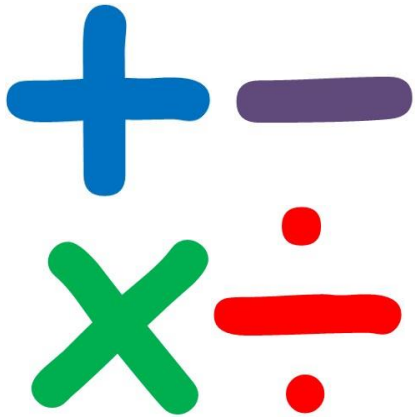


Mudeford Infants School Calculation Policy

MIS Calculation Policy

Aims

The national curriculum for mathematics aims to ensure that all pupils:

- become **fluent** in the fundamentals of mathematics, through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.

- **reason mathematically** by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language

- **can Solve problems** by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

The purpose of the Mudeford Community Infants Calculation Policy is to share with our community how we aim for our children to achieve fluency in the four operations.

<u>Learn Its</u>

By the end of Year 1, your child is expected to recall all 1 digit add 1 digit facts. Our aim is for children to be able to recall these facts as confidently as they can tell you their name. By the end of Year 2 they should also be able to recall their 2, 5 and 10 times tables.

Happiness... is not a destination: it is a manner of traveling. Happiness is not an end in itself. It is a by-product of working, playing, loving and living.

(Haim Ginott)

Building Happy confident learners of maths

Hardwire	M
Active	A
Purposeful	T
Progress	H
Yet	S

Hardwire	Active	Participation	Progress	Yet

• Fluency • Learn Its • Algorithms / Instructional success criteria • Making links and connections • Generalising (finding rules) • Pattern spotting • Seeing things pictorially and manipulating objects • Subitise (recognise the amount)	• Fun • High engagement • Stimulates learning • Fires up the left and right hand brain • Partner work • Teamwork • Eliminates sedentary and monotonous learning	• Discussion • Problem solve • Reason • Explain • True/False • Teamwork • Eliminates sedentary and monotonous learning	• Small steps of success • Appropriate challenge • Make maths feel easy • Build upon and use what you know • Feel good about what you can now do	• Growth mindset • Practise • Stick at it • Stay focused • Have a go • Be positive • Believe you <u>can</u> do it • Motivation and desire to achieve

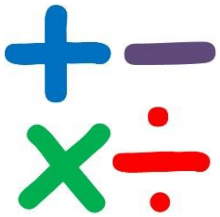
MIS Calculation Policy

	End of Autumn Term	End of Spring Term	End of Summer Term
Reception	<u>Step 1</u> 1+1, 2+2	<u>Step 2</u> 3 + 3, 4 + 4, 5 + 5	<u>Step 3</u> 1 + 2, 2 + 3 Count in multiples of 10
Year 1	<u>Step 4</u> 2 + 8, 3 + 7, 4 + 6 <u>Step 5</u> 4 + 2, 5 + 2, 6 + 2, 7 + 2, 9 + 2, 4 + 3 Count in multiples of 5	<u>Step 5</u> 5 + 3, 6 + 3 <u>Step 6</u> 6 + 6, 7 + 7, 8 + 8, 9 + 9 <u>Step 7</u> 3 + 8, 3 + 9, 4 + 7, 4 + 8, 4 + 9 <u>Step 8</u> 4 + 5 Count in multiples of 2	<u>Step 8</u> 5 + 6, 6 + 7, 7 + 8, 8 + 9 <u>Step 9</u> 5 + 9, 6 + 9, 7 + 9, 5 + 7, 5 + 8, 6 + 8

Year 2	X 10 table X 5 table	X 2 table	Key Stage 2 ready

MIS Number Facts: 'Learn Its'

+	1	2	3	4	5	6	7	8	9
1	2	3	4	5	6	7	8	9	10
2	3	4	5	6	7	8	9	10	11
3	4	5	6	7	8	9	10	11	12
4	5	6	7	8	9	10	11	12	13
5	6	7	8	9	10	11	12	13	14
6	7	8	9	10	11	12	13	14	15
7	8	9	10	11	12	13	14	15	16
8	9	10	11	12	13	14	15	16	17
9	10	11	12	13	14	15	16	17	18



