| Maths EYFS - Medium Term Planning - Maths - Spring | EYFS - Medium Term Planning - Maths - Spring |  |  |
| :---: | :---: | :---: | :---: |
|  | Prior Learning Links |  | Key Vocabulary <br> Place Value: count, subitise, order, compare, numeral, forwards, backwards, digit, one more, one less, equal to, more than, less than, fewer <br> Addition and Subtraction: add, subtract, altogether, total, take away, number bonds, part, whole digit Shape: 2D/3D shapes, rectangle, square, circle, triangle, cuboid, cube, cone, sphere, curved, straight, flat |
| Unit | Small-step progression |  | Knowledge |
| Alive in 5 | Step 1 - Introduce zero Step 2 - Find 0 to 5 Step 3 - Subitise 0 to 5 Step 4 - Represent 0 to 5 | Step 5-1 more <br> Step 6-1 less <br> Step 7 - Composition <br> Step 8 - Conceptual subitising to 5 | - Link the number symbol (numeral) with its cardinal number value. <br> - Count objects, actions and sounds. <br> - Subitise <br> - Compare numbers <br> - Understand the 'one more than/one less than' relationship between consecutive numbers. <br> - Explore the composition of numbers to 10. |
| Mass and Capacity | Step 1 - Compare mass <br> Step 2 - Find a balance | Step 3 - Explore capacity <br> Step 4 - Compare capacity | - Compare length, weight and capacity |
| Growing 6, 7, 8 | Step 1 - Find 6, 7 and 8 <br> Step 2 - Represent 6, 7 and 8 <br> Step 3-1 more Step 41 less <br> Step 5 - Composition of 6, 7 and 8 | Step 6 - Make pairs - odd and even <br> Step 7 - Double to 8 (find a double) <br> Step 8 - Double to 8 (make a double) <br> Step 9 - Combine two groups <br> Step 10 - Conceptual subitising | - Count objects, actions and sounds. <br> - Link the number symbol (numeral) with its cardinal number value. <br> - Understand the 'one more than/one less than' relationship between consecutive numbers. <br> - Explore the composition of numbers to 10. <br> - Subitise |
| Length, height and time | Step 1 - Explore length Step 2 - Compare length Step 3 - Explore height | Step 4 - Compare height <br> Step 5 - Talk about time <br> Step 6 - Order and sequence time | - Compare length, weight and capacity |
| Building 9 and 10 | Step 1 - Find 9 and 10 <br> Step 2 - Compare numbers to 10 <br> Step 3 - Represent 9 and 10 <br> Step 4 - Conceptual subitising to 10 Step 5-1 more Step 61 less Step 7 - Composition to 10 | Step 8 - Bonds to 10 (2 parts) Step 9 - Make arrangements of 10 Step 10 - Bonds to 10 (3 parts) <br> Step 11 - Doubles to 10 (find a double) Step 12 - Doubles to 10 (make a double) Step 13 - Explore even and odd | - Count objects, actions and sounds. <br> - Link the number symbol (numeral) with its cardinal number value. <br> - Compare numbers <br> - Subitise <br> - Understand the 'one more than/one less than' relationship between consecutive numbers. <br> - Explore the composition of numbers to 10. <br> - Automatically recall number bonds for numbers $0-5$ and some to 10 . |


| Explore 3-D Shapes | Step 1 - Recognise and name 3-D shapes Step 2 - Find 2-D shapes within 3-D shapes Step 3 - Use 3-D shapes for tasks Step 4-3-D shapes in the environment | Step 5 - Identify more complex patterns Step 6-Copy and continue patterns Step 7 - Patterns in the environment | - Select, rotate and manipulate shapes to develop spatial reasoning skills. <br> - Compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can. <br> - Continue, copy and create repeating patterns. |
| :---: | :---: | :---: | :---: |

## Prior Learning Links

Place Value (within 10) - Year 1 Autumn Addition and Subtraction (within 10) - Year 1 Autumn

