Maths Long Term Plan

What do we want for our pupils?

Intent

We strongly believe that all children, no matter what their starting points, can become confident, competent mathematicians. The use of White Rose Maths is fundamental to ensuring children experience a range of concrete, pictoral and abstract learning to maximise their understanding of mathematics. It is essential that, through EYFS and KS1, children have a secure knowledge of number at the earliest opportunity and use all available time to make as much progress as possible in this area. Our Maths curriculum, through consistent high expectations and challenge, ensures the majority of children leave KS2 with sustained Mastery. This means children are fluent in basic concepts, can reason mathematically and are able to make links with their knowledge to solve problems in relation to National standards. It is our intent that children build on some of the school's intents in Maths specifically, working independently and collaboratively, building on prior knowledge, show resilience and peer and self-reflect.

Implementation

The use of White Rose Maths allows our children to learn through a range of manipulatives on a daily basis, if needed. Children will leave KS1 with a secure understanding of number so they are able to make links between areas in KS2. Maths is taught on a daily basis; staff provide children with questions relating to the National Curriculum standards, stretch children through challenging, reasoning problems and offer effective, immediate, intervention to children who are struggling to understand the concept. This allows children the opportunity to progress as much as possible and have every opportunity to achieve fluency and reason mathematically by the end of KS2. Children who are below age-related expectation receive afternoon interventions (especially in KS1) to help close gaps in knowledge.

What is our goal?

Impact

Our Maths curriculum will ensure the majority of children leave KS2 with fluency and are able to apply knowledge and skills to problem solve. Children will be able to recognise relationships and make links in mathematics. It is essential every child leaves KS2 with vital life skills that are mastered and embedded. We aim for children to leave St Francis with a joy for learning Mathematics.

Assessment in Maths

Summative assessment in Maths take place 3 times per year – end of Autumn, end of Spring and end of Summer.

Teachers analyse results and complete the school's data sheet ready for Pupil Progress meetings. Teachers identify children who are below, children who have not made expected progress, children who are not on track to achieve their target from KS1 and what the teacher is going to do about it.

In addition to this, at the end of each unit, children complete End of Unit Assessments from White Rose as another indicator to see how much progress children have made and to check attainment.

FS1

Autumn Term
Maths Number
Maths Numerical Pattern
Shape, Space and Measure

Spring Term
Maths Number
Maths Numerical Pattern
Shape, Space and Measure

Summer Term
Maths Number
Maths Numerical Pattern
Shape, Space and Measure

Autumn 1	Autumn 2	Spring 1
Maths Number Children will learn: • Routines and expectations and children will be introduced to the areas of provision and have opportunities to get to know their peers. **Maths Numerical Pattern** Children will learn: •To recognise colours. **Shape, Space and Measure** Children will learn: • To explore and match objects which are the same. • Can you find one exactly like mine? How do you know it's the same? Can you find one different to mine? Why is this one not like mine? Sort • Children learn that collections can be sorted into sets based on attributes such as colour, size or shape. • Sorting enables the children to consider, what is the same about all the objects in one set and how • They are different to the other sets. • They begin to understand that the same collection of objects can be sorted in different ways	**Maths Number** Children will learn: • To understand that when making comparisons a set can have more, the same or fewer than another set. • To confidently sort collections into sets they learn that these sets can be compared and ordered. **Maths Numerical Pattern** Children will learn: • To copy, continue and create their own patterns. • That it is important to provide patterns with at least three full units of repeat. • To be encouraged to say the pattern out loud **Shape, Space and Measure** Children will learn: • That objects can be compared and ordered according to their size. • Encourage the use of language such as big and little, small and large to describe a range of objects. More specific language such as tall, long, short can also be introduced.	**Maths Number** Children will learn: • To identify representations of 1 and 2 • To subitise or count to find out how many and make their own collections of 1 or 2 objects. • To match the number names to quantities and numerals. • To touch count in different arrangements and recognise the final number is the quantity of the set. • Counting to 1 • Finding 1 object • Representing 1 on a 5 frame • A circle – 1 sides shape (including in the environment) • 1 action e.g. 1 hop, 1 jump, 1 clap • What is 1 made of 1 nose, 1 mouth, 1 body • Exploring different varieties of circle • 1 being the first number, its position on a number line, ordinal numbers • Numicon 1 • Dice 1 • Subitising 1 • The numeral and formation of 1 • Number 1 in the environment • Representing 1 using marks, pictures and finger • Matching numeral to quantity • They match the number names to quantities and numerals. • They touch count in different arrangements and recognise the final number is the quantity of the set.

		• Counting to 2 • Finding 2 objects • Representing 2 on a 5 frame • A semi-circle – 2 sides shape (including in the environment) • 2 actions e.g. 2 hops, 2 jumps, 2 claps • What 2 is made of 1 is a part of me, 1 is a part of me and the whole of me is 2 • 2 being the second number, its position on a number line, ordinal numbers • Numicon 2 • Dice 2 • Subitising 2 • The numeral and formation of 2 • Number 2 in the environment • Representing 2 using marks, pictures and finger • Matching numeral to quantity **Maths Numerical Pattern** Children will learn: • To use real objects to see that the quantity of a group can be changed by adding more. **Shape, Space and Measure** Children will learn: • Weight through carrying heavy and light items. • Encourage them to make direct comparisons holding items to estimate which feels the heaviest then use the balance scales to check. • Prompt them to use the language heavy, heavier than, heaviest, light, lighter than, lightest to compare items starting with items that have an obvious difference in weight. • Avoid common misconception that bigger items are always heavier by providing some small heavier items and some large lighter ones

