Mathematics Assessment – Year 2 – Autumn Term

Working Towards	On Track	Greater Depth
Count up in 2s, 3s, 5s and 10s from 0.	Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward	Categorise numbers in a set as multiples of 2s, 3s, 5s and 10s and explain why some sit in more than one category.
Know how to partition 2-digit numbers.	Recognise the place value of each digit in a 2-digit number.	Explain how a set of objects can be represented in different ways, but the total number remains the same.
Accurately estimate sets of objects up to 50.	Identify, represent and estimate numbers using different representations, including the number line.	Compare and contrast a set of 2-digit numbers, reasoning about similarities and differences. Explain how estimating can help when solving problems with larger numbers.
Order numbers up to 100. Know that the = sign means 'the same as'.	Compare and order numbers to at least 100 and use the <> and = sign.	Explain why = means 'balance'.
Read numbers up to 100 in numerals and words.	Read and write numbers to at least 100 in numerals and in words.	
	Use place value and number facts to solve problems.	
	Solve problems with addition and subtraction using concrete objects and pictorial representations including those involving numbers, quantities and measures and applying their increasing knowledge of mental and written methods (not necessarily column)	Make some choices between mental and written methods. Use columnar (expanded) addition and subtraction appropriately and accurately in a range of real life contexts and role play.
Recall number bonds up to 20 and use these in a range of real life contexts and role play.	Recall and use addition and subtraction facts up to 20 fluently and derive and use related facts up to 100.	Explain patterns in number facts to 100 and how they can help us solve other calculations.
Add and subtract 2-digit numbers and ones to solve problems.	Add and subtract numbers using concrete objects, pictorial representations and mentally Including: a two-digit number and ones a two-digit number and tens two two-digit numbers adding three one-digit numbers	Explain how partitioning numbers helps when adding and subtracting.
Beginning to use commutativity to solve addition calculations (e.g. start with the bigger number first).	Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot.	Explain the links between related addition and subtraction calculations (e.g. 5+6=11 so 11-6=5).
Recognise when an answer is sensible or not (e.g. 73+4=57). Solve calculations using the same numbers (eg x+y & y+x or x+y and x-y) and spot that some give the same answer.	Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.	Use practical resources to teach another pupil about the commutativity of addition. Rearrange the order in a missing number problem (e.g. 7+___=10 and 10=7+ ___)
Use multiplication facts relating to 2s, 5s and 10s in a range of contexts and role play, relying on concrete objects. Know that some numbers are classed as odd and some even.	Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even	Explain links between other multiples based on 2s, 5s, 10s (e.g. 100s and 50s).
Recognise the x and ÷ signs. Know that grouping can help with multiplication and division.	Calculate mathematical statements for multiplication and division within the taught multiplication tables and write them using the multiplication (x), division (÷) and equals (=) signs.	
Solve pairs of calculations using the same numbers and spot that some give the same answer.	Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot.	
Solve simple x and ÷ problems using grouping or repeated addition/ subtraction in a range of contexts.	Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division fact, including problems in contexts.	Justify why a statement may be incorrectly written using their knowledge of multiplication and division.

Becoming fluent in counting using coins, including counting in 2s, 5s and 10s.	Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value.	Explain relationships between rising denominations and the reducing number of coins needed to make the same amount (e.g. 4 x 2p vs 8 x 1p or 10 x 2p vs 4 x 5p)
Add together small numbers of coins and record the calculation using the (p) pence symbol (e.g. 5p+2p+1p=).	Find different combinations of coins that equal the same amounts of money.	Justify why some amounts cannot be made with certain coins (e.g. 17p using 10ps and 5ps).
Use addition of coins in practical role play situations and to solve problems.	Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change.	Explain how a money problem has been solved, using the appropriate vocabulary.

