



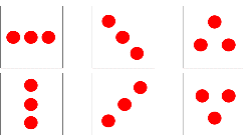
EQUA Mead
Learning Trust
Every Child, Every Chance

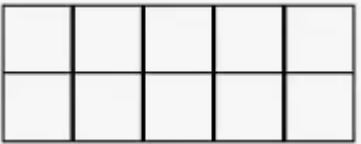
SOUTHWICK CE PRIMARY SCHOOL

Love, Learn, Grow

"Do everything in love." 1 Corinthians 16:14

Progression Through Calculation: Subtraction

Reception	Reception Progression of Skills	Reception - Have a deep understanding of number to 10, including the composition of each number. - Subitise (recognise quantities without counting) up to 5 - Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (and some subtraction facts) and some number bonds to 10, including double facts.		
	Subitising	Key Representations What do you see? How do you see it? 		
	Subitising within 3			
	Subitise objects and sounds Subitise within 5 focusing on die patterns Match numerals to quantities within 5 Subitising – to 6, including in structured arrangements	Concrete  	Pictorial 	Abstract 1 2 3 4 5 6 7 8 9 10 (relate numerals to amount of objects)

	Key Representations		
	1 less than ... is ...		
Composition Explore how all numbers are made of 1s Focus on composition of 3 and 4 Explore the concept of 'whole' and 'part' Focus on the composition of 3,4,5 Focus on 5 Focus on 6 and 7 as '5 and a bit' Compare sets and	Concrete 	Pictorial 	Abstract
			
			

	use language of comparison: fewer than Focus on 7 Doubles – explore how some numbers can be made with 2 equal parts Composition – ‘5 and a bit’ Composition – of 10			
	Year 1 Progression of Skills	Year 1 • Read, write and interpret mathematical statements involving subtraction (–) and equals (=) signs. • Represent and use number bonds and related subtraction facts within 20 • Subtract one-digit and two-digit numbers to 20, including zero. • Solve one-step problems that involve subtraction, using concrete objects and pictorial representations, and missing number problems such as $7 = ? - 9$		
		Key Representations		

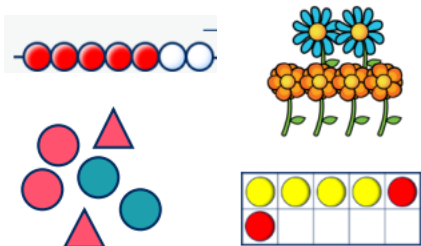
Find a part

Link to number bonds and known facts. E.g. $2 + 4 = 6$ so if 6 is the whole and 4 is a part, the other part must be 2

There are ... in total.

... are ...

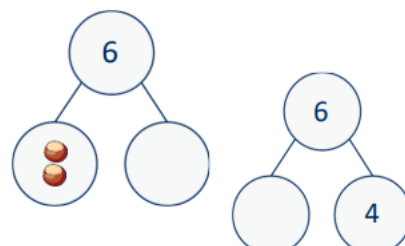
How many are **not** ...?



... is the whole.

... is a part.

... is a part.



... subtract ... is equal to ...

... is equal to ... - ...

$$6 - 2 = 4$$

$$6 - 4 = 2$$

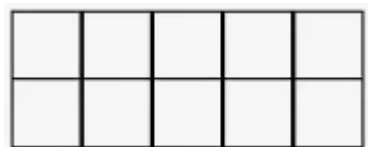
$$4 = 6 - 2$$

$$2 = 6 - 4$$

Concrete

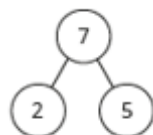


Use physical objects, counters, cubes etc to show how objects can be taken away



Pictorial

Cross out drawn objects to show what has been taken away.



Abstract

$$\triangleright 7 - 2 = \underline{\quad}$$

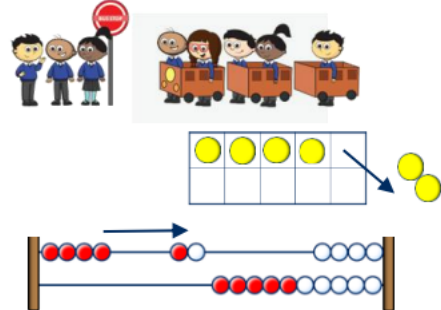
$$\triangleright 7 - 5 = \underline{\quad}$$

Take away

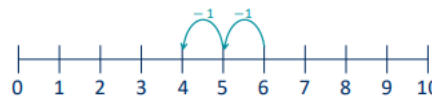
A quantity is decreased

Key Representations

First... Then... Now...



I start at ...
I jump back ...
I land on ...



... minus ... is equal to ...
... is equal to ... - ...

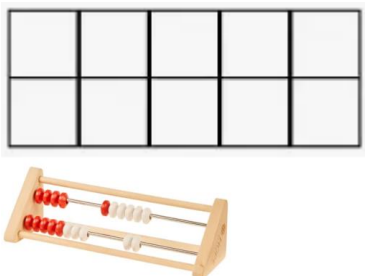
$$6 - 2 = 4$$

$$6 - 4 = 2$$

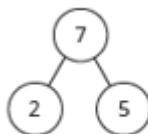
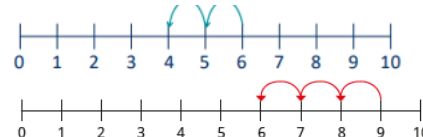
$$4 = 6 - 2$$

$$2 = 6 - 4$$

Concrete



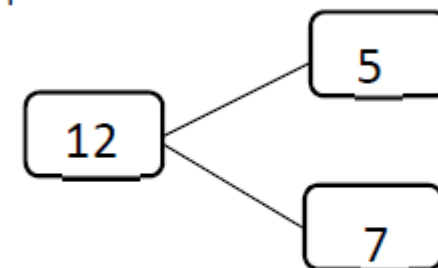
Pictorial



Abstract

$$8 - 5 =$$

Move to using numbers within the part whole model.



