



*'With Love and Faith, We Achieve Together,
For We Are Nothing Without Christ'*



Nihil Sine Christo

Maths Curriculum Overview

2025 - 2026

Psalm 90:12 So teach us to number our days that we may get a heart of wisdom.

Intent

Our aim at St Anne's and St Joseph's is for all children to enjoy mathematics and have a **secure** and **deep** understanding of fundamental mathematical concepts and procedures when they leave us to go to secondary school. We want children to see the mathematics that surrounds them every day and enjoy developing vital life skills in this subject.

Aims for our pupils:

- To develop a growth mindset and positive attitude towards mathematics.
- To become confident and proficient with number, including fluency with mental calculation and look for connections between numbers.
- To become problem solvers, who can reason, think logically, work systematically and apply their knowledge of mathematics.
- To develop their use of mathematical language.
- To become independent learners and to work co-operatively with others.
- To appreciate real life contexts to learning in mathematics.

Implementation

Our teaching for mastery is underpinned by the NCETM's 5 Big Ideas.

- Opportunities for **Mathematical Thinking** allow children to make chains of reasoning connected with the other areas of their mathematics.
- A focus on **Representation and Structure** ensures concepts are explored using concrete, pictorial and abstract representations, the children actively look for patterns and generalise whilst problem solving.
- **Coherence** is achieved through the planning of small, connected steps to link every question and lesson within a topic.
- Teachers use both procedural and conceptual **Variation** within their lessons and there remains an emphasis on **Fluency** with a relentless focus on number and times table facts.

Teaching for Mastery Principles:

- **It is achievable for all** – we have high expectations and encourage a positive ‘can do’ mindset towards mathematics in **all** pupils, creating learning experiences which develop children’s resilience in the face of a challenge and carefully scaffolding learning so everyone can make progress.
- **Deep and sustainable learning** – lessons are designed with careful small steps, questions and tasks in place to ensure the learning is not superficial.
- **The ability to build on something that has already been sufficiently mastered** – pupils’ learning of concepts is seen a continuum across the school.
- **The ability to reason about a concept and make connections** – pupils are encouraged to make connections and spot patterns between different concepts (E.g. the link between ratio, division and fractions) and use precise mathematical language, which frees up working memory and deepens conceptual understanding.
- **Conceptual and procedural fluency** – teachers move mathematics from one context to another (using objects, pictorial representations, equations and word problems). There are high expectations for pupils to learn times tables, key number facts (so they are automatic) and have a true sense of number. Pupils are also encouraged to think whether their method for tackling a given calculation or problem is Appropriate, Reliable and Efficient (A.R.E).
- **Problem solving is central** – this develops pupils’ understanding of why something works so that they truly have an appreciation of what they are doing rather than just learning to repeat routines without grasping what is happening.
- **Challenge through greater depth** - rather than accelerated content, (moving onto next year’s concepts) teachers set tasks to deepen knowledge and improve reasoning skills within the objectives of their year group.

Impact

We will assess the impact of the curriculum by:

- Pupil discussions about their learning

- Marking and Feedback to further inform planning and address misconceptions and gaps in learning – this also includes self-marking by pupils within lessons.
- Live marking through Insight Tracker.
- Start of unit assessments (Test A) and end of unit assessments (Test B), from White Rose maths, to track progress made within mathematical topics. This will inform any interventions needed to address misconceptions and gaps in learning.
- Meet the relevant Early Learning Goals at the end of EYFS and the end of key stage expectations, in line with the National Curriculum for KS1 and KS2.

Golden Threads

Place Value

Fractions and
algebra

Statistics

Multiplication and
Division

Shape and measure

Addition and
Subtraction

Maths in the Early Years Foundation Stage

Our EYFS curriculum is planned and sequenced in line with EYFS Framework expectations and Development Matters. Below is exemplification of what Maths covers, please see our Early Years to KSI bridging documents for further exemplification on how our Early Years lays the foundations for learning in all other subject areas. The most relevant statements for mathematics are taken from the areas of Communication and Language and Mathematics. Knowledge is organised in three areas; number, measurement and geometry.

