Maths Curriculum Overview

PERRAN-AR-WORTHAL CP SCHOOL

Every Moment Matters

Purpose of study

Mathematics is a creative and highly inter-connected discipline that has been developed over centuries, providing the solution to some of history's most intriguing problems. It is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment. A high-quality mathematics education therefore provides a foundation for understanding the world, the ability to reason mathematically, an appreciation of the beauty and power of mathematics, and a sense of enjoyment and curiosity about the subject.

Aims

The national curriculum for mathematics aims to ensure that all pupils:

- become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language.
- can solve problems by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

Mathematics is an interconnected subject in which pupils need to be able to move fluently between representations of mathematical ideas. The programmes of study are, by necessity, organised into apparently distinct domains, but pupils should make rich connections across mathematical ideas to develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems. They should also apply their mathematical knowledge to science and other subjects.

The expectation is that the majority of pupils will move through the programmes of study at broadly the same pace. However, decisions about when to progress should always be based on the security of pupils' understanding and their readiness to progress to the next stage. Pupils who grasp concepts rapidly should be challenged through being offered rich and sophisticated problems before any acceleration through new content. Those who are not sufficiently fluent with earlier material should consolidate their understanding, including through additional practice, before moving on.

KS1

The principal focus of mathematics teaching in key stage 1 is to ensure that pupils develop confidence and mental fluency with whole numbers, counting and place value. This should involve working with numerals, words and the four operations, including with practical resources [for example, concrete objects and measuring tools].

At this stage, pupils should develop their ability to recognise, describe, draw, compare and sort different shapes and use the related vocabulary. Teaching should also involve using a range of measures to describe and compare different quantities such as length, mass, capacity/volume, time and money.

By the end of year 2, pupils should know the number bonds to 20 and be precise in using and understanding place value. An emphasis on practice at this early stage will aid fluency.

Pupils should read and spell mathematical vocabulary, at a level consistent with their increasing word reading and spelling knowledge at key stage 1.

LKS2

The principal focus of mathematics teaching in lower key stage 2 is to ensure that pupils become increasingly fluent with whole numbers and the four operations, including number facts and the concept of place value. This should ensure that pupils develop efficient written and mental methods and perform calculations accurately with increasingly large whole numbers.

At this stage, pupils should develop their ability to solve a range of problems, including with simple fractions and decimal place value. Teaching should also ensure that pupils draw with increasing accuracy and develop mathematical reasoning so they can analyse shapes and their properties, and confidently describe the relationships between them. It should ensure that they can use measuring instruments with accuracy and make connections between measure and number.

By the end of year 4, pupils should have memorised their multiplication tables up to and including the 12 multiplication table and show precision and fluency in their work.

Pupils should read and spell mathematical vocabulary correctly and confidently, using their growing word reading knowledge and their knowledge of spelling.

UKS2

The principal focus of mathematics teaching in upper key stage 2 is to ensure that pupils extend their understanding of the number system and place value to include larger integers. This should develop the connections that pupils make between multiplication and division with fractions, decimals, percentages and ratio.

At this stage, pupils should develop their ability to solve a wider range of problems, including increasingly complex properties of numbers and arithmetic, and problems demanding efficient written and mental methods of calculation. With this foundation in arithmetic, pupils are introduced to the language of algebra as a means for solving a variety of problems. Teaching in geometry and measures should consolidate and extend knowledge developed in number. Teaching should also ensure that pupils classify shapes with increasingly complex geometric properties and that they learn the vocabulary they need to describe them.

By the end of year 6, pupils should be fluent in written methods for all four operations, including long multiplication and division, and in working with fractions, decimals and percentages.

Pupils should read, spell and pronounce mathematical vocabulary correctly.