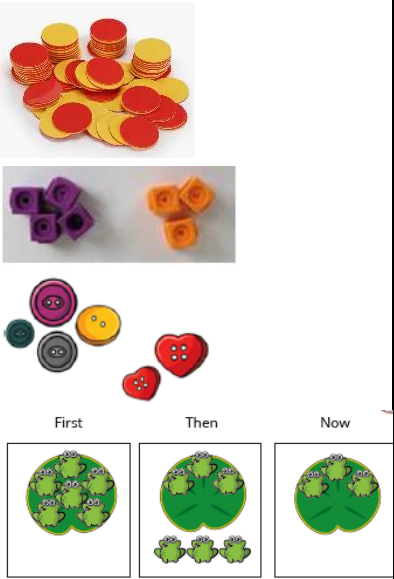
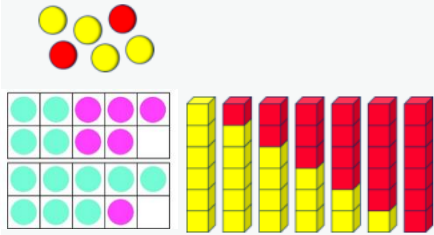
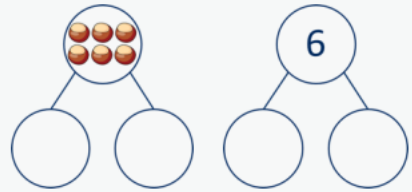
$$7 - 2 = \underline{\quad}$$

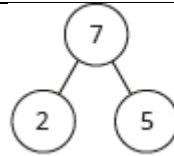
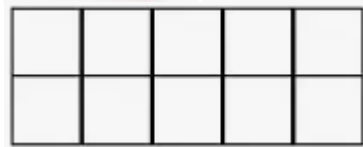
$$7 - 5 = \underline{\quad}$$

Include missing number problems:

$$12 - ? = 5$$

$$7 = 12 - ?$$

				
	Bonds within 10 Focus on subtraction facts. Encourage children to notice patterns.	Key Representations ... is made of ... and and ... make ...  Concrete	... can be partitioned into ... and ...  Pictorial	... minus ... is equal to ... $6 - 0 = 6$ $6 - 1 = 5$ $6 - 2 = 4$ $6 - 3 = 3$ $6 - 4 = 2$ $6 - 5 = 1$ $6 - 6 = 0$ Abstract



$7 - 2 = \underline{\quad}$

$7 - 5 = \underline{\quad}$

$7 - 3 = \underline{\quad}$

$5 - 0 = \underline{\quad}$

$6 - 6 = \underline{\quad}$

$9 - 4 = \underline{\quad}$

$10 - 6 = \underline{\quad}$

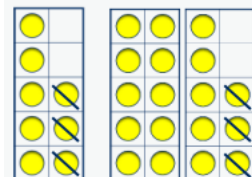
$4 - 4 = \underline{\quad}$

Related facts within 20, 50 and 100

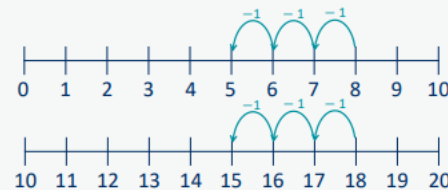
Make links to known facts.

Key Representations

I know that ... minus ... = ...
so ... minus ... = ...



... less than ... is ...
so ... less than ... is ...



What patterns do you notice?

$$8 - 3 = 5$$

$$18 - 3 = 15$$

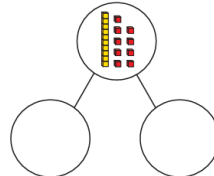
$$5 = 8 - 3$$

$$15 = 18 - 3$$

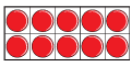
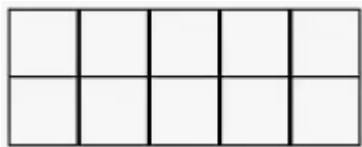
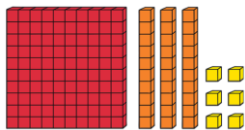
Concrete

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50

Pictorial



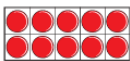
Abstract



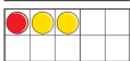
$12 + 1 = \underline{\quad}$



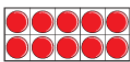
$13 - 1 = \underline{\quad}$



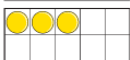
$11 + \underline{\quad} = 13$



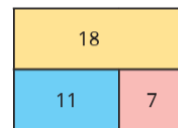
$13 - \underline{\quad} = \underline{\quad}$



$\underline{\quad} + \underline{\quad} = \underline{\quad}$



$\underline{\quad} - \underline{\quad} = \underline{\quad}$



$\square + \square = \square$

$\square + \square = \square$

$\square - \square = \square$

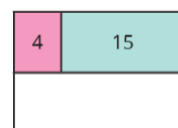
$\square - \square = \square$

$\square = \square + \square$

$\square = \square + \square$

$\square = \square - \square$

$\square = \square - \square$



Missing numbers

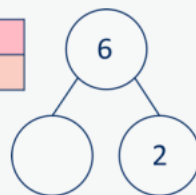
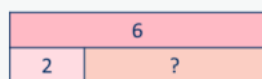
Make links to known facts.

Key Representations

How many do you need to subtract to make ...?



If ... is the whole and ... is a part, the other part must be...



... minus ... is equal to ...

$6 - \square = 2$
 $2 = 6 - \square$



Concrete

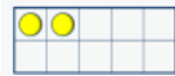
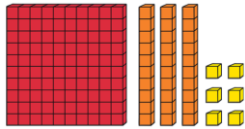
Pictorial

$11 - \underline{\quad} = 8$

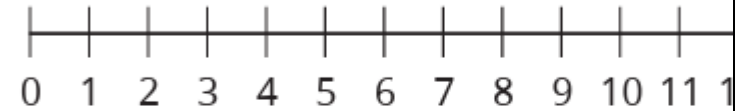


Abstract

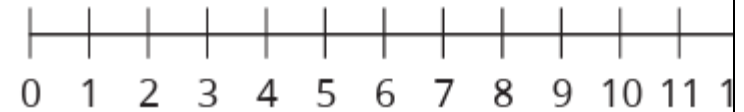
1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50



$$14 - \boxed{} = 8$$



$$\boxed{} - 6 = 7$$



First there were 12 birds in a tree.
Then some of the birds flew away.
Now there are 10 birds in the tree.

How many birds flew away?

$$12 - \underline{\hspace{2cm}} = 10$$

**Year 2
Progression
of Skills**

Year 2

- Recall and use subtraction facts to 20 fluently, and derive and use related facts up to 100
- Subtract numbers using concrete objects, pictorial representations, and mentally, including:
 - a two-digit number and 1s
 - a two-digit number and 10s
 - 2 two-digit numbers

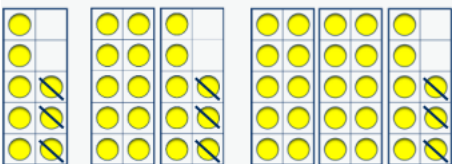
- Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.

Subtract ones from any number
(related facts)

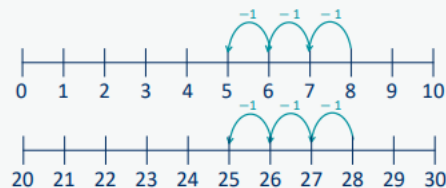
Make links to known facts

Key Representations

I know that ... minus ... = ...
so ... minus ... = ...



... less than ... is ...
so ... less than ... is ...



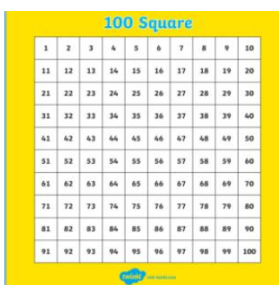
What do you notice?
Can you continue the pattern?

$$8 - 3 = 5$$

$$18 - 3 = 15$$

$$28 - 3 = 25...$$

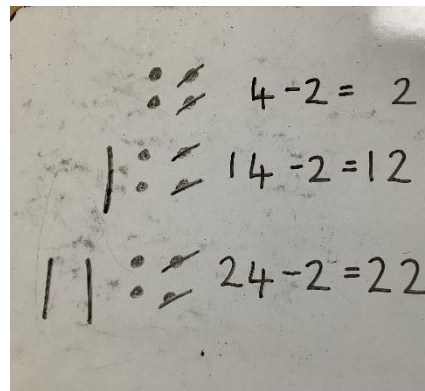
Concrete



Moving a counter back in 1s

I know that ... minus ... = ...
so ... minus ... = ...

Pictorial



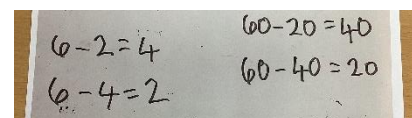
Abstract

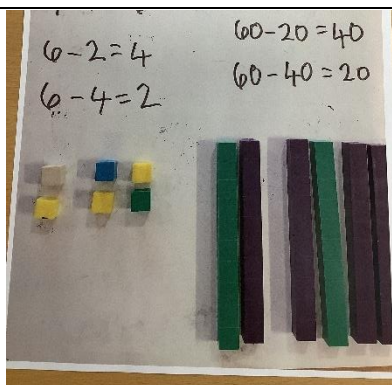
What do you notice?
Can you continue the pattern?

$$8 - 3 = 5$$

$$18 - 3 = 15$$

$$28 - 3 = 25...$$



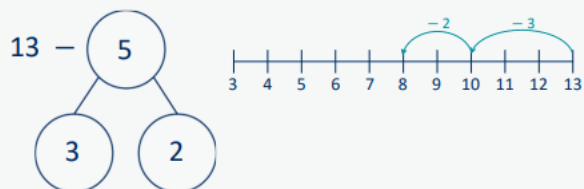


Subtract across a 10

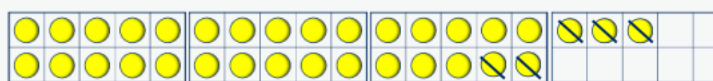
Partition the number being subtracted to bridge through a ten.

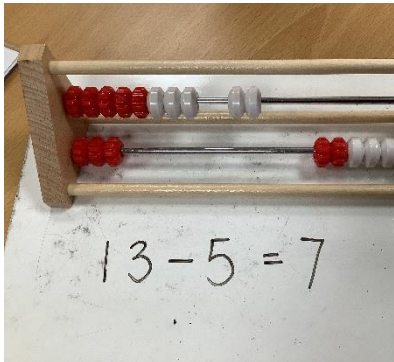
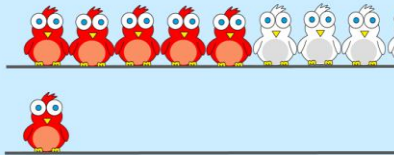
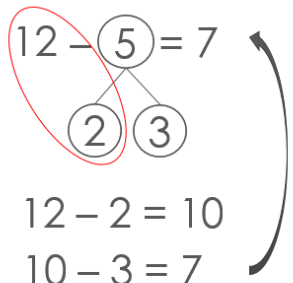
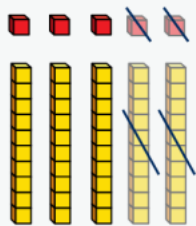
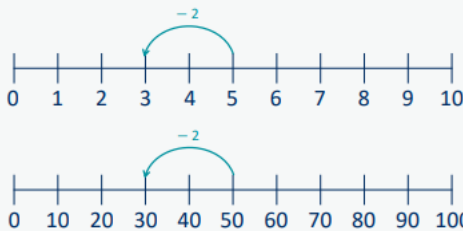
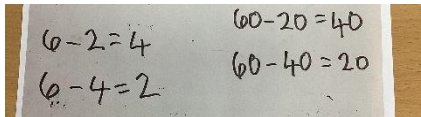
Key Representations

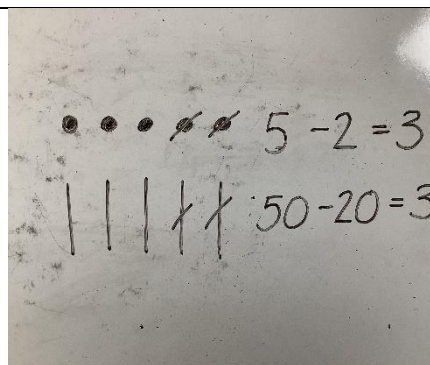
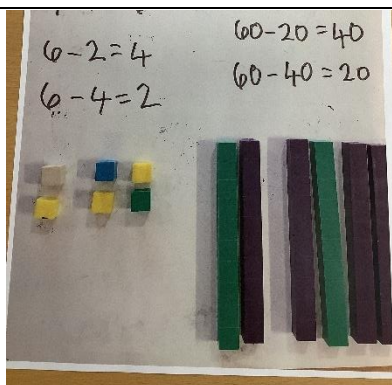
... can be partitioned into ... and ...



Make links with related facts.



	Concrete 	Pictorial First, there were 11 birds. Then, 3 birds flew away are ____ birds.  $11 - 3 = \boxed{8}$ ____ subtract ____ to reach 10; 10 subtract ____ is ____.	Abstract  $12 - 5 = 7$ $12 - 2 = 10$ $10 - 3 = 7$ First, I split the ____; ____ can split into ____ and ____. ____ subtract ____ to reach 10; 10 subtract ____ is ____.							
Subtract multiples of 10 Make links to known facts within ten	Key Representations ... ones – ... ones = ... ones so ... tens – ... tens = ... tens  $5 - 2 = 3$ $50 - 20 = 30$ What is the same? What is different? <table data-bbox="1487 932 1744 1091"><tr><td colspan="2">5</td></tr><tr><td>2</td><td>?</td></tr><tr><td colspan="2">50</td></tr><tr><td>20</td><td>?</td></tr></table>	5		2	?	50		20	?	
5										
2	?									
50										
20	?									
	Concrete	Pictorial	Abstract  $60 - 2 = 4$ $60 - 4 = 2$ $60 - 20 = 40$ $60 - 40 = 20$							

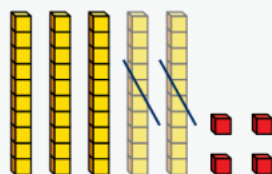


Subtract 10s from any number

Make links to known facts.

Key Representations

... tens - ... tens = ... tens
... tens and ... ones = ...



To subtract ... I need to subtract 10 ... times.

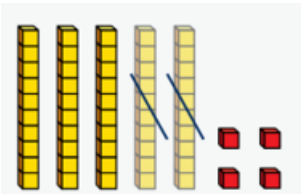
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21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60

I know that ... minus ... = ...
so ... minus ... = ...

$$50 - 20 = 30$$

$$54 - 20 = 34$$

Concrete



100 Square

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Moving counter back in 10s

Pictorial



Abstract

I know that ... minus ... = ...
so ... minus ... = ...

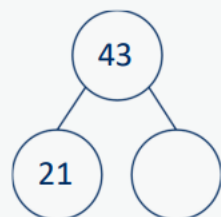
$$50 - 20 = 30$$

$$54 - 20 = 34$$

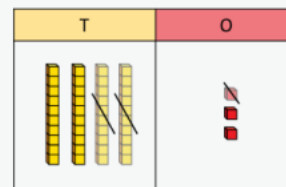
Key Representations

Subtract two 2-digit numbers
(not across a ten)

... ones – ... ones = ... ones
... tens – ... tens = ... tens

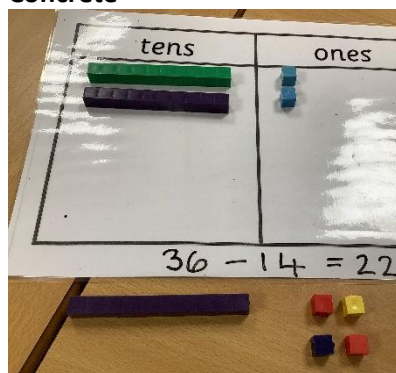


43	
21	?

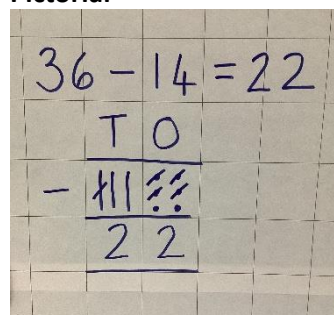


3 ones – 1 one = 2 ones
4 tens – 2 tens = 2 tens
2 tens and 2 ones = 22

Concrete



Pictorial



Abstract

$$36 - 14 = 22$$

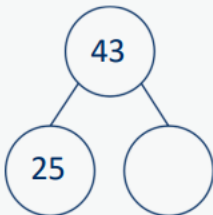
Key Representations

Subtract two 2-digit numbers
(across a ten)

Begin to exchange 1 ten for 10 ones.

I need to make an exchange because I do not have enough ones to subtract ... ones.

43	
25	?



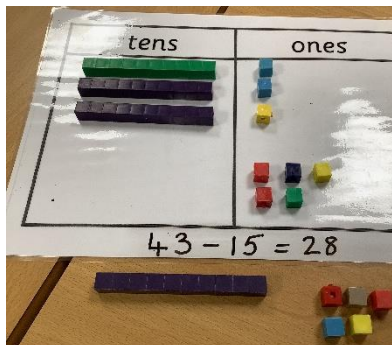
T	O
3 tens	3 ones

3 ones – 5 ones
(I need to exchange 1 ten for 10 ones)

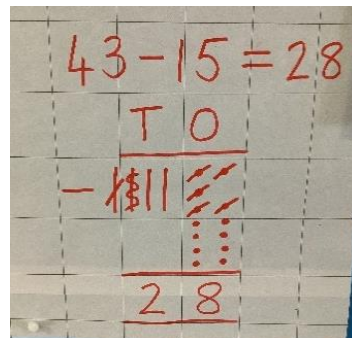
T	O
3 tens	13 ones

13 ones – 5 ones = 8 ones
3 tens – 2 tens = 1 ten
1 ten and 8 ones = 18

Concrete



Pictorial



Abstract

$$43 - 15 =$$

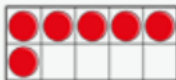
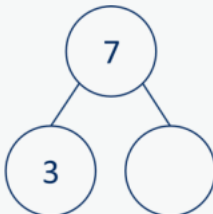
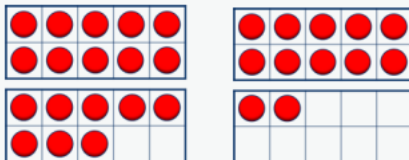
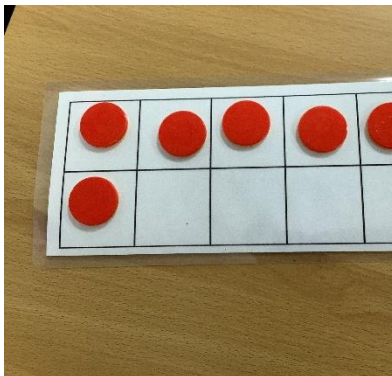
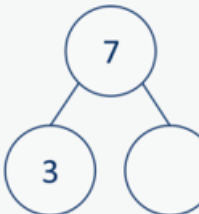
$$3 - 5 =$$

(I need to exchange 1 ten for 10 ones)

$$13 - 5 = 8$$

$$30 - 10 = 20$$

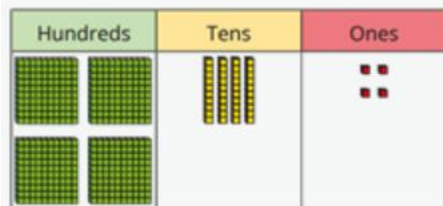
$$20 + 8 = 28$$

Missing numbers Solve missing number problems and use the inverse to check.	Key Representations How many do you need to subtract to make ...?  $10 - \square = 6$ $6 + \square = 10$ If ... is a whole and ... is a part, then ... is the other part. $7 - 3 = \square$ $\square + 3 = 7$  ... can be partitioned into ... and ... $18 - \square = 12 + 2$ 		
	Concrete 	Pictorial If ... is a whole and ... is a part, then ... is the other part. $7 - 3 = \square$ $\square + 3 = 7$ 	Abstract $10 - \square = 6$ $6 + \square = 10$
	Year 3 Progression of Skills	Year 3 - Subtract numbers mentally, including: a three-digit number and ones, a three-digit number and tens, a three-digit number and hundreds. - Subtract numbers with up to three digits, using formal written methods. - Subtract fractions with the same denominator within 1 whole. Key Representations	

Subtract 1s, 10s and 100s from a 3-digit number

Emphasis on mental strategies including number bonds and related facts. Prompt children to notice which digit changes.

The ones/tens/hundreds column will decrease by ...



$$\begin{aligned} 444 - 2 &= \\ 444 - 20 &= \\ 444 - 200 &= \end{aligned}$$



$$\begin{aligned} 777 - 4 &= \\ 777 - 40 &= \\ 777 - 400 &= \end{aligned}$$

What patterns do you notice?

$$\begin{aligned} 235 - 3 &= \\ 235 - 30 &= \\ 235 - 300 &= \end{aligned}$$

$$\begin{aligned} 118 - \square &= 111 \\ 181 - \square &= 111 \\ 811 - \square &= 111 \end{aligned}$$

Concrete

Pictorial

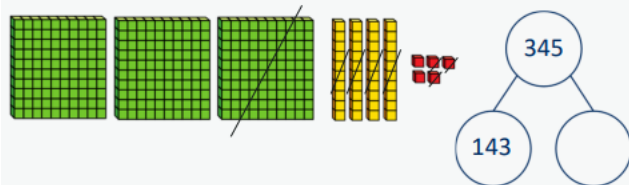
Abstract

Subtract two numbers (no exchange)

Mental strategies and introduction of formal

Key Representations

... ones – ... ones = ... ones
... tens – ... tens = ... tens
... hundreds – ... hundreds = ... hundreds



769	
147	?

	H	T	O
	7	6	9
-	1	4	7

Concrete

Pictorial

Abstract

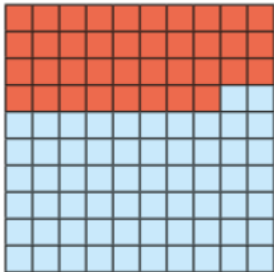
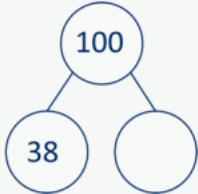
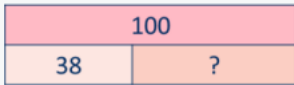
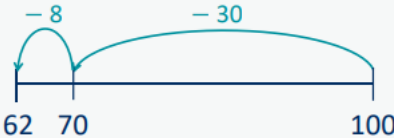
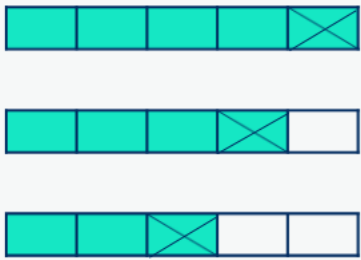
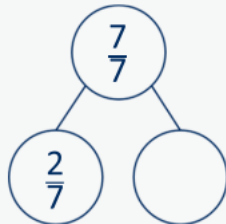
	written method.			
	Subtract two numbers across a 10 or 100 Formal written method involving up to 2 exchanges including 3-digit subtract 2-digit numbers.	Concrete	Pictorial	Abstract
	Key Representations			

Key Representations

I need to subtract ... ones. I do/do not need to make an exchange.

I need to subtract ... tens. I do/do not need to make an exchange.

I can exchange 1 ... for 10 ...

Complements to 100 Focus on subtraction facts. Encourage children to notice patterns.	100 minus ... is equal to ...   		I subtract ... tens, then I subtract ... ones.  $100 - 38 = 62$$100 - 62 = 38$$62 = 100 - 38$$38 = 100 - 62$
	Concrete	Pictorial	Abstract
Subtract fractions with the same denominator within 1 whole Make links with known facts.	Key Representations When subtracting fractions with the same denominator, I only subtract the numerator. ... fifths – ... fifths = ... fifths   		
	Concrete	Pictorial	Abstract
Year 4	Year 4		

Progression of Skills

- Subtract numbers with up to 4 digits using a formal written method.
- Solve simple measure and money problems involving fractions and decimals to 2 decimal places.
- Subtract fractions with the same denominator.

Subtract 1s, 10s, 100s and 1,000s from a 4-digit number

Emphasis on mental strategies including number bonds and related facts. Prompt children to notice which digit changes.

Key Representations

The ones/tens/hundreds/thousands column will decrease by ...



$$3,425 - 2 = \quad 3,425 - 200 =$$

$$3,425 - 20 = \quad 3,425 - 2,000 =$$

What patterns do you notice?

$$4,356 - 3 =$$

$$4,356 - 30 =$$

$$4,356 - 300 =$$

$$4,356 - 3,000 =$$

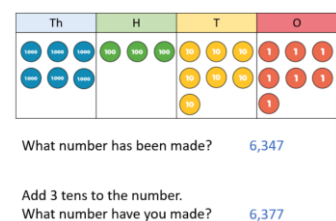
$$4,433 - \boxed{} = 4,430$$

$$6,940 - 200 = \quad 4,433 - \boxed{} = 4,033$$

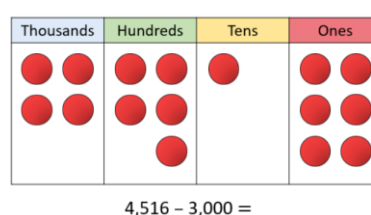
$$6,940 - 300 =$$

$$6,940 - 400 = \quad 4,433 - \boxed{} = 4,403$$

Concrete



Pictorial



Abstract

a) $5,378 + 200 = \boxed{}$ e) $5,378 - 60 = \boxed{}$

b) $5,378 + 20 = \boxed{}$ f) $5,378 - 3,000 = \boxed{}$

c) $5,378 + 2,000 = \boxed{}$ g) $300 + 5,378 = \boxed{}$

d) $5,378 - 6 = \boxed{}$ h) $5,378 - 300 = \boxed{}$

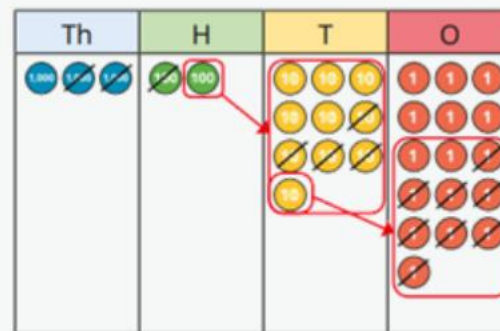
Key Representations

Subtract up to two 4-digit numbers

Formal written method with up to 3 exchanges
 . Encourage children to estimate and use inverse operations to check answers to calculations.

I need to subtract... ones/tens/hundreds. I do/do not need to make an exchange.

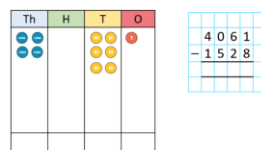
I can exchange 1... for 10...



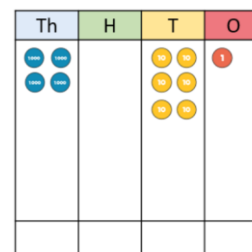
	Th	H	T	O
	3	2	6	1
-	2	1	4	8
	1	0	5	8

Concrete

$$4,061 - 1,528 =$$



Pictorial



Abstract

a)

	H	T	O
	3	2	7
-	1	1	9

c)

	Th	H	T	O
	9	8	4	5
-	6	2	1	6

	5	1	1	6
-	2	3	0	9
	2	8	0	7

Key Representations

Subtract decimal numbers in the context of money

Emphasis here is on partitioning and use of number lines rather than formal written calculations.

I can partition £... into £... and 100p

£... - £... = £...

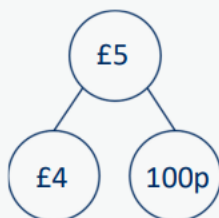
100p - ...p = ...p

£5 - £3.26

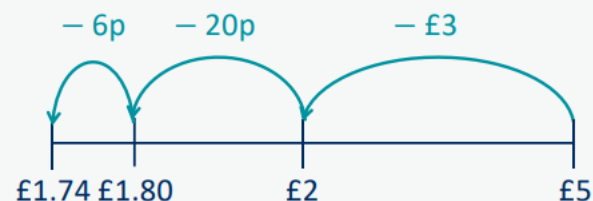
£4 - £3 = £1

100p - 26p = 74p

£5 - £3.26 = £1.74



£3.26 can be partitioned into £3 + 20p + 6p



Concrete

Max has this money.



He is given another 44p.

How much money does Max have now?

Pictorial

Sam has this money.



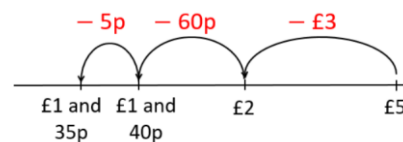
She spends 73p.

How much money does she have left?

Complete the part-whole model.

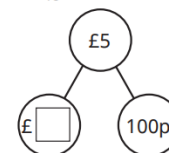


Ron is using a number line to subtract £3 and 65p from £5



Abstract

Complete the part-whole model and the workings to find £5 - £2.52



£4 - £2 = £

100p - 52p = p

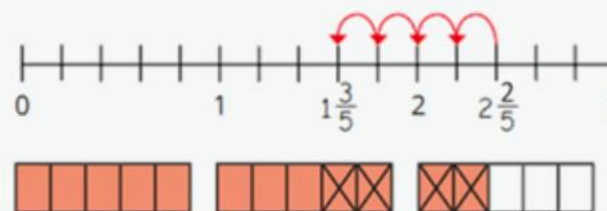
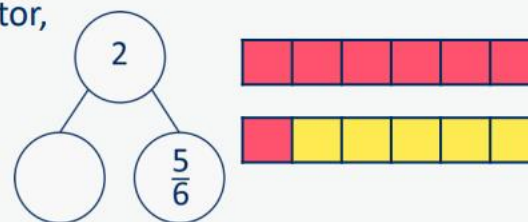
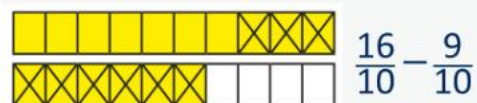
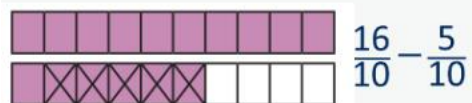
£5 - £2.52 = £

Key Representations

Subtract fractions and mixed numbers with the same denominator

Include subtracting fractions from wholes.

When subtracting fractions with the same denominator,
I only subtract the numerator.
... tenths – ... tenths = ... tenths



Concrete



Pictorial



$$\frac{4}{5} - \frac{1}{5} = \boxed{}$$



$$\frac{4}{5} - \frac{2}{5} = \boxed{}$$

Abstract

Complete the calculations.

a) $\frac{7}{10} - \frac{3}{10} = \boxed{}$

e) $\frac{9}{11} - \frac{3}{11} = \boxed{}$

b) $\frac{2}{3} - \frac{1}{3} = \boxed{}$

f) $\frac{6}{7} - \frac{4}{7} = \boxed{}$

Year 5 Progression of Skills

Year 5

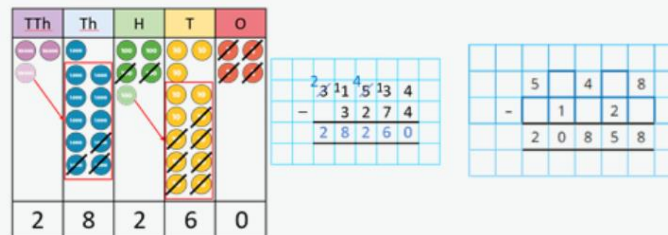
- Subtract whole numbers with more than 4 digits.
- Subtract numbers mentally with increasingly large numbers.
- Subtract decimals, including a mix of whole numbers and decimals, decimals with different numbers of decimal places, and complements of 1
- Subtract fractions with the same denominator, and denominators that are multiples of the same number.

Key Representations

Subtract whole numbers with more than 4 digits

Encourage children to estimate and use inverse operations to check answers to calculation s.

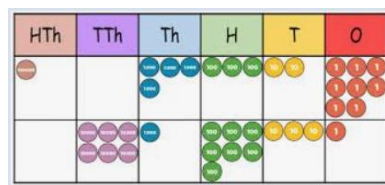
I can exchange 1 ... for 10 ...



Concrete



Pictorial



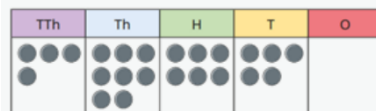
Abstract

$$\begin{array}{r} 28291 \\ - 18636 \\ \hline 19655 \end{array}$$

Subtract using mental strategies

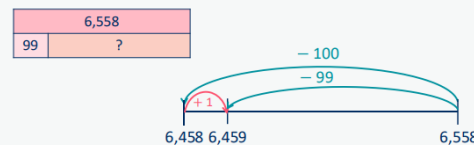
Subtract 1s, 10s, 100s etc from any number. Use number bonds and related facts.

Key Representations

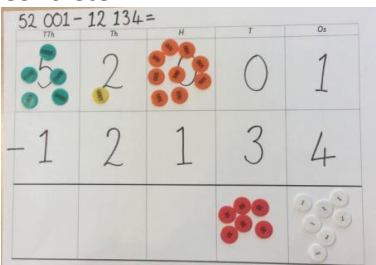


$$\begin{aligned} 48,650 - 300 &= \\ 48,650 - 30,000 &= \\ 48,650 - 30 &= \end{aligned}$$

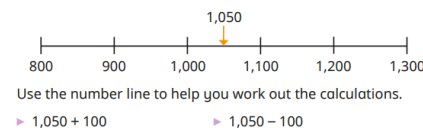
To subtract ..., I can subtract ... then add ...



Concrete



Pictorial



Abstract

Work out the calculations.

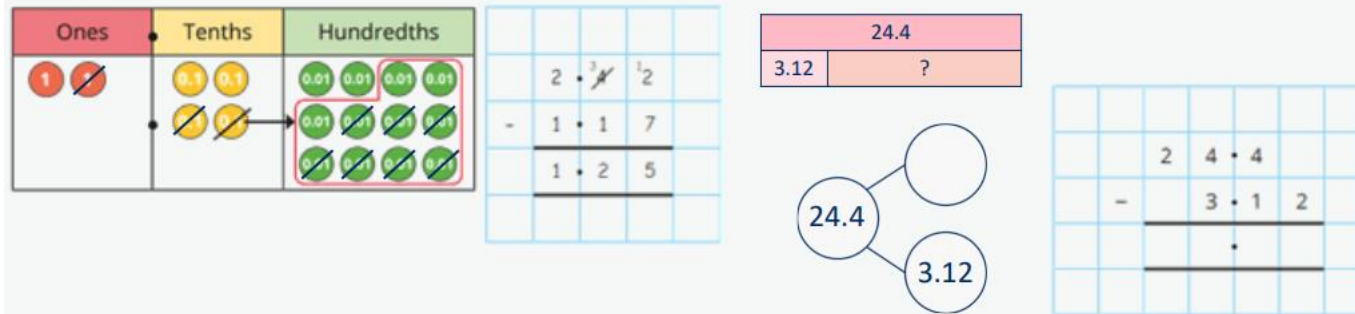
$46 + 29$	$460 + 290$	$460 + 299$
$59 + 59$	$590 + 590$	$599 + 599$

What mental strategies did you use?

Subtract decimals with up to 2 decimal places

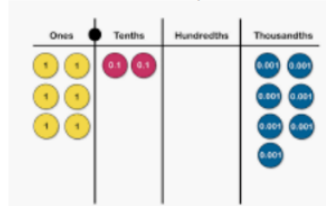
Progress from the same number of decimal places to a different number of decimal places and from no exchange to exchange.

Key Representations



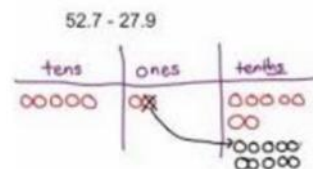
Concrete

Children to be encouraged to use counters to represent numbers and take counters away to subtract.

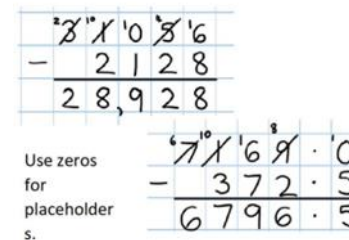


Pictorial

Model	Calculation



Abstract

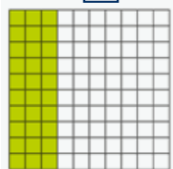


Key Representations

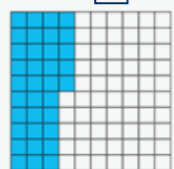
Complements to 1

Encourage children to make links with bonds to 10 and complements to 100 and 1,000 when finding a missing part or subtracting from 1

$$0.3 + \square = 1$$



$$0.35 + \square = 1$$



10		
3		?

100		
35		?

1		
0.3		?

1		
0.35		?



$$10 - 4 = 6$$

$$1 - 0.4 = 0.6$$

$$100 - 44 = 56$$

$$1 - 0.44 = 0.56$$

$$1,000 - 444 = 556$$

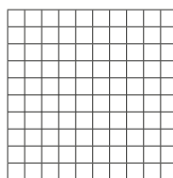
$$1 - 0.444 = 0.556$$

Concrete



Pictorial

Use the hundred square to complete the calculations



$$0.55 + \underline{\hspace{1cm}} = 1$$

$$1 = 0.32 + \underline{\hspace{1cm}}$$

$$0.11 + 0.5 + \underline{\hspace{1cm}} = 1$$

Abstract

$$0.356 + \underline{\hspace{1cm}} = 1$$

$$\underline{\hspace{1cm}} + 0.456 = 1$$

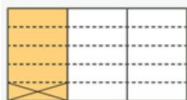
$$1 = 0.873 + \underline{\hspace{1cm}}$$

$$1 = \underline{\hspace{1cm}} + 0.048$$

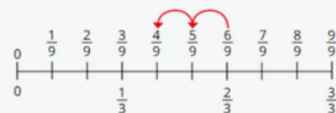
Subtract fractions with denominators that are a multiple of one another

Key Representations

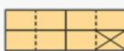
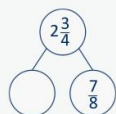
The denominator has been multiplied by ..., so the numerator needs to be multiplied by... for the fractions to be equivalent.

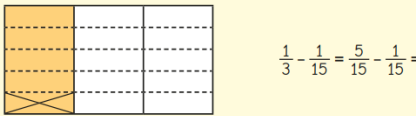


$$\frac{1}{3} - \frac{1}{15} = \frac{5}{15} - \frac{1}{15} = \frac{4}{15}$$



$$\frac{2}{3} - \frac{2}{9} = \frac{6}{9} - \frac{2}{9} = \frac{4}{9}$$



	Convert fractions to the same denominator before subtracting. Progress from subtracting fractions within 1 whole to subtracting from a mixed number.	Concrete 	Pictorial 	Abstract Same Denominators $\frac{3}{5} - \frac{1}{5}$$\frac{3-1}{5} = \frac{2}{5}$ Different Denominators $\frac{7 \times 1}{7 \times 2} - \frac{3 \times 2}{7 \times 2}$$\frac{7-6}{14} = \frac{1}{14}$																																																																														
	Year 6 Progression of Skills Year 6 - Subtract larger numbers, using the formal written methods of columnar subtraction. - Use their knowledge of the order of operations to carry out calculations involving the 4 operations. - Calculate intervals across zero. - Subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions.																																																																																	
	Subtract integers up to 10 million Encourage children to estimate and use inverse	Key Representations <table><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td>²3</td><td>¹4</td><td>⁵8</td><td>¹2</td><td>2</td><td>1</td><td></td></tr><tr><td></td><td>-</td><td>1</td><td>8</td><td>4</td><td>3</td><td>2</td><td>1</td><td></td></tr><tr><td></td><td></td><td>1</td><td>6</td><td>1</td><td>9</td><td>0</td><td>0</td><td></td></tr></table> <table><tr><td colspan="3">4,604</td></tr><tr><td>2,354</td><td>750</td><td>?</td></tr></table> <table><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td>8</td><td></td><td>4</td><td>8</td><td>5</td><td></td><td></td></tr><tr><td></td><td>-</td><td>3</td><td>6</td><td></td><td></td><td></td><td>4</td><td></td></tr><tr><td></td><td></td><td>5</td><td>5</td><td>5</td><td>5</td><td>5</td><td></td><td></td></tr></table>														² 3	¹ 4	⁵ 8	¹ 2	2	1			-	1	8	4	3	2	1				1	6	1	9	0	0		4,604			2,354	750	?												8		4	8	5				-	3	6				4				5	5	5	5	5		
		² 3	¹ 4	⁵ 8	¹ 2	2	1																																																																											
	-	1	8	4	3	2	1																																																																											
		1	6	1	9	0	0																																																																											
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Thousands Th	Hundreds H	Tens T	Ones O

4,604		
2,354	750	?

	4	7	6	1	3	2	5
-		9	3	8	0	5	2

Key Representations

I do/do not need to make an exchange because ...

	6	7	13
-	1	3	4
	5	3	9

	0	9	7	5

	0	6	4	
	0	9	7	5

		6	~~7~~	13
	-	1	3	4
		5	3	9

Thousands of	Thousands of	Tons	Days

T	O	Tth	Hth

	1	8	•	6	2
-		4	•	3	1
			•		



$$2.3 + 8.712 = \boxed{}$$

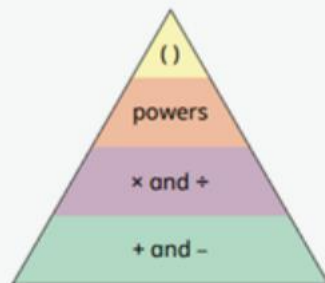
Order of operations

Children learn the order of priority for operations in a calculation.

Calculations in brackets should be done first. Multiplication and division should be performed before addition and

Key Representations

... has greater priority than ... , so the first part of the calculation I need to do is ...

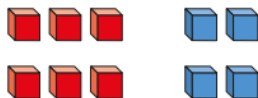


$8 - 2 \times 3 = 2$

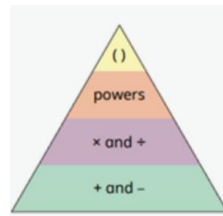
$8 - 2^2 = 4$

$(8 - 2) \times 3 = 18$

Concrete

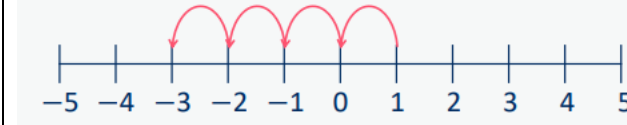
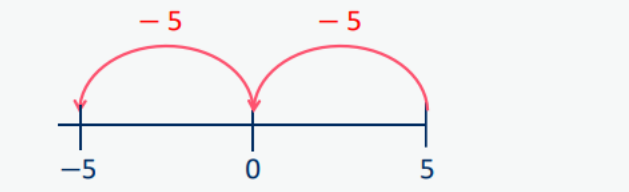


Pictorial



Abstract

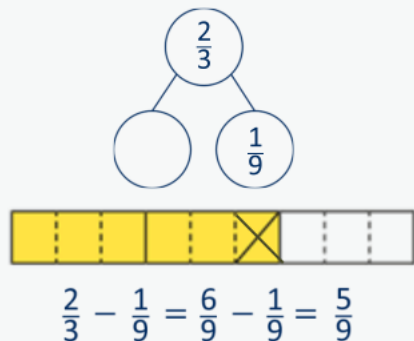
$$(3 + 2) \times 3$$

subtraction.			
Negative numbers Children subtract from positive and negative numbers and calculate intervals across 0	Key Representations ... minus ... is equal to ... $-1 - 4 = -5$  $1 - 4 = -3$   The difference between -5 and -1 is 4  The difference between 5 and -5 is 10 Concrete  Pictorial  Abstract $-3 + 5 =$ $1 - 4 =$		
	Key Representations		

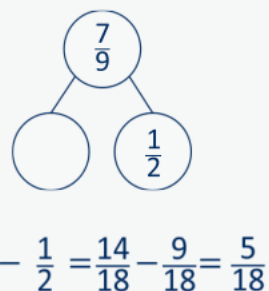
Subtract fractions

Convert fractions to the same denominator before subtracting. Progress from fractions where one denominator is a multiple of the other, to any fractions and then subtracting from a mixed number.

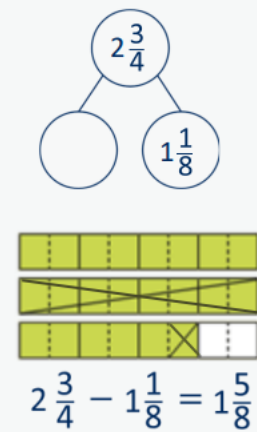
The denominator has been multiplied by ..., so the numerator needs to be multiplied by...



The lowest common multiple of ... and ... is ...



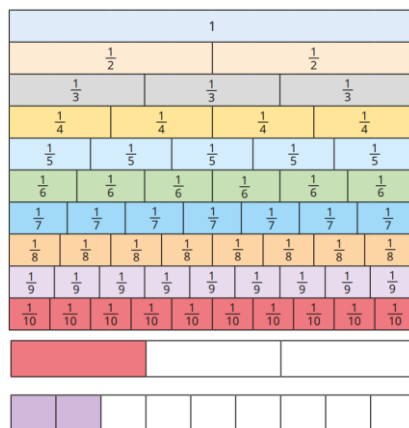
... is made up of ... wholes and ...



Concrete



Pictorial



Abstract

$$\frac{7}{8} - \frac{1}{4}$$

