YEAR 7 MATHS CURRICULUM PROGRESSION OVERVIEW

Subject Curriculum Intent

The learning at Key Stage 3 is sequenced to allow students to become fluent in the fundamentals of mathematics, to develop reasoning skills and to apply knowledge to solve problems. All units interleave crucial knowledge and skills from prior learning at Key Stage 3 as from the Key Stage 2 National Curriculum topic areas of Number, Ratio and proportion, Algebra, Geometry, Measurement and Statistics. This ensures that students build upon prior learning and have secure retention of knowledge over time.

The curriculum builds on key ideas from KS2, starting with the introduction of algebra and sequences. Then number work is extended with approximation including interleaving averages and representation of data. Calculation methods follow, including problems with areas and averages, then extending skills with integers and fractions. Next the focus is angles and lines, specifically properties of polygons, mathematical notation and angles in parallel lines, including interleaving other areas of the curriculum such as pie charts. Mathematical reasoning skills are developed through conjecture, using counter examples, and finally set notation in Venn diagrams and the new area of probability are considered.

		Autumn Term 1	Autumn Term 2	Spring Term 1	Spring Term 2	Summer Term 1	Summer Term 2
Topic		-Algebraic Notation -Sequences -Equality and Equivalence	- Place Value -Fractions, Decimals and Percentages -Solving Problems with Addition and Subtraction	- Solving Problems with Multiplication and Division -Fractions and Percentages	-Directed Number -Calculate with Fractions	-Construction -Developing Geometric Reasoning	-Developing Number Sense -Sets and Probability -Prime numbers and Proof
Core Knowledge/ **Threshold Concept**		Understand, reason, and solve problems involving: - Algebraic notation, function machines, substituting into expressions - Describe and continue a sequence, sequences with diagrams, sequences with numbers	Understand, reason and solve problems involving: -Place value, ordering integers and decimals, multiplying and dividing with powers of 10 -Ordering fractions, decimals and percentages, converting between	Understand, reason and solve problems involving: - Formal methods for multiplication and division of integers and decimals, order of operations, problem solving with multiplication and division - Fractions of an amount and finding a	Understand, reason and solve problems involving: - Calculating with directed numbers, expressions with directed number, solving two-step equations - Adding and subtracting simple fractions, equivalent fractions, adding and subtracting fractions	Understand, reason and solve problems involving: - Correctly labelling diagrams, drawing and measuring lines and angles, recognise types of lines and polygons, constructions - Know and use angle facts linked to lines and simple polygons, solve angle problems	Understand, reason and solve problems involving: - Know and use mental strategies, use estimation for checking, use known facts to derive other facts - Understand and calculate simple probabilities, understand and use Venn diagrams

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	-Solving one step equations, simplifying algebraic expression	fractions, decimals and percentages -Formal methods for addition and subtraction of integers and decimals, problem solving with addition and subtraction	percentage of a quantity	with different denominators		- Identify different types of numbers including factors, multiples, prime numbers and proof, make and use conjectures
Why this learning now?	The units link to: -Algebraic Notation: Year 7 – Equality and Equivalence Year 8 – Brackets, Equations and Inequalities Year 8 – Indices Year 9 – Equations Year 9 – Algebraic Representations Year 10 – Indices and Roots Year 10 – Representing Solutions of Equations and Inequalities Year 10 – Expanding and Factorising Year 10 – Changing the Subject Year 11 – Manipulating Expressions -Sequences: Year 8 – Sequences	The units link to: -Place Value: Year 7 – Solving Problems with Addition and Subtraction Year 7 – Solving Problems with Multiplication and Division Year 7 – Directed Number Year7 – Developing Number Sense Tear 7 – Prime Numbers and Proof Year 8 – Standard Index Form Year 8 – Number Sense Year 9 – Testing Conjectures Year 9 – Number Year 9 – Maths and Money Year 10 – Non-Calculator Methods	The units link to: - Solving problems with Multiplication and division: Year 7 – Directed Number Year7 – Developing Number Sense Tear 7 – Prime Numbers and Proof Year 8 – Standard Index Form Year 8 – Number Sense Year 9 – Testing Conjectures Year 9 – Number Year 9 – Maths and Money Year 10 – Non-Calculator Methods Year 11 – Types of Number and Sequences Year 11 - Functions	The units link to: - Directed number: Year7 – Developing Number Sense Tear 7 – Prime Numbers and Proof Year 8 – Standard Index Form Year 8 – Number Sense Year 9 – Testing Conjectures Year 9 – Number Year 9 – Maths and Money Year 10 – Non-Calculator Methods Year 11 – Types of Number and Sequences Year 11 – Functions -Calculate with fractions: Year 8 – Multiplying and Dividing Fractions	The units link to: -Construction: Year 7 – Developing Geometric Reasoning Year 8 – Angles Year 9 – Constructions and Congruence Year 9 – Deduction with Angles Year 10 – Working with Circles Year 10 – Angles and Bearings Year 11 - Loci -Developing Geometric reasoning: Year 8 – Angles Year 9 – Deduction with Angles Year 10 – Working with Circles Year 10 – Angles and Bearings	The units link to: -Developing Number Sense: Year 7 – Prime Numbers and Proof Year 8 – Standard Index Form Year 8 – Number Sense Year 9 – Testing Conjectures Year 9 – Number Year 9 – Maths and Money Year 10 – Non-Calculator Methods Year 11 – Types of Number and Sequences Year 11 – Functions -Sets and Probability: Year 8 – Tables and Probability Year 9 – Probability Year 10 – Probability