Mastery

Teaching for Mastery in maths, at Perran-ar-Worthal school, is essentially the expectation that all children will gain a deeper understanding of the maths they are learning. For understanding in maths to be secure, we believe that learning needs to be built on solid foundations and connections need to be made. Our maths curriculum shows evidence of the following key Mastery features:

- The maths curriculum is planned in longer maths units/blocks.
- Maths blocks are split into small steps.
- Teachers and teaching assistants use precise questioning to test conceptual and procedural knowledge, and assess pupils regularly to identify those requiring intervention, so that misconceptions can be corrected and learning can move forward.
- Children will be taught through Concrete (objects) - Pictorial (image) – Abstract (numbers and key concepts) stages.
- Children will work through fluency, reasoning and problem solving to deepen understanding of concept.
- Children will have regular opportunity to develop mental recall of mathematical facts.

Coverage

Over the course of the year, the children will be taught the maths units in unit blocks. We have based these blocks upon those provided by White Rose. Below are Year Group overviews of the blocks of learning for each year group, along with the small steps they are broken down into.

EYFS Learning Block

Week / Term	1	2	3	4	5	6	7	8	9	10	11	12
Autumn	Number: Place Value (Numbers to 5)			Number: Addition & Subtraction (Sorting)			Number: Comparing groups		Number: Addition and subtraction (Within 5)		Measurement: Time	
Spring	Number: Addition and Subtraction (Number bonds to 5)		Number: Place value (Numbers to 10)			Number: Addition and Subtraction (Numbers to 10)			Geometry: Shape and space			Consolidation
Summer	Geometry: Exploring patterns		Number: Addition and Subtraction (Counting on and back)		Number: Place value (numbers to 20)		Number: Multiplication and Division		Measurement: Measure	Measurement: Time		Consolidation

EYFS Small Steps

Autumn Term

Number: Place Value (within 5)	Number: Addition and Subtraction (within 5)	Geometry: Shape
Numbers to 5 • One, two, three Comparing groups • Comparing quantities of identical objects • Comparing quantities of non-identical objects	Sorting • Sorting into groups Change within 5 • One more • One less	• Spatial awareness • 2D shapes • 3D shapes

Spring Term

Number: Addition and Subtraction	Number: Place Value	Measurement: Time	Measurement: Weight and Volume
Numbers to 5 • Number bonds to 5 Addition to 10 • Combining two groups to find the whole • Number bonds to 10 – ten frame • Number bonds to 10 – part whole model	Numbers to 10 • Counting to 6, 7 and 8 • Counting to 9 and 10 • Comparing groups up to 10	Time • My day	Measure • Length, height and distance • Weight • Capacity

Summer Term

Number: Multiplication and Division	Number: Addition and Subtraction	Number: Place Value	Geometry: Position and Direction
Numerical Patterns • Doubling • Halving and Sharing • Odds and Events	Count On and Back • Adding by counting on • Taking away by counting back	Numbers to 20 • Counting to 20	Exploring Patterns • Making simple patterns • Exploring more complex patterns

Year 1 Learning Block

Week / Term	1	2	3	4	5	6	7	8	9	10	11	12
Autumn	Number: Place Value (Within 10)				Number: Addition & Subtraction (Within 10)				Geometry: Shape	Number: Place Value (Within 20)		Consolidation and Assessment
Spring	Number: Addition and Subtraction (Within 20)				Number: Place value (Within 50) (Multiples of 2, 5 and 10 included)			Measurement, length and height		Measurement: Weight and Volume		Consolidation and Assessment
Summer	Number: Multiplication and Division (Reinforce multiples of 2, 5 and 10 to be included)			Number: Fractions		Geometry: Position and Direction	Number: Place Value (Within 100)		Measurement: Money	Measurement: Time		Consolidation and Assessment

