New National Curriculum 2014 Year 5 Coverage

Autumn T1&2   Spring T3&4   Summer T5&6

Year 5 programme of study

Year 5 problem solving references

Number, place value, approximation and estimation Pupils should be taught to:	T1	T2	T3	T4	T5	T6
read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit						
count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000						
interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers through zero						
round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000						
solve number problems and practical problems that involve all elements of the place value domain						
read Roman numerals to 1000 (M) and recognise years written in Roman numerals.						

Addition and subtraction Pupils should be taught to:	T1	T2	T3	T4	T5	T6
add and subtract whole numbers with more than 4 digits, including using efficient written methods (columnar addition and subtraction)						
add and subtract numbers mentally with increasingly large numbers						
use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy						
solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.						

Multiplication and Division Pupils should be taught to:	T1	T2	T3	T4	T5	T6
identify multiples and factors, including finding all factor pairs						
solve problems involving multiplication and division where larger numbers are used by decomposing them into their factors						
know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers						
establish whether a number up to 100 is prime and recall prime numbers up to 19						
multiply numbers up to 4 digits by a one- or two-digit number using an efficient written method, including long multiplication for two-digit numbers						
multiply and divide numbers mentally drawing upon known facts						
the efficient 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						
recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3)						
solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign						
solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.						

Fractions Pupils should be taught to:	T1	T2	T3	T4	T5	T6
compare and order fractions whose denominators are all multiples of the same number						
recognise mixed numbers and improper fractions and convert from one form to the other						
add and subtract fractions with the same denominator and related fractions; write mathematical statements >1 as a mixed number (e.g. 2/5 + 4/5 = 6/5 = 11/5)						
multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams.						

Decimals and Fractions Pupils should be taught to:	T1	T2	T3	T4	T5	T6
read and write decimal numbers as fractions (e.g. 0.71 = 71/100)						
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						
solve problems involving number up to three decimal places.						

Percentages, decimals and fractions Pupils should be taught to:	T1	T2	T3	T4	T5	T6
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 hundred, and as a decimal fraction						
solve problems which require knowing percentage and decimal equivalents of 1/2, 1/4, 1/5, 2/5, 4/5 and those with a denominator of a multiple of 10 or 25.						

Measures Pupils should be taught to:	T1	T2	T3	T4	T5	T6
convert between different units of measure (e.g. kilometre and metre; metre and centimetre; centimetre and millimetre; kilogram and gram; litre and millilitre)						
understand and use basic equivalences between metric and common imperial units and express them in approximate terms						
measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres						
calculate and compare the area of squares and rectangles including using standard units, square centimetres (cm2) and square metres (m2) and estimate the area of irregular shapes						
recognise and estimate volume (e.g. using 1 cm3 blocks to build cubes and cuboids) and capacity (e.g. using water)						
solve problems involving converting between units of time						
solve problems involving addition and subtraction of units of measure (e.g. length, mass, volume, money) using decimal notation.						

Geometry Pupils should be taught to:	T1	T2	T3	T4	T5	T6
identify 3-D shapes, including cubes and cuboids, from 2-D representations						
know angles are measured in degrees; estimate and measure them and draw a given angle, writing its size in degrees (◦)						
identify: - multiples of 90◦ - angles at a point on a straight line and 1/2 a turn (total 180◦) - angles at a point and one whole turn (total 360◦) - refelx angles - and compare angles						
draw shapes using given dimensions and angles						
state and use the properties of a rectangle (including squares) to deduce related facts						
distinguish between regular and irregular polygons based on reasoning about equal sides and angles.						

Geometry: Properties of shape Pupils should be taught to:	T1	T2	T3	T4	T5	T6
identify 3-D shapes, including cubes and cuboids, from 2-D representations						
know angles are measured in degrees; estimate and measure them and draw a given angle, writing its size in degrees (◦)						
identify: - multiples of 90◦ - angles at a point on a straight line and 1/2 a turn (total 180◦) - angles at a point and one whole turn (total 360◦) - refelx angles - and compare angles						
draw shapes using given dimensions and angles						
state and use the properties of a rectangle (including squares) to deduce related facts						
distinguish between regular and irregular polygons based on reasoning about equal sides and angles.						

Geometry: position, direction, motion Pupils should be taught to:	T1	T2	T3	T4	T5	T6
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.						

Statistics Pupils should be taught to:	T1	T2	T3	T4	T5	T6
solve comparison, sum and difference problems using information presented in line graphs						
complete, read and interpret information in tables, including timetables.						