**Mathematics Medium Term Plan – Year 3**

| Unit | National Curriculum End of Year 3 Statutory Requirements | Learning Objectives | Small Steps |
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| **Autumn Term** | | | |
| Place value | • To be able to recognise the place value of each digit in a three-digit number (hundreds, tens, ones)<br>• To be able to compare and order numbers up to 1000<br>• To be able to identify, represent and estimate numbers using different representations<br>• To be able to read and write numbers up to 1000 in numerals and in words<br>• To be able to solve number problems and practical problems involving these ideas. | 1. To be able to represent numbers to 100<br>2. To be able to partition numbers to 100<br>3. To be able to identify and estimate the position of a number on a number line to 100<br>4. To be able to understand that 10 tens are equivalent to 100<br>5. To be able to represent numbers to 1,000<br>6. To be able to partition numbers to 1,000<br>7. To be able to partition numbers flexibly<br>8. To be able to identify the structure of a number using hundreds, tens and ones<br>9. To be able to find 1, 10 or 100 more or less than a number<br>10.  To be able to read and interpret exact values positioned on a number line to 1,000<br>11. To be able to estimate on a number line to 1,000<br>12. To be able to compare numbers to 1,000<br>13. To be able to count in 50s | 1. Represent numbers to 100<br>2. Partition numbers to 100<br>3. Number line to 100<br>4. Hundreds<br>5. Represent numbers to 1,000<br>6. Partition numbers to 1,000<br>7. Flexible partitioning of numbers to 1,000<br>8. Hundreds, tens and ones<br>9. Find 1, 10 or 100 more or less<br>10. Number line to 1,000<br>11. Estimate on a number line to 1,000<br>12. Compare numbers to 1,000<br>13. Count in 50s |
| Addition and subtraction | • To be able to add and subtract numbers mentally, including:<br>   o a three-digit number and ones<br>   o a three-digit number and tens | 1. To be able to use and apply numbers bonds to add and subtract 2-digit and 3-digit numbers with exchanges<br>2. To be able to add and subtract 1s<br>3. To be able to add and subtract 10s<br>4. To be able to add and subtract 100s | 1. Apply number bonds to within 10<br>2. Add and subtract 1s<br>3. Add and subtract 10s<br>4. Add and subtract 100s<br>5. Spot the pattern |

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| | o a three-digit number and hundreds<br>• To be able to add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction<br>• To be able to estimate the answer to a calculation and use inverse operations to check answers<br>• To be able to solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction. | 5. To be able to identify what changes and stays the same when adding multiples of 1, 10 and 100<br>6. To be able to add 1s across a 10<br>7. To be able to add 10s across a 100<br>8. To be able to subtract 1s across a 10<br>9. To be able to subtract 10s across a 100<br>10. To be able to make connections between calculations<br>11. To be able to add two numbers (with no exchange)<br>12. To be able to subtract two numbers (with no exchange)<br>13. To be able to add two numbers across a 10<br>14. To be able to add two numbers across a 100<br>15. To be able to subtract two numbers across a 10<br>16. To be able to subtract two numbers across a 100<br>17. To be able to add 2-digit and 3-digit numbers<br>18. To be able to subtract a 2-digit number from a 3-digit number<br>19. To be able to fluently find complements to 100<br>20. To be able to estimate answers<br>21. To be able to use inverse operations to check answers<br>22. To be able to make decisions on the most efficient method to use when solving problems | 6. Add 1s across a 10<br>7. Add 10s across a 100<br>8. Subtract 1s across a 10<br>9. Subtract 10s across a 100<br>10. Make connections<br>11. Add two numbers (no exchange)<br>12. Subtract two numbers (no exchange)<br>13. Add two numbers (across a 10)<br>14. Add two numbers (across a 100)<br>15. Subtract two numbers (across a 10)<br>16. Subtract two numbers (across a 100)<br>17. Add 2-digit and 3-digit numbers<br>18. Subtract a 2-digit number from a 3-digit number<br>19. Complements to 100<br>20. Estimate answers<br>21. Inverse operations<br>22. Make decisions |
| Multiplication and division A | • To be able to recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables<br>• To be able to 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 formal written methods<br>• To be able to solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects. | 1. To be able to recognise, make and add equal groups<br>2. To be able to use arrays to make links between repeated addition and multiplication<br>3. To be able to identify if a number is a multiple of 2<br>4. To be able to identify if a number is a multiple of 5 and 10<br>5. To be able to share and group equally<br>6. To be able to multiply by 3<br>7. To be able to divide by 3<br>8. To be able to say the 3 times-table<br>9. To be able to multiply by 4<br>10. To be able to divide by 4<br>11. To be able to say the 4 times-table<br>12. To be able to multiply by 8<br>13. To be able to divide by 8<br>14. To be able to say the 8 times-table | 1. Multiplication – equal groups<br>2. Use arrays<br>3. Multiples of 2<br>4. Multiples of 5 and 10<br>5. Sharing and grouping<br>6. Multiply by 3<br>7. Divide by 3<br>8. The 3 times-table<br>9. Multiply by 4<br>10. Divide by 4<br>11. The 4 times-table<br>12. Multiply by 8<br>13. Divide by 8<br>14. The 8 times-table<br>15. The 2, 4 and 8 times-tables |

