Kingsland CE Primary School

Maths Curriculum Year 6

Yearly overview

The yearly overview provides suggested timings for each block of learning, which can be adapted to suit different term dates or other requirements.

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn	Number **Place value**		Number **Addition, subtraction, multiplication and division**					Number **Fractions A**		Number **Fractions B**		Measurement **Converting units**
Spring	**Ratio**		**Algebra**		Number **Decimals**		Number **Fractions, decimals and percentages**		Measurement **Area, perimeter and volume**		**Statistics**	
Summer	Geometry **Shape**				Geometry **Position and direction**		Themed projects, consolidation and problem solving					

Autumn Term Weeks 1 – 2

Place value

Y6 Autumn Term Scheme of Learning.pdf

NCETM links	National Curriculum	National Curriculum non-statutory guidance	NRich Problem Solving	Ready to Progress
Composition and calculation: numbers up to 10,000,000 | NCETM **1.30 Composition and calculation: numbers up to 10,000,000** *(Prerequisite to this segment is 1.26 – Y5)* • **Teaching point 1**: Patterns seen in other powers of ten can be extended to the unit 1,000,000. • **Teaching point 2**: Seven-digit numbers can be written, read and ordered by identifying the number of millions, the number of thousands and the number of hundreds, tens and ones. • **Teaching point 3**: The digits in a number indicate its structure so it can be composed and decomposed. • **Teaching point 4**: Knowledge of crossing thousands boundaries can be used to work to and across millions boundaries. • **Teaching point 5**: Sometimes numbers are rounded as approximations to eliminate an unnecessary level of detail; rounded numbers are also used to give an estimate or average. At other times, precise readings are useful. • **Teaching point 6**: Fluent calculation requires the flexibility to move between mental and written methods according to the specific numbers in a calculation.	Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit Round any whole number to a required degree of accuracy Use negative numbers in context, and calculate intervals across zero Solve number and practical problems that involve all of the above.	Pupils use the whole number system, including saying, reading and writing numbers accurately.	First Connect Three Round the Three Dice Number Lines in Disguise	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

				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.

Autumn Term Weeks 3 – 7				
Addition, Subtraction, Multiplication and Division **Y6 Autumn Term Scheme of Learning.pdf**				
NCETM links	**National Curriculum**	**National Curriculum non-statutory guidance**	**NRich Problem Solving**	**Ready to Progress**
The NCETM materials focus on multiplication and division **Multiplication strategies for larger numbers and long multiplication | NCETM** **2.23 Multiplication strategies for larger numbers and long multiplication** • **Teaching point 1**: When multiplying two numbers that are multiples of 10, 100 or 1,000, multiply the number of tens, hundreds or thousands and then adjust the product using place value. • **Teaching point 2**: When multiplying two numbers where one number is a multiple of 10, 100 or 1,000, use short multiplication and adjust the product using place value. • **Teaching point 3**: Two two-digit numbers can be multiplied by partitioning one of the factors, calculating partial products and	Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication Divide numbers up to 4 digits by a two-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 Divide numbers up to 4 digits by a two-digit number using the formal written method of short	Pupils practise addition, subtraction, multiplication and division for larger numbers, using the formal written methods of columnar addition and subtraction, short and long multiplication, and short and long division (see Mathematics Appendix 1). They undertake mental calculations with increasingly large numbers and more complex calculations. Pupils continue to use all the multiplication tables to	More Dicey operations Factor Lines Mystery Matrix Round and round the circle The moons of Vuvv Factor-Multiple Chains	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).

