

HIAS MOODLE+ RESOURCE

HIAS Scheme of Learning for Mathematics

Medium Term Plans for Mixed Year Five and Six Classes

HIAS Maths Team
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Final version

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Overview

This document contains...

Long-term curriculum map for Y5 and 6

Medium-term overview plans for Y5 and 6 designed to support mixed age classes

Points to consider when using this resource

This medium-term plan identifies the key objectives in each unit.

For more detail and a break-down of these objectives please refer to the relevant unit plan.

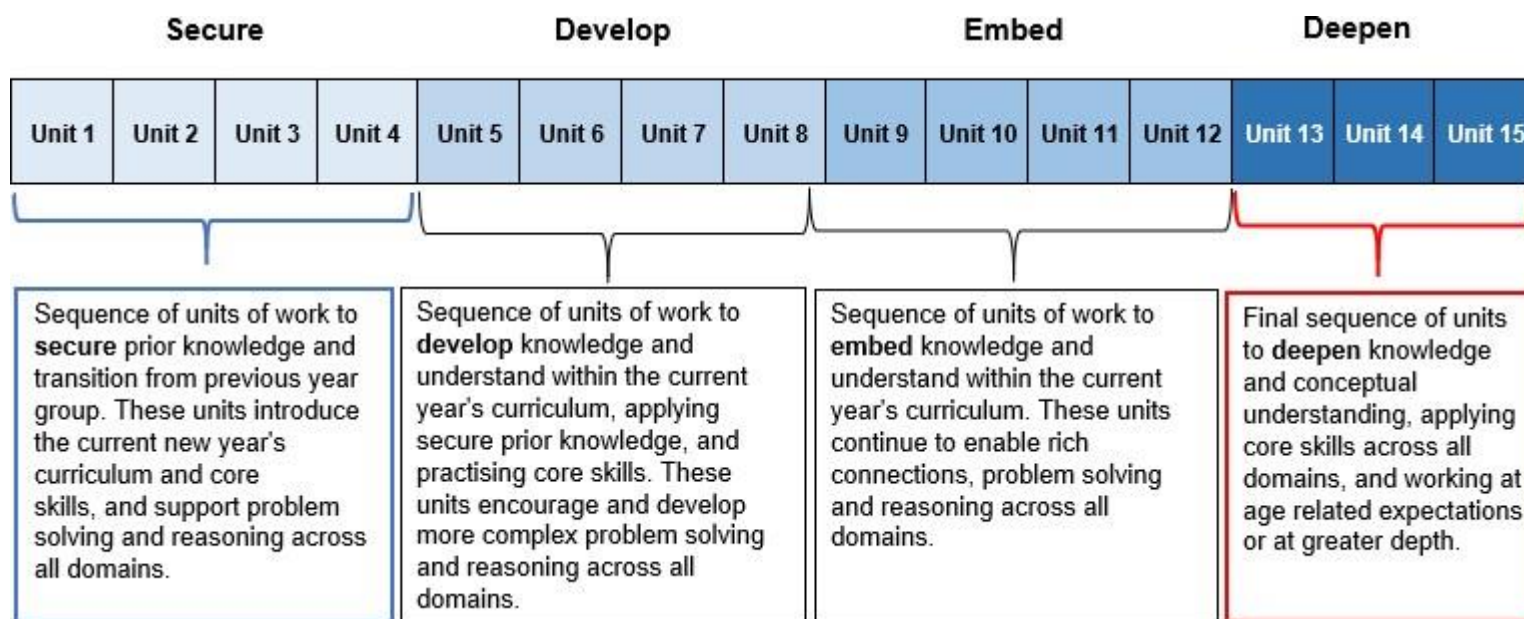
Unit plans identify a learning journey, required prior knowledge, misconceptions, key vocabulary, and suggested tasks.

Appropriate models, images, concrete resources, and visual representations are an implicit element in all units.

A suggested schedule for assessment is included as colour-coded bands, linked to the Hampshire Assessment Model if required.

Plans are based on a **39-week school year** and will need to be **adjusted** on a term-by-term basis.

