| Year 1	Read, write and interpret mathematical statements involving addition (+), subtraction (–) and equals (=) signs. Represent and use number bonds and related subtraction facts within 20. Add and subtract one-digit and two-digit numbers to 20, including zero. Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems.
Year 2	Solve problems with addition and subtraction: using concrete objects and pictorial representations, including those involving numbers, quantities and measures; applying their increasing knowledge of mental and written methods. Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100. Add and subtract numbers using concrete objects, pictorial representations, and mentally, including: a two-digit number and ones; a two-digit number and tens; two two-digit numbers; adding three one-digit numbers. Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot. Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.

Vocabulary

Put together, add, plus, altogether, total, take away, subtract, distance between, difference between, more than and less than, sum, difference, increase, decrease, fewer, more.

Strategies

Singing and chanting; Numicon; Bead strings; Sets of objects; Fingers and toes; Counters; Money; Multilink; Interactive white board games; Number line; Hundred square; Dienes; Bar Model; Jottings; Partitioning; Expanded Column method.

$20 = \quad 1 + 19 \quad 2 + 18 \quad 3 + 17$
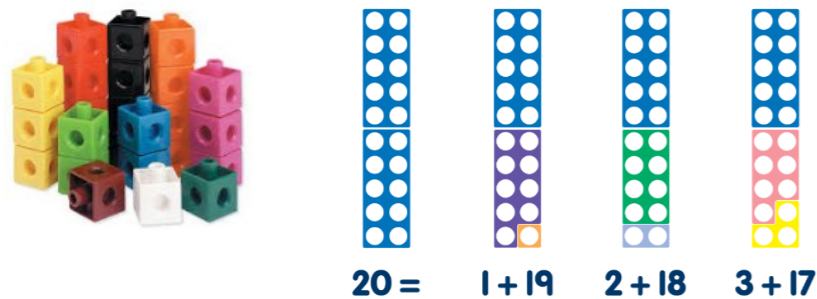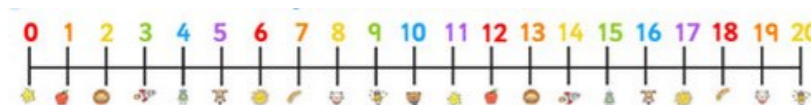
$13 + 7 = 20 \qquad 7 + 13 = 20$

$20 - 13 = 7 \qquad 20 - 7 = 13$
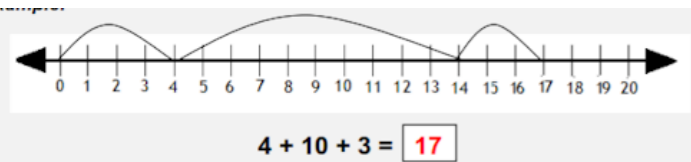
85	
21	?

$21 + ? = 85$

$85 - 21 = ?$

$? + 21 = 85$

$85 - ? = 21$

How to use a hundred square...

Let's solve...

$37 - 23 = ?$

$37 - 20 = 17$

$17 - 3 = 14$

So...

$37 - 23 = 14$ subtraction

$25 + 36$

$25 \quad +30 \quad 55 \quad +6 \quad 61$

$82 - 49 =$

$49 \quad +1 \quad 50 \quad +30 \quad 80 \quad +2 \quad 82$

$1 + 30 + 2 = 33$

$49 \quad +10 \quad 59 \quad +10 \quad 69 \quad +10 \quad 79 \quad +3 \quad 82$

$10 + 10 + 10 + 3 = 33$
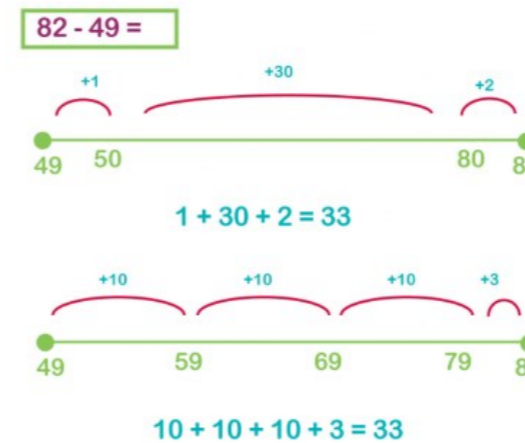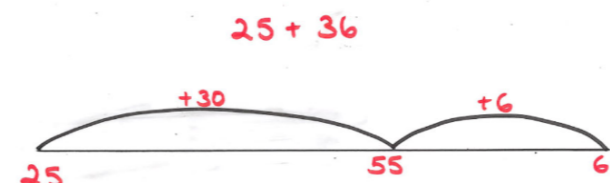
e.g. $48 + 69 = ?$
$40 + 60 = 100$
$8 + 9 = 17$
$100 + 17 = 117$
Therefore $48 + 69 = 117$

$85 - 38 = 47$
$70 80 \quad 10 + 5$
$- 30 \qquad 8$
$40 + 7 = 47$

$4 + 10 + 3 = 17$

Mastery
Use the first number sentence to complete the second number sentence.
$4 + 3 = \square \qquad 7 + \square = 9$
$7 - \square = 4 \qquad 9 - \square = 7$
$5 + 2 = \square \qquad \square + 3 = 9$
$\square - \square = 2 \qquad \square - \square = \square$

Mastery with Greater Depth
Write a pair of numbers in the boxes to add to 12.
$\square + \square = 12$
And another pair, and another, and another.
Can you find all possibilities? Convince me!

Mastery
If each peg on the coat hanger has a value of 10, find three ways to partition the pegs to make the number sentences complete.
$\square + \square = \square$
$\square + \square = \square$
$\square + \square = \square$
What is the total of each addition sentence?   Will the total always be the same?   Explain your reasoning.

Mastery with Greater Depth
If each peg on the coat hanger has a value of 10, find three ways to partition the pegs to make the number sentences complete.
$\square + \square + \square = \square$
$\square + \square + \square = \square$
$\square + \square + \square = \square$
What is the total of each addition sentence?   Will the total always be the same?   Explain your reasoning.