STROUD GREEN

SGS

SCHOOL

National Curriculum standards for maths Guidance

These documents refer to each year groups programme of study in line with the National Curriculum 2014. Each set of standards is grouped into the different areas of the mathematics curriculum.
These documents will be used as a target setting and evidence base on a weekly basis. They will inform the children of their next steps and inform the teachers of where each child is against their programme of study. These standards may need adapting when discussing targets with the children directly due to the technical language used.

Summative Assessment: These standards will be used in all children's maths books. Each strand is assessed over the year and progress towards that standards is recorded in the three end columns. The strand will be ticked ones a child is secure in that strand. The ticks will indicate when the child has achieved the strand:

Autumn term: Black pen   Spring term: green pen   Summer term: red pen

Once the strand has been achieved three times the strand can be highlighted in green to show the child has successfully masters the skill.
In standards 1 and 2 many of the standards relate to pictorial and object based learning. Evidence may or may not be present in books to support these strands but photographic evidence should be used where possible across the school to support judgements.

Formative Assessment: During assessment week children will complete the tests relevant for their band. These tests can be used as evidence against the statements

Note: these statements do not include the examples given for some of the strands in the NC or Target Tracker documents. Please refer to these for examples of what the statement may look like in practice

Year 1 Maths Expectation

	Number and place value			
1	Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number			
2	Count and read numbers to 100 in numerals			
3	Count and write numbers to 100 in numerals			
4	Count in multiples of twos, fives and tens from 0			
5	Identify one more and one less of a given number			
6	Identify and represent numbers using objects and pictorial representations including the number line, and use the language equal to, more than, less than (fewer), most, least			
7	Read and write numbers from 1 to 20 in numerals			
8	Read and write numbers from 1 to 20 in words			
9	Use counting strategies to solve problems			
10	Partition and combine numbers using apparatus if required			
	Addition and subtraction			
11	Read and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs			
12	Write mathematical statement involving addition (+), subtraction (-) and equals (=) signs			
13	Represent and use number bonds within 20			
14	Represent and use subtraction facts within 20			
15	Add one-digit and two-digit numbers to 20, including zero			
16	Subtract one-digit and two-digit numbers to 20, including zero			
17	Solve one step problems that involve addition, subtraction and missing numbers using concrete objects and pictorial representations			
	Multiplication and division			
18	Solve one-step problems involving multiplication by calculating the answer using concrete objects, pictorial representation and arrays with the support of the teacher			
19	Solve one-step problems involving division by calculating the answer using concrete objects , pictorial representations and arrays with the support of the teacher			
20	Recognise, find and name a half as one of two equal parts of an object, shape or quantity			
21	Recognise, find and name a half as one of two equal parts of an object, shape or quantity			
	Measures			
22	Compare, describe and solve practical problems for lengths and heights			
23	Compare, describe and solve practical problems for mass/weight			
24	Compare, describe and solve practical problems for capacity and volume			
25	Compare, describe and solve practical problems for time			
26	Measure and begin to record mass/weight			
27	Measure and begin to record capacity and volume			
28	Recognise and know the value of different denominations of coins and notes			
29	Sequence events in chronological order using language			
30	Recognise and use language relating to dates, including days of the week, weeks, months and years			
31	Tell the time to the hour and half past the hour and draw the hands on a face clock t show these times			
32	Measure and begin to record length/height			
	Geometry: properties of shapes			
33	Recognise and name common 2D shapes			
34	Recognise and name common 3D shapes			
35	Describe position, direction and movement, including whole, half , quarter and three quarter turrns			

