CALCULATION POLICY - ADDITION

	Foundation	Year 1	Year 2	Year 3
*Mental Calculations and Methods **	Count and order numbers to 20. Count out objects from a larger group. Add single digit numbers by counting all. Add single digit numbers by counting on. Number bonds ('story of': 2, 3, 4. Doubles up to 5. Use vocabulary such as 'more' and 'fewer' to compare sets. Give one more mentally. Use vocabulary of addition to talk about practical activities/problems.	Number bonds to 20. Count on in ones from a given 2-digit number Count on in tens from any given 2-digit number Doubles up to 10 Largest number first. 1 more. Add three single-digit numbers spotting doubles or pairs to 10 Add one-digit and two-digit numbers to 20, including zero Add by putting the larger number first Solve one-step problems that involve addition, using concrete objects and pictorial representations, and missing number problems such as 7 = ☐ – 9	Number bonds: 20, 12, 13, 14,15, 16, 17, 18, 19. Recall and use addition facts to 20 fluently, and derive and use related facts up to 100 Add 1 digit to 2 digits by bridging (E.g. 45 + 4, 38 + &) Partition second number, add tens then ones and recombine. Add 10 and small multiples of 10 to any given 2-digit number Doubles up to 20 and multiples of 5. Add near multiples of 10. Add any pair of 2-digit numbers Add and subtract numbers using concrete objects, pictorial representations, and mentally, including.	Know pairs with each total to 20 Know pairs of multiples of 10 with a total of 100 Use place value and number facts to add a 1-digit or 2-digit number to a 3-digit number (E.g. 104+56 is 160 since 104+50= 154 and 6+4=10 and 676+8 is 684 since 8=4+4 and 76+4+4=84) Perform place value additions without a struggle)E.g. 300 + 8 + 50) Add multiples of 10, 100. Add single digit bridging through boundaries. Partition second number to add and recombine. Use near doubles to add. Add near multiples of 10 and 100 by rounding and adjusting.
*Written Methods **	Mark making to represent numbers- correct formation of numbers to 10. Pictorial representations of problems. Read, and interpret simple mathematical statements using the language associated with the following symbols: addition (+), subtraction (-) and equals (=) signs < >	Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs < > ≤ ≥ Chn are beginning to use algebraic and Roman Numerals representations.	Add two two-digit numbers using concrete objects, pictorial representations progressing to formal written methods.	Add numbers with up to four digits,using formal written methods of columnar addition with regrouping to carry. Missing number columnar problems.

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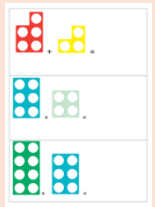
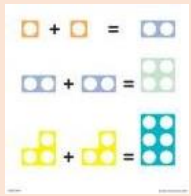
Developing Conceptual Understanding

Counting on songs, rhymes games and with apparatus.
Count all and 1 more with apparatus.



Doubles



Using numbers as labels for counting.

Complete the sums.

10 + 0 = 10	2 + 8 = 10	5 + 5 = 10
8 + 2 = 10	0 + 10 = 10	4 + 6 = 10
6 + 4 = 10	1 + 9 = 10	9 + 1 = 10
7 + 3 = 10	3 + 7 = 10	

(1:63)

Fill in the missing numbers.

9 = 1 + 8	1 + 2 + 6 = 9	1 + 5 < 3 + 4 + 5
9 = 5 + 4	3 + 3 + 3 = 9	6 – 1 < 3 + 9 – 1
5 = 9 – 4	9 – 7 – 1 = 1	2 + 7 > 2 + 4
2 = 9 – 7	9 – 8 + 2 = 3	E.g: 8 – 1 > 6
3 + 6 = 9	9 – 3 – 6 = 0	
9 – 1 = 8	9 – 4 + 4 = 9	

(1:60)

Show your answers by drawing sticks.