Year 11 – Types of Number and Sequences -Equality and Equivalence: Year 8 – Brackets, Equations and Inequalities Year 8 – Indices Year 9 – Equations Year 9 – Algebraic Representations Year 10 – Indices and Roots Year 10 – Representing Solutions of Equations and Inequalities Year 10 – Expanding and Factorising Year 10 – Changing the Subject Year 11 – Manipulating Expressions	Year 11 – Types of Number and Sequences Year 11 - Functions -Fractions, decimals and Percentages: Year 7 Fractions and Percentages Year 7 - Calculate With Fractions Year 8 – Multiplying and Dividing Fractions Year 8 – Fractions and Percentages Year 9 – Using Percentages Year 10 – Percentages and Interest -Solving Problems with Addition and Subtraction: Year 7 – Solving Problems with Multiplication and Division Year 7 – Directed Number Year7 – Developing Number Sense Tear 7 – Prime Numbers and Proof Year 8 – Standard Index Form	-Fractions and percentages: Year 7 - Calculate With Fractions Year 8 – Multiplying and Dividing Fractions Year 8 – Fractions and Percentages Year 9 – Using Percentages Year 10 – Percentages and Interest	Year 8 – Fractions and Percentages Year 9 – Using Percentages Year 10 – Percentages and Interest		-Prime numbers and proof: Year 8 – Standard Index Form Year 8 – Number Sense Year 9 – Testing Conjectures Year 9 – Number Year 9 – Maths and Money Year 10 – Non-Calculator Methods Year 11 – Types of Number and Sequences Year 11 - Functions

		Year 8 – Number Sense Year 9 – Testing Conjectures Year 9 – Number Year 9 – Maths and Money Year 10 – Non-Calculator Methods Year 11 – Types of Number and Sequences Year 11 - Functions				
Assessment Opportunities:	Regular formative assessment in lessons including questioning, recall activities and self / peer assessment. Topic reviews for: -Algebraic Notation -Sequences Non calculator assessment in numeracy skills, algebraic notation and sequences.	Regular formative assessment in lessons including questioning, recall activities and self / peer assessment. Topic reviews for: - Equality and Equivalence -Fractions, Decimals and Percentages -Solving Problems with Addition and Subtraction These are completed after every unit and marked with personalised feedback.	Regular formative assessment in lessons including questioning, recall activities and self / peer assessment. Topic reviews for: -Solving Problems with Multiplication and Division -Fractions and percentages - Directed number These are completed after every unit and marked with personalised feedback. Calculator assessment on all the topics from the Autumn term.	Regular formative assessment in lessons including questioning, recall activities and self / peer assessment. Topic reviews for: -Directed number -Calculate with fractions These are completed after every unit and marked with personalised feedback.	Regular formative assessment in lessons including questioning, recall activities and self / peer assessment. Topic reviews for: - Construction -Developing Geometric reasoning These are completed after every unit and marked with personalised feedback. Two assessments (one non calculator and one calculator) on all topics from the Autumn and Spring terms, plus Constructions and Developing Geometric Reasoning	Regular formative assessment in lessons including questioning, recall activities and self / peer assessment. Topic reviews for: -Developing Number Sense -Sets and probability -Prime numbers and proof These are completed after every unit and marked with personalised feedback.

