

Curriculum Map: Mathematics for years 7, 8 and 9.

The mathematics department believe that all students have the opportunity to appreciate the power and wonder of mathematics in an amazing and supportive learning environment, where every pupil is given the tools at their disposal to achieve their goals and deepen their knowledge and understanding of mathematical skills.

To help parents in participating in the learning, the Mathematics department have outlined the following curriculum and possible resources as a guide.

Mathematics Curriculum Overview Year 7

- 7.1. Ratio, using numbers and sequences.
- 7.2. Statistics, perimeter, area volume and decimal numbers.
- 7.3. Algebra, fractions and angles.
- 7.4. Working with numbers, coordinates, graphs and interpreting data.
- 7.5. Percentages, probability and symmetry.
- 7.6. Equations and 3D shapes.

Mathematics Curriculum Overview Year 8

- 8.1. Working with numbers, geometry and probability.
- 8.2. Percentages, sequences and area of shapes.
- 8.3. Graphs, simplifying numbers and interpreting data.
- 8.4. Algebra, congruence and scaling, fractions and decimals.
- 8.5. Proportion and circles.
- 8.6. Equations, formulae and comparing data.

Mathematics Curriculum Overview Year 9

- 9.1. Number.
- 9.2. Algebra.
- 9.3. Interpreting and representing data.
- 9.4. Fractions, ratio and proportion.
- 9.5. Angles and trigonometry.
- 9.6. Graphs.

Mathematics teaching staff:

Mr P. Patria (mathematics lead)
Mr D. Norris

How can you help?

- ✓ Ensure your child puts their very best effort into their homework.
- ✓ Encourage them to ask for help if they are stuck.
- ✓ Check your child's planner to see if they have any homework.
- ✓ Make sure your child revises well for their tests and end of year exams.

Assessment

Seva

Excellence

Virtues

Aspiration



Students in Key Stage 3 will be taught four lessons of Mathematics every week. Students will complete a test every half term on the topics being studied. Pupils will also complete a baseline test early in the academic year to help class teachers assess pupils' prior knowledge and to help fill any gaps in their understanding.

In year 9, students will also have four lessons of GCSE Mathematics per week and will complete an exam every half term on the topics being studied. The first will be a GCSE baseline paper which will help teachers assess any gaps in knowledge that need to be addressed in order to teach from the Edexcel GCSE specification.

The National Curriculum

The Key Stage 3 Mathematics curriculum is based on acquiring the necessary skills needed for the GCSE that pupils will start in year 9. The schemes of learning used are based on the key stage 3 Edexcel specification.

Edexcel mathematics 9-1, (1MA1).

Students will follow the linear GCSE course, which will be examined over three papers, one non-calculator paper and two calculators, pupils will have one hour and thirty minutes on each paper. There are two tiers of study, higher will cover grades 9-4 and foundation will cover 5-1. Both higher and foundation pupils will be entered for Edexcel, there will be opportunities for some students to be entered for individual pathways, where appropriate.

The GCSE specifications can be found using the following link:

<https://qualifications.pearson.com/content/dam/pdf/GCSE/mathematics/2015/specification-and-sample-assesment/gcse-maths-2015-specification.pdf>

Useful Websites

Hopefully you'll find some of these links useful. Some will help with school work or preparation for exams while others are ideal for enrichment and an enjoyable read

www.mymaths.co.uk

An excellent website ideal for revision. Includes online lessons and questions to practise. You will require a school password which your child will have been given by his/her maths teacher.

nrich.maths.org

An ever growing site of Maths problems and games at different skill levels. Ideal for stretching that able Mathematician

www.bbc.co.uk/schools/gcsebitesize/maths/

An easy-to-use revision service for GCSE Mathematics.



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Year 7		
Topic	Term	Brief Description of content
Ratio, using numbers and sequences.	1.1	Simplifying and sharing amounts by a given ratio. BIDMAS and negative numbers. Describing sequences.
Statistics, perimeter, area volume and decimal numbers.	1.2	Collecting data and calculating averages. Perimeter and area of 2D shapes. All four operations with decimals.
Algebra, fractions and angles.	2.1	Simplifying expressions and writing formula. All four operations with fractions. Measuring and drawing angles, calculating missing angles in polygons.
Working with numbers, coordinates, graphs and interpreting data.	2.2	Long division and multiplication and rounding numbers. Straight line graphs. Comparing averages.
Percentages, probability and symmetry.	3.1	Calculating percentages. Calculating probabilities. Tessellation, rotational symmetry and identifying lines of symmetry.
Equations and 3D shapes.	3.2	Setting up and solving equations. Constructing 3D shapes.

Year 8		
Topic	Term	Brief Description of content
Working with numbers, geometry and probability.	1.1	Negative numbers, prime factors, HCF and LCM, powers and roots. Angles on parallel lines, transformations and constructions. Calculating probabilities, sample space diagrams and experimental probability.
Percentages, sequences and area of shapes.	1.2	Calculating percentages, percentage increase and decrease of an amount. Calculating nth term of a sequence. Calculating surface area and volume of 3D shapes.
Graphs, simplifying numbers and interpreting data.	2.1	Linear, quadratic and real life graphs. Standard form, rounding and estimation. Pie charts and scatter graphs.
Algebra, congruence and scaling, fractions and decimals.	2.2	Index laws, Expanding brackets and factorisation. Scale drawings, enlargements and congruence. All four operations with fractions and decimals.
Proportion and circles.	3.1	Direct and inverse proportion. Area and circumference of circles and parts of circles.
Equations, formulae and comparing data.	3.2	Solving equations with and without brackets. Rearranging formulae. Comparing averages from frequency tables.

Year 9 (higher)		
Topic	Term	Brief Description of content
Number.	1.1	Prime factors, HCF and LCM, index laws, estimation, standard form and surds.
Algebra.	1.2	Algebraic indices, expanding brackets and factorisation, solving equations, rearranging formulae and sequences.
Interpreting and representing data.	2.1	Scatter graphs, time series, pie charts, stem and leaf, averages and range.
Fractions, ratio and proportion.	2.2	All four operations with fractions, sharing an amount by a given ratio, solving direct proportion questions and fractions, decimals and percentages.
Angles and trigonometry.	3.1	Calculating missing angles in polygons (internal and external), Pythagoras' theorem and trigonometry.
Graphs.	3.2	Linear, quadratic, cubic and reciprocal graphs, real life graphs, rates of change and calculating midpoints of a line segment.

Year 9 (foundation)		
Topic	Term	Brief Description of content
Number.	1.1	All four operations with decimal numbers, factors, prime factors and multiples, squares, cubes and roots and index laws.
Algebra.	1.2	Simplifying expressions, substitution and expanding brackets and factorisation
Interpreting and representing data.	2.1	Two way tables, time series, stem and leaf, pie charts and scatter graphs.
Fractions and percentages.	2.2	All four operations with fractions and percentages.
Equations, inequalities and sequences.	3.1	Solving equations, introducing inequalities, rearranging formulae and sequences.
Angles.	3.2	Properties of shape, parallel line angles, calculating missing angles in polygons (internal and external).