Number	Count objects, actions, and sounds. Subitise Link the number symbol numeral with its cardinal number value. Explore the composition of numbers to 10. Automatically recall some number bonds for numbers 0-5 and some to 10.	ELG Number: Have a deep understanding of number to 10, including the composition of each number. Subitise (recognise quantities without counting) up to 5. Automatically recall number bonds to 5 and some number bonds to 10, including double facts.
Numerical patterns	Count beyond 10. Compare numbers. Understand the one more than one less than relationship between consecutive numbers. Select, rotate and manipulate shapes to develop spatial reasoning skills. Compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can. Continue, copy and create repeating patterns. Compare length, weight and capacity.	ELG Numerical Patterns: Count verbally beyond 20, recognising the pattern of the counting system. Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity. Explore and represent patterns within numbers up to 10, including events and odds, double facts and how quantities can be distributed evenly.

Vocabulary	Place Value Number None After Count Subitise Order Compare Forwards Backwards Numerals Digit One more One less Many Equal to/same as More than Less than (Fewer)	Addition and subtraction Add Plus Altogether Total Take away/minus Number bonds Part Whole Digit	Multiplication and division Double Half Twice as many Equal Unequal Share Group Odd Even	Measurement Seasons Time Quicker Slower Earlier Later Before After First Next Today Yesterday Tomorrow Morning Afternoon Evening Day Week Hour Minutes Height Long Short Weight Capacity Heavy/light Heavier than Lighter than Full/empty More than Less than Half/half full Measure Wider Narrow Compare Longer Shorter length	Position and direction Over Under Between Around Through On Into Next to Behind Beneath Order Repeat Patterns On top of	Shape 2d shapes Rectangle Square Circle Triangle Characteristics 3d shapes Cuboids Cubes Cone Spheres Curved Straight Flat
Term	Autumn		Spring		Summer	
Progression: Number land and White Rose.	Number Land Number 1, 2, 3 and 4. Getting to know you Just like me! Match and sort Compare amounts Compare size, mass, and capacity Exploring pattern	Number Land Number 1, 2, 3 and 4. It's me 1, 2, 3! Representing 1, 2 and 3. Comparing 1, 2 and 3. Composition of 1, 2 and 3. Circles and triangles. Positional Language. Light & Dark Representing numbers to 5. One more or less. Shapes with 4 sides. Time	Number Land Number 5, 6, 7, 8, 9 and 10. Alive in 5! Introducing zero Comparing numbers to 5 Composition of 4 and 5 Compare mass Compare capacity Growing 6, 7, 8 Combining two amounts Making pairs Length and height Time	Number Land Number 5, 6, 7, 8, 9 and 10. Building 9 and 10 Counting to 9 and 10 Comparing numbers to 10 Bonds to 10 3D shapes Spatial awareness Patterns Consolidation	To 20 and beyond Build numbers beyond 10 Count patterns beyond 10 Spatial reasoning Match, rotate, manipulate First, then, now Adding more Taking away Spatial reasoning Compose and decompose	Find my pattern Doubling Sharing and grouping Even and odd Spatial reasoning Visualise and build On the move Deepening understanding Patterns and relationships Spatial mapping Mapping

Maths and SEND provision

At St Anne's and St Joseph's, we are committed to delivering a high-quality history education that is inclusive, engaging and accessible for all pupils, including those with Special Educational Needs and Disabilities (SEND). All children complete the same learning objectives and obtain the same knowledge but opportunities to do so are given in a variety of ways:

Adaptive Teaching: The needs of all learners are of teachers' knowledge and learning is adapted to allow pupils to gain the knowledge in each lesson. Assistive technology, adapted tasks and multi-sensory learning is all offered to pupils to ensure there are no barriers to learning.

Language Support: Key vocabulary is explicitly taught and reinforced through repetition, visuals and pre-teaching strategies. Pupils are well-prepared for upcoming learning, whilst regularly revisiting prior knowledge and learning.

Collaboration and Support: Teachers work closely with SEND specialists, teaching assistants and families to ensure that individual needs are met and pupils are supported to achieve their full potential in history.

Inclusive Assessment: Assessment is ongoing and prompt in all Maths lessons. Teachers recognise gaps in learning and misconceptions quickly and offer further support, if required. Assessment is used to review learning, influence future planning and teaching and offer additional support to those who need it.

