

Maths Expected Standards

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	Using and applying	Number	Calculations	SSM
PRE EXPECTED STANDARD	<ul style="list-style-type: none"> ▪ Records making marks that they can interpret and explain ▪ Begin to identify own mathematical problems based on own interests ▪ Sort objects and materials according to set criteria 	<ul style="list-style-type: none"> ▪ Show understanding of one-to-one correspondence in a range of contexts ▪ Join in rote counting up to 10 ▪ Demonstrate understanding of 'more' and 'less' ▪ Count at least 5 objects reliably ▪ Recognise numerals from one to five & understand that each represents a constant number or amount 	<ul style="list-style-type: none"> ▪ Can say the number that is 1 more than a given number ▪ Can find 1 more or less from a group of up to 10 objects ▪ Beginning to use the mathematical language of adding and subtraction ▪ Can create and recreate patterns 	<ul style="list-style-type: none"> ▪ Uses everyday language related to time ▪ Begin to use everyday language related to money ▪ Can order and sequence familiar events ▪ Measures short period of time in simple ways ▪ Order 2 or 3 items by length, height, weight or capacity ▪ Beginning to use mathematical names to name common 2D and 3D shapes ▪ Can describe position such as 'behind' or 'next to'

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RECEPTION/EYFS EXPECTED STANDARD 5/6 POINTS	<ul style="list-style-type: none"> ▪ Can solve problems including doubling, halving and sharing ▪ Identify when an object is different & does not belong to a given familiar category ▪ Respond appropriately to key vocabulary & questions e.g. <i>'How many?'</i> ▪ Use developing mathematical understanding of counting up to 20 to solve simple problems encountered in play, games or other work ▪ Make simple estimates 	<ul style="list-style-type: none"> ▪ Can count reliably with numbers from 1 to 20 and place them in order ▪ Join in with rote counting beyond 20 ▪ Recognise numerals from one to nine & relate them to sets of objects ▪ Record numbers up to 10 ▪ Recognise differences in quantity e.g. <i>compare given sets of objects & say which has more or less, which is the bigger group or smaller group</i> ▪ Estimate a small number (up to 10) & check by counting 	<ul style="list-style-type: none"> ▪ Can say which number is 1 more or less than a given number ▪ Using quantities and objects can add and subtract 2 single digit numbers and can count on/back to find the answer ▪ Can recognise, create and describe patterns ▪ In practical situations, respond to 'add one' to or 'take one away' from a number of objects 	<ul style="list-style-type: none"> ▪ Can use everyday language to talk about size, weight, capacity, distance, time and money to compare quantities and objects and to solve problems ▪ Can explore characteristics of everyday objects and shape and use mathematical language to describe them ▪ Begin to compare lengths and heights, mass/weight, capacity and volume and time ▪ Use ordinal numbers (first, second, third) when describing the position of objects, people or events ▪ Knows the days of the week in order Knows basic shape names; square, circle, triangle, rectangle

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	Using and applying	Number	Fractions and decimals	Calculations	SSM and statistics
YEAR 1 EXPECTED STANDARD 10 POINTS	<ul style="list-style-type: none"> ▪ Can solve 1 step problems that involve addition and subtraction, using concrete objects and pictorial representations , and missing number problems ▪ Can solve 1 step problems involving multiplication and division, using concrete objects, pictorial representations and arrays with some support ▪ Compare, describe and solve practical problems for length and heights, mass/weight, capacity and volume and time ▪ Draw simple conclusions from their work and discuss ▪ Is able to discuss how they went about solving a problem ▪ Know by heart all number bonds to 10 & use to solve problems 	<ul style="list-style-type: none"> ▪ Count to and across 100, forwards and backwards from 0 or any given number ▪ Count, read and write numbers to 100 ▪ Can identify and represent numbers using objects and pictorial representations including a number line ▪ Read and write numbers