Calculation in Subtraction

Apparatus will be needed with each of these methods when first introducing them.
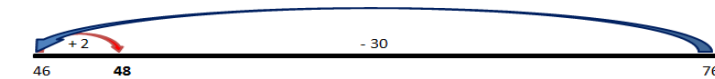
Number Lines
Subtraction here is taught as taking away (counting back) and finding the difference (counting up).
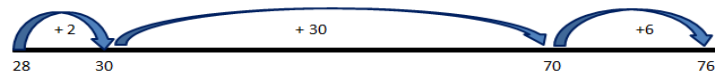
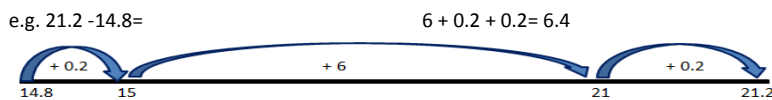Counting back from a larger number

76-28=42

Compensation

Counting up from smaller number (finding the difference)
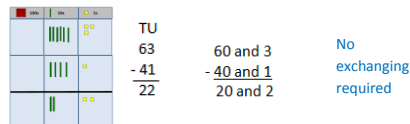Children are encouraged to count up to a multiple of 10 or 100.

40+6+2=48

The same strategy can also be used with larger numbers or even decimals.

e.g. 21.2 -14.8=   6 + 0.2 + 0.2= 6.4
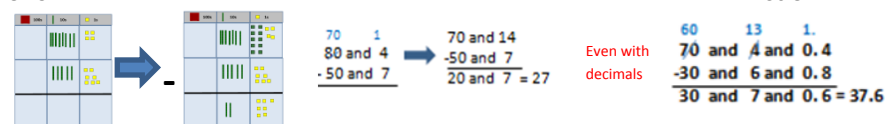

Partitioning
This phase will be longer than in the addition phase. Children partition the numbers into tens and units. This method is always supported with the use of practical equipment such as dienes.

63-41=

$$
\begin{array}{r}
TU \\
63 \\
- 41 \\
\hline
22
\end{array}
$$

60 and 3
- 40 and 1
20 and 2

No exchanging required

With exchanging

84-57=   74.4 – 36.8

$$
\begin{array}{r}
70 \quad 1 \\
80 \text{ and } 4 \\
- 50 \text{ and } 7
\end{array}
$$

70 and 14
-50 and 7
20 and 7 = 27

Even with decimals

$$
\begin{array}{r}
60 \quad 13 \quad 1. \\
70 \text{ and } 4 \text{ and } 0.4 \\
-30 \text{ and } 6 \text{ and } 0.8 \\
\hline
30 \text{ and } 7 \text{ and } 0.6 = 37.6
\end{array}
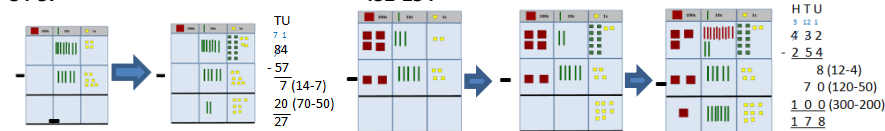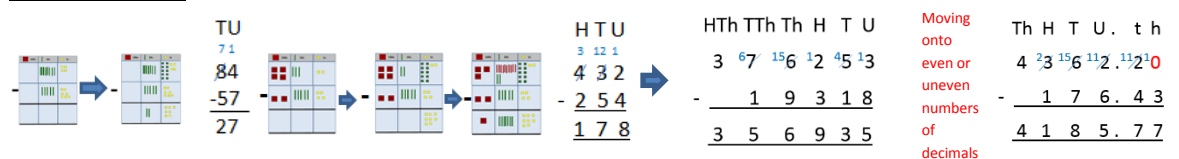$$

Expanded Column Subtraction
A way to set out an addition or subtraction calculation where the units, tens, hundreds (and so on) are arranged into columns.

84-57   432-254

$$
\begin{array}{r}
TU \\
7\ 1 \\
84 \\
- 57 \\
\hline
7 \ (14-7) \\
20 \ (70-50) \\
\hline
27
\end{array}
$$

$$
\begin{array}{r}
HTU \\
3\ 12\ 1 \\
4\ 3\ 2 \\
- 2\ 5\ 4 \\
\hline
8 \ (12-4) \\
7\ 0 \ (120-50) \\
1\ 0\ 0 \ (300-200) \\
\hline
1\ 7\ 8
\end{array}
$$

Column Subtraction

$$
\begin{array}{r}
TU \\
7\ 1 \\
84 \\
-57 \\
\hline
27
\end{array}
$$

$$
\begin{array}{r}
HTU \\
3\ 12\ 1 \\
4\ 3\ 2 \\
- 2\ 5\ 4 \\
\hline
1\ 7\ 8
\end{array}
$$

$$
\begin{array}{r}
HTh\ TTh\ Th\ H\ T\ U \\
3\ {}^6 7\ {}^1 5 6\ {}^1 2\ {}^4 5\ {}^1 3 \\
-\quad 1\ 9\ 3\ 1\ 8 \\
\hline
3\ 5\ 6\ 9\ 3\ 5
\end{array}
$$

Moving onto even or uneven numbers of decimals

$$
\begin{array}{r}
Th\ H\ T\ U\ .\ t\ h \\
4\ {}^2 3\ {}^1 5 6\ {}^1 1 2\ .\ {}^1 1 2\ {}^1 0 \\
-\quad 1\ 7\ 6\ .\ 4\ 3 \\
\hline
4\ 1\ 8\ 5\ .\ 7\ 7
\end{array}
$$

Calculation in Subtraction