Number	Calculation	Fractions	Measures	Geometry	Statistics	Once an objective has been covered it becomes Bold It is assumed child has achieved this objective at 'on track' unless they are indicated at either WT or GD

Mathematics Assessment – Year 2 – Spring Term

Working Towards	On Track	Greater Depth
Count up and down in ½ s, ¼ s and 1/3 s to make 1. Recognise that thirds arise by dividing into 3 equal parts. Correctly place ¼, ½ and ¾ in order. Find ½ and ¼ of given lengths. Find ¾ of a quantity.	Recognise, find, name and write fractions 1/3, ¼, 2/4 and 3/4 of a length, shape, set of objects or quantity.	Use the terms numerator and denominator independently when talking about fractions. Order 1/3, ½ , ¼ and ¾ on an empty number line and justify their position.
	Write simple fractions for example, ½ of 6=3. Recognise the equivalence of 2/4 and ½.	Based on their understanding of halves and quarters, begin to generalise about other equivalent fractions.
Use tallies to record data and interpret information presented in tally charts and pictograms.	Interpret and construct simple pictograms, tally charts, block diagrams and simple tables.	Rationalise their choices as to recording and presenting data (e.g. why a pictogram was more effective than presenting the data in a table).
Know that data means information and know that it can be presented in different forms.	Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity.	Explain how more than one symbol in a pictogram can represent a value greater than than 1.
	Ask and answer questions about totalling and comparing categorical data.	Explain their method when solving problems involving categorical data.
Know and name the standard units of length/height (m/cm); mass (kg/g); temperature (°C) and capacity (l/ml). Identify the correct equipment for a given measuring task or role play situation (e.g. ruler for length vs thermometer for temperature).	Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels.	Justify their thinking when comparing and ordering measures, including linking to fractions (e.g., this is half the length of that).
With support measure using cm/m, litres and kgs where the answer is a whole.	Compare and order lengths, mass, volume/capacity and record the results using >, < and =	Calculate differences between different measures where the unit is the same.
Link shapes with written name labels.	Pupils read and write names for shapes that are appropriate for their word reading and spelling.	
Explain the difference between 2-D and 3-D using shapes to support their thinking. With support describe simple properties of 2-D and 3-D shapes, (e.g. faces, edges, sides using word prompts).	Pupils draw lines and shapes using a straight edge .Identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line.	Compare and contrast across a range of 2-D and 3-D shapes using technical mathematical language to describe similarities and differences.
	Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces.	
	Identify 2-D shapes on the surface of 3-D shapes [e.g., a circle on a cylinder and a triangle on a pyramid].	
	Compare and sort common 2-D and 3-D shapes and everyday objects.	Sort and re-sort shapes according to different criteria and explain why some shapes moved groups while others stayed together.

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Mathematics Assessment – Year 2 – Summer Term

Working Towards	On Track	Greater Depth
Know and name the standard units of length/height (m/cm); mass (kg/g); temperature (°C) and capacity (l/ml). Identify the correct equipment for a given measuring task or role play situation (e.g. ruler for length vs thermometer for temperature).	**Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels.**	**Justify their thinking when comparing and ordering measures, including linking to fractions (e.g., this is half the length of that).**
With support measure using cm/m, litres and kgs where the answer is a whole.	**Compare and order lengths, mass, volume/capacity and record the results using >, < and =**	Calculate differences between different measures where the unit is the same.
Use the correct interval of time when discussing events (e.g. minute, second, hour, day, week, and year).	**Compare and sequence intervals of time.**	Calculate differences between events that are on the hour and half past the hour (e.g. 8.30 and 10.00 = 1 and ½ hours).
Read the time to quarter past/quarter to the hour.	**Tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times.**	Explain the relationship between 5s, 15s and 30s within time, linking with ¼ past, ½ past and ¼ to).
Complete given patterns and sequences. Spot patterns and sequences in the real world.	**Order and arrange combinations of mathematical objects in patterns and sequences.**	Justify their thinking when solving and creating sequence puzzles. Generalise about patterns, explaining how they know what the nth term in a pattern will be (e.g. Using the first 5 shown I know the 10th will be…. because….)
Know that rotation means turn and begin to use clockwise and anti-clockwise to describe turns	**Use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise)**	Solve and create maze puzzles involving quarter, half and three-quarter turns.