Whole School Maths Curriculum 2025

White Rose Maths is used to support the planning and delivery of the Maths curriculum with links and adaptations also made using the NCETM Planning for Mastery resources.

Class /year group	Autumn – 13 weeks	Spring - 9 weeks and 4 days	Summer - 9 weeks and 4 days
EYFS	Getting to know you (3 weeks) Just like me (3 weeks) It's me 1, 2, 3! (3 weeks) Light and dark (3 weeks)	Alive in 5. (3 weeks) Growing 6, 7, 8. (3 weeks) Building 9 & 10. (3 weeks)	To 20 and beyond. (3 weeks) First, then, now. (3 weeks) Find my pattern. (3 weeks) On the move. (3 weeks)
Autumn 1 Year 1 & 2 White Rose V3 Mixed age planning resources.	Place value within 20 (3 weeks – 13 steps) Addition and subtraction within 20 (3 weeks – 14 steps)		
Autumn 2 onwards, Year 1	Shape – 5 steps Addition and subtraction within 10 – 17 steps	Place value within 20 – 12 steps Addition and subtraction within 20 – 10 steps Place value within 50 – 8 steps Measurement (Length and height) – 3 steps Measurement (Mass and volume) – 7 steps	Multiplication and division – 9 steps Fractions – 8 steps Geometry (Position and direction) – 5 steps Place value within 100 – 7 steps Measurement (money) – 4 steps Measurement (time) – 6 steps
Autumn 2 onwards, Year 2	Shape – 12 steps Addition and subtraction – 21 steps	Money – 10 steps Multiplication and division – 17 steps Measurement (Length and height) – 5 steps Mass, capacity and temperature – 9 steps	Fractions – 15 steps Time – 7 steps Statistics – 7 steps Position and direction – 5 steps
Autumn 1 Year 2 & 3	Place value (within 100 – Yr2- within 1000 – Yr3) – 3 weeks		

	Addition and subtraction (within 100) -6 weeks		
Autumn 2 onwards Year 3 & 4 White Rose V3 Mixed age planning resources	Multiplication and division A – 15 steps Measurement (Area) – 4 steps	Multiplication and division B -14 steps Measurement (Length and perimeter) – 10 steps Fractions A – 14 steps Measurement (mass and capacity) – 10 steps Fractions B – 8 steps	Measurement (Time)- 9 steps Decimals – 14 steps Measurement (money)- 9 steps Geometry (shape) – 10 steps Geometry (position and direction) – 5 steps Statistics – 8 steps
Autumn 1 Year 4 & 5	Place value (including negative numbers Yr 5) – 4 weeks Addition and subtraction – 3 weeks		
Autumn 2 onwards Year 5	Multiplication and division A – 10 steps Fractions A – 17 steps	Multiplication and division B – 11 steps Fractions B- 7 steps Decimals and percentages – 15 steps Perimeter and area – 6 steps Statistics – 5 steps	Geometry (shape) – 10 steps Position and direction – 6 steps Decimals – 12 steps Negative numbers – 5 steps Converting units – 6 steps Measurement (Volume) – 4 steps
Year 6	Place value (2 weeks – 8 steps) Addition, subtraction, multiplication and division (3 weeks – 17 steps) Fractions A (2 weeks – 9 steps) Fractions B (2 weeks – 7 steps) Measurement converting units (1 week – 5 steps) Ratio (2 weeks – 10 steps)	Algebra (2 weeks – 10 steps) Decimals (2 weeks – 9 steps) Fractions, decimals and percentages (2 weeks – 9 steps) Area, perimeter and volume (2 weeks – 8 steps) Statistics (1 week – 6 steps)	Shape (2 weeks – 11 steps) Geometry, position and direction (1 week – 5 steps) Themed projects and problem solving.

Coverage for each year group – Ready to Progress and related vocabulary. (Please also see the Maths curriculum overview which also shows steps of progression taken from White Rose).