Spring 2	Summer 1	Summer 2
Maths Number Children will learn: •To identify representations of 1, 2, 3. They subitise or count to find out how many and make their own collections of 1, 2 or 3 objects. • They match the number names to quantities and numerals. • They touch count in different arrangements and recognise the final number is the quantity of the set. • Counting to 3 • Finding 3 objects • Representing 3 on a 5 frame • A triangle – 3 sides shape (induding in the environment) • 3 actions e.g. 3 hops, 3 jumps, 3 claps • What is 3 made of - 2 is a part of me, 1 is a part of me and the whole of me is 3. • Exploring different varieties and orientations of triangles. • 3 being the third number, its position on a number line, ordinal numbers • Numicon 3 • Dice 3 • Subitising 3 • The numeral and formation of 3 • Number 3 in the environment • Representing 3 using marks, pictures and finger • Matching numeral to quantity **Maths Numerical Pattern** Children will learn: • The first, then, now structure can be used to create mathematical stories in meaningful contexts **Shape, Space and Measure** Children will learn: • By using language to describe length and height e.g. the tree is tall the pencil is short. • When making direct comparisons they may initially say something is bigger than something else. • Encourage them to use more specific mathematical vocabulary in relation to Length • The children should then move on to finding objects that are longer/shorter than a given item. They should be encouraged to utilise Strategies such as direct comparison (e.g. placing objects side by side to determine which is longer).	**Maths Number** Children will learn: • Counting to 4 • Number blocks episode 4 • Finding 4 objects • Representing 4 on a 5 frame • Squares and rectangles, 4 sided shapes including in the environment • 4 actions e.g. 4 hops, 4 jumps, 4 claps • Composition of 4 (2 is a part of me, 2 is a part of me and the whole of me is 4; 3 is a part of me, 1 is a part of me and the whole of me is 4) • 4 being the fourth number, its position on a number line, ordinal numbers • Numicon 4 • Dice 4 • Subitising 4 • The numeral and formation of 4 • Number 4 in the environment • Representing 4 using marks, pictures and finger • Matching numeral to quantity • Children count on and back to 4. • They subitise sets of up to 4 objects to find out how many make their own collections of objects. • They match the number to numerals and quantities and are able to say which sets have more and fewer items. • When counting they continue to learn that the final number they say names the set. **Maths Numerical Pattern** Children will learn: • To see the link between counting forwards and the one more pattern • To see the link between counting back and the one less pattern. **Shape, Space and Measure** Children will learn: • The primary focus in relation shapes should be on the properties of shapes. For example, children should be encouraged to notice and describe shapes in the environment and talk about the properties using words such as 'straight/flat/round/ curved'. • When teaching the names of shapes, wherever possible, real life shapes in the environment should be used.	**Maths Number** Children will learn: • To subitise up to 5 items and to count forwards and backwards to 5 accurately using the counting principles. • They represent up to 5 items on a five frame. • Counting to 5 • Finding 5 objects • Representing 5 on a 5 frame • Pentagons, 5 sided shapes including in the environment • 5 actions e.g. 5 hops, 5 jumps, 5 claps • Composition of 5 (3 is a part of me, 2 is a part of me and the whole of me is 5; 4 is a part of me, 1 is a part of me and the whole of me is 5) • 5 being the fifth number, its position on a number line, ordinal numbers • Numicon 5 • Dice 5 • Subitising 5 • The numeral and formation of 5 Number 5 in the environment • Representing 5 using marks, pictures and finger • Matching numeral to quantity **Maths Numerical Pattern** Children will learn: • To continue to count, Subitise and compare as they explore one more and one less. **Shape, Space and Measure** Children will learn: • To talk about night and day and order key events in their daily routines, such as waking up, coming to school, dinner, and bed time. • They use language to describe when things happen e.g. day, night, morning, afternoon, before after, today, tomorrow. • Encourage the vocabulary of first, next, then and possibly last. • Children explore measuring time • Encourage children to build on their understanding of full and empty Provide opportunities to explore capacity with different materials such as water, sand, rice and loose parts • Initially children should be exposed to the comparison of full, half full, empty using the same container. • Provide different sized and shaped

	• Note that only flat surfaces should be referred to as faces. Indude sorting of natural shapes; the children may sort Stones, for example, into sets that have straight edges, sets that have curved edges etc.	Children need opportunities to be exposed to and to use the language of position and direction; Position: 'in', 'on', 'under'. Direction: 'up', 'down', 'across' • Children also need opportunities to use terms which are relative: 'in front of, 'behind', 'on top of'. • Create as many opportunities as possible to explore this language such as hunting for hidden objects with some prompts (e.g. look behind the shed). Money.