## Key Vocabulary

Place Value: sort, represent, multiples, partition, ones, tens Addition and Subtraction: add, subtract, difference, equals, facts, problems, missing number problems, inverse
Length and height/ Weight and mass: compare, mass, volume

|  |  |  | Length and height/ Weight and mass: compare, mass, volume |
| :---: | :---: | :---: | :---: |
| Unit | Small-step progression |  | Knowledge |
| Place Value (within 20) | Step 1 - Count within 20 <br> Step 2 - Understand 10 <br> Step 3 - Understand 11, 12 and 13 <br> Step 4 - Understand 14, 15 and 16 <br> Step 5 - Understand 17, 18 and 19 <br> Step 6 - Understand 20 | Step 7-1 more and 1 less <br> Step 8 The number line to 20 <br> Step 9 - Use a number line to 20 <br> Step 10 - Estimate on a number line to 20 <br> Step 11 - Compare numbers to 20 <br> Step 12 - Order numbers to 20 | - Count to and across 100 , forwards and backwards, beginning with zero or 1 , or from any given number <br> - Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least <br> - Count, read and write numbers to 100 in numerals; count in multiples of $2 \mathrm{~s}, 5 \mathrm{~s}$ and 10s <br> - Read and write numbers from 1 to 20 in numerals and words <br> - Given a number, identify 1 more and 1 less |
| Addition and Subtraction (within 20) | Step 1 - Add by counting on within 20 <br> Step 2 - Add ones using number bonds Step 3 - Find and make number bonds to 20 <br> Step 4 - Doubles <br> Step 5 - Near doubles | Step 6 - Subtract ones using number bonds <br> Step 7 - Subtraction - counting back <br> Step 8 - Subtraction - finding the difference <br> Step 9 - Related facts <br> Step 10 - Missing number problems | - Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs <br> - Add and subtract 1-digit and 2-digit numbers to 20 , including zero <br> - Represent and use number bonds and related subtraction facts within 20 <br> - Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = ? - |
| Place Value (within 50) | Step 1 - Count from 20 to 50 Step 2-20, 30, 40 and 50 <br> Step 3 - Count by making groups of tens Step 4 - Groups of tens and ones | Step 5 - Partition into tens and ones Step 6 - The number line to 50 <br> Step 7 - Estimate on a number line to 50 Step 8-1 more, 1 less | - Count to and across 100 , forwards and backwards, beginning with zero or 1 , or from any given number <br> - Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least <br> - Count, read and write numbers to 100 in numerals; count in multiples of 2 s , 5 s and 10 s <br> - Given a number, identify 1 more and 1 less |
| Measurement (length and height) | Step 1 - Compare lengths and heights Step 2 - Measure length using objects | Step 3 - Measure length in centimetres | - Compare, describe and solve practical problems for: lengths and height; mass/weight; capacity and volume; time <br> - Measure and begin to record the following: lengths and heights; mass/weight; capacity and volume; time |

Measurement (mass and volume)

Step 1 - Heavier and lighter

Step 5 - Compare volume
Step 6 - Measure capacity Step 7 - Compare capacity

- Compare, describe and solve practical problems for: lengths and heights; mass/weight; capacity and volume; time
- Measure and begin to record the following: lengths and heights; mass/weights; capacity and volume; time

