Year 1 Maths overview

Previous Reception experiences and counting within 100 1NPV-1 Count within 100, forwards and backwards, starting with any number. 1.9 Composition of numbers: 20-100	**Comparison of quantities and part-whole relationships** 1NPV-1 Count within 100, forwards and backwards, starting with any number. 1NPV-2 Reason about the location of numbers to 20 within the linear number system, including comparing using < > and =. 1.1 Comparison of quantities and measures 1.2 Introducing 'whole' and 'parts': part-part-whole	**Numbers 0 to 5** 1NPV-2 Reason about the location of numbers to 20 within the linear number system, including comparing using < > and =. 1AS-1 Compose numbers to 10 from 2 parts, and partition numbers to 10 into parts, including recognising odd and even numbers. 1.3 Composition of numbers: 0-5	**Recognise, compose, decompose and manipulate 2D and 3D shapes** 1G-1 Recognise common 2D and 3D shapes presented in different orientations, and know that rectangles, triangles, cuboids and pyramids are not always similar to one another. 1G-2 Compose 2D and 3D shapes from smaller shapes to match an example, including manipulating shapes to place them in particular orientations.
Recognise, compose, decompose and manipulate 2D and 3D shapes 1G-1 Recognise common 2D and 3D shapes presented in different orientations, and know that rectangles, triangles, cuboids and pyramids are not always similar to one another. 1G-2 Compose 2D and 3D shapes from smaller shapes to match an example, including manipulating shapes to place them in particular orientations.	**Numbers 0 to 10** 1NPV-2 Reason about the location of numbers to 20 within the linear number system, including comparing using < > and =. 1AS-1 Compose numbers to 10 from 2 parts, and partition numbers to 10 into parts, including recognising odd and even numbers. 1.4 Composition of numbers: 6-10	**Additive structures** 1AS-2 Read, write and interpret equations containing addition (+), subtraction (-) and equals (=) symbols, and relate additive expressions and equations to real-life contexts 1.5 Additive structures: introduction to aggregation and partitioning 1.6 Additive structures: introduction to augmentation and reduction	**Addition and subtraction facts within 10** 1NF-1 Develop fluency in addition and subtraction facts within 10. 1.7 Addition and subtraction: strategies within 10
Numbers 0 to 20 1NPV-2 Reason about the location of numbers to 20 within the linear number system, including comparing using < > and = 1.10 Composition of numbers: 11-19	**Unitising and coin recognition** 1NF-2 Count forwards and backwards in multiples of 2, 5 and 10, up to 10 multiples, beginning with any multiple, and count forwards and backwards through the odd numbers. 2.1 Counting, unitising and coins	**Position and direction**	**Time**

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Year 2 Maths overview

Numbers 10 to 100	Calculations within 20	Fluently add and subtract within 10	Addition and subtraction of two-digit numbers (1)
2NPV-1 Recognise the place value of each digit in two-digit numbers, and compose and decompose two-digit numbers using standard and non-standard partitioning. • 2NPV-2 Reason about the location of any two-digit number in the linear number system, including identifying the previous and next multiple of 10. 1.8 Composition of numbers: multiples of 10 up to 100 1.9 Composition of numbers: 20-100	2AS-1 Add and subtract across 10. 2AS-2 Recognise the subtraction structure of 'difference' and answer questions of the form, "How many more...?" 1.11 Addition and subtraction: bridging 10 1.12 Subtraction as difference	2NF-1 Secure fluency in addition and subtraction facts within 10, through continued practice. 1.7 Addition and subtraction: strategies within 10	2AS-3 Add and subtract within 100 by applying related one-digit addition and subtraction facts: add and subtract only ones or only tens to/from a two-digit number. 1.13 Addition and subtraction: two-digit and single-digit numbers 1..14 Addition and subtraction: two-digit numbers and multiples of ten

