**Maths**

Curriculum Statement



**Intent**

Mathematics is an integrated part of the National Curriculum across many subject areas. All pupils need a good foundation in the subject as they will use it in everyday situations throughout their lives, as such timetabling of Maths is a priority in school, with 5 lessons per week allocated at Key Stage 2, and 4 lessons per week allocated in Key Stages 3 and 4.

Mathematics teaches children how to make sense of the world around them through developing their ability to calculate, reason and solve problems. It enables children to understand relationships and patterns in both number and space in their everyday lives. Through their growing knowledge and understanding, children learn to appreciate the contribution made by many cultures to the development and application of mathematics.

Pupils should gain confidence and learn a variety of skills to tackle problems. Pupils learn how to evaluate their work to improve and extend their knowledge.

We aim:

* To deliver an ambitious curriculum with the ultimate goal of reengaging pupils and enabling them to achieve nationally recognised qualifications.
* To provide pupils with the requisite knowledge and skills to achieve at least their expected outcomes, and equip them for life after Rosewood.
* to promote enjoyment of learning through a combination of practical activity, exploration and discussion;
* to promote confident engagement  and competence with numbers and the number system;
* to develop the ability to solve problems through decision-making and reasoning in a range of contexts;
* to develop a practical understanding of the ways in which information is gathered and presented;
* to explore features of shape and space, and develop measuring skills in a range of contexts;
* to understand the importance of mathematics in everyday life.
* to achieve a functional level of numeracy.

**Implementation**

* Due to the nature of our school, many pupils have suffered negative experiences of education and significant periods of time out of school. Our primary aim is to ensure that the gaps in their knowledge are closed in order to ensure they have a solid foundation on which to build.
* Where possible we stream classes to ensure pupils are in a class with pupils of a similar ability promoting opportunities for greater differentiation across a year group.
* We employ a spiral curriculum in Maths to ensure that topics are revisited, in greater depth multiple times throughout pupils’ time with us. Many of our pupils have suffered trauma and/or have attachment issues, which can affect

working memory, and this organisation of the curriculum offers an opportunity to continually refresh their knowledge and understanding whilst building upon it and developing confidence and fluency.

* This curriculum design allows pupils to revisit content in greater depth as they progress through the school, embedding knowledge and skills in their long term memory.
* Maths lessons are delivered by an experienced team within the department and regular CPD is undertaken.
* We use self-assessment and peer assessment alongside traditional methods in order to give pupils some ownership over their learning and opportunities to lead their own learning where appropriate.
* Interventions are planned and implemented for any pupils who are not making at least expected progress. These can take place within class or during withdrawal sessions with the SEN team.
* Pupils who are considered “most able” have access to additional sessions with the subject lead in order to allow them to access higher content and to drive their progress.
* We strive to ensure pupils have access to the full Maths curriculum in a short Key Stage 3 in order to fully prepare them for the challenges of their GCSE studies, affording them the opportunity to achieve in line with their mainstream peers. Pupils follow the Pearson Maths Progress schemes of work.
* The matrix of work is adaptable to add weeks where basic skills need further reinforcement.
* We employ a variety of teaching styles and techniques to individualise learning and ensure that all pupils work towards their targets – including those set in PEP meetings and their predicted GCSE grades.
* We subscribe to online packages, which pupils can also access at home, to provide practice and provide fluency with basic skills – these programmes assess pupils as they play, and as a result, the questions are set to the individual level of the pupil.
* During periods where remote education is/has been required, we ensure that curriculum content is in line with that which pupils would be studying in school. This has been delivered through a combination of live lessons and through the use of online packages.
* We aim to provide practical experiences for pupils, to embed their knowledge of Maths in the wider world. Alongside colleagues, we travel train pupils, showing them that Maths is used in context of everyday life and the necessary skills to travel independently. We also conduct visits to museums to show application of Maths in potential careers while providing cultural

capital through affording them opportunities they would not necessarily have had.
* We aim to ensure pupils have the necessary life skills such as an understanding of time and money to provide them with independence in their lives after Rosewood.
* Staff are continually working with other subjects in school to ensure cross curricular links and where appropriate teaching in Maths reinforces pupils’ knowledge of concepts learnt elsewhere in school. These cross-curricular links are more prevalent than ever, as there is a vast amount of Mathematical content in the GCSE curriculum for many subjects, including ICT, Science, DT, Geography, Food Technology and PE.

