

Cunningham Hill Infants School, Cell Barnes Lane, St Albans, AL5 5QJ



Calculation Policy

This policy must be used in conjunction with the Mathematics Policy

Progression towards a standard written method of calculation

Introduction

The 2014 Curriculum In England provides a structured and systematic approach to teaching mathematics. There is a considerable emphasis on teaching mental calculation strategies and speaking and listening activities. Children, from Key Stage 1, must be able to prove their ideas, reason mathematically and solve problems, in an age-appropriate way. **Throughout Key Stage 1** informal written recording should take place regularly and is an important part of learning and understanding. Mathematical teaching must be founded in practical application and as many “real-life” situations as possible. **More formal written methods should follow only when the child is able to use a wide range of mental calculation strategies.** This will help communicate methods and solutions.

Why do we need this policy?

- Consistency in methods taught throughout the school.
- Progression from informal / practical methods of recording to written methods for each of the four operations.
- An aid to parent’s understanding and how to support in their child’s stages of learning.

Things to remember in Maths at Foundation Stage and Key Stage 1

- Use practical equipment at every opportunity. Specifically, Numicon is available for all children throughout The School, to help them visualise and carry out calculations.
- Pay attention to mathematical language
- The principal focus is the development of confident, mental fluency with whole numbers
- By the end of Year 2 children will use all 4 operations – addition, subtraction, multiplication and division
- Children should practise calculations thoroughly to be fluent in carrying them out.
- Always check the answer
- Always decide first whether a mental method is appropriate
- Children who make ***persistent mistakes*** should return to the method that they can use accurately until ready to move on
- Children need to know ***number bonds*** to 20 ***by the end of Year 2***. This will be taught and supported from Year 1 onwards, building on known facts each year.
- All calculations should be taught in the context of practical contexts and problem-solving.
- Calculators do not form part of Mathematical teaching
- In year 2 children use the inverse relationship between addition and subtraction to calculate
- Children in Year 1 are expected to need more adult support to carry out calculations. Greater independence comes in Year 2; and according to the individual child's development

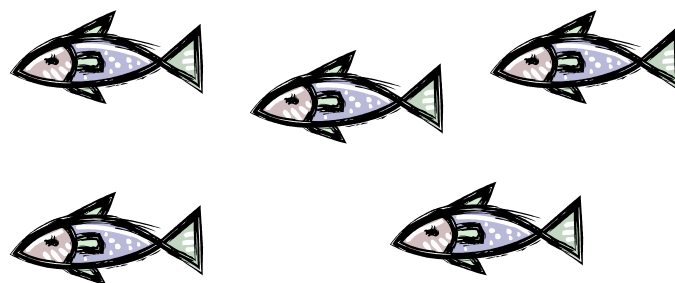
Stages in Addition

Informal counting methods:

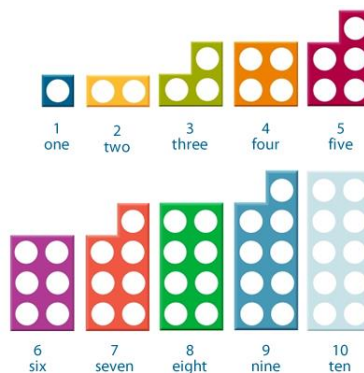
To be introduced and used in EYFS and consolidated in Year 1

1) Counting songs/rhymes

2) Pictorial addition



2) Adding using concrete objects – Addition as combining 2 groups and counting on





sumthings, to 10



beadstrings, to 20



beadstrings, to 100

Other visual resources for addition

1) Use of 100 Square

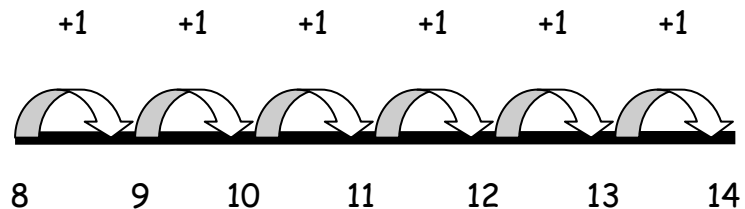
- a) $16 + 8 = 24$ (counting in 1's)
- b) $36 + 8 = 44$ ('bridging')
- c) $56 + 28 = 84$ (counting in 10's and 'bridging')

