Year 6 - Maths Termly Overview

	AUTUMN		SPRING		SUMMER	
	Wk		**Wk**		**Wk**	
Year 6	1-2	Place Value to 10,000,000	1-4	Fractions	1-3	Algebra
	3-4	Addition and Subtraction	5-7	Decimals		Enterprise Project/Consolidation
	5-8	Multiplication and Division				
	9-10	Order of Operations	8-9	Percentages		
	11-12	Ration and Proportion	10-11	Statistics		
	1 day each week	Measure - Volume	1 day each week	Measure – Conversions and metric/imperial		
		Geometry – Position and Direction		Properties of Shape		
		Perimeter and Area				

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Autumn Term Weeks 1-2	**Place Value to 10,000,000**			
		Previous Year Group	**Current Year Group**	**Key Vocabulary**
	National Curriculum	- Read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit. - Count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000. - Interpret negative numbers in context, and count forwards and backwards with positive and negative whole numbers, including through zero. - Round any number up to 1,000,000 to the nearest 10, 100, 1,000, 10,000 and 100,000. - Solve number problems and practical problems that involve all of the above. - Read Roman numerals to 1,000 (M) and recognise years written in Roman numerals.	- Read, write, order and compare numbers up to 10,000,000 and determine the value of each digit - Solve number and practical problems that involve the above - Round any whole number to a required degree of accuracy - Use negative numbers in context, and calculate intervals across zero	Approximation Compare Estimate Exchange Integer Interval Odd number Place holder Positive number Rational number Reciprocal Representation Roman numerals Round
	Ready to Progress	5NPV–1 - Know that 10 tenths = 1 one, and that 1 is 10 times the size of 0.1. Know that 100 hundredths = 1 one, and that 1 is 100 times the size of 0.01. Know that 10 hundredths = 1 tenth, and that 0.1 is 10 times the size of 0.01. 5NPV–2- Recognise the place value of each digit in numbers with up to 2 decimal places, and compose and decompose numbers with up to 2 decimal places using standard and non-standard partitioning. 5NPV–3 - Reason about the location of any number with up to decimal places in the linear number system, including identifying the previous and next multiple of 1 and 0.1, and rounding to the nearest of each.	6NPV-2 - Recognise the place value of each digit in numbers up to 10 million, including decimal fractions, and compose and decompose numbers up to 10 million using standard and non-standard partitioning. 6NPV-3 - Reason about the location of any number up to 10 million, including decimal fractions, in the linear number system, and round numbers, as appropriate, including in contexts.	

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Autumn Term Weeks – 3-5	**Addition and Subtraction**			
		Previous Year Group	**Current Year Group**	**Key Vocabulary**
	National Curriculum	- Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction). - Add and subtract numbers mentally with increasingly large numbers. - Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy. - Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why	- Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why - Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy	Addition Addend Algebra Associative Commutative Double Equal Inverse operatioN Operation Plus Repeated addition Sign Sum Total Columnar addition Complement Formal written methods Order of operation Difference Equal Inverse operations Minus Operation Repeated subtraction Sign Subtract Subtraction Subtrahend Take away Columnar subtraction Exchange Formal written methods Negative integer Order of operation Subtraction by decomposition Subtraction by equal addition
	Ready to Progress		6AS/MD-1 - Understand that 2 numbers can be related additively or multiplicatively, and quantify additive and multiplicative relationships (multiplicative relationships restricted to multiplication by a whole number). 6AS/MD-2 - Use a given additive or multiplicative calculation to derive or complete a related calculation, using arithmetic properties, inverse relationships, and place-value understanding.	

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Autumn Term Weeks 6-8	**Multiplication and Division**			
		Previous Year Group	**Current Year Group**	**Key Vocabulary**
	National Curriculum	- Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers. - Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers. - Establish whether a number up to 100 is prime and recall prime numbers up to 19. - Multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers. - Multiply and divide numbers mentally, drawing upon known facts. - Divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context. - Multiply and divide whole numbers and those involving decimals by 10, 100 and 1,000. - Recognise and use square numbers and cube numbers, and the notation for squared (^{2}) and cubed (^{3}). - Solve problems involving multiplication and division, including using knowledge of factors and multiples, squares and cubes. - Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign. - Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates	- Identify common factors, common multiples and prime numbers - Solve problems involving addition, subtraction, multiplication and division - Multiply multi-digit numbers up to four digits by a 2-digit whole number using the formal written method of long multiplication - Perform mental calculations, including with mixed operations and large numbers - Divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context - Divide numbers up to four digits by a 2-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context	Brackets Common factor Common multiple Cube number Factor Factorise Formal written methods Highest Common Factor (HCF) Long multiplication Multiplicative reasoning Order of operation

