

ADDITION - Progression of skills – Know what comes before and next!

| Year group | National Curriculum Objective | Skill |
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| Reception | <ul style="list-style-type: none"> • Have a deep understanding of numbers to 10, including the composition of each number. • Subitise (recognise quantities without counting) up to 5 • Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 and some number bonds to 10, including double facts. | <ul style="list-style-type: none"> • Conceptually subitise to 5 • 1 more • Notice the composition of numbers within 10 • Combine 2 groups • Add more |
| Year 1 | <ul style="list-style-type: none"> • Read, write and interpret mathematical statements involving addition (+) and equals (=) signs. • Represent and use number bonds within 20 • Add 1-digit and 2-digit numbers to 20, including zero. • Solve one-step problems that involve addition, using concrete objects and pictorial representations, and missing number problems such as $7 = + 2$ | <ul style="list-style-type: none"> • Add together • Add more • Bonds within 10 • Related facts within 20 • Missing numbers |
| Year 2 | <ul style="list-style-type: none"> • Recall and use addition facts to 20 fluently, and derive and use related facts up to 100 • Add numbers using concrete objects, pictorial representations, and mentally, including: <ul style="list-style-type: none"> -a two-digit number and 1s -a two-digit number and 10s -2 two-digit numbers -adding 3 one-digit numbers | <ul style="list-style-type: none"> • Add 1s to any number (related facts) • Add three 1-digit numbers • Add across a 10 • Add multiples of 10 • Add 10s to any number • Add two 2-digit numbers (not across a ten) • Add two 2-digit numbers (across a ten) • Missing numbers |

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| | <ul style="list-style-type: none"> Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems. | |
| Year 3 | <ul style="list-style-type: none"> Add numbers mentally, including: a three-digit number and ones, a three-digit number and tens, a three-digit number and hundreds. Add numbers with up to three digits, using formal written methods of columnar addition. Add fractions with the same denominator within 1 whole. Calculate the time taken by particular events or tasks. | <ul style="list-style-type: none"> Add 1s, 10s and 100s to a 3-digit number Add two numbers (no exchange) Add two numbers across a 10 or 100 Complements to 100 Add fractions with the same denominator within 1 whole Calculate the duration of events |
| Year 4 | <ul style="list-style-type: none"> Add numbers with up to 4 digits using a formal written method. Solve simple measure and money problems involving fractions and decimals to 2 decimal places. Add fractions with the same denominator. | <ul style="list-style-type: none"> Add 1s, 10s and 100s to a 4-digit number Add up to two 4-digit numbers Add decimal numbers in the context of money Add fractions and mixed numbers with the same denominator beyond 1 whole |
| Year 5 | <ul style="list-style-type: none"> Add whole numbers with more than 4 digits, including using formal written methods. Add numbers mentally with increasingly large numbers. Add decimals, including a mix of whole numbers and decimals, decimals with different numbers of decimal places, and complements of 1 Add fractions with the same denominator, and denominators that are multiples of the same number. | <ul style="list-style-type: none"> Add using mental strategies Add whole numbers with more than 4 digits Add decimals with up to 2 decimal places Complements to 1 Add fractions with denominators that are a multiple of one another |

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| Year 6 | <ul style="list-style-type: none">• Add whole numbers with more than 4 digits, including using formal written methods.• Add numbers mentally with increasingly large numbers.• Add decimals, including a mix of whole numbers and decimals, decimals with different numbers of decimal places, and complements of 1• Add fractions with the same denominator, and denominators that are multiples of the same number. | <ul style="list-style-type: none">• Add integers up to 10 million• Add decimals with up to 3 decimal places• Order of operations• Negative numbers• Add fractions |
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SUBTRACTION - Progression of skills – Know what comes before and next!

| Year group | National Curriculum Objective | Skill |
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| Reception | <ul style="list-style-type: none"> • Have a deep understanding of number to 10, including the composition of each number. • Subitise (recognise quantities without counting) up to 5 • Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (and some subtraction facts) and some number bonds to 10, including double facts. | <ul style="list-style-type: none"> • Conceptually subitise to 5 • 1 less • Notice the composition of numbers within 10 • Partition • Take away |
| Year 1 | <ul style="list-style-type: none"> • Read, write and interpret mathematical statements involving subtraction (−) and equals (=) signs. • Represent and use number bonds and related subtraction facts within 20 • Subtract one-digit and two-digit numbers to 20, including zero. • Solve one-step problems that involve subtraction, using concrete objects and pictorial representations, and missing number problems such as $7 = \square - 9$ | <ul style="list-style-type: none"> • Find a part • Take away • Bonds within 10 • Related facts within 20 • Missing numbers |

