



Calculation Policy

Haresfield C of E Primary School



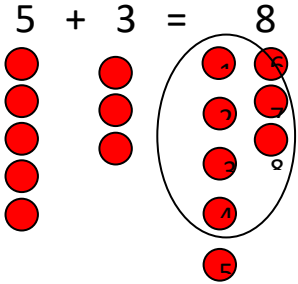
How we teach it.

Written and mental calculation at Stage 1

Written Addition at Stage 1

Method:

Counting all:



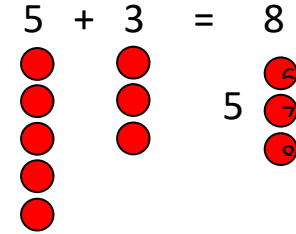
I count out 5 counters and 3 counters.
I put the counters together and count them together.
1, 2, 3, 4, 5, 6, 7, 8

The children use counters or other objects to support their addition. They count out the right amount of counters and then count how many they have altogether.

Children are encouraged to then record this as a sum.

Leading to:

Counting on:



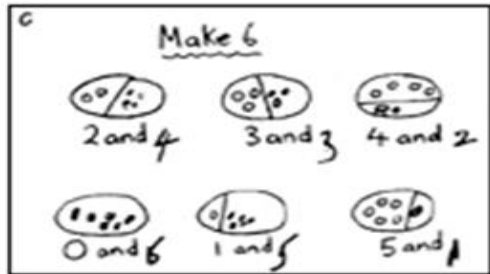
I count out 3 counters
I put the number 5 in my head,
Then I count on
6,7,8

The children continue to use counters or other objects to support their addition.

However, they are now encouraged to hold the larger number in their head. Then they count on the lower number.

Children are encouraged to then record this as a sum.

Strategies to support:

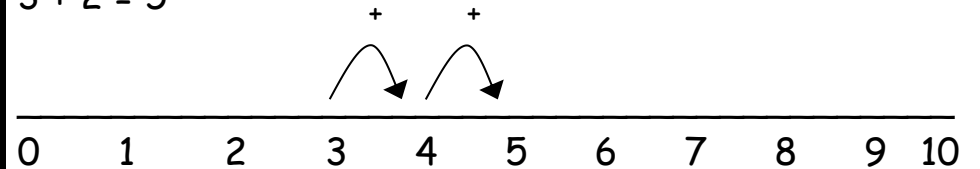


Children are encouraged to develop a mental picture of the number system in their heads to use for calculation. They develop ways of recording calculations using pictures, etc.

Next Steps:

Using a number line, by starting on the biggest number and counting on the number they are adding.

$$3 + 2 = 5$$



Written Subtraction at Stage 1

Method:

Counting all:

$$8 - 3 = 5$$



I count 8 counters.

I take 3 away.

I count how many have left.

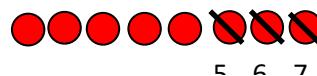
The children use counters or other objects to support their subtraction. They count out the right amount of counters and then move away the number of counters they are taking away. They then count how many they have left.

Children are encouraged to then record this as a sum.

Leading to:

Counting on:

$$8 - 3 = 5$$



I count 8 counters.

I keep 8 in my head.

I count backwards 3 as I move 3 counters away.

7, 6, 5

The children continue to use counters or other objects to support their subtraction.

However, they are now encouraged to hold the larger number in their head. Then they count back the number they are taking away.

Children are encouraged to then record this as a sum.

Strategies to support:

Children are encouraged to develop a mental picture of the number system in their heads to use for calculation. They develop ways of recording calculations using pictures etc.

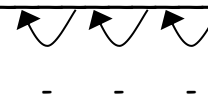


Next Steps:

Using a number line, by starting on the biggest number and counting back the number they are subtracting.

$$6 - 3 = 3$$

0 1 2 3 4 5 6 7 8 9 10



Mental Addition and Subtraction at Stage 1

Children should be able to recall:

- Number pairs with a total of 10, e.g. $3 + 7$, or what to add to a single digit number to make 10.

- Addition facts for totals to at least 5, e.g. $2 + 3$, $4 + 3$

- Addition doubles for all numbers to at least 10, e.g. $8 + 8$

Working mentally, children should be able to:

- Add and subtract a pair of single digit numbers, e.g. $4 + 5$, $8 - 3$

- Add or subtract a single digit number to or from a teens number, e.g. $13 + 5$, $17 + 3$
- Add or subtract a single digit to or from 10, and add a multiple of 10, and add a multiple of 10 to a single digit number, e.g. $10 + 7$, $7 + 30$

- Add near doubles, e.g. $6 + 7$

Children should know when to:

- Reorder numbers when adding, e.g. putting the largest number first
- Count on or back in ones, twos or tens

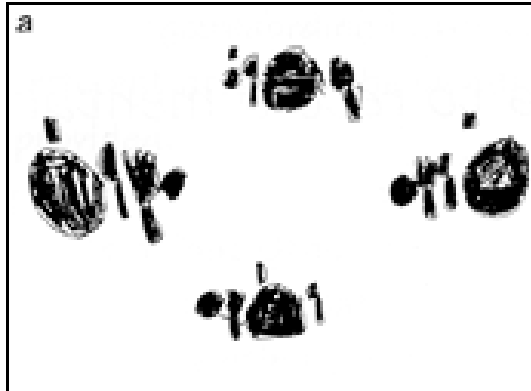
- Partition small numbers, e.g. $8 + 3 = 8 + 2 + 1$
- Partition and combine tens and ones

- Partition: Double and adjust, e.g. $5 + 6 = 5 + 5 + 1$

Written Multiplication at Stage 1

Method:

Children will experience equal groups of objects and will count in 2s and 10s and begin to count in 5s. They will work on practical problem solving activities involving equal sets or groups.



