

# Elburton Primary School 

## Addition \& Subtraction

## Calculation Policy

| October 2022 | Policy Agreed |
| :---: | :--- |
| July 2024 | Policy Review Date |
|  |  |
|  |  |
|  |  |
|  |  |
| Date | Description |

## Early Years Addition

Explore the part/part/whole relationship, using concrete materials:


Use the five and tens frame to support understanding of number and addition of single digits:


Solve problems using concrete materials and pictorial images to support:


Which one has more?

Use number lines alongside number tracks and practical apparatus to solve addition calculations and word problems.

What is 1 more than 4?


Support children with reading number sentences aloud in different ways with stem sentences.
"Three add two equals five." or "Five is equal to three and two." or "Five is the same as three and two."

Solve simple problems using fingers.


$$
5+1=6
$$

## Key Stage 1 \& 2 - Addition Skills

| Skill | Year | Representations \& Models |  |
| :---: | :---: | :---: | :---: |
| Add two 1-digit numbers to 10 | 1 | Part-whole model <br> Bar Model <br> Number shapes | Ten frames (within 10) <br> Bead strings (10) <br> Number tracks |
| Add 1 and 2-digit numbers to 20 | 1 | Part-whole model <br> Bar Model <br> Number shapes <br> Ten frames (within 20) | Bead strings (10) <br> Number tracks <br> Number lines (labelled) |
| Add three 1-digit <br> Numbers | 2 | Part-whole model <br> Bar Model | Ten frames (within 20) Number shapes |
| Add 1 and 2-digit numbers to 100 | 2 | Part-whole model <br> Bar Model <br> Number line (labelled) | Number lines (blank) Hundred square |
| Add two 2-digit <br> Numbers | 2 | Part-whole model <br> Bar Model <br> Number line (blank) Straws | Base 10 <br> Place value counters |
| Add with up to 3-digits | 3 | Part-whole model Bar Model | Base 10 <br> Place value counters Column addition |
| Add with up to 4-digits | 4 | Part-whole model Bar Model | Base 10 <br> Place value counters Column addition |
| Add with more than 4digits | 5 | Part-whole model Bar Model | Place value counters Column addition |
| Add with up to 3 decimal places | 5 | Part-whole model Bar Model | Place value counters Column addition |

Add 1-digit numbers within 10

## Year 1



Add 1 and 2-digit numbers to 20

Year 1 and 2


## Year 2

## Add three 1-digit numbers



## Year 2 and 3

Add 1-digit and 2-digit numbers to 100


## Year 2 and 3

Add two 2-digit numbers to 100


$$
38+23=61
$$



38
$\begin{array}{r}+23 \\ \hline 61 \\ \hline 1\end{array}$


## Year 3

Add numbers with up to 3 digits


$$
265+164=429
$$



265
$\begin{array}{r}+164 \\ \hline 429 \\ \hline 1\end{array}$


## Year 4

## Add numbers with up to 4-digits



## Year 5 and 6

Add numbers with more than 4-digits


## Year 5

## Add with up to 3 decimal places



## Year 6

By Year 6, pupils should be using a variety of mental methods as well as formal written methods to add numbers.

## Early Years Subtraction

Use concrete resources to help build and reinforce the concept of taking away.


Use a five and a ten frame to support subtraction by taking away


Introduce number tracks and number lines alongside concrete resources to count back and to find one less.
What is 1 less than 9?


What is 3 less than 10 ?

Solve simple problems using fingers.
$5-1=4$


Construct number sentences using stem sentences - "Five take away 1 equals 4."
$5-1=4$


Key Stage 1 \& 2 - subtraction Skills

| Skill | Year | Representations \& Models |  |
| :---: | :---: | :---: | :---: |
| Subtract two 1-digit numbers to 10 | 1 | Part-whole model <br> Bar Model <br> Number shapes | Ten frames (within 10) <br> Bead strings (10) <br> Number tracks |
| Subtract 1 and 2-digit numbers to 20 | 1 | Part-whole model <br> Bar Model <br> Number shapes <br> Ten frames (within 20) | Bead strings (20) <br> Number tracks <br> Number lines (labelled) |
| Subtract 1 and 2-digit numbers to 100 | 2 | Part-whole model <br> Bar Model <br> Number lines (labelled) | Number lines (blank) Hundred square |
| Subtract two 2-digit numbers | 2 | Part-whole model <br> Bar Model <br> Number line (blank) <br> Straws | Base 10 <br> Place value counters |
| Subtract with up to 3digits | 3 | Part-whole model Bar Model | Base 10 <br> Place value counters Column subtraction |
| Subtract with up to 4digits | 4 | Part-whole model Bar Model | Base 10 <br> Place value counters <br> Column addition |
| Subtract with more than 4 digits | 5 | Part-whole model Bar Model | Place value counters Column addition |
| Subtract with up to 3 decimal places | 5 | Part-whole model Bar Model | Place value counters Column addition |

## Year 1

## Subtract 1-digit numbers within 10



## Year 1 and 2

## Subtract 1 and 2-digit numbers to 20



| 1 | 2 | 3 | 4 | 5 | 6 | 7 | (B) | 9 | 10 | 11 | 20 | 13 | (10) | 15 | 16 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |



## Year 2 and 3

Subtract 1 and 2-digits numbers to 100


## Year 3

Subtract numbers with up to 3-digits


$$
435-273=262
$$

|  |  | Om | ${ }^{3} 4$ | 35 |
| :---: | :---: | :---: | :---: | :---: |
|  | 11 |  |  |  |
|  | $\rightarrow$ 椎 |  |  |  |



## Year 4

## Subtract numbers with up to 4-digits



$$
4,357-2,735=1,622
$$



## Year 5 and 6

Subtract numbers with more than 4-digits


$$
294,382-182,501=111,881
$$



|  | 2 | 9 | $\mathbf{3}$ | $1_{3}$ | 8 | 2 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| - | 1 | 8 | 2 | 5 | 0 | 1 |
|  | 1 | 1 | 1 | 8 | 8 | 1 |

Year 6 record subtraction in a more formal way instead of using place value counters unless deemed necessary.

## Year 5 and 6

## Subtract with up to 3 decimal places



Year 6 record subtraction in a more formal way instead of using place value counters unless deemed necessary.

