

# DRAFT: 2016 Mathematics Key Stage 1 Teacher Assessment Performance Descriptors

Number and Place Value	Number - addition and subtraction	Number - multiplication and division	Number - fractions	Measurement
Use number names in order and one-to-one correspondence to count sets of at least 20 objects reliably	Recall and use addition and subtraction facts for all numbers up to 5 and some facts to 10	Count in 10s from 0 to answer questions involving multiplication facts for the 10 multiplication table	Recognise, find and name a half as 1 of 2 equal parts of an object or shape	Solve simple measure problems in a practical context using direct comparison and non-standard units
Count to at least 20, forwards and backwards	Using apparatus represent and use number bonds and related subtraction facts within 20	Begin to recall and use doubling and halving facts for numbers up to double 5	Recognise and find half of a moveable small set of objects or a quantity	Sort coins and recognise the value of 1p, 2p, 5p, 10p, 20p, £1 and £2 coins
Read and write numbers to 10	Add and subtract 1-digit and 2-digit numbers to 20, including zero, using concrete objects, structured apparatus, pictorial representations and basic written methods	Begin to recognise even numbers to 10	Recognise, find and name a quarter as 1 of 4 equal parts of an object, shape or quantity	Begin to recognise the days of the week and sequence the events of a day in chronological order using appropriate language such as before, after, next, morning, afternoon
Order numbers from 1 to at least 20 in ascending and descending order	Begin to use addition (+), subtraction (-) and equals (=) signs to record their work	Solve single step problems involving grouping and sharing by using objects	Begin to solve simple problems involving fractions	Tell the time at the hour
Know the number that is 1 more and 1 less than any number up to 20	Read the mathematical statements they have recorded	Recall multiplication facts for the 10 multiplication table and use them to derive division facts, and count in steps of 10 to answer questions	Recognise, find, name and write fractions of a half a length, shape, set of objects or quantity	Measure and begin to record the following:
Use the language of more than, less than (fewer), most, equal to	Use these skills and approaches to solve single step problems	Recall and use doubling and halving facts for numbers up to double 10 and other significant doubles	Express simple problems using fraction notation and solve them	lengths and heights
Identify and represent numbers to at least 20 using objects, structured apparatus and number lines	Recall and use addition and subtraction facts for all numbers up to 10.	Recognise odd and even numbers to 20	Recognise the equivalence of $\frac{1}{2}$ s and $\frac{1}{4}$ in practical contexts and when counting in fractions	mass/weight
Use the number facts they know to solve problems	Add and subtract numbers mentally, including: 2 single-digit numbers a number up to 20 and 1s	Solve simple problems involving grouping and sharing, using objects, pictorial representations and arrays	All aspects of number – fractions at the national standard are embedded	volume/capacity
Count to and across 100, forwards or backwards, beginning with 0 or 1, or from any given number	Add and subtract numbers using concrete objects, pictorial representations and the written columnar method including: a two-digit number and 1 adding 3 single-digit numbers with a total up to 20	Recall and use multiplication and division facts for the 10 multiplication table using the appropriate signs ( $\times$ , $\div$ and $=$ )	Recognise, find, name and write fractions: $\frac{1}{2}$ , $\frac{1}{4}$ , $\frac{3}{4}$ and $\frac{1}{8}$ of a length, shape, set of objects or quantity	time
Count in multiples of 2s, 5s and 10s	Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=)	Begin to recall and use multiplication and division facts for the 2 and 5 multiplication tables using appropriate signs	Express more complex problems using fraction notation and solve them	Recognise and know the value of different denominations of coins and notes
Count in steps of 10 within 100, starting from any number	Solve missing number addition problems involving single-digit numbers	Begin to solve simple problems involving multiplication and division	Geometry - properties of shapes	Begin to recognise and use the symbols for pounds (£) and pence (p)
Read and write numbers from 1 to 100 in numerals, and up to 20 in words (not necessarily spelled correctly)	Solve simple 1 or 2 step problems with addition and subtraction	Recognise odd and even numbers to at least 100. Explain how they know a particular number is odd or is even	Recognise, name and describe the properties of 2-D shapes (including: rectangles, squares, circles and triangles)	Combine amounts to make small values
Use the place value of each digit to order numbers to 100	Show that addition can be done in any order (commutative)	Make connections between multiplication and division by 2 and doubling and halving and use these to reason about problems and calculations	Recognise, name and describe the properties of 3-D shapes such as cuboids (including: cubes, pyramids and spheres)	Sequence the events of several days in chronological order using appropriate language
Know the number that is 1 more and 1 less than any number up to 100	Recall and use addition and subtraction facts for all numbers up to 10 fluently	Show that multiplication of 2 numbers can be done in any order (commutative)	Sort shapes based on simple properties	Tell the time to half past the hour; turn the hands of a geared clock to show these times; draw hands on a clock face to show o'clock times
Use the language of least	Relate number facts to 10 to adding and subtracting multiples of 10 within 100	Understand multiplication as repeated addition	Recognise, name and describe the properties of common 2-D shapes including pentagons and hexagons	Recognise and use language relating to dates, including days of the week, weeks, months and years
Identify and represent numbers using objects, structured apparatus and number lines	Begin to recall addition and subtraction facts to 20	All aspects of number – multiplication and division at the national standard are embedded	Recognise, name and describe the properties of common 3-D shapes including cones and spheres	Know there are 7 days in a week
Use place value and number facts to solve simple problems	Add and subtract numbers mentally, including: a 2-digit number and 1s a 2-digit number and 10s	Rapidly recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables and write mathematical statements using the multiplication ( $\times$ ), division ( $\div$ ) and equals (=) signs	Solve simple problems involving shapes	Know the name of the day before or after a given day