FS2

Autumn Term
Early Mathematical experiences
Pattern and early number
Numbers within 6
Addition and subtraction within 6
Measures
Shape and sorting

Spring Term
Numbers within 10
Calendar and time
Addition and subtraction within 10
Grouping and sharing
Number patterns within 15
Doubling and halving
Shape and pattern

Summer Term
Securing addition and subtraction facts
Number patterns within 20
Number patterns beyond 20
Money
Measures
Exploration of patterns within number

Autumn 1	**Autumn 2**	**Spring 1**
Early Mathematical Experiences • Classifying objects based on one attribute • Matching equal and unequal sets • Comparing objects and sets • Ordering objects and sets Pattern and Early Number • Recognise, describe, copy and extend colour and size patterns • Count and represent the numbers 1 to 3 • Estimate and check by counting	Numbers within 6 • Count up to six objects • One more or one fewer • Order numbers 1 – 6 • Conservation of numbers within six Addition and subtraction within 6 • Explore zero • Explore addition and subtraction Measures • Estimate, order compare, discuss and explore capacity, weight and lengths Shape and sorting • Describe, and sort 3- D shapes • Describe position accurately	Numbers within 10 • Count up to ten objects • Represent, order and explore numbers to ten • One more or fewer, one greater or less Calendar and time • Days of the week, seasons • Sequence daily events Addition and subtraction within 10 • Explore addition as counting on and subtraction as taking away Grouping and Sharing • Counting and sharing in equal groups • Grouping into fives and tens • Relationship between grouping and sharing

Spring 2	Summer 1	Summer 2
Number patterns within 15 • Count up to 15 objects and recognise different representations • Order and explore number patterns to 15 • One more or fewer Doubling and halving • Doubling and halving • Relationship between doubling and halving Shape and pattern • Describe and sort 2-D and 3-D shapes • Recognise, complete and create patterns	Securing addition and subtraction facts • Commutativity • Explore addition and subtraction • Compare two amounts Number patterns within 20 • Count up to 10 and beyond with objects • Represent, compare and explore numbers to 20 • One more or fewer Number patterns beyond 20 • One more one less • Estimate and count • Grouping and sharing	Money • Coin recognition and values • Combinations to total 20p • Change from 10p Measures • Describe capacities • Compare volumes • Compare weights • Estimate, compare and order lengths Exploration of patterns within number • Explore numbers and strategies • Recognise and extend patterns • Apply number, shape and measures knowledge • Count forwards and backwards

Year 1

Autumn Term
Number and Place Value (within 10)
Addition and Subtraction (within 10)
Geometry (Shape)

Spring Term
Number and Place Value (within 20)
Addition and Subtraction (within 20)
Number and Place Value (within 50)
Measurement (Length and Height)
Measurement (Mass and Volume)

Summer Term
Multiplication and Division
Fractions
Geometry (Position and Direction)
Number and Place Value (Numbers to 100)
Measurement (Money)
Measurement (Time)

Autumn

Number and Place Value (Within 10)
Step 1 Sort objects
Step 2 Count objects
Step 3 Count objects from a larger group
Step 4 Represent objects
Step 5 Recognise numbers as words
Step 6 Count on from any number
Step 7 1 more
Step 8 Count backwards within 10
Step 9 1 less
Step 10 Compare groups by matching
Step 11 Fewer, more, same
Step 12 Less than, greater than, equal to
Step 13 Compare numbers
Step 14 Order objects and numbers
Step 15 The number line.

Addition and Subtraction (within 10)
Step 1 Introduce parts and wholes
Step 2 Part-whole model
Step 3 Write number sentences
Step 4 Fact families – addition facts

Addition and Subtraction (within 10)
Step 9 Addition – add more
Step 10 Addition problems
Step 11 Find a part
Step 12 Subtraction – find a part
Step 13 Fact families – the eight facts
Step 14 Subtraction – take away/cross out (How many left?)
Step 15 Take away (How many left?)
Step 16 Subtraction on a number line
Step 17 Add or subtract 1 or 2

Geometry (Shape)
Step 1 Recognise and name 3-D shapes
Step 2 Sort 3-D shapes
Step 3 Recognise and name 2-D shapes
Step 4 Sort 2-D shapes
Step 5 Patterns with 2-D and 3-D shapes

Step 5 Number bonds within 10 Step 6 Systematic number bonds within 10 Step 7 Number bonds to 10 Step 8 Addition – add together	

Spring	
Number and Place Value (Within 20) Step 1 Count within 20 Step 2 Understand 10 Step 3 Understand 11, 12 and 13 Step 4 Understand 14, 15 and 16 Step 5 Understand 17, 18 and 19 Step 6 Understand 20 Step 7 1 more and 1 less Step 8 The number line to 20 Step 9 Use a number line to 20 Step 10 Estimate on a number line to 20 Step 11 Compare numbers to 20 Step 12 Order numbers to 20 **Addition and Subtraction (Within 20)** Step 1 Add by counting on within 20 Step 2 Add ones using number bonds Step 3 Find and make number bonds to 20 Step 4 Doubles Step 5 Near doubles Step 6 Subtract ones using number bonds Step 7 Subtraction – counting back Step 8 Subtraction – finding the difference Step 9 Related facts Step 10 Missing number problems	**Number and Place Value (Within 50)** Step 1 Count from 20 to 50 Step 2 20, 30, 40 and 50 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 Step 7 Estimate on a number line to 50 Step 8 1 more, 1 less **Measurement (Length and Height)** Step 1 Compare lengths and heights Step 2 Measure length using objects Step 3 Measure length in centimetres **Measurement (Mass and Volume)** Step 1 Heavier and lighter Step 2 Measure mass Step 3 Compare mass Step 4 Full and empty Step 5 Compare volume Step 6 Measure capacity Step 7 Compare capacity

