**Year 3 Maths Planning – Autumn 1 (Lessons 1 to 30) – Number and Place Value**

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| **Week** | **Day** | **Mental starter** | **Learning objective** | **Differentiation** | **Activity** |
| 1 | Mon | To be able to count back from 100 | To be able to write numbers in figures and in words | LA – 2-digit numbers  MA – 3-digit numbers  HA – 4-digit numbers  G+T – 5-digit numbers | Chn to write numbers given in figures in words e.g. 11 as eleven, and numbers given in words in figures e.g. forty-two as 42 |
| Tue | To be able to count in 10s (from zero) | To be able to order numbers from lowest to highest | LA – 2-digit numbers  MA – 3-digit numbers  HA – 4-digit numbers  Ext – negative numbers and numbers with decimal places | Chn to order a series of sets of 4 numbers from lowest to highest |
| Wed | To be able to count in 100s and 1,000s (from zero) | To be able to partition numbers | LA – 2-digit numbers  MA – 3-digit numbers  HA – 4-digit numbers  Ext – choose own numbers | Chn to partition a series of numbers  e.g. 436 = 400 + 30 + 6  200 + 50 + 9 = 259 |
| Thu | To be able to count in 10s (from any number) | To be able to partition numbers in a range of ways | LA – 2-digit numbers  MA – 3-digit numbers  HA – 4-digit numbers  Ext – numbers with decimal places | Chn to partition each number in 3 different ways |
| Fri | To be able to count in 100s and 1,000s (from any number) | To be able to add and subtract multiples of 10 and 100 | LA – add and subtract multiples of 10  MA – add and subtract multiples of 100  HA – add and subtract multiples of 1,000  G+T – add and subtract tenths, hundredths and thousandths | Chn to mentally add and subtract multiples of 10, 100 or 1,000 e.g 34 + 30, 458 + 200 |

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| **Week** | **Day** | **Mental starter** | **Learning objective** | **Differentiation** | **Activity** |
| 2 | Mon | To be able to add mentally by partitioning | To be able to use column addition (**with and without** partitioning and **no carrying**) | LA – add 1-digit numbers / multiples of 10  MA – add 2-digit numbers  HA – add 3-digit numbers  G+T – add 4-digit numbers and decimals | Chn to use following layouts: |
| Tue | To be able to add mentally by partitioning | To be able to use column addition (**without** partitioning and **with carrying**) | LA – add 1-digit numbers to 2-digit numbers  MA – add 2-digit numbers  HA – add 3-digit numbers  G+T – add 4-digit numbers and decimals | Chn to use following layout only: |
| Wed | To be able to subtract mentally by partitioning | To be able to use column subtraction (**with** **and without** partitioning and **no** borrowing) | LA – subtract 1-digit numbers / multiples of 10  MA – subtract 2-digit numbers  HA – subtract 3-digit numbers  G+T – subtract 4-digit numbers and decimals | Chn to use following layouts: |
| Thu | To be able to subtract mentally by partitioning | To be able to use column subtraction (**without** partitioning and **with** borrowing) | LA – subtract 1-digit numbers / multiples of 10  MA – subtract 2-digit numbers  HA – subtract 3-digit numbers  G+T – subtract 4-digit numbers and decimals | Chn to use following layout only: |
| Fri | To be able to add and subtract mentally by partitioning | Column addition and subtraction (**without** partitioning and **with** carrying and borrowing) | LA – + & - 1-digit numbers / multiples of 10  MA – + & -2-digit numbers  HA – + & - 3-digit numbers  G+T – + & - 4-digit numbers and decimals | Chn to use following layout only: |