MUDEFORD INFANTS SCHOOL

MIS Number Facts: 'Learn Its'

x	2	3	4	5	6	7	8	9	10	11	12
2	4	6	8	10	12	14	16	18	20	22	24
3	6	9	12	15	18	21	24	27	30	33	36
4	8	12	16	20	24	28	32	36	40	44	48
5	10	15	20	25	30	35	40	54	50	55	60
6	12	18	24	30	36	42	58	54	60	66	72
7	14	21	28	35	42	49	56	63	70	77	84
8	16	24	32	40	48	56	64	72	80	88	96
9	18	27	36	45	54	63	72	81	90	99	108
10	20	30	40	50	60	70	80	90	100	110	120

11	22	33	44	55	66	77	88	99	110	121	132
12	24	36	48	60	72	84	96	108	120	132	144

Year R

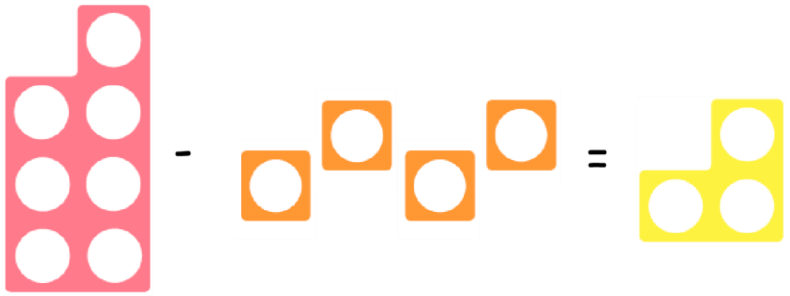
6 + 3 = 9

I count out 6.
I **know** there's 6.

I count on in 3 lots of 1

6... 7, 8, **9**

7 - 4 = 3

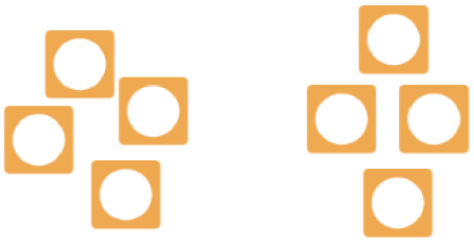


I count out 7.
I **know** there's 7.

I count how many I need to take away.

I count how many are left.

2 lots of 4

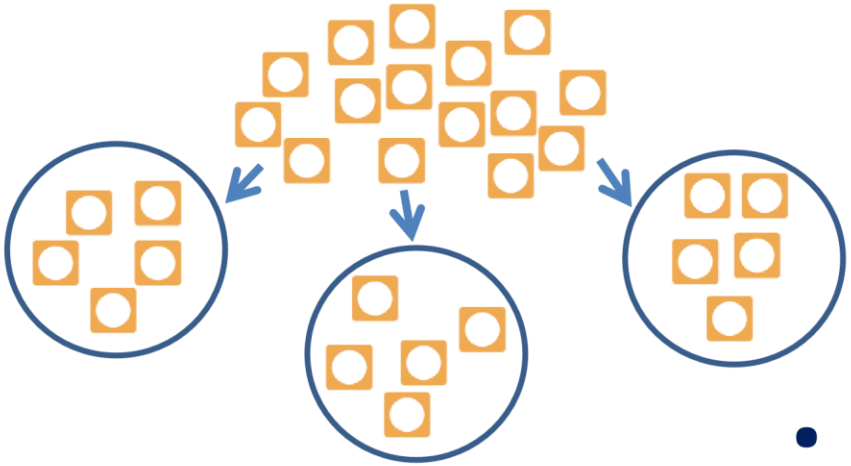


I set out one group of four

I set out another group of four

I then count all the objects

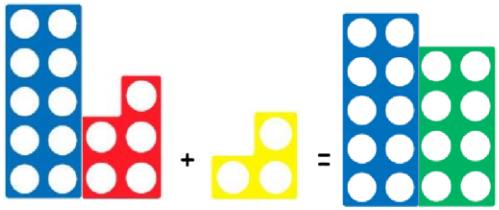
Share 15 between 3 (with objects)



I count out 15. I share between 3 (giving one at a time) and check to make sure everyone gets the same.

+

I can add a 1 digit number to a number to 20.



15 + 3 = 18

Fact Families

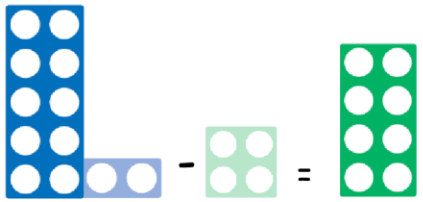
9	
6	3

3 + 6 = 9
6 + 3 = 9
9 - 3 = 6
9 - 6 = 3

9 = 3 + 6
9 = 6 + 3
6 = 9 - 3
3 = 9 - 6

−

I can take a 1 digit number from a number to 20.