Year 1 Small Steps

Autumn Term

Number: Place Value (within 10)	Number: Addition and Subtraction (within 10)	Geometry: Shape	Number: Place Value (within 20)
• Sort objects • Count objects • Represent objects • Count, read and write forwards from any number 0 to 10 • Count, read and writing backwards from any number 0 to 10 • Count one more • Count one less • Compare groups using language such as equal, more/greater, less/fewer • Introduce = , > and < symbols • Compare numbers • Order groups of objects • Order numbers • Ordinal numbers (1st, 2nd, 3rd ....) • The number line	• Part whole model • Addition symbol • Fact families –Addition facts • Find number bonds for numbers within 10 • Systematic methods for number bonds within 10 • Number bonds to 10. • Compare number bonds • Addition: Adding together • Addition: Adding more • Finding a part • Subtraction: Taking away, how many left? Crossing out • Subtraction: Taking away, how many left? • Introducing the subtraction symbol. • Subtraction: Finding a part, breaking apart • Fact families –The 8 facts • Subtraction: Counting back • Subtraction: Finding the difference • Comparing addition and subtraction statements: a + b > c • Comparing addition and subtraction statements: a + b > c + d	• Recognise and name 3D shapes • Sort 3D shapes • Recognise and name 2D shapes • Sort 2D shapes • Patterns with 3D and 2D shapes	• Count forwards and backwards and write numbers to 20 in numerals and words • Numbers from 11 to 20. • Tens and ones • Count one more and one less • Compare groups of objects • Compare numbers • Order groups of objects • Order numbers

Year 1 Small Steps

Spring Term

Number: Addition and Subtraction	Number: Place Value (within 50 - including multiples of 2, 5 and 10)	Measurement: Length and Height	Measurement: Weight and Volume
• Add by counting on • Find and make number bonds • Add by making 10 • Subtraction –Not crossing 10 • Subtraction –Crossing 10 • Subtraction –Crossing 10 • Related Facts • Compare Number Sentences	• Numbers to 50 • Tens and ones • Represent numbers to 50 • One more one less. • Compare objects within 50 • Compare numbers within 50 • Order numbers within 50 • Count in 2s • Count in 5s	• Compare lengths and heights • Measure length	• Introduce weight and mass • Measure mass • Compare mass • Introduce capacity • Measure capacity • Compare capacity

Spring Term

Number: Multiplication	Number: Fractions	Geometry: Position and Direction	Number: Place Value (within 100)	Measurement: Money	Measurement: Time
• Count in 10s • Make equal groups • Add equal groups • Make arrays • Make doubles • Make equal groups –grouping • Make equal groups –sharing	• Halving shapes or objects • Halving a quantity • Find a quarter of a shape or object • Find a quarter of a quantity	• Describe turns • Describe Position	• Counting to 100 • Partitioning numbers • Comparing numbers • Ordering numbers • One more, one less	• Recognising coins • Recognising notes • Counting in coins	• Before and after • Dates • Time to the hour • Time to the half hour • Writing time • Comparing time

Year 2 Learning Block

Week / Term	1	2	3	4	5	6	7	8	9	10	11	12
Autumn	Number & Place Value				Addition & Subtraction				Geometry: Shape		Measure-ment: Money	Consolida-tion and Assessment
Spring	Number: Multiplication and Division (Yr 1: Place Value to 50 included)				Number: Fractions			Measurement, length and height		Measurement: Mass, Capacity and Tempera-ture		Consolida-tion and Assessment
Summer	Year 1: Place value within 100. Year 2: Statistics		Geometry: Position and Direction		Problem solving and efficient methods		Measurement and time			Consol-idation and Assess-ment	Investigations	

Year 2 Small Steps

Autumn Term

Number: Place Value	Number: Addition and Subtraction	Geometry: Shape	Measurement: Money
• Count objects to 100 and read and write numbers in numerals and words • Represent numbers to 100 • Tens and ones with a part whole model • Tens and ones using addition • Use a place value chart • Compare objects • Compare numbers • Order objects and numbers • Count in 2s, 5s and 10s • Count in 3s	• Fact families Addition and subtraction bonds to 20 • Check calculations • Compare number sentences • Related facts • Bonds to 100 (tens) • Add and subtract 1s • 10 more and 10 less • Add and subtract 10s • Add a 2 digit and 1-digit number crossing ten • Subtract a 1-digit number from a 2-digit number crossing 10 • Add two 2 digit numbers not crossing ten add ones and add tens • Add two 2 digit numbers crossing ten add ones and add tens • Subtract a 2-digit number from a 2-digit number not crossing ten • Subtract a 2-digit number from a 2-digit number crossing ten subtract ones and tens • Bonds to 100 (tens and ones) • Add three 1 digit numbers	• Recognise 2D and 3D shapes • Count sides on 2D shapes • Count vertices on 2D shapes • Draw 2D shapes • Lines of symmetry • Sort 2D shapes • Make patterns with 2D shapes • Count faces on 3D shapes • Count edges on 3D shapes • Count vertices on 3D shapes • Sort 3D shapes • Make patterns with 3D shapes	• Count money pence Count money pounds (notes and coins) • Count money notes and coins • Select money • Make the same amount • Compare money • Find the total • Find the difference • Find change • Two step problems

