



Math Overview (Foundation) – Year 10

Students receive eight hours of maths lessons a fortnight.

	Autumn 1	Autumn 2	Spring 1
Topic(s)	Algebra – Simplify, solve and sequences	Graphs – Plotting and reading	Number and Place value
Topic Objectives	To simplify algebraic expressions To solve linear equations To understand the rules of linear sequences	To deepen understanding of coordinates and plotting Use different rules to plot different types of graphs Interpret and understand real life graphs	Use place value to order positives, negatives and decimals Secure understanding of the 4 operations with decimals Rounding numbers to varying degrees of accuracy Understand the different types of number and apply the order of operations
Acquired Knowledge/Skills	Forming and Simplify expressions Expanding single and double brackets Factorising single and double brackets Solve linear equations Find the rule for a linear sequence (nth term)	Plotting coordinates in 4 quadrants and solve problems Identifying horizontal and vertical lines Using a table of values and a rule to plot a straight line Calculating the gradient and equations of a straight line Draw other types of graph (Quadratic/Cubic) Real life graphs – Travel graphs	Ordering positives, negatives and decimals Use the 4 operations with positive negatives and decimals – Including money Rounding numbers – Nearest whole number/10/100/1000/decimal places and significant figures Using rounding to estimate answers to calculations Understand types of number – Odd, even squares, roots, multiples, factors and primes Identify prime factors of a number
Assessments	Ongoing AFL - 6 grids, starters, homework End of half term assessment	Ongoing AFL - 6 grids, starters, homework End of half term assessment	Ongoing AFL - 6 grids, starters, homework End of half term assessment
Citizenship	<ul style="list-style-type: none"> • PSHE Development: Building resilience – Accepting challenges and learning from mistakes. Developing problem solving skills – Breaking problems down into smaller steps and thinking logically. Financial skills – Adding/Subtracting/Multiplying/Dividing/Percentages – Skills that students will need going into later life when thinking about budgeting, interest and value for money. Communication and teamwork – Explaining reasoning, listening to other people’s methods and solutions. Living in the wider world – Looking at statistics and data, financial literacy and understanding risk. Personal development – Promoting independence, responsibility and fairness. • Careers Education: Pathways into STEM, finance and technical careers. Problem solving skills are based on real life scenarios that people would have. Embedding real world contexts into lessons. Help students understand the importance of maths in everyday life and work • Fundamental British Values: Democracy – Using informed decisions based on evidence and data, Rule of law – Following correct methods (BIDMAS), Individual liberty – Giving students the freedom to express themselves in problem solving questions and discussions, Mutual respect – Listening to other students, understanding that mistakes happen and will support their learning and working collaboratively. Tolerance of faiths and beliefs – Understand that a lot of different cultures contributed to what maths is today e.g. Pythagoras theorem • SMSC Development: Developing logic, developing thinking and reasoning skills through problem solving and class discussion around topics 		

Spring 2	Summer 1	Summer 2
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Topic(s)	Drawing and interpreting graphs, tables and charts	Fractions and Percentages	Properties of 2D shapes and angles
Topic Objectives	To read, interpret and understand a variety of tables, charts and graphs Read, construct and interpret pie charts Read, construct and interpret scatter graphs	Convert between fractions, decimals and percentages Calculate with fractions Find and calculate with %'s	Identify properties of 2D shapes including parallel and perpendicular lines Recall and develop understanding of the different angle rules including angles in 2D shapes Understand properties of polygons and calculate angle totals
Acquired Knowledge/Skills	Collect data and represent in a suitable chart/graph Produce and Interpret charts and graphs Understand, identify values and complete frequency and two-way tables Identify averages from charts and graphs Read and interpret pie charts Construct pie charts Draw scatter graphs and correlation Identify outliers and use scatter graphs for estimation (Line of best fit)	Convert between fractions, decimals and percentages Simplify fractions and make fractions equivalent Order and compare fractions Convert between mixed numbers and top heavy fractions Add, subtract, multiply and divide fractions Find a fraction of an amount Find % of amounts with and without a calculator Increase and decrease by a % Real life %'s – Interest/Profit/Loss	Identify parallel and perpendicular lines Understand the properties of 2D shapes Estimate and measure the sizes of angles Apply angle rules (straight line, at a point, triangles and quadrilaterals) Recognise and name polygons Understand regular and irregular polygons Calculate internal and external angles of polygons
Assessments	Ongoing AFL - 6 grids, starters, homework End of half term assessment	Ongoing AFL - 6 grids, starters, homework End of half term assessment	Ongoing AFL - 6 grids, starters, homework End of half term assessment
Citizenship	<ul style="list-style-type: none"> • PSHE Development: Building resilience – Accepting challenges and learning from mistakes. Developing problem solving skills – Breaking problems down into smaller steps and thinking logically. Financial skills – Adding/Subtracting/Multiplying/Dividing/Percentages – Skills that students will need going into later life when thinking about budgeting, interest and value for money. Communication and teamwork – Explaining reasoning, listening to other people's methods and solutions. Living in the wider world – Looking at statistics and data, financial literacy and understanding risk. Personal development – Promoting independence, responsibility and fairness. • Careers Education: Pathways into STEM, finance and technical careers. Problem solving skills are based on real life scenarios that people would have. Embedding real world contexts into lessons. Help students understand the importance of maths in everyday life and work • Fundamental British Values: Democracy – Using informed decisions based on evidence and data, Rule of law – Following correct methods (BIDMAS), Individual liberty – Giving students the freedom to express themselves in problem solving questions and discussions, Mutual respect – Listening to other students, understanding that mistakes happen and will support their learning and working collaboratively. Tolerance of faiths and beliefs – Understand that a lot of different cultures contributed to what maths is today e.g. Pythagoras theorem • SMSC Development: Developing logic, developing thinking and reasoning skills through problem solving and class discussion around topics 		

Maths Overview Foundation – Year 11 Maths



Students receive eight hours of maths lessons a fortnight.