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	Ready to Progress	5MD–1 Multiply and divide numbers by 10 and 100; understand this as equivalent to making a number 10 or 100 times the size, or 1 tenth or 1 hundredth times the size. 5MD–2 Find factors and multiples of positive whole numbers, including common factors and common multiples, and express a given number as a product of 2 or 3 factors. 5MD–4 Divide a number with up to 4 digits by a one-digit number using a formal written method, and interpret remainders appropriately for the context.	6AS/MD-1 - Understand that 2 numbers can be related additively or multiplicatively, and quantify additive and multiplicative relationships (multiplicative relationships restricted to multiplication by a whole number). 6AS/MD-2 - Use a given additive or multiplicative calculation to derive or complete a related calculation, using arithmetic properties, inverse relationships, and place-value understanding.	Power (of ten) Prime factor Prime number Short multiplication Square number Divisibility Divisible (by) Divisor Formal written methods Long division Order of operation Quotient Remainder Short division

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Autumn Term Weeks 9-10	**Order of Operations**			
		Previous Year Group	**Current Year Group**	**Key Vocabulary**
	National Curriculum	- Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why	- Use their knowledge of the order of operations to carry out calculations involving the four operations - Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why - Solve problems involving addition, subtraction, multiplication and division	BIDMAS
	Ready to Progress		6AS/MD–2 Use a given additive or multiplicative calculation to derive or complete a related calculation, using arithmetic properties, inverse relationships, and place-value understanding.	

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Autumn Term Weeks 11-12	**Ratio and Proportion**			
		Previous Year Group	**Current Year Group**	**Key Vocabulary**
	National Curriculum		- Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts - Solve problems involving similar shapes where the scale factor is known or can be found - Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples	Proportion Proportional reasoning Ratio Ratio notation Scale (verb) Scale factor
	Ready to Progress		6AS/MD–3 Solve problems involving ratio relationships.	

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Autumn Term Topic 1	**Measure - Volume**			
		Previous Year Group	**Current Year Group**	**Key Vocabulary**
	National Curriculum	- Estimate volume [for example, using 1 cm3 blocks to build cuboids (including cubes)] and capacity [for example, using water]	- Calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm3) and cubic metres (m3), and extending to other units	Mass Unit Centimetre Millimetre Kilometre Metre
	Ready to Progress	5G–V - Estimate volume and capacity using practical measures (e.g., using 1 cm^3 cubes to build cuboids, and using water for capacity). Understand the relationship between volume and cuboid dimensions, and reason about how changes in dimensions affect volume.	6G–V -Calculate, estimate and compare volume of cubes and cuboids using standard units (cm^3, m^3), and relate volume to the area of faces. Use formulae for volume (length × width × height) and apply this understanding to solve problems, including conversions between units (e.g., cm^3 to litres). Reason about scaling: understand how changes in dimensions affect volume (e.g., doubling one dimension doubles the volume, doubling all dimensions increases volume eightfold).	

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Autumn Term Topic 2	**Geometry – Position and Direction**			
		Previous Year Group	**Current Year Group**	**Key Vocabulary**
	National Curriculum	- Identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed	- Describe positions on the full coordinate grid (all four quadrants) - Draw and translate simple shapes on the coordinate plane, and reflect them in the axis	Translate Coordinate Plot Axis X,y
	Ready to Progress	5G–PD -Describe positions on a 2-D grid using coordinates in the first quadrant. Plot specified points and complete shapes on a coordinate grid. Identify, describe and represent the position of a shape following a reflection or translation, using appropriate language, and know that the shape has not changed.	6G–PD - Describe positions on the full coordinate grid (all four quadrants). Draw and translate simple shapes on the coordinate plane, and reflect them in the axes. Use appropriate language to explain transformations and ensure understanding that the shape itself does not change.	

