YEAR 5 : AUTUMN 1: Overview and Teaching Steps

WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6
1 Place Value	**2 Place Value Decimals**	**1 Addition & Subtraction**	**1 Geometry Angles**	**1 Measures Perimeter and Area**	**2 Addition & Subtraction**
Count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000.	Count up and down in thousandths; recognise that thousandths arise from dividing an object into 1000 equal parts and in dividing numbers or quantities by 1000.	Add and subtract numbers mentally with increasingly large numbers.	Know angles are measured in degrees; estimate & compare acute, obtuse & reflex angles. Identify: - Angles at a point on a straight line & ½ a turn (total 180°) - Angles at a point & one whole turn (total 360°) - Other multiples of 90° Draw given angles & measure them in degrees	-Measure and calculate the perimeter of composite rectilinear shapes in cm and m. - Calculate & compare the area of rectangles (including squares, & including using standard units, square centimetres (cm^2) and square metres (m^2) & estimate the area of irregular shapes.	Add and subtract whole numbers with more than 4 digits including using formal written methods (columnar addition and subtraction).
➢ Count forwards and backwards from any given number in steps of 100 ➢ Count forwards and backwards from a given number in steps of 1,000 ➢ Count forwards and backwards from a given number in steps of 10,000 ➢ Count forwards or backwards from a given number in steps of 100,000 ➢ Count forwards and backwards from a given number in steps of 1,000,000 ➢ Solve problems using all the above.	➢ Count up in thousandths starting at zero ➢ Count back in thousandths to zero ➢ Count up in thousandths starting at any 'thousandths number' ➢ Count back in thousandths starting at any 'thousandths number' ➢ Know that thousandths arise from dividing an object, quantity or number into 1000 equal parts ➢ Place fractions (thousandths) in order – ascending and descending. ➢ Solve problems using all the above.	Mentally: ➢ Add any two 2-digit numbers ➢ Subtract any 2-digit number from any other greater 2-digit number ➢ Subtract any 2-digit number from any 3-digit number ➢ Add any 2-digit and any 3-digit number ➢ Subtract any 2-digit number from any 4-digit number ➢ Add together two 3-digit numbers ➢ Subtract a 3-digit number from a greater 3-digit number ➢ Add any 1000s number to any 4 or 5-digit number ➢ Subtract any 1000s number from a greater 5-digit number	➢ Know that 90° is equivalent to a quarter turn ➢ Know that 180° is equivalent to a half turn ➢ Know that 270° is equivalent to a three-quarter turn ➢ Know that 360° is equivalent to a full turn ➢ Estimate, compare and measure angles in drawings identifying acute, obtuse and reflex angles ➢ Able to use a protractor to measure angles ➢ Able to use a protractor to draw angles	➢ Calculate perimeter of range of shapes, including composite shapes by dividing into smaller shapes ➢ Know the units of measure for calculating area and how to represent (cm^2/m^2) ➢ Explain how to calculate the area of a shape using a formula ➢ Calculate area using formula ➢ Calculate the area of composite shapes by dividing into smaller shapes ➢ Calculate the area of larger spaces using m^2	➢ Add numbers with up to 5-digits with no exchanging ➢ Add numbers with up to 5-digits with exchanging ➢ Subtract numbers with up to 5-digits with no exchanging ➢ Subtract numbers with up to 5-digits with exchanging