| Maths <br> Year 2 | Year 2 - Medium Term Planning - Maths - Spring |  |  |
| :---: | :---: | :---: | :---: |
|  | Prior Learning Links <br> Money - Year 1 Summer <br> Multiplication and Division - Year 1 Summer easurement (length and height) - Year 1 Sprin Measurement (mass and volume) Year 1 Spring |  | Key Vocabulary <br> Money: value, change <br> Multiplication and Division: commutative, repeated addition, times tables Length and height: estimate, units, order, record results, centimetre cm , metre m Mass and capacity: kilogram kg , gram, litre, L , millilitre ml , centilitre cl , temperature, Celsius |
| Unit | Small-step progression |  | Knowledge |
| Money | Step 1 - Count money - pence <br> Step 2 - Count money - pounds (notes and coins) <br> Step 3 - Count money - pounds and pence Step 4 - Choose notes and coins Step 5 - Make the same amount | Step 6 - Compare amounts of money <br> Step 7 - Calculate with money Step 8 - Make a pound Step 9 - Find change <br> Step 10 - Two-step problems | - Recognise and use symbols for pounds ( $£$ ) and pence ( $\mathfrak{p}$ ); combine amounts to make a particular value <br> - Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change |
| Multiplication and Division | Step 1 - Recognise equal groups Step 2 - Make equal groups Step 3 - Add equal groups <br> Step 4 - Introduce the multiplication symbol Step 5 - Multiplication sentences Step 6 - Use arrays <br> Step 7 - Make equal groups - grouping Step 8 - Make equal groups - sharing Step 9 - The 2 times-table | Step 10 - Divide by 2 <br> Step 11 - Doubling and halving Step 12 - Odd and even numbers <br> Step 13 - The 10 times-table <br> Step 14 - Divide by 10 <br> Step 15 - The 5 times-table <br> Step 16 - Divide by 5 <br> Step 17 - The 5 and 10 times-tables | - Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication ( $\times$ ), division ( $\div$ ) and equals ( $=$ ) signs <br> - Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot <br> - Recall and use multiplication and division facts for the 2,5 and 10 multiplication tables, including recognising odd and even numbers |
| Measurement (length and height) | Step 1 - Measure in centimetres Step 2 - Measure in metres <br> Step 3 - Compare lengths and heights | Step 4-Order lengths and heights Step 5 - Four operations with lengths and heights | - Choose and use appropriate standard units to estimate and measure length/height in any direction ( $\mathrm{m} / \mathrm{cm}$ ); mass (kg/g); temperature ( ${ }^{\circ} \mathrm{C}$ ); capacity (litres $/ \mathrm{ml}$ ) to the nearest appropriate unit using rulers, scales, thermometers and measuring vessels <br> - Compare and order lengths, mass, volume/capacity and record the results using $>,<$ and $=$ <br> - Solve problems with addition and subtraction using concrete objects and pictorial representations, including those involving numbers, quantities and measures <br> - Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts |
| Measurement (mass, capacity and temperature) | Step 1 - Compare mass <br> Step 2 - Measure in grams <br> Step 3 - Measure in kilograms <br> Step 4 - Four operations with mass <br> Step 5 - Compare volume and capacity | Step 6 - Measure in millilitres Step 7 - Measure in litres <br> Step 8 - Four operations with volume and capacity Step 9 - Temperature | - Choose and use appropriate standard units to estimate and measure length/height in any direction ( $\mathrm{m} / \mathrm{cm}$ ); mass ( $\mathrm{kg} / \mathrm{g}$ ); temperature $\left({ }^{\circ} \mathrm{C}\right)$; capacity (litres $/ \mathrm{ml}$ ) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels <br> - Compare and order lengths, mass, volume/capacity and record the results using $\rangle,<$ and = |

## Prior Learning Links

Multiplication and Division - Year 3 Autumn, Year 2 Spring Measurement (length and height) - Year 2 Spring Fractions - Year 2 Summer
Measurement (mass, capacity and temperature) - Year 2 Spring