Year 2 Small Steps

Spring Term

Number: Multiplication and Division	Number: Fractions	Measurement: Length and Height	Measurement: Mass, Capacity and Temperature
• Recognise equal groups • Make equal groups • Add equal groups • Multiplication sentences using the X symbol • Multiplication sentences from pictures • Use arrays • 2 times-table • 5 times-table • 10 times-table • Make equal groups sharing • Make equal groups grouping • Divide by 2 • Odd and even numbers • Divide by 5 • Divide by 10	• Make equal parts • Recognise half • Find half • Recognise a quarter • Find a quarter • Recognise a third • Find a third • Unit fractions • Non unit fractions • Equivalence of $\frac{1}{2}$ and $^2/_4$ • Find three quarters • Count in fractions	• Measure length (cm) • Measure length (m) • Compare lengths • Order lengths • Four operations with lengths	• Compare mass • Measure mass in grams • Measure mass in kilograms • Compare capacity • Millilitres • Litres • Temperature

Spring Term

Statistics	Geometry: Position and Direction	Measurement and Time
• Make tally charts • Draw pictograms • Interpret pictograms • Draw pictograms • Interpret pictograms • Block diagrams	• Describing movement • Describing turns • Describing movement and turns • Making patterns with shapes	• O'clock and half past • Quarter past and quarter to • Telling time to 5 minutes • Minutes in an hour, hours in a day • Find durations of time • Compare durations of time

Year 3 Learning Block

Week / Term	1	2	3	4	5	6	7	8	9	10	11	12
Autumn	Number: Place Value			Number: Addition & Subtraction					Number: Multiplication & Division			Consolidation and Assessment
Spring	Number: Multiplication & Division			Measurement: Money	Statistics		Measurement: Length and Perimeter		Measurement: Weight	Number: Fractions		
Summer	Number: Fractions			Geometry: Properties of Shape		Measurement: Time		Measurement: Capacity	Consolidation	Consolidation and Assessment	Investigations	

Year 3 Small Steps

Autumn Term

Number: Place Value	Number: Addition and Subtraction	Number: Multiplication and Division (1)
• Hundreds • Represent numbers to 1,000 • 100s, 10s and 1s • Number line to 1,000 • Find 1, 10, 100 more or less than a given number • Compare objects to 1,000 • Compare numbers to 1,000 • Order numbers • Count in 50s	• Add and subtract multiples of 100 • Add and subtract 3 digit numbers and ones not crossing 10 • Add 3 digit and 1 digit numbers crossing 10 • Subtract a 1-digit number from a 3- digit number crossing 10 • Add and subtract 3 digit numbers and tens not crossing 100 • Add a 3-digit number and tens crossing 100 • Add and subtract 100s • Spot the pattern making it explicit • Add and subtract a 2 digit and 3-digit number not crossing 10 or 100 • Add a 2 digit and 3-digit number crossing 10 or 100 • Subtract 2-digit number from a 3 digit number cross the 10 or 100 • Add two 3 digit numbers not crossing 10 or 100 • Add two 3 digit numbers crossing 10 or 100 • Subtract a 3-digit number from a 3-digit number no exchange • Subtract a 3-digit number from a 3-digit number exchange • Exchange answers to calculations	• Multiplication equal groups • Multiplying by 3 • Dividing by 3 • The 3 times table • Multiplying by 4 • Dividing by 4 • The 4 times table • Multiplying by 8 • Dividing by 8 • The 8 times table