YEAR 5 : AUTUMN 2: Overview and Teaching Steps

WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6
1 Multiplication & Division - Factors	**2 Multiplication & Division**	**1 Fractions**	**3 Multiplication & Division**	**1 Statistics**	**Consolidate and Assess**
Identify multiples and factors including finding all factor pairs of a number and common factors of two numbers. Recognise and use square numbers and cube numbers, and the notation for square^2 and cubed^3.	-Multiply and divide numbers mentally drawing upon known facts. -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.	Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths. Read and write decimal numbers as fractions, e.g. 0.71 = 71/100.	Multiply numbers up to 4-digits by a 1-digit or 2-digit number using a formal written method, including long multiplication for 2-digit numbers. Solve problems involving multiplication.	Complete, read and interpret information in: - tables, including timetables	Start this week by revising the learning covered in the first half of the Autumn term so as to ensure pupils are fluent and secure with their basic skills. Use a simple assessment process to check on pupils' confidence and consistency in using the learning outlined in first half of the Autumn term. Analyse the results and use information to help focus the intervention and pre-teaching sessions, as needed, for the following half term.
➢ Identify multiples of all numbers up to 100. ➢ Know all factors that make up all numbers to 100. ➢ Know, by heart, the square of all numbers between 2 and 12. ➢ Know why a square number is called a square number by drawing squares ➢ Use the symbol ^{2} accurately. ➢ Explain the relationship between the square of a number and the square root of a number. ➢ Knowing the square of a number, use the inverse to calculate the square root. ➢ Use the symbol ^{3} accurately.	➢ Use mental applications to multiply numbers making use of multiplication tables up to 12x12. ➢ Use mental applications to divide numbers making use of multiplication tables up to 12x12. ➢ Describe what a prime number is ➢ Describe what a prime factor is ➢ Describe what a composite number is ➢ Explain how to work out whether a number is a prime number. ➢ Recall all prime numbers to 19.	➢ Identify equivalent fractions for ?/3 ➢ Identify equivalent fractions for ?/4 ➢ Identify equivalent fractions for ?/10 ➢ Identify equivalent fractions for ?/100 ➢ Write 0.5; 0.25; 0.1 as fractions ➢ Write any decimal with 1 decimal place as a fraction ➢ Write any decimal with 2 decimal places as a fraction	➢ Multiply any number with up to 3-digits by a single digit number. ➢ Multiply any number with up to 4-digits by any single number. ➢ Multiply any number with up to 3-digits by a 2-digit number. ➢ Multiply any number with up to 4-digits by a 2-digit number. ➢ Apply all of the above to solve one and two step word problems.	➢ Know how to construct a table from a set of given information ➢ Know how to construct a table using only the relevant information ➢ Read a table to answer questions ➢ Read a timetable to answer questions ➢ Construct own table and timetable making decision about labelling	

YEAR 5 : SPRING 1: Overview and Teaching Steps

WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6
3 Place Value	**3 Addition & Subtraction**	**4 Multiplication & Division**	**2 Measures Area**	**2 Geometry Reflection/ Translations**	**3 Geometry**
Read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit	Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy.	Divide numbers up to 4-digits by a 1-digit number using the formal written method of short division and interpret remainders appropriately for the context. -Solve problems involving division.	Calculate & compare the area of rectangles (including squares) including using standard units, square centimetres (cm^2) and square metres (m^2) & estimate the area of irregular shapes.	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	Distinguish between regular and irregular polygons based on reasoning about equal sides and angles
➢ Revise reading and writing numbers to 1000 ➢ Read all numbers from 1000 to 50,000 in numerals ➢ Read all numbers from 1000 to 1,000,000 in numerals ➢ Recognise the value of each digit up to 1,000,000 ➢ Know and use the terms: ones, tens, hundreds, ten thousands, hundred thousand and million correctly ➢ Partition any number up to 1,000,000 showing the value of each digit. ➢ Solve problems using all the above.	➢ Use rounding to add and subtract any 2-digit numbers to check reasonableness of answer. ➢ Use rounding to add and subtract any 3-digit numbers to check reasonableness of answer. ➢ Use rounding to add and subtract any 4-digit numbers to check reasonableness of answer.	➢ Divide any number with 3-digits by a single digit number with no remainder. ➢ Divide any number with 4-digits by a single digit number with no remainder. ➢ Divide any number with 3-digits by a single digit number with a remainder. ➢ Divide any number with 4-digits by a single digit number with a remainder. ➢ Divide any number with 3-digits by 10, showing remainder where appropriate. ➢ Divide any number with 4-digits by 10, showing remainder where appropriate. ➢ Apply all of the above to solve word problems.	➢ Know the units of measure for calculating area and how to represent (cm^2/m^2) ➢ Explain how to calculate the area of a shape using a formula ➢ Calculate area using formula ➢ Calculate the area of composite shapes by dividing into smaller shapes ➢ Calculate the area of larger spaces using m^2	➢ Reflect a shape and re-plot ➢ Translate a shape and re-plot ➢ Describe the properties of the reflected and/or translated shape – evidencing that the shape and size has not changed	➢ Use known facts to explain differences between shapes