then adding these partial products. This method can be extended to multiplication of three-digit numbers by two-digit numbers. • **Teaching point 4**: *'Long multiplication'* is an algorithm involving multiplication, then addition of partial products, which supports multiplication of two numbers with two or more digits. • **Teaching point 5**: Multiplication where one of the factors is a composite number can be carried out by multiplying one factor and then the other factor.	division where appropriate, interpreting remainders according to the context Perform mental calculations, including with mixed operations and large numbers Identify common factors, common multiples and prime numbers 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 Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.	calculate mathematical statements in order to maintain their fluency. Pupils round answers to a specified degree of accuracy, for example, to the nearest 10, 20, 50 etc., but not to a specified number of significant figures. Pupils explore the order of operations using brackets; for example, 2 + 1 x 3 = 5 and (2 + 1) x 3 = 9. Common factors can be related to finding equivalent fractions.	Counting Cogs Four Go 4 by 4 Mathdokus Statement Snap Always, sometimes or never? 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.
Division: dividing by two-digit divisors | NCETM **2.24 Division: dividing by two-digit divisors** • **Teaching point 1**: Any two- or three-digit dividend can be divided by a two-digit divisor by skip counting in multiples of the divisor (quotient < 10); these calculations can be recorded using the short or long division algorithms. • **Teaching point 2**: Any three- or four-digit dividend can be divided by a two-digit divisor using the short or long division algorithms (including quotient ≥ 10). • **Teaching point 3**: When there is a remainder, the result can be expressed as a whole-number quotient and a whole-number remainder, as a whole-number quotient and a proper-fraction remainder, or as a decimal-fraction quotient.				
Using compensation to calculate | NCETM **2.25 Using compensation to calculate** • **Teaching point 1**: For multiplication, if there is a multiplicative change to one factor, the product changes by the same scale factor. • **Teaching point 2**: For division, if there is a multiplicative change to the dividend and the divisor remains the same, the quotient changes by the same scale factor.			Pumpkin Pie Problem Orange Drink Rectangle Tangle Jumping	

• **Teaching point 3**: For division, if there is a multiplicative increase to the divisor and the dividend remains the same, the quotient decreases by the same scale factor; if there is a multiplicative decrease to the divisor and the dividend remains the same, the quotient increases by the same scale factor.				

Autumn Term Weeks 8 – 9				
Fractions A **Y6 Autumn Term Scheme of Learning.pdf**				
NCETM links	**National Curriculum**	**National Curriculum non-statutory guidance**	**NRich Problem Solving**	**Ready to Progress**
This White Rose unit precedes the first NCETM unit on fractions (see below). See the Ready to Progress criteria linked to this unit for key knowledge required.	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 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]	Pupils should practise, use and understand the addition and subtraction of fractions with different denominators by identifying equivalent fractions with the same denominator. They should start with fractions where the denominator of one fraction is a multiple of the other (for example, 1/2 + 1/8 = 5/8) and progress to varied and increasingly complex problems. Pupils should use a variety of images to support their understanding of multiplication with fractions. This follows earlier work about fractions as operators (fractions of), as numbers, and as equal parts of objects, for example as parts of a rectangle. Pupils use their understanding of the relationship between unit fractions and division to work	More Fraction Bars Extending Fraction Bars Doughnut percents Fraction Lengths Would You Rather?	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

	Associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, 3/8]	backwards by multiplying a quantity that represents a unit fraction to find the whole quantity (for example, if 1/4 of a length is 36cm, then the whole length is 36 × 4 = 144cm).		denominators, including fractions greater than 1, using reasoning, and choose between reasoning and common denomination as a comparison strategy.