Vocabulary	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Place Value	Sort Represent Multiples Partitioning Recombine Ones Tens Place value Compare	Numbers to 100 Hundreds Count in steps Count in multiples Estimate	Numbers to 1000 Ascending Descending 10 or 100 more 10 or 100 less Hundreds	Negative numbers/integers Round Roman numerals 1000 more 1000 less Thousands Round	Ten thousands One hundred thousands Powers of Integer	Numbers to ten million Millions Ten millions

Place Value Progression - Count

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number Count numbers to 100 in numerals; count in multiples of twos, fives and tens	count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward	count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number	count in multiples of 6, 7, 9, 25 and 1000 count backwards through zero to include negative numbers	count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000 count forwards and backwards with positive and negative whole numbers, including through zero	

Place Value Progression - Represent

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Identify and represent numbers using objects and pictorial representations read and write numbers to 100 in numerals read and write numbers from 1 to 20 in numerals and words	Read and write numbers to at least 100 in numerals and in words identify, represent and estimate numbers using different representations, including the number line	Identify, represent and estimate numbers using different representations read and write numbers up to 1000 in numerals and in words	Identify, represent and estimate numbers using different representations read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value	Read, write, (order and compare) numbers to at least 1 000 000 and determine the value of each digit read Roman numerals to 1000 (M) and recognise years written in Roman numerals	Read, write, (order and compare) numbers up to 10 000 000 and determine the value of each digit

Place Value – use and compare

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Given a number, identify one more and one less	Recognise the place value of each digit in a two-digit number (tens, ones) compare and order numbers from 0 up to 100; use < and > = signs	Recognise the place value of each digit in a three-digit number (hundreds, tens, ones) compare and order numbers up to 1000	Find 1000 more or less than a given number recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) order and compare numbers beyond 1000	(read, write) order and compare numbers to at least 1 000 000 and determine the value of each digit	(read, write), order and compare numbers up to 10 000 000 and determine the value of each digit

Place Value – problems/rounding

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	use place value and number facts to solve problems	solve number problems and practical problems involving these ideas	round any number to the nearest 10, 100 or 1000 solve number and practical problems that involve all of the above and with	interpret negative numbers in context round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000	round any whole number to a required degree of accuracy use negative numbers in context, and calculate intervals across zero solve number and

			increasingly large positive numbers	solve number problems and practical problems that involve all of the above	practical problems that involve all of the above
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Vocabulary Addition and subtraction	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	Addition/Add More Altogether Sum Total Double/near double Half/halve Subtraction Take away Minus Difference Equals Facts Problems Missing number problems 2-digit number Inverse Number bonds	3-digit number Commutative	Column addition Column subtraction Exchange Estimate	4-digit number Methods	Efficient written method	Order of operations

Addition and subtraction – calculations.

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
add and subtract one-digit and two-digit numbers to 20, including zero	add and subtract numbers using concrete objects, pictorial representations, and mentally, including:	add and subtract numbers mentally, including: a three-digit number and ones	add and subtract numbers with up to 4 digits using the formal written methods of columnar	add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and	perform mental calculations, including with mixed operations and large numbers

	a two-digit number and ones a two-digit number and tens two two-digit numbers adding three one-digit numbers	a three-digit number and tens a three-digit number and hundreds add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction	addition and subtraction where appropriate	subtraction) add and subtract numbers mentally with increasingly large numbers	use their knowledge of the order of operations to carry out calculations involving the four operations
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Addition and subtraction - problems

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7 = \chi - 9$	solve problems with addition and subtraction: — using concrete objects and pictorial representations, including those involving numbers, quantities and measures — applying their increasing knowledge of mental and written methods	solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction	solve addition and subtraction twostep problems in contexts, deciding which operations and methods to use and why	solve addition and subtraction multistep problems in contexts, deciding which operations and methods to use and why solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign	solve addition and subtraction multistep problems in contexts, deciding which operations and methods to use and why

Vocabulary Multiplication and division	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	Multiplication Division Arrays Row Column Count in... Lots of Groups of.. Times Multiple Repeated addition Share Divide	Multiplication tables Commutative	Exchange Mathematical statements Derived facts Product Multiples Factors Scale up	Factor pairs Distributive law Remainders	Prime numbers Square numbers Cube numbers Short division Dividend Divisor Quotient Operations Formal written method	Long division Order of operations Common factors Common multiples

Multiplication and division – recall and use

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot	recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables	recall multiplication and division facts for multiplication tables up to 12×12 use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers recognise and use factor pairs and commutativity in mental calculations	identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers know and use the vocabulary of prime numbers, prime factors and composite (nonprime) numbers establish whether a number up to 100 is prime and recall prime numbers up to 19 recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3)	identify common factors, common multiples and prime numbers use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy

Multiplication and division – calculations

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication ($\times$), division ($\div$) and equals ($=$) signs	write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods	multiply two-digit and three-digit numbers by a one-digit number using formal written layout	multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers multiply and divide numbers mentally drawing upon known facts divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context multiply and divide whole numbers and those involving decimals by 10, 100 and 1000	multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context perform mental calculations, including with mixed operations and large numbers

Multiplication and division – problems

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations	solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts	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	solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems	solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes solve problems involving multiplication and division, including scaling by simple	solve problems involving addition, subtraction, multiplication and division

and arrays with the support of the teacher			such as n objects are connected to m objects	fractions and problems involving simple rates	
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Vocabulary Fractions, decimals and percentages	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	Whole Half Quarter Equal parts	Three quarters Third Equivalent fractions Unit fractions Non unit fractions Numerator Denominator One whole	Tenths Compare and order Tenths	Decimal Equivalent Equivalence Convert Proper fractions Improper fractions Decimals point Mixed numbers	Percent % Percentage complements	Simplify Degree of accuracy

Fractions – recognise and write

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
recognise, find and name a half as one of two equal parts of an object, shape or quantity • recognise, find and name a quarter as one of four equal parts of an object, shape or quantity	recognise, find, name and write fractions $\frac{1}{3}$ $\frac{1}{4}$ $\frac{2}{4}$ and $\frac{3}{4}$ of a length, shape, set of objects or quantity	count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10 • recognise, find and write fractions of a discrete set of objects: unit fractions and nonunit fractions with small denominators • recognise and use fractions as numbers: unit fractions and nonunit fractions with small denominators	count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten.	identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths • recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number [for example $\frac{2}{5}$ and $\frac{4}{5} = \frac{6}{5}$	solve problems involving addition, subtraction, multiplication and division use their knowledge of the order of operations to carry out calculations involving the four operations

Fractions – compare

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	Recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$	recognise and show, using diagrams, equivalent fractions with small denominators compare and order unit fractions, and fractions with the same denominators	recognise and show, using diagrams, families of common equivalent fractions	compare and order fractions whose denominators are all multiples of the same number	use common factors to simplify fractions; use common multiples to express fractions in the same denomination compare and order fractions, including fractions > 1

Fractions – calculations

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	write simple fractions for example, $\frac{1}{2}$ of 6 = 3	add and subtract fractions with the same denominator within one whole [for example, $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$ solve problems that involve all of the above	add and subtract fractions with the same denominator 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	add and subtract fractions with the same denominator and denominators that are multiples of the same number • multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams	add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions multiply simple pairs of proper fractions, writing the answer in its simplest form [for $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$ divide proper fractions by whole numbers [for example $\frac{1}{3} \div 2 = \frac{1}{6}$

Decimals – recognise, write and compare

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
			recognise and write decimal equivalents of any number of tenths or hundredths	read and write decimal numbers as fractions [for example, $0.71 = \frac{71}{100}$	identify the value of each digit in numbers given to three decimal places

			recognise and write decimal equivalents to $\frac{1}{4}$ $\frac{1}{2}$ and $\frac{3}{4}$ round decimals with one decimal place to the nearest whole number compare numbers with the same number of decimal places up to two decimal places	recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents • round decimals with two decimal places to the nearest whole number and to one decimal place read, write, order and compare numbers with up to three decimal places	
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Fractions, decimals and percentages

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
			solve simple measure and money problems involving fractions and decimals to two decimal places	recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}$ $\frac{1}{4}$ $\frac{1}{5}$ $\frac{2}{5}$ and $\frac{4}{5}$ and those fractions with a denominator of a multiple of 10 or 25	associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, $\frac{3}{8}$] recall and use equivalences between simple fractions, decimals and percentages, including in different contexts

Vocabulary Ratio, proportion and algebra	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
						Relative size Missing values Integer multiplication Percentages Scale factor Unequal sharing and grouping Formulae Linear number sequences Algebraically Equation Unknowns Combinations Variables Substitute Symbol Known variables