	Autumn 1	Autumn 2	Spring 1
Topic(s)	Algebraic manipulation and Algebraic Graphs	Probability of an event Statistics – Averages	Using MOCK 1 data to reteach skills and fill in gaps in pupils understanding
Topic Objectives	To simplify algebraic expressions To solve and form linear equations	To understand the language of probability Write probabilities as fractions and decimals	Each class teacher will use the Mock 1 data to create a scheme of learning where weaknesses

	To understand the rules of linear sequences Use different rules to plot different types of graphs	Calculate probability from various graphs and charts Complete probability trees and reasoning questions Calculate using the averages from a list and from a table Plot scatter graphs, identify correlation, draw a line of best fit and estimate values	will be worked on and any gaps in knowledge can be filled in
Acquired Knowledge/Skills	Forming and Simplify expressions Expanding single and double brackets Factorising single and double brackets Solve linear equations Find the rule for a linear sequence (nth term) Identifying horizontal and vertical lines Using a table of values and a rule to plot a straight line Calculating the gradient and equations of a straight line Draw other types of graph (Quadratic/Cubic)	Understand the language of probability Place events on the probability scale Write probability as fractions and decimals – Mutually exclusive Use probability to estimate the results of an experiment Complete graphs/charts (Frequency trees/2-way tables/probability spaces) and calculate the probability using them Draw Venn Diagrams and understand set notation for probability Complete probability trees and answer questions based on the outcomes Understand and calculate the averages from lists and data tables Plot a scatter graph, identify correlation and outliers, draw a line of best fit and use the line of best fit to estimate answers	Each class will be different based upon the outcomes of the Mocks or which topics from the SoW still need to be taught
Assessments	Ongoing AFL - 6 grids, starters, homework End of half term assessment	Ongoing AFL - 6 grids, starters, homework End of half term assessment	Ongoing AFL - 6 grids, starters, homework Half an exam paper completed every week End of half term assessment
Citizenship	<ul style="list-style-type: none"> • PSHE Development: Building resilience – Accepting challenges and learning from mistakes. Developing problem solving skills – Breaking problems down into smaller steps and thinking logically. Financial skills – Adding/Subtracting/Multiplying/Dividing/Percentages – Skills that students will need going into later life when thinking about budgeting, interest and value for money. Communication and teamwork – Explaining reasoning, listening to other people’s methods and solutions. Living in the wider world – Looking at statistics and data, financial literacy and understanding risk. Personal development – Promoting independence, responsibility and fairness. • Careers Education: Pathways into STEM, finance and technical careers. Problem solving skills are based on real life scenarios that people would have. Embedding real world contexts into lessons. Help students understand the importance of maths in everyday life and work • Fundamental British Values: Democracy – Using informed decisions based on evidence and data, Rule of law – Following correct methods (BIDMAS), Individual liberty – Giving students the freedom to express themselves in problem solving questions and discussions, Mutual respect – Listening to other students, understanding that mistakes happen and will support their learning and working collaboratively. Tolerance of faiths and beliefs – Understand that a lot of different cultures contributed to what maths is today e.g. Pythagoras theorem • SMSC Development: Developing logic, developing thinking and reasoning skills through problem solving and class discussion around topics 		

Spring 2

Summer 1

Summer 2

Topic(s)	Using MOCK 2 data to reteach skills and fill in gaps in pupils understanding from the SOW	Start of Year 11 GCSE exam period	End of Year 11 GCSE exam period
Topic Objectives	Each class teacher will use the Mock 2 data to create a scheme of learning where weaknesses will be worked on and any gaps in knowledge can be filled in	Revision completed in masterclass sessions Students to complete past papers and identified weaknesses in lessons and at home for revision	Revision completed in masterclass sessions Students to complete past papers and identified weaknesses in lessons and at home for revision
Acquired Knowledge/Skills	Each class will be different based upon the outcomes of the Mocks or which topics from the SoW still need to be taught		
Assessments	Ongoing AFL (6 grids, starters, homework) Half an exam paper completed every week End of half term assessment		
Citizenship	<ul style="list-style-type: none"> • PSHE Development: Building resilience – Accepting challenges and learning from mistakes. Developing problem solving skills – Breaking problems down into smaller steps and thinking logically. Financial skills – Adding/Subtracting/Multiplying/Dividing/Percentages – Skills that students will need going into later life when thinking about budgeting, interest and value for money. Communication and teamwork – Explaining reasoning, listening to other people’s methods and solutions. Living in the wider world – Looking at statistics and data, financial literacy and understanding risk. Personal development – Promoting independence, responsibility and fairness. • Careers Education: Pathways into STEM, finance and technical careers. Problem solving skills are based on real life scenarios that people would have. Embedding real world contexts into lessons. Help students understand the importance of maths in everyday life and work • Fundamental British Values: Democracy – Using informed decisions based on evidence and data, Rule of law – Following correct methods (BIDMAS), Individual liberty – Giving students the freedom to express themselves in problem solving questions and discussions, Mutual respect – Listening to other students, understanding that mistakes happen and will support their learning and working collaboratively. Tolerance of faiths and beliefs – Understand that a lot of different cultures contributed to what maths is today e.g. Pythagoras theorem • SMSC Development: Developing logic, developing thinking and reasoning skills through problem solving and class discussion around topics 		