Autumn Term Weeks 10 – 11				
Fractions B Y6 Autumn Term Scheme of Learning.pdf				
NCETM links	**National Curriculum**	**National Curriculum non-statutory guidance**	**NRich Problem Solving**	**Ready to Progress**
Multiplying fractions and dividing fractions by a whole number | NCETM **3.9 Multiplying fractions and dividing fractions by a whole number** • **Teaching point 1**: When a fraction is multiplied by a proper fraction, it makes it smaller. To multiply two fractions, multiply the numerators and multiply the denominators. • **Teaching point 2**: When a fraction is divided by a whole number, it makes it smaller. To divide a fraction by a whole number, convert it to an equivalent multiplication. • **Teaching point 3**: A more efficient method can be used to divide a fraction by a whole number when the whole number is a factor of the numerator.	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	Pupils should practise, use and understand the addition and subtraction of fractions with different denominators by identifying equivalent fractions with the same denominator. They should start with fractions where the denominator of one fraction is a multiple of the other (for example, 1/2 + 1/8 = 5/8) and progress to varied and increasingly complex problems. Pupils should use a variety of images to support their understanding of multiplication	More Fraction Bars Extending Fraction Bars Doughnut percents Fraction Lengths Would You Rather?	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

	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] Identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places Multiply one-digit numbers with up to two decimal places by whole numbers Use written division methods in cases where the answer has up to two decimal places 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.	with fractions. This follows earlier work about fractions as operators (fractions of), as numbers, and as equal parts of objects, for example as parts of a rectangle. Pupils use their understanding of the relationship between unit fractions and division to work backwards by multiplying a quantity that represents a unit fraction to find the whole quantity (for example, if 1/4 of a length is 36cm, then the whole length is 36 × 4 = 144cm). They practise calculations with simple fractions and decimal fraction equivalents to aid fluency, including listing equivalent fractions to identify fractions with common denominators. Pupils can explore and make conjectures about converting a simple fraction to a decimal fraction (for example, 3 ÷ 8 = 0.375). For simple fractions with recurring decimal equivalents, pupils learn about rounding the decimal to three decimal places, or other appropriate approximations depending on the context. Pupils multiply and divide numbers with up to two decimal places by one-digit and two-digit whole numbers. Pupils multiply decimals by whole numbers, starting with the simplest cases, such as 0.4 × 2 =		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.

		0.8, and in practical contexts, such as measures and money. Pupils are introduced to the division of decimal numbers by one-digit whole number, initially, in practical contexts involving measures and money. They recognise division calculations as the inverse of multiplication. Pupils also develop their skills of rounding and estimating as a means of predicting and checking the order of magnitude of their answers to decimal calculations. This includes rounding answers to a specified degree of accuracy and checking the reasonableness of their answers.		

Autumn Term Weeks 12+

Decimals

Y6 Spring Term Scheme of Learning.pdf

NCETM links	National Curriculum	National Curriculum non-statutory guidance	NRich Problem Solving	Ready to Progress
In order to maintain sequential learning, the DECIMALS unit from Spring term (Block 3) should be taught directly after the FRACTIONS B unit.				
Follow the White Rose DECIMALS unit Spring term Block 3.	Associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, 3/8] Identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places Multiply one-digit numbers with up to two decimal places by whole numbers Use written division methods in cases where the answer has up to two decimal places 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.	They practise calculations with simple fractions and decimal fraction equivalents to aid fluency, including listing equivalent fractions to identify fractions with common denominators. Pupils can explore and make conjectures about converting a simple fraction to a decimal fraction (for example, 3 ÷ 8 = 0.375). For simple fractions with recurring decimal equivalents, pupils learn about rounding the decimal to three decimal places, or other appropriate approximations depending on the context. Pupils multiply and divide numbers with up to two decimal places by one-digit and two-digit whole numbers. Pupils multiply decimals by whole numbers, starting with the simplest cases, such as 0.4 × 2 = 0.8, and in practical contexts, such as measures and money. Pupils are introduced to the division of decimal numbers by one-digit whole number, initially, in practical contexts involving measures and money. They		

		recognise division calculations as the inverse of multiplication. Pupils also develop their skills of rounding and estimating as a means of predicting and checking the order of magnitude of their answers to decimal calculations. This includes rounding answers to a specified degree of accuracy and checking the reasonableness of their answers.		

