measuring and using geometric notation Developing geometric reasoning	Angles in parallel lines and polygons Area of trapezia and circles Line symmetry and reflection	Enlargement and similarity Solving ratio & proportion problems Rates
SUMMER 2	Developing number sense Sets and probability	The data handling cycle Measures of location	Probability Algebraic representation

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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.

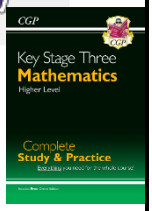
FORMATIVE ASSESSMENT: Key mathematical skills and application are assessed regularly through low stakes testing in lessons which have a focus on both current content and recalling previous knowledge and skills. Students will sit an end of topic test after each assessment and a percentage will be recorded.

SUMMATIVE ASSEMENT: There roughly three summative assessments 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/

Username: Same as their google classroom login
Password: See your maths teacher



2) Use **BBC Bitesize**: https://www.bbc.com/bitesize to learn the key concepts, try quizzes and watch video clips.

3) Use a **KS3 Revision Guide and Workbook** to aid with explanations and further practise.

4) Attend the **Lunch time drop-in 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. Use of Dr Frost Maths and/or Corbett Maths for independent study.

EXTRA-CURRICULAR / SUPER-CURRICULAR OPPORTUNITIES

Maths drop-in surgery: Last 30 minutes of Tuesday lunch A and last 30 minutes of Thursday lunch B.

Maths challenge club: Every Tuesday afterschool, 3.30-4.15pm. Students are required to sign up at the start of a half-term. Students work through fun and engaging problems and challenges.

Throughout the year, students will have the opportunity to engage in events and competitions.