up to 20 in numerals and words ▪ Begin to recognise place value in numbers beyond 20 up to 100 ▪ Recognise odd & even numbers to 20 ▪ Recognise simple number sequences ▪ Recognise 0 as None or Zero in context ▪ Count a small number reliably in ones or twos ▪ Use ordinal numbers confidently ▪ Double and halve numbers to 20 ▪ Count aloud in 2s, 5s and 10s ▪ Use mental recall of +/- facts to 20 ▪ Recall doubles to 10 + 10 & other significant doubles, e.g. <i>double 50p or £1</i> Begin to understand the operation of x as repeated + & ÷ as sharing 	<ul style="list-style-type: none"> ▪ Recognise, find and name a half as one of two equal parts of an object, shape or quantity ▪ Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity ▪ Begin to use the fraction, one-half e.g. <i>halve shapes and halve an even number of objects to twenty</i> 	<ul style="list-style-type: none"> ▪ Count in multiples of 2s, 5s and 10s from different multiples ▪ Can identify 1 more or less than a given number ▪ Can create repeating patterns with objects and shapes ▪ Can read, write and interpret the symbols + -& = ▪ Know number bonds and related subtraction facts to 20 ▪ Can add and subtract 1 digit and 2 digit numbers to 20, including 0 ▪ Make connections between arrays, number patterns and counting in multiples of 2,5 and 10 ▪ Recognise & use a simple pattern or relationship ▪ Understand + as finding the total of two or more sets of objects ▪ Understand that + can be done in any order ▪ Compare two sets to find a numerical difference ▪ Group and share small quantities 	<ul style="list-style-type: none"> ▪ Measure and begin to record lengths and heights, mass/weight, capacity and volume and time ▪ Recognise and know the values of different coins and notes ▪ Sequence events in chronological order using appropriate language ▪ Recognise and use the language relating to dates, including days of the week, weeks, months and years ▪ Can tell the time to the hour and half past the hour and represent on a clock face ▪ Can recognise and name common 2D and 3D shapes in different orientations and sizes ▪ Describe position, direction and motion

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YEAR 2/KS1 EXPECTED STANDARD 15 POINTS	<ul style="list-style-type: none"> ▪ Can recall and use multiplication and division facts for the 2,5,10 tables to solve simple problems ▪ Can use place value and number facts to solve problems ▪ Discuss their work using mathematical language to reason and solve problems ▪ Can solve problems using concrete objects and pictorial representations, including those involving numbers, quantities and measures ▪ Increasingly apply their knowledge of mental and written methods ▪ Can solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, known facts, including problems in context ▪ Can reason about addition ▪ Can use multiplication facts to make deductions outside known facts ▪ Can solve word problems that involve more than one step ▪ Explain why an answer is correct 	<ul style="list-style-type: none"> ▪ Can partition 2 digit numbers into different combinations of 10s and 1s. This may include using apparatus ▪ Recognise the place value of each digit in a two-digit number ▪ Can identify, represent and estimate numbers using different representations, including the number line ▪ Can compare and order numbers from 0 to 100; use <, > and = signs ▪ Count, read, write & order whole 2-digit numbers in numerals and words ▪ Begin to understand 0 as a placeholder ▪ Count on & back in steps of 2,3 and 5 from 0 and in 10s from any number ▪ Can connect the 10 times table to place value ▪ Use own strategies to estimate reliably nos. to 50 ▪ Begin to make own choices about how to count larger nos. ▪ Recognise sequences of numbers, including odd & even numbers ▪ Double and halve numbers to 50 ▪ Round to the nearest 10 	<ul style="list-style-type: none"> ▪ Can identify $\frac{1}{3}, \frac{1}{4}, \frac{2}{4}, \frac{3}{4}$ and knows that all parts must be equal parts of the whole ▪ Can recognise, find, name and write fractions of a length, shape, set of objects or quantity ▪ Can calculate simple fractions of number and recognise equivalent fractions ▪ Can count in fractions to 10, starting from any number and using the $\frac{1}{2}$ and $\frac{2}{4}$ equivalence on the