| Measurement (mass, capacity and temperature) - Year 2 Spring |  |  |  |
| :---: | :---: | :---: | :---: |
| Unit | Small-step progression |  | Knowledge |
| Multiplication and Division | Step 1 - Multiples of 10 <br> Step 2 - Related calculations <br> Step 3 - Reasoning about multiplication <br> Step 4 - Multiply a 2-digit number by a 1-digit number - no exchange <br> Step 5 - Multiply a 2-digit number by a 1-digit number - with exchange <br> Step 6 - Link multiplication and division | Step 7 - Divide a 2-digit number by a 1-digit number - no exchange <br> Step 8 - Divide a 2-digit number by a 1-digit number - flexible partitioning <br> Step 9 - Divide a 2-digit number by a 1-digit number - with remainders Step 10 - Scaling Step 11 - How many ways? | - Recall and use multiplication facts for the 2,5 and 10 multiplication tables, including recognising odd and even numbers ( Y 2 ) <br> - Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for 2-digit numbers times 1-digit numbers, using mental and progressing to formal written methods <br> - Solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which $n$ objects are connected to $m$ objects |
| Measurement <br> (length and perimeter) | Step 1 - Measure in metres and centimetres <br> Step 2 - Measure in millimetres <br> Step 3 - Measure in centimetres and millimetres <br> Step 4 - Metres, centimetres and millimetres <br> Step 5 - Equivalent lengths (metres and centimetres) <br> Step 6 - Equivalent lengths (centimetres and millimetres) | Step 7 - Compare lengths <br> Step 8 - Add lengths <br> Step 9 - Subtract lengths <br> Step 10 - What is perimeter? <br> Step 11 - Measure perimeter <br> Step 12 - Calculate perimeter | - Measure, compare, add and subtract: lengths ( $\mathrm{m} / \mathrm{cm} / \mathrm{mm}$ ); mass ( $\mathrm{kg} / \mathrm{g}$ ); volume/capacity ( $1 / \mathrm{ml}$ ) Measure the perimeter of simple 2-D shapes |
| Fractions | Step 1 - Understand the denominators of unit fractions <br> Step 2 - Compare and order unit fractions <br> Step 3 - Understand the numerators of non-unit fractions <br> Step 4 - Understand the whole <br> Step 5 - Compare and order non-unit fractions | Step 6 - Fractions and scales <br> Step 7 - Fractions on a number line Step 8 - Count in fractions on a number Step 9 - Equivalent fractions on a number line Step 10 - Equivalent fractions as bar models | - Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators <br> - Compare and order unit fractions, and fractions with the same denominators <br> - Measure, compare, add and subtract: lengths ( $\mathrm{m} / \mathrm{cm} / \mathrm{mm}$ ); mass ( $\mathrm{kg} / \mathrm{g}$ ); volume/capacity ( $1 / \mathrm{ml}$ ) <br> - Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators <br> - Recognise and show, using diagrams, equivalent fractions with small denominators |
| Measurement (mass and capacity) | Step 1 - Use scales <br> Step 2 - Measure mass in grams <br> Step 3 - Measure mass in kilograms and grams Step 4 - Equivalent masses (kilograms and grams) <br> Step 5 - Compare mass <br> Step 6 - Add and subtract mass | Step 7 - Measure capacity and volume in millilitres <br> Step 8 - Measure capacity and volume in litres and millilitres <br> Step 9 - Equivalent capacities and volumes (litres and millilitres) <br> Step 10 - Compare capacity and volume <br> Step 11 - Add and subtract capacity and volume | - Measure, compare, add and subtract: lengths ( $\mathrm{m} / \mathrm{cm} / \mathrm{mm}$ ); mass ( $\mathrm{kg} / \mathrm{g}$ ); volume/capacity ( $1 / \mathrm{ml}$ ) |

Prior Learning Links
Multiplication and Division - Year 4 Autumn, Year 3 Spring Measurement (length and perimeter) Year 3 Spring

Fractions - Year 3 Summer

| Unit |
| :---: |
|  |
| Multiplication and |
| Division | Division

Step 7 - Related facts - multiplication and division
Step 8 - Informal written methods for multiplication
Step 9 - Multiply a 2-digit number by a 1-digit number

Small-step progression

Step 1 - Factor pairs Step 2 - Use factor pairs Step 3 - Multiply by 10 Step 4 - Multiply by 100 Step 5 Divide by 10 Step 5 Divide by 10

Step 1 - Measure in kilometres and metres Step 2 -Equivalent lengths (kilometres and
Measurement (length and perimeter)
metres)
Step 3 - Perimeter on a grid
Step 4 - Perimeter of a rectangle Step 5 - Perimeter of rectilinear shapes