YEAR 5 : SPRING 2: Overview and Teaching Steps

WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6
5 Multiplication & Division	**4 Geometry**	**2 Fractions**	**3 Measures**	**2 Statistics**	**Consolidate and Assess**
Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000.	-Identify 3D shapes, including cubes and other cuboids, from 2D representations - Use the properties of rectangles to deduce related facts & find missing lengths & angles.	Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements.	- Estimate volume (e.g. using 1 cm^3 blocks to build cubes, including cuboids) & capacity (e.g. using water). - Convert between different units of metric measure (e.g. km/m; cm/m; cm/mm; g/kg; l/ml).	Solve comparison, addition and difference problems using information presented in a line graph	Start this week by revising the learning covered in the Autumn and Spring terms so as to ensure pupils are fluent and secure with their basic skills. Use a simple assessment process to check on pupils' confidence and consistency in using the learning outlined in the Autumn and Spring terms. Analyse the results and use information to help focus the intervention and pre-teaching sessions, as needed, for the following term.
➢ Multiply any number by 10. ➢ Multiply any number by 100. ➢ Multiply any number by 1000. ➢ Divide any number by 10. ➢ Divide any number by 100. ➢ Divide any number by 1000.	➢ Identify 3D shapes from 2D images ➢ Calculate missing lengths and angles using known facts	➢ Know that a whole number can be written as a fraction, e.g. 2/2 etc. ➢ Know that 1½ can be written as 3/2 etc. ➢ Convert any improper fraction to a mixed fraction and vice versa	➢ Know that volume is measured in cm^3 and m^3 ➢ Use cubes to calculate the volume of a given shape ➢ Use water and measuring equipment to calculate the capacity of a range of containers ➢ Express a distance of more than 1km in m ➢ Express a distance of more than 1cm in mm ➢ Express a mass of more than 1kg in g ➢ Express an amount of more than 1l in ml	➢ Compare information in line graphs to answer questions ➢ Solve addition problems using information in line graphs to answer questions ➢ Solve difference problems using information in line graphs to answer questions	

YEAR 5 : SUMMER 1: Overview and Teaching Steps

WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6
4 Place Value Roman Numerals	**3 Fractions**	**4 Fractions**	**5 Fractions Decimals**	**4 Addition & Subtraction**	**6 Multiplication & Division 4 Measures Time**
- Interpret negative numbers in context, count forwards and backwards with positive and negative numbers including through zero. - Read Roman numerals to 1000 and recognise years written in Roman numerals	Compare and order fractions whose denominators are all multiples of the same 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, write, order and compare numbers with up to three decimal places. Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents. Solve problems involving number up to three decimal places Round decimals with two decimal places to the nearest whole number and to one decimal place.	Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.	-Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.
➢ Interpret temperatures at -°C on a thermometer. ➢ Count forward from -20 to 20 ➢ Count backwards from 20 to -20 ➢ Revisit Roman numerals to 100 ➢ Read Roman numerals to 1000 ➢ Write Roman numerals to 1000 ➢ Read dates in context represented in Roman numerals	➢ Compare and order fractions with the same denominator. ➢ Compare and order fractions with denominators of 2, 4, 8. ➢ Compare and order fractions with denominators of 5, 10. ➢ Convert fractions with different denominators to have a common denominator. ➢ Order two different fractions with different denominators that are multiples of the same number. ➢ Order more than two different fractions with different denominators that are multiples of the same number.	➢ Multiply proper fractions by another proper fraction ➢ Multiply proper fractions by whole number using concrete and pictorial methods to support. ➢ Multiply mixed numbers by whole numbers using concrete and pictorial methods to support. ➢ Solve problems involving multiplying fractions.	➢ Round a number with two decimal places to the nearest whole number. ➢ Round a number with two decimal places to the nearest number with one decimal place. ➢ Given 3 numbers with three decimal places, place in order (smallest to largest and vice versa). ➢ Given 5 numbers with three decimal places, place in order (smallest to largest and vice versa).	➢ Identify the number of steps in a problem ➢ Identify the operations to be used ➢ Solve problems and check accuracy using estimation and rounding to check reasonableness of answer	➢ Solve practical scaling problems, such as recipes, to make quantities larger and smaller. ➢ Calculate unknown quantities based upon scaling problems. ➢ Convert between different currencies using simple exchange rates. ➢ Solve problems involving converting between units of time.