**Impact**

Through the use of the above methods, pupils learn to enjoy Mathematics and the challenges it provides and, as a result have a greater understanding of Mathematical concepts and their application in different contexts. Pupils develop a growth mind set by recognising that making mistakes is part of the learning process, which inspires them to push themselves outside of their comfort zone and allows them to achieve more than they previously thought possible. Pupils develop a curiosity which enables them to understand the patterns and statistics that they encounter in everyday life. All pupils in year 11 complete GCSE examinations in Mathematics and strive to achieve at least their GCSE target grade. All pupils leave Rosewood with a functional level of numeracy and the necessary mathematical knowledge to succeed in their chosen college courses and careers.

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| **Year 7** |  |  |  |  |  |  |  |  |  |  |  |  |
| Autumn |  |  |  |  |  |  |  |  |  |  |  |  |
| Week 1 | Week 2 | Week 3 | Week 4 | Week 5 | Week 6 | Week 7 | Week 8 | Week 9 | Week 10 | Week 11 | Week 12 | Remainder of term |
| Baseline assessments | Unit 1 Analysing and displaying data | Unit 2 Calculating | Unit 3 Expressions, functions and formulae | Consolidation and assessment |
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| Spring |  |  |  |  |  |  |  |  |  |  |  |  |
| Week 1 | Week 2 | Week 3 | Week 4 | Week 5 | Week 6 | Week 7 | Week 8 | Week 9 | Week 10 | Week 11 | Week 12 | Remainder of term |
| Unit 4 Decimals and measures | Unit 5 Fractions, decimals and percentages | Unit 6 Probability | Unit 7 Ratio and Proportion | Consolidation and assessment |
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| Summer |  |  |  |  |  |  |  |  |  |  |  |  |
| Week 1 | Week 2 | Week 3 | Week 4 | Week 5 | Week 6 | Week 7 | Week 8 | Week 9 | Week 10 | Week 11 | Week 12 | Remainder of term |
| Unit 8 Angles and Lines | Unit 9 Graphs | Unit 10: Transformations | Activity Week | Consolidation and assessment |

The matrix of work is adaptable to add weeks where basic skills need further reinforcement to improve recall and reinforcement of basic mathematical knowledge.

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| **Year 8** |  |  |  |  |  |  |  |  |  |  |  |  |
| Autumn |  |  |  |  |  |  |  |  |  |  |  |  |
| Week 1 | Week 2 | Week 3 | Week 4 | Week 5 | Week 6 | Week 7 | Week 8 | Week 9 | Week 10 | Week 11 | Week 12 | Remainder of term |
| Basic Skills | Unit 1 Number properties and calculations  | Unit 2 Area and Volume | Unit 3 Statistics  | Consolidation and assessment |
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| Spring |  |  |  |  |  |  |  |  |  |  |  |  |
| Week 1 | Week 2 | Week 3 | Week 4 | Week 5 | Week 6 | Week 7 | Week 8 | Week 9 | Week 10 | Week 11 | Week 12 | Remainder of term |
| Unit 4 Expressions and equations  | Unit 5 Real life graphs | Unit 6 Decimals and Ratio | Unit 7 Lines and Angles | Consolidation and assessment |
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| Summer |  |  |  |  |  |  |  |  |  |  |  |  |
| Week 1 | Week 2 | Week 3 | Week 4 | Week 5 | Week 6 | Week 7 | Week 8 | Week 9 | Week 10 | Week 11 | Week 12 | Remainder of term |
| Unit 8 Calculating with Fractions | Unit 9 Straight line graphs | Unit 10 Percentages, decimals and fractions | Activity Week | Consolidation and assessment |