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Learning at Home	Homework is set every week on Sparx, consisting of questions recently covered in lessons, revision of previously studied content and times tables practice. Pupils are directed to revision on MathsWatch before Key Assessments.	Homework is set every week on Sparx, consisting of questions recently covered in lessons, revision of previously studied content and times tables practice.	Homework is set every week on Sparx, consisting of questions recently covered in lessons, revision of previously studied content and times tables practice. Pupils are directed to revision on MathsWatch before Key Assessments.	Homework is set every week on Sparx, consisting of questions recently covered in lessons, revision of previously studied content and times tables practice.	Homework is set every week on Sparx, consisting of questions recently covered in lessons, revision of previously studied content and times tables practice. Pupils are directed to revision on MathsWatch before Key Assessments.	Homework is set every week on Sparx, consisting of questions recently covered in lessons, revision of previously studied content and times tables practice.
Key Vocabulary	Inverse	Integer Percentage Commutative	Numerator Denominator	Negative Product	Parallel	Estimate Element Prime
Spiritual, Moral, Social and Cultural concepts covered	To study maths is to train oneself in the art of reason, assembling the facts before making logical deductions – maths removes any prejudice. By its very nature, maths knows no borders, knows no race, religion or gender and knows no social background **Spiritual development examples include:** -Sense of enjoyment and fascination in learning -Use of imagination and creativity in their learning -Willingness to reflect on their experiences -The awe and wonder of mathematics such as symmetry in nature and number sequences such as the Fibonacci sequence **Moral development examples include:** -The use of statistics and how people manipulate them to promote their own (biased) opinions and to discuss the use and misuse of data in all issues including those supporting moral argument. -How to word questionnaires so as not to embarrass people **Social development examples include:** -Use of a range of social skills in different contexts such as a willingness to participate and to work collaboratively -How the census is used by governments to plan ahead for health, education and social requirements					

	Cultural development examples include: -Appreciating the wealth of mathematics in all cultures throughout history. -How the Mathematical language is a universal language used worldwide
Links to careers and the world of work	Maths is used in daily life and is therefore a vital skill for everyone. Mathematical skills used on a regular basis include: -percentages -fractions -time -best value -financial awareness -ratios -interpreting information -measurements -currency conversions Transferable life skills include: -resilience -mathematical writing -number sense working systematically -independent thinking to solve problems -logical reasoning Possible career links include: -Accountancy -Banking -Self Employed Business- -Architecture -Engineering -Graphic Design

YEAR 8 MATHS CURRICULUM PROGRESSION OVERVIEW

Subject Curriculum Intent

The learning at Key Stage 3 is sequenced to allow students to become fluent in the fundamentals of mathematics, to develop reasoning skills and to apply knowledge to solve problems. All units interleave crucial knowledge and skills from prior learning at Key Stage 3 as from the Key Stage 2 National Curriculum topic areas of Number, Ratio and proportion, Algebra, Geometry, Measurement and Statistics. This ensures that students build upon prior learning and have secure retention of knowledge over time.

The curriculum links ratio to multiplicative reasoning. Fraction calculations are extended, and coordinates are linked to equations of linear functions and graphs. Representation of data is considered as well as further manipulation of fractions, decimals and percentages. Probability is linked to diagrammatical forms and algebraic techniques are extended, including application in context and links to sequences. Indices are explored and links are made to science. Angle knowledge is considered including links to simple proof as well as looking at estimation skills and properties of 2D shapes. Area knowledge is extended via compound shapes and symmetry is explored. Comparing and representing data is linked, as well as considering misleading graphs and deciding which is the most appropriate method to use to display data.