number line ▪ Can find and compare fractions of amounts ▪ Recognise the equivalence of known fractions ▪ Begin to compare the size of simple fractions ▪ Begin to relate fractions to division 	<ul style="list-style-type: none"> ▪ Can add 2 digit numbers within 100 and can demonstrate their method using apparatus or pictorial representations ▪ Can estimate to check that their answers to a calculation are reasonable ▪ Can subtract mentally a 2 digit number from another 2 digit number when there is no regrouping required ▪ Count in steps of 2,3 and 5 from 0 and in 10s from any number, forward and backward ▪ Can recall and use addition and subtraction facts to 20 fluently, and derive and use related facts to 100 ▪ Can add and subtract numbers using concrete objects and pictorial representations, and mentally: 2 digit numbers and 1s, 2 digit numbers and 10s, two 2 digit numbers and three 1 digit numbers ▪ Know that addition can be done in any order, but subtraction can not ▪ Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems ▪ Recall and use multiplication and division facts for multiples of 2, 5 & 10, including recognising odd and even ▪ Calculate mathematical statements for multiplication division and write using symbols $\times, \div, =$ ▪ Know that \times can be done in any order and \div cannot ▪ Can work out mental calculations where regrouping is required ▪ Can solve more complex missing number problems ▪ Can determine remainders given known facts ▪ Can recognise the relationship between addition and subtraction and can rewrite addition statements as simplified multiplication statements 	<ul style="list-style-type: none"> ▪ Can read scales in divisions of 1s, 2s, 5s and 10s in a practical situation where all numbers on the scale are given ▪ Choose and use appropriate standard units to estimate and measure length and heights, mass/weight, capacity and volume and time ▪ Compare and order length, mass/weight, capacity and volume and record the results using <, > and = ▪ Can use different coins to make the same amount ▪ Recognise and use symbols for pounds and pence and combine amounts to make a particular value ▪ Can compare and sequence intervals of time ▪ Can tell the time to 5 minutes and represent on a clock face and know number of minutes in an hour etc. ▪ Can identify and describe the properties of 2D and 3D shapes ▪ Can identify lines of symmetry in 2D shapes ▪ Can compare and sort common 2D and 3D shapes and everyday objects ▪ Can order and arrange combinations of mathematical objects in patterns and sequences ▪ To use mathematical vocabulary to describe position, direction and movement ▪ Can interpret and construct simple pictograms, tally charts, block diagrams and tables ▪ Can ask and answer simple questions about totalling and comparing categorical data ▪ Can describe similarities and differences of shape properties

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YEAR 3 EXPECTED STANDARD 18 POINTS	<ul style="list-style-type: none"> ▪ Solve number problems, including missing number problems, using number facts, place value and more complex addition and subtraction ▪ 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 ▪ Solve problems involving aspects learnt about fractions ▪ Can solve 1 step and 2 step questions using information presented in scaled bar charts, pictograms and tables ▪ Discuss their mathematical work & begin to explain thinking ▪ Begin to solve 2-step problems using the 4 operations and measures ▪ Begin to evaluate how they solved a problem and look for alternatives 	<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 3 digit number ▪ Can compare and order numbers up to 1000 ▪ Can identify, represent and estimate numbers using different representations ▪ Read and write numbers to 100 in numerals and words ▪ Count on or back in ones, tens or hundreds from any 2 or 3 digit number ▪ Use place value to round to the nearest 10 and 100 & make approximations ▪ Read, write & order whole nos. to 1000 	<ul style="list-style-type: none"> ▪ Can count up and down in 10ths and relate to dividing an object into 10 equal parts ▪ Connect tenths to place value, decimal measures and division to 10 ▪ Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators ▪ Recognise and show equivalent fractions with small