Summer	
Multiplication and Division Step 1 Count in 2s Step 2 Count in 10s Step 3 Count in 5s Step 4 Recognise equal groups Step 5 Add equal groups Step 6 Make arrays Step 7 Make doubles Step 8 Make equal groups – grouping Step 9 Make equal groups – sharing **Fractions** Step 1 Recognise a half of an object or a shape Step 2 Find a half of an object or a shape Step 3 Recognise a half of a quantity Step 4 Find a half of a quantity Step 5 Recognise a quarter of an object or a shape Step 6 Find a quarter of an object or a shape Step 7 Recognise a quarter of a quantity Step 8 Find a quarter of a quantity **Geometry (Position and Direction)** Step 1 Describe turns Step 2 Describe position – left and right Step 3 Describe position – forwards and backwards Step 4 Describe position – above and below Step 5 Ordinal numbers	**Number and Place Value (Numbers to 100)** Step 1 Count from 50 to 100 Step 2 Tens to 100 Step 3 Partition into tens and ones Step 4 The number line to 100 Step 5 1 more, 1 less Step 6 Compare numbers with the same number of tens Step 7 Compare any two numbers **Measurement (Money)** Step 1 Unitising Step 2 Recognise coins Step 3 Recognise notes Step 4 Count in coins **Measurement (Time)** Step 1 Before and after Step 2 Days of the week Step 3 Months of the year Step 4 Hours, minutes and seconds Step 5 Tell the time to the hour Step 6 Tell the time to the half hour

Year 2

Autumn Term
Place value
Addition and subtraction
Shape

Spring Term
Money
Multiplication and division
Length and height
Mass, capacity and temperature

Summer Term
Fractions
Time
Statistics
Position and direction

Autumn

Place Value
Step 1 Numbers to 20
Step 2 Count objects to 100 by making 10s
Step 3 Recognise tens and ones
Step 4 Use a place value chart
Step 5 Partition numbers to 100
Step 6 Write numbers to 100 in words
Step 7 Flexibly partition numbers to 100
Step 8 Write numbers to 100 in expanded form
Step 9 10s on the number line to 100
Step 10 10s and 1s on the number line to 100
Step 11 Estimate numbers on a number line
Step 12 Compare objects
Step 13 Compare numbers
Step 14 Order objects and numbers
Step 15 Count in 2s, 5s and 10s
Step 16 Count in 3s

Addition and Subtraction (I)
Step 1 Bonds to 10
Step 2 Fact families - addition and subtraction bonds within 20
Step 3 Related facts
Step 4 Bonds to 100 (tens)
Step 5 Add and subtract 1s
Step 6 Add by making 10
Step 7 Add three 1-digit numbers
Step 8 Add to the next 10

Addition and Subtraction (II)
Step 11 Subtract from a 10
Step 12 Subtract a 1-digit number from a 2-digit number (across a 10)
Step 13 10 more, 10 less
Step 14 Add and subtract 10s
Step 15 Add two 2-digit numbers (not across a 10)
Step 16 Add two 2-digit numbers (across a 10)
Step 17 Subtract two 2-digit numbers (not across a 10)
Step 18 Subtract two 2-digit numbers (across a 10)
Step 19 Mixed addition and subtraction
Step 20 Compare the number sentences
Step 21 Missing number problems

Shape
Step 1 Recognise 2-D and 3-D shape
Step 2 Count sides on 2-D shapes
Step 3 Count vertices on 2-D shapes
Step 4 Draw 2-D shapes
Step 5 Lines of symmetry on shapes
Step 6 Use lines of symmetry to complete shapes
Step 7 Sort 2-D shapes
Step 8 Count faces on 3-D shapes
Step 9 Count edges on 3-D shapes
Step 10 Count vertices on 3-D shapes
Step 11 Sort 3-D shapes
Step 12 Make patterns with 2-D and 3-D shapes

Step 9 Add across a 10 Step 10 Subtract across 10	

Spring	
Money Step 1 Count money – pence Step 2 Count money – pounds (notes and coins) 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 Step 7 Calculate with money Step 8 Make a pound Step 9 Find change Step 10 Two-step problems **Multiplication and Division** Step 1 Recognise equal groups Step 2 Make equal groups Step 3 Add equal groups Step 4 Introduce the multiplication symbol Step 5 Multiplication sentences Step 6 Use arrays Step 7 Make equal groups – grouping Step 8 Make equal groups – sharing Step 9 The 2 times-table Step 10 Divide by 2 Step 11 Doubling and halving Step 12 Odd and even numbers Step 13 The 10 times-table Step 14 Divide by 10 Step 15 The 5 times-table Step 16 Divide by 5 Step 17 The 5 and 10 times-tables	**Measurement: Length and Height** Step 1 Measure in centimetres Step 2 Measure in metres Step 3 Compare lengths and heights Step 4 Order lengths and heights Step 5 Four operations with lengths and heights **Measurement: Mass, Capacity and Temperature** Step 1 Compare mass Step 2 Measure in grams Step 3 Measure in kilograms Step 4 Four operations with mass Step 5 Compare volume and capacity Step 6 Measure in millilitres Step 7 Measure in litres Step 8 Four operations with volume and capacity Step 9 Temperature