	Autumn Term 1	Autumn Term 2	Spring Term 1	Spring Term 2	Summer Term 1	Summer Term 2
Topic	-Ratio and Scale -Multiplicative Change -Multiplying and Dividing Fractions	-Working In the Cartesian Plane -Representing Data	-Fractions and Percentages -Tables and Probability	-Brackets, Equations and Inequalities -Sequences -Indices	-Standard Index Form -Angles -Number Sense -Area of Trapezia and Circles	-The Data Handling Cycle -Line Symmetry and Reflection -Measures of Location
Core Knowledge/ **Threshold Concept**	Understand, reason, and solve problems involving: -Understand and use ratio notation, compare ratios and fractions -Direct proportion, conversions, scale diagrams -Multiplying fractions, dividing fractions, reciprocal	Understand, reason, and solve problems involving: -Lines parallel to the axes, linear graphs, equation of a straight line -Scatter graphs, correlation, read and interpret data in frequency tables, two-way tables	Understand, reason, and solve problems involving: -Fraction of an amount, percentage of a quantity, expressing quantities as a fraction or percentage, percentage change and solving problems -Probabilities from a sample space diagram, two-way table and Venn diagram	Understand, reason, and solve problems involving: -Expanding and factorising with a single bracket, solving equations with brackets, understand and solve simple inequalities -Generate sequences given a rule in words or algebra form	Understand, reason, and solve problems involving: -Understand and write numbers in standard form, calculate with numbers in standard form -Angles and parallel lines, angles in polygons -Round using decimals places, estimate	Understand, reason, and solve problems involving: -Questionnaires, displaying data, comparing distributions -Recognise and use line symmetry, understand rotational symmetry and rotate a shapes, translate a shape -Understand and use different averages,

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					-Simplify expressions involving indices and all operation	answers, solve numerical problems -Area of a trapezium, circumference and area of a circle, area and perimeter of compound shapes	compare distributions using averages and range
Why this learning now?	The units link to: -Ratio and Scale: Year 8 - Multiplicative Change Year 9 – Ratio and Proportion Year 9 – Rates Year 10 – Ratio and Fractions Year 10 – Multiplicative Year 11 – Using Graphs -Multiplicative Change: Year 9 – Ratio and Proportion Year 9 – Rates Year 10 – Ratio and Fractions Year 10 – Multiplicative Year 11 – Using Graphs -Multiplying and Dividing Fractions: Year 8 – Fractions and Percentages	The units link to: -Working in the Cartesian Plane: Year 9 - Straight line graphs Year 11 – Gradients and Lines Year 11 – Non-linear Graphs -Representing Data: Year 8 - The Data Handling Cycle Year 8 – Measures of Location Year 10 – Collecting, Representing and Interpreting Data 1 Year 11 – Collecting, Representing and Interpreting Data 2	The units link to: -Fractions and percentages: Year 9 – Using Percentages Year 10 – Percentages and Interest -Tables and Probability: Year 9 – Probability Year 10 – Probability	The units link to: -Brackets, Equations and Inequalities: Year 8 – Indices Year 9 – Equations Year 9 – Algebraic Representations Year 10 – Indices and Roots Year 10 – Representing Solutions of Equations and Inequalities Year 10 – Expanding and Factorising Year 10 – Changing the Subject Year 11 – Manipulating Expressions - Indices: Year 9 – Equations Year 9 – Algebraic Representations Year 10 – Indices and Roots	The units link to: -Standard index form: Year 8 – Number Sense Year 9 – Testing Conjectures Year 9 – Number Year 9 – Maths and Money Year 10 – Non-Calculator Methods Year 11 – Types of Number and Sequences Year 11 - Functions -Angles: Year 9 – Constructions and Congruence Year 9 – Deduction with Angles Year 10 – Working with Circles Year 10 – Angles and Bearings Year 11 - Loci	The units link to: - The Data Handling Cycle: Year 8 – Measures of Location Year 10 – Collecting, Representing and Interpreting Data 1 Year 11 – Collecting, Representing and Interpreting Data 2 -Line Symmetry and Refection: Year 9 - Rotation and Translation Year 9 Enlargement and Similarity Year 10 – Transformations Year 10 – Congruence and Similarity Year 11 - Vectors -Measures of location: Year 10 – Collecting,