denominators ▪ Add and subtract fractions with the same denominator within one whole e.g. $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$ ▪ Compare & order unit fractions, and fractions with the same denominators ▪ Place simple fractions between whole nos. on a number line ▪ Find fractions of number ▪ Begin to compare simple fractions 	<ul style="list-style-type: none"> ▪ Can use multiples of 2,3,4,5,8,10,50 and 100 and make connections between the tables ▪ Can use reliable written methods ▪ Can add and subtract numbers mentally including: a 3 digit number and 1s, a 3 digit number and 10s, a 3 digit number and 100s ▪ Can add and subtract numbers up to 3 digit, using formal written methods ▪ Can estimate the answer to a calculation and use inverse operations to check an answer ▪ Can write and calculate mathematical statements for multiplication and division using known tables, including 2 digit numbers times 1 digit numbers, using mental and progressing to formal written methods ▪ Derive associated \div facts from known \times facts ▪ Add or subtract mentally a near multiple of 10 to/from a 2 digit number ▪ Find remainders after division ▪ Begin to understand role of equals e.g. <i>solve balancing problems such as $7 \times 10 = 82 - \Delta$</i> 	<ul style="list-style-type: none"> ▪ Can measure, compare, add and subtract lengths, mass and volume/capacity using appropriate units ▪ Can measure the perimeter of simple 2D shapes ▪ Can add and subtract amounts of money to give change, using both \pounds and p in practical contexts ▪ Can tell to the nearest minute and write the time from an analogue clock, including with Roman numerals, and 12 and 24 hour clocks ▪ Can compare time in terms of seconds, minutes and hours ▪ Can compare duration of events ▪ Can draw 2D and make 3D shapes ▪ Can recognise angles as a property of shape or a description of a turn ▪ Identify right angles and whether angles are greater or less than a right angle ▪ Can identify horizontal and vertical lines and pairs of perpendicular and parallel lines ▪ Can interpret and present data using bar charts, pictograms and tables

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YEAR 4 EXPECTED STANDARD 21 POINTS	<ul style="list-style-type: none"> ▪ Solve number and practical problems involving place value and with increasingly large positive numbers ▪ Solve two-step problems in contexts, deciding which operations and methods to use and why ▪ Solve problems involving x and $+$ including problems such as n objects are connected to m objects ▪ Solve problems involving increasingly harder fractions to calculate quantities ▪ Solve simple measure and money problems involving fractions and decimals to 2dp ▪ Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs ▪ Begin to organise own work & check results ▪ Try different approaches & find ways of overcoming difficulties that arise when solving problem ▪ Estimate and check answers with the inverse operation ▪ Review work & reasoning e.g. <i>respond to 'What if?' questions after solving a problem, pose similar problem for a partner</i> ▪ Understand a general statement by finding particular examples that match it 	<ul style="list-style-type: none"> ▪ Can count in multiples of 6,7,9,25 and 100 ▪ Can find 1000 more or less than a given number ▪ Can count backwards through 0 to include negative numbers ▪ Understand place value in each digit in a 4 digit number ▪ Read, write & order whole nos. beyond 1000 ▪ Identify, represent and estimate numbers using different representations ▪ Round any number to the nearest 10,100 or 1000 ▪ 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 ▪ Recognise that some nos. can be partitioned in different ways ▪ Say which no. is 1, 10 or 100 more or less than any no. to 1000, including bridging across boundaries ▪ Understand 0 as a place holder within larger nos. e.g. 307, 3017 ▪ Count back through 0 to include negative numbers ▪ Double and halve numbers to 1000 ▪ Use understanding of place value to multiply/divide whole nos. by 10 or 100 ▪ Recognise & continue a wider range of sequences & explain them to another person 	<ul style="list-style-type: none"> ▪ Begin to extend their knowledge of the number system to include decimal numbers and fractions ▪ Recognise and show families of common equivalent