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| **Week** | **Day** | **Mental starter** | **Learning objective** | **Differentiation** | **Activity** |
| 3 | Mon | To be able to count in 2s (from zero) | To understand addition and subtraction as inverses | LA – sentences with totals >10  MA – sentences with totals >20  HA – sentences with totals >100  G+T – sentences with totals to 1dp | Chn to write 3 related number sentences from 1 number sentence e.g. given 5 – 2 = 3, derive 3 + 2 = 5, 2 + 3 = 5 and 5 – 3 = 2 |
| Tue | To be able to count in 2s (from any number) | To be able to double and halve numbers  To understand them as inverses | LA – double and halve numbers to 10  MA – double and halve multiples of 10  HA – 1-step inverse problems  G+T – 2-step inverse problems | Chn to solve inverse problems e.g.  I am double 10. What am I? if you halve me you get 10. What number am I? |
| Wed | To be able to count in 5s (from zero) | To understand multiplication as ‘jumps of’ | LA – multiply by 2, 5 and 10  MA – multiply by 3, 4 and 6  HA – multiply by 7, 8 and 9  G+T – multiply by numbers to 1dp | Chn to understand 3 X 2 as 3 ’jumps of 2’ and use jumps on a number line to calculate a series of multiplications |
| Thu | To be able to count in 5s (from any number) | To understand division as ‘how many jumps of?’ | LA – divide by 2, 5 and 10  MA – divide by 3, 4 and 6  HA – divide by 7, 8 and 9  G+T – divide by numbers to 1dp | Chn to understand 6 ÷ 2 as ‘how many jumps of 2 to make 6?’and use jumps on a number line to calculate a series of divisions |
| Fri | To be able to count in 3s (from zero) | To be able to divide with remainders | LA – divide by 2, 5 and 10  MA – divide by 3, 4 and 6  HA – divide by 7, 8 and 9  G+T – express quotients as fractions | Chn to calculate divisions with remainders on number lines  G+T - express quotients as fractions e.g. 5 ÷ 2 = 2 ½ |

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| **Week** | **Day** | **Mental starter** | **Learning objective** | **Differentiation** | **Activity** |
| 4 | Mon | To be able to count in 4s (from zero) | To be able to round remainders up or down depending on context | LA – divide by 2, 5 & 10 (no rounding)  MA – divide by 2, 5 & 10 (w/rounding)  HA – divide by 2 to 10 (w/rounding)  G+T – derive ratios | Chn to solve rounding up or down remainders problems  G+T – to write ratio of one shape to another e.g.  as 2:1 |
| Tue | To be able to count in 6s (from zero) | To understand multiplication as arrays | LA – multiply by 2, 3, 4, 5 and 10  MA – multiply by 6, 7, 8 and 9  G+T – use known facts to calculate with decimal places  Ext – make up own arrays | Chn to derive 2 multiplication sentences from an array and draw their own arrays to represent multiplication sentences  G+T – 3 X 3 = 9, so 3 X 0.3 = 0.9 |
| Wed | To know addition number bonds | To understand division as arrays | LA – divide by 2, 3, 4, 5 and 10  MA – divide by 6, 7, 8 and 9  G+T – use known facts to calculate with decimal places  Ext – make up own arrays | Chn to derive 2 division sentences from an array and draw their own arrays to represent division sentences  G+T 9 ÷ 3 = 3, so 0.9 ÷ 0.3 = 3 |
| Thu | To know subtraction number bonds | To understand multiplication and division as arrays and as inverses | LA – X & ÷ by 2, 5 and 10  MA – X & ÷ by 3, 4 and 6  HA – X & ÷ by 7, 8 and 9  G+T – use known facts to calculate with decimal places | Chn to derive 4 related multiplication and division sentences from an array e.g. 2 X 4 = 8, 4 X 2 = 8, 8 ÷ 4 = 2 and 8 ÷ 2 = 4 |
| Fri | To know addition and subtraction number bonds | To be able to use inverses to check calculations | LA – year 2 level calculations  MA – year 3 level calculations  HA – year 4 level calculations  G+T – year 5 level calculations | Chn to complete calculations (all 4 operations and double / halve) and then use an inverse to check their answer e.g. 40 + 20 = 60, 60 – 20 = 40 |