	Year 9 – Using Percentages Year 10 – Percentages and Interest			Year 10 – Representing Solutions of Equations and Inequalities Year 10 – Expanding and Factorising Year 10 – Changing the Subject Year 11 – Manipulating Expressions -Sequences: Year 11 – Types of Number and Sequences	-Number Sense: Year 9 – Testing Conjectures Year 9 – Number Year 9 – Maths and Money Year 10 – Non-Calculator Methods Year 11 – Types of Number and Sequences Year 11 - Functions -Area of Trapezia and Circles: Year 9 3D shapes Year 10 – Working With Circles	Representing and Interpreting Data 1 Year 11 – Collecting, Representing and Interpreting Data 2
Assessment Opportunities:	Regular formative assessment in lessons including questioning, recall activities and self / peer assessment. Topic reviews for: -Ratio and Scale -Multiplicative Change -Multiplying and Dividing Fractions These are completed after every unit and marked with personalised feedback.	Regular formative assessment in lessons including questioning, recall activities and self / peer assessment. Topic reviews for: -Working In The Cartesian Plane -Representing Data These are completed after every unit and marked with personalised feedback.	Regular formative assessment in lessons including questioning, recall activities and self / peer assessment. Topic reviews for: -Fractions and Percentages -Tables and Probability These are completed after every unit and marked with personalised feedback.	Regular formative assessment in lessons including questioning, recall activities and self / peer assessment. Topic reviews for: -Brackets, equations and inequalities -Sequences -Indices These are completed after every unit and marked with personalised feedback.	Regular formative assessment in lessons including questioning, recall activities and self / peer assessment. Topic reviews for: -Standard index form -Angles -Number Sense -Area of Trapezia and Circles These are completed after every unit and marked with personalised feedback.	Regular formative assessment in lessons including questioning, recall activities and self / peer assessment. Topic reviews for: -The Data Handling Cycle -Line Symmetry and Reflection -Measures of Location These are completed after every unit and marked with personalised feedback.

		Non-calculator assessment on the units from Autumn 1		Calculator assessment on all the topics from the Autumn term and Fractions and Percentages from the start of the Spring term.	Two assessments (one non-calculator and one calculator) on all the units from the Autumn term, the Spring term and Summer 1	
Learning at Home	Homework is set every week on Sparx, consisting of questions recently covered in lessons, revision of previously studied content and times tables practice.	Homework is set every week on Sparx, consisting of questions recently covered in lessons, revision of previously studied content and times tables practice. Pupils are directed to revision on MathsWatch before Key Assessments.	Homework is set every week on Sparx, consisting of questions recently covered in lessons, revision of previously studied content and times tables practice.	Homework is set every week on Sparx, consisting of questions recently covered in lessons, revision of previously studied content and times tables practice. Pupils are directed to revision on MathsWatch before Key Assessments.	Homework is set every week on Sparx, consisting of questions recently covered in lessons, revision of previously studied content and times tables practice. Pupils are directed to revision on MathsWatch before Key Assessments.	Homework is set every week on Sparx, consisting of questions recently covered in lessons, revision of previously studied content and times tables practice.
Key Vocabulary	Ratio	Gradient Correlation	Multiplier	Factorise Indices	Polygon Pi	Symmetry Mean Modal
Spiritual, Moral, Social and Cultural concepts covered	To study maths is to train oneself in the art of reason, assembling the facts before making logical deductions – maths removes any prejudice. By its very nature, maths knows no borders, knows no race, religion or gender and knows no social background **Spiritual development examples include:** -Sense of enjoyment and fascination in learning -Use of imagination and creativity in their learning -Willingness to reflect on their experiences -The awe and wonder of mathematics such as symmetry in nature and number sequences such as the Fibonacci sequence **Moral development examples include:**					

	-The use of statistics and how people manipulate them to promote their own (biased) opinions and to discuss the use and misuse of data in all issues including those supporting moral argument.
	-How to word questionnaires so as not to embarrass people
	Social development examples include:
	-Use of a range of social skills in different contexts such as a willingness to participate and to work collaboratively
	-How the census is used by governments to plan ahead for health, education and social requirements
	Cultural development examples include:
	-Appreciating the wealth of mathematics in all cultures throughout history.
	-How the Mathematical language is a universal language used worldwide
Links to careers and the world of work	Maths is used in daily life and is therefore a vital skill for everyone. Mathematical skills used on a regular basis including:
	-percentages
	-fractions
	-time
	-best value
	-financial awareness
	-ratios
	-interpreting information
	-measurements
	-currency conversions
	Transferable life skills include:
	-resilience
	-mathematical writing
	-number sense working systematically
	-independent thinking to solve problems
	-logical reasoning
	Possible career links include:
	-Accountancy
	-Banking
	-Self Employed Business
	-Architecture
	-Engineering
	-Graphic Design

YEAR 9 MATHS CURRICULUM PROGRESSION OVERVIEW

Subject Curriculum Intent

The learning at Key Stage 3 is sequenced to allow students to become fluent in the fundamentals of mathematics, to develop reasoning skills and to apply knowledge to solve problems. All units interleave crucial knowledge and skills from prior learning at Key Stage 3 as from the Key Stage 2 National Curriculum topic areas of Number, Ratio and proportion, Algebra, Geometry, Measurement and Statistics. This ensures that students build upon prior learning and have secure retention of knowledge over time.

