Mathematics Foundation

Archdiocese of Liverpool

Curriculum intent:

It is the intention of St Gregory's Mathematics department to deliver a curriculum that will develop the skills set out in the National curriculum is the intention of St Gregory's Mathematics department to deliver a curriculum that will not only meet the requirements of the National Curriculum but will prepare pupils for the real world. Centred upon our belief 'Master your CRAFT, exceed your potential' our curriculum is designed to be accessible for all, challenging and enjoyable. Our five year scheme of learning enables students to build on prior knowledge; thus allowing for a smooth transition from primary years through to secondary and beyond. We want our students to leave St Gregory's with transferable skills that will enable them to solve problems, communicate, visualise, think analytically, self-regulate, reflect and more. It is through such skills that our students will not only function in society and the world of work but will become successful leaders and educators themselves having mastered their craft.

Coherence - breaking down problems into small interconnected steps
Representation and Structure – using concrete, pictorial and abstract ways to enable all pupils to access and solve problems
Analytical Thinking – providing opportunities for pupils to think through and share their ideas
Fluency and Variation – knowledge of key mathematical facts, enabling pupils to make connections and think flexibly.
Transferable Skills – equips pupils with the tools to tackle various situations in everyday life.

In doing this we endeavour to promote an appreciation of Mathematics as a creative and highly interconnected discipline. m and promote an appreciation of Mathematics as a creative and highly interconnected discipline providing the solution to some of history's most intriguing problems. Aiming to provide students with a sense of enjoyment and curiosity about the subject together with an appreciation of the beauty and power of Maths in different cultures.

We endeavour to provide support across a range of subjects with an emphasis on problem-solving and developing Mathematical fluency across the whole school curriculum, narrowing gaps that students may have with the basic numeracy skills essential within everyday life.

Year 10 (F)

TERM 1

Content	Concepts and Skills
Place Value, Ordering Integers and Decimals, Adding, Subtracting Integers and Decimals, Multiplying, Dividing, Integers, Inverse Operations, Negatives in Real Life, Four Rules of Negatives , BODMAS/BIDMAS, Multiplying and Dividing by Powers of 10, Multiplying and Dividing Decimals, Rounding to the Nearest 10, 100, 1000, Rounding to Decimal places, Rounding to Significant Figures, Factors, Multiples and Primes, Squares, Cubes and Roots, Product of Primes, HCF / LCM, Introduction to Powers/Indices, Working with Indices, Simplifying - Addition and Subtraction, Simplifying - Multiplication and Division, Expanding Brackets Simple Factorisation, Substitution, Tally Charts and Bar Charts, Pictograms,Vertical Line Charts, Frequency Tables and Diagrams, Two-Way Tables,Pie Charts, Scatter Diagrams, Data - Discrete and Continuous, Averages and the Range, Averages from a table, Basic Fractions, Equivalent and Simplifying Fractions, Adding and Subtracting Fractions, Finding a Fraction of an Amount, Multiplying and Dividing Fractions, Fractions, Percentages, Decimals, Introduction to Percentages, Percentage of an Amount (Calc.) Change to a Percentage (Calc.), Increase/Decrease by a Percentage Simple Interest, Solving Equations and Subject of a Formula using Flowcharts, Solving Equations, Rearranging Simple Formulae, Forming Formulae and Equations, Inequalities on a Number Line, Solve Linear Inequalities.	• knowledge of core principles • application of skills • problem solving • evaluation • group work • peer coaching • revision skills • examination technique
Function Machines, Generating a Sequence - Term to Term, Generating a Sequence from the nth Term, Finding the nth Term Special Sequences, Fibonacci Sequences Geometric Progressions, Polygons, Tessellations, Names of Angles, Angles on a Line and at a Point, Measuring and drawing Angles – Measuring, Measuring and drawing Angles – Drawing, Angles and Parallel Lines, Angles in a Triangle, Properties of Special Triangles, Angle Sum of Polygons.	• knowledge of core principles • application of skills • problem solving • evaluation • group work • peer coaching • revision skills • examination technique

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Year 10 (F)

	Content	Concepts and Skills
TERM 2	Properties of Solids, Nets, Perimeters, Area of a Rectangle, Area of a Triangle, Area of a Parallelogram, Area of a Trapezium, Metric conversions, Problems on Coordinate Axes, Surface Area of a Prism – Cuboids, Surface Area of a Prism - Triangular Prisms, Volume of a Cuboid, Circle Definitions, Area of a Circle, Circumference of a Circle, Sectors of a Circle, Volume of a Prism, Spheres, Pyramids, Cones, Frustrums, Distance-Time Graphs	• knowledge of core principles • application of skills • problem solving • evaluation • group work • peer coaching • revision skills • examination technique
TERM 3	Coordinates, Straight Line Graphs, The Gradient of a Line Midpoint of a Line on a Graph, Finding the Equation of a Straight Line, Symmetries, Congruent Shapes, Similar Shapes, Symmetries, Reflections, Rotations, Translations, Enlargements, Introduction to Ratio, Sharing using Ratio, Ratios, Fractions and Graphs, Using Ratio for Recipe Questions, Value for Money, Simple Proportion, Exchanging Money, Pythagoras' Theorem, Trigonometry, Exact Trigonometric Values	• knowledge of core principles • application of skills • problem solving • evaluation • group work • peer coaching • revision skills • examination technique