Introduction to multiplication	Introduction to division structures	Shape	Addition and subtraction of two-digit numbers (2)
2MD-1 Recognise repeated addition contexts, representing them with multiplication equations and calculating the product, within the 2, 5 and 10 multiplication tables . 2.2 Structures: multiplication representing equal groups 2.3 Times tables: groups of 2 and commutativity (part 1) 2.4 Times tables: groups of 10 and of 5, and factors of 0 and 1 2.5 Commutativity (part 2), doubling and halving	2MD-2 Relate grouping problems where the number of groups is unknown to multiplication equations with a missing factor, and to division equations (quotitive division). 2.6 Structures: quotitive and partitive division	2G-1 Use precise language to describe the properties of 2D and 3D shapes, and compare shapes by reasoning about similarities and differences in properties.	2AS-4 Add and subtract within 100 by applying related one-digit addition and subtraction facts: add and subtract any 2 two-digit numbers 1.15 Addition: two-digit and two-digit numbers 1.16 Subtraction: two-digit and two-digit numbers

Money	Fractions	Time	Position and direction	Multiplication and division – doubling, halving, quotitive and partitive division	Sense of measure – capacity, volume, mass
	3.0 Guidance on the teaching of fractions in Key Stage 1			2.5 Commutativity (part 2), doubling and halving 2.6 Structures: quotitive and partitive division	

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Year 3 Maths overview

Adding and subtracting across 10	Numbers to 1,000	Right angles
2AS–1 Add and subtract across 10. 3NF–1 Secure fluency in addition and subtraction facts that bridge 10, through continued practice 1.11 Addition and subtraction: bridging 10	3NPV–1 Know that 10 tens are equivalent to 1 hundred, and that 100 is 10 times the size of 10; apply this to identify and work out how many 10s there are in other three-digit multiples of 10. 3NPV–2 Recognise the place value of each digit in three-digit numbers, and compose and decompose three-digit numbers using standard and non-standard partitioning. 3NPV–3 Reason about the location of any three-digit number in the linear number system, including identifying the previous and next multiple of 100 and 10. 3NPV–4 Divide 100 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 100 with 2, 4, 5 and 10 equal parts. 3AS–1 Calculate complements to 100. 3NF–3 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 10). 1.17 Composition and calculation: 100 and bridging 100 1.18 Composition and calculation: three-digit numbers	3G–1 Recognise right angles as a property of shape or a description of a turn, and identify right angles in 2D shapes presented in different orientations.

Manipulating the additive relationship and securing mental calculation	Column addition	2, 4, 8 times tables	Column subtraction
3AS–3 Manipulate the additive relationship: Understand the inverse relationship between addition and subtraction, and how both relate to the part–part–whole structure. Understand and use the commutative property of addition, and understand the related property for subtraction. 1.19 Securing mental strategies: calculation up to 999	3AS–2 Add and subtract up to three-digit numbers using columnar methods 1.20 Algorithms: column addition	3MD–1 Apply known multiplication and division facts to solve contextual problems with different structures, including quotitive and partitive division. 3NF–2 Recall multiplication facts, and corresponding division facts, in the 10, 5, 2, 4 and 8 multiplication tables, and recognise products in these multiplication tables as multiples of the corresponding number. 3NF–3 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 10). 2.7 Times tables: 2, 4 and 8, and the relationship between them	3AS–2 Add and subtract up to three-digit numbers using columnar methods. 1.21 Algorithms: column subtraction

Unit fractions	Non-unit fractions	Parallel and perpendicular sides in polygons	Time
3F–1 Interpret and write proper fractions to represent 1 or several parts of a whole that is divided into equal parts. 3F–2 Find unit fractions of quantities using known division facts (multiplication tables fluency). 3.1 Preparing for fractions: the part–whole relationship 3.2 Unit fractions: identifying, representing and comparing	3F–1 Interpret and write proper fractions to represent 1 or several parts of a whole that is divided into equal parts. 3F–3 Reason about the location of any fraction within 1 in the linear number system. • 3F–4 Add and subtract fractions with the same denominator, within 1. 3.3 Non-unit fractions: identifying, representing and comparing 3.4 Adding and subtracting within one whole		

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Year 4 Maths overview

Review of column addition and subtraction	Numbers to 10,000	Perimeter
3AS–2 Add and subtract up to three-digit numbers using columnar methods. 1.20 Algorithms: column addition 1.21 Algorithms: column subtraction	4NPV–1 Know that 10 hundreds are equivalent to 1 thousand, and that 1,000 is 10 times the size of 100; apply this to identify and work out how many 100s there are in other four-digit multiples of 100. 4NPV–2 Recognise the place value of each digit in four-digit numbers, and compose and decompose four-digit numbers using standard and non-standard partitioning. 4NPV–3 Reason about the location of any four-digit number in the linear number system, including identifying the previous and next multiple of 1,000 and 100, and rounding to the nearest of each. 4NPV–4 Divide 1,000 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 1,000 with 2, 4, 5 and 10 equal parts. 4NF–3 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 100). 1.22 Composition and calculation: 1,000 and four-digit numbers	4G–2 Identify regular polygons, including equilateral triangles and squares, as those in which the side-lengths are equal and the angles are equal. Find the perimeter of regular and irregular polygons. 2.16 Multiplicative contexts: area and perimeter 1