Linear equations are linked to graphs, sequences and solving inequalities. The fundamentals of conjecture are introduced, and area is linked to 3D shapes including volume and nets. Number work in context is considered, including standard form. Financial maths is introduced, and angle facts are developed using chains of reasoning. Properties of 2D shapes are extended to include rotation and translation. Reasoning around lengths in right angled triangles is taught and enlargement is linked to coordinates, ratio and multipliers. Graphical representation is linked to direct proportion, including currency and travel graphs. Probability is developed in experimental contexts and plotting of graphs is extending to non-linear cases. Inequalities are linked to number lines and graphs.

	Autumn Term 1	Autumn Term 2	Spring Term 1	Spring Term 2	Summer Term 1	Summer Term 2
Topic	-Equations -Testing Conjectures -Straight Line Graphs	- 3D Shape - Number -Constructions and Congruence	-Using Percentages -Deduction with Angles -Maths and Money -Rotations and Translations	-Pythagoras' Theorem -Ratio and Proportion	-Enlargements and Similarity -Rates	-Probability -Algebraic Representation -GCSE Preparation
Core Knowledge/ **Threshold Concept**	Understand, reason, and solve problems involving: -Solving equations, solving inequalities, substitution into formulae and equations, rearranging formulae -Testing conjectures, expanding binomials	Understand, reason, and solve problems involving: -Area of 2D shapes, nets, plans and elevations, surface area, volume -Problems with integers decimals and fractions -Constructions, loci, congruent shapes	Understand, reason, and solve problems involving: -Percentage problems -Angles in parallel lines, problems involving angles -Bills and bank statements, interest, wages, currency, unit pricing	Understand, reason, and solve problems involving: -Right angles triangles, using Pythagoras. Theorem -Review ratio, best value, proportion	Understand, reason, and solve problems involving: -Enlarging shapes, similar shapes -Speed, distance-time graphs, density, rates of change	Understand, reason, and solve problems involving: -Relative frequency, expected outcomes, independent events, probability from Venn diagrams -Quadratic graphs, interpret graphs, represent inequalities -Review of years 7-9

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	-Plotting straight line graphs, gradients and intercepts, y=mx+c		-Rotational symmetry, rotations, translations			
Why this learning now?	The units link to: Equations: Year 9 – Algebraic Representations Year 10 – Indices and Roots Year 10 – Representing Solutions of Equations and Inequalities Year 10 – Expanding and Factorising Year 10 – Changing the Subject Year 11 – Manipulating Expressions Testing Conjectures: Year 9 – Number Year 9 – Maths and Money Year 10 – Non-Calculator Methods Year 11 – Types of Number and Sequences Year 11 - Functions Straight Line Graphs: Year 11 – Gradients and Lines	The units link to: 3D Shape: Year 10 – Working With Circles Number: Year 9 – Maths and Money Year 10 – Non-Calculator Methods Year 11 – Types of Number and Sequences Year 11 - Functions Constructions and Congruence: Year 9 – Deduction with Angles Year 10 – Working with Circles Year 10 – Angles and Bearings Year 11 - Loci	The units link to: Using Percentages: Year 10 – Percentages and Interest Deduction with Angles: Year 10 – Working with Circles Year 10 – Angles and Bearings Year 11 - Loci Maths and Money: Year 10 – Non-Calculator Methods Year 11 – Types of Number and Sequences Year 11 - Functions Rotations and Translations: Year 9 Enlargement and Similarity Year 10 – Transformations Year 10 – Congruence and Similarity Year 11 - Vectors	The units link to: Pythagoras' Theorem: Year 10 – Trigonometry 1 Year 11 – Trigonometry 2 Ratio and Proportion: Year 9 – Rates Year 10 – Ratio and Fractions Year 10 – Multiplicative Year 11 – Using Graphs	The units link to: Enlargements and Similarity: Year 10 – Transformations Year 10 – Congruence and Similarity Year 11 - Vectors Rates: Year 10 – Ratio and Fractions Year 10 – Multiplicative Year 11 – Using Graphs	The units link to: Probability: Year 10 – Probability Algebraic Representation: Year 10 – Indices and Roots Year 10 – Representing Solutions of Equations and Inequalities Year 10 – Expanding and Factorising Year 10 – Changing the Subject Year 11 – Manipulating Expressions GCSE Preparation: Links to all prior learning