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| Year 2 | <ul style="list-style-type: none"> • Recall and use subtraction facts to 20 fluently, and derive and use related facts up to 100 • Subtract numbers using concrete objects, pictorial representations, and mentally, including: <ul style="list-style-type: none"> - a two-digit number and 1s - a two-digit number and 10s - 2 two-digit numbers • Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems. | <ul style="list-style-type: none"> • Subtract 1s from any number (related facts) • Subtract across a 10 • Subtract multiples of 10 • Subtract 10s from any number • Subtract two 2-digit numbers (not across a ten) • Subtract two 2-digit numbers (across a ten) • Missing numbers |
| Year 3 | <ul style="list-style-type: none"> • Subtract numbers mentally, including: a three-digit number and ones, a three-digit number and tens, a three-digit number and hundreds. • Subtract numbers with up to three digits, using formal written methods. • Subtract fractions with the same denominator within 1 whole. | <ul style="list-style-type: none"> • Subtract 1s, 10s and 100s from a 3-digit number • Subtract two numbers (no exchange) • Subtract two numbers across a 10 or 100 • Complements to 100 • Subtract fractions with the same denominator within 1 whole |
| Year 4 | <ul style="list-style-type: none"> • Subtract numbers with up to 4 digits using a formal written method. | <ul style="list-style-type: none"> • Subtract 1s, 10s, 100s and 1,000s from a 4-digit number • Subtract up to two 4-digit numbers • Subtract decimal numbers in the context of money |

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| | <ul style="list-style-type: none"> • Solve simple measure and money problems involving fractions and decimals to 2 decimal places. • Subtract fractions with the same denominator. | <ul style="list-style-type: none"> • Subtract fractions and mixed numbers with the same denominator |
| Year 5 | <ul style="list-style-type: none"> • Subtract whole numbers with more than 4 digits. • Subtract numbers mentally with increasingly large numbers. • Subtract decimals, including a mix of whole numbers and decimals, decimals with different numbers of decimal places, and complements of 1 • Subtract fractions with the same denominator, and denominators that are multiples of the same number. | <ul style="list-style-type: none"> • Subtract whole numbers with more than 4 digits • Subtract using mental strategies • Subtract decimals with up to 2 decimal places • Complements to 1 • Subtract fractions with denominators that are a multiple of one another |
| Year 6 | <ul style="list-style-type: none"> • Subtract larger numbers, using the formal written methods of columnar subtraction. • Use their knowledge of the order of operations to carry out calculations involving the 4 operations. • Calculate intervals across zero. • Subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions. | <ul style="list-style-type: none"> • Subtract integers up to 10 million • Subtract decimals with up to 3 decimal places • Order of operations • Negative numbers • Subtract fractions |

MULPILICATION - Progression of skills – Know what comes before and next!

| Year group | National Curriculum Objective | Skill |
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| Reception | <ul style="list-style-type: none"> • Have a deep understanding of number to 10, including the composition of each number. • Subitise (recognise quantities without counting) up to 5 • Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 and some number bonds to 10, including double facts. • Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally. | <ul style="list-style-type: none"> • Double to 10 • Make equal groups |
| Year 1 | <ul style="list-style-type: none"> • Count in multiples of twos, fives and tens. • Solve one-step problems involving multiplication, using concrete objects, pictorial representations and arrays with the support of the teacher | <ul style="list-style-type: none"> • Count in 2s, 5s and 10s • Add equal groups • Make arrays • Make doubles |
| Year 2 | <ul style="list-style-type: none"> • Recall and use multiplication facts for the 2, 5 and 10 multiplication tables. • Calculate mathematical statements for multiplication within the multiplication tables and write them using the multiplication (\times) and equals ($=$) signs. | <ul style="list-style-type: none"> • Link repeated addition and multiplication • Use arrays • Double • The 2 times-table • The 10 times-table |

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| | <ul style="list-style-type: none"> • Show that multiplication of two numbers can be done in any order (commutative). | <ul style="list-style-type: none"> • The 5 times-table • Missing numbers |
| Year 3 | <ul style="list-style-type: none"> • Recall and use multiplication facts for the 3, 4 and 8 multiplication tables. • Write and calculate mathematical statements for multiplication using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods. • Solve problems, including missing number problems, involving multiplication, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects. | <ul style="list-style-type: none"> • The 3 times-table • The 4 times-table • The 8 times-table • Related facts • Multiply a 2-digit number by a 1-digit number - no exchange • Multiply a 2-digit number by a 1-digit number - with exchange • Scaling • Correspondence problems |
| Year 4 | <ul style="list-style-type: none"> • Recall multiplication facts for multiplication tables up to 12×12 • Use place value, known and derived facts to multiply mentally, including: multiplying by 0 and 1; multiplying together three numbers. • Recognise and use factor pairs and commutativity in mental calculations. | <ul style="list-style-type: none"> • Times-table facts to 12×12 • Multiply by 1 and 0 • Multiply 3 numbers • Factor pairs • Multiply by 10 and 100 • Related facts • Mental strategies |

