SUBJECT: Mathematics   **YEAR:** 9

HEAD OF DEPARTMENT: Mr Hatch

GROUPING POLICY: Students will be set based on Year 8 attainment

CURRICULUM INTENT:

To develop confident, independent mathematicians who have an appreciation for mathematics in the wider world. We want students to have a creative and ambitious mathematics curriculum, rich in skills, vocabulary and knowledge, which ignites curiosity and makes mathematics relevant to their lives. Our mathematics curriculum will give students the opportunity to:

- Become fluent in the fundamentals of mathematics, giving all students the opportunity to access a wide range of post-16 options
- Pupils develop the problem-solving skills and apply their mathematics to a variety of routine and non-routine problems with increasing sophistication
- Pupils master the relevant number skills which will enable them to access more complex problems in the classroom and in future employment.
- Reason about the proportional nature of many aspects of real-life rates and ratios
- Communicate, justify, argue and prove using mathematical vocabulary
- Work with abstract concepts to propose, test and prove conjectures
- Reason about the properties and sizes of different aspects of shapes
- Develop their character, as part of Rednock's IMATTER program so that they can contribute positively to the life of the school, the local community and the wider environment.

COURSE CONTENT:

KS3 Overview

We follow the White Rose Maths Key Stage 3 curriculum lasting two years and four terms. Year 7 focuses on developing a secure understanding of topics that provide the foundations for many more. Key Stage 3 builds on Key Stage 2 and connections across mathematical ideas to develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems. Challenge and the opportunity to deepen understanding of the key mathematical ideas is provided for all. Mastery is achieved through developing procedural fluency and conceptual understanding in tandem, since each supports the other. Students are encouraged to conjecture, generalise, develop arguments, justification or proof using mathematical language to develop reasoning skills. Problem solving will be developed by exposing students to standard and non-standard problems which increase in complexity in small steps. Students will be exposed to different representations and be able to move freely between them. Opportunities will be given to discuss appropriate methods and strategies to develop fluency. By the time students reach Year 9, the topics are overlapping with some of the GCSE content, and this gives us a good starting point to begin the GCSE course at the end of Year 9.

Year 9 Curriculum

The ideas of the Year 9 scheme of work are to continue to develop our students as mathematicians. Teachers will introduce new skills that combine multiple prior topics from Year 7 and 8, or develop

skills further. Skills acquired from Year 7 and 8 will be interleaved through starters and homework activities. Previous topics should be interwoven into questions within current topics. There will be further differentiation in topics at this point, with top sets aiming to have covered all Foundation GCSE content, including the crossover topics, middle sets having covered all the content only on the Foundation GCSE and bottom sets having covered all topics on the Entry Level Certificate. Students are taught 7 hours a fortnight in sets.

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn	Reasoning with Algebra						Constructing in 2 and 3 Dimensions					
	Straight line graphs		Forming and solving equations		Testing conjectures		Three-dimensional shapes			Constructions and congruency		
Spring	Reasoning with Number						Reasoning with Geometry					
	Numbers		Using percentages		Maths and money		Deduction			Rotation and translation		Pythagoras' Theorem
Summer	Reasoning with Proportion						Representations and Revision					
	Enlargement and similarity		Solving ratio & proportion problems		Rates		Probability			Algebraic representation	Revision	

What will homework look like?

Students will have one piece of homework each week. This may be online or a worksheet consolidating topics previously studied and should take approximately 40 minutes.

What enrichment opportunities are available?

UKMT Junior Mathematical Challenge for gifted and talented students.

ASSESSMENT

How will my child's work be assessed?

Students have end of topic assessments every two to three weeks and three end of term assessments during the year. Students will be expected to revise work from the previous topics, but will also be tested on anything learned during the year.

ADDITIONAL INFORMATION

How can I support my child in this subject?

- Be positive about learning Mathematics when speaking to your child, whatever your personal experience of Mathematics was.
- Discuss what your child is learning in Mathematics with them.
- Your child should receive homework weekly – please insist that this is completed to a good standard. If you are able to, help your child to complete their homework. If they get stuck, encourage them to contact their teacher, who will be happy to help.

How can I support my child with assessments?

The Mathematics Department publishes revision lists for assessments on SatchelOne. Encourage your child to look through these lists carefully and use the recommended websites to assist revision:

https://corbettmaths.com

https://nrich.maths.org

The Mathematics Department has a subscription for the following websites and your child will be given a username and password to access them:

https://hegartymaths.com

https://www.mathspad.co.uk