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| **Year 9** |  |  |  |  |  |  |  |  |  |  |  |  |
| Autumn |  |  |  |  |  |  |  |  |  |  |  |  |
| Week 1 | Week 2 | Week 3 | Week 4 | Week 5 | Week 6 | Week 7 | Week 8 | Week 9 | Week 10 | Week 11 | Week 12 | Remainder of term |
| Integers and Indices | Factors and Multiples | Expressions and Formulae | Equations and Inequalities | Angles | Fractions and Decimals | Theoretical and Experimental Probability | 2D and 3D Shapes | Consolidation and assessment |
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| Spring |  |  |  |  |  |  |  |  |  |  |  |  |
| Week 1 | Week 2 | Week 3 | Week 4 | Week 5 | Week 6 | Week 7 | Week 8 | Week 9 | Week 10 | Week 11 | Week 12 | Remainder of term |
| Functions and Sequences | Estimation and Approximation | Graphs and Gradients | Ratio and Proportion | Transformations | Percentages | Angles in Polygons | Consolidation and assessment |
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| Summer |  |  |  |  |  |  |  |  |  |  |  |  |
| Week 1 | Week 2 | Week 3 | Week 4 | Week 5 | Week 6 | Week 7 | Week 8 | Week 9 | Week 10 | Week 11 | Week 12 | Remainder of term |
| Perimeter, Area and Volume | Direct and Inverse Proportion | Congruent and Similar Shapes | Compound Units | Pythagoras and Trigonometry | Circles and Cylinders | Charts and Averages | Activity Week | Bearings and Scale Diagrams | Consolidation and assessment |

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| **Year 10** |  |  |  |  |  |  |  |  |  |  |  |  |
| Autumn |  |  |  |  |  |  |  |  |  |  |  |  |
| Week 1 | Week 2 | Week 3 | Week 4 | Week 5 | Week 6 | Week 7 | Week 8 | Week 9 | Week 10 | Week 11 | Week 12 | Remainder of term |
| Collecting, Organising, Presenting and Analysing Data | Primes, Factors and Multiples | Algebraic Manipulation | Accuracy and Rounding | Mensuration | Proofs and Formulae | Assessment and consolidation |
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| Spring |  |  |  |  |  |  |  |  |  |  |  |  |
| Week 1 | Week 2 | Week 3 | Week 4 | Week 5 | Week 6 | Week 7 | Week 8 | Week 9 | Week 10 | Week 11 | Week 12 | Remainder of term |
| Geometric constructions and calculations | Direct and Inverse Proportion | Percentage Change | Solving of Equations | Fractions and Decimals | Bivariate Data | Assessment and consolidation |
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| Summer |  |  |  |  |  |  |  |  |  |  |  |  |
| Week 1 | Week 2 | Week 3 | Week 4 | Week 5 | Week 6 | Week 7 | Week 8 | Week 9 | Week 10 | Week 11 | Week 12 | Remainder of term |
| Indices and Standard Form | Exact Calculations | Equations and Inequalities | Compound Units | 2D and 3D Representations | Activity Week | Assessment and Consolidation |

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| **Year 11** |  |  |  |  |  |  |  |  |  |  |  |
| Autumn |  |  |  |  |  |  |  |  |  |  |  |
| Week 1 | Week 2 | Week 3 | Week 4 | Week 5 | Week 6 | Week 7 | Week 8 | Week 9 | Week 10 | Week 11 | Week 12 |
| Geometric Review | Probability | Transformations | Revision |
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| Spring |  |  |  |  |  |  |  |  |  |  |  |
| Week 1 | Week 2 | Week 3 | Week 4 | Week 5 | Week 6 | Week 7 | Week 8 | Week 9 | Week 10 | Week 11 | Week 12 |
| Revision | Mock Exams | Similar Figures | Functions and Graphs | Vectors |
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| Summer |  |  |  |  |  |  |  |  |  |  |  |
| Week 1 | Week 2 | Week 3 | Week 4 | Week 5 | Week 6 |   |   |  |  |  |  |
| Revision and Exam Preparation |  |  |  |  |

The matrix of work is adaptable to add weeks where basic skills need further reinforcement to improve recall and reinforcement of basic mathematical knowledge.