Overview of curriculum intent



Key for assessment bands

AM1	AM2	AM3	ARE
Assessment Milestone 1	Assessment Milestone 2	Assessment Milestone 3	Assessment ARE

YEAR 5 and 6 Autumn Term

A.M	Unit	Hours	Domain	Y5 National Curriculum Objectives	Y6 National Curriculum Objectives
	5.1 6.1	5 15	Number Place Value; Addition and Subtraction (length)	<ul style="list-style-type: none"> • Read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit. • Y4: Identify, represent and estimate numbers using different representations. • Round any number up to 1,000,000 to the nearest 10,100,1000, 10,000 and 100,000 • Add and subtract numbers mentally with increasingly large numbers. • Add and subtract whole numbers with more than 4 digits, including formal written methods • 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. • Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres. • Use all four operations to solve problems involving measure (e.g. length, mass, volume, money), using decimal notation. 	<ul style="list-style-type: none"> • Read, write, order and compare numbers to at least 10,000,000 and determine the value of each digit. • Round any whole number to a required degree of accuracy • Y5: Add and subtract numbers mentally with increasingly larger numbers. • Y5: Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction). • Perform mental calculations, including with mixed operations and large numbers. • Use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy. • Solve addition and subtraction multi-step problems in context, deciding which operations and methods to use and why. • Use knowledge of the order of operations to carry out calculations involving the four operations. • Y5: Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres. • Y5: Calculate and compare the area of rectangles (including squares) and including the standard units, square centimetres (cm²) and square meters (m²) and estimate the area of irregular shapes. • Recognise that shapes with the same area can have different perimeters and vice versa. • Y5: Use the properties of rectangles to deduct related facts and find missing lengths.

		I can...	<ul style="list-style-type: none"> • I can recognise and represent the place value of digits in a four- and five-digit number. • I can position and compare numbers on a number line. • I can use related facts. • I can round any number to the nearest 10, 100, 1000, 10,000 and 100,000. • I can use a range of mental strategies when adding and subtracting numbers. • I can add and subtract mentally with increasingly larger numbers. • I can solve addition and subtraction multi-step problems. • I can measure and calculate the perimeter of composite rectilinear shapes. • I can use all four operations to solve problems involving length. 	<ul style="list-style-type: none"> • I can partition numbers flexibly. • I can count forwards and backwards from a range of given numbers in multiples of 10, 100 and 1000. • I can estimate the position of numbers on a number line. • I can position and compare numbers on a number line. • I can recall key facts about 1000 and 10,000. • I can round any whole number to a required degree of accuracy. • I can decide which methods to use and why. • I can add and subtract numbers mentally with increasingly larger numbers. • I can solve addition and subtraction multi-step problems in context, deciding which operations and methods to use and why. • I can use the order of operations to carry out calculations. • I can calculate the perimeter and area of shapes. • I can recognise that shapes with the same area can have different perimeters and vice versa. • I can use properties of rectangles to find missing lengths.
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A.M	Unit	Hours	Domain	Y5 National Curriculum Objectives	Y6 National Curriculum Objectives
	5.2 6.2	15	Multiplication and Division Measurement (area and arrays)	<ul style="list-style-type: none"> 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. 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 and divide whole numbers and those involving decimals by 10, 100 and 1000. Multiply and divide numbers mentally drawing upon known facts. 	<ul style="list-style-type: none"> Y5: Calculate and compare the area of rectangles (including squares) and including the standard units, square centimetres (cm²) and square meters (m²) and estimate the area of irregular shapes. Identify common factors, common multiples, and prime numbers. Y5: Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000. . Y5: Multiply and divide numbers mentally, drawing upon known facts Perform mental calculations including with mixed operation and larger numbers Multiply multi-digit numbers up to 4-digits by a 2-digit whole number using a formal written method of long multiplication (see NC appendix for methods). Use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy. Divide numbers up to 4-digits by a 2-digit whole number using a formal written method of long division and interpret remainders as a whole number remainder, fraction or by rounding as appropriate for the context. Use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy..
			I can...	<ul style="list-style-type: none"> I can make links between arrays and area. I can calculate, compare, and order the area of rectangles. I can identify multiples and factors. I can identify prime numbers. I can multiply and divide by 10 and 100. I can divide by sharing and grouping. I can use known facts to estimate. 	<ul style="list-style-type: none"> I can calculate the area of rectangles, drawing upon known multiplication facts. I can use related facts when dividing. I can identify common multiples. I can identify common factors. I can identify prime numbers. I can multiply and divide by 10, 100 and 1000. I can multiply numbers up to 4-digits by 1-digit whole numbers using a formal written method. I can multiply numbers up to 4-digits by 2-digit whole numbers using a formal written method of long multiplication. I can solve problems in the context of multiplication. I can divide numbers up to 4-digits by a 1-digit whole number using a formal written method. I can divide numbers up to 4-digits by a 2-digit whole number using a formal written method of long division. I can solve problems in the context of division.