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| | <ul style="list-style-type: none"> • Multiply two-digit and three-digit numbers by a one-digit number using formal written layout. • 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 such as n objects are connected to m objects. | <ul style="list-style-type: none"> • Multiply a 2 or 3-digit number by a 1-digit number • Scaling • Correspondence problems |
| Year 5 | <ul style="list-style-type: none"> • Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers • Recognise and use square numbers and cube numbers, and the notation for squared (²) and cubed (³) • 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 numbers mentally drawing upon known facts. • Multiply whole numbers and those involving decimals by 10, 100 and 1000 • Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams. | <ul style="list-style-type: none"> • Multiples and factors • Square and cube numbers • Multiply numbers up to 4 digits by a 1-digit number • Multiply numbers up to 4 digits by a 2-digit number • Multiply by 10, 100 and 1,000 • Mental strategies • Multiply fractions by a whole number • Multiply mixed numbers by a whole number • Find the whole |

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| Year 6 | <ul style="list-style-type: none">• Identify common factors and common multiples.• Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication.• Multiply numbers by 10, 100 and 1,000• Multiply one-digit numbers with up to two decimal places by whole numbers.• Use their knowledge of the order of operations to carry out calculations involving the 4 operations.• Multiply simple pairs of proper fractions, writing the answer in its simplest form.• 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 of percentages. | <ul style="list-style-type: none">• Multiply numbers up to 4 digits by a 2-digit number• Multiply by 10, 100 and 1,000• Order of operations• Multiply decimals by integers• Multiply fractions by fractions• Find the whole• Calculations involving ratio |
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DIVISION - Progression of skills – Know what comes before and next!

| Year group | National Curriculum Objective | Skill |
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| Reception | <ul style="list-style-type: none"> • Have a deep understanding of number to 10, including the composition of each number. • Subitise (recognise quantities without counting) up to 5 • Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 and some number bonds to 10, including double facts. • Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally. | <ul style="list-style-type: none"> • Sharing • Grouping |
| Year 1 | <ul style="list-style-type: none"> • Solve simple one-step problems involving division, using concrete objects, pictorial representations and arrays with the support of the teacher. • Recognise, find and name a half as one of two equal parts of a quantity. • Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity. | <ul style="list-style-type: none"> • Make equal groups – grouping • Make equal groups – sharing • Find a half • Find a quarter |

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| Year 2 | <ul style="list-style-type: none"> Recall and use division facts for the 2, 5 and 10 multiplication tables. Calculate mathematical statements for division within the multiplication tables and write them using the division (\div) and equals (=) signs. Recognise, find, name and write fractions $\frac{1}{2}$, $\frac{1}{5}$, $\frac{2}{5}$ and of a quantity. | <ul style="list-style-type: none"> Divide by 2 Divide by 10 Divide by 5 Missing numbers Unit fractions Non-unit fractions |
| Year 3 | <ul style="list-style-type: none"> Recall and use division facts for the 3, 4 and 8 multiplication tables. Write and calculate mathematical statements for 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. Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators. | <ul style="list-style-type: none"> Divide by 3 Divide by 4 Divide by 8 Related facts Divide a 2-digit number by a 1-digit number - no exchange Divide a 2-digit number by a 1-digit number - with remainders Unit fractions of a set of objects Non-unit fractions of a set of objects |
| Year 4 | <ul style="list-style-type: none"> Recall division facts for multiplication tables up to 12×12 Use place value, known and derived facts to divide mentally, including: dividing by 1 | <ul style="list-style-type: none"> Division facts to 12×12 Divide a number by 1 and itself Related facts Divide a 2 or 3-digit number by a 1-digit number |

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| | <ul style="list-style-type: none"> • Find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths. | <ul style="list-style-type: none"> • Divide by 10 and 100 |
| Year 5 | <ul style="list-style-type: none"> • 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. • Divide whole numbers and those involving decimals by 10, 100 and 1,000 | <ul style="list-style-type: none"> • Mental strategies • Divide numbers up to 4 digits by a 1-digit number • Divide by 10, 100 and 1,000 • Fraction of an amount |

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| <p>Year 6</p> | <ul style="list-style-type: none"> • Perform mental calculations, including with mixed operations and large numbers. • 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. • Divide numbers by 10, 100 and 1,000 giving answers up to three decimal places. • Use written division methods in cases where the answer has up to two decimal places. • Associate a fraction with division and calculate decimal fraction equivalents. • Divide proper fractions by whole numbers [for example, $\frac{1}{3} \div 2 = \frac{1}{6}$] • Solve problems involving the calculation of percentages. | <ul style="list-style-type: none"> • Short division • Mental strategies • Long division • Order of operations • Divide by 10, 100 and 1,000 • Divide decimals by integers • Decimal and fraction equivalents • Divide a fraction by an integer • Fraction of an amount • Calculate percentages • Calculations involving ratio |
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