Autumn Term Weeks 12+				
Fractions, Decimals and Percentages **Y6 Spring Term Scheme of Learning.pdf**				
NCETM links	**National Curriculum**	**National Curriculum non-statutory guidance**	**NRich Problem Solving**	**Ready to Progress**
In order to maintain sequential learning, the Fractions, Decimals and Percentages unit from Spring term (Block 4) should be taught directly after the Decimals unit.				
Linking fractions, decimals and percentages | NCETM **3.10 Linking fractions, decimals and percentages** • **Teaching point 1**: Some fractions are easily converted to decimals. • **Teaching point 2**: These fraction–decimal equivalents can be found throughout the number system. • **Teaching point 3**: Fraction–decimal equivalence can sometimes be used to simplify calculations. • **Teaching point 4**: *'Percent'* means number of parts per hundred. A percentage can be an operator on a quantity, indicating the proportion of a quantity being considered. • **Teaching point 5**: Percentages have fraction and decimal equivalents.	Associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, 3/8] Identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places	They practise calculations with simple fractions and decimal fraction equivalents to aid fluency, including listing equivalent fractions to identify fractions with common denominators. Pupils can explore and make conjectures about converting a simple fraction to a decimal fraction (for example, 3 ÷ 8 = 0.375). For simple fractions with recurring decimal equivalents, pupils learn about rounding the	More Fraction Bars Extending Fraction Bars Doughnut percents Fraction Lengths Would You Rather?	

• **Teaching point 6**: If the value of a whole is known, a percentage of that number or amount can be calculated.	Multiply one-digit numbers with up to two decimal places by whole numbers Use written division methods in cases where the answer has up to two decimal places 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.	decimal to three decimal places, or other appropriate approximations depending on the context. Pupils multiply and divide numbers with up to two decimal places by one-digit and two-digit whole numbers. Pupils multiply decimals by whole numbers, starting with the simplest cases, such as 0.4 × 2 = 0.8, and in practical contexts, such as measures and money. Pupils are introduced to the division of decimal numbers by one-digit whole number, initially, in practical contexts involving measures and money. They recognise division calculations as the inverse of multiplication. Pupils also develop their skills of rounding and estimating as a means of predicting and checking the order of magnitude of their answers to decimal calculations. This includes rounding answers to a specified degree of accuracy and checking the reasonableness of their answers.		
The CONVERTING UNITS block should be taught later in the year, linked to NCETM unit 2.29				

End of term assessment

Spring Term Weeks 1 – 3				
Ratio and Proportion **Y6 Spring Term Scheme of Learning.pdf**				
NCETM links	**National Curriculum**	**National Curriculum non-statutory guidance**	**NRich Problem Solving**	**Ready to Progress**
Scale factors, ratio and proportional reasoning | NCETM **2.27 Scale factors, ratio and proportional reasoning** • **Teaching point 1**: Multiplication and division can be used to calculate unknown values in correspondence (cardinal comparison) problems. • **Teaching point 2**: Multiplication and understanding of correspondence can be used to calculate the number of possible combinations of items. • **Teaching point 3**: Scaling can be used to make and interpret maps. • **Teaching point 4**: There is a proportional relationship between the dimensions of similar shapes; if the scale factor and the dimensions of one of the shapes is known, the dimensions of the similar shape can be calculated; if the dimensions of both of the shapes are known, the scale factor can be calculated.	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 the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison 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.	Pupils recognise proportionality in contexts when the relations between quantities are in the same ratio (for example, similar shapes and recipes). Pupils link percentages or 360° to calculating angles of pie charts. Pupils should consolidate their understanding of ratio when comparing quantities, sizes and scale drawings by solving a variety of problems. They might use the notation a:b to record their work. Pupils solve problems involving unequal quantities, for example, 'for every egg you need three spoonfuls of flour', ' 3/5 of the class are boys'. These problems are the foundation for later formal approaches to ratio and proportion.		AS/MD–3 Solve problems involving ratio relationships.