12 − 4 = 8

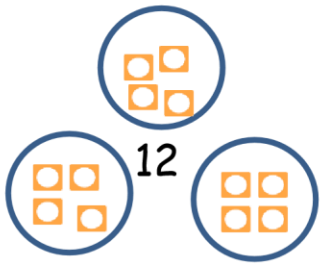
Can you count on in your head?

Can you count back in your head?

Year 1

×

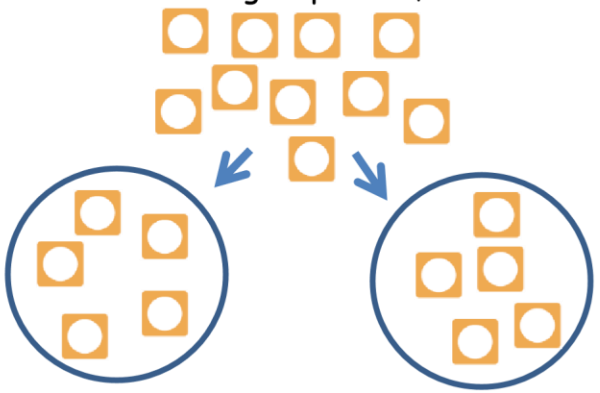
3 lots of 4



I can count out one lot of four, two more lots of four, check I have 3 groups, check there are four in each group. I can count to find the total. 3 lots of 4 is 12.

÷

I can make groups of 2, 5 or 10



I can count out 1 group of 5, I keep counting out more groups of 5 until there are not enough objects for another whole group

Year 2

Addition

Written Calculation

Mental Strategy

I can add 2 digit numbers to 2 digit numbers without exchanging.

$$\begin{array}{r} 36 \\ +\ 43 \\ \hline 79 \end{array}$$

$23 + 46$

$60 + 9 = 69$

I can mentally add 2 digit numbers without exchanging.

Fact Families

110	
30	80

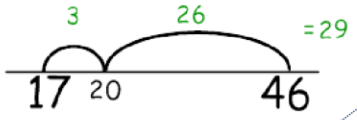
80 + 30 = 110
30 + 80 = 110
110 - 30 = 80
110 - 80 = 30

Subtraction

Mental Strategy

I can subtract from a 2 digit number using two 'jumps' (the first jump must be to the next 'ten')

46 - 17 = 29



Written Calculation

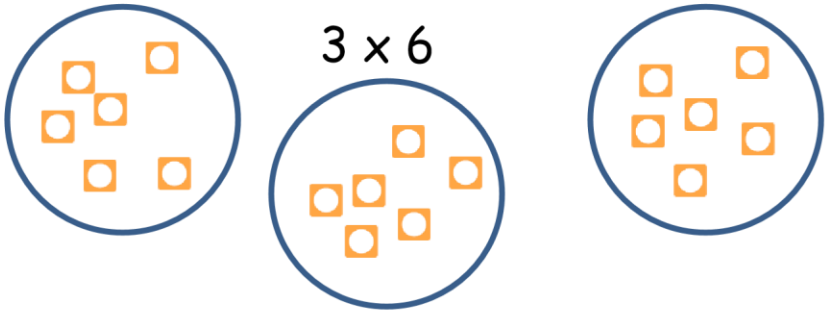
I can take away 2 digit numbers from 2 digit numbers without exchanging.

$$\begin{array}{r} 79 \\ -\ 36 \\ \hline 43 \end{array}$$

Always have to be very secure with mental strategy and place value before attempting written column method.

Multiplication

I can solve 1 digit by 1 digit multiplications (2, 3, 4 and 5 times tables)



3 lots of 6/3x6/6+6+6 = 18

I can instantly recall the 2, 5 and 10 times table

Division

I can use table facts to find a division fact	I can use table facts to find a division fact with remainders

$15 \div 5$

5, 10, 15... That's three lots of 5.
15 ÷ 5 = 3

$17 \div 5$

5, 10, 15... That's three lots of 5. How many are left? 16, 17...That's 2. Three lots of 5 and 2 left over.
17 ÷ 5 = 3 r 2