**Mathematics Assessment grid**

**Year 1 Understanding and investigating within number**

| | Working towards Y1 expectations | Working at the expected Y1 expectations | Going to greater depth with Y1 expectations |
|---|---|---|---|
| **Place value, ordering and rounding** | | | |
| • Counting | Rote counts from 0 or 1 to 30 or beyond and back from given number up to 30 | Rote counts up to 100, forwards and backwards from 0, 1 or any given number. | **Uses** fluency with counting, comparing and ordering numbers to answer more complex questions and to explore and investigate more extensively with numbers to 100.<br>Is able to explain ideas and respond to teacher's more probing questions. Beginning to show ability to work systematically and to make simple general statements. Describes simple patterns and relationships using objects, shapes or numbers and decide if examples satisfy given conditions.<br>Starts to show some creativity in posing own questions and problems adapted from familiar ones. E.g.<br>If I count on from 20 tell me a number I will not say? Convince me. If I start at 17 and count on in twos I will not say 29. Do you agree? How can you convince me?<br>I think of a number, ten more than my number is 35. What was my number? How did you work it out? Can you set a similar puzzle for me?<br>What is the same and what is different about these numbers? Which number could be the odd one out from this set? Explain your thinking.<br>How can you use the patterns in this number grid to say which numbers are missing? |
| • Reading and writing numbers | Reads and writes all numbers from 1 up to 20 in numerals and some in words. | Reads and writes all numbers up to 100 in numerals and all numbers to 20 in words. | |
| • Comparing and ordering numbers | Given a number up to 30 identifies one more or one less. | Given a number up to 100 identifies one more or one less. | |
| | Starts to use ordinal numbers 1st, 2nd, 3rd to 10th | Understands and uses ordinal numbers to 20th and beyond. | |
| | Starts to use the language of; equal to, more than, less than (fewer), most, least to compare and order numbers familiar numbers and quantities | Uses the language of; equal to, more than, less than (fewer), most, least to compare and order familiar numbers and quantities. | |
| | Begins to use objects and pictorial representations, including the number line to support understanding of numbers and quantities. | Identifies and represents numbers with objects and pictorial representations including the number line. | |
| • Place value | | Uses objects and pictorial representations to develop understanding of place value in numbers to 20 and beyond. | |
| **Properties of numbers / sequences** | | | |
| • Counting in multiples | Starts to count in multiples of two and to relate these to odd and even numbers. | Counts fluently in multiples of two, five and ten from different multiples. | |
| • Recognising and describing patterns | Recognises and creates simple repeating patterns with objects and shapes sometimes with support. | Recognises, creates and extends a greater range of pattern structures with objects and shapes | |
| **Fractions** | | | |
| | Starts to recognise find and name a half as one of two equal parts of an object, shape or quantity. | Recognises, finds and names one half / one quarter as two / four equal parts of an object shape or quantity.<br>Connect halves and quarters to equal sharing and grouping and combines halves and quarters as parts of a whole. | Demonstrates deep understanding of halves and quarters through investigating more complex shapes or quantities where the fraction is not immediately apparent. Finds different ways to identify half or quarter of the same shape.<br>Explores more complex and open questions involving fractions, and demonstrates thinking often drawing a picture or diagram to support their explanation. |