fractions ▪ Count up and down in 100ths ▪ Find fractions of number, including non-unit fractions where the answer is a whole number ▪ +/- fractions with the same denominator ▪ Recognise and write decimal equivalents of any number of 10ths or 100ths ▪ Recognise and write decimal equivalents to $\frac{1}{4}, \frac{1}{2}, \frac{3}{4}$ ▪ Round decimals of 1dp to the nearest whole no ▪ Compare nos with the same number of decimal places up to 2 dp ▪ Know that decimals and fractions are different ways of expressing numbers and proportions ▪ Understand equivalences between simple fractions & decimals ▪ Round decimals with 1 decimal place to the nearest whole number ▪ Compare numbers up to 2 dp ▪ Identify two simple fractions to total one 	<ul style="list-style-type: none"> ▪ Know x facts to 12×12 ▪ Recognise methods for all 4 operations using appropriate written methods with up to 4 digits ▪ Estimate and use inverse operations to check a calculation ▪ Can multiply and divide mentally, including multiplying by 0 and 1 and multiplying together 3 numbers ▪ Recognise and use factor pairs and commutativity in mental calculations ▪ $x \div 2$ digit nos and 3 digit nos by a 1 digit nos using formal methods ▪ Develop understanding of operations of $x \div$ & their relationship to each other & to $+/-$ ▪ Round up or down after simple division depending on context Begin to use simple formulae expressed in words 	<ul style="list-style-type: none"> ▪ Convert between different units of measure ▪ Measure and calculate the perimeter of a rectilinear figure in cms and m ▪ Can express perimeter algebraically ▪ Can relate area to arrays and multiplication ▪ Find the area of rectilinear shapes by counting squares ▪ Estimate, compare and calculate different measures, including in \pounds and p ▪ Read, write and convert time between analogue and digital 12 and 24 hr clocks ▪ Able to convert measures of time ▪ Can compare and classify geometric shapes based on their properties and sizes ▪ Can identify acute and obtuse angles and compare and order angles up to 2 angles by size ▪ Can identify lines of symmetry in 2D shapes presented in different orientations ▪ Can complete a simple symmetric figure with respect to a specific line of symmetry ▪ Describe positions on a 2D grid as coordinates in the first quadrant ▪ Describe movements between positions as translations ▪ Plot specific points ▪ Interpret and present discrete and continuous data

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YEAR 5 EXPECTED STANDARD 24 POINTS	<ul style="list-style-type: none"> ▪ Solve number and practical problems involving place value ▪ Solve multi-step problems involving the 4 operations in contexts, deciding which operations and methods to use and why ▪ Solve problems using their knowledge of factors, multiples, squares and cubes ▪ Solve problems involving scaling by simple fractions and problems involving simple rates ▪ Solve problems up to 3dp ▪ Solve problems which require knowing percentage and decimal equivalents and those fractions with a denominator of a multiple of 10 or 25 ▪ Solve problems involving converting between units of time ▪ Solve problems involving measure using decimal notation and scaling and to convert between standard units ▪ Solve comparison, sum and difference problems using information presented in a line graph ▪ Search for a solution by trying out ideas of their own ▪ Develop own strategies for solving problems ▪ When solving problems check reasonableness of answer with reference to context or size of numbers ▪ Present information & results in a clear & organised way ▪ Use inverse operations to 'undo' two-step problems ▪ Solve multi-step problems in contexts, deciding which operations and methods to use and why ▪ Use rounding to check answers in the context of a problem and determine level of accuracy 	<ul style="list-style-type: none"> ▪ Read, write, order and compare nos to at least 1,000,000 and determine the value of each digit ▪ Count forwards and backwards in steps of powers of 10 for any given no up to 1,000,000 ▪ Interpret -ve nos in context, count forwards and backwards with +ve/-ve whole nos, including through 0 ▪ Round any no up to 1,000,000 to the nearest 10, 100 etc. ▪ Read Roman numerals to 1000 (M) and recognise years written in Roman