

Year 3 National Standard Mathematics

Number System, Counting, Addition & Subtraction	Multiplication & Division	Fractions & Decimals	Geometry	Measurement	Statistics
<p>Identify, represent and estimate numbers using different representations.</p>	<p>Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables.</p>	<p>Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators.</p>	<p>Recognise angles as a property of shape or a description of a turn.</p>	<p>Measure, compare, add and subtract: lengths (m/cm/mm).</p>	<p>Interpret and present data using bar charts, pictograms and tables.</p>
<p>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).</p>	<p>Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (x), division (÷) and equals (=) signs.</p>	<p>Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators.</p>	<p>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.</p>	<p>Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.</p>	<p>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.</p>
<p>Compare and order numbers up to 1000.</p>	<p>Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in context.</p>	<p>Count up and down in tenths.</p>	<p>Identify horizontal and vertical lines and pairs of perpendicular and parallel lines.</p>	<p>Measure the perimeter of simple 2D shapes.</p>	
<p>Read and write numbers up to 1000 in numerals and in words.</p>	<p>Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot.</p>	<p>Recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10.</p>	<p>Draw 2-D shapes and make 3-D shapes using modelling materials.</p>	<p>Continue to measure using the appropriate tools and units, progressing to using a wider range of measures, including comparing and using mixed and simple equivalents of mixed units.</p>	
<p>Count from 0 in multiples of 50 and 100.</p>	<p>Solve problems including missing number problems involving multiplication and division, positive integer scaling problems and correspondence problems in which n objects are connected to m objectives.</p>	<p>Recognise and show, using diagrams, equivalent fractions with small denominators.</p>	<p>Recognise 3-D shapes in different orientations and describe them.</p>	<p>Tell and write the time from an analogue clock, including using Roman numerals, 12-hour and 24-hour clocks.</p>	
<p>Add and subtract numbers mentally, including: a three-digit number and ones; a three-digit number and tens; a three digit number and hundreds.</p>	<p>Write and calculate mathematical statements for multiplication and division using the multiplication tables they know, including for two-digit numbers times one-digit numbers, using mental methods and progressing to formal written methods.</p>	<p>Add and subtract fractions with the same denominator within one whole.</p>		<p>Estimate and read time with increasing accuracy to the nearest minute.</p>	
<p>Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction.</p>		<p>Compare and order unit fractions, and fractions with the same denominators.</p>		<p>Use vocabulary such as o'clock, am/pm, morning, afternoon, noon and midnight.</p>	
<p>Estimate the answer to a calculation and use inverse operations to check answers.</p>				<p>Know the number of seconds in a minute and the number of days in each month, year and leap year.</p>	
<p>Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.</p>				<p>Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml).</p>	

Year 4 National Standard Mathematics

Number System, Counting, Addition & Subtraction	Multiplication & Division	Fractions & Decimals	Geometry	Measurement	Statistics
Count in multiples of 6, 7, 9, 25 and 1000.	Recall and use multiplication and division facts for multiplication tables up to 12 x 12.	Recognise and show, using diagrams, families of common equivalent fractions.	Identify acute and obtuse angles and compare and order angles up to two right angles by size.	Find the area of rectilinear shapes by counting squares.	Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs.
Find 1000 more or less than a given number.	Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers.	Count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten.	Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes.	Convert between different units of measure, e.g. hour to minute.	Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.
Count backwards through zero to include negative numbers.	Recognise and use factor pairs and commutatively in mental calculations.	Solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number.	Identify lines of symmetry in 2D shapes presented in different orientations.	Read, write & convert time between analogue and digital 12 and 24 hour clocks.	
Recognise the place value of each digit in a four digit number (thousands, hundreds, tens and ones)	Multiply two digit and three digit numbers by a one digit number using formal written layout.	Add and subtract fractions with the same denominator.	Complete a simple symmetric figure with respect to a specific line of symmetry.	Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.	
Order and compare numbers beyond 1000.	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.	Recognise and write decimal equivalents of any number of tenths or hundredths.	Describe positions on a 2D grid as coordinates in the first quadrant.	Solve simple measure and money problems involving fractions and decimals to two decimal places.	
Identify, represent and estimate numbers using different representations.		Recognise and write decimal equivalents	Describe movements between positions as translations of a given unit to the left/ right and up/ down.	Estimate, compare and calculate different measures, including money in pounds and pence.	
Round any number to the nearest 10, 100 or 1000.		Find the effect of dividing a one or two digit number by 10 or 100, identifying the value of the digits in the answer as ones, tenths and hundredths.		Measure and calculate the perimeter of a rectilinear figure (including squares) in cm and m.	
Read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value.		Round decimals with one decimal place to the nearest whole number.			
Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate.		Compare numbers with the same number of decimal places up to two decimal places.			
Estimate and use inverse operations to check answers to a calculation.					
Solve addition and subtraction two step problems in contexts, deciding which operations and methods to use and why.					