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Autumn Term Topic 3	**Geometry – Perimeter and Area**			
		Previous Year Group	**Current Year Group**	**Key Vocabulary**
	National Curriculum	- Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres - Calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm2) and square metres (m2) and estimate the area of irregular shapes	- Recognise that shapes with the same areas can have different perimeters and vice versa - Recognise when it is possible to use formulae for area and volume of shapes - Calculate the area of parallelograms and triangles	Cm Mm M Km Squared Unit Rectilinear Compound
	Ready to Progress	5G–P&A -Calculate and compare the area of rectangles (including squares) using standard units (cm^2, m^2). Estimate the area of irregular shapes by counting squares or using approximations. Understand the relationship between area and perimeter, and solve problems involving both.	6G–P&A - Recognise that shapes with the same area can have different perimeters and vice versa. Use formulae for the area of rectangles, parallelograms, and triangles. Calculate the area of compound shapes and solve problems involving conversion between units (e.g., cm^2 to m^2).	

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Spring Term Weeks 1-4	**Fractions**			
		Previous Year Group	**Current Year Group**	**Key Vocabulary**
	National Curriculum	- Compare and order fractions whose denominators are all multiples of the same number. - Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths. - Recognise mixed numbers and improper fractions and convert from one form to the other; write mathematical statements greater than 1 as a mixed number - Add and subtract fractions with the same denominator and denominators that are multiples of the same number. - Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams. - Read and write decimal numbers as fractions (e.g., 0.71 = 71/100). - Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents. - Round decimals with two decimal places to the nearest whole number and to one decimal place. - Read, write, order and compare numbers with up to three decimal places. - Recognise the % symbol and understand it as 'parts out of 100', and write percentages as fractions and decimals	- Use common factors to simplify fractions; use common multiples to express fractions in the same denomination - Compare and order fractions, including fractions > 1 - Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions - Identify common factors, common multiples and prime numbers - Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why - Solve problems involving addition, subtraction, multiplication and division - Multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, 1/4 × 1/2 = 1/8] - Divide proper fractions by whole numbers [for example, 1/3 ÷ 2 = 1/6] - Associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, 3/8]	Common fraction Fraction Simple fraction Unit fraction Denominator Improper fraction Mixed fraction Mixed number Numerator Proper fraction simplify

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	Ready to Progress	5NF–1 - Find non-unit fractions of quantities, including using visual models and reasoning strategies. Example: Calculate 3/5 of 40. 5NF–2 - Compare and order fractions whose denominators are multiples of the same number. Example: Compare 3/8 and 5/12 using common denominators. 5NF–3 - Recognise and generate equivalent fractions, including converting between improper fractions and mixed numbers. Example: Convert 9/4 to a mixed number. 5NF–4 -Recall decimal fraction equivalents for common fractions (½, ¼, ⅕, 1/10) and their multiples. Example: Know that ¼ = 0.25 and ¾ = 0.75	6F-1 - Recognise when fractions can be simplified, and use common factors to simplify fractions. 6F-2 - Express fractions in a common denomination and use this to compare fractions that are similar in value. 6F-3 - Compare fractions with different denominators, including fractions greater than 1, using reasoning, and choose between reasoning and common denomination as a comparison strategy.	