Summer	
Fractions Step 1 Introduction to parts and whole Step 2 Equal and unequal parts Step 3 Recognise a half Step 4 Find a half Step 5 Recognise a quarter Step 6 Find a quarter Step 7 Recognise a third Step 8 Find a third Step 9 Find the whole Step 10 Unit fractions Step 11 Non-unit fractions Step 12 Recognise the equivalence of a half and two-quarters Step 13 Recognise three-quarters Step 14 Find three-quarters Step 15 Count in fractions up to a whole	**Time** Step 1 O'clock and half past Step 2 Quarter past and quarter to Step 3 Tell the time past the hour Step 4 Tell the time to the hour Step 5 Tell the time to 5 minutes Step 6 Minutes in an hour Step 7 Hours in a day **Statistics** Step 1 Make tally charts Step 2 Tables Step 3 Block diagrams Step 4 Draw pictograms (1–1) Step 5 Interpret pictograms (1–1) Step 6 Draw pictograms (2, 5 and 10) Step 7 Interpret pictograms (2, 5 and 10) **Position and Direction** Step 1 Language of position Step 2 Describe movement Step 3 Describe turns Step 4 Describe movement and turns Step 5 Shape patterns with turns

Year 3

Autumn Term
Place value
Addition and subtraction
Multiplication and Division

Spring Term
Multiplication and division (B)
Length and Perimeter
Fractions A
Mass and Capacity

Summer Term
Fractions A
Mass and Capacity
Fractions B
Money
Time

Autumn

Place Value
Step 1 Represent numbers to 100
Step 2 Partition numbers to 100
Step 3 Number line to 100
Step 4 Hundreds
Step 5 Represent numbers to 1,000
Step 6 Partition numbers to 1,000
Step 7 Flexible partitioning of numbers to 1,000
Step 8 Hundreds, tens and ones
Step 9 Find 1, 10 or 100 more or less
Step 10 Number line to 1,000
Step 11 Estimate on a number line to 1,000
Step 12 Compare numbers to 1,000
Step 13 Order numbers to 1,000
Step 14 Count in 50s

Addition and Subtraction
Step 1 Apply number bonds within 10
Step 2 Add and subtract 1s
Step 3 Add and subtract 10s
Step 4 Add and subtract 100s
Step 5 Spot the pattern
Step 6 Add 1s across a 10
Step 7 Add 10s across a 100
Step 8 Subtract 1s across a 10
Step 9 Subtract 10s across a 100

Addition and Subtraction
Step 11 Add two numbers (no exchange)
Step 12 Subtract two numbers (no exchange)
Step 13 Add two numbers (across a 10)
Step 14 Add two numbers (across a 100)
Step 15 Subtract two numbers (across a 10)
Step 16 Subtract two numbers (across a 100)
Step 17 Add 2-digit and 3-digit numbers
Step 18 Subtract a 2-digit number from a 3-digit number
Step 19 Complements to 100
Step 20 Estimate answers
Step 21 Inverse operations
Step 22 Make decisions

Multiplication and Division (A)
Step 1 Multiplication – equal groups
Step 2 Use arrays
Step 3 Multiples of 2
Step 4 Multiples of 5 and 10
Step 5 Sharing and grouping
Step 6 Multiply by 3
Step 7 Divide by 3
Step 8 The 3 times-table
Step 9 Multiply by 4
Step 10 Divide by 4
Step 11 The 4 times-table

Step 10 Make connections	Step 12 Multiply by 8 Step 13 Divide by 8 Step 14 The 8 times-table Step 15 The 2, 4 and 8 times-tables

Spring	
Multiplication and Division (B) Step 1 Multiples of 10 Step 2 Related calculations Step 3 Reasoning about multiplication Step 4 Multiply a 2-digit number by a 1digit number – no exchange Step 5 Multiply a 2-digit number by a 1digit number – with exchange Step 6 Link multiplication and division Step 7 Divide a 2-digit number by a 1-digit number – no exchange Step 8 Divide a 2-digit number by a 1-digit number – flexible partitioning Step 9 Divide a 2-digit number by a 1-digit number – with remainders Step 10 Scaling Step 11 How many ways? **Measurement (Length and Perimeter)** Step 1 Measure in metres and centimetres Step 2 Measure in millimetres Step 3 Measure in centimetres and millimetres Step 4 Metres, centimetres and millimetres Step 5 Equivalent lengths (metres and centimetres) Step 6 Equivalent lengths (centimetres and millimetres) Step 7 Compare lengths Step 8 Add lengths Step 9 Subtract lengths Step 10 What is perimeter? Step 11 Measure perimeter Step 12 Calculate perimeter	**Fractions (A)** Step 1 Understand the denominators of unit fractions Step 2 Compare and order unit fractions Step 3 Understand the numerators of non unit fractions Step 4 Understand the whole Step 5 Compare and order non-unit fractions Step 6 Fractions and scales Step 7 Fractions on a number line Step 8 Count in fractions on a number line Step 9 Equivalent fractions on a number line Step 10 Equivalent fractions as bar models **Measurement (Mass and Capacity)** Step 1 Use scales Step 2 Measure mass in grams Step 3 Measure mass in kilograms and grams Step 4 Equivalent masses (kilograms and grams) Step 5 Compare mass Step 6 Add and subtract mass Step 7 Measure capacity and volume in millilitres Step 8 Measure capacity and volume in litres and millilitres Step 9 Equivalent capacities and volumes (litres and millilitres) Step 10 Compare capacity and volume Step 11 Add and subtract capacity and volume.