Year 5 National Standard Mathematics

Number System, Counting, Addition & Subtraction	Multiplication & Division	Fractions & Decimals	Geometry	Measurement	Statistics
Read, write, order and compare numbers to at least 1000000 and determine the value of each digit.	Multiply and divide numbers mentally drawing upon known facts.	Compare and order fractions whose denominators are multiples of the same number.	Know angles are measured in degrees; estimate and compare acute, obtuse and reflex angles.	Convert between different units of metric measure (for example, km and m; cm and m; cm and mm; g and kg; l and ml).	Solve comparison, sum and difference problems using information presented in a line graph.
Count forwards or backwards in steps of powers of 10 for any given number up to 1000000.	Multiply and divide whole numbers by 10, 100 and 1000.	Identify, name and write equivalent fractions of a given fraction, represented visually including tenths and hundredths.	Draw given angles and measure them in degrees	Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints.	Complete, read and interpret information in tables including timetables.
Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers including through zero	Multiply numbers up to 4 digits by a one or two digit number using a formal written method, including long multiplication for 2 digit numbers.	Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements >1 as a mixed number	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° .	Solve problems involving converting between units of time.	
Round any number up to 1000000 to the nearest 10, 100, 1000, 10000 and 100000	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.	Add and subtract fractions with the same denominator and denominators that are multiples of the same number.	Identify 3D shapes, including cubes and other cuboids, from 2D representations.	Measure and calculate the perimeter of composite rectilinear shapes in cm and m.	
Read Roman numerals to 1000 (M) and recognise years written in Roman numerals.	Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.	Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams.	Use the properties of rectangles to deduce related facts and find missing lengths and angles.	Calculate and compare the area of rectangles (including squares), and including using standard units, cm^2 , m^2 estimate the area of irregular shapes.	
Add and subtract numbers mentally with increasingly large numbers.	Recognise and use square numbers and cube numbers and the notation for squared (2^2) and cubed (3^3)	Read and write decimal numbers as fractions	Distinguish between regular and irregular polygons based on reasoning about equal sides and angles.	Estimate volume (for example using 1cm^3 blocks to build cuboids (including cubes) and capacity (for example, using water)).	
Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) .	Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes.	Read, write, order and compare numbers with up to three decimal places.	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.	Use all four operations to solve problems involving measure.	
Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy.	Solve problems involving addition and subtraction, multiplication and division and a combination of these, including understanding the use of the equals sign.	Round decimals with two decimal places to the nearest whole number and to one decimal place.			
Solve addition and subtraction multi-step problems in contexts deciding which operations and methods to use and why.		Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000.			
Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers.		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.			
Establish whether a number up to 100 is prime and recall prime numbers up to 19.		Solve problems which require knowing percentage and decimal equivalents of $\frac{1}{10}$, $\frac{1}{100}$, and those fractions with a denominator of a multiple of 10 or 25 .			

Year 6 National Standard Mathematics

Number System, Counting, Addition & Subtraction	Multiplication & Division	Fractions & Decimals	Geometry	Measurement	Statistics
<p>Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit.</p>	<p>Multiply multi-digit number up to 4 digits by a 2 digit number using the formal written method of long multiplication.</p>	<p>Use common factors to simplify fractions; use common multiples to express fractions in the same denomination.</p>	<p>Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius.</p>	<p>Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate.</p>	<p>Interpret and construct pie charts and line graphs and use these to solve problems.</p>
<p>Round any whole number to a required degree of accuracy.</p>	<p>Divide numbers up to 4 digits by a 2 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.</p>	<p>Compare and order fractions, including fractions > 1</p>	<p>Draw 2D shapes using given dimensions and angles.</p>	<p>Use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to 3dp.</p>	<p>Calculate the mean as an average.</p>
<p>Use negative numbers in context, and calculate intervals across zero.</p>	<p>Divide numbers up to 4 digits by a 2 digit number using the formal written method of short division, interpreting remainders according to context.</p>	<p>Generate and describe linear number sequences (with fractions)</p>	<p>Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals and regular polygons.</p>	<p>Convert between miles and kilometres.</p>	
<p>Solve addition and subtraction multi step problems in contexts, deciding which operations and methods to use and why.</p>	<p>Identify common factors, common multiples and prime numbers.</p>	<p>Add and subtract fractions with different denominations and mixed numbers, using the concept of equivalent fractions.</p>	<p>Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.</p>	<p>Recognise that shapes with the same areas can have different perimeters and vice versa.</p>	
<p>Use simple formulae.</p>	<p>Use their knowledge of the order of operations to carry out calculations involving the four operations.</p>	<p>Multiply simple pairs of proper fractions, writing the answer in its simplest form</p>	<p>Describe positions on the full coordinate grid (all four quadrants).</p>	<p>Recognise when it is possible to use formulae for area and volume of shapes.</p>	
<p>Generate and describe linear number sequences.</p>	<p>Solve problems involving addition, subtraction, multiplication and division.</p>	<p>Divide proper fractions by whole numbers.</p>	<p>Draw and translate simple shapes on the coordinate plane, and reflect them in the axes.</p>	<p>Calculate the area of parallelograms and triangles.</p>	
<p>Express missing number problems algebraically.</p>		<p>Associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example 3/8).</p>	<p>Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.</p>	<p>Calculate, estimate and compare volume of cubes and cuboids using standard units, including cm³, m³ and extending to other units (mm³, km³). .</p>	
<p>Find pairs of numbers that satisfy an equation with two unknowns.</p>		<p>Identify the value of each digit in numbers given to three decimal places and multiply numbers by 10, 100 and 1000 giving answers up to 3 decimal places (dp).</p>	<p>Multiply one digit numbers with up to 2dp by whole numbers.</p>		
<p>Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts. .</p>		<p>Solve problems involving the calculation of percentages [for example, of measures such as 15% of 360] and the use of percentages for comparison.</p>	<p>Recall and use equivalences between simple FDP including in different contexts.</p>		
<p>Solve problems involving similar shapes where the scale factor is known or can be found.</p>		<p>Recall and use equivalences between simple FDP including in different contexts.</p>	<p>Solve problems involving the calculation of percentages [for example, of measures such as 15% of 360] and the use of percentages for comparison.</p>		
<p>Solve problems involving similar shapes where the scale factor is known or can be found.</p>		<p>Solve problems involving the calculation of percentages [for example, of measures such as 15% of 360] and the use of percentages for comparison.</p>	<p>Recall and use equivalences between simple FDP including in different contexts.</p>		
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