A.M	Unit	Hours	Domain	Y5 National Curriculum Objectives	Y6 National Curriculum Objectives
	5.3 6.3	5	Fractions	<ul style="list-style-type: none"> Identify, name, and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths. Compare and order fractions whose denominators are all multiples of the same number. Add and subtract fractions with the same denominator and multiples of the same number. Recognise mixed numbers and improper fractions, and convert from one form to another and write mathematical statements > 1 as a mixed number. 	<ul style="list-style-type: none"> Use common factors to simplify fractions; use common multiples to express fractions in the same denomination. Recall and use equivalences between simple fractions, decimals, and percentages, including in different contexts. Y5: add and subtract fractions with the same denominator and multiples of the same number. Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions. Compare and order fractions, including fractions >1
			I can...	<ul style="list-style-type: none"> I can represent families of common equivalent fractions. I can compare, order, and find equivalent fractions. I can add and subtract fractions with the same denominator. I can add and subtract fractions with denominators of multiples of the same number. 	<ul style="list-style-type: none"> I can represent fractions. I can compare and order fractions. I can add and subtract fractions with the same denominator and multiples of the same number. I can add and subtract fractions with different denominators. I can recall and use equivalences between simple fractions and percentages.
	5.4 6.4	5	Fractions Percentages	<ul style="list-style-type: none"> Recognise mixed numbers and improper fractions and convert from one form to another and write mathematical statements >1 as a mixed number. Add and subtract fractions with the same denominator and multiples of the same number. Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths. 	<ul style="list-style-type: none"> Y5: 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 hundred, and as a decimal fraction. Y5: Solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}, \frac{1}{4}, \frac{1}{5}, \frac{2}{5}$ and $\frac{4}{5}$ and those with a denominator of a multiple of 10 or 25.
			I can...	<ul style="list-style-type: none"> I can convert between mixed and improper fractions. I can find equivalent fractions. 	<ul style="list-style-type: none"> I can understand that per cent relates to “number of parts per hundred”. I can calculate percentages of amounts.

A.M	Unit	Hours	Domain	Y5 National Curriculum Objectives	Y6 National Curriculum Objectives
	5.4	5	Time	<ul style="list-style-type: none"> Complete, read and interpret information in tables, including timetables. Solve problems involving converting between units of time 	<ul style="list-style-type: none"> Y5: Complete, read and interpret information in tables, including timetables. • Y5: Solve problems involving converting between units of time
	6.4		I can...	<ul style="list-style-type: none"> I can recall and represent key facts of time. I can solve problems involving time durations. I can solve time problems using key facts. I can read and interpret information in timetables. 	<ul style="list-style-type: none"> I can read and interpret information in timetables. I can use a number line to calculate duration of time. I can solve problems involving time.
		10	Geometry and Measurement	<ul style="list-style-type: none"> Y4: Compare and classify geometric shapes, including quadrilaterals and triangles based on their properties and size. 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. Identify: <ul style="list-style-type: none"> angles at a point and one whole turn (360°) angles at a point on a straight line and half a turn (180°) other multiples of 90° Identify, describe and represent the position of a shape following a reflection or a translation, using the appropriate language and know that the shape has not changed. 	<ul style="list-style-type: none"> 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. Draw 2-D shapes using given dimensions and angles. Recognise, describe and build simple 3-D shapes, including making nets. Describe positions on the full coordinate grid (all four quadrants). Draw and translate simple shapes in the coordinate plane and reflect them in the axes.
			I can...	<ul style="list-style-type: none"> I can identify properties of geometric shapes. I can compare and classify geometric shapes. I can estimate and compare angles using key facts. I can use reasoning to identify angles within shapes. I can identify and represent the position of a shape following a reflection. I can identify, describe and represent the position of a shape following a translation. 	<ul style="list-style-type: none"> I can illustrate and name parts of circles. I can draw 2-D shapes using given dimensions and angles. I can recognise, describe and build simple 3-D shapes, including making nets. I can describe positions on the full coordinate grid. I can draw and translate simple shapes in the coordinate plane.