Year 3 Small Steps

Spring Term

Number: Multiplication and Division (2)	Measurement: Money	Statistics	Measurement: Length and Perimeter	Number: Fractions (1)
• Comparing statements • Related calculations • Multiply 2 digits by 1 digit • Divide 2 digits by 1 digit • Scaling • How many ways?	• Pounds and pence • Converting pounds and pence • Adding money • Subtracting money • Giving change	• Pictograms • Bar charts • Tables	• Measure length • Equivalent lengths m & cm • Equivalent lengths mm & cm • Compare lengths • Add lengths • Subtraction lengths • Measure perimeter • Calculate perimeter	• Unit and non-unit fractions • Making the whole • Tenths • Count in tenths • Tenths as decimals • Fractions of a number line • Fractions of a set of objects

Summer Term

Fractions	Measurement: Time	Geometry: Properties of Shapes	Measurement: Mass and Capacity
• Equivalent fractions • Compare fractions • Order fractions • Add fractions • Subtract fractions	• Months and years • Hours in a day • Telling the time to 5 minutes • Telling the time to the minute • AM and PM • 24 - hour clock • Finding the duration • Comparing the duration • Start and end times • Measuring time in seconds	• Turns and angles • Right angles in shapes • Compare angles • Draw accurately • Horizontal and vertical • Parallel and perpendicular • Recognise and describe 2D shapes • Recognise and describe 3D shapes • Make 3D shapes	• Measure mass • Compare mass • Add and subtract mass • Measure capacity • Compare capacity • Add and subtract capacity

Year 4 Learning Block

Week / Term	1	2	3	4	5	6	7	8	9	10	11	12
Autumn	Number & Place Value			Addition & Subtraction			Measurement: Length and Perimeter	Multiplication and Division (1)				Consolidation and Assessment
Spring	Number: Multiplication and Division (2)			Measurement : Area	Number: Fractions				Number: Decimals (1)			Consolidation and Assessment
Summer	Number: Decimals (2)		Measurement: Money		Measurement: Time	Statistics		Geometry: Properties of Shapes		Geometry: Position and Direction	Consolidation and Assessment	Investigations

Year 4 Small Steps

Autumn Term

Number: Place Value	Number: Addition and Subtraction	Measurement: Length and Perimeter	Number: Multiplication and Division (1)
• Roman numerals to 100 • Round to the nearest 10 • Round to the nearest 100 • Count in 1,000s. • 1,000s, 100s, 10s and 1s • Partitioning • Number line to 10,000 • 1,000 more or less • Compare numbers • Order numbers • Round to the nearest 1,000 • Count in 25s • Negative numbers	• Add and subtract 1s, 10s, 100s and 1000s • Add two 4-digit numbers –no exchange • Add two 4-digit numbers –one exchange • Add two 4-digit numbers – more than one exchange • Subtract two 4-digit numbers –no exchange • Subtract two 4-digit numbers –one exchange • Subtract two 4-digit numbers –more than one exchange • Efficient subtraction • Estimate answers • Checking strategies	• Kilometres • Perimeter on a grid • Perimeter of a rectangle • Perimeter of rectilinear shapes	• Multiply by 10 • Multiply by 100 • Divide by 10 • Divide by 100 • Multiply by 1 and 0 • Divide by 1 • Multiply and divide by 6 • 6 times-table and division facts • Multiply and divide by • 9 times-table and division facts • Multiply and divide by 7 • 7 times-table and division facts