numerals ▪ Can recognise and describe linear number sequences, including those involving fractions and decimals, and find the term-to-term rule ▪ Use rounding to check calculations and determine levels of accuracy ▪ X and ÷ whole numbers and those involving decimals by 10, 100 and 1000 ▪ Recognise, understand and use square and cube numbers and use the notation ⁽²⁾ ⁽³⁾ ▪ Have a full understanding of the = sign to indicate equivalence including in missing no problems ▪ Find pairs of factors for any number to 144 ▪ Understand the rules of divisibility ▪ Recognise and use factor pairs and commutativity in mental calculations 	<ul style="list-style-type: none"> ▪ Can interpret non-integer answers to division in different ways, including with remainders or by rounding e.g. $98 \div 4 = \frac{98}{4} = 24 \frac{1}{2} = 24.5$ etc ▪ Compare and order fractions whose denominations are all multiples of the same no ▪ Identify, name and write equivalent fractions of a given fraction ▪ Recognise mixed numbers and improper fractions and convert from one form to another ▪ +/- fractions with the same denominator and denominators that are multiples of the same number ▪ Multiply proper fractions and mixed nos by whole nos, supported by materials and diagrams ▪ Read and write decimal nos as fractions ▪ Recognise and use 1000ths and relate to 10ths, 100ths and decimal equivalents ▪ Read, write, order and compare nos up to 3dp ▪ Begin to understand percentages as no of parts in every hundred and write percentages as a fraction of 100 and as a decimal ▪ To know percentages, decimals and fractions are different ways of expressing proportions and know the equivalents ▪ Reduce a fraction to its simplest form by cancelling common factors ▪ Round numbers with 2dp to the nearest integer ▪ To find percentages of number 	<ul style="list-style-type: none"> ▪ Can +, -, x and ÷ with whole nos with more than 4 digits including using formal methods ▪ +, -, x and ÷ mentally with increasingly large nos and drawing upon known facts ▪ Identify multiples and factors, including finding all factor pairs of a no, and common factors of 2 numbers ▪ Know and use the vocabulary of prime nos, prime factors and composite numbers ▪ Establish whether a no up to 100 is prime and recall prime numbers up to 19 ▪ To know that distributivism can be expressed as $a(b+c) = ab+ac$ ▪ Use efficient written methods of short x/\div with integer remainder ▪ Use inverse operations e.g. <i>understand 'balancing sums' including those using \div such as $20 + \Delta = 100 \div 5$</i> ▪ Express missing number sums algebraically ▪ Understand use of brackets in simple calculations 	<ul style="list-style-type: none"> ▪ Convert between different units of metric measure ▪ Understand and use approximate equivalences between metric units and common imperial units ▪ Measure and calculate the perimeter of composite rectilinear shapes in cms and m ▪ Calculate and compare the area of rectangles and estimate the area of irregular shapes ▪ Estimate volume and capacity ▪ Identify 3D shapes from 2D representations ▪ Know angles are measured in degrees; estimate and compare acute, obtuse and reflex angles ▪ Draw given angles and measure them in degrees ▪ Use the properties of rectangles to deduce related facts and missing lengths and angles ▪ Distinguish between regular and irregular polygons based on reasoning about equal sides and angles ▪ Can accurately draw lines with a ruler to the nearest mm and protractor to the nearest degree ▪ Identify, describe and represent the position of a shape following a reflection or translation ▪ Complete, read and interpret information in tables, including timetables

