Henbury MATHS Journey: + and -

YEAR 1

- represent and use number bonds and related subtraction facts within 20
- add and subtract one- digit and two-digit numbers to 20, including zero
- read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs
- solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7= ■ - 9

Y1: Use of manipulatives

Y1: Number track

Y1: Part whole model

EYFS

- recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100
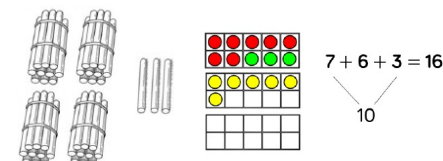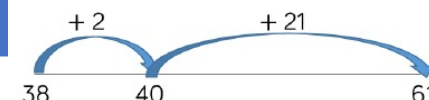- Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts

$7 + 6 + 3 = 16$

Y2: Use of manipulatives, ten frames

$+ 2$ $+ 21$

38   40   61

Y2: Number line

YEAR 2

- add and subtract numbers using concrete objects, pictorial representations, and mentally, including:
  - a two-digit number and ones
  - a two-digit number and tens
  - two two-digit numbers
  - adding three one-digit numbers
- show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot
- recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems

65

| ? | 28 |

Y2: Bar model

- solve problems with addition and subtraction:
  - using concrete objects and pictorial representations, including those involving numbers, quantities and measures
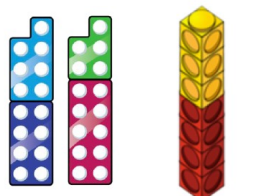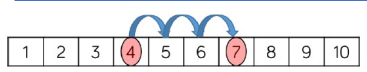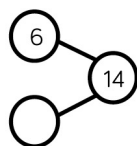 - applying their increasing knowledge of mental and written methods
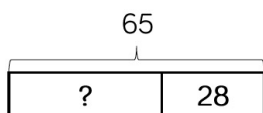
Key
Number Bonds
Mental Calculation
Written Methods
Inverse Operations, Estimating and Checking Answers
Problem Solving

YEAR 3

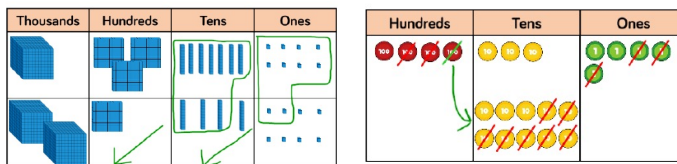- add and subtract numbers mentally, including:
  - a three-digit number and ones
  - a three-digit number and tens
  - a three-digit number and hundreds
- add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction
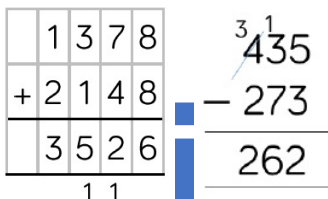- estimate the answer to a calculation and use inverse operations to check answers
- solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction

Y3/4: Use of place value counters or base 10.

$$\begin{array}{r} 1\,3\,7\,8 \\ +\,2\,1\,4\,8 \\ \hline 3\,5\,2\,6 \\ 1\,1 \end{array}$$

$$\begin{array}{r} {}^{3}\!4^{1}\!35 \\ -\,2\,7\,3 \\ \hline 2\,6\,2 \end{array}$$

Y3/4: Column addition & subtraction

- add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate
- estimate and use inverse operations to check answers to a calculation
- solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why

YEAR 4

VOCABULARY

aggregation — combining 2 or more quantities to find a total

addend — a number added to another

subtract

augmentation — Increasing a quantity by another quantity

partition

sum   inverse   add

equals   take away   exchange

minuend — a quantity from which another is subtracted

difference   minus   commutative — numbers added in any order

subtrahend — a number to be subtracted from another

| 265 |
| 164 |

?

| 265 | 164 |

| 4,357 |
| 2,735 |

?

| 2,735 | ? |
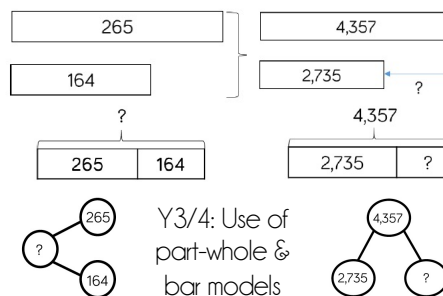
Y3/4: Use of part-whole & bar models

YEAR 6

- perform mental calculations, including with mixed operations and large numbers
- use their knowledge of the order of operations to carry out calculations involving the four operations
- use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy.
- solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why
- solve problems involving addition, subtraction, multiplication and division

YEAR 5

- add and subtract numbers mentally with increasingly large numbers
- add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)
- add and subtract decimals
- use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy
- solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why