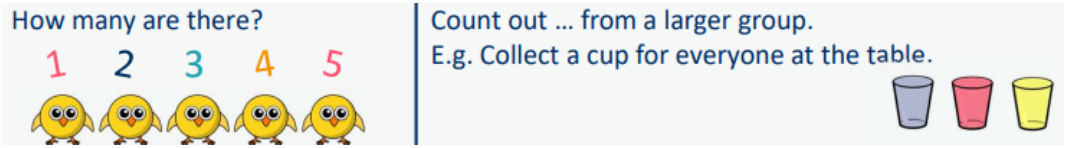
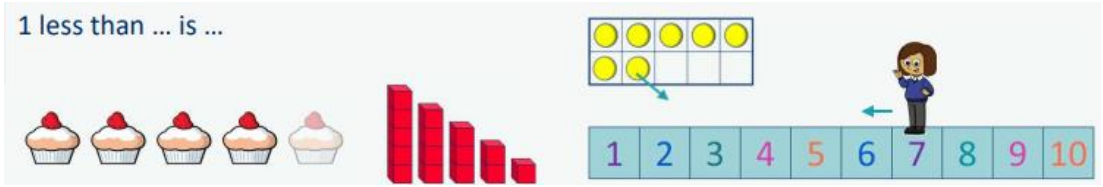
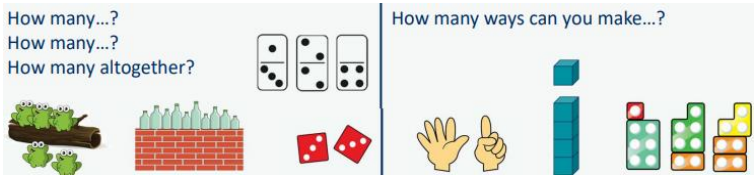
Walton Oak - Subtraction Calculation Policy

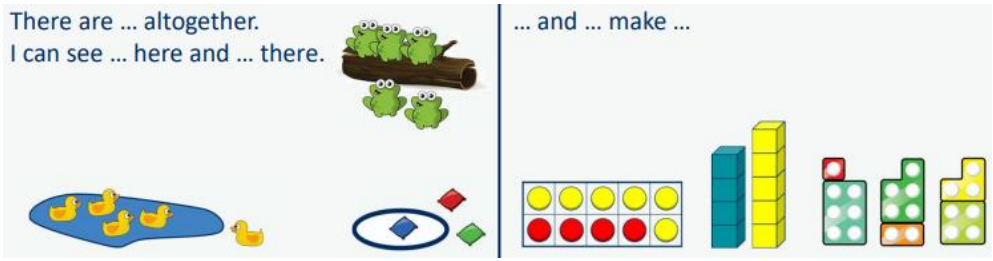
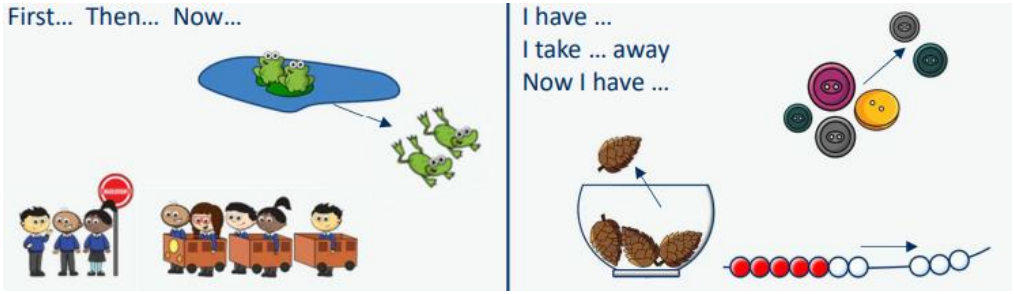
Key language: take away, less than, the difference, subtract, minus, fewer, decrease.

Nursery	
Fluency	**End of year expectations**
Subitise to 3 Count how many Make numbers to 5 Take 1 away through songs and rhymes	Begin to have an understanding of numbers to 5

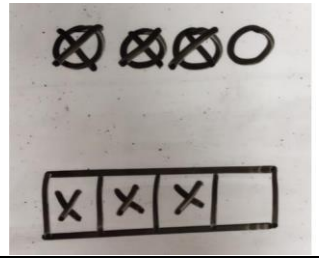
Objective and strategy	Key representations
Subitise to 3	
Count how many	
Make numbers to 5	
Take 1 away	

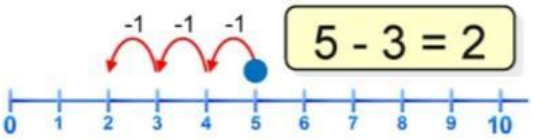
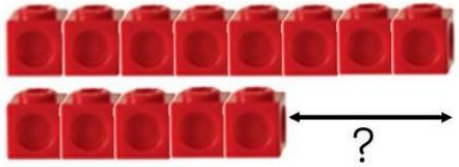
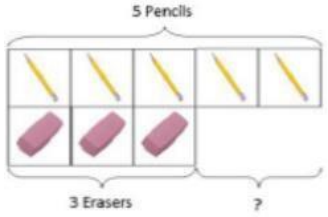
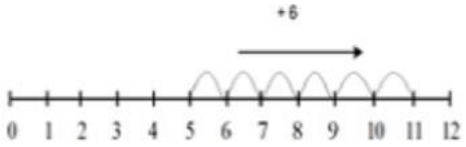
Reception	
Fluency	**End of year expectations**
Conceptually subitise to 5 – notice parts that make up the whole 1 less, continuing to link stories, songs and rhymes Notice the composition of numbers within 10 linking to stories, songs and rhymes Partition into two or more parts Take away	Have a deep understanding of number to 10, including the composition of each number Subitise (recognize 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.

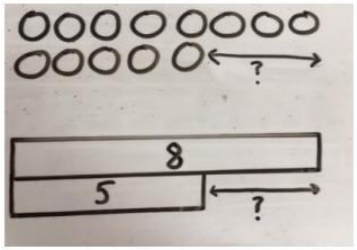
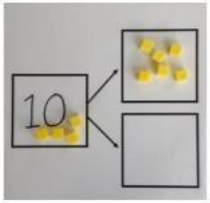
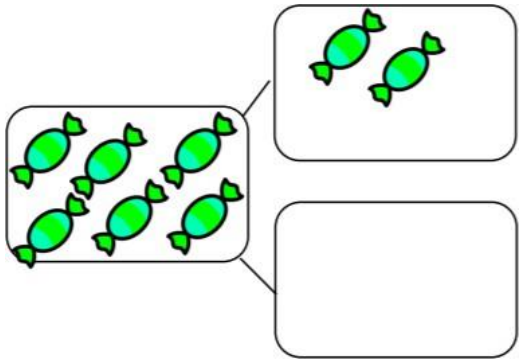
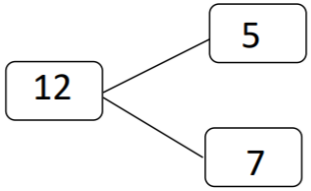