A.M	Unit	Hours	Domain	Y5 National Curriculum Objectives	Y6 National Curriculum Objectives
	5.5 6.5	15	Place Value with measurement (mass and capacity) and all four operations	<ul style="list-style-type: none"> Round decimals with two decimal places to the nearest whole number and to one decimal place Convert between different units of metric measure. Understand and use equivalences between metric units and common imperial units such as inches, pounds and pints. Use all four operations to solve problems involving measure (mass and capacity) using decimal notation including scaling. Know and use the vocabulary of prime numbers, common prime factors and composite (non-prime) numbers. Solve problems involving addition, subtraction, multiplication, and division, including using their knowledge of factors and multiples, squares and cubes. 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. 	<ul style="list-style-type: none"> Round any whole number to a required degree of accuracy Identify the value of each digit to three decimal places and multiply and divide numbers by 10,100 and 1000 where the answers are up to three decimal places. Solve problems involving the calculation and conversion units of measure, using decimal notation up to three decimal places where appropriate. Use, read, write and convert between standard units, converting measurements of mass and capacity from a smaller unit of measure to a larger unit and vice versa. . Identify common factors, common multiples, and prime numbers. Solve problems involving addition, subtraction, multiplication, and division, deciding which operations and methods to use and why. Express missing number problems algebraically. Enumerate all possibilities of combinations of two variables.
			I can...	<ul style="list-style-type: none"> I can convert between different units of metric measure (mass). I can read scales to measure in grams and kilograms. I can round decimals with two decimals places to the nearest whole number. I can solve problems in the context of mass. I can convert between different units of metric measure (capacity). I can read scales to measure in millilitres and litres. I can round decimals with two decimals places to the nearest whole number. I can solve problems in the context of capacity. I can solve addition and subtraction multi-step problems in context, deciding which operations and methods to use and why. I can use the vocabulary of factor, multiple and prime. I can solve problems using knowledge of factors and multiples. I can use a formal written method to multiply numbers up to 4-digits. I can solve problems in context, deciding which methods to use and why. 	<ul style="list-style-type: none"> I can round any whole number to a required degree of accuracy. I can use, read, write and convert between grams and kilograms. I can solve problem involving mass. I can use, read, write and convert between litres and millilitres. I can solve problems involving capacity. I can understand and use equivalences between metric units and common imperial units. I can identify common factors, common multiples, and prime numbers. I can solve problems involving multiplication using knowledge of factors. I can use mathematical reasoning to solve problems including the four operations. I can express missing number problems algebraically. I can find all possibilities of combinations of two variables.

Christmas Holidays

Year 5 and 6 Spring Term

Throughout the year find opportunities for pupils to read **Roman numerals** to 1000 (M) and recognise years written in Roman numerals.

A.M	Unit	Hours	Domain	Y5 National Curriculum Objectives	Y6 National Curriculum Objectives
	5.6 6.6	10	Fractions	<ul style="list-style-type: none"> Recognise the percent symbol (%) and understand that percent relates to the number of parts per hundred, write percentages as a fraction with the denominator hundred and as a decimal fraction. Solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}, \frac{1}{4}, \frac{1}{5}, \frac{2}{5}, \frac{4}{5}$ and those with the denominator of digit 10 or 25. Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths. Read and write decimal numbers as fractions 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. 	<ul style="list-style-type: none"> Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts. Associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. $\frac{3}{8}$) Identify the value of each digit to three decimal places and multiply and divide numbers by 10, 100, 1000 where the answers are up to three decimal places. 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 unequal sharing and grouping using knowledge of factors and multiples.
			I can...	<ul style="list-style-type: none"> I can recognise and use tenths and hundredths. I can recognise and use thousandths. I can compare fractions. I can recognise equivalent fractions. I can round decimals with two decimal places to the nearest whole number and to one decimal place. I can represent percentages. I can solve problems which require knowing percentage and decimal equivalents. 	<ul style="list-style-type: none"> I can identify the value of each digit to three decimal places. I can compare fractions, decimals, and percentages. I can solve ratio and proportion problems. I can solve problems using my knowledge of factors and multiples.
		5	Geometry	<ul style="list-style-type: none"> Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles. Draw given angles and measure them in degrees ($^{\circ}$). Use the properties of rectangles to deduce related facts and find missing lengths and angles. 	<ul style="list-style-type: none"> Interpret and construct pie charts and line graphs and use these to solve problems. Y5: Draw given angles, and measure them in degrees ($^{\circ}$) Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons.
			I can...	<ul style="list-style-type: none"> I can recognise and estimate angles. I can use a protractor to measure angles accurately. I can draw given angles using a protractor. I can use properties of rectangles to deduce missing lengths and angles. 	<ul style="list-style-type: none"> I can interpret pie charts. I can interpret pie charts and use these to solve problems. I can draw angles using a protractor. I can find missing angles.