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| **Week** | **Day** | **Mental starter** | **Learning objective** | **Differentiation** | **Activity** |
| 5 | Mon | To know the various vocabulary used for operations | To be able to fill in missing numbers or operations | LA – level 2 calculations  MA – level 3 calculations  HA – level 4 calculations  G+T – use brackets in calculations | Chn to fill in missing part of number sentence e.g. 16 7 = 23 or 25 + = 28  G+T – number sentences with brackets e.g. (4 X 2) + 2 |
| Tue | To know vocabulary meaning ‘find the difference’ | To be able to multiply and divide by 10 and 100 | LA – multiply and divide by 10 & 100  MA – also by 1,000  HA – also by 10,000  G+T – as HA, but with decimal places | Chn to multiply numbers by 10, 100 or 1,000 |
| Wed | To be able to ‘tell a story’ to go with a number sentence | To be able to multiply by multiples of 10 or 100 | LA – as MA, but on number line  MA – multiply by multiples of 10  HA – multiply by multiples of 10 or 100  G+T – also of 1,000s and to dps | LA – multiply by 20, 30, 40 or 50 on number lines  Others to use known facts to calculate unknown ones e.g. 3 X 2 = 6 so 3 X 20 = 60 |
| Thu | To be able to multiply by multiples of 10 or 100 e.g. 20 X 30 | To be able to use a grid to multiply 2 and 3-digit numbers | LA – finish semi-completed grids  MA – 1-digit times 2-digit  HA – 1-digit times 3-digit  G+T – 1-digit times numbers with dps | Chn to use the grid method to multiply 2 and 3-digit numbers. Grids drawn for them for the first 8 questions, then they need to draw the grids for themselves |
| Fri | To be able to multiply by multiples of 10 or 100 e.g. 20 X 30 | To be able to use a grid to multiply 2 and 3-digit numbers | LA – finish semi-completed grids  MA – 1-digit times 2-digit  HA – 1-digit times 3-digit  G+T – 1-digit times numbers with dps | Continue with yesterday’s lesson so that children can go through corrections and have time to finish  Ext – make up own examples |

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| **Week** | **Day** | **Mental starter** | **Learning objective** | **Differentiation** | **Activity** |
| 6 | Mon | To know the 2 times table | To be able to divide 2 and 3-digit numbers | LA – basic division on number line  MA – divide 2 and 3-digit numbers by 20, 30, 40 and 50  HA – as MA, but divide by 2, 3, 4 and 5  G+T – as MA, but divide by 6, 7, 8 and 9 | Chn to use chunking on number lines e.g. 60 ÷ 2 = 30 worked out by |
| Tue | To know the 5 times table | To be able to divide 2 and 3-digit numbers, with remainders | LA – basic division as ‘groups of’  MA – as day before, but with remainders  HA – as day before, but with remainders  G+T – as day before, but with remainders | LA – division as groups of  Others to work on corrections from yesterday or move on to dividing more challenging numbers e.g. 66 ÷ 2, including with remainders |
| Wed | To know the 3 times table | To be able to identify odd and even numbers and multiples | LA – identify multiples of 2, 5 or 10, up to 100  MA – as LA, but numbers up to 1,000  HA – as MA, but also multiples of 3, 4 and 6  G+T – find common multiples | Given a grid of numbers, children need to circle odd, numbers, draw a rectangle around even numbers and underline multiples in different colours |
| Thu | To know the 4 times table | To be able to round numbers to the nearest 10, 100 or 1,000 | LA – round 2-digit numbers to the nearest 10  MA – round to the nearest 10 or 100  HA – as MA, but also to nearest 1,000  G+T – round to nearest with decimal places | Chn given a number and told to round it to the nearest 10, 100, 1,000, tenth, hundredth or thousandth |
| Fri | To know the 6 times table | To be able to investigate mathematical statements | LA – less challenging statements  MA – more challenging statements than LA  HA – more challenging statements than MA | Chn to investigate statements to see if they are true or false e.g. If you add any two odd numbers the answer is always even |

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