Summer	
Fractions (B) Step 1 Add fractions Step 2 Subtract fractions Step 3 Partition the whole Step 4 Unit fractions of a set of objects Step 5 Non-unit fractions of a set of objects Step 6 Reasoning with fractions of an amount **Measurement (Money)** Step 1 Pounds and pence Step 2 Convert pounds and pence Step 3 Add money Step 4 Subtract money Step 5 Find change **Time** Step 1 Roman numerals to 12 Step 2 Tell the time to 5 minutes Step 3 Tell the time to the minute Step 4 Read time on a digital clock Step 5 Use am and pm Step 6 Years, months and days Step 7 Days and hours Step 8 Hours and minutes – use start and end times Step 9 Hours and minutes - use durations Step 10 Minutes and seconds Step 11 Units of time Step 12 Solve problems with time	**Geometry (Shape)** Step 1 Turns and angles Step 2 Right angles Step 3 Compare angles Step 4 Measure and draw accurately Step 5 Horizontal and vertical Step 6 Parallel and perpendicular Step 7 Recognise and describe 2-D shapes Step 8 Draw polygons Step 9 Recognise and describe 3-D shapes Step 10 Make 3-D shapes **Statistics** Step 1 Interpret pictograms Step 2 Draw pictograms Step 3 Interpret bar charts Step 4 Draw bar charts Step 5 Collect and represent data Step 6 Two-way tables

Year 4

Autumn Term
Number Place Value
Addition and Subtraction
Measurement (Area)
Multiplication and Division (A)

Spring Term
Multiplication and Division (B)
Measurement (Length and Perimeter)
Fractions
Decimals (A)

Summer Term
Decimals (B)
Measurement (Money)
Measurement (Time)
Geometry (Shape)
Statistics
Geometry (Position and Direction)

Autumn

Number Place Value
Step 1 Represent numbers to 1,000
Step 2 Partition numbers to 1,000
Step 3 Number line to 1,000
Step 4 Thousands
Step 5 Represent numbers to 10,000
Step 6 Partition numbers to 10,000
Step 7 Flexible partitioning of numbers to 10,000
Step 8 Find 1, 10, 100, 1,000 more or less
Step 9 Number line to 10,000
Step 10 Estimate on a number line to 10,000
Step 11 Compare numbers to 10,000
Step 12 Order numbers to 10,000
Step 13 Roman numerals
Step 14 Round to the nearest 10
Step 15 Round to the nearest 100
Step 16 Round to the nearest 1,000
Step 17 Round to the nearest 10, 100 or 1,000

Addition and Subtraction
Step 1 Add and subtract 1s, 10s, 100s and 1,000s
Step 2 Add up to two 4-digit numbers – no exchange
Step 3 Add two 4-digit numbers – one exchange
Step 4 Add two 4-digit numbers – more than one exchange
Step 5 Subtract two 4-digit numbers – no exchange

Measurement (Area)
Step 1 What is area?
Step 2 Count squares
Step 3 Make shapes
Step 4 Compare areas

Multiplication and Division (A)
Step 1 Multiples of 3
Step 2 Multiply and divide by 6
Step 3 6 times-table and division facts
Step 4 Multiply and divide by 9
Step 5 9 times-table and division facts
Step 6 The 3, 6 and 9 times-tables
Step 7 Multiply and divide by 7
Step 8 7 times-table and division facts
Step 9 11 times-table and division facts

Step 6 Subtract two 4-digit numbers – one exchange Step 7 Subtract two 4-digit numbers – more than one exchange Step 8 Efficient subtraction Step 9 Estimate answers Step 10 Checking strategies	

Spring	
Multiplication and Division (B) 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 6 Divide by 100 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 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 **Measurement (Length and Perimeter)** Step 1 Measure in kilometres and metres Step 2 Equivalent lengths (kilometres and metres) Step 3 Perimeter on a grid Step 4 Perimeter of a rectangle Step 5 Perimeter of rectilinear shapes Step 6 Find missing lengths in rectilinear shapes Step 7 Calculate perimeter of rectilinear shapes Step 8 Perimeter of regular polygons Step 9 Perimeter of polygons **Fractions** 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	**Fractions** 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 **Decimals (A)** Step 1 Tenths as fractions Step 2 Tenths as decimals Step 3 Tenths on a place value chart Step 4 Tenths on a number line Step 5 Divide a 1-digit number by 10 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

Summer	
Decimals (B) Step 1 Make a whole with tenths Step 2 Make a whole with hundredths Step 3 Partition decimals Step 4 Flexibly partition decimals Step 5 Compare decimals Step 6 Order decimals Step 7 Round to the nearest whole number Step 8 Halves and quarters as decimals	**Geometry (Shape)** Step 1 Understand angles as turns Step 2 Identify angles Step 3 Compare and order angles Step 4 Triangles Step 5 Quadrilaterals Step 6 Polygons Step 7 Lines of symmetry Step 8 Complete a symmetric figure
Measurement (Money) Step 1 Write money using decimals Step 2 Convert between pounds and pence Step 3 Compare amounts of money Step 4 Estimate with money Step 5 Calculate with money Step 6 Solve problems with money	**Statistics** Step 1 Interpret charts Step 2 Comparison, sum and difference Step 3 Interpret line graphs Step 4 Draw line graphs
Measurement (Time) Step 1 Years, months, weeks and days Step 2 Hours, minutes and seconds Step 3 Convert between analogue and digital times Step 4 Convert to the 24-hour clock Step 5 Convert from the 24-hour clock	**Geometry** (Position and Direction) Step 1 Describe position using coordinates Step 2 Plot coordinates Step 3 Draw 2-D shapes on a grid Step 4 Translate on a grid Step 5 Describe translation on a grid