A.M	Unit	Hours	Domain	Y5 National Curriculum Objectives	Y6 National Curriculum Objectives
	5.7 6.7	10	Addition and Subtraction Fractions Algebra	<ul style="list-style-type: none"> Add and subtract whole numbers with more than 4 digits including using formal written methods (columnar addition and subtraction). Add and subtract mentally with increasingly large numbers e.g. $12,462 - 2300 = 10,612$. 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. Add and subtract fractions with the same denominator beyond one and multiples of the same number. Solve problems involving number up to three decimal places. Use all four operations to solve problems involving measure. 	<ul style="list-style-type: none"> Solve addition and subtraction multi-step problems in context, deciding which operations and methods to use and why. Perform mental calculations, including with mixed operations and large numbers. Use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy. Generate and describe linear number sequences. Add and subtract fractions with the different denominators and mixed numbers, using the concept of equivalent fractions. Use estimation to check answers to calculations and determine, in the context of a problem, level of accuracy. Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate.
			I can...	<ul style="list-style-type: none"> I can add and subtract mentally. I can choose efficient methods of calculating when adding and subtracting. I can solve addition and subtraction problems in context. I can add and subtract fractions. I can solve measure problems involving fractions and decimals. 	<ul style="list-style-type: none"> I can use estimation to check answers and determine reasonableness. I can perform mental calculations. I can describe and generate linear number sequences. I can solve problems involving the calculation and conversion of units of measure. I can add and subtract fractions.
	5.8 6.8	5	Statistics	<ul style="list-style-type: none"> Interpret negative numbers in context, count forwards and backwards with positive and negative numbers through zero. Solve comparison, sum and difference problems using information presented in a line graph. Complete, read and interpret information in tables. 	<ul style="list-style-type: none"> Use negative numbers in context and calculate intervals across zero. Interpret and construct pie charts and line graphs and use these to solve problems. Calculate and interpret the mean as an average.
			I can...	<ul style="list-style-type: none"> I can count forwards and backwards with positive and negative numbers through zero. I can interpret negative numbers in context. I can read and interpret information in a line graph. I can read and interpret information given within a table. 	<ul style="list-style-type: none"> I can use negative numbers in context. I can interpret line graphs and use these to solve problems. I can calculate the mean as an average.

A.M	Unit	Hours	Domain	Y5 National Curriculum Objectives	Y6 National Curriculum Objectives
	5.9 6.9a	5	Measurement	<ul style="list-style-type: none"> Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints. Estimate volume (e.g. using 1cm^3 blocks to build cuboids (including cubes)) and capacity (e.g. using water). Use all four operations to solve problems involving measure, using decimal notations, including scaling. 	<ul style="list-style-type: none"> Y5: Understand and use equivalences between metric units and common imperial units such as pounds and pints. Convert between miles and kilometres. Calculate, estimate and compare volume of cubes and cuboids using standard units including centimetre cubed (cm^3) and cubic metres (m^3) and extending to other units such as mm^3 and km^3. Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate.
			I can...	<ul style="list-style-type: none"> I can understand and use approximate equivalences between metric units and common imperial units. I can solve problems involving measure. I can investigate volume of cubes and cuboids. I can estimate the volume of cubes and cuboids. 	<ul style="list-style-type: none"> I can understand and use equivalences between metric and common imperial units. I can calculate, estimate and compare volume of cubes and cuboids. I can read scales.
	5.9 6.11	5	Geometry	<ul style="list-style-type: none"> Identify 3-D shapes, including cubes and other cuboids, from 2-D representations. 	<ul style="list-style-type: none"> Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons. Describe positions on the full coordinate grid (all four quadrants). Draw and translate simple shapes on a coordinate plane and reflect them in the axes.
			I can...	<ul style="list-style-type: none"> I can identify 3-D shapes from 2-D representations. 	<ul style="list-style-type: none"> I can find unknown angles. I can reason by giving examples. I can draw and translate shapes. I can describe positions on the full coordinate grid.