- The pupil can partition two-digit numbers into different combinations of tens and ones. This may include using apparatus (e.g. 23 is the same as 2 tens and 3 ones which is the same as 1 ten and 13 ones)
- The pupil can add 2 two-digit numbers within 100 (e.g. 48 + 35) and can demonstrate their method using concrete apparatus or pictorial representations
- The pupil can use estimation to check that their answers to a calculation are reasonable (e.g. knowing that 48 + 35 will be less than 100)
- The pupil can subtract mentally a two-digit number from another two-digit number when there is no regrouping required (e.g. 74 – 33)
- The pupil can recognise the inverse relationships between addition and subtraction and use this to check calculations and work out missing number problems (e.g. Δ – 14 = 28)
- The pupil can recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables to solve simple problems, demonstrating an understanding of commutativity as necessary (e.g. knowing they can make 7 groups of 5 from 35 blocks and writing 35 ÷ 5 = 7; sharing 40 cherries between 10 people and writing 40 ÷ 10 = 4; stating the total value of six 5p coins)
- The pupil can identify and knows that all parts must be equal parts of the whole
- The pupil can use different coins to make the same amount (e.g. pupil uses coins to make 50p in different ways; pupil can work out how many £2 coins are needed to exchange for a £20 note)
- The pupil can read scales in divisions of ones, twos, fives and tens in a practical situation where all numbers on the scale are given (e.g. pupil reads the temperature on a thermometer or measures capacities using a measuring jug)
- The pupil can read the time on the clock to the nearest 15 minutes
- The pupil can describe properties of 2-D and 3-D shapes (e.g. the pupil describes a triangle: it has 3 sides, 3 vertices and 1 line of symmetry; the pupil describes a pyramid: it has 8 edges, 5 faces, 4 of which are triangles and one is a square)
- The pupil can reason about addition (e.g. pupil can reason that the sum of 3 odd numbers will always be odd)
- The pupil can use multiplication facts to make deductions outside known multiplication facts (e.g. a pupil knows that multiples of 5 have one digit of 0 or 5 and uses this to reason that 18 × 5 cannot be 92 as it is not a multiple of 5)

• The pupil can work out mental calculations where regrouping is required (e.g. 52 − 27; 91 − 73)
• The pupil can solve more complex missing number problems (e.g. 14 + − 3 = 17; 14 + Δ = 15 + 27)
• The pupil can determine remainders given known facts (e.g. given 15 ÷ 5 = 3 and has a remainder of 0, pupil recognises that 16 ÷ 5 will have a remainder of 1; knowing that 2 × 7 = 14 and 2 × 8 = 16, pupil explains that making pairs of socks from 15 identical socks will give 7 pairs and one sock will be left)
• The pupil can solve word problems that involve more than one step (e.g. which has the most biscuits, 4 packets of biscuits with 5 in each packet or 3 packets of biscuits with 10 in each packet?)
• The pupil can recognise the relationships between addition and subtraction and can rewrite addition statements as simplified multiplication statements (e.g. 10 + 10 + 10 + 5 + 5 = 3 × 10 + 2 × 5 = 4 × 10)
• The pupil can find and compare fractions of amounts (e.g. 1 of £20 = £5 and 1 of £8 = £4 so 1 of £20 is greater than 1 of £8)
• The pupil can read the time on the clock to the nearest 5 minutes
• The pupil can read scales in divisions of ones, twos, fives and tens in a practical situation where not all numbers on the scale are given
• The pupil can describe similarities and differences of shape properties (e.g. finds 2 different 2-D shapes that only have one line of symmetry; that a cube and a cuboid have the same number of edges, faces and vertices but can describe what is different about them)

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