Sheldon School
BE KIND | BE BRAVE | BE THE BEST YOU

Curriculum Plan *Maths*

Sheldon School
BE KIND | BE BRAVE | BE THE BEST YOU

Yr 7	**Golden Threads:** There are six key areas of study throughout – Number, Algebra, Ratio and Proportion, Geometry and Measure, Probability, and Statistics. Whilst these areas can appear distinct, students are encouraged to see the connections across mathematical ideas. We also look to develop their fluency, mathematical reasoning and competence in solving increasingly sophisticated problems.		**Enrichment:** UKMT Junior Maths Challenge Weekly puzzle club Careers links		**Review and evaluation:** July 2026
	Title & Substantive Knowledge	**Assessment**	**Misconceptions**	**Key Vocabulary**	**Knowledge tracking**
Term 1	**Sequences** Rather than rushing to find rules for nth term, this topic explores sequences in detail using both diagrams & lists of numbers: • Describe & continue a sequence given diagrammatically • Recognise the difference between linear & non-linear sequences • Generate terms of a sequence from a term-to-term rule	Baseline test in Week 3. Ongoing formative assessment and mini chapter tests	Students may confuse the coefficient of n with the constant term in the nth term rule. Students may use a positive n when the sequence is decreasing.	Ascending Commutative Descending Equation Evaluate Expression Geometric Identity Inverse Linear Non-linear Operation Substitute Variable	**Already Seen:** In KS2 students should - recognise, describe and generate linear number sequences and find the term-to-term rule. - use simple formulae - express missing number problems algebraically - find pairs of numbers that satisfy an equation with two unknowns - enumerate possibilities of combinations of two variables. **To Build Towards:** Year 7 Term 3/4 – substituting & solving more complex equations, incl. with negative numbers Year 8 Term 3 - More complex nth term rules
	Algebraic Notation The focus of this topic is developing a deep understanding of the basic algebraic forms. Function machines are used alongside bar models & letter notation. • Substitute values in expressions, rearrange & simplify expressions • Use & interpret algebraic notation • Generate sequences given an algebraic rule • Represent one and two-step functions graphically		Believing that a letter can only stand for one particular number, different letters must stand for different numbers or letters can only stand for whole numbers. Confusing the variable, x with the operation, x.		
	Equality and Equivalence In this topic students are introduced to forming and solving one-step-linear equations, building on their study of inverse operations. • Use diagrams & letters to generalise number operations • Understand & use fact families, numerically & algebraically • Simplify & manipulate algebraic expressions by collecting like terms		Treating unlike terms as if they are like terms. Misunderstanding of what the equal sign represents: equality vs do something.		
Term 2	**Place value and ordering numbers** In this unit students will explore integers up to one billion & decimals to hundredths. Using & understanding number lines is a key strategy explored in depth: • Understand & use place value for decimals, measures & integers of any size • Order positive & negative integers, decimals & fractions • Round numbers to an appropriate degree of accuracy • Interpret & compare numbers in standard form (H)	End of Term 2 – In class, 45minute assessment all Term 1 & 2 topics.	Seeing a digit as a number in its own right and not as a quantity where the value of each digit is determined by its place value.	Ascending Decimal Difference Equivalent Estimate Estimate Improper	**Already Seen:** In KS2, students will have covered this extensively **To Build Towards:** This knowledge underpins a vast range of topic

Curriculum Plan *Maths*

Sheldon School
BE KIND | BE BRAVE | BE THE BEST YOU

	Four operations The focus of this topic is building on the formal methods of addition, subtraction, multiplication and division students have developed at Key Stage 2. • Addition/subtraction of integers and decimals • Multiplication/division of integers and decimals		Not lining up the place value for addition/subtraction Incorrect adjustment of place value when multiplying/dividing	Integer Interval Mean Median Mode Place value Sum Range Rounding Significant figures	**Already Seen:** In KS2, students will have covered this extensively **To Build Towards:** This knowledge underpins a vast range of topic
	Averages and the range This block will utilise the skills of the last two blocks to aid students in finding the mean, median, mode and range		Failure to put numbers in order. Ignoring zeros		**Already Seen:** In KS2, students will have encountered the mean average **To Build Towards:** Averages from a table in Year 8
	Rounding and estimation In this unit students will extend their knowledge of rounding into Significant Figures and use this to support with estimation • Rounding integers and decimals to a given number of decimal places • Estimate answers to calculations		Counting leading zeros Confusion over decimal places vs significant figures		**Already Seen:** Earlier this term students will have done rounding to powers of 10 and decimal places **To Build Towards:** Error intervals in Year 10
Term 3	**Graphing data** This block will recap graphs and charts seen in KS2 such as bar charts and extend into learning about correlation and scattergraphs • Draw and interpret bar charts, pictograms • Plot and interpret scattergraphs	Ongoing formative assessment and mini chapter tests	Issues with drawing or reading off a scale Assuming that correlation implies causation	Bar chart Correlation Denominator Equivalent Hypothesis Interval Numerator Outlier Pictogram	**Already Seen:** Basic graphs and charts covered in KS2 **To Build Towards:** Pie charts & comparing distributions in Year 8
	Fraction, decimal and percentage equivalence Building on the recent work on decimals, the key focus for this topic is for students to gain a deep understanding of the links between fractions, decimals and percentages so they can convert fluently between those most commonly seen in real-life. • Represent fractions & decimals on a number line • Convert fluently between fractions decimals & percentages • Identify and use simple equivalent fractions		Counting the points not the intervals Students often consider percentages to be limited to 100%.		**Already Seen:** In KS2, students will have covered this extensively **To Build Towards:** Adding fractions later this year
Term 4	**Directed Number** This block is designed to extend and deepen the students understanding of directed number as they will have limited experience of this from primary school. • Use the four operations, including formal written methods, applied to integers, positive and negative • Use square and square roots (incl. the use of a calculator to calculate results) • Order of Operations with Directed Numbers	End of Term 4 – In class, 45minute assessment all topics to date	Meaning behind negative numbers and consideration to when two negatives equal a positive.	Area Ascending Commutative Compound Denominator Descending Equivalent Evaluate Numerator	**Already Seen:** KS2 – Basic Negative Numbers **To Build Towards:** This knowledge underpins a vast range of topic