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

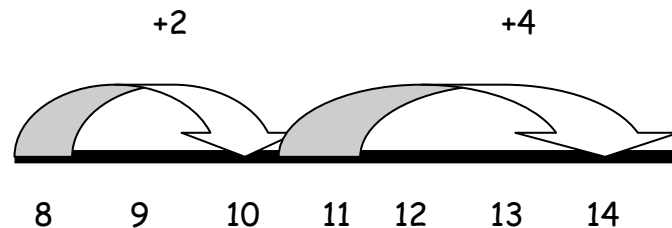
Introduced and used from Year 1 onwards

2) Numberlines for addition

$8 + 6 = 14$

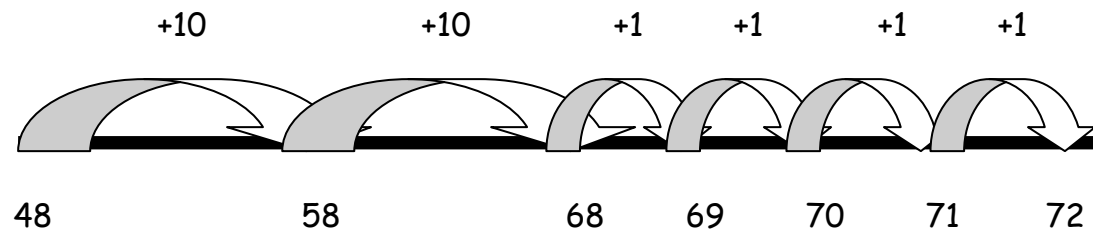


$8 + 6 = 14$

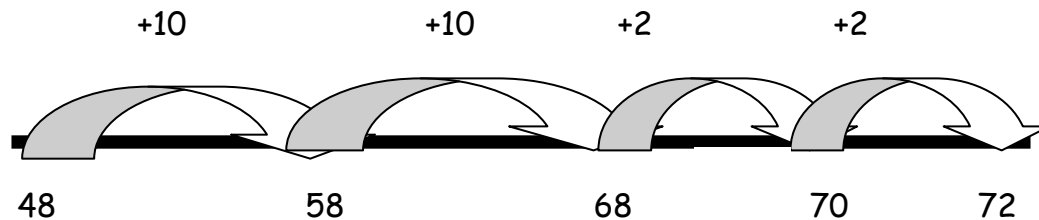


Introduced and used from Year 2 onwards

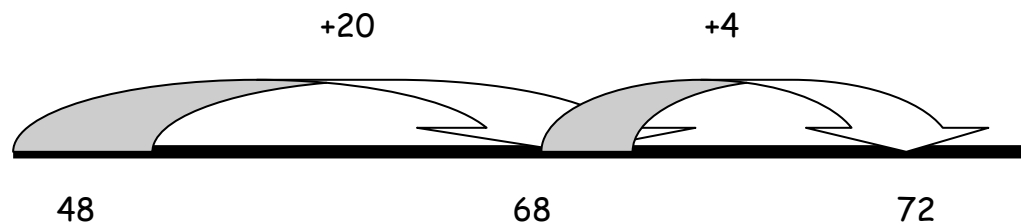
48 + 24 = 72



48 + 24 = 72



48 + 24 = 72



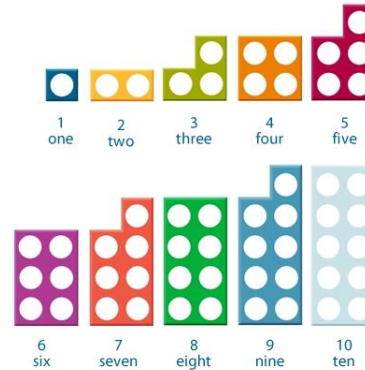
Stages in Subtraction

Informal methods:

Introduced and used from EYFS onwards

1) Counting songs/rhymes

2) Concrete objects to be used throughout Key Stage 1



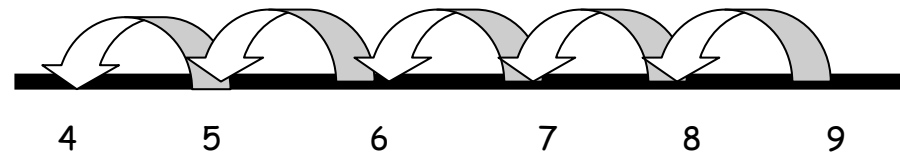
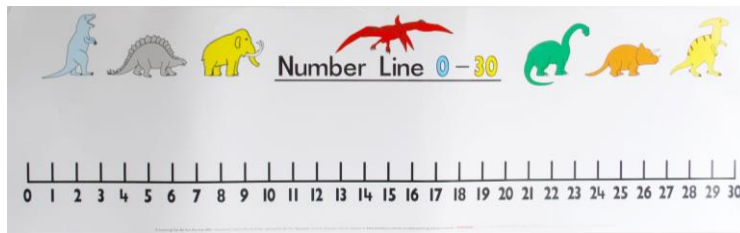
Introduced and used from Year 1 onwards

3) Pictorial ways of showing subtraction

$$9 - 5 = 4$$



4) Numberline to show counting back 9-5=4



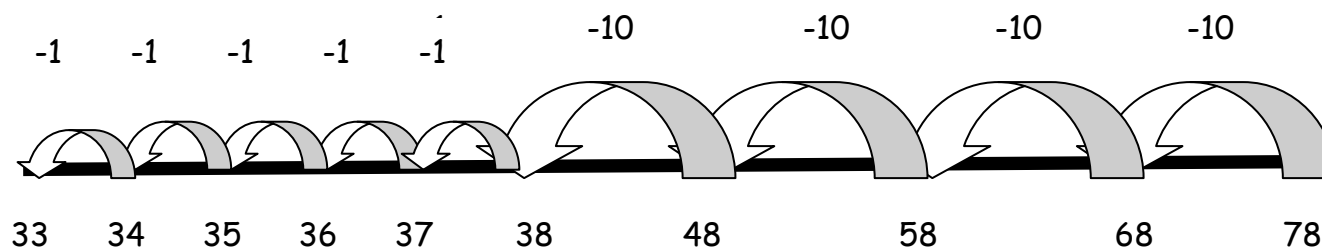
Introduced and used from Year 2 onwards

Using a 100 Square to subtract

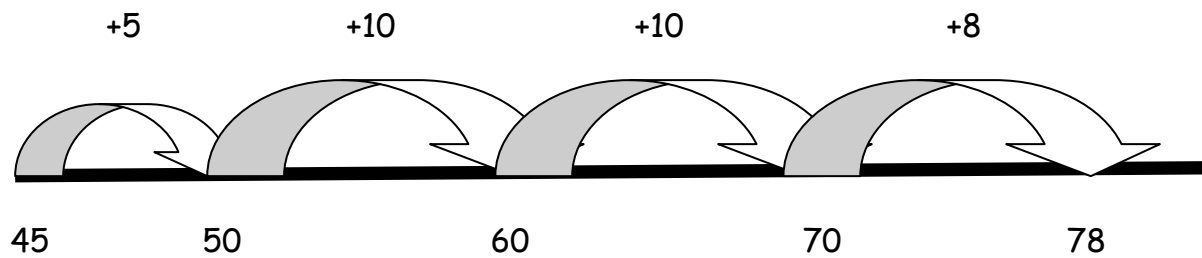
- a) $26 - 8 = 18$ (subtracting in 1's)
- b) $46 - 8 = 38$ ('bridging')
- c) $86 - 28 = 58$ (subtracting in 10's and 'bridging')

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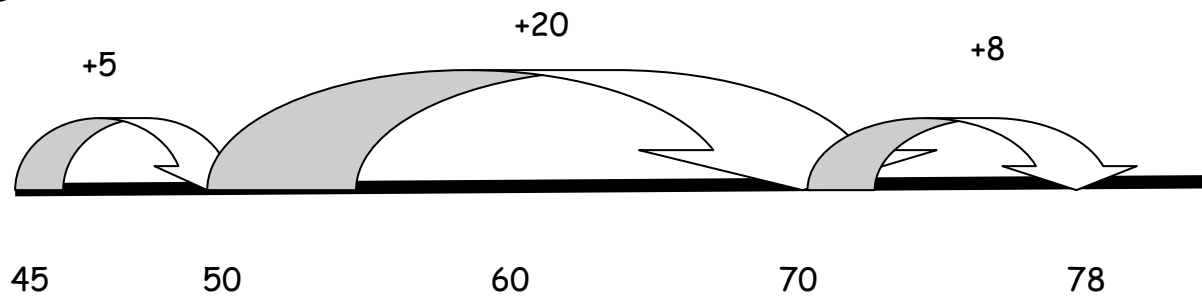
$78 - 45 = 33$