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YEAR 6/KS2 EXPECTED STANDARD 27 POINTS	<ul style="list-style-type: none"> ▪ Can use formal methods to solve multi-step problems ▪ Can calculate with measure ▪ Can use mathematical reasoning to find missing angles ▪ Use own strategies within mathematics & in applying mathematics to practical contexts ▪ Can decide which operations and methods to use and why ▪ Use estimation to check answers to a problem to an appropriate level of accuracy ▪ Can solve problems involving the calculation of percentages and the use of percentages as a comparison ▪ Solve problems involving similar shapes where the scale factor is known or can be found ▪ Solve problems involving unequal sharing/grouping using knowledge of fractions and multiples ▪ Solve problems involving the 4 operations, factors, multiples, square and cubes and a combination of these ▪ Check results, considering whether these are sensible 	<ul style="list-style-type: none"> ▪ Can demonstrate an understanding of place value, including large numbers and decimals ▪ Read, write and order numbers to and above 10,000,000 and determine the value of each digit ▪ Round any whole number to any degree of accuracy ▪ Can order, add and subtract negative numbers in context ▪ Can identify common factors, common multiples and prime nos ▪ Identify the value of each digit to 3dp ▪ X and \div nos by 10,100 and 1000 and give answers to 3dp ▪ To round nos to an appropriate degree of accuracy 	<ul style="list-style-type: none"> ▪ Can recognise the relationship between fractions, decimals and percentages and can express them as similar quantities ▪ Can calculate using fractions, decimals or percentages ▪ Use common factors to simplify fractions; use common multiples to express fractions in the same denomination ▪ Can compare and order fractions, including fractions >1 ▪ Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalence ▪ X and \div proper fractions by whole numbers ▪ Recall and use equivalence between fractions, decimals and percentages ▪ Can recognise proportionality when the relations between quantities are in the same ratio ▪ Can link percentages to calculating angles of pie charts ▪ With ratio, can compare quantities, sizes and scales ▪ Mentally convert between decimals, fractions and percentages ▪ To represent proportion as a fraction 	<ul style="list-style-type: none"> ▪ Can calculate mentally, using efficient strategies ▪ Can substitute values into a simple formula to solve problems e.g. area of a triangle ▪ Use the 4 operations using appropriate written methods, including using decimals and remainders ▪ Perform mental calculations, including with mixed operations and large nos ▪ Can use their knowledge of the order of operations to carry out calculations with all 4 operations and use brackets appropriately ▪ Multiply decimals by whole numbers ▪ Begin to use decimals within division ▪ Can use simple formulae ▪ Can generate and describe linear number sequences ▪ Express missing number problems algebraically ▪ Can find pairs of numbers that satisfy an equation with 2 unknowns ▪ Enumerate possibilities of combinations of 2 variables ▪ Calculate +/- numbers through zero in context 	<ul style="list-style-type: none"> ▪ Can calculate and convert units of measure up to 3dp ▪ Can convert between miles and km ▪ Can recognise that shapes with the same areas can have different perimeters ▪ Can recognise when it is possible to use formulae for area and volume of shapes ▪ Calculate the area of parallelograms and triangles ▪ Calculate, estimate and compare volumes using standard units ▪ Can +/- positive and negative integers for measures ▪ Can draw 2D shapes using given dimensions and angles ▪ Recognise, describe and build 3D shapes, including making nets ▪ Can compare and classify geometric shapes based on their properties and find unknown angles ▪ Can illustrate and name parts of circles and know that diameter is twice the radius ▪ Can recognise angles where they meet at a point, are on a straight line, are vertically opposite and find missing angles ▪ Can describe positions in all 4 quadrants ▪ Can draw and translate shapes on a coordinate plane and reflect them in the axes ▪ Can calculate and interpret the mean ▪ Interpret and construct pie charts and line graphs

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	Using and applying	Number	Fractions and decimals	Calculations	SSM and statistics