Curriculum Plan *Maths*

Sheldon School
BE KIND | BE BRAVE | BE THE BEST YOU

	Fractions and Percentages of amounts This block focuses on the key concept of working out fractions and percentages of quantities and the links between the two. • Find fractions of amounts • Find a percentage of an amount using both mental methods and a calculator		Not seeing fractions of amounts as splitting into equal parts. As to find 10% you divide by 5, to find 5% you divide by 5.	Perimeter Perpendicular Polygon Product Whole	**Already Seen:** In KS2, students will have covered this extensively **To Build Towards:** Year 8 – Percentages using multipliers
	Perimeter and Area This block looks at the perimeter and area of standard shapes • Convert metric units of length • Find the perimeter of simple and compound shapes • Find the area of rectangles, triangles and trapeziums • Form expressions with perimeter and area (E)		Confusion between area and perimeter. Missing lengths when adding for perimeter. Just multiplying all lengths together for area.		**Already Seen:** In KS2, students will have begun to work with area and perimeter of basic shapes. **To Build Towards:** Year 8 – Area of circles and onto volume of 3D shapes
Term 5	**Speed, distance and time** Students will recap knowledge of time conversions, timetables and calendars. They will then explore the relationship between speed, distance and time in detail. They also look at distance/time graphs • Convert units of time • Calculate with speed, distance and time • Draw and interpret distance/time graphs	Ongoing formative assessment and mini chapter tests	Having time/distance in a different unit to speed	Convert Factor Gradient Integer Multiple Per Prime	**Already Seen:** N/a **To Build Towards:** Year 9 – Further compound measures/rates
	Properties of number Revisit factors and multiples to introduce the concept of Prime numbers and extend to look at writing numbers as a product of its prime factors • List factors and multiples • Use factor knowledge to identify Prime Numbers • Find the highest common factor and lowest common multiple of pairs of numbers • Recognise square & triangular numbers		Confusion between factors and multiples		**Already Seen:** KS2 – basic knowledge of this topic **To Build Towards:** Year 9 – Product of primes factors to find HCF/LCM
Term 6	**Adding and Subtracting Fractions** This block builds on the Autumn term study of "key" fractions, decimals and percentages. It will provide more experience of equivalence of fractions with any denominator, and to introduce the addition and subtraction of fractions. • Convert Fractions, Decimals & Percentages and move freely between numerical, graphical and diagrammatic representations • Express one quantity as a fraction of another, where the fraction is < 1 and > 1 • Order positive and negative integers, decimals and fractions	End of Term 6 – End of Year assessment on all Summer term topics. In class - 45minutes.	Simply adding numerators and denominators.	Denominator Equivalent Improper fraction Isosceles triangle Right-angle Numerator Polygon Scalene triangle	**Already Seen:** KS2 – Some knowledge of adding fractions **To Build Towards:** Year 8 - Mixed Fractions and multiply/divide fractions

Curriculum Plan *Maths*

Sheldon School
BE KIND | BE BRAVE | BE THE BEST YOU

	Angles and polygons Students will build on their existing knowledge of types of angles, measuring angles with a protractor and basic angle facts. They will review the notation and mathematical language for angles and shapes. Higher students will extend beyond basic shapes to angles in parallel lines and in polygons • Understand & use letter & labelling conventions including those for geometric figures • Draw and measure angles and triangles • Identify types of triangles and polygons using appropriate mathematical language • Apply angle facts to solve problems involving angles in: straight lines, around a point, in a triangle, in quadrilaterals • Angles in parallel lines (H) • Derive and use the sum of angles in a triangle and use it to deduce the angle sum in any polygon (H)		Reading off the wrong scale on the protractor.		**Already Seen:** KS2 – types of angles, using a protractor **To Build Towards:** Year 8 – Angles in other polygons and angles in parallel lines