Leading to:

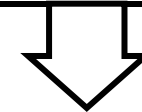
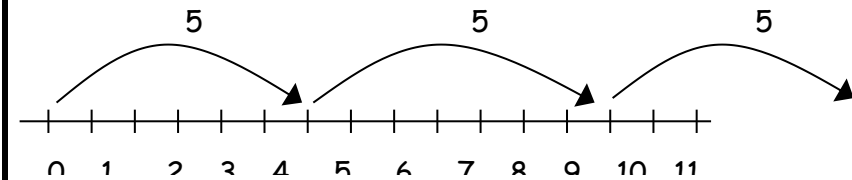
Children will develop their understanding of multiplication and use jottings to support calculation:

Repeated addition

3 times 5 is $5 + 5 + 5 = 15$ or 3 lots of 5 or 5×3

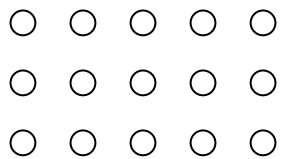
Repeated addition can be shown easily on a number line:

$$5 \times 3 = 5 + 5 + 5$$



Strategies to support:

Children should be able to model a multiplication calculation using an array. This knowledge will support with the development of the grid method.



$$5 \times 3 = 15$$

$$3 \times 5 = 15$$

Next Steps:

Repeated addition

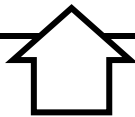
4 times 6 is $6 + 6 + 6 + 6 = 24$ or 4 lots of 6 or 6×4

Children should use number lines and bead bars to support their understanding.

Written Division at Stage 1

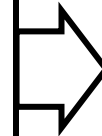
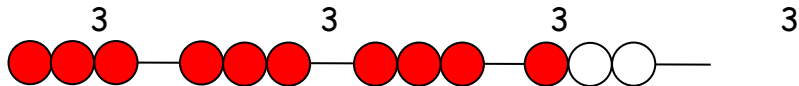
Method:

Children will understand equal groups and share items out in play and problem solving.
They will count in 2s and 10s and later in 5s.



Strategies to support:

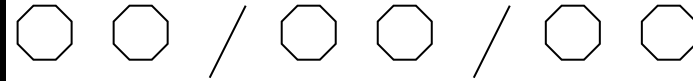
The bead bar will help children with interpreting division calculations such as $10 \div 5$ as 'how many 5s make 10?'



Leading to:

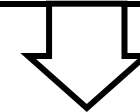
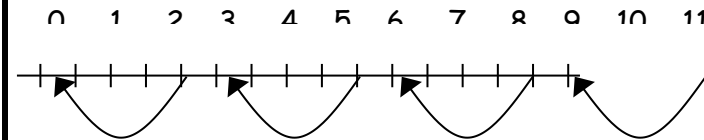
Grouping or repeated subtraction

There are 6 sweets, how many people can have 2 sweets each?



Repeated subtraction using a number line and bead bar

$$12 \div 3 = 4$$



Next Steps:

Using symbols to stand for unknown numbers to complete equations using inverse operations.

$$\square \div 2 = 4$$

$$20 \div \triangle = 4$$

$$\square \div \triangle = 4$$

Mental Multiplication and Division at Stage 1 and Stage 2

Children should be able to recall:

Year 1

- Doubles of all numbers to 10, e.g. double 6
- Odd and even numbers to 20

Year 2

- Doubles of all numbers to 20 and corresponding halves
- Doubles of multiples of 10 to 50 and corresponding halves

- Multiplication facts for the 2, 5 and 10 times tables, and corresponding division facts
- Odd and even numbers to 100

Working mentally, children should be able to:

Year 1

- Count on from and back to zero in ones, twos, fives or tens

Year 2

- Double any multiple of 5 up to 50, e.g. double 35
- Halve any multiple of 10 up to 100, e.g. halve 90

- Find half of even numbers to 40
- Find the total number of objects when they are organised into groups of, 2, 5 or 10.

Children should know when to:

Year 1

- **Use patterns of last digit, e.g. 0 and 5 when counting in 5's.**

Year 2

- Partition double the tens and ones separately, then recombine
- Use knowledge that halving is the inverse of doubling and that doubling is equivalent to multiplying by two.

- Use knowledge of multiplication facts from the 2, 5 and 10 times table, e.g. recognise that there are 15 objects altogether because there are three groups of five.