Step 10 - Multiply a 3-digit number by a 1 -digit number
Step 11 - Divide a 2-digit number by a 1-digit number (1)
Step 12 - Divide a 2-digit number by a 1 -digit number (2)
Step 13 - Divide a 3-digit number by a 1-digit number
Step 14 -Correspondence problems Step 15 - Efficient multiplication

Step 7-Calcula Step 7 - Calculate perimeter of rectilinear shapes Step 8 - Perimeter of regular polygons Step 9 - Perimeter of polygons

## Key Vocabulary

Multiplication and Division: factor pairs, distributive law, remainders
Length and Perimeter: kilometre, rectilinear shape
Fractions: decimal equivalence, hundredths, convert, proper fractions, improper fraction, decimal point Knowledge

- Recognise and use factor pairs and commutativity in mental calculations
- Recall multiplication and division facts for multiplication tables up to $12 \times 12$
- Solve problems involving multiplying and adding, including using the distributive law to multiply 2 -digit numbers by 1 digit, integer scaling problems and harder correspondence problems such as $n$ objects are connected to $m$ objects
- Use place value, known and derived facts to multiply and divide mentally, including multiplying by 0 and 1 ; dividing by 1 ; multiplying together 3 numbers
- Multiply 2-digit and 3-digit numbers by a 1-digit number using formal written layout
- Multiply and divide whole numbers and those involving decimals by 10,100 and 1,000 (Y5)
- Convert between different units of measure [for example, kilometre to metre; hour to

Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres

- Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators (Y3)

Step 9 - Equivalent fractions on a number line Step 10 - Equivalent fraction families Step 11 - Add two or more fractions Step 12 - Add fractions and mixed numbers Step 13 - Subtract two fractions Step 14 - Subtract from whole amounts Step 15 - Subtract from mixed numbers

Step 1 - Understand the whole Step 2 - Count beyond 1 Step 3 - Partition a mixed number Step 4 -Number lines with mixed numbers Step 5 - Compare and order mixed numbers Step 6 - Understand improper fractions Step 7 - Convert mixed numbers to improper fractions
Step 8 - Convert improper fractions to mixed numbers

Step 6 - Divide a 2-digit number by 10 Step 7 - Hundredths as fractions Step 8 - Hundredths as decimals
Step 9 - Hundredths on a place value chart Step 10 - Divide a 1- or 2-digit number by 100

- Count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing 1-digit numbers or quantities by 10 (Y3)
- Recognise and write decimal equivalents of any number of tenths or hundredths
- Compare numbers with the same number of decimal places up to 2 decimal places

|  |  |
| :--- | :--- | :--- |

- Find the effect of dividing a 1 - or 2 -digit number by 10 and 100 , identifying the value of the digits in the answer as ones, tenths and hundredths
- Recognise and show, using diagrams, families of common equivalent fractions