A.M	Unit	Hours	Domain	Y5 National Curriculum Objectives	Y6 National Curriculum Objectives
		5	Fractions	<ul style="list-style-type: none"> Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams. Solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{2}{5}$, $\frac{4}{5}$ and those with a denominator of a multiple of 10 or 25. Read, write, order and compare numbers with up to three decimal places. Solve problems involving number up to three decimal places. 	<ul style="list-style-type: none"> Multiply simple pairs of proper fractions, writing the answer in its simplest form e.g. $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$ Divide proper fractions by whole numbers e.g. $\frac{1}{3} \div 2 = \frac{1}{6}$
			I can...	<ul style="list-style-type: none"> I can multiply proper fractions by whole numbers. I can compare and order fraction, decimal and percentage equivalents. I can solve problems using knowledge of fraction and percentage equivalents. I can solve problems involving numbers up to three decimal places. 	<ul style="list-style-type: none"> I can multiply pairs of proper fractions. I can divide fractions by whole numbers.
	5.10 6.9b	5	Addition and Subtraction Algebra	<ul style="list-style-type: none"> Add and subtract mentally with increasingly large numbers. Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why. Add and subtract fractions with the same denominator and denominators that are multiples of the same number. Solve problems involving number up to three decimal places. Use all four operations to solve problems involving measure using decimal notation, including scaling. 	<ul style="list-style-type: none"> Use simple formulae. Recognise when it is possible to use formulae for area and volume of shapes. Express missing number problems algebraically. Enumerate all possibilities of combinations of two variables.
			I can...	<ul style="list-style-type: none"> I can add and subtract, deciding which operations and methods to use and why. I can solve addition and subtraction problems in context, deciding which operations and methods to use and why. I can add and subtract fractions. 	<ul style="list-style-type: none"> I can express missing number problems algebraically. I can use simple formulae. I can use simple formulae to complete number sequences. I can recognise when it is possible to use formulae for area and volume of shapes.

A.M	Unit	Hours	Domain	Y5 National Curriculum Objectives	Y6 National Curriculum Objectives
	5.11 6.10	10	Multiplication and Division Four Operation with Statistics	<ul style="list-style-type: none"> • Multiply and divide numbers mentally drawing upon known facts. • 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. • 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 1000. • Solve problems involving multiplication and division, including using their knowledge of factors and multiples, squares and cubes. • Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates. 	<ul style="list-style-type: none"> • Solve problems involving addition, subtraction, multiplication, and division, deciding which operations and methods to use and why. • solve problems involving addition, subtraction, multiplication and division • Solve problems involving the calculation and conversion units of measure. • Use knowledge of the order of operations to carry out calculations involving the four operations. • Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy. • Identify common factors, common multiples, and prime numbers. • Express missing number problems algebraically. • Find pairs of numbers that satisfy number sentences involving two unknowns. • 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. • Calculate and interpret the mean as an average. • Interpret and construct pie charts and line graphs and use these to solve problems. • Y5: Complete, read and interpret information in tables, including timetables
			I can...	<ul style="list-style-type: none"> • I can multiply and divide numbers by 10, 100 and 1000. • I can solve problems involving multiplication and division using knowledge of factors and multiples. • I can multiply and divide numbers mentally drawing upon known facts. • I can multiply and divide numbers using a formal written method. • I can solve problems involving multiplication and division. • I can solve problems involving multiplication and division, including scaling by simple fractions. 	<ul style="list-style-type: none"> • I can identify factors, multiples, square, cube and prime numbers. • I can use knowledge of the order of operations to carry out calculations. • I can express number problems algebraically. • I can multiply numbers with two decimal places by whole numbers. • I can use short division where the answer has a decimal answer. • I can solve problems involving calculation and conversion of units of measure. • I can calculate and interpret the mean. • I can interpret and construct line graphs and use these to solve problems. • I can interpret and construct pie charts and use these to solve problems.
Easter Holidays					

Year 5 and 6 Summer Term

Throughout the year find opportunities for pupils to read **Roman numerals** to 1000 (M) and recognise years written in Roman numerals.

A.M	Unit	Hours	Domain	Y5 National Curriculum Objectives	Y6 National Curriculum Objectives
	5.12 5.14 6.12	15	Multiplication and Division Four Operations	<ul style="list-style-type: none"> Identify multiples and factors, including 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. Recognise and use square numbers and cube numbers and the notation for $(^2)$ and $(^3)$. Solve problems involving multiplication and division and a combination of these, including using their 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 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 and a combination of these, including understanding the meaning of the equals sign. use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy. 	<ul style="list-style-type: none"> Identify common factors, common multiples, and prime numbers. Y5: Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers. Y5: Recognise and use square numbers and cube numbers and the notation for squared $(^2)$ and cubed $(^3)$. Y5: Solve problems involving all four operations including using their knowledge of factors and multiples, squares and cubes. Solve problems involving addition, subtraction, multiplication and division.
			I can...	<ul style="list-style-type: none"> I can identify prime numbers. I can identify factors. I can recognise and use square numbers and cube numbers. I can solve problems using my knowledge of factors and multiples, squares and cubes. I can decide which operation and method to use and why. I can decide which operation and method to use within a context. 	<ul style="list-style-type: none"> I can identify common factors and multiples. I can identify prime numbers. I can recognise and use prime numbers, prime factors and composite numbers. I can recognise and use square numbers and cube numbers, I can solve problems using my knowledge of factors and multiples, squares and cubes. I can solve problems involving multiplication and division. I can find different ways to solve a problem.

