



**Mental Calculations (ongoing)**

Mental recall of addition and subtraction facts  $10 - 6 = 4$   $17 - \square = 11$   $20 - 17 = 3$   $10 - \square = 2$

Find a small difference by counting up  $82 - 79 = 3$

Counting on or back in repeated steps of 1, 10, 100, 1000  $86 - 52 = 34$  (by counting back in tens and then in ones)  
 $460 - 300 = 160$  (by counting back in hundreds)

Subtract the nearest multiple of 10, 100 and 1000 and adjust  $24 - 19 = 24 - 20 + 1 = 5$   $458 - 71 = 458 - 70 - 1 = 387$

Use the relationship between addition and subtraction  $36 + 19 = 55$   $19 + 36 = 55$   $55 - 19 = 36$   $55 - 36 = 19$

**Calculation Policy for Subtraction**

**Early Years Foundation Stage (EYFS)**

Children will engage in a variety of counting songs and rhymes and practical activities.

In practical activities and through discussion they will begin to use the vocabulary associated with subtraction. They will find one less than a given number.

They will begin to relate subtraction to 'taking away' using objects to count 'how many are left' after some have been taken away.

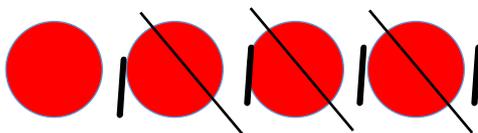
$6 - 2 = 4$



Take two apples away. How many are left?

All sentence should be read aloud to reinforce understanding E.g. six take away or subtract two equals four.

$4 - 3 = 1$



If I have 4 counters and I take away 3, how many counters are left?

Children will begin to count back from a given number.

Children are encouraged to develop a mental picture of the number system in their heads to use for calculation. They develop ways of recording calculations using pictures, etc. This can be represented through drawings and use of concrete objects such as: Numicon, cubes and real life objects.

## Year 1

### Statutory requirements

Pupils should be taught to:

- read, write and interpret mathematical statements involving subtraction (-) and equals (=) signs
- subtract one-digit and two-digit numbers to 20, including zero

The number line should be used as the children will be using this for addition too. A focus on ensuring children are aware of subtraction being the inverse of addition should be encouraged with the manipulation of numbers from an addition calculation to make a subtraction.

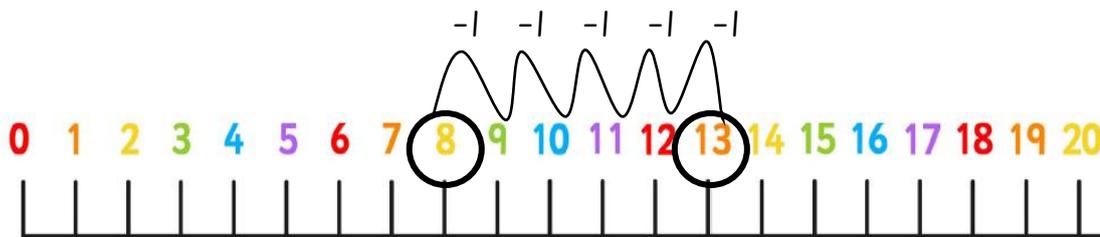
Teaching should enable children to see subtraction in two ways:

- Taking away
- Difference

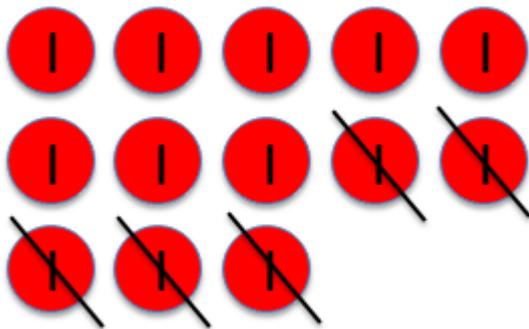
These should be taught alongside each other and not as separate entities to encourage children to be critical about which approach is best.

### Taking Away

$$13 - 5 = 8$$



The children should find the largest number and take away the individual amounts making sure they count the hops and not the numbers. Using concrete objects alongside this method will help children visualise and understand the process.

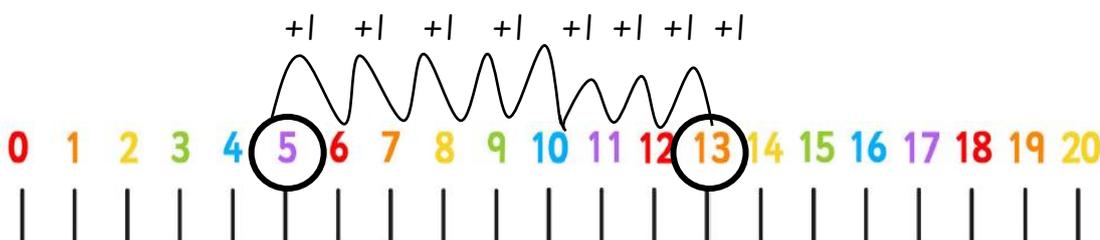


All subtractions should be read aloud to reinforce understanding E.g. thirteen take away or subtract five equals eight.

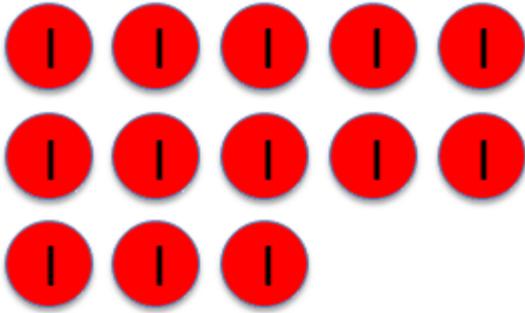
### Difference

The number line should also be used to show that  $13 - 5$  means the 'difference between 13 and 5' or 'the difference between 5 and 13' and how many jumps they are apart.

$$13 - 5 = 8$$



Children should also be taught the counting on method, using a number line; this will establish the relationship between the operations of addition and subtraction.



Physically moving the objects on top of the original objects will cancel those out and reveal the difference. This is a very visual concept for the children to understand.

### Problem Solving

Children should apply their understanding of these methods to add to a range of word problems, missing number problems and incomplete questions.

### Reasoning

Children should be encouraged to talk through their processes with explanations of why to really strengthen understanding. This should be applied to a range of scenarios.

**Statutory requirements**

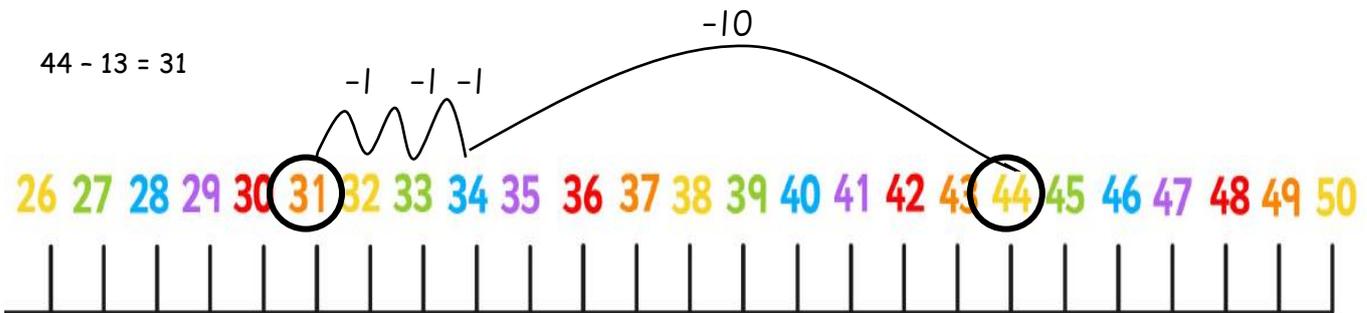
Pupils should be taught to:

- 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

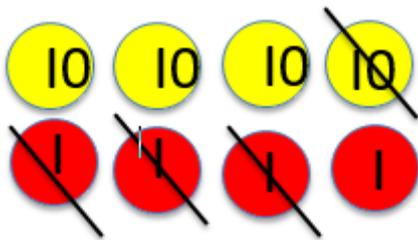
Children can continue to use a number line counting back and counting on when finding small differences.

**Taking Away**

First counting back in ones then progressing to tens and ones and then beyond.



Bridging through ten can help children become more efficient.



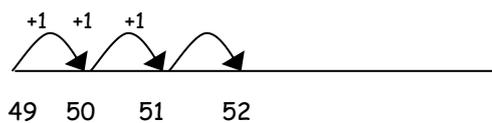
**Concrete Objects**

Physically building the number and removing the tens and the units can really help with the understanding of subtraction through decomposition.

**Counting on**

This method should be encouraged to find a small difference.

$52 - 49 = 3$



Teacher should model column subtraction alongside children working out with number lines and concrete objects. This will support the transfer between methods and strengthen understanding and familiarity.

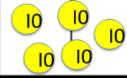
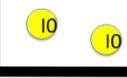
### Column Subtraction

Children should be taught to use the column subtraction method without 'carrying'. This supports place value and prepares for formal written methods with larger numbers.

$$56 - 23 = 33$$

	Tens	Units
	5	6
-	2	3
	3	3

**Concrete Objects** Physically building the numbers through decomposition can help children to compare the two numbers to aid with subtraction. This will also prepare children for borrowing.

	Tens	Units
		
-		

All subtractions should be read aloud to reinforce understanding E.g. fifty six take away or subtract twenty three equals thirty three.

### Problem Solving

Children should apply their understanding of these methods to add to a range of word problems, missing number problems and incomplete questions.

### Reasoning

Children should be encouraged to talk through their processes with explanations of why to really strengthen understanding. This should be applied to a range of scenarios.

**Statutory requirements**

Pupils should be taught to:

- subtract numbers with up to three digits, using formal written methods of columnar subtraction

Children should be confident in carrying out subtraction by counting back or on, using a number line, before being introduced to the formal method of decomposition. Some children find decomposition difficult.

**Decomposition**

Before the introduction of the formal written method for subtraction (decomposition), children should be able to:

- recall all subtraction facts to 20;
- subtract multiples of 10 (such as  $160 - 70$ ) using the related subtraction fact,  $16 - 7$ , and their knowledge of place value;
- partition two-digit and three-digit numbers into multiples of one hundred, ten and one in different ways (e.g. partition 74 into  $70 + 4$  or  $60 + 14$ ).

**Teach the decomposition method in this order**

- TU - TU, then HTU - TU and HTU - HTU, exchange from tens to units, e.g.  $71 - 46$ ,  $173 - 38$ ,  $774 - 248$
- HTU - HTU, exchange from hundreds to tens, e.g.  $553 - 272$
- HTU - HTU, exchange from tens to units and from hundreds to tens, e.g.  $635 - 278$

All number sentences should be verbalised to ensure children's understanding E.g. seventy one take away or subtract forty six equals twenty five

$71 - 46 = 25$

	T	U
	6	1
-	4	6
	2	5

**Concrete Objects**

Physically showing the different values of the counters can aid the understanding of the number when borrowing - it maintains its value but changes its position.

	Tens	Units
	10 10 10 10 10	10 1
-	10 10 10	1 1 1 1 1
	2	5

$624 - 133 =$

	H	T	U
	5	2	4
-	1	3	3
	4	9	1

	H	T	U
	100 100 100 100	100 10 10	1 1 1
-	100	10 10	1 1 1
	4	9	1

The HTU titles should be used as scaffolding to support struggling children to help understand the place value and to aid presentation.

### **Problem Solving**

Children should apply their understanding of these methods to add to a range of word problems, missing number problems and incomplete questions.

### **Reasoning**

Children should be encouraged to talk through their processes with explanations of why to really strengthen understanding. This should be applied to a range of scenarios.

## Year 4

### Statutory requirements

Pupils should be taught to:

- subtract numbers with up to 4 digits using the formal written methods of columnar subtraction where appropriate

Continue, or begin, with the formal written method of decomposition as set out in Y3. See examples from Y3. All children should be encouraged to verbalise the number sentence they are undertaken and concrete objects should be used to aid understanding and support reasoning.

### Extending this to

- Subtract numbers with up to four digits, including numbers with different numbers of digits
- Subtraction with numbers involving zeros e.g.  $5001 - 2345$
- Subtract decimals, money and measures (A focus on making sure decimal points are lined up is needed.)

$$3167 - 1355 = 1812$$

	Th	H	T	U
	<del><sup>2</sup>3</del>	<sup>1</sup> 1	6	7
-	1	3	5	5
	1	8	1	2

$$5001 - 2345 = 2656$$

	Th	H	T	U
	<del><sup>4</sup>5</del>	<del><sup>9</sup>0</del>	<del><sup>9</sup>0</del>	<sup>1</sup> 1
-	2	3	4	5
	2	6	5	6

### Problem Solving

Children should apply their understanding of these methods to add to a range of word problems, missing number problems and incomplete questions.

### Reasoning

Children should be encouraged to talk through their processes with explanations of why to really strengthen understanding. This should be applied to a range of scenarios.

## Year 5

### Statutory requirements

Pupils should be taught to:

- add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)

Follow column subtraction (decomposition) method taught in earlier year groups.

$$£3.59 - £0.78 = £2.81$$

	U	.	£	p
	<sup>2</sup> <del>3</del>	.	<sup>1</sup> 5	9
-	0	.	7	8
	2	.	8	1

### Problem Solving

Children should apply their understanding of these methods to add to a range of word problems, missing number problems and incomplete questions.

### Reasoning

Children should be encouraged to talk through their processes with explanations of why to really strengthen understanding. This should be applied to a range of scenarios.

## **Year 6**

There are no formal statutory requirements for subtraction in Y6. They are expected to continue with the formal written methods and apply this to problem solving.

### **Problem Solving**

Children should apply their understanding of these methods to add to a range of word problems, missing number problems and incomplete questions.

### **Reasoning**

Children should be encouraged to talk through their processes with explanations of why to really strengthen understanding. This should be applied to a range of scenarios.