White Rose
Maths

| Maths <br> Year 5 | Year 5 - Medium Term Planning - Maths - Spring |  |  |
| :---: | :---: | :---: | :---: |
|  | Prior Learning Links <br> Multiplication and Division - Year 5 Autumn, Year 4 Spring <br> Fractions - Year 5 Autumn, Year 4 Spring <br> Decimals - Year 4 Summer <br> Measurement (length and perimeter) - Year 4 Spring <br> Area - Year 4 Autumn <br> Statistics - Year 4 Summer |  | Key Vocabulary <br> Multiplication and Division: multiples, factors, prime numbers, square numbers, cube numbers, short division, product, dividend, divisor, quotient, operations <br> Fractions: fifth, thousandths, mixed numbers <br> Decimals and Percentages: per cent \%, factors, integer, complements <br> Statistics: timetable, two-way tables |
| Unit | Small-step progression |  | Knowledge |
| Multiplication and Division | Step 1 - Multiply up to a 4-digit number by a 1-digit number Step 2 - Multiply a 2-digit number by a 2-digit number (area model) <br> Step 3 - Multiply a 2-digit number by a 2 -digit number <br> Step 4 - Multiply a 3-digit number by a 2-digit number <br> Step 5 - Multiply a 4-digit number by a 2-digit number Step 6 - Solve problems with multiplication | Step 7 - Short division <br> Step 8 - Divide a 4-digit number by a 1-digit Step 9 - Divide with remainders Step 10 - Efficient division <br> Step 11 - Solve problems with multiplication and division | - Multiply numbers up to four digits by a 1- or 2-digit number using a formal written method, including long multiplication for 2-digit numbers <br> - Divide up to four digits by a 1-digit number using the formal written method of short division and interpret remainders appropriately for the context <br> - Solve problems involving multiplication and division, including using their knowledge of factors and multiples, squares and cubes |
| Fractions | Step 1 - Multiply a unit fraction by an integer Step 2 - Multiply a non-unit fraction by an integer Step 3 - Multiply a mixed number by an integer Step 4 - Calculate a fraction of a quantity | Step 5 - Fraction of an amount Step 6 - Find the whole <br> Step 7 - Use fractions as operators | - Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams <br> - Solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number (Y4) |
| Decimals and Percentages | Step 1 - Decimals up to 2 decimal places <br> Step 2 - Equivalent fractions and decimals (tenths) <br> Step 3 - Equivalent fractions and decimals (hundredths) <br> Step 4 - Equivalent fractions and decimals <br> Step 5 - Thousandths as fractions <br> Step 6 - Thousandths as decimals <br> Step 7 - Thousandths on a place value chart <br> Step 8 - Order and compare decimals (same number of decimal places) | Step 9 - Order and compare any decimals with up to 3 decimal places <br> Step 10 - Round to the nearest whole number <br> Step 11 - Round to 1 decimal place <br> Step 12 - Understand percentages <br> Step 13 - Percentages as fractions <br> Step 14 - Percentages as decimals <br> Step 15 - Equivalent fractions, decimals and percentages | - Read, write, order and compare numbers with up to 3 decimal places <br> - Read and write decimal numbers as fractions <br> - Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths <br> - Solve problems which require knowing percentage and decimal equivalents of $1 / 2$, $1 / 4,1 / 5,2 / 5,4 / 5$ and those fractions with a denominator of a multiple of 10 or 25 <br> - Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents <br> - Solve problems involving numbers up to 3 decimal places <br> - Round decimals with 2 decimal places to the nearest whole number and to 1 decimal place <br> - Recognise the per cent symbol (\%) and understand that per cent relates to "number of parts per 100", and write percentages as a fraction with denominator 100, and as a decimal fraction |
| Measurement (perimeter and area) | Step 1 - Perimeter of rectangles <br> Step 2 - Perimeter of rectilinear shapes Step 3 - Perimeter of polygons | Step 4 - Area of rectangles <br> Step 5 - Area of compound shapes Step 6 - Estimate area | - Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres <br> - Calculate and compare the area of rectangles (including squares), including using standard units, square centimetres (cm2) and square metres (m2), and estimate the area of irregular shapes |


|  | Step 1- Draw line graphs <br> Statistics <br> Step 2-Read and interpret line graphs <br> Step 3-Read and interpret tables | Step $4-$ Two-way tables <br> Step $5-$ Read and interpret timetables | - Solve comparison, sum and difference problems using information presented in a line <br> graph <br> - Complete, read and interpret information in tables, including timetables |
| :---: | :---: | :---: | :---: |