Year 5

Autumn Term
Place Value and Number
Addition and Subtraction
Multiplication and Division (A)
Fractions (A)

Spring Term
Mulitplication and Division (B)
Fractions (B)
Decimals and Percentages
Measurement (Perimeter and Area)
Statistics

Summer Term
Geometry (Shape)
Geometry (Position and Direction)
Decimals
Negative numbers
Measurement (Converting Units)
Measurement (Volume)

Autumn

Place Value and Number
Step 1 Roman numerals to 1,000
Step 2 Numbers to 10,000
Step 3 Numbers to 100,000
Step 4 Numbers to 1,000,000
Step 5 Read and write numbers to 1,000,000
Step 6 Powers of 10
Step 7 10/100/1,000/10,000/100,000 more or less
Step 8 Partition numbers to 1,000,000
Step 9 Number line to 1,000,000
Step 10 Compare and order numbers to 100,000
Step 11 Compare and order numbers to 1,000,000
Step 12 Round to the nearest 10, 100 or 1,000
Step 13 Round within 100,000
Step 14 Round within 1,000,000

Addition and Subtraction
Step 1 Mental strategies
Step 2 Add whole numbers with more than four digits
Step 3 Subtract whole numbers with more than four digits
Step 4 Round to check answers
Step 5 Inverse operations (addition and subtraction)
Step 6 Multi-step addition and subtraction problems

Multiplication and Division (A)
Step 1 Multiples
Step 2 Common multiples
Step 3 Factors
Step 4 Common factors
Step 5 Prime numbers
Step 6 Square numbers
Step 7 Cube numbers
Step 8 Multiply by 10, 100 and 1,000
Step 9 Divide by 10, 100 and 1,000
Step 10 Multiples of 10, 100 and 1,000

Fractions (A)
Step 1 Find fractions equivalent to a unit fraction
Step 2 Find fractions equivalent to a non-unit fraction
Step 3 Recognise equivalent fractions
Step 4 Convert improper fractions to mixed numbers
Step 5 Convert mixed numbers to improper fractions
Step 6 Compare fractions less than 1
Step 7 Order fractions less than 1
Step 8 Compare and order fractions greater than 1
Step 9 Add and subtract fractions with the same denominator
Step 10 Add fractions within 1

Step 7 Compare calculations Step 8 Find missing numbers	Step 11 Add fractions with total greater than 1 Step 12 Add to a mixed number Step 13 Add two mixed numbers Step 14 Subtract fractions Step 15 Subtract from a mixed number Step 16 Subtract from a mixed number – breaking the whole Step 17 Subtract two mixed numbers

Spring	
Multiplication and Division (B) Step 1 Multiply up to a 4-digit number by a 1-digit number Step 2 Multiply a 2-digit number by a 2digit number (area model) Step 3 Multiply a 2-digit number by a 2digit number Step 4 Multiply a 3-digit number by a 2digit number Step 5 Multiply a 4-digit number by a 2digit number Step 6 Solve problems with multiplication Step 7 Short division Step 8 Divide a 4-digit number by a 1-digit number Step 9 Divide with remainders Step 10 Efficient division Step 11 Solve problems with **Fractions (B)** 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 Step 7 Use fractions as operators **Decimals and Percentages (I)** Step 1 Decimals up to 2 decimal places Step 2 Equivalent fractions and decimals (tenths) Step 3 Equivalent fractions and decimals (hundredths) Step 4 Equivalent fractions and decimals Step 5 Thousandths as fractions Step 6 Thousandths as decimals Step 7 Thousandths on a place value chart	**Decimals and Percentages (II)** Step 8 Order and compare decimals (same number of decimal places) Step 9 Order and compare any decimals with up to 3 decimal places Step 10 Round to the nearest whole number Step 11 Round to 1 decimal place Step 12 Understand percentages Step 13 Percentages as fractions Step 14 Percentages as decimals Step 15 Equivalent fractions, decimals and percentages **Measurement (Perimeter/Area)** Step 1 Perimeter of rectangles Step 2 Perimeter of rectilinear shapes Step 3 Perimeter of polygons Step 4 Area of rectangles Step 5 Area of compound shapes Step 6 Estimate area **Statistics** Step 1 Draw line graphs Step 2 Read and interpret line graphs Step 3 Read and interpret tables Step 4 Two-way tables Step 5 Read and interpret timetables

Summer	
Geometry (shape) Step 1 Understand and use degrees Step 2 Classify angles Step 3 Estimate angles Step 4 Measure angles up to 180° Step 5 Draw lines and angles accurately Step 6 Calculate angles around a point Step 7 Calculate angles on a straight line Step 8 Lengths and angles in shapes Step 9 Regular and irregular polygons Step 10 3-D shapes **Geometry: Position and Direction** Step 1 Read and plot coordinates Step 2 Problem solving with coordinates Step 3 Translation Step 4 Translation with coordinates Step 5 Lines of symmetry Step 6 Reflection in horizontal and vertical lines **Decimals** Step 1 Use known facts to add and subtract decimals within 1 Step 2 Complements to 1 Step 3 Add and subtract decimals across 1 Step 4 Add decimals with the same number of decimal places Step 5 Subtract decimals with the same number of decimal places Step 6 Add decimals with different numbers of decimal places Step 7 Subtract decimals with different numbers of decimal places Step 8 Efficient strategies for adding and subtracting decimals Step 9 Decimal sequences Step 10 Multiply by 10, 100 and 1,000 Step 11 Divide by 10, 100 and 1,000 Step 12 Multiply and divide decimals – missing values	**Negative Numbers** Step 1 Understand negative numbers Step 2 Count through zero in 1s Step 3 Count through zero in multiples Step 4 Compare and order negative numbers Step 5 Find the difference **Measurement (Converting units)** Step 1 Kilograms and kilometres Step 2 Millimetres and millilitres Step 3 Convert units of length Step 4 Convert between metric and imperial units Step 5 Convert units of time Step 6 Calculate with timetables **Measurement (Volume)** Step 1 Cubic centimetres Step 2 Compare volume Step 3 Estimate volume Step 4 Estimate capacity