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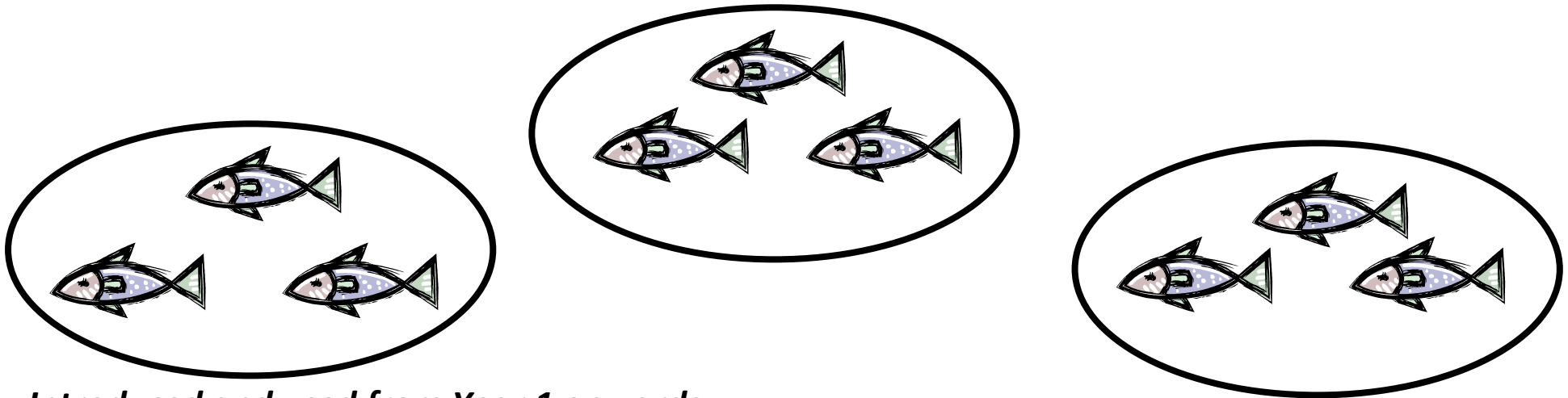


$$78 - 45 = 33$$



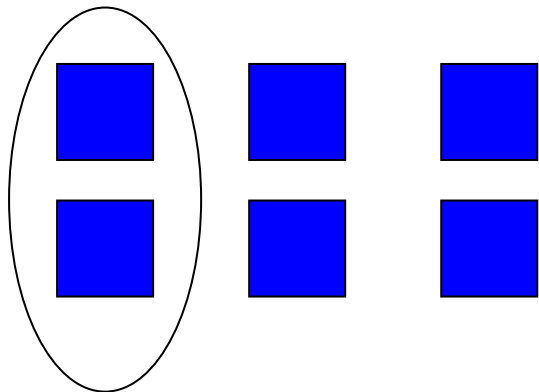
Stages in Multiplication

Introduced and used from EYFS onwards. Using concrete objects to start doing repeated addition