Ratio, proportion and algebra

Note – although formal algebraic notation is not introduced until Y6, algebraic thinking starts much earlier as exemplified by the ‘missing number’ objectives from Y1/2/3

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<i>solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7 = \chi - 9$</i>	<i>recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems</i>	<i>solve problems, including missing number problems</i>			use simple formulae generate and describe linear number sequences express missing number problems algebraically find pairs of numbers that satisfy an equation with two unknowns

					enumerate possibilities of combinations of two variables solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts • solve problems involving the calculation/use of percentages for comparison • solve problems involving similar shapes where the scale factor is known or can be found • solve problems involving unequal sharing and grouping using knowledge of fractions and multiples
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Vocabulary	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Measure – length, height, weight, capacity	Mass Volume Holds Scales Container Weigh Balances	Standard units Estimate Order Record results Centimetre cm Metre m Kilogram kg Gram g Quarter Three quarters Litres L Millimetres ml Temperature Degrees	Millimetre mm Perimeter	Kilometre km Rectilinear shape Area Irregular shapes Convert	Decimal notation Scaling Metric units Imperial units Inches Compound shape Volume Cubic centimetres Pounds Pints	Conversion Miles Formulae Parallelograms Triangles Feet Cubic metre Cubic millimetre Cubic kilometre Gallons Stones Ounces

Using measures

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
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/weight capacity and volume time (hours, minutes, seconds)	choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels compare and order lengths, mass, volume/capacity and record the results using >, < and =	measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)	Convert between different units of measure [for example, kilometre to metre; hour to minute] • estimate, compare and calculate different measures	convert between different units of metric measure • understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints • use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling	solve problems involving the calculation and conversion of units of measure, using decimal notation up to 3 d.p. where appropriate • use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to 3 d.p. • convert between miles and kilometres

Vocabulary Measures - money	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Money Coins Notes Pounds £ Pence p	Value Change					

Money

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
recognise and know the value of different denominations of coins and notes	recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value • find different combinations of coins that equal the same amounts of money • solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change	add and subtract amounts of money to give change, using both £ and p in practical contexts	estimate, compare and calculate different measures, including money in pounds and pence	use all four operations to solve problems involving measure [for example, money]	

Vocabulary Measures - time	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	Chronological order Days of the week Months of the year Month Year O'clock Half past Second	Intervals of time Quarter past/to Duration	Analogue Roman numerals 12-hour clock 24-hour clock Am/pm Noon Midnight Leap year Digital			

Time

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
sequence events in chronological order using language [for example, before and after, next, first, today,	compare and sequence intervals of time • tell and write the time to five minutes, including quarter past/to the hour and draw	tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks • estimate	read, write and convert time between analogue and digital 12- and 24-hour clocks • solve problems involving converting from	solve problems involving converting between units of time	use, read, write and convert between standard units, converting measurements of time from a smaller unit of

yesterday, tomorrow, morning, afternoon and evening] • recognise and use language relating to dates, including days of the week, weeks, months and years • tell the time to the hour and half past the hour and draw the hands on a clock face to show these times	the hands on a clock face to show these times • know the number of minutes in an hour and the number of hours in a day	and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight • know the number of seconds in a minute and the number of days in each month, year and leap year • compare durations of events [for example to calculate the time taken by particular events or tasks]	hours to minutes; minutes to seconds; years to months; weeks to days		measure to a larger unit, and vice versa
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Vocabulary	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Shape	Group Sort Sides Corners Properties Pyramids Faces Pentagon Hexagon Cylinder Octagon Hollow Solid	Line of symmetry Symmetrical Mirror line Reflection Pattern Repeating pattern Properties Edges Vertices Vertex	Right angle triangle Heptagon Polygon Properties Prism Horizontal Vertical Perpendicular lines Parallel lines	Isosceles Equilateral Scalene Trapezium Rhombus Parallelogram Kite Geometric shapes Quadrilaterals Regular polygon Irregular polygon		Radius Diameter Circumference Dimensions