**Mathematics Assessment grid**
**Year 1 Developing and applying calculation**

| | Working towards Y1 expectations | Working at the expected Y1 expectations | Going to greater depth with Y1 expectations |
|---|---|---|---|
| **Addition and subtraction** | | | |
| • Understanding number operations and the links between them | Solves one-step problems with support, involving addition and subtraction using concrete objects and pictorial representations, and missing number problems such as 7 = Δ -3.<br>Starting to understand the language of put together, add, altogether, total, take away, distance between, difference between, more than and less than. | Solves one-step problems independently, involving addition and subtraction sometimes using concrete objects and pictorial representations, and missing number problems such as 7 = Δ -9.<br>Independently reads, writes and interprets simple mathematical statements involving addition (+), subtraction (-) and equals signs.<br>Starting to use the language of put together, add, altogether, total, take away, distance between, difference between, more than and less than. | Tackles open and more complex one-step problems in a range of contexts. .Relates the problems to the number sentence needed to solve them where the missing item is in a range of positions e.g. 8 + 5 = Δ but also Δ+5 =8, 8 = 3 + Δ, Δ- 4 =8, Δ- □= 5 for example.<br>Poses problems of their own.<br>Interprets and creates representations to show understanding of the structure of a problem e.g. Rows of linking cubes to show a difference or a part-whole diagram. Solves number puzzles out of context and explains how they worked it out. |
| • Recall of number facts | Represents and uses number bonds and related subtraction facts within ten<br><br>Starts to memorise and reason with number bonds to 10 in several forms e.g. 3 + 4 = 7, 7 – 3 = 4, 3 = 7 – 4, reinforcing addition and subtraction as related operations | Represents and uses number bonds and related subtraction facts within ten and moving to bonds within 20.<br>Uses bonds for 10 to support memorising and reasoning with number bonds to 20 in several forms e.g.13 + 4 = 7, 17 – 13 = 4, 13 = 17 – 4, reinforcing addition and subtraction as related operations.<br>Connects bonds for 10 and 20. | Applies recall of number bonds to solve puzzles and is able to explain thinking involved e.g. I am thinking of a number, I subtract 4 and the answer is 7. What was my number? How do you know?<br>Shows increasing ability to connect facts and avoid the need for calculation e.g. if 7 + 3 = 10, what is 8 + 3? How do you know? What other facts do you know if you know 9 – 2 = 7? Can connect these ideas to different representations.<br>Makes and explains use of patterns in number bonds. |
| • Mental calculation | Adds and subtracts one-digit numbers, including zero.<br>Realises the effect of adding or subtracting zero. | Add and subtracts one-digit numbers and two-digit numbers to 20, including zero. | Uses number bonds to support work with larger numbers and explains the links |
| **Multiplication and division** | | | |
| • Understanding number operations and the links between them | Starts to connect counting in twos, number patterns and arrays through practical experiences with support. | Understands how counting in twos, fives and tens is connected with number patterns and arrays .Uses grouping and sharing of small quantities to understand<br>• Multiplications and division<br>• Doubling<br>• Connections with fractions | Makes and explains connections between counting in twos, fives and tens, number patterns and arrays<br>Explains how grouping and sharing of small quantities relates to<br>• Multiplications and division<br>• Doubling<br>• Connections with fractions |
| • Recall of number facts | Counts in multiples of two. | Counts in multiples of 2, 5 and 10 | |
| • Mental calculation | Begin to use objects and pictorial representation to solve repeated addition and grouping problems. | Solves one step problems involving multiplication and division, by calculating the answer using objects, arrays and pictorial representations with support. | Solves, with support if needed, open and more complex problems involving x/÷. Explores ways to represent the problem |