3, 6, 9 times tables	7 times table and patterns	Understanding and manipulating multiplicative relationships	Coordinates
4NF–1 Recall multiplication and division facts up to 12×12, and recognise products in multiplication tables as multiples of the corresponding number. 2.8 Times tables: 3, 6 and 9, and the relationship between them	4NF–1 Recall multiplication and division facts up to 12×12, and recognise products in multiplication tables as multiples of the corresponding number. 2.9 Times tables: 7 and patterns within/across times tables	4MD–1 Multiply and divide whole numbers by 10 and 100 (keeping to whole number quotients); understand this as equivalent to making a number 10 or 100 times the size. 4MD–2 Manipulate multiplication and division equations, and understand and apply the commutative property of multiplication. 4MD–3 Understand and apply the distributive property of multiplication. 4NF–3 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 100) 2.10 Connecting multiplication and division, and the distributive law 2.13 Calculation: multiplying and dividing by 10 or 100	4G–1 Draw polygons, specified by coordinates in the first quadrant, and translate within the first quadrant

Times tables: 11 and 12	Review of fractions	Fractions greater than one	Symmetry in 2D shapes	Time	Division with remainders
2.11 Times tables 11 and 12	3F–1 Interpret and write proper fractions to represent 1 or several parts of a whole that is divided into equal parts. 3.1 Preparing for fractions: the part–whole relationship	4F–1 Reason about the location of mixed numbers in the linear number system. 4F–2 Convert mixed numbers to improper fractions and vice versa. 4F–3 Add and subtract improper and mixed fractions with the same denominator, including bridging whole numbers. 3.5 Working across one whole: improper fractions and mixed numbers	4G–3 Identify line symmetry in 2D shapes presented in different orientations. Reflect shapes in a line of symmetry and complete a symmetric figure or pattern with respect to a specified line of symmetry		4NF–2 Solve division problems, with two-digit dividends and one-digit divisors, that involve remainders. 2.12 Division with remainders

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Year 5 Maths overview

Decimal Fractions

5NPV-1 Know that 10 tenths are equivalent to 1 one, and that 1 is 10 times the size of 0.1. Know that 100 hundredths are equivalent to 1 one, and that 1 is 100 times the size of 0.01. Know that 10 hundredths are equivalent to 1 tenth, and that 0.1 is 10 times the size of 0.01.
5NPV-2 Recognise the place value of each digit in numbers with up to 2 decimal places, and compose and decompose numbers with up to 2 decimal places using standard and non-standard partitioning.
5NPV-3 Reason about the location of any number with up to 2 decimals places in the linear number system, including identifying the previous and next multiple of 1 and 0.1 and rounding to the nearest of each.
5NPV-4 Divide 1 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in units of 1 with 2, 4, 5 and 10 equal parts.
5NF-2 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 1 tenth or 1 hundredth).
1.23 Composition and calculation: tenths
1.24 Composition and calculation: hundredths and thousandths

Money

1.25 Addition and subtraction: money

Negative numbers

1.27 Negative numbers: counting, comparing and calculating

Short multiplication and short division

5MD-3 Multiply any whole number with up to 4 digits by any one-digit number using a formal written method.
5MD-4 Divide a number with up to 4 digits by a one-digit number using a formal written method, and interpret remainders appropriately for the context.
2.14 Multiplication: partitioning leading to short multiplication
2.15 Division: partitioning leading to short division

Area and scaling

5G-2 Compare areas and calculate the area of rectangles (including squares) using standard units.
2.16 Multiplicative contexts: area and perimeter 1
2.17 Structures: using measures and comparison to understand scaling

Calculating with decimal fractions

5MD-1 Multiply and divide numbers by 10 and 100; understand this as equivalent to making a number 10 or 100 times the size, or 1 tenth or 1 hundredth times the size.
2.19 Calculation: ×/÷ decimal fractions by whole numbers
2.29 Decimal place-value knowledge, multiplication and division 0