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| | | 15. To be able to make links between the 2, 4 and 8 times-tables | |
| **Spring Term** | | | |
| Multiplication and division B | • To be able to recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables<br>• To be able to 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 formal written methods<br>• To be able to solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects. | 1. To be able to identify if a number is a multiple of 10<br>2. To be able to explore calculations related to known facts<br>3. To be able to understand the structure of multiplication<br>4. To be able to multiply a 2-digit number by a 1-digit number with no exchange<br>5. To be able to multiply a 2-digit number by a 1-digit number with exchange<br>6. To be able to make links between multiplication and division facts<br>7. To be able to divide a 2-digit number by a 1-digit number with no exchange<br>8. To be able to divide a 2-digit number by a 1-digit number using flexible partitioning<br>9. To be able to divide a 2-digit number by a 1-digit number with remainders<br>10. To be able to use scaling to develop understanding of multiplication<br>11. To be able to explore and find different combinations in correspondence problems | 1. Multiples of 10<br>2. Related calculations<br>3. Reasoning about multiplication<br>4. Multiply a 2-digit number by a 1-digit number – no exchange<br>5. Multiply a 2-digit number by a 1-digit number – with exchange<br>6. Link multiplication and division<br>7. Divide a 2-digit number by a 1-digit number – no exchange<br>8. Divide a 2-digit number by a 1-digit number – flexible partitioning<br>9. Divide a 2-digit number by a 1-digit number – with remainders<br>10. Scaling<br>11. How many ways? |
| Length and perimeter | • To be able to measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)<br>• To be able to measure the perimeter of simple 2-D shapes | 1.To be able to measure in metres and centimetres<br>2.To be able to measure in millimetres<br>3. To be able to measure in centimetres and millimetres<br>4. To be able to measure in metres, centimetres and millimetres<br>5. To be able to use equivalent lengths to convert metres into centimetres<br>6. To be able to use equivalent lengths to convert centimetres into millimetres<br>7. To be able to compare lengths<br>8. To be able to add lengths<br>9. To be able to subtract lengths<br>10. To be able to say that perimeter is the distance around the outside of a closed 2-D shape | 1. Measure in metres and centimetres<br>2. Measure in millimetres<br>3. Measure in centimetres and millimetres<br>4. Metres, centimetres and millimetres<br>5. Equivalent lengths (metres and centimetres)<br>6. Equivalent lengths (centimetres and millimetres)<br>7. Compare lengths<br>8. Add lengths<br>9. Subtract lengths<br>10. What is perimeter?<br>11. Measure perimeter |

| | | 11. To be able to measure the sides of shapes in centimetres to find the perimeter<br>12. To be able to calculate the perimeter of simple 2-D shapes | 12. Calculate perimeter |
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| Fractions A | • To be able to 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<br>• To be able to recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators<br>• To be able to recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators<br>• To be able to recognise and show, using diagrams, equivalent fractions with small denominators<br>• To be able to add and subtract fractions with the same denominator within one whole [for example, 75 + 71 = 76]<br>• To be able to compare and order unit fractions, and fractions with the same denominators<br>• To be able to solve problems that involve all of the above. | 1. To be able to understand the denominators of unit fractions<br>2. To be able to compare and order unit fractions<br>3. To be able to understand the numerators of non-unit fractions<br>4. To be able to understand the whole<br>5. To be able to compare and order non-unit fractions<br>6. To be able to determine how many equal parts a scale has been split into and what fraction is shown<br>7. To be able to explore how fractions are represented on a number line<br>8. To be able to count in fractions on a number line<br>9. To be able to explore finding equivalent fractions by comparing multiple number lines and using double number lines.<br>10. To be able to explore bar models as another way of representing equivalent fractions. | 1. Understand the denominators of unit fractions<br>2. Compare and order unit fractions<br>3. Understand the numerators of non-unit fractions<br>4. Understand the whole<br>5. Compare and order non-unit fractions<br>6. Fractions and scales<br>7. Fractions on a number line<br>8. Count in fractions on a number line<br>9. Equivalent fractions on a number line<br>10. Equivalent fractions on a bar model |
| Mass and Capacity | • To be able to measure, compare, add and subtract: mass (kg/g); volume/capacity (l/ml) | 1. To be able to use scales<br>2. To be able to measure mass in grams<br>3. To be able to measure mass in kilograms and grams<br>4. To be able to say 1kg is equivalent to 1,000g<br>5. To be able to compare mass<br>6. To be able to add and subtract mass<br>7. To be able to measure capacity and volume in millimetres<br>8. To be able to measure capacity and volume in litres and millimetres | 1. Use scales<br>2. Measure mass in grams<br>3. Measure mass in kilograms and grams<br>4. Equivalent masses (kilograms and grams)<br>5. Compare mass<br>6. Add and subtract mass<br>7. Measure capacity and volume in millimetres |

