



AUTUMN – YEAR 5

NATIONAL CURRICULUM

NUMBER - NUMBER AND PLACE VALUE

Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000 (A1, Su4)

Count forwards and backwards with positive and negative whole numbers, including through zero (A1, Su4)

Read, write, (order and compare) numbers to at least 1 000 000 and determine the value of each digit (A1)

Read Roman numerals to 1000 (M) and recognise years written in Roman numerals (A1)

Read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit (A1)

Interpret negative numbers in context (A1)

Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000 (A1)

Solve number problems and practical problems that involve all of the above (A1)

NUMBER - ADDITION AND SUBTRACTION

Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) • add and subtract numbers mentally with increasingly large numbers (A2)

Solve addition and subtraction multistep problems in contexts, deciding which operations and methods to use and why (A2)

Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign (A2)

NUMBER – MULTIPLICATION AND DIVISION

Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers (A3)

Know and use the vocabulary of prime numbers, prime factors and composite (nonprime) numbers (A3)

Establish whether a number up to 100 is prime and recall prime numbers up to 19 (A3)

Recognise and use square numbers and cube numbers, and the notation for squared (²) and cubed (³) (A3)

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 (A3, Sp1)

Multiply and divide numbers mentally drawing upon known facts (A3, Sp1)

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 (A3, Sp1)

Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 (A3, Sp1)

Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes (A3, Sp1)

Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates (A3, Sp1)

NUMBER – FRACTIONS (INCLUDING DECIMALS AND PERCENTAGES)

Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths (A4)

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, $\frac{2}{5} + \frac{4}{5} = \frac{26}{5} = 1\frac{1}{5}$] (A4)

Compare and order fractions whose denominators are all multiples of the same number (A4)

Add and subtract fractions with the same denominator and denominators that are multiples of the same number (A4, Sp2)

Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams (A4, Sp2)

READY TO PROGRESS

NUMBER FACTS - NF

5NF-1 Secure fluency in multiplication table facts, and corresponding division facts, through continued practice (A3 Steps 1, 2, 3, 4, 6)

5NF-2 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 1 tenth or 1 hundredth) (A3 Step 10)

MULTIPLICATION AND DIVISION – MD

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 (A3 Steps 8, 9, 10)

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 (A3 Steps 1, 2, 3, 4, 6)

FRACTIONS

5F-2 Find equivalent fractions and understand that they have the same value and the same position in the linear number system (A4 Steps 1, 2, 3)



SPRING – YEAR 5

NATIONAL CURRICULUM

NUMBER – MULTIPLICATION AND DIVISION

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 (A3, Sp1)

Multiply and divide numbers mentally drawing upon known facts (A3, Sp1)

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 (A3, Sp1)

Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 (A3, Sp1)

Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes (A3, Sp1)

Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates (A3, Sp1)

Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign (Sp1)

NUMBER – FRACTIONS (INCL DECIMALS & PERCENTAGES)

Add and subtract fractions with the same denominator and denominators that are multiples of the same number (A4, Sp2)

Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams (A4, Sp2)

Read and write decimal numbers as fractions [for example, $0.71 = \frac{71}{100}$] (Sp3, Su3)

Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents (Sp3, Su3)

Round decimals with two decimal places to the nearest whole number and to one decimal place (Sp3, Su3)

Read, write, order and compare numbers with up to three decimal places (Sp3, Su3)

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 $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{2}{5}$, $\frac{4}{5}$ and those fractions with a denominator of a multiple of 10 or 25 (Sp3)

MEASUREMENT

Convert between different units of metric measure (Sp4, Su5, Su6)

Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints (Sp4, Su5, Su6)

Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling (Sp4, Su5, Su6)

Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres (Sp4, Su6)

Calculate and compare the area of rectangles (including squares) and including using standard units, square centimetres (cm²) and square metres (m²) and estimate the area of irregular shapes (Sp4, Su6)

Estimate volume [for example, using blocks to build cuboids] and capacity [for example, using water] (Sp4, Su6)

STATISTICS

Complete, read and interpret information in tables, including timetables (Sp5)

Solve comparison, sum and difference problems using information presented in a line graph (Sp5)

READY TO PROGRESS

NUMBER AND PLACE VALUE - NPV

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 (Sp3 Step 1)

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 (Sp3 Step 1)

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 (Sp3 Steps 8, 9, 10, 11)

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 (Sp3 (Steps 2, 3, 15))

NUMBER FACTS - NF

5NF-1 Secure fluency in multiplication table facts, and corresponding division facts, through continued practice (Sp1 and Sp2 - all steps)

MULTIPLICATION AND DIVISION – MD

5MD-3 Multiply any whole number with up to 4 digits by any one-digit number using a formal written method (Sp1 Steps 1-5)

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 (Sp1 Steps 7, 8, 9)

FRACTIONS

5F-1 Find non-unit fractions of quantities (Sp2 Steps 4, 5)

5F-3 Recall decimal fraction equivalents for $\frac{1}{4}$, $\frac{1}{2}$, $\frac{1}{5}$ and $\frac{1}{10}$ and for multiples of these proper fractions (Sp3 Steps 2, 3, 4)

GEOMETRY – G

5G-2 Compare areas and calculate the area of rectangles (including squares) using standard units (Sp4 Steps 4, 5)



SUMMER – YEAR 5

NATIONAL CURRICULUM

NUMBER - NUMBER AND PLACE VALUE

Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000 (A1, Su4)

Count forwards and backwards with positive and negative whole numbers, including through zero (A1, Su4)

NUMBER – FRACTIONS (INCLUDING DECIMALS AND PERCENTAGES)

Read and write decimal numbers as fractions [for example, $0.71 = \frac{71}{100}$] (Sp3, Su3)

Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents (Sp3, Su3)

Round decimals with two decimal places to the nearest whole number and to one decimal place (Sp3, Su3)

Read, write, order and compare numbers with up to three decimal places (Sp3, Su3)

MEASUREMENT

Convert between different units of metric measure (Sp4, Su5, Su6)

Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints (Sp4, Su5, Su6)

Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling (Sp4, Su5, Su6)

Use all four operations to solve problems involving measure [for example, money] (Su3)

Solve problems involving converting between units of time (Su5)

Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres (Sp4, Su6)

Calculate and compare the area of rectangles (including squares) and including using standard units, square centimetres (cm²) and square metres (m²) and estimate the area of irregular shapes (Sp4, Su6)
Estimate volume [for example, using blocks to build cuboids] and capacity [for example, using water] (Sp4, Su6)

GEOMETRY – PROPERTIES OF SHAPES

Distinguish between regular and irregular polygons based on reasoning about equal sides and angles (Su1)

Use the properties of rectangles to deduce related facts and find missing lengths and angles (Su1)

Identify 3-D shapes, including cubes and other cuboids, from 2-D representations (Su1)

Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles (Su2)

Draw given angles, and measure them in degrees (Su2)

Identify:

- angles at a point and one whole turn (total 360°)
- angles at a point on a straight line and $\frac{1}{2}$ a turn (total 180°)
- other multiples of 90° (Su2)

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 (Su2)

READY TO PROGRESS

NUMBER AND PLACE VALUE – NPV

5NPV-5 Convert between units of measure, including using common decimals and fractions (Su5, steps to follow)

MULTIPLICATION AND DIVISION – MD

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 (Su 3 – steps to follow)

GEOMETRY – G

5G-1 Compare angles, estimate and measure angles in degrees (°) and draw angles of a given size (Su1 Steps to follow)