**Mathematics Assessment grid**
**Year 1 Measurement**

| | Working towards Y1 expectations | Working at the expected Y1 expectations | Going to greater depth with Y1 expectations |
|---|---|---|---|
| **Measurement** | | | |
| • **Measuring length** | Starts to measure with support, lengths and heights using non standard units and to use these to describe, compare and solve practical problems e.g. who is taller?<br>Starting to use language such as long / longer /short / shorter tall/ taller. | Measures and records lengths and heights using standard units and uses these to describe, compare and solve practical problems e.g. which snake is longer?<br>Becoming confident in use of language of length and height. | Tackles more open and complex practical measuring activities and problems explaining their thinking.<br>Shows a growing understanding of comparison and equivalence.<br>Uses the language of length, height and comparison confidently. |
| • **Measuring mass/weight** | Starts to measure with support, mass/weight using non standard units and to use these to describe, compare and solve practical problems e.g. which is heavier / lighter?<br>Starting to develop of use language such as heavy / heavier /light / lighter / lightest / weight | Measure and records mass/weight using standard units and uses these to describe, compare and solve practical problems e.g. which is heavier / lighter?<br>Becoming confident in use of language related to weight /mass. | Tackles more open and complex practical measuring activities and problems explaining their thinking.<br>Shows a growing understanding of comparison and equivalence.<br>Uses the language of weight/mass and comparison confidently. |
| • **Measuring capacity / volume** | Starts to measure with support, capacity / volume using non standard units and to use these to describe, compare and solve practical problems e.g. which jug contains more?<br>Starting to develop use of language such as full / empty / more than / less than / half / half full. | Measure and records capacity / volume using standard units and uses these to describe, compare and solve practical problems e.g. which jug contains more?<br>Becoming more confident in use of language of capacity. | Tackles more open and complex practical measuring activities and problems explaining their thinking.<br>Shows a growing understanding of comparison and equivalence.<br>Uses the language of capacity and comparison confidently. |
| • **Time** | Starts to sequence events in chronological order using appropriate language e.g. before / after / next / first / today / yesterday / tomorrow / morning / afternoon / evening.<br>Starts to recognise and use language relating to dates, including days of week, weeks, months and years. | Sequences events in chronological order using appropriate language<br>Recognises and uses language relating to dates, including days of week, weeks, months and years.<br>Measures and begins to record time; using hours, minutes and seconds.<br>Reads the time to the hour and half hour and draws hands on a clock face to show these times. Uses the language of o'clock and half past. | Applies knowledge of telling the time and language of days, weeks, months and years to solve practical problems involving ideas around e.g., earlier, later, quicker, slower, how long.<br>Interpret and answer problems based on simple calendars or timetables. |
| • **Money** | Starts to recognise and know the value of different denominations of coins and notes. | Recognises the value of different denominations of coins and notes. | Uses understanding of value of coins / notes to solve a range of open and more complex problems. |

**Mathematics Assessment grid**
**Year 1 Geometry**

| | Working towards Y1 expectations | Working at the expected Y1 expectations | Going to greater depth with Y1 expectations |
|---|---|---|---|
| **Geometry:** | | | |
| • **properties of shapes** | Starts to recognise and name, with support:<br>• 2D shapes e.g. rectangles, (including squares), circles and triangles<br>• 3D shapes e.g. cuboids (including cubes), pyramids and spheres<br>Compares and sorts common 2D and 3D shapes and related everyday objects with support if needed.<br>. | Recognises and names<br>• 2D shapes e.g. rectangles, (including squares), circles and triangles<br>• 3D shapes e.g. cuboids (including cubes), pyramids and spheres<br>Recognises shapes in different orientations and sizes and knows that rectangles, triangles, cuboids and pyramids are not always similar to each other.<br>Compares and sorts common 2D and 3D shapes and related everyday objects. | Applies understanding of properties of shapes to problem solving and reasoning with shapes.<br>For example<br>• suggest which one of a set of shapes could be the odd one out and explain their thinking;<br>• say what is the same and what is different about shapes in a set<br>• Solve puzzles to identify a mystery shape from a set of clues about its properties<br>• Create their own clues for a mystery shape puzzle<br>Shows confident use of appropriate vocabulary in these activities. |
| • **Position and direction** | Starts to use the language of position, direction and motion, including left / right / top / middle / bottom / on top of / in front of / above between / around / near / close / far / up / down / forwards / backwards / inside / outside. May need support. Starts to describe and use through practical activities the language of turning, including half, quarter and three quarter turns. | Confident in the use of language to describe position, direction and movement, including left / right / top / middle / bottom / on top of / in front of / above between / around / near / close / far / up / down / forwards / backwards / inside / outside.<br>Confidently describes and uses, through practical activities, the language of turning, including half, quarter and three quarter turns.<br>Connects turning clockwise with the movements of hands on a clock face. | Applies understanding of position and direction and related vocabulary to problem solving and reasoning in this context.<br>For example:<br>• Place items correctly in response to clues about its position and its position relative to other items e.g. it is on the top row, it is to the right of the book.<br>• Identify a mystery object from clues about its position e.g. it is not on the top row, it is to the left of the teddy bear<br>• Use directions to find the way through a maze or along a track or provide directions for others |