# Mathseeds Lessons and Mathematics Guidance: Key Stages 1 and 2

## YEAR 1

| | | | Mathseeds Lesson # | | | Additional Mathseeds Resources | |
|---|---|---|---|---|---|---|---|
| | | | Knowledge and Skills | Assessment | Higher Order Thinking Skills | Fluency | Assessment |
| **Strand** | **Ready-to-progress criteria** | **Code** | **Online Lesson, Printable Resources, & Problem Solving Tasks** | **End-of-lesson Quiz** | **Critical Thinking and Problem Solving Interactives** | **Driving Tests (DT) Mental Minute (MM)** | **Printable Achievement Standards Assessment** |
| Number and Place Value | Count within 100, forwards and backwards, starting with any number | 1NPV-1 | 1, 2, 3, 5, 7, 10, 11, 12, 14, 16, 17, 18, 19, 20, 21, 25, 28, 33, 41, 43, 45, 46, 48, 50, 56, 60, 67, 75, 81, 86 | | 12 | **DT Kindergarten Number**<br>1-7, 10, 13-15, 17-19, 21, 22<br>**DT Year 1 Number**<br>2, 5, 8, 11, 12 | **Kindergarten Number**<br>Test 1, 2<br>**Year 1 Number and Algebra: Whole Numbers**<br>Test 1-3, 6 |
| | Reason about the location of numbers to 20 within the linear number system, including comparing using <, > and =. | 1NPV-2 | 22, 25, 28, 122 | | | **DT Kindergarten Number**<br>8, 9, 16, 20, 23<br>**DT Year 1 Number**<br>1, 7, 18 | **Kindergarten Number**<br>Test 3<br>**Year 1 Number and Algebra: Whole Numbers**<br>Test 4, 5, 7, 8 |
| Number Facts | Develop fluency in addition and subtraction facts within 10. | 1NF-1 | 24, 30, 31, 32, 34, 36, 40, 47, 49 | | 30, 31, 34, 36, 40, 47 | **DT Kindergarten Operations**<br>5, 12, 24, 25<br>**MM** Addition Sprints<br>**MM** Subtraction Sprints | **Kindergarten Operations**<br>Test 1-3 |
| | Count forwards and backwards in multiples of 2, 5 and 10, up to 10 multiples, beginning with any multiple, and count forwards and backwards through the odd numbers. | 1NF-2 | 74, 77, 79, 90, 108 | | 41, 77, 79, 117 | **DT Year 1 Patterns and Fractions**<br>7-9<br>**DT Year 2 Patterns and Fractions**<br>1-4, 7-10, 13<br>**DT Year 2 Operations**<br>3 | **Kindergarten Number**<br>Test 5<br>**Year 1 Number and Algebra: Whole Numbers**<br>Test 9<br>**Year 1 Number and Algebra: Patterns**<br>Test 1-7<br>**Year 2 Number and Alegbra: Number Patterns**<br>Test 1-8 |
| Addition and Subtraction | Compose numbers to 10 from 2 parts, and partition numbers to 10 into parts, including recognising odd and even numbers. | 1AS-1 | 24, 30, 31, 32, 34, 36, 40, 47, 49 | | 43, 46 | **DT Kindergarten Operations**<br>1-4, 6-11, 13-20, 22, 23 | **Kindergarten Number**<br>Test 4<br>**Kindergarten Operations**<br>Test 4<br>**Year 1 Number and Algebra: Operations**<br>Test 3 |
| | Read, write and interpret equations containing addition, subtraction and equals symbols, and relate additive expressions and equations to real-life contexts. | 1AS-2 | | | | | |
| Geometry | Recognise common 2D and 3D shapes presented in different orientations, and know that rectangles, triangles, cuboids and pyramids are not always similar to one another. | 1G-1 | 4, 6, 9, 15, 23, 35, 44, 119 | | | **DT Kindergarten Geometry**<br>1-8, 15-23 | **Kindergarten Geometry**<br>Test 1-3<br>**Year 1 Geometry: Shape**<br>Test 1, 3, 5<br>**Year 2 Geometry: Shape and Movement**<br>Test 1, 3 |
| | Compose 2D and 3D shapes from smaller shapes to match an example; including manipulating shapes to place them in particular orientations. | 1G-2 | 69 | | 6, 15, 119 | **DT Kindergarten Geometry**<br>12<br>**DT Year 1 Geometry**<br>9, 13 | **Kindergarten Geometry**<br>Test 4<br>**Year 1 Geometry: Shape**<br>Test 6 |