TT step	B	B+	W	W+	S	S+
Points achieved	5-9	10-14	15-19	20-25	26-31	32-35

	Number and place value			
1	Show an understanding of place value supported by the use of apparatus if required			
2	Count in steps of 2, 3 and 5 from 0, and in 10s from any number, forwards and backwards			S+
3	Recognise the place value of each digit in a two digit number			
4	Identify, represent and estimate numbers using different representations, including the number line			
5	Compare and order numbers from 0 up to 100; use <, > and = signs			
6	Read and write numbers to at least 100 in numerals			
7	Read and write numbers to at least 100 in words			
8	Use place value and number facts to solve problems			
9	Partition two-digit numbers into different combinations of tens and ones using apparatus if needed			
10	Using reasoning with addition (e.g. reasoning that the sum of 3 odd numbers will always be odd)			
11	Recall the multiples of 10 below and above any given 2 digit number			
	Addition and subtraction			
12	Solve problems with addition and subtraction using concrete objects and pictorial representations, including those involving number, quantities and measures			
13	Solve problems with addition and subtraction, applying an increasing knowledge of written methods and mental maths			
14	Recall and use addition and subtraction facts to 20 fluently and derive and use related facts up to 100			
15	Add and subtract numbers using concrete objects, pictorial representations and mentally, including a two-digit number and ones			
16	As above…., including a two-digit number and tens			
17	As above…, including a two two-digit number			
18	Add and subtract numbers using concrete objects, pictorial representations and mentally, including adding three one-digit numbers			
19	Show that addition of two numbers can be done in any order and subtraction cannot			
20	Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems			
21	Recall doubles and halves to 20			
22	Use estimation to check that the answer to a calculation is reasonable			
23	Solve missing number problems using addition and subtraction			
	Multiplication and division			
24	Recall and use multiplication and division facts for the 2, 5 and 10 times tables, including recognising odd and even numbers			
25	Calculate mathematical statements for multiplication and division within the multiplication table and write them using the x, ÷ and = sign			
26	Show that multiplication of two digit numbers can be don't in any order and division cannot			
27	Solve problems involving multiplication and division, using concrete material and mental methods			
28	As above… using arrays, repeated addition and multiplication and division facts, inc. problems in context			
29	Use multiplication facts to make deductions outside known multiplication facts			
30	Solve word problems involving multiplication and division with more than one step			
31	Recognise the relationship between addition and subtraction and rewrite addition statements as simple multiplication			
	Fractions			
32	Recognise, find, name and write fractions as 1/3, ¼, 2/4, and ¾ of a length, shape, set of objects or quantity and demonstrate understanding that all parts must be equal parts of the whole			
33	Write simple fractions for example ½ or 6=3 and 2/4=1/2			
	Measures			
34	Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm), mass (kg/g), temperature (C), capacity (l/ml), to the nearest appropriate unit using rulers, scales, thermometers and measure vessels			
35	Compare and order length, mass, volume/capacity and record the results using <,> and =			
36	Recognise and use symbols for pounds (£) and pence (p); combining amounts to make a particular value			
37	Find different combinations of coins that equal the same amount of money			
38	Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including change			
39	Compare and sequence intervals of time			
40	Tell and write the time to five minutes, including quarter past/to the hour and draw hands on a clock face to show these			
41	Remember the number of minutes in an hour and hours in a day			
42	Read scales in divisions of ones, twos, fives and tens in a practical situation where all numbers on the scale are given			
43	Read scales in divisons of ones, twos, fives and tens in a practical situation where not all numbers on the scale are given			
44	Read the time on a clock to the nearest 15 minutes			
	Geometry: properties of shapes			
45	Identify and describe the properties of 2D shapes, including the number of sides and line of symmetry in a vertical line			
46	Identify and describe the properties of 3D shapes, including the number of edges, vertices and faces			
47	Identify 2D shapes on the surface of 3D shapes and everyday objects describing similarities and differences			
48	Compare and sort 2D and 3D shapes and everyday objects describing similarities and differences			
49	Order and arrange combinations of mathematical objects in patterns and sequences			
50	Use mathematical language to describe position, direction and movement, Inc. movement in a straight line and distinguish between rotation as a turn and in terms of right angles for quarter, half etc. clockwise and anticlockwise			
	Statistics			
51	Interpret and construct simple pictograms, tally charts, block diagrams and simple tables			
52	Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity			
53	Ask and answers simple questions about totalling and comparing categorical data			