A.M	Unit	Hours	Domain	Y5 National Curriculum Objectives	Y6 National Curriculum Objectives
	5.13 6.13	5	Geometry Statutory Tests	<ul style="list-style-type: none"> Distinguish between regular and irregular polygons based on reasoning about equal sides and angles. Y4: Describe positions on a 2-D grid as coordinates in the first quadrant. 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. 	<ul style="list-style-type: none"> Statutory Tests
			I can...	<ul style="list-style-type: none"> I can distinguish between regular and irregular polygons. I can plot points on a coordinate grid in the first quadrant. I can identify, describe and represent the position of a shape following a reflection or translation. 	<ul style="list-style-type: none"> Statutory Tests
	5.15 6.15	10	Addition and Subtraction with Algebra	<ul style="list-style-type: none"> Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtract). Add and subtract mentally with increasingly large numbers. Use rounding to check answers and determine, in the context of a problem, levels of accuracy. Solve addition and subtraction multi-step problems in contexts deciding which operations to use and why. 	<ul style="list-style-type: none"> Perform mental calculations, including with mixed operations and large numbers. Use estimation to check answers to calculations and determine, in the context of the problem, levels of accuracy. Use knowledge of the order of operations to carry out calculation involving the four operations. Identify common factors, common multiples and prime numbers. Use negative numbers in context and calculate intervals across zero. Use simple formulae. Express missing number problems algebraically. Find pairs of numbers that satisfy number sentences involving two unknowns.
			I can...	<ul style="list-style-type: none"> I can solve addition and subtraction problem using an efficient method. I can solve missing number problems. I can read and interpret information in tables. I can solve comparison, sum and difference problems using information presented in a line graph. 	<ul style="list-style-type: none"> I can perform mental calculations. I can solve addition and subtraction problem using efficient methods. I can use negative numbers in context. I can use simple formulae. I can find pairs of numbers that satisfy number sentences involving two unknowns. I can express missing number problems algebraically.

A.M	Unit	Hours	Domain	Y5 National Curriculum Objectives	Y6 National Curriculum Objectives
	5.16 6.14 6.16	10	Fractions	<ul style="list-style-type: none"> Compare and order 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 >1 as a mixed number. (e.g. $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1\frac{1}{5}$). Add and subtract fractions with the same denominator and multiples of the same number. Recognise the per cent symbol (%) and understand that it relates to the 'number of parts per 100', and write percentages as a fraction with the denominator hundred, and as a decimal fraction. Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams. Solve problems which require knowing percentage and decimal equivalents. 	<ul style="list-style-type: none"> 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 e.g. $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$ Divide proper fractions by whole numbers e.g. $\frac{1}{3} \div 2 = \frac{1}{6}$ Use common factors to simplify fractions; Use common multiples to express fraction in the same denomination. Compare and order fractions >1. Associate a fraction with division and calculate decimal fraction equivalences (e.g. 0.375) for a simple fraction (e.g. $\frac{3}{8}$). Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts. Solve problems involving the calculation of percentages, (e.g. of measures) such as 15% of 360 and the use of percentages for comparison. Calculate and interpret the mean as average. Interpret and construct pie charts and line graphs and use these to solve problems.
	I can...	<ul style="list-style-type: none"> I can compare and order fractions. I can compare and order mixed numbers on a number line. I can add and subtract fractions. I can find a percentage of a number. I can find a percentage of a number efficiently. I can recognise percentage and decimal equivalences. I can solve problems which require knowing percentage and decimal equivalents. I can multiply proper fractions by whole numbers. I can multiply proper fractions using knowledge of fraction and decimal equivalents. 	<ul style="list-style-type: none"> I can find equivalent fractions. I can add and subtract fractions with different denominators. I can multiply simple pairs of proper fractions. I can divide fractions by whole numbers. I can compare and order fractions greater than 1. I can recall and use equivalences between fractions, decimals and percentages, I can solve problems involving the calculation of percentages. I can interpret pie charts and use these to solve problems. I can construct pie charts. I can interpret pie charts and line graphs and use these to solve problems. I can calculate and interpret the mean. 		

