

| Year 4 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
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| 1      | <b>Review of column addition and subtraction</b> <ul style="list-style-type: none"> <li>3AS–2 Add and subtract up to three-digit numbers using columnar methods.</li> <li>1.20 Algorithms: column addition</li> <li>1.21 Algorithms: column subtraction</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 2      | <b>Numbers to 10,000</b> <ul style="list-style-type: none"> <li>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.</li> <li>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.</li> <li>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.</li> <li>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.</li> <li>4NF–3 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 100).</li> <li>1.22 Composition and calculation: 1,000 and four-digit numbers</li> </ul> |
| 3      | <b>Perimeter</b> <ul style="list-style-type: none"> <li>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.</li> <li>2.16 Multiplicative contexts: area and perimeter 1</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 4      | <b>3, 6, 9 times tables</b> <ul style="list-style-type: none"> <li>4NF–1 Recall multiplication and division facts up to 12×12, and recognise products in multiplication tables as multiples of the corresponding number.</li> <li>2.8 Times tables: 3, 6 and 9, and the relationship between them</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 5      | <b>7 times table and patterns</b> <ul style="list-style-type: none"> <li>4NF–1 Recall multiplication and division facts up to 12×12, and recognise products in multiplication tables as multiples of the corresponding number.</li> <li>2.9 Times tables: 7 and patterns within/across times tables</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 6      | <b>Understanding and manipulating multiplicative relationships</b> <ul style="list-style-type: none"> <li>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.</li> <li>4MD–2 Manipulate multiplication and division equations, and understand and apply the commutative property of multiplication.</li> <li>4MD–3 Understand and apply the distributive property of multiplication.</li> <li>4NF–3 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 100)</li> <li>2.10 Connecting multiplication and division, and the distributive law</li> <li>2.13 Calculation: multiplying and dividing by 10 or 100</li> </ul>                                                                                                                                                                                                                                           |
| 7      | <b>Coordinates</b> <ul style="list-style-type: none"> <li>4G–1 Draw polygons, specified by coordinates in the first quadrant, and translate within the first quadrant.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 8      | <b>Review of fractions</b> <ul style="list-style-type: none"> <li>3F–1 Interpret and write proper fractions to represent 1 or several parts of a whole that is divided into equal parts.</li> <li>3.1 Preparing for fractions: the part-whole relationship</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 9      | <b>Fractions greater than 1</b> <ul style="list-style-type: none"> <li>4F–1 Reason about the location of mixed numbers in the linear number system.</li> <li>4F–2 Convert mixed numbers to improper fractions and vice versa.</li> <li>4F–3 Add and subtract improper and mixed fractions with the same denominator, including bridging whole numbers.</li> <li>3.5 Working across one whole: improper fractions and mixed numbers</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 10     | <b>Symmetry in 2D shapes</b> <ul style="list-style-type: none"> <li>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.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 11     | <b>Time</b> <ul style="list-style-type: none"> <li>This topic is part of the National Curriculum but is not included in the DfE 2020 guidance or the NCETM Mastery PD Materials.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 12     | <b>Division with remainders</b> <ul style="list-style-type: none"> <li>4NF–2 Solve division problems, with two-digit dividends and one-digit divisors, that involve remainders.</li> <li>2.12 Division with remainders</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

Year 5

Review addition and subtraction

Money

1.25 Addition and subtraction: money

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

Negative numbers

1.27 Negative numbers: counting, comparing and calculating

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

Short multiplication and 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

Calculating decimals

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:  $\times/\div$  decimal fractions by whole numbers
- 2.29 Decimal place-value knowledge, multiplication and division

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

Converting units

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

Coordinates

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  $\frac{1}{2}$ ,  $\frac{1}{4}$ ,  $\frac{1}{5}$  and  $\frac{1}{10}$ , 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

Angles

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

Time

Division with remainders