Factors, multiples and primes

5MD-2 Find factors and multiples of positive whole numbers, including common factors and common multiples, and express a given number as a product of 2 or 3 factors.
2.20 Multiplication with three factors and volume
2.21 Factors, multiples, prime numbers and composite numbers

Fractions

5NPV-5 Convert between units of measure, including using common decimals and fractions.
5F-1 Find non-unit fractions of quantities.
5F-2 Find equivalent fractions and understand that they have the same value and the same position in the linear number system.
5F-3 Recall decimal fraction equivalents for 1/2, 1/4, 1/5 and 1/10, and for multiples of these proper fractions.
3.6 Multiplying whole numbers and fractions
3.7 Finding equivalent fractions and simplifying fractions
3.10 Linking fractions, decimals and percentages

Converting units

5NPV-5 Convert between units of measure, including using common decimals and fractions

Angles

5G-1 Compare angles, estimate and measure angles in degrees (°) and draw angles of a given size.

Roman numerals

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Year 6 Maths overview

Calculating using knowledge of structures (1)	Multiples of 1000	Numbers up to 10,000,000
6AS/MD-1 Understand that 2 numbers can be related additively or multiplicatively, and quantify additive and multiplicative relationships (multiplicative relationships restricted to multiplication by a whole number). 6AS/MD-2 Use a given additive or multiplicative calculation to derive or complete a related calculation, using arithmetic properties, inverse relationships, and place-value understanding. 1.28 Common structures and the part-part-whole relationship 1.29 Using equivalence and the compensation property to calculate	1.26 Composition and calculation: multiples of 1,000 up to 1,000,000	6NPV-1 Understand the relationship between powers of 10 from 1 hundredth to 10 million, and use this to make a given number 10, 100, 1,000, 1 tenth, 1 hundredth or 1 thousandth times the size (multiply and divide by 10, 100 and 1,000). 6NPV-2 Recognise the place value of each digit in numbers up to 10 million, including decimal fractions, and compose and decompose numbers up to 10 million using standard and non-standard partitioning. 6NPV-3 Reason about the location of any number up to 10 million, including decimal fractions, in the linear number system, and round numbers, as appropriate, including in contexts. 6NPV-4 Divide powers of 10, from 1 hundredth to 10 million, into 2, 4, 5 and 10 equal parts, and read scales/number lines with labelled intervals divided into 2, 4, 5 and 10 equal parts. 1.30 Composition and calculation: numbers up to 10,000,000

Draw, compose and decompose shapes	Multiplication and division	Area, perimeter, position and direction	Fractions and percentages
6G-1 Draw, compose, and decompose shapes according to given properties, including dimensions, angles and area, and solve related problems.	6AS/MD-2 Use a given additive or multiplicative calculation to derive or complete a related calculation, using arithmetic properties, inverse relationships, and place-value understanding. 2.18 Using equivalence to calculate 2.23 Multiplication strategies for larger numbers and long multiplication 2.24 Division: dividing by two-digit divisors 2.25 Using compensation to calculate	2.30 Multiplicative contexts: area and perimeter 2	6F-1 Recognise when fractions can be simplified, and use common factors to simplify fractions. 6F-2 Express fractions in a common denomination and use this to compare fractions that are similar in value. 6F-3 Compare fractions with different denominators, including fractions greater than 1, using reasoning, and choose between reasoning and common denomination as a comparison strategy. 3.8 Common denomination: more adding and subtracting 3.9 Multiplying fractions and dividing fractions by a whole number • 3.10 Linking fractions, decimals and percentages

Statistics	Ratio and proportion	Calculating using knowledge of structures (2)	Solving problems with two unknowns	Order of operations	Mean average
	6AS/MD-3 Solve problems involving ratio relationships. 2.27 Scale factors, ratio and proportional reasoning	6AS/MD-2 Use a given additive or multiplicative calculation to derive or complete a related calculation, using arithmetic properties, inverse relationships, and place-value understanding. 1.29 Using equivalence and the compensation property to calculate	6AS/MD-4 Solve problems with 2 unknowns. 1.31 Problems with two unknowns	2.22 Combining multiplication with addition and subtraction 2.28 Combining division with addition and subtraction	2.26 Mean average and equal shares

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