



Year 3 Maths

Application

Ideas, questions and lines of enquiry	<ul style="list-style-type: none">• Develops the mathematics they use in a wide range of contexts<ul style="list-style-type: none">- Makes suggestions of ways to tackle a wide range of problems- Makes connections to previous work• Chooses equipment appropriate to the task independently• Poses and answers questions related to a problem and suggests wide range of possible approaches to the solution
Represent and communicate	<ul style="list-style-type: none">• Represents problems pictorially, using a model or with concrete resources• Presents work in a clear and organised way• Begins to work in an organised way from the start, using strategies such as recording results in order and checks for accuracy• Discusses their mathematical work and uses mathematical language in a more precise and accurate way
Plan an approach and implement it	<ul style="list-style-type: none">• Uses facts and procedures to solve simple and complex problems• Develops own strategies for solving problems and applying mathematics to practical contexts• Finds solutions that match the context of the problem
Computational complexity	<ul style="list-style-type: none">• solves problems with more than one step at least one of which is complex

Reasoning

Make connections	<ul style="list-style-type: none">• makes connections to previous work within mathematics and other subjects• poses and answers questions that will help make sense of the problem• poses 'what if' questions that may change the outcome or direction of the problem
Evaluate	<ul style="list-style-type: none">• suggests refinements to elements of problem solving by comparing other approaches and against modelled examples
Draw conclusions	<ul style="list-style-type: none">• predicts conclusions and reason why when referring to work• comments on whether the conclusion was expected• makes valid inferences when referring to own work
Generalise	<ul style="list-style-type: none">• finds solutions and makes predictions by identifying patterns when working• forms generalised rules in words, using concrete resources or own representation
Justify	<ul style="list-style-type: none">• justifies answers and solutions by referring to their own work and support with examples

Problem Solving Strategies

- identifies irrelevant information ; uses lists and tables to identify and organise information
- uses informed 'guess and check'
- seeks a pattern
- draws a diagram or model
- seeks an exception
- breaks the problem into simpler steps – e.g. works backwards

Year 3 Statutory Objectives

Number and place value	Addition and subtraction	Multiplication and division	Fractions	Measurement	Geometry: properties of shapes	Statistics
<ul style="list-style-type: none"> □ count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number □ recognise the place value of each digit in a three-digit number (hundreds, tens, ones) □ compare and order numbers up to 1000 □ identify, represent and estimate numbers using different representations □ read and write numbers up to 1000 in numerals and in words □ solve number problems and practical problems involving these ideas 	<ul style="list-style-type: none"> □ add and subtract numbers mentally, including: <ul style="list-style-type: none"> - a three-digit number and ones - a three-digit number and tens - a three-digit number and hundreds □ add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction □ estimate the answer to a calculation and use inverse operations to check answers □ Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction 	<ul style="list-style-type: none"> □ recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables □ write and calculate mathematical statements for multiplication and 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 □ solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects 	<ul style="list-style-type: none"> □ count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10 □ recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators □ recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators □ recognise and show, using diagrams, equivalent fractions with small denominators □ add and subtract fractions with the same denominator within one whole (for example, $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$) □ compare and order unit fractions, and fractions with the same denominators □ solve problems that involve all of the above 	<ul style="list-style-type: none"> □ measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) □ measure the perimeter of simple 2-D shapes □ add and subtract amounts of money to give change, using both £ and p in practical contexts □ tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks □ estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight □ know the number of seconds in a minute and the number of days in each month, year and leap year □ compare durations of events [for example to calculate the time taken by particular events or tasks] 	<ul style="list-style-type: none"> □ draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them □ recognise that angles are a property of shape or a description of a turn □ identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle □ identify horizontal and vertical lines and pairs of perpendicular and parallel lines 	<ul style="list-style-type: none"> □ interpret and present data using bar charts, pictograms and tables □ solve one-step and two-step questions [for example, 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables