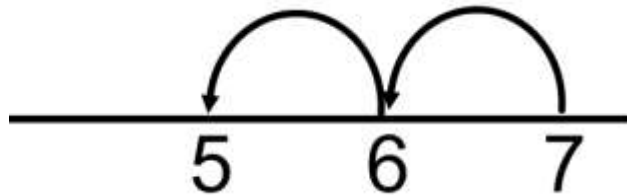


SUBTRACTION STAGE 1

Progression

- Subtraction as taking away e.g. to take 2 from 7, use 7 objects, take 2 away and count how many are left.
- Counting back e.g. using a number line, start at 7 and count back 2 hops.

Active Learning Through Models and Images:



Underlying skills

- Children need to learn number facts e.g. learning that if they know $7 + 4 = 11$ they also know that $11 - 4 = 7$ and $11 - 7 = 4$.
- Find one less than a number up to ten

Active Learning Through Models and Images:

Objects in two colours



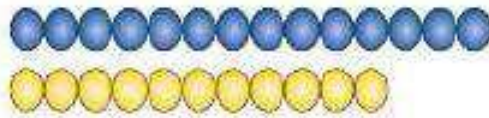
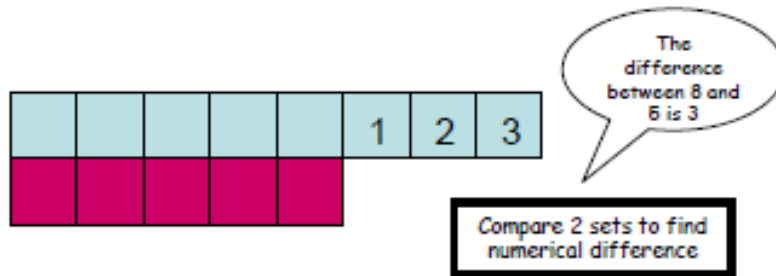
Imagine one less spot

SUBTRACTION STAGE 2

Progression

- Compare two sets to find the difference
- Find the difference by counting on from the smallest number (Complementary addition: This needs to be taught first before becoming a mental jotting)

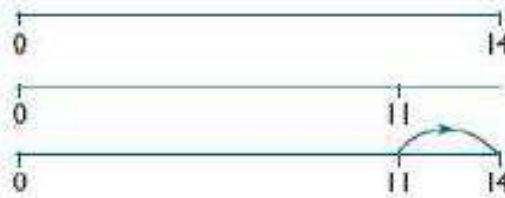
Active Learning Through Models and Images:



The difference between 11 and 14 is 3.

$$14 - 11 = 3$$

$$11 + \square = 14$$



Underlying skills

- Know by heart subtraction facts for numbers to 10 (number bonds)

Active Learning Through Models and Images:

$6 + ? = 10$ $? + 6 = 10$
 $10 - 6 = ?$ $10 - 4 = 6$

7 - 2 = 5

Know by heart subtraction facts for numbers up to 10

SUBTRACTION STAGE 3

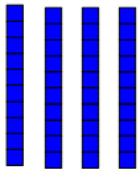
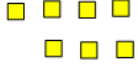
Progression

Subtraction without decomposition

(We do not use the models to represent 23 because it does not exist separately from the 47. It is part of the 47)

Active Learning Through Models and Images:

$47 - 23 =$

	Tens	Units
	40	7
		
-	20	3
=	20	4

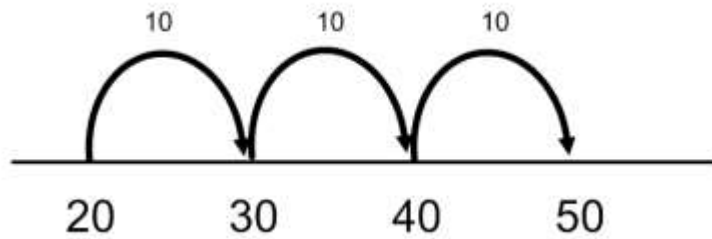
Use complementary addition as a mental process for counting from 3 up to 7, and 20 to 40.

Underlying skills

Complementary addition as a mental method

Active Learning Through Models and Images:

Numberline will take the form of a mental jotting.



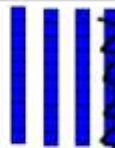
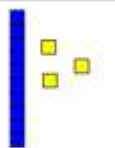
SUBTRACTION STAGE 4

Progression

- Subtraction TU – TU with decomposition

Active Learning Through Models and Images:

$43 - 27 =$

	Tens	Units
	40	3
		
	30	13
-	20	7
=	10	6

Cannot take 7 away from 3 at the moment.

We have to repartition.

Use complementary addition as a mental process to count up from 7 to 13, and 20 to 30.

Underlying skills

- Understand that a number can be partitioned in different ways.

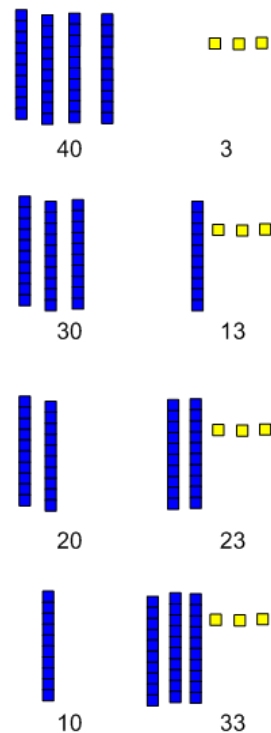
$$40 + 3 = 43$$

$$30 + 13 = 43$$

$$20 + 23 = 43$$

$$10 + 33 = 43$$

Active Learning Through Models and Images:



SUBTRACTION STAGE 5

Progression

- Subtraction HTU – HTU with decomposition

Active Learning Through Models and Images:

$236 - 147 =$

	Hundreds 200	Tens 30	Units 6
	100	120	16
-	100	40	7
=	0	80	9

Cannot take away numbers at the moment.

Repartition. $100 + 120 + 16$ is the same as $200 + 30 + 6$

Use complementary addition as a mental process.

Underlying skills

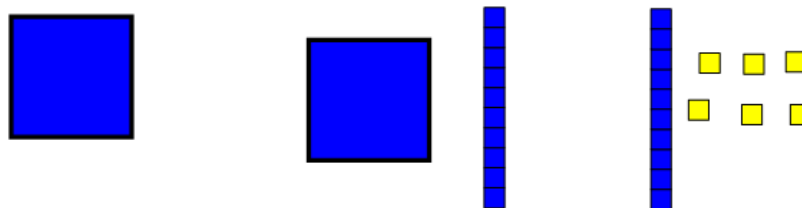
Understand that a number can be partitioned in different ways

Active Learning Through Models and Images:

$200 + 20 + 6 = 226$



$100 + 110 + 16 = 226$



SUBTRACTION STAGE 6

Progression

Use the expanded method for subtraction

Active Learning Through Models and Images:

$43 - 27 =$

$$\begin{array}{r}
 \overset{30}{\cancel{40}} \quad \overset{13}{\cancel{3}} \\
 - \quad 20 \quad 7 \\
 \hline
 10 \quad 6 \\
 10 + 6 = \underline{16}
 \end{array}$$

Cannot take away 7 from 3 at the moment.

Repartition into 30 and 13

Use complementary addition as a mental method to take 7 from 13, and 20 from 30.

$124 - 58 =$

$$\begin{array}{r}
 \overset{0}{\cancel{100}} \quad \overset{110}{\cancel{10}} \quad 14 \\
 - \quad \quad \quad \cancel{20} \quad \cancel{4} \\
 \quad \quad \quad 50 \quad 8 \\
 \hline
 60 \quad 6
 \end{array}$$

Cannot take 8 from 4 at the moment.
Repartition.

Cannot take away 50 from 10 at the moment.
Repartition.

Use complementary addition as a mental method to take 8 from 14, and 50 from 110.

Underlying skills

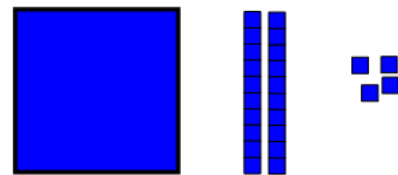
Understanding of place value and partition

Counting on in repeated steps of 1, 10, 100, 100

Active Learning Through Models and Images:

Be able to partition numbers in different ways:

$100 + 20 + 4 = 124$
 $100 + 10 + 14 = 124$
 $110 + 14 = 124$



$14 - 8 = 6$
 $110 - 50 = 60$
 $460 - 300 = 160$



SUBTRACTION STAGE 7

Progression

- Column subtraction

Active Learning Through Models and Images:

$$43 - 27$$

$$\begin{array}{r} 3 \quad 1 \\ \cancel{4}3 \\ - \quad 27 \\ \hline 16 \end{array}$$

Cannot take 7 from 3. Repartition by moving a ten.

All points lead to here – meaning understanding of the concept is in place.

Underlying skills

- Subtract multiples of 10, 100 and 1000 and adjust

Active Learning Through Models and Images:

$$24 - 19 = 24 - 20 + 1 = 5$$

$$458 - 71 = 458 - 70 - 1 = 387$$