Read and write numbers to at least 100 in numerals and words	2 simple, 2-digit numbers, which do not involve bridging a 10 adding 3 single-digit numbers	Count in 3s to solve multiplication and division problems for the 3 multiplication table	Compare and sort common 2-D and 3-D shapes and everyday objects, on the basis of their geometric properties including vertices, sides, edges, faces	Solve simple measure problems in a practical context using standardised units
Count in steps of 2 and 5 from 0, and in 10s to 100, forwards and backwards	Add and subtract numbers using objects, pictorial representations and the written columnar methods including: a 2-digit number and 10s adding 2, 2-digit numbers	Solve more complex problems involving multiplication and division in a range of contexts including measures	Identify lines of symmetry in a vertical line of 2-D shapes	Compare and order lengths, mass, volume or capacity and record the results using greater than (>), less than (<) and equals (=)
Count in multiples of 3 to at least 30	simple cases of subtracting 2-digit numbers adding 3 single-digit numbers	Make connections between place value and multiplication/division by 10 and use known multiplication and division facts to derive others	Identify 2-D shapes on the surface of 3-D shapes	Reason about simple multiplicative relationships such as twice as long, 10 times as high
Use place value to compare and order numbers up to 100 sometimes using less than (<), equals (=) and greater than (>) signs correctly	Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems at least involving a 2-digit number and 1s or 10s		Solve problems involving shapes and reason about their properties	Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature ( $^{\circ}$ C); capacity (litres/ml) to the nearest labelled unit using rulers, scales, thermometers and measuring vessels
Identify and represent numbers using different representations including the number line	Solve simple 2-step problems with addition and subtraction, applying increasing knowledge of mental and written methods		All aspects of geometry – properties of shape at the national standard are embedded	Recognise and use the symbols for pounds (£) and pence (p); combine amounts to make a particular value
Reason about place value and number facts and use them to solve problems	Show that subtraction can't be done in any order		Compare and sort common 2-D and 3-D shapes and common objects, using more than 1 criterion, identifying and describing their properties	Find different combinations of coins that equal the same amounts of money
All aspects of number and place value at the national standard are embedded	All aspects of number - addition and subtraction at the national standard are embedded		Reason about and solve more complex problems involving shapes and their properties	Compare and order intervals of time
Demonstrate fluency and reasoning in counting forwards and backwards in steps of 2, 5 and 10 including from different starting points and using numbers beyond 100	Add and subtract numbers mentally using appropriate strategies, including: 2 2-digit numbers adding/subtracting several single-digit numbers		Geometry - position and direction	Recognise, tell and write the times: o'clock, half past and quarter past and begin to recognise quarter to the hour
Consistently use less than (<), equals (=) and greater than (>) signs correctly when comparing numbers and expressions	Add and subtract numbers using objects, pictorial representations and the written columnar method including: adding several 2-digit numbers subtracting 2-digit numbers		Respond to and use terms such as first, second and third	Draw hands on a clock to show the time on the hour and at half past
Identify and represent numbers using different representations including more complex number lines	adding a 2-digit number to a 3-digit number adding 3-digit numbers		Describe position, directions and movement for whole and half turns	Solve problems involving money of the same unit, including giving change, and other measures, including time
Demonstrate reasoning about place value and number facts to solve more complex problems	Solve missing number problems involving a wider range of numbers		Describe position, directions and movement, including whole, half, quarter and three-quarter turns	All aspects of measurement at the national standard are embedded
	Use addition and subtraction facts to solve more complex problems, such as 3 step problems		Solve simple problems involving position and direction	Find all possible combinations of coins to equal a given amount or how to pay a given amount using the fewest possible number of coins
			Order and arrange combinations of mathematical objects in patterns and sequences	Know that there are 60 minutes in an hour and 24 hours in a day and use these facts to solve problems
			Use mathematical vocabulary to describe position, direction and movement, including movement in a straight line; distinguish between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise)	Tell and write the time to 5 minutes and draw hands on a clock face to show these times
			Recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per 100'	Solve more complex problems involving, money and other measures, including time
			All aspects of geometry – position and direction at the national standard are embedded	Reason about multiplicative relationships between specific measured quantities, drawing on knowledge of 2, 5 and 10 tables and knowledge of fractions
			Order and arrange combinations of mathematical objects in more complex patterns and sequences	
			Solve more complex problems involving position and direction	
			Statistics	
			Begin to group objects into sets according to simple properties	
			Answer simple questions by counting the number of objects in a category	
			Interpret and construct simple pictograms where the picture is worth 1 unit	
			Interpret simple tally charts and block diagrams	
			Ask and answer questions that require counting the number of objects in each category	
			Interpret and construct simple pictograms, tally charts, block diagrams and simple tables	
			Ask and answer simple questions that require sorting the categories by quantity, totalling and comparing simple categorical data	
			All aspects of statistics at the national standard are embedded	
			Interpret and construct pictograms (where the symbols show many to one correspondence), block diagrams (where the scale is divided into 2s or 5s) and more complex tables	
			Use more complex charts to ask and answer questions by reading from the chart the number of objects in each category, sorting the categories by quantity, totalling and comparing categorical data	

<b>Key:</b>
Pupils working below national standard
Pupils working towards national standard
Pupils working at national standard
Pupils working at mastery standard
Text in bold is main criteria
Text not in bold in a pale background is sub criteria



DRAFT: 2016  
Mathematics  
Key Stage 1  
teacher  
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descriptors