Spring Term Weeks 3 – 4

Algebra

Y6 Spring Term Scheme of Learning.pdf

NCETM links	National Curriculum	National Curriculum non-statutory guidance	NRich Problem Solving	Ready to Progress
Problems with two unknowns | NCETM **1.31 Problems with two unknowns** • **Teaching point 1**: Problems with two unknowns can have one solution or more than one solution (or no solution). A relationship between the two unknowns can be described in different ways, including additively and multiplicatively. • **Teaching point 2**: Model drawing can be used to expose the structure of problems with two unknowns. • **Teaching point 3**: A problem with two unknowns has only one solution if the sum of the two unknowns and the difference between them is given (*'sum-and-difference problems'*) or if the sum of the two unknowns and a multiplicative relationship between them is given (*'sum-and-multiple problems'*). • **Teaching point 4**: Other problems with two unknowns have only one solution. • **Teaching point 5**: Some problems with two unknowns can't easily be solved using model drawing but can be solved by a 'trial-and-improvement' approach; these problems may have one solution, several solutions or an infinite number of solutions.	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 Enumerate possibilities of combinations of two variables.	Pupils should be introduced to the use of symbols and letters to represent variables and unknowns in mathematical situations that they already understand, such as: missing numbers, lengths, coordinates and angles formulae in mathematics and science equivalent expressions (for example, a + b = b + a) generalisations of number patterns number puzzles (for example, what two numbers can add up to).	Dicey Operations Four Go Planning a School Trip 4 by 4 Mathdokus Two and Two Three neighbours Always, sometimes or never? Number	6AS/MD–4 Solve problems with 2 unknowns.
Combining division with addition and subtraction | NCETM **2.28 Combining division with addition and subtraction** • **Teaching point 1:** Division can be combined with addition and subtraction; when there are no brackets, division is completed before addition or subtraction; when there are brackets, the calculation within the brackets is completed first.				

• **Teaching point 2:** When adding or subtracting division expressions that have a common divisor, the distributive law can be applied.				
Note – the DECIMALS unit and the FRACTIONS, DECIMALS AND PERCENTAGES unit should have been taught in the Autumn term, after the FRACTIONS A and B units.				

Spring Term Weeks 8*				
Measurement – Converting units **Y6 Autumn Term Scheme of Learning.pdf**				
NCETM links	**National Curriculum**	**National Curriculum non-statutory guidance**	**NRich Problem Solving**	**Ready to Progress**
Prior to teaching the Area, Perimeter and Volume unit, the CONVERTING UNITS block from the Autumn term should be taught.				
Decimal place-value knowledge, multiplication and division | NCETM **2.29 Decimal place value knowledge, multiplication and division** • **Teaching point 1**: To multiply a number by 10/100/1,000, move the digits one/two/three places to the left; to divide a number by 10/100/1,000, move the digits one/two/three places to the right. • **Teaching point 2**: Measures can be converted from one unit to another using knowledge of multiplication and division by 10/100/1,000.	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	Pupils connect conversion (for example, from kilometres to miles) to a graphical representation as preparation for understanding linear/proportional graphs. They know approximate conversions and are able to tell if an answer is sensible. Using the number line, pupils use, add and subtract positive and negative integers for measures such as temperature.		

Spring Term Weeks 9 – 10				
Measurement – Area, Perimeter and Volume **Y6 Spring Term Scheme of Learning.pdf**				
NCETM links	**National Curriculum**	**National Curriculum non-statutory guidance**	**NRich Problem Solving**	**Ready to Progress**
Multiplicative contexts: area and perimeter 2 | NCETM **2.30 Multiplicative contexts: area and perimeter 2** • **Teaching point 1**: The area of a parallelogram can be calculated by multiplying the base by the perpendicular height; all parallelograms with the same base and perpendicular height will have the same area. • **Teaching point 2**: The area of a triangle can be calculated by multiplying the base by the perpendicular height and then dividing by two. • **Teaching point 3**: Shapes with the same area can have different perimeters; shapes with the same perimeter can have different areas. • **Teaching point 4**: When a shape has been transformed by a scale factor, the perimeter is also transformed by the same scale factor	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 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 [for example, mm3 and km3].	They relate the area of rectangles to parallelograms and triangles, for example, by dissection, and calculate their areas, understanding and using the formulae (in words or symbols) to do this.		