I + IIIIII = IIIIIII III + II = IIIII III + IIII = IIIIIII

(1:45)

Write in the answers as Roman numerals.

a) VIII + I = IX b) IX + I = X c) X + I = XI
d) VII + II = IX e) VII + III = X f) VII + IV = XI

(1:85)

Manipulatives and additional support:

Number bonds to 10 with apparatus:

Use bonds of 10 to calculate bonds of 20

Count all:

Write additions and subtractions about the pictures.

a) 3 2 + 2 5 = 5 7
2 5 + 3 2 = 5 7
5 7 – 3 2 = 2 5
5 7 – 2 5 = 3 2

b) 4 4 + 5 2 = 9 6
5 2 + 4 4 = 9 6
9 6 – 4 4 = 5 2
9 6 – 5 2 = 4 4

c) 2 6 + 6 2 = 8 8
6 2 + 2 6 = 8 8
8 8 – 6 2 = 2 6
8 8 – 2 6 = 6 2

(2:50)

a) 46 + 35 = 81 (46 + 30 + 5) / 46 + 35 = 81 (46 + 5 + 30)
b) 57 + 26 = 83 (57 + 20 + 6) / 57 + 26 = 83 (57 + 6 + 20)
c) 45 + 38 = 83 (45 + 30 + 8) / 45 + 38 = 83 (45 + 8 + 30)

(2A:46)

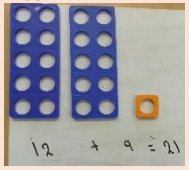
Manipulatives and Additional Support:

Number track / Number line – jumps of 1 then efficient jumps using number bonds
18 + 5 = 23

46 + 27 = 73 Count in tens then bridge.

25 + 29 by + 30 then -1
(Round and adjust)

Represent using Numicon:



Write the numbers in the place value table. Estimate, then calculate the sum.

a) 136 + 312 E: H T U
b) 271 + 117 E: H T U
c) 632 + 324 E: H T U
d) 426 + 32 E: H T U

(3B:88)

Round the numbers to the nearest ten, then estimate and calculate the sums.

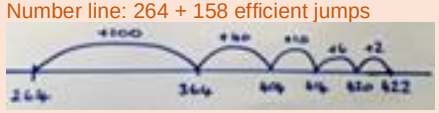
a) E:
1 4 3 6 + 3 2 2
1 3 6 2 + 9 2
5 7 2 + 3 5 6
6 3 8 + 3 2 2

b) E:
8 5 6 + 3 1 2
3 5 8 + 9 1 1
8 6 2 + 9 2
5 0 7 + 4 0 8

(3B:93)

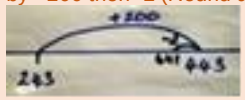
Manipulatives and Additional Support:

Number line: 264 + 158 efficient jumps



400 + 800 =
using 4 + 8 = 12
40 + 80 = 120
So 400 + 800 = 1200

243 + 198
by +200 then -2 (Round and adjust)



Pairs that make 100

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= 13

Count on: 8+5= 13

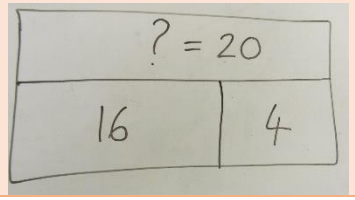
=13

Count on, on number track, in 1s

8 + 5 = 13

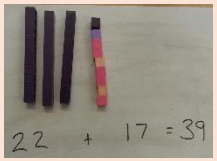
Use Numicon to represent addition:

Bar Model:

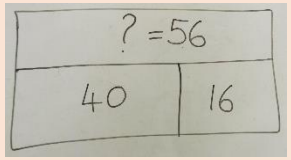


Represent using Diennes:

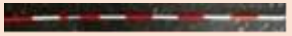
22 + 17



Bar Model:



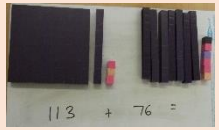
23 + 77

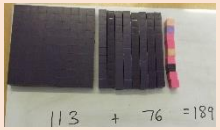


Bead string

Diennes 100s, 10s, 1s

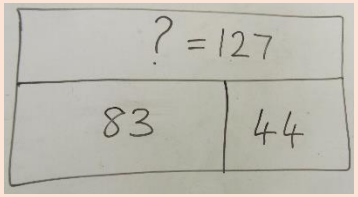
113 + 76





(Also with £, 10p and 1p)

Bar model



* please refer to Mayflower Academy Non-negotiables document

MAYFLOWER COMMUNITY ACADEMY ADDITION SUPPORT VIDEOS CAN BE FOUND AT:

YEAR ONE: https://www.youtube.com/watch?v=o5kZGTRUySI

YEAR TWO: https://www.youtube.com/watch?v=D3X4zrGO_Es

YEAR THREE: https://www.youtube.com/watch?v=Seifrwv3o5Y