| Maths <br> Year 6 | Year 6 - Medium Term Planning - Maths - Spring $\quad$ Hem |  |  |
| :---: | :---: | :---: | :---: |
|  | Prior Learning Links <br> Decimals - Year 5 Summer Fractions - Year 6 Autumn, Year 5 Spring Decimals - Year 5 Summer Decimals and Percentages - Year 5 Spring Statistics - Year 5 Spring |  | Key Vocabulary <br> Ratio: relative size, missing values, integer multiplication, percentages, scale factor, unequal sharing and grouping <br> Algebra: formulae, linear number sequences, algebraically, equation, unknowns, combinations, variables Statistics: pie chart, mean |
| Unit | Small-step progression |  | Knowledge |
| Ratio | Step 1 - Add or multiply? <br> Step 2 - Use ratio language <br> Step 3 - Introduction to the ratio symbol Step 4 - Ratio and fractions Step 5 - Scale drawing | Step 6 - Use scale factors <br> Step 7 - Similar shapes <br> Step 8 - Ratio problems <br> Step 9 - Proportion problems <br> Step 10 - Recipes | - Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts <br> - Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples <br> - Solve problems involving similar shapes where the scale factor is known or can be found |
| Algebra | Step 1-1-step function machines Step 2-2-step function machines Step 3 - Form expressions Step 4 - Substitution Step 5 - Formulae | Step - 6 Form equations <br> Step 7 - Solve 1 -step equations <br> Step 8 - Solve 2-step equations <br> Step 9 - Find pairs of values <br> Step 10-Solve problems with two unknowns | - Use simple formulae <br> - Generate and describe linear number sequences <br> - Find pairs of numbers that satisfy an equation with two unknowns <br> - Enumerate possibilities of combinations of two variables <br> - Express missing number problems algebraically |
| Decimals | Step 1 - Place value within 1 <br> Step 2 - Place value - integers and decimals <br> Step 3 - Round decimals <br> Step 4 - Add and subtract decimals <br> Step 5 - Multiply by 10, 100 and 1,000 | Step 6 - Divide by 10, 100 and 1,000 <br> Step 7 - Multiply decimals by integers <br> Step 8 - Divide decimals by integers <br> Step 9 - Multiply and divide decimals in context | - Identify the value of each digit in numbers given to 3 decimal places and multiply and divide numbers by 10,100 and 1,000 giving answers up to 3 decimal places <br> - Solve problems which require answers to be rounded to specified degrees of accuracy <br> - Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why <br> - Multiply 1-digit numbers with up to 2 decimal places by whole numbers <br> - Use written division methods in cases where the answer has up to 2 decimal places <br> - Solve problems involving addition, subtraction, multiplication and division |
| Fractions, Decimals and Percentages | Step 1 - Decimal and fraction equivalents <br> Step 2 - Fractions as division <br> Step 3 - Understand percentages <br> Step 4 - Fractions to percentages <br> Step 5 - Equivalent fractions, decimals and percentages | Step 6 - Order fractions, decimals and percentages <br> Step 7 - Percentage of an amount - one step Step 8 - Percentage of an amount - multistep <br> Step 9 - Percentages - missing values | - Use common factors to simplify fractions; use common multiples to express fractions in the same denomination <br> - Associate a fraction with division and calculate decimal fraction equivalents for a simple fraction <br> - Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts <br> - Compare and order fractions, including fractions >1 <br> - Solve problems involving the calculation of percentages and the use of percentages for comparison |
| Area, Perimeter and Volume | Step 1 - Shapes - same area <br> Step 2 - Area and perimeter <br> Step 3 - Area of a triangle - counting squares Step 4 - Area of a right-angled triangle | Step 5 - Area of any triangle <br> Step 6 - Area of a parallelogram Step 7 - Volume - counting cubes Step 8 - Volume of a cuboid | - Recognise that shapes with the same areas can have different perimeters and vice versa <br> - Recognise when it is possible to use formulae for area and volume of shapes <br> - Calculate the area of parallelograms and triangles <br> - 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 |


|  |  |  | - |
| :---: | :---: | :---: | :---: |
| Statistics | Step 1 - Line graphs <br> Step 2 - Dual bar charts <br> Step 3 - Read and interpret pie charts | Step 4 - Pie charts with percentages Step 5 - Draw pie charts Step 6 - The mean | - Interpret and construct pie charts and line graphs and use these to solve problems <br> - Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs (Year 4) <br> - Calculate and interpret the mean as an average |