Spring Term Weeks 11 – 12				
Statistics **Y6 Spring Term Scheme of Learning.pdf**				
NCETM links	**National Curriculum**	**National Curriculum non-statutory guidance**	**NRich Problem Solving**	**Ready to Progress**
Mean average and equal shares | NCETM **2.26 Mean averages and equal shares** • **Teaching point 1**: The mean is the size of each part when a quantity is shared equally. • **Teaching point 2**: The mean is defined as the sum of all the numbers in a set of data divided by the number of numbers/values that make up the set of data. If we know the mean of a set of data and the number of numbers/values in that set, we can calculate the total of the set. The mean of a set changes if the total value of the set changes or if the number of numbers/values in the set changes. • **Teaching point 3**: The mean can be used to compare data. • **Teaching point 4**: The mean is not always an appropriate representation of a set of data.	Interpret and construct pie charts and line graphs and use these to solve problems Calculate and interpret the mean as an average.	Pupils connect their work on angles, fractions and percentages to the interpretation of pie charts. Pupils both encounter and draw graphs relating two variables, arising from their own enquiry and in other subjects. They should connect conversion from kilometres to miles in measurement to its graphical representation. Pupils know when it is appropriate to find the mean of a data set.		6NPV–4 Divide powers of 10, from 1 hundredth to 10 million, into 2, 4, 5 and 10 equal parts, and read scales/number lines with labelled intervals divided into 2, 4, 5 and 10 equal parts.

End of term assessment

Summer Term Weeks 1 – 3				
Geometry – Shape (properties of shape) **Y6 Summer Term Scheme of Learning.pdf**				
NCETM links	**National Curriculum**	**National Curriculum non-statutory guidance**	**NRich Problem Solving**	**Ready to Progress**
N/A	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.	Pupils draw shapes and nets accurately, using measuring tools and conventional markings and labels for lines and angles. Pupils describe the properties of shapes and explain how unknown angles and lengths can be derived from known measurements. These relationships might be expressed algebraically for example, $d = 2 \times r$; $a = 180 - (b + c)$.	Cut Nets Making Cuboids Sponge Sections Baravelle Shape Draw Making Spirals Where are they? Name That Triangle!	6G–1 Draw, compose, and decompose shapes according to given properties, including dimensions, angles and area, and solve related problems.

Summer Term Weeks 4 – 5				
Geometry – Position and Direction Y6 Summer Term Scheme of Learning.pdf				
NCETM links	**National Curriculum**	**National Curriculum non-statutory guidance**	**NRich Problem Solving**	**Ready to Progress**
N/A	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.	Pupils draw and label a pair of axes in all four quadrants with equal scaling. This extends their knowledge of one quadrant to all four quadrants, including the use of negative numbers. Pupils draw and label rectangles (including squares), parallelograms and rhombuses, specified by coordinates in the four quadrants, predicting missing coordinates using the properties of shapes. These might be expressed algebraically for example, translating vertex (a, b) to (a – 2, b + 3); (a, b) and (a + d, b + d) being opposite vertices of a square of side d.	Treasure Hunt Ten Hidden Squares	

End of term assessment

Resources:

White Rose - My Account - Resources

NCETM TfM Assessment Questions 01-Yr6_Front cover_ccp.indd

DfE Ready to progress criteria - Mathematics guidance: key stages 1 and 2 (covers years 1 to 6)

NCETM Ready to Progress slides - Exemplification of ready-to-progress criteria | NCETM