

## YEAR 7 - STUDENT CORE KNOWLEDGE

TERM	TOPIC	DETAIL	SPARX
1	Numerical Skills	Understand and use place value for decimals. Calculations with negative numbers. Estimate calculations by rounding.	M763, M704, M522, M527, M135, M111, M431, M878
	Order of operations	Solve calculations requiring understanding of B-I-DM-AS (know that the inverse of squaring is 'square rooting')	M521
	Introduction to Algebra	Introduce the concept of algebra, simplify expressions, manipulate expressions through simple one step rearranging, substitute positive and negative integers into expressions, solve simple one step equations. Substitute and solve.	M106, M830, M813, M795, M531, M417, M327, M208, M979
	Primes, Factors and Multiples	Use the concepts and vocabulary of prime numbers, factors (or divisors), multiples, common factors, common multiples, highest common factor, lowest common multiple	M227, M823, M698, M322, M829
	Expanding and Factorising 1	Simplify and manipulate algebraic expressions to maintain equivalence by multiplying a single term over a bracket or by taking out common factors	M288, M237, M792, M100
	Addition and Subtraction	Use Addition and Subtraction, including formal written methods, applied to integers, decimals	M928, M429, M347, M152, M899
	Perimeter	Calculate and solve problems involving perimeters of rectangles and compound shapes (not circles). Converting metric units of length.	M920, M635, M690
2	Mean	Describe, interpret and compare observed distributions of a single variable through the use of the mean	M940
	Multiplication and Division	Use Multiplication and Division, including formal written methods, applied to integers, decimals	M113, M911, M187, M803, M462, M354, M873, M262
	Area of triangles and quadrilaterals	Derive and apply formulae to calculate and solve problems involving area of triangles and quadrilaterals. Converting metric units of area.	M900, M390, M291, M610, M269, M996
	Fraction Manipulation	Express one quantity as a fraction of another, where the fraction is less than 1 and greater than 1	M158, M410, M671, M939, M601
	Adding and Subtracting Fractions	Use addition and subtraction, including formal written methods, applied to proper and improper fractions, and mixed numbers	M835, M931
	Comparing and Ordering Fractions	Compare and order fractions by creating common denominators	M335, M958
	Fractions of amounts	Interpret fractions as operators	M695
3	Polygons	Derive, describe, and illustrate properties of triangles, quadrilaterals and other plane figures. Describe, sketch, and draw regular polygons, and other polygons that are reflectively and rotationally symmetric example, equal lengths and angles] using appropriate language and technologies	M276, M523
	Angles	Apply the properties of angles at a point, angles at a point on a straight line, vertically opposite angles	M502, M541, M780, M331, M818, M351, M679, M319
	Coordinates	Read and plot coordinates in all 4 quadrants. Coordinates and developing algebraic relationships. Find midpoints. Understand how coordinates link to basic graphs of $y=a$ , $x=a$ , $y=x$ and $y=-x$	M618
	Time	Using clocks, converting between analogue and digital time, calculating with time, using timetables, using calendars, converting units of time.	M892, M627, M963, M747, M515