YEAR 5 : SUMMER 2: Overview and Teaching Steps

WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6
5 Place Value	**5 Addition & Subtraction**	**5 Fractions Decimals**	**5 Measures**	**5 Geometry**	**Consolidate and Assess**
Round any number up to 1,000,000 to the nearest 10, 100, 1000, 10000 or 100000	Consolidate Addition and Subtraction using columnar addition and subtraction	Recognise the percent 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 knowing percentage and decimal equivalents of 2 1 , 4 1 , 5 1 , 5 2 , 5 4 and those fractions with a denominator of a multiple of 10 or 25.	Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints.	Consolidate and revise all Year 5 learning associated with geometry to include work on angles, translations and shape	Start this week by revising the learning covered in Year 5 so as to ensure pupils are fluent and secure with their basic skills. Use a simple assessment process to check on pupils' confidence and consistency in using the learning outlined in Year 5. Analyse the results and use information to help focus the intervention pre-teaching sessions, as needed, for the following year. .
➢ Round any number up to 10,000 to the nearest 10 ➢ Round any number up to 10,000 to the nearest 100 ➢ Round any number up to 10,000 to the nearest 1,000 ➢ Round any number up to 100,000 to the nearest 10 ➢ Round any number up to 100,000 to the nearest 100 ➢ Round any number up to 100,000 to the nearest 1,000 ➢ Round any number up to 100,000 to the nearest 10,000 ➢ Round any number up to 1,000,000 to the nearest 10 ➢ Round any number up to 1,000,000 to the nearest 100 ➢ Round any number up to 1,000,000 to the nearest 1,000 ➢ Round any number up to 1,000,000 to the nearest 10,000 ➢ Round any number up to 1,000,000 to the nearest 100,000 ➢ Solve problems using all the above.	Revise: ➢ Adding numbers with up to 5-digits with no exchanging ➢ Adding numbers with up to 5-digits with exchanging ➢ Subtracting numbers with up to 5-digits with no exchanging ➢ Subtracting numbers with up to 5-digits with exchanging	➢ Know what the % symbol stands for. ➢ Know that percent deals with a number or amount out of 100. ➢ Write % of amounts. ➢ Know that 50% is 50/100 = one half = ½. ➢ Know that 0.5 = 50% ➢ Know that 25% is 25/100 = one quarter = 1/4. ➢ Know that 0.25 = 25% ➢ Know the percent values of all tenths. ➢ Know the percent values of all fifths. ➢ Know the percent values of all quarters.	➢ Know the approximate number of metres in 1 mile ➢ Know the approximate relationship between inches and cm ➢ Know the approximate relationship between a pound and a gram ➢ Know the approximate relationship between a pint and a litre ➢ Carry out a range of approximate conversion calculations using above	Revise: ➢ Reflecting a shape and re-plot ➢ Translating a shape and re-plot ➢ Describing the properties of the reflected and/or translated shape – evidencing that the shape and size has not changed ➢ Estimating, comparing and measuring angles in drawings identifying acute, obtuse and reflex angles ➢ Using a protractor to measure angles ➢ Using a protractor to draw angles	