| | | 9. To be able to say 1 litre is equivalent to 1,000ml<br>10. To be able to compare capacity and volume<br>11. To be able to add and subtract capacity and volume | 8. Measure capacity and volume in litres and millimetres<br>9. Equivalent capacities and volumes (litres and millimetres)<br>10. Compare capacity and volume<br>11. Add and subtract capacity and volume |
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| **Summer Term** | | | |
| Fractions B | • To be able to 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<br>• To be able to recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators<br>• To be able to recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators<br>• To be able to recognise and show, using diagrams, equivalent fractions with small denominators<br>• To be able to add and subtract fractions with the same denominator within one whole [for example, 75 + 71 = 76]<br>• To be able to compare and order unit fractions, and fractions with the same denominators<br>• To be able to solve problems that involve all of the above. | 1. To be able to add fractions<br>2. To be able to subtract fractions<br>3. To be able to partition the whole<br>4. To be able to find unit fractions of a set of objects<br>5. To be able to find non-unit fractions of a set of objects<br>6. To be able to reason with fractions of an amount | 1. Add fractions<br>2. Subtract fractions<br>3. Partition the whole<br>4. Unit fractions of a set of objects<br>5. Non-unit fractions of a set of objects<br>6. Reasoning with fractions of an amount |
| Money | • To be able to add and subtract amounts of money to give change, using both £ and p in practical contexts<br>• To be able to estimate and read time with increasing accuracy to the nearest minute; | 1. To be able to use monetary values to read £ and p<br>2. To be able to convert pounds and pence<br>3. To be able to add money<br>4. To be able to subtract money<br>5. To be able to find change | 1. Pounds and pence<br>2. Convert pounds and pence<br>3. Add money<br>4. Subtract money<br>5. Find change |

| | record and compare time in terms of seconds, minutes and hours; | | |
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| Time | • To be able to tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks<br>• To be able to estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight<br>• To know the number of seconds in a minute and the number of days in each month, year and leap year0<br>• To be able to compare durations of events [for example to calculate the time taken by particular events or tasks]. | 1.To be able to recognise roman numerals 1 to 12<br>2. To be able to tell the time to 5 minutes<br>3.To be able to tell the time to a minute<br>4. To be able to read the time on a digital clock<br>5.To be able to use a.m and p.m<br>6. To be able to understand years, months and days<br>7. To be able to understand the key relationship between 1 week = 7 days and 1 day = 24 hours.<br>8. To be able to find durations of time between start and end times<br>9. To be able to find durations of time by counting forward to find an end time and counting back to find a start time<br>10. To be able to understand that there are 60 seconds in a minute and write durations of time in different ways<br>11. To be able to compare different lengths of time written using different units<br>12. To be able to solve problems with time | 1. Roman numerals to 12<br>2. Tell the time to 5 minutes<br>3. Tell the time to the minute<br>4. Read time on a digital clock<br>5. Use a.m and p.m<br>6. Years, months and days<br>7. Days and hours<br>8. Hours and minutes – use start and end times<br>9. Hours and minutes – use durations<br>10. Minutes and seconds<br>11. Units of time<br>12. Solve problems with time |
| Shape | • To be able to draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them<br>• To be able to recognise angles as a property of shape or a description of a turn<br>• To be able to 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<br>• To be able to identify horizontal and vertical lines and pairs of perpendicular and parallel lines. | 1. To be able to recognise angles as describing the size of a turn<br>2. To be able to use the term 'right angle' to describe a quarter turn<br>3. To be able to compare angles<br>4. To be able to measure and draw accurately using centimetres and millimetres<br>5. To be able to recognise and draw horizontal and vertical lines<br>6. To be able to find and identify parallel and perpendicular lines<br>7. To be able to recognise and describe 2-D shapes<br>8. To be able to draw polygons<br>9. To be able to recognise and describe 3-D shapes<br>10. To be able to make 3-D shapes | 1. Turns and angles<br>2. Right angles<br>3. Compare angles<br>4. Measure and draw accurately<br>5. Horizontal and vertical<br>6. Parallel and perpendicular<br>7. Recognise and describe 2-D shapes<br>8. Draw polygons<br>9. Recognise and describe 3-D shapes<br>10. Make 3-D shapes |

| Statistics | • To be able to interpret and present data using bar charts, pictograms and tables<br>• To be able to solve one-step and two-step questions [for example, 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables. | 1. To be able to interpret pictograms<br>2. To be able to draw pictograms<br>3. To be able to interpret bar charts<br>4. To be able to draw bar charts<br>5. To be able to collect and represent data<br>6. To be able to interpret information from simple two-way tables | 1. Interpret pictograms<br>2. Draw pictograms<br>3. Interpret bar charts<br>4. Draw bar charts<br>5. Collect and represent data<br>6. Two-way tables |
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| *Consolidation* | | | |