Long Term Plan
Maths

Groveside School

Year 7

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Unit	Place Value Multiples, Factors, Primes and Squares Properties of Shape	Working with Decimals Perimeter/Area/Volume Negative Numbers	Writing with Algebra Working with Fractions Angle Properties	Setting up and Solving Equations Fractions, Decimals and Percentages	Coordinates and Transformations Comparing and Summarising Data	Chance and Probability Patterns and Sequences
Skills, Knowledge, and Learning	Students will develop **fluency** by: Consolidating their numerical and mathematical capability from key stage 2 and extend their understanding of the number system and place value to include decimals fractions, powers, and roots Using language and properties precisely to analyse numbers, algebraic expressions, 2-D and 3-D shapes. They will develop their mathematical **reasoning** by: Extending their understanding of the number system and make connections	Students will further develop **fluency** by: Consolidating their numerical and mathematical capability from Key Stage 2 and extend their understanding of the number system and place value applicable to decimals. Using language and properties precisely to analyse 2-D and 3-D shapes They will develop **reasoning** mathematically and extend their understanding of the number system and make connections between number relationships.	Students will develop **fluency** by: Using algebra to generalise the structure of arithmetic, including to formulate mathematical relationships. Substitute values in expressions, rearrange and simplify expressions, and solve equations. Consolidating their numerical and mathematical capability from key stage 2 and extend their understanding of the number system and place value to include fractions. Using language and properties precisely to analyse 2-D shapes They will **reason mathematically** by identifying variables and express relations between	Students will develop **fluency** by: Moving freely between different numerical, algebraic, graphical and diagrammatic representations [for example, equivalent fractions, fractions and decimals, and equations and graphs] Developing algebraic and graphical fluency, including understanding linear and simple quadratic functions. Consolidate their numerical and mathematical capability from key stage 2 and extend their understanding of the number system and place	Students will develop **fluency** by: Using language and properties precisely to analyse 2-D shapes. Selecting and using appropriate calculation strategies to solve increasingly complex problems. They will **reason mathematically** by: Beginning to reason deductively in geometry, including using geometrical constructions. Exploring what can and cannot be inferred in statistical settings and begin to express their arguments formally.	Students will develop **fluency** by: Using language and properties precisely to analyse numbers, probability and statistics. Developing algebraic and graphical fluency, including understanding linear functions. They will **reason mathematically** by: Exploring what can and cannot be inferred in statistical and probabilistic settings, and begin to express their arguments formally. Identifying variables and expressing relations between variables

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	between number relationships. Reason deductively in geometry, including using geometrical constructions. They will develop their understanding of appropriate concepts, methods and techniques to apply to unfamiliar and non-routine problems and develop their problem-solving skills. They will start to use algebra to generalise the structure of arithmetic, including to formulate mathematical relationships.	They will begin to reason deductively in geometry. Develop their mathematical knowledge by solving problems and evaluating outcomes, including multi-step problems. Use formal mathematical knowledge to interpret and solve problems, including those involving financial mathematics. Select appropriate concepts, methods and techniques to apply to unfamiliar and non-routine problems .	variables algebraically and graphically. Making and testing conjectures about patterns and relationships; look for proofs or counter-examples. Starting to reason deductively in geometry, including using geometrical constructions They will develop problem solving skills by developing their mathematical knowledge, in part through solving problems and evaluating the outcomes, including multi-step problems. They will select appropriate concepts, methods and techniques to apply to unfamiliar and non-routine problems	value to include decimals, percentages and fractions They will **reason mathematically** by: Identifying variables and express relations between variables algebraically Making and testing conjectures about patterns and relationships; look for proofs or counter-examples They will develop problem solving skills by: Begining to model situations mathematically and express the results using a range of formal mathematical representations.	They will develop problem solving skills by: Beginning to model situations mathematically and express the results using a range of formal mathematical representations.	algebraically and graphically. Solve problems by: Selecting appropriate concepts, methods and techniques to apply to unfamiliar and non-routine problems. Beginning to model situations mathematically and express the results using a range of formal mathematical representations.
NC/Qualification Objectives	• N1 • N4 • N5 • N6 • N3 • N7 • A15 • A16	• N13 • N14 • N6 • N2 • G5 • G6	• G15 • G7 • A3 • A1 • A4 • A2 • N5 • R1 • N10	• R4 • R5 • A14 • N12 • R1 • G3 • G10	• N4 • N10 • R8 • N6 • A7 • N12 • G2 • G1 • A5	• A8 • G9 • G16 • S1 • S2

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Enrichment/ Experiences	
Curriculum End Point / Goal	