

YEAR 5

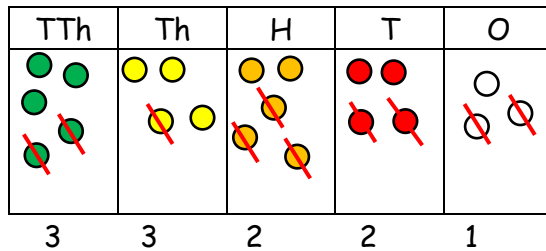
Subtraction

Vocabulary: difference, minus, subtract, take way, less than; subtrahend - minuend = difference (see previous year groups)

Concrete

Subtract whole numbers with more than 4 digits (up to 6 digit numbers)

$$54\ 543 - 21\ 322 = 33\ 221$$



Exchanging at different and several points.
No place value digits for 6-digit numbers available.

Pictorial

Subtract whole numbers with more than 4 digits.

Counting back using a number line

Building on from year 4 using the number line (see year 4)

Counting on using a number line

Where the numbers in the calculation allow for easy adding of the resulting jumps.

Abstract

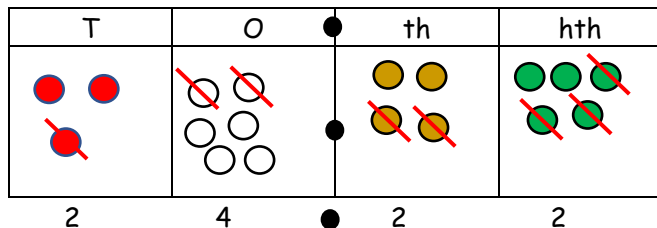
Written

Subtract whole numbers with more than 4 digits.

No exchanging	Exchanging
$\begin{array}{r} 54\ 543 \\ -21\ 322 \\ \hline 33\ 221 \end{array}$	$\begin{array}{r} 5\ 1 \\ \cancel{36}\ 251 \\ -15\ 420 \\ \hline 20\ 831 \end{array}$

Subtracting decimals (up to 2 decimal places)

$$36.45 - 12.23 = 24.22$$

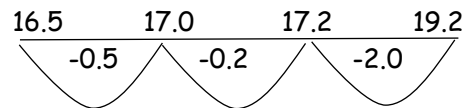


Start with no exchanging then build up to exchanging at different points using:
1 ten = 10 ones; 1 one = 10 tenths; 1 tenth = 10 hundredths.

Subtracting decimals (up to 2 decimal places)

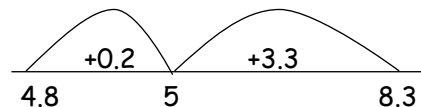
Counting back:

$$19.2 - 2.7 = 16.5$$



Counting on:

$$8.3 - 4.8 = 3.5$$

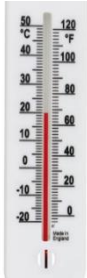


Subtracting decimals (up to 2 decimal places)

No exchanging	Exchanging
$\begin{array}{r} 36.45 \\ -12.23 \\ \hline 24.22 \end{array}$	$\begin{array}{r} 8\ 1 \\ \cancel{19}\ 2 \\ -2.7 \\ \hline 16.5 \end{array}$

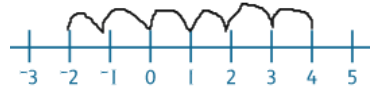
Subtracting negative numbers

Using real life objects:

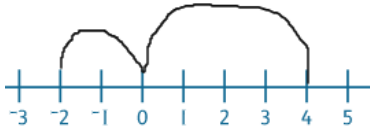


Subtracting negative numbers

$$4 - 6 = -2$$



Number line counting backwards in single increments from 4 to -2.



Number line counting backwards: first to 0 and then the remaining "jumps" back to -2.

Develops in to a mental method no written method.

Mental Methods:

Counting on:

$$7.2 - 6.8$$

$$6.8 + 0.2 = 7$$

$$7 + 0.2 = 7.2 \text{ then } 0.2 + 0.2 = 0.4$$

Counting back:

$$7.87 - 2.03$$

$$\text{(partition 2.03 then } 7.87 - 2 = 5.87)$$

$$5.87 - 0.03 = 5.84.$$

Adjusting:

$$23\ 345 - 1\ 999 \text{ (+ 1 to both numbers)}$$

$$23\ 346 - 2000 = 21\ 346$$

$$8.3 - 1.9 \text{ (+ 0.1 to both numbers)}$$

$$8.4 - 2 = 6.4$$

$$14.56 - 0.19 \text{ (+ 0.01 to both numbers)} \quad 14.57 - 2 = 12.57$$

Using known facts and place value:

If $16 - 8 = 8$ then:

$$1.6 - 0.8 = 0.8$$

$$0.16 - 0.08 = 0.08$$

Partitioning:

No exchanging

$$34\ 567 - 12\ 354$$

Subtracting a power of 10

$$23\ 453 - 10\ 000 = 13\ 453$$

$$45\ 321 - 1\ 000 = 44\ 321$$

Children recognise which column will change.

