| Year 3 Calculation Policy			
	Addition & Subtraction		Multiplication and Division

<table>
<tr><td rowspan="2">National Curriculum Statements</td><td colspan="2">
• add and subtract numbers mentally, including: a three-digit number and ones, a three-digit number and tens, a three-digit number and hundreds
• add and subtract numbers with up to three digits, using formal written methods of column addition and subtraction
• estimate the answer to a calculation and use inverse operations to check answers
• solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction

Additional skills:
Solve addition and subtraction problems in context with 2 steps
</td><td colspan="2">
• count from 0 in multiples of 4, 8, 50 and 100 (copied from Number and Place Value)
• recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables
• 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

Additional skills:
x/÷ by 10 and 100 using PV sliders
11x tables
</td></tr>
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	Addition	Subtraction	Multiplication	Division
	Recall all number bonds within 100 including addition and subtraction to create fact families (for example, $34 + 66 = 100$, $66 + 34 = 100$, $100 - 34 = 66$, $100 - 66 = 34$). When adding three single digit numbers, children are taught to look for doubles or number bonds to 10 and do this mentally. Using part part whole and bar models to represent addition calculations. $17 + 12 =$ $50 + 3 =$	Recall all number bonds within 100 including addition and subtraction to create fact families (for example, $34 + 66 = 100$, $66 + 34 = 100$, $100 - 34 = 66$, $100 - 66 = 34$). Solving 18-15 by recalling addition facts that 18 is made up of 15 and 3	Children can count up in 2s, 5s and 10s to answer multiplication questions. Children then recall their 2, 3, 5 and 10 times table. To recall all doubles of numbers up to double 10. Children to recall times table and division facts for 4 (term 3), 8 (term 4) and 11 (term 5) times table. Becoming fluent with all tables and applying to different scenarios in term 6. To recognise the importance of equal groups when multiplying	To recall halves of all numbers to 20 Recognise the link between even numbers, halving and counting in 2s Using knowledge of 2, 5, and 10x table to divide (inverse) Recall the fact families. To understand division as the number of groups in a number. Using an arrow as a reminder. $15 \div 5$ e.g. $15 \div 5$ is understood as how many groups of 5 are in 15?
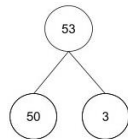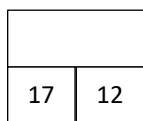
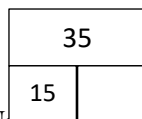Using the hundred square to add multiples of 10 e.g. $22 + 40$
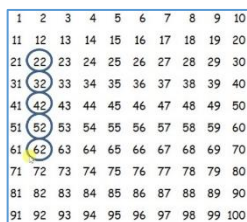
Partition numbers to add two and three digit numbers together by drawing hundreds, tens and ones. Moving on to partitioning by adding mentally.
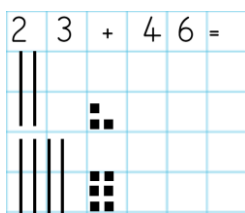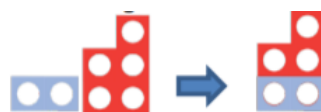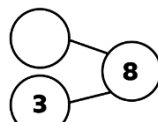

Tens are kept in the tens column and ones are kept in the ones column. We use counting on to find the answer.

When bridging ten, children draw out the numbers using tens

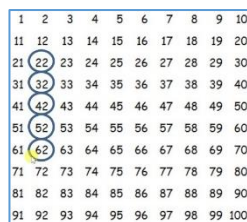Using part part whole and bar models to represent subtraction calculations.

Understand the word difference by visually comparing Numicon

pieces and towers of cubes

Using the hundred square to subtract multiples of 10 e.g. $22 + 40$

Finding the difference between numbers by using blank number lines.

Recognise the link between even numbers, doubling and the 2 times table

Using resources, and drawing pictures, to show groups matching multiplication calculations (4 groups of 3, 4 x 3)

Using images/practical resources to recognise that 3 x 2 and 2 + 2 + 2 are equal (understood as 3
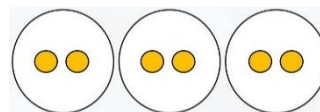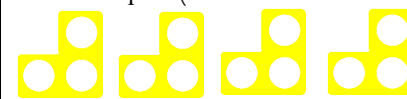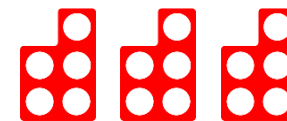

lots of 2, 3 groups of 2)

Building, drawing and interpreting arrays to match multiplication calculations making links with division calculations (3 x 2, 2 x 3, 2 groups of 3, 3 groups of 2)

Children know that multiplication is commutative e.g. 5 x 7 is the same as 7 x 5

To calculate half of even, two–digit numbers using tens and ones e.g. half of 46 moving on to completing mentally.

Using resources, and drawing pictures, to show groups matching division calculations (4 groups of 3, 12 ÷3)

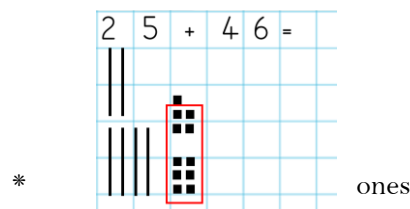Using images/practical resources to recognise that 3 x 2 and 2 + 2

+ 2 are equal (understood as 3 lots of 2, 3 groups of 2)

Building, drawing and interpreting arrays to match division calculations and make the
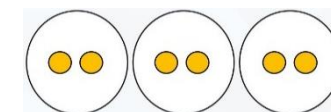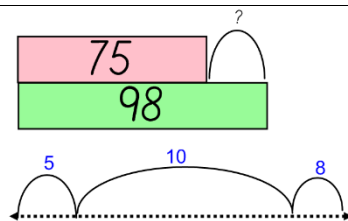

links with multiplication

and ones. They then group the ones to make an extra ten and then count on to find the answer.

$2\ 5\ +\ 4\ 6\ =$

* ones are drawn as Numicon shapes
Children use inverse to check their answers.

Use place value to add numbers mentally.

Children move on to column addition including exchanging in Term 5 and 6.

Partition numbers to subtract two and three digit numbers together by drawing hundreds, tens and ones and crossing through. Moving on to partitioning by subtracting mentally.

* ones are drawn as Numicon shapes
Children use inverse to check their answers.

Use place value to subtract numbers mentally.

Children move on to formal column subtraction including exchanging in Term 5 and 6.

Recall that multiplying a number by 0 always equals 0

Recall and use multiplication and division inverse facts practically and mentally e.g. 3 x 5 = 15 (3 groups of 5 is 15) so 15 ÷ 5 = 3 (in 15, 5 occurs 3 times)
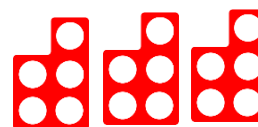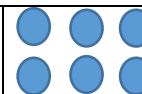
Use   of place value sliders for multiplying and dividing by 10 only and by showing movement through place value in their own workings.

Multiply multiples of ten by the times table facts they have learnt using the work on multiplying by 10 to support.

Partitioning for multiplication of 2 digit numbers using counters to show workings.

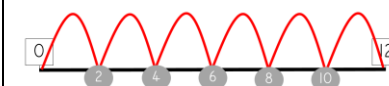Partitioning for multiplication writing each step of the calculation.

Recall that dividing a number by 0 always equals 0

Recall and use multiplication and division inverse facts practically and mentally e.g. 3 x 5 = 15 (3 groups of 5 is 15) so 15 ÷ 5 = 3 (in 15, 5 occurs 3 times)

Dividing by using a number line and counting up the number of jumps.

Use of place value sliders for multiplying and dividing by 10 only and by showing movement through place value in their own workings.

Divide multiples of ten by the times table facts they have learnt using the work on dividing by 10 to support.

				Partitioning for dividing two digit numbers by using counters. **Do you take division further than this?**
Vocabulary	Put Together Add Altogether Total Sum	Take away Minus Subtract Distance between Difference between More than and less than Difference	Multiply Times Groups of Lots of Equal groups Array	Divide Share Equal parts Equal groups Each have… Array
Use of = symbol Inverse for addition and subtraction and the inverse for multiplication and division.				