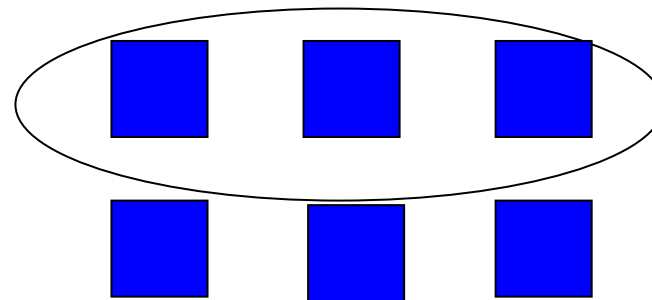


Introduced and used from Year 1 onwards

Introduce arrays



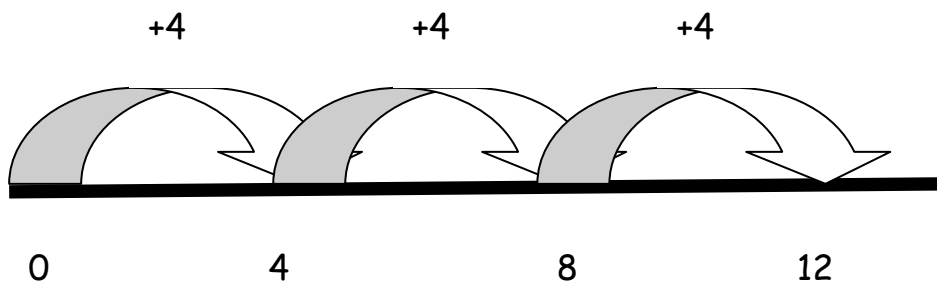
3 lots of 2 are 6



2 lots of 3 are 6

From Year 2 – Multiplication as repeated addition

Formal recording of multiplication statements



$$3 \times 4 = 12$$

Stages in Division

Introduced and used from EYFS onwards

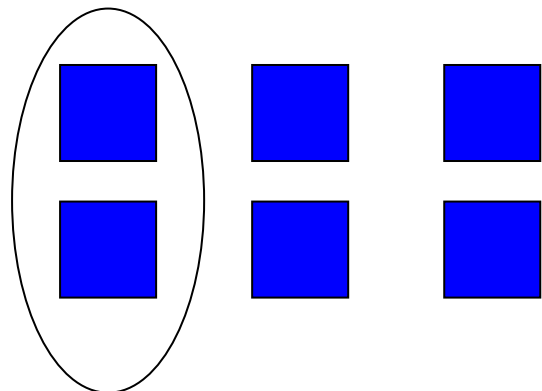
To introduce division it should be practical, using equipment to demonstrate.
Children are to understand division as grouping which is repeated subtraction.

1)

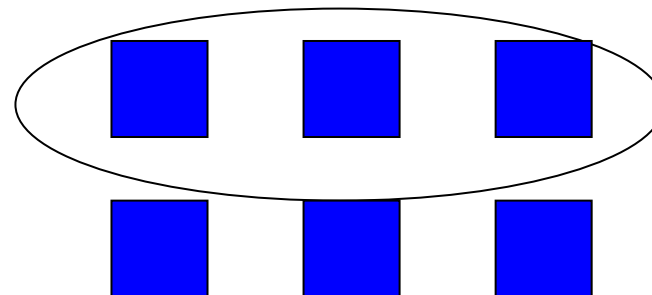


Introduced and used from Year 1 onwards

Introduce arrays

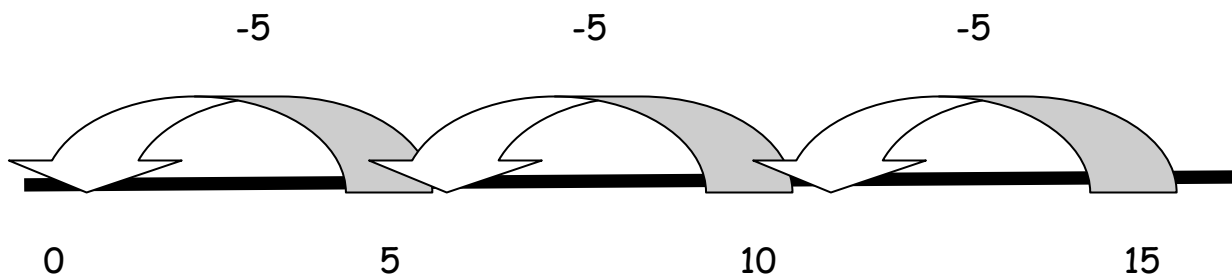


6 divided into 3 groups is 2



6 divided into 2 groups is 3

In Year 2 – Division as repeated subtraction. Formal recording



$$15 \div 5 = 3$$

CALCULATION POLICY