# Mathseeds Lessons and Mathematics Guidance: Key Stages 1 and 2

## YEAR 2

| | | | Mathseeds Lesson # | | | Additional Mathseeds Resources | |
|---|---|---|---|---|---|---|---|
| | | | Knowledge and Skills | Assessment | Higher Order Thinking Skills | Fluency | Assessment |
| **Strand** | **Ready-to-progress criteria** | **Code** | **Online Lesson, Printable Resources, & Problem Solving Tasks** | **End-of-lesson Quiz** | **Critical Thinking and Problem Solving Interactives** | **Driving Tests (DT) Mental Minute (MM)** | **Printable Achievement Standards Assessment** |
| Number and Place Value | Recognise the place value of each digit in two-digit numbers, and compose and decompose two-digit numbers using standard and non-standard partitioning. | 2NPV-1 | 41, 43, 45, 46, 48, 60, 67, 75, 81, 86, 88 | | 67, 88 | **DT Kindergarten Number**<br>11, 12<br>**DT Year 1 Number**<br>9, 10 | **Year 1 Number and Algebra: Place Value**<br>Test 1-4<br>**Year 2 Number and Algebra: Numbers to 1000**<br>Test 1 |
| | Reason about the location of any two-digit number in the linear number system, including identifying the previous and next multiple of 10. | 2NPV-2 | 60, 67, 75, 81, 86 | | 56, 60, 75, 81 | **DT Year 1 Number**<br>3, 4, 6 | |
| Number Facts | Secure fluency in addition and subtraction facts within 10, through continued practice. | 2NF-1 | 53, 58, 93 | | 53, 93 | **MM** Addition Sprints<br>**MM** Subtraction Sprints | |
| Addition and Subtraction | Add and subtract across 10. | 2AS-1 | 51, 65, 91, 100, 103 | | 51, 91 | **DT Year 1 Operations**<br>1-6, 10-12, 16 | **Year 1 Number and Algebra: Operations**<br>Test 1, 2 |
| | Recognise the subtraction structure of 'difference' and answer questions of the form, "How many more…?" | 2AS-2 | 64, 68, 76, 83, 85, 92 | | 65, 68, 76, 83, 92, 100, 104 | **DT Year 1 Operations**<br>7-9<br>**DT Year 2 Operations**<br>1, 2, 4, 5, 14, 15 | **Year 1 Number and Algebra: Operations**<br>Test 4, 5 |
| | Add and subtract within 100 by applying related one-digit addition and subtraction facts: add and subtract only ones or only tens to/from a two-digit number. | 2AS-3 | 95, 96, 125 | | 95, 96, 125 | **DT Year 1 Operations**<br>13-15, 17-20<br>**DT Year 2 Operations**<br>7, 13 | **Year 1 Number and Algebra: Operations**<br>Test 6 |
| | Add and subtract within 100 by applying related one-digit addition and subtraction facts: add and subtract any 2 two-digit numbers. | 2AS-4 | 98, 110, 118 | | 110, 118 | **DT Year 2 Measurement**<br>22, 24 | **Year 1 Number and Algebra: Place Value**<br>Test 5, 6<br>**Year 1 Number and Algebra: Fractions and Money**<br>Test 5, 6, 8<br>**Year 2 Number and Algebra: Fractions and Money**<br>Test 6-8<br>**Year 2 Number and Algebra: Addition and Subtraction**<br>Test 3, 6, 7 |
| Multiplication and Division | Recognise repeated addition contexts, representing them with multiplication equations and calculating the product, within the 2, 5 and 10 multiplication tables. | 2MD-1 | 72, 113, 115 | | 113, 115 | **DT Year 2 Operations**<br>8-12, 19 | **Year 2 Number and Algebra: Equal Groups**<br>Test 3-5 |
| | Relate grouping problems where the number of groups is unknown to multiplication equations with a missing factor, and to division equations (quotitive division). | 2MD-2 | 71, 74 | | 71, 74 | **DT Kindergarten Operations**<br>21<br>**DT Year 2 Operations**<br>6 | **Year 2 Number and Algebra: Equal Groups**<br>Test 1, 2 |
| Geometry | Use precise language to describe the properties of 2D and 3D shapes by reasoning about similarities and differences in properties | 2G-1 | 52, 62, 121, 169 | | 52, 62, 121, 140 | **DT Year 1 Geometry**<br>1-3, 6-8, 10, 17-19<br>**DT Year 2 Geometry**<br>3-7, 10 | **Year 1 Geometry: Shape**<br>Test 2, 4<br>**Year 2 Geometry: Shape and Movement**<br>Test 2, 4, 5 |