TT step	B	B+	W	W+	S	S+
Points achieved	8-14	15-24	25-32	33-41	42-47	48-53

	Number and place value			
1	count from 0 in multiples of 4, 8, 50 and 100; finding 10 or 100 more or less than a given number			
2	recognise the place value of each digit in a three-digit number (hundreds, tens, ones)			
3	compare and order numbers up to 1000			
4	identify, represent and estimate numbers using different representations			
5	read and write numbers to at least 1000 in numerals and in words			
6	solve number problems and practical problems involving these ideas			
	Addition and subtraction			
7	add and subtract numbers mentally, including:			
8	a three-digit number and ones			
9	a three-digit number and tens			
10	a three-digit number and hundreds			
11	add and subtract numbers with up to three digits, using the efficient written methods of columnar addition and subtraction			
12	estimate the answer to a calculation and use inverse operations to check answers			
13	solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction			
	Multiplication and division			
14	recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables			
15	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 efficient written methods			
16	solve problems, including missing number problems, involving multiplication and division, including integer scaling problems and correspondence problems in which n objects are connected to m objects			
	Fractions			
17	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			
18	recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators			
19	recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators			
20	recognise and show, using diagrams, equivalent fractions with small denominators			
21	add and subtract fractions with the same denominator within one whole (e.g. 5/7 + 1/7 = 6/7)			
22	compare and order unit fractions with the same denominator			
23	solve problems that involve all of the above			
	Measures			
24	measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)			
25	measure the perimeter of simple 2-D shapes			
26	add and subtract amounts of money to give change, using both £ and p in practical contexts			
27	tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks			
28	estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes, hours and o'clock; use vocabulary such as a.m./p.m., morning, afternoon, noon and midnight			
29	know the number of seconds in a minute and the number of days in each month, year and leap year			
30	compare durations of events, for example to calculate the time taken by particular events or tasks			
	Geometry: properties of shapes			
31	draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations; and describe them with increasing accuracy			
32	recognise angles as a property of shape and associate angles with turning			
33	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			
34	identify horizontal, vertical, perpendicular and parallel lines in relation to other lines			
	Statistics			
35	interpret and present data using bar charts, pictograms and tables			
36	solve one-step and two-step questions such as 'How many more?' and 'How many fewer?' using information presented in scaled bar charts and pictograms and tables.			

