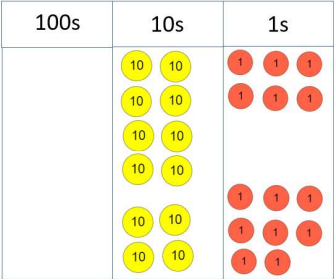
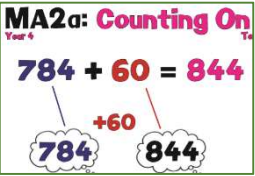
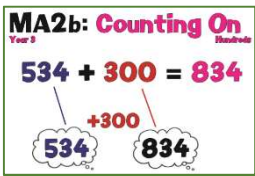
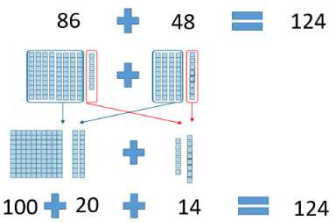
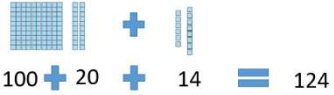
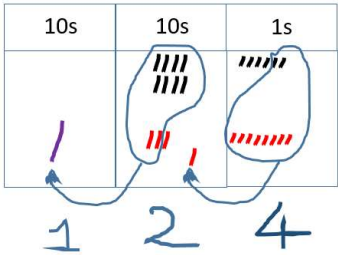
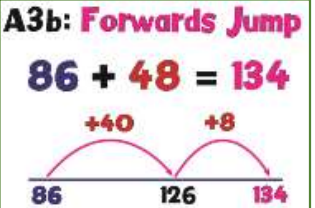
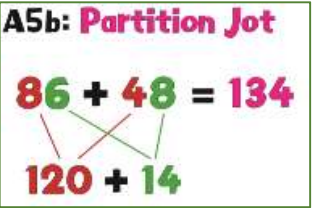
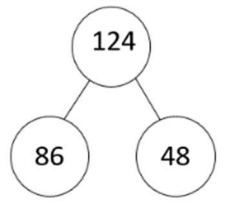
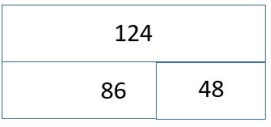


Calculation Policy

Year 3 Addition

	Mental Strategies	Concrete	Pictorial	Abstract	Vocabulary	Models, Images and resources
Year 3	Use number bonds to 20 and links to bonds of multiples of 10 to 100, complements to 100 e.g. $45 + 55 = 100$ Practise solving varied addition questions mentally with two-digit numbers, the answers could exceed 100. Add numbers mentally, including: a three-digit number and ones a three-digit number and tens a three-digit number and hundreds Recall number bonds to 20 fluently and derive and use related facts to 100 Partition numbers in different ways Eg: $62 = 60 + 2$, $50+12$, $40+22$ etc	TO + TO See Y2 and now crossing 100s and carrying  MA2a: Counting On Year 4 $784 + 60 = 844$  MA2b: Counting On Year 5 $534 + 300 = 834$  $86 + 48 = 124$  $100 + 20 + 14 = 124$ 	TO + TO See Y2 and now crossing 100s 	TO + TO See Y2 and now crossing 100s A3b: Forwards Jump $86 + 48 = 134$  A5b: Partition Jot $86 + 48 = 134$  (A7: Column Addition) Antbirds H T U $86 + 48 = 134$  124  124 	Add Sum More than Total Altogether Plus Partition into tens and ones Empty number line Count on Carry ten addend	100 square Number lines Number tracks Bead strings (for children) Bead bar Tens Frame Numicon Place Value Disks Cuisenaire Base hundreds tens and ones Arrow Cards

Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot.

Know the related vocabulary for addition

addend
 $6 + 4 = 10$
 addend
 sum

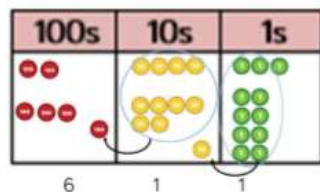
sum 10	
addend 4	addend 6

addend
 plus
 addend
 is equal to the
 sum

$$\begin{array}{r} 22 \\ + 78 \\ \hline 100 \end{array}$$

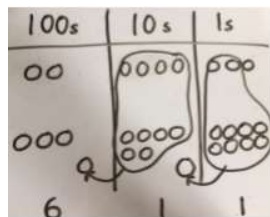
HTO + HTO

e.g. $243 + 368$



HTO + HTO

e.g. $243 + 368$

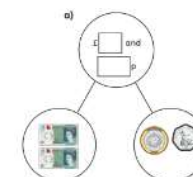
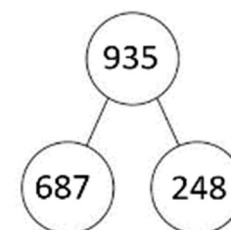


HTO + HTO

A7: Column Addition

H	T	U
6	8	7
+	2	4
9	3	5
1	1	

687	248
935	



?	
£2 and 35p	

£3 and 45p + £4 and 34p
 $£3 + £4 = £7$
 $45p + 34p = 79p$
 £7 and 79p

Decimal point for money is in Y4

Add numbers with up to three digits, using the efficient written methods. Use understanding of place value and partitioning – see above

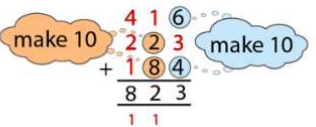
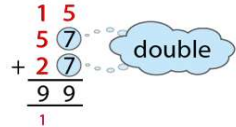
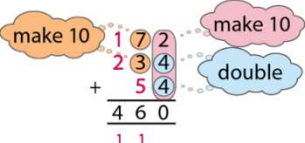
Estimate the answer to a calculation and use inverse operations to check

Solve problems, including missing number problems, using number facts, place value, and more complex addition.

Add by using :

- 1) partitioning TO + TO, HTO + TO or HTO + HTO
- 2) Expanded columnar addition
- 3) Compact columnar addition

Where there are more than 2 addends in a column –add up the digits efficiently

$416 + 223 + 184 = 823$ 	$15 + 57 + 27 = 99$ 	$172 + 234 + 54 = 460$ 
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Useful IWB links for manipulatives

<https://www.coolmath4kids.com/manipulatives/base-ten-blocks>
<https://mathsbot.com/manipulatives/placeValueCounters>
<https://mathsbot.com/manipulatives/bar>
<https://classroomsecrets.co.uk/free-year-1-part-whole-model-iwb-addition-and-subtraction-activity/>
<https://www.nctm.org/Classroom-Resources/Illuminations/Interactives/Ten-Frame/>
<http://www.ictgames.com/mobilePage/tenFrame/index.html>