Year 4 Small Steps

Spring Term

Number: Multiplication and Division (2)	Measurement: Area	Number: Fractions	Number: Decimals
• 11 and 12 times table • Multiply 3 numbers • Factor pairs • Efficient multiplication • Written methods • Multiply 2 digits by 1 digit • Multiply 3 digits by 1 digit • Divide 2 digits by 1 digit • Correspondence problems	• What is area? • Counting squares • Making shapes • Comparing area	• What is a fraction? • Equivalent fractions • Fractions greater than 1 • Count in fractions • Add 2 or more fractions • Subtract 2 fractions • Subtract from whole amounts • Calculate fractions of a quantity • Problem solving calculate quantities	• Recognise tenths and hundredths • Tenths as decimals • Tenths on a place value grid • Tenths on a number line • Divide 1 digit by 10 • Divide 2 digits by 10 • Hundredths • Hundredths as decimals • Hundredths on a place value grid • Divide 1 or 2 digits by 100

Summer Term

Number: Decimals	Measurement: Money	Measurement: Time	Statistics	Geometry: Properties of Shapes	Geometry: Position and Direction
• Make a whole • Write decimals • Compare decimals • Order decimals • Round decimals • Halves and quarters	• Pounds and pence • Ordering amounts of money • Using rounding to estimate money • Four Operations	• Hours, minutes and seconds • Years, months, weeks and days • Analogue to digital 12 hour • Analogue to Digital	• Interpret charts • Comparison, sum and difference • Introducing line graphs • Line graphs	• Identify angles • Compare and order angles • Triangles • Quadrilaterals • Lines of symmetry • Complete a symmetric figure	• Describe position • Draw on a grid • Move on a grid • Describe a movement on a grid

Year 5 Learning Block

Week / Term	1	2	3	4	5	6	7	8	9	10	11	12
Autumn	Number: Place Value			Number: Addition & Subtraction		Statistics		Number: Multiplication & Division		Measurement: Area and Perimeter		Assessment and Consolidation
Spring	Number: Multiplication & Division			Number: Fractions						Number: Decimals and Percentages		
Summer	Number: Decimals			Geometry: Properties of Shapes		Geometry: Position and Direction		Measurement: Converting Units	Measurement: Volume	Assessment and Consolidation	Investigations	

Year 5 Small Steps

Autumn Term

Number: Place Value	Number: Addition and Subtraction	Statistics	Number: Multiplication and Division (1)	Measurement: Area and perimeter
• Number to 10,000 • Roman numerals to 1,000 • Round to the nearest 10, 100 and 1000 • Number to 100,000 • Compare and order numbers to • 100,000 • Round numbers within 100,000 • Numbers to a million • Counting in 10s, 100s, 1,000s, 10,000s and 100,000s • Compare and order numbers to a million • Round numbers to a million • Negative numbers	• Add whole numbers with more than 4 digits (column method) • Subtract whole numbers with more than 4 digits (column method) • Round to estimate and approximate • Inverse operation (addition and subtraction) • Multi step addition and subtraction problems	• Read and interpret line graphs • Draw line graphs • Use line graphs to solve problems • Read and interpret tables • Two way tables • Timetables	• Multiples • Factors • Common factors • Prime numbers • Square numbers • Cube numbers • Multiplying by 10, 100 and 1000 • Dividing by 10, 100 and 1000 • Multiples of 10, 100 and 1000	• Measure perimeter • Calculate perimeter • Area of rectangles • Area of compound shapes • Area of irregular shapes

Year 5 Small Steps

Spring Term

Number: Multiplication and Division (2)	Number: Fractions	Number: Decimals and Percentages
• Multiply 4 digits by 1 digit • Multiply 2 digits • Multiply 2 digits by 2 digits • Multiply 3 digits by 2 digits • Multiply 4 digits by 2 digits • Divide 4 digits by 1 digit • Divide with remainders	• Equivalent fractions • Improper fractions to mixed numbers • Mixed numbers to improper fractions • Number sequences • Compare and order fractions less than 1 • Compare and order fractions greater than 1 • Add and subtract fractions • Add fractions within 1 • Add 3 or more fractions • Add fractions • Add mixed numbers • Subtract fractions • Subtract mixed numbers • Subtract breaking the whole • Subtract 2 mixed numbers • Multiply unit fractions by an integer • Multiply non unit fractions by an integer • Multiply mixed numbers by integers • Fraction of an amount • Using fractions as operators	• Decimals up to 2 d.p • Decimals as fractions • Understand thousandths • Thousands as decimals • Rounding decimals • Order and compare decimals • Understand percentages • Percentages as fractions and decimals • Equivalent F.D.P