TT step	B	B+	W	W+	S	S+
Points achieved	5-9	10-14	15-19	20-25	26-31	32-36

Year 4 Maths Expectation

	Number, place value and rounding			
1	count in multiples of 6, 7, 9, 25 and 1000			
2	find 1000 more or less than a given number			
3	count backwards through zero to include negative numbers			
4	recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones)			
5	order and compare numbers beyond 1000			
6	identify, represent and estimate numbers using different representations			
7	round any number to the nearest 10, 100 or 1000			
8	solve number and practical problems that involve all of the above and with increasingly large positive numbers			
9	read Roman numerals to 100 (I to C) and understand how, over time, the numeral system changed to include the concept of zero and place value.			
	Addition and subtraction			
10	add and subtract numbers with up to 4 digits using the efficient written methods of columnar addition and subtraction where appropriate			
11	estimate and use inverse operations to check answers to a calculation			
12	solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why			
	Multiplication and division			
13	recall multiplication and division facts for multiplication tables up to 12 × 12			
14	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			
15	recognise and use factor pairs and commutativity in mental calculations			
16	multiply two-digit and three-digit numbers by a one-digit number using formal written layout			
17	solve problems involving multiplying and adding, including using the distributive law and harder multiplication problems such as which n objects are connected to m objects.			
	Fractions			
19	count up and down in hundredths; recognise that hundredths arise when dividing an object by a hundred and dividing tenths by ten			
20	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			
21	identify, name and write equivalent fractions of a given fraction, including tenths and hundredths			
22	add and subtract fractions with the same denominator			
23	Decimals and fractions			
24	recognise and write decimal equivalents of any number of tenths or hundredths			
25	recognise and write decimal equivalents to 1/4; 1/2; 3/4			
26	find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as units, tenths and hundredths			
27	round decimals with one decimal place to the nearest whole number			
28	compare numbers with the same number of decimal places up to two decimal places			
29	solve simple measure and money problems involving fractions and decimals to two decimal places			
	Measures			
30	convert between different units of measure (e.g. kilometre to metre; hour to minute)			
31	measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres			
32	estimate, compare and calculate different measures, including money in pounds and pence			
33	find the area of rectilinear shapes by counting			
34	read, write and convert time between analogue and digital 12 and 24-hour clocks			
35	solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days			
	Geometry: properties of shapes			
36	compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes			
37	identify acute and obtuse angles and compare and order angles up to two right angles by size			
38	identify lines of symmetry in 2-D shapes presented in different orientations			
39	complete a simple symmetric figure with respect to a specific line of symmetry			
	Geometry: position, direction, motion			
40	describe positions on a 2-D grid as coordinates in the first quadrant			
41	describe movements between positions as translations of a given unit to the left/right and up/down			
42	plot specified points and draw sides to complete a given polygon			
	Statistics			
43	interpret and present discrete data using bar charts and continuous statistics using line graphs			
44	solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and simple line graphs			

TT step	B	B+	W	W+	S	S+
Points achieved	8-17	18-26	21-27	28-34	35-39	40-44

Year 5 Maths Expectation

	Number, place value, approximation and estimation			
1	read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit			
2	count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000			
3	interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers through zero			
4	round any number up to 1,000,000 to the nearest 10, 100, 1,000, 10,000 and 100,000			
5	solve number problems and practical problems that involve all of the above			
6	read Roman numerals to 1,000 (M) and recognise years written in Roman numerals			
7	add and subtract whole numbers with more than 4 digits, including using efficient written			
8	add and subtract numbers mentally with increasingly large numbers			
9	use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy			
10	solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why			
	Addition and subtraction , multiplication and division			
11	identify multiples and factors, including finding all factor pairs			
12	solve problems involving multiplication and division where larger numbers are used by decomposing them into their factors			
13	know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers			
14	establish whether a number up to 100 is prime and recall prime numbers up to 19			
15	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			
16	multiply and divide numbers mentally drawing upon known facts			
17	divide numbers up to 4 digits by a one-digit number using the efficient written method of short division and interpret remainders appropriately for the context			
18	multiply and divide whole numbers and those involving decimals by 10, 100 and 1000			
19	recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3)			
20	solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign			
21	solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates			
	Fractions			
22	compare and order fractions whose denominators are all multiples of the same number			
23	recognise mixed numbers and improper fractions and convert from one form to the other			
24	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)			
25	multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams			
	Decimals and fractions			
26	read and write decimal numbers as fractions (e.g. 0.71 = 71/100)			
27	recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents			
28	round decimals with two decimal places to the nearest whole number and to one decimal place			
29	read, write, order and compare numbers with up to three decimal places			
30	solve problems involving number up to three decimal places			
	Percentages, decimals and fractions			
31	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			
32	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			
33	convert between different units of measure			
34	understand and use basic equivalences between metric and common imperial units and express them in approximate terms			
35	measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres			
36	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			
37	recognise and estimate volume (e.g. using 1 cm3 blocks to build cubes and cuboids) and capacity			
38	solve problems involving converting between units of time			
39	solve problems involving addition and subtraction of units of measure using decimal notation			
	Geometry: properties of shapes			
40	identify 3-D shapes, including cubes and cuboids, from 2-D representations			
41	know angles are measured in degrees; estimate and measure them and draw a given angle, writing its size in degrees (o)			
42	Draw given angles and measure them in degrees			
43	identify angles at a point on a straight line and ½ a turn (total 180o)			
44	identify angles at a point and one whole turn (total 360o)			
45	identify reflex angles, and compare different angles			
46	draw shapes using given dimensions and angles			
47	state and use the properties of a rectangle (including squares) to deduce related facts			
48	distinguish between regular and irregular polygons based on reasoning about equal sides and angles			
49	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			
50	solve comparison, sum and difference problems using information presented in line graphs			
51	complete, read and interpret information in tables, including timetables			