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Spring Term Weeks 5-7	**Decimals**			
		Previous Year Group	**Current Year Group**	**Key Vocabulary**
	National Curriculum	- Read and write decimal numbers as fractions, e.g., 0.71 = 71/100. - Recognise and use thousandths, and relate them to tenths, hundredths and their decimal equivalents. - Round decimals with two decimal places to the nearest whole number and to one decimal place. - Read, write, order and compare numbers with up to three decimal places. - Solve problems involving numbers up to three decimal places. - Recognise the % symbol and understand it as 'parts out of 100', and write percentages as fractions and decimals	- Identify the value of each digit in numbers given to 3 decimal places and multiply and divide numbers by 10, 100 and 1,000 giving answers up to 3 decimal places - Solve problems which require answers to be rounded to specified degrees of accuracy - Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why - Multiply 1-digit numbers with up to 2 decimal places by whole numbers -Use written division methods in cases where the answer has up to 2 decimal places - Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts	Decimal Decimal system Tenths Hundredths Thousandths
	Ready to Progress	5NF–1 - Find non-unit fractions of quantities, including using visual models and reasoning strategies. Example: Calculate 3/5 of 40 5NF–2 - Compare and order fractions whose denominators are multiples of the same number. Example: Compare 3/8 and 5/12 using common denominators 5NF–3 -Recognise and generate equivalent fractions, including converting between improper fractions and mixed numbers. Example: Convert 9/4 to a mixed number. 5NF–4 -Recall decimal fraction equivalents for common fractions (½, ¼, ⅕, 1/10) and their multiples. Example: Know that ¼ = 0.25 and ¾ = 0.75	6NPV–1 -Understand the relationship between powers of 10 from 1 hundredth to 10 million, and use this to make a given number 10, 100, 1,000, 1 tenth, 1 hundredth or 1 thousandth times the size (multiply and divide by 10, 100 and 1,000). 6NPV–2 -Recognise the place value of each digit in numbers up to 10 million, including decimal fractions, and compose and decompose numbers up to 10 million using standard and non-standard partitioning. 6NPV–3 (linked to decimals and accuracy) - Reason about the location of numbers, including decimals, within the linear number system, and round numbers to any given degree of accuracy.	

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Spring Term Weeks 8-9	**Percentages**			
		Previous Year Group	**Current Year Group**	**Key Vocabulary**
	National Curriculum	- Recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal	- Solve problems which require answers to be rounded to specified degrees of accuracy - Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts - Solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison	Percentage %
	Ready to Progress			

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Spring Term Weeks 10-11	**Statistics**			
		Previous Year Group	**Current Year Group**	**Key Vocabulary**
	National Curriculum	- Solve comparison, sum and difference problems using information presented in a line graph - Complete, read and interpret information in tables, including timetables	- Interpret and construct pie charts and line graphs and use these to solve problems - Calculate and interpret the mean as an average	Bar Chart Block Graph Carroll diagram Column graph Continuous data Data Frequency Pictogram Set Table Tally Bar Chart Block Graph Carroll diagram Column graph Continuous data Data Frequency Pictogram Set Table Tally
	Ready to Progress			

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Spring Term Topic 1	**Properties of Shape**			
		Previous Year Group	**Current Year Group**	**Key Vocabulary**
	National Curriculum	- Identify 3-D shapes, including cubes and other cuboids, from 2-D representations - Identify 3-D shapes, including cubes and other cuboids, from 2-D representations - Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles - Draw given angles, and measure them in degrees (o) - Identify: angles at a point and one whole turn (total 360o) - Identify: angles at a point on a straight line and half a turn (total 180o) - Identify: other multiples of 90o - Use the properties of rectangles to deduce related facts and find missing lengths and angles - Distinguish between regular and irregular polygons based on reasoning about equal sides and angles - Identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed	- Draw 2-D shapes using given dimensions and angles - Recognise, describe and build simple 3-D shapes, including making nets - Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons - Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius - Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles	2D 3D Face Surface Curved surface Edge Vertex Vertices
	Ready to Progress	5G–1 Compare angles, estimate and measure angles in degrees (°) and draw angles of a given size.	6G–1 Draw, compose, and decompose shapes according to given properties, including dimensions, angles and area, and solve related problems.	

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Spring Term Topic 2	**Measure – Conversion and metric/imperial**			
		Previous Year Group	**Current Year Group**	**Key Vocabulary**
	National Curriculum	- Convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre) - Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints - Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling	- Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate - Use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to three decimal places - Convert between miles and kilometres	Foot Gallon Imperial Metric Inch Ounce Pound Pint Scale yard
	Ready to Progress	5NPV–5 Convert between units of measure, including using common decimals and fractions.		

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Summer Term Weeks 1-3	**Algebra**			
		Previous Year Group	**Current Year Group**	**Key Vocabulary**
	National Curriculum		- Use simple formulae - Generate and describe linear number sequences - Express missing number problems algebraically - Find pairs of numbers that satisfy an equation with two unknowns - Find possibilities of combinations of two variables	Algebra Notation Quotient Operation Inverse
	Ready to Progress	5NF–2 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 1 tenth or 1 hundredth).	6AS/MD–4 Solve problems with 2 unknowns.	