Year 5 Small Steps

Summer Term

Number: Decimals	Geometry: Properties of Shapes	Geometry: Position and Direction	Measurement: Converting Units	Measurements: Volume
• Adding decimals within 1 • Subtracting decimals within 1 • Complements to 1 • Adding decimals crossing the whole • Adding decimals with the same number of decimal places • Subtracting decimals with the same number of decimal places • Adding decimals with a different number of decimal places • Subtracting decimals with a different • number of decimal places • Adding and subtracting whole and decimals • Decimal sequences • Multiplying decimals by 10, 100 and 1000 • Dividing decimals by 10, 100 and 1,000	• Measuring angles in degrees • Measuring with a protractor • Drawing lines and angles accurately • Calculating angles on a straight line • Calculating angles around a point • Calculating lengths and angles in shapes • Regular and irregular polygons • Reasoning about 3D shapes	• Position in the first quadrant • Reflection • Reflection with coordinate • Translation • Translation with coordinates	• Kilograms and kilometres • Milligrams and millilitres • Metric units • Imperial units • Converting units of time • Timetables	• What is volume? • Compare volume • Estimate volume • Estimate capacity

Year 6 Learning Block

Week / Term	1	2	3	4	5	6	7	8	9	10	11	12
Autumn	Number & Place Value		Four Operations (including decimals)				Fractions				Ratio	Assess-ment
Spring	Algebra		Percentages		Properties of shape and posi-tion & direction		Measurement: converting units, perimeter, volume, area			Statistics		
Summer	Problem Solving				SATS		Investigations					

Year 6 Small Steps

Autumn Term

Number: Place Value	Number: Four Operations including Decimal	Number: Fractions	Number: Ratio
• Numbers to ten million • Compare an order any number • Round any numbers • Negative numbers	• Reasoning from known facts • Multiply up to 4-digit by 1-digit number • Short division. • Division using factors • Long division • Common factors • Common multiples • Primes • Squares and cubes • Order of operations • Mental calculations and estimation • Reasoning from known facts • Add and subtract whole numbers • Three decimal places • Multiply by 10, 100 and 1,000 • Divide by 10, 100 and 1,000 • Multiply decimals by integers • Divide decimals by integers • Division to solve problems	• Simplify fractions • Fractions on a number line • Compare & order (denominator) • Compare & order (numerator) • Adding fractions • Subtracting fractions • Mixed addition and subtraction • Multiply fractions by integers • Multiply fractions by fractions • Divide fractions by integers • Four rules with fractions • Fraction of an amount • Finding the whole • Decimals as fractions • Fractions to decimals	• Use ratio language • Ratio and fractions • Introducing the ratio symbol • Calculating ratio • Using scale factors • Calculating scale factors • Ratio and proportion

Year 6 Small Steps

Spring Term

Number: Algebra	Number: Percentages	Geometry: Properties of shape and position & direction	Measurement: converting units, perimeter, volume, area	Number: Statistics
• Use an algebraic rule • Substitution • Formulae • Word problems • Solve simple one step equations • Solve two step equations • Find pairs of values • Enumerate Possibilities	• Fractions to percentages • Equivalent FDP • Percentage of an amount • Percentages missing values • Percentage increase and decrease • Order FDP	• Measure with a protractor • Introduce angles • Calculate angles • Vertically opposite angles • Angles in a triangle • Coordinates in the first quadrant • Coordinate in four quadrants • Translations • Reflections	• Metric measures • Convert metric measures • Calculate with metric measures • Miles and kilometres Imperial measures • Shapes same area • Area and perimeter • Area of a parallelogram • Volume counting cubes • Volume of a cuboid	• Read and interpret line graphs • Draw line graphs • Use line graphs to solve problems • Circles • Read and interpret pie charts • Pie charts with percentages • Draw pie charts • The mean