WORKING BEYOND YEAR 6 EXPECTED STANDARD	<ul style="list-style-type: none"> ▪ Identify & obtain necessary information to carry through tasks & solve mathematical problems ▪ Draw simple conclusions, explain & justify their reasoning ▪ Use trial and improvement methods ▪ Show understanding of situations by describing them mathematically using symbols, words & diagrams ▪ Understand and solve simple problems using ratio & direct proportion ▪ Check solutions by applying inverse operations or estimating using approximations ▪ Solve problems including scaling by fractions, percentages and ratio ▪ Select appropriate concepts, methods and techniques to apply to unfamiliar and non-routine problems ▪ Solve problems using angle properties of intersecting etc. ▪ Use language precisely to analyse numbers, algebraic expressions, shape, probability and statistics ▪ Begin to reason deductively ▪ Can make mathematical justifications and make connections between areas of mathematics ▪ Can solve complex problems by independently and systematically breaking them down into smaller, more manageable tasks ▪ Can interpret, discuss and synthesise information presented in a variety of forms, relating findings to their original context 	<ul style="list-style-type: none"> ▪ Recognise & use number patterns & relationships ▪ Use prime factor decomposition of positive integers e.g. $120 = 2 \times 2 \times 2 \times 3 \times 5$ or $2^3 \times 3 \times 5$ ▪ Use the symbols $=, <, >, \neq, \leq, \geq$ and \approx ▪ Extend understanding of the number system and place value to include decimals, fractions, powers and roots ▪ Round decimals to the nearest decimal place ▪ Order negative numbers in context ▪ To know the square roots of numbers to 12 ▪ Generate terms of a sequence from either a term-to-term or a position-to-term rule ▪ Recognise arithmetic sequences and find the nth term ▪ Add and subtract +/- numbers ▪ Estimate using known facts e.g. $\sqrt{100}=10$ to estimate $\sqrt{85}$ ▪ Use concepts and vocabulary of highest common factor (HCF) and lowest common multiple (LCM) ▪ Understand and use integer powers and how they are represented 	<ul style="list-style-type: none"> ▪ Calculate fractional or percentage parts of quantities & measurements ▪ Divide a quantity into 2 or more parts in a given ratio ▪ Can understand and use the equivalences between fractions, decimals and percentages ▪ Order fractions with different denominators ▪ Use ratio notation in its simplest form ▪ Order fractions, decimals and percentages ▪ Calculate fractions of quantities with fractional answers ▪ Evaluate one number as a fraction or percentage of another ▪ Use a compass to construct shapes ▪ Calculate using ratio and proportion ▪ To know which number to consider as 100 per cent, or a whole ▪ Calculate the percentage increase or decrease and interest ▪ To represent proportion as a fraction, decimal or percentage 	<ul style="list-style-type: none"> ▪ Calculate complex questions involving brackets ▪ Construct, express in symbolic form, & use simple formulae involving one or two operations ▪ Generate and describe linear number sequences ▪ Add and subtract negative numbers in context ▪ Use appropriate written methods to multiply and divide numbers with decimals ▪ To know how to express formula in algebra e.g. $2 \times n$ is expressed as $2n$, 2 divide by n as $2/n$ etc. ▪ Rearrange formulae to change the subject ▪ Formulate and solve linear equations with whole-number coefficients and represent on a graph ▪ Simplify and manipulate algebraic expressions by collecting like terms, multiplying a term over a bracket, taking out common factors and expanding products ▪ Can move freely between numerical, algebraic, graphical and diagrammatical representations ▪ Find and describe in words the rule for the nth term of a sequence where the rule is linear ▪ Use appropriate formulae for finding the circumference and area of a circle, trapezium, volume of cuboids and plane rectilinear figures ▪ Can substitute values in expressions, rearrange and simplify expressions and solve equations 	<ul style="list-style-type: none"> ▪ Solve problems using angle and symmetry properties of polygons and explain these problems ▪ Reflect, rotate and transform shapes ▪ Identify alternate and corresponding angles ▪ Work with coordinates in all 4 quadrants ▪ Calculate lengths, areas and volumes in plane shapes and prisms ▪ Enlarge 2D shapes by a positive whole number scale factor, when given a centre of enlargement ▪ Explore what can/cannot be inferred in statistical and probabilistic settings, and begin to express their arguments formally ▪ Use a compass to construct shapes ▪ Change freely between related standard units

Maths Expected Standards

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