Year 6

Autumn Term
Number Place Value
Addition, Subtraction, Multiplication and Division
Fractions (A)
Fractions (B)
Converting Units

Spring Term
Ratio
Algebra
Decimals
Fraction, Decimals and Percentages
Measurement (Area, Perimeter, Volume)
Statistics

Summer Term
Geometry (Properties of Shapes)
Geometry (Position and Direction)
Themed projects, Consolidation and Problem Solving

Autumn

Number Place Value
Step 1 Numbers to 1,000,000
Step 2 Numbers to 10,000,000
Step 3 Read and write numbers to 10,000,000
Step 4 Powers of 10
Step 5 Number line to 10,000,000
Step 6 Compare and order any integers
Step 7 Round any integer
Step 8 Negative numbers

Addition, Subtraction, Multiplication and Division
Step 1 Add and subtract integers
Step 2 Common factors
Step 3 Common multiples
Step 4 Rules of divisibility
Step 5 Primes to 100
Step 6 Square and cube numbers
Step 7 Multiply up to a 4-digit number by a 2-digit number
Step 8 Solve problems with multiplication
Step 9 Short division
Step 10 Division using factors
Step 11 Introduction to long division
Step 12 Long division with remainders
Step 13 Solve problems with division

Fractions (A)
Step 1 Equivalent fractions and simplifying
Step 2 Equivalent fractions on a number line
Step 3 Compare and order (denominator)
Step 4 Compare and order (numerator)
Step 5 Add and subtract simple fractions
Step 6 Add and subtract any two fractions
Step 7 Add mixed numbers
Step 8 Subtract mixed numbers
Step 9 Multi-step problems

Fractions (B)
Step 1 Multiply fractions by integers
Step 2 Multiply fractions by fractions
Step 3 Divide a fraction by an integer
Step 4 Divide any fraction by an integer
Step 5 Mixed questions with fractions
Step 6 Fraction of an amount
Step 7 Fraction of an amount – find the whole

Converting units
Step 1 Metric measures
Step 2 Convert metric measures
Step 3 Calculate with metric measures
Step 4 Miles and kilometres

Step 14 Solve multi-step problems Step 15 Order of operations Step 16 Mental calculations and estimation Step 17 Reason from known facts	Step 5 Imperial measures

Spring	
Ratio Step 1 Add or multiply? Step 2 Use ratio language Step 3 Introduction to the ratio symbol Step 4 Ratio and fractions Step 5 Scale drawing Step 6 Use scale factors Step 7 Similar shapes Step 8 Ratio problems Step 9 Proportion problems Step 10 Recipes **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 Step 7 Solve 1-step equations Step 8 Solve 2-step equations Step 9 Find pairs of values Step 10 Solve problems with two unknowns **Decimals** Step 1 Place value within 1 Step 2 Place value – integers and decimals Step 3 Round decimals Step 4 Add and subtract decimals Step 5 Multiply by 10, 100 and 1,000 Step 6 Divide by 10, 100 and 1,000 Step 7 Multiply decimals by integers Step 8 Divide decimals by integers Step 9 Multiply and divide decimals in context	**Fraction, Decimals and Percentages** Step 1 Decimal and fraction equivalents Step 2 Fractions as division Step 3 Understand percentages Step 4 Fractions to percentages Step 5 Equivalent fractions, decimals and percentages Step 6 Order fractions, decimals and percentages Step 7 Percentage of an amount – one step Step 8 Percentage of an amount – multistep Step 9 Percentages – missing values **Measurement (Area, Perimeter, Volume)** Step 1 Shapes – same area Step 2 Area and perimeter Step 3 Area of a triangle – counting squares Step 4 Area of a right-angled triangle Step 5 Area of any triangle Step 6 Area of a parallelogram Step 7 Volume – counting cubes Step 8 Volume of a cuboid **Statistics** Step 1 Line graphs Step 2 Dual bar charts Step 3 Read and interpret pie charts Step 4 Pie charts with percentages Step 5 Draw pie charts Step 6 The mean

Summer	
Geometry (Properties of Shapes) Step 1 Measure and classify angles Step 2 Calculate angles Step 3 Vertically opposite angles Step 4 Angles in a triangle Step 5 Angles in a triangle – special cases Step 6 Angles in a triangle – missing angles Step 7 Angles in a quadrilateral Step 8 Angles in polygons Step 9 Circles Step 10 Draw shapes accurately Step 11 Nets of 3-D shapes **Geometry (Position and Direction)** Step 1 The first quadrant Step 2 Read and plot points in four quadrants Step 3 Solve problems with coordinates Step 4 Translations Step 5 Reflections	**Themed projects, Consolidation and Problem solving**