Perimeter, area and volume

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
		measure the perimeter of simple 2-D shapes	measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres • find the area of rectilinear shapes by counting squares	measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres • calculate and compare the area of rectangles (including squares) and including using standard units, square centimetres (cm ²) and square metres (m ²) and estimate the area of irregular shapes • estimate volume [for example, using blocks to build cuboids] and capacity [for example, using water]	recognise that shapes with the same areas can have different perimeters and vice versa • recognise when it is possible to use formulae for area and volume of shapes • calculate the area of parallelograms and triangles • calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm ³) and cubic metres (m ³), and extending to other units

2D and 3D shapes

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
recognise and name common 2-D shapes [for example, rectangles (including squares), circles and triangles] recognise and name common 3-D shapes [for example, cuboids (including cubes), pyramids and spheres]	identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line • identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid] • compare and sort common 2-D shapes and everyday objects recognise and name common 3-D shapes [for example, cuboids (including cubes), pyramids]	draw 2-D shapes make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them	compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes • identify lines of symmetry in 2-D shapes presented in different orientations	distinguish between regular and irregular polygons based on reasoning about equal sides and angles. • use the properties of rectangles to deduce related facts and find missing lengths and angles identify 3-D shapes, including cubes and other cuboids, from 2-D representations	draw 2-D shapes using given dimensions and angles • compare and classify geometric shapes based on their properties and sizes • illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius recognise, describe and build simple 3-D shapes, including making nets

	and spheres] • compare and sort common 3-D shapes and everyday objects				
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Vocabulary	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Angles, position and direction	Position Direction Movement Whole turn Quarter turn Half turn Three-quarter turn Left Right Forwards Backwards	Clockwise/anti-clockwise Straight line Rotation Arrange Sequences Degree	Orientations Angles Acute Obtuse Turn Right angles Half turn Three quarters of a turn Greater than a right angle Less than a right angle Horizontal lines Vertical lines Perpendicular lines Parallel lines Reflex angles Degrees	Co-ordinates First quadrant Grid Translation Plot Polygon X axis /Y Axis Perimeter and area	Angles of a straight line Angles around a point Vertically opposite Missing angles Reflection	Four quadrants Co-ordinate plane

Angles and lines

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
		recognise angles as a property of shape or a description of a turn • identify right angles, recognise that two right angles make a half-turn,	identify acute and obtuse angles and compare and order angles up to two right angles by size • identify lines of symmetry in 2-D shapes presented in	• know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles • draw given angles, and measure them in degrees • identify: — angles at a point and one whole	find unknown angles in any triangles, quadrilaterals, and regular polygons • recognise angles where they meet at a point, are on a straight line, or

		three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle • identify horizontal and vertical lines and pairs of perpendicular and parallel lines	different orientations • complete a simple symmetric figure with respect to a specific line of symmetry	turn (total 360°) $\rightarrow$ angles at a point on a straight line and $1/2$ a turn (total 180°) $\rightarrow$ other multiples of 90°	are vertically opposite, and find missing angles
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Position and direction

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
describe position, direction and movement, including whole, half, quarter and three-quarter turns	order and arrange combinations of mathematical objects in patterns and sequences • use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anticlockwise)		describe positions on a 2-D grid as coordinates in the first quadrant • describe movements between positions as translations of a given unit to the left/right and up/down • plot specified points and draw sides to complete a given polygon	identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed	describe positions on the full coordinate grid (all four quadrants) • draw and translate simple shapes on the coordinate plane, and reflect them in the axes

Vocabulary Statistics	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
		Pictograms Tally chart Tally Vote Represent	Table Bar chart Carroll diagram Venn diagram Axis	Time graph Discrete data Continuous data Line graph Comparison problem	Timetable Two-way tables	Pie chart Mean Construct

		Block diagram Category Sorting Totalling Comparing Horizontal Vertical Popular	Diagram Frequency table	Calculate Interpret		
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Statistics

Year 1	Year 2	Year 3	Year 4		Year 5	Year 6
	interpret and construct simple pictograms, tally charts, block diagrams and simple tables ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity • ask and answer questions about totalling and comparing categorical data	interpret and present data using bar charts, pictograms and tables solve one-step and two-step questions [for example, 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables	interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs		complete, read and interpret information in tables, including timetables solve comparison, sum and difference problems using information presented in a line graph	interpret and construct pie charts and line graphs and use these to solve problems calculate and interpret the mean as an average