A.M	Unit	Hours	Domain	Y5 National Curriculum Objectives	Y6 National Curriculum Objectives
	Cont	5	Geometry Ratio and Proportion	<ul style="list-style-type: none"> • Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles. • Draw given angles and measure them in degrees ($^{\circ}$). • Identify: <ul style="list-style-type: none"> ○ angles at a point and one whole turn (360°). ○ angles at a point on a straight line and 12 a turn (180°). ○ Other multiples of 90° and link to fractions of a whole turn. • Use the properties of rectangles to deduce related facts and find missing lengths and angles. 	<ul style="list-style-type: none"> • 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. • Recognise angles at a point, on a straight line, vertically opposite. Find missing angles. • Solve problems involving similar shapes where the scale factor is known or can be found.
			I can...	<ul style="list-style-type: none"> • I can estimate and compare acute, obtuse and reflex angles. • I can draw given angles and measure them in degrees. • I can find missing angles using key facts. • I can properties of rectangles to deduce related facts and find missing lengths and angles. 	<ul style="list-style-type: none"> • I can draw 2-D shapes given dimensions and angles. • I can find unknown angles. • I can build 3-D shapes. • I can draw 2-D shapes according to ratio. • I can solve problems involving scaling.

A.M	Unit	Hours	Domain	Y5 National Curriculum Objectives	Y6 National Curriculum Objectives
	5.17 6.17	10	Multiplication and Division	<ul style="list-style-type: none"> • Multiply and divide numbers mentally drawing upon known facts. • Identify multiples and factors, including finding all factors pairs, prime factors and composite (non-prime) numbers. • Establish whether a number is prime up to 100 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 multiplications for two-digits. • 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, 1000. • Recognise and use square number and cube numbers, with the correct notation (²) and (³) • Solve problems involving addition, subtraction, multiplication and division including using their knowledge of factors and multiples, squares and cubes. • Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates. 	<ul style="list-style-type: none"> • Y5: Multiply up to 4-digit numbers by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers. • Divide up to 4-digit numbers by a 2-digit whole number using a formal written method of long division and interpret remainders as whole number remainders, fractions or by rounding as appropriate for the context. • Use estimation to check answers to calculations and determine, in the context of the problem, levels of accuracy. • Express missing number problems algebraically
	I can...	<ul style="list-style-type: none"> • I can multiply and divide numbers mentally drawing upon known facts. • I can use the short multiplication method. • I can use the long multiplication method. • I can use the short division method. • I can solve multiplication and division calculating efficiently. • I can solve multiplication and division problems efficiently. • I can identify multiples, factors and prime numbers. • I can recognise and use square number and cube numbers. • I can solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates. 	<ul style="list-style-type: none"> • I can use formal written methods for multiplication. • I can use formal written methods for division. • I can interpret remainders as appropriate. • I can solve problems using multiplication and division. • I can express missing number problems algebraically. 		

A.M	Unit	Hours	Domain	Y5 National Curriculum Objectives	Y6 National Curriculum Objectives
	5.18 6.18	10	Measurement	<ul style="list-style-type: none"> Convert between different units of metric measure (e.g. kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre). Understand and use equivalences between metric units and common imperial units such as inches, pounds, pints. Solve problems involving converting between units of time. Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres. Use all four operations to solve problems involving measure (e.g. length, mass, volume, money) using decimal notation including scaling. Read, write, order and compare numbers with up to three decimal places. Read and write decimal numbers as fractions (e.g. $0.71 = \frac{71}{100}$). Round decimals with two decimal places to one decimal place and to the nearest whole number. Calculate and compare the area of rectangles (including square) and including standard units square centimetres (cm²) and square metres (m²) and estimate the area of irregular shapes. Estimate volume (e.g. using 1cm³ blocks to build cubes and cuboids) and capacity (e.g. using water). Complete, read and interpret information in tables, including timetables. 	<ul style="list-style-type: none"> 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. Recognise that shapes with the same areas can have different perimeters and vice versa. Recognise when it is possible to use formulae for the area and volume of shapes. Convert between miles and kilometres. Calculate the area of parallelograms and triangles. Calculate, estimate, and compare volume of cubes and cuboids using standard units including centimetre cubed (cm³) and cubic metres (m³) and extending to other units such as mm³ and km³.
	I can...	<ul style="list-style-type: none"> I can estimate and convert units of measure. I can relate fraction and decimals with measure. I can solve problems involving measure including scaling. I can solve problems in the context of measure. I can calculate the area and perimeter of a range of rectangles. I can estimate the volume. I can read and interpret information in timetables. 	<ul style="list-style-type: none"> I can solve problems involving measure. I can recognise shapes with same areas can have different perimeters, and vice versa. I can calculate areas of parallelograms and triangles. I can calculate, estimate and compare volume. 		
Summer Holidays					

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