TT step	B	B+	W	W+	S	S+
Points achieved	8-14	15-24	25-32	33-41	42-47	48-51

Year 6 Maths Expectation

Number, place value and rounding					
1	read, write, order and compare numbers up to 10 000 000 and determine the value of each digit				
2	round any whole number to a required degree of accuracy				
3	use negative numbers in context, and calculate intervals across zero				
4	solve number problems and practical problems that involve all of the above				
Addition, subtraction, multiplication and division					
5	multiply multi-digit numbers up to 4 digits by a two-digit whole number using the efficient written method of long multiplication				
6	divide numbers up to 4 digits by a two-digit whole number using the efficient written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context				
7	perform mental calculations, including with mixed operations and large numbers				
8	identify common factors, common multiples and prime numbers				
9	use their knowledge of the order of operations to carry out calculations involving the four operations				
10	solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why				
11	solve problems involving addition, subtraction, multiplication and division				
12	use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy				
Fractions					
13	use common factors to simplify fractions; use common multiples to express fractions in the same denomination				
14	compare and order fractions, including fractions >1				
15	associate a fraction with division to calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. 3/8)				
16	add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions				
17	multiply simple pairs of proper fractions, writing the answer in its simplest form (e.g. 1/4 × 1/2 = 1/8)				
18	divide proper fractions by whole numbers (e.g. 1/3 ÷ 2 = 1/6)				
Decimals and fractions					
19	identify the value of each digit to three decimal places and multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places				
20	multiply one-digit numbers with up to two decimal places by whole numbers				
21	use written division methods in cases where the answer has up to two decimal places				
22	solve problems which require answers to be rounded to specified degrees of accuracy				
Percentages, decimals and fractions					
23	solve problems involving the calculation of percentages of whole numbers or measures such as 15% of 360 and the use of percentages for comparison				
24	recall and use equivalences between simple fractions, decimals and percentages, including in different contexts				
Ratio and proportion					
25	solve problems involving the relative sizes of two quantities, including similarity				
26	solve problems involving unequal sharing and grouping				
Algebra					
27	express missing number problems algebraically				
28	use simple formulae expressed in words				
29	generate and describe linear number sequences				
30	find pairs of numbers that satisfy number sentences involving two unknowns				
Measures					
31	solve problems involving the calculation and conversion of units of measure, using decimal notation to three decimal places where appropriate				
32	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 three decimal places				
33	convert between miles and kilometres				
34	recognise that shapes with the same areas can have different perimeters and vice versa				
35	calculate the area of parallelograms and triangles				
36	recognise when it is necessary to use the formulae for area and volume of shapes				
37	calculate, estimate and compare volume of cubes and cuboids using standard units, including centimetre cubed (cm3) and cubic metres (m3) and extending to other units, such as mm3 and km3				
Geometry: properties of shapes					
38	recognise, describe and build simple 3-D shapes, including making nets				
39	compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons				
40	illustrate and name parts of circles, including radius, diameter and circumference				
41	find unknown angles where they meet at a point, are on a straight line, and are vertically opposite				
Geometry: position, direction, motion					
42	describe positions on the full coordinate grid (all four quadrants)				
43	draw and translate simple shapes on the coordinate plane, and reflect them in the axes				
Statistics					
44	interpret and construct pie charts and line graphs and use these to solve problems				
45	calculate and interpret the mean as an average				

TT step	B	B+	W	W+	S	S+
Points achieved	8-17	18-26	21-27	28-34	35-39	40-45