	Year 11 – Non-linear Graphs					
Assessment Opportunities:	Regular formative assessment in lessons including questioning, recall activities and self / peer assessment. Topic reviews for: -Equations -Testing Conjectures -Straight Line Graphs These are completed after every unit and marked with personalised feedback. Non-calculator assessment on equations, testing conjectures and straight line graphs	Regular formative assessment in lessons including questioning, recall activities and self / peer assessment. Topic reviews for: -3D Shape - Number -Constructions and Congruence These are completed after every unit and marked with personalised feedback.	Regular formative assessment in lessons including questioning, recall activities and self / peer assessment. Topic reviews for: - Using Percentages -Deduction with Angles -Maths and Money -Rotations and Translations These are completed after every unit and marked with personalised feedback. Calculator assessment on all the units from the Autumn term	Regular formative assessment in lessons including questioning, recall activities and self / peer assessment. Topic reviews for: - Pythagoras' Theorem -Ratio and Proportion These are completed after every unit and marked with personalised feedback.	Regular formative assessment in lessons including questioning, recall activities and self / peer assessment. Topic reviews for: - Enlargements and Similarity -Rates These are completed after every unit and marked with personalised feedback. Two assessments (one non-calculator and one calculator) on all the units from the Autumn term and the Spring term	Regular formative assessment in lessons including questioning, recall activities and self / peer assessment. Topic reviews for: - Probability -Algebraic Representation These are completed after every unit and marked with personalised feedback.
Learning at Home	Homework is set every week on Sparx, consisting of questions recently covered in lessons and revision of previously studied content. Pupils are directed to revision on	Homework is set every week on Sparx, consisting of questions recently covered in lessons and revision of previously studied content.	Homework is set every week on Sparx, consisting of questions recently covered in lessons and revision of previously studied content. Pupils are directed to revision on	Homework is set every week on Sparx, consisting of questions recently covered in lessons and revision of previously studied content.	Homework is set every week on Sparx, consisting of questions recently covered in lessons and revision of previously studied content. Pupils are directed to revision on	Homework is set every week on Sparx, consisting of questions recently covered in lessons and revision of previously studied content.

	MathsWatch before Key Assessments.		MathsWatch before Key Assessments.		MathsWatch before Key Assessments.	
Key Vocabulary	Formula Y-intercept	Rational Perpendicular	Interest Translate	Hypotenuse Direct proportion	Scale factor Density	

Spiritual, Moral, Social and Cultural concepts covered	To study maths is to train oneself in the art of reason, assembling the facts before making logical deductions – maths removes any prejudice. By its very nature, maths knows no borders, knows no race, religion or gender and knows no social background **Spiritual development examples include:** -Sense of enjoyment and fascination in learning -Use of imagination and creativity in their learning -Willingness to reflect on their experiences -The awe and wonder of mathematics such as symmetry in nature and number sequences such as the Fibonacci sequence **Moral development examples include:** -The use of statistics and how people manipulate them to promote their own (biased) opinions and to discuss the use and misuse of data in all issues including those supporting moral argument. -How to word questionnaires so as not to embarrass people **Social development examples include:** -Use of a range of social skills in different contexts such as a willingness to participate and to work collaboratively -How the census is used by governments to plan ahead for health, education and social requirements **Cultural development examples include:** -Appreciating the wealth of mathematics in all cultures throughout history. -How the Mathematical language is a universal language used worldwide
Links to careers and the world of work	Maths is used in daily life and is therefore a vital skill for everyone. Mathematical skills used on a regular basis including: -percentages -fractions -time -best value -financial awareness

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-ratios
-interpreting information
-measurements
-currency conversions

Transferable life skills include:
-resilience
-mathematical writing
-number sense working systematically
-independent thinking to solve problems
-logical reasoning

Possible career links include:
-Accountancy
-Banking
-Self Employed Business
-Architecture
-Engineering
-Graphic Design