# Mathseeds Lessons and Mathematics Guidance: Key Stages 1 and 2

## YEAR 3

| Strand | Ready-to-progress criteria | Code | Mathseeds Lesson # | | | Additional Mathseeds Resources | |
|---|---|---|---|---|---|---|---|
| | | | Knowledge and Skills | Assessment | Higher Order Thinking Skills | Fluency | Assessment |
| | | | Online Lesson, Printable Resources, & Problem Solving Tasks | End-of-lesson Quiz | Critical Thinking and Problem Solving Interactives | Driving Tests (DT) Mental Minute (MM) | Printable Achievement Standards Assessment |
| Number and Place Value | Know that 10 tens are equivalent to 1 hundred, and that 100 is 10 times the size of 10; apply this to identify and work out how many 10s there are in other three-digit multiples of 10. | 3NPV-1 | 101, 105, 106 | | 101, 105, 106, 108 | **DT Year 1 Number**<br>16, 17, 19-24<br>**DT Year 2 Number**<br>1-24 | **Year 2 Number and Algebra: Numbers to 1000**<br>Test 2-7 |
| | Recognise the place value of each digit in three-digit numbers, and compose and decompose three-digit numbers using standard and non-standard partitioning. | 3NPV-2 | | | | | |
| | Reason about the location of any three-digit number system, including identifying the previous and next multiple of 100 and 10. | 3NPV-3 | | | | | |
| Number Facts | Secure fluency in addition and subtraction facts that bridge 10, through continued practice. | 3NF-1 | 103, 142, 148 | | 120, 142, 148, 163 | **MM** Addition Sprints<br>**MM** Subtraction Sprints | **Year 2 Number and Algebra: Addition and Subtraction**<br>Test 1, 2, 4, 5 |
| | Recall multiplication facts, and corresponding division facts, in the 10, 5, 2, 4 and 8 multiplication tables, and recognise products in these multiplication tables as multiples of the corresponding number. | 3NF-2 | 158, 171, 176 | | | **MM** Multiplication Sprints<br>**MM** Division Sprints | |
| | Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 10). | 3NF-3 | 117, 193, 195 | | 195 | | |
| Addition and Subtraction | Calculate complements to 100. | 3AS-1 | | | | **DT Year 2 Operations**<br>20 | |
| | Add and subtract up to three-digit numbers using columnar methods. | 3AS-2 | 120, 124, 128, 131, 134, 139, 141, 144, 146, 147, 150, 159, 163, 165, 166, 170, 173, 178 | | 124, 128, 131, 134, 139, 141, 144, 146, 147, 150, 159, 170, 173, 178, 183 | | |
| | Manipulate the additive relationship:<br>Understand the inverse relationship between addition and subtraction, and how both relate to the part-part-whole structure.<br>Understand and use the commutative property of addition, and understand the related property for subtraction. | 3AS-3 | | | | **DT Year 2 Operations**<br>16-18, 21-28 | **Year 2 Number and Algebra: Addition and Subtraction**<br>Test 8 |
| Multiplication and Division | Apply known multiplication and division facts to solve contextual problems with different structures, including quotitive and partitive division. | 3MD-1 | 111, 113, 115, 130, 136, 165, 168, 196 | | 136, 168, 196 | | |
| Fractions | Interpret and write proper fractions to represent 1 or several parts of a whole that is divided into equal parts. | 3F-1 | 61, 66, 132 | | 132 | **DT Year 1 Patterns and Fractions**<br>3, 5, 6, 11, 13<br>**DT Year 2 Patterns and Fractions**<br>5, 11, 12, 14-16 | **Year 1 Number and Algebra: Fractions and Money**<br>Test 1-3, 7<br>**Year 2 Number and Algebra: Fractions and Money**<br>Test 1, 3 |
| | Find unit fractions of quantities using known division facts (multiplication tables fluency). | 3F-2 | 138, 175 | | | **DT Year 1 Patterns and Fractions**<br>14 | **Year 2 Number and Algebra: Fractions and Money**<br>Test 2 |
| | Reason about the location of any fraction within 1 in the linear number system. | 3F-3 | 160, 180 | | 180 | **DT Year 2 Patterns and Fractions**<br>17 | **Year 2 Number and Algebra: Fractions and Money**<br>Test 4 |
| | Add and subtract fractions with the same denominator, within 1. | 3F-4 | 191 | | | | |
| Geometry | Recognise right angles as a property of shape or a description of a turn, and identify right angles in 2D shapes presented in different orientations. | 3G-1 | 94, 102, 177 | | 102 | **DT Year 2 Geometry**<br>1, 9, 11 | **Year 1 Geometry: Shape**<br>Test 7<br>**Year 2 Geometry: Shape and Movement**<br>Test 6 |
| | Draw polygons by joining marked points, and identify parallel and perpendicular sides. | 3G-2 | 145, 184 | | 145 | | |

# Mathseeds Lessons and Mathematics Guidance: Key Stages 1 and 2

## YEAR 4

| Strand | Ready-to-progress criteria | Code | Mathseeds Lesson # | | | Additional Mathseeds Resources | |
|---|---|---|---|---|---|---|---|
| | | | Knowledge and Skills | Assessment | Higher Order Thinking Skills | Fluency | Assessment |
| | | | Online Lesson, Printable Resources, & Problem Solving Tasks | End-of-lesson Quiz | Critical Thinking and Problem Solving Interactives | Driving Tests (DT)<br>Mental Minute (MM) | Printable Achievement Standards Assessment |
| Number and Place Value | Know that 10 hundreds are equivalent to 1 thousand, and that 1,000 is 10 times the size of 100; apply this to identify and work out how many 100s there are in other four-digit multiples of 100. | 4NPV-1 | 129, 151, 156, 194 | | 151, 156 | | |
| | Reason about the location of any four-digit number in the linear number system, including identifying the previous and next multiple of 1,000 and 100, and rounding to the nearest of each. | 4NPV-3 | | | | | |
| | Recognise the place value of each digit in four-digit numbers, and compose and decompose four-digit numbers using standard and non-standard partitioning. | 4NPV-2 | 161 | | 161 | | |
| Number Facts | Recall multiplication and division facts up to 12 × 12, and recognise products in multiplication tables as multiples of the corresponding number. | 4NF-1 | 155, 158, 171, 176, 199 | | | **MM** Multiplication Sprints<br>**MM** Division Sprints | |
| | Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 100). | 4NF-3 | 195 | | | | |
| Multiplication and Division | Multiply and divide whole numbers by 10 and 100 (keeping to whole number quotients); understand this as equivalent to making a number 10 or 100 times the size. | 4MD-1 | 193 | | 172, 193 | | |
| | Manipulate multiplication and division equations, and understand and apply the commutative property of multiplication | 4MD-2 | 115, 130, 136, 158, 165, 176, 181, 186, 188, 190, 196 | | 130, 176, 181, 186, 188, 196, 199 | | |
| | Understand and apply the distributive property of multiplication. | 4MD-3 | | | | | |
| Fractions | Reason about the location of mixed numbers in the linear number system. | 4F-1 | 191 | | 191 | | |
| | Convert mixed numbers to improper fractions and vice versa. | 4F-2 | 197 | | 197 | | |
| | Add and subtract improper and mixed fractions with the same denominator, including bridging whole numbers. | 4F-3 | | | 154 | | |
| Geometry | Identify regular polygons, including equilateral triangles and squares, as those in which the side-lengths are equal and the angles are equal. Find the perimeter of regular and irregular polygons. | 4G-2 | 192 | | | | |
| | Identify line symmetry in 2D shapes presented in different orientations. Reflect shapes in a line of symmetry and complete a symmetric figure or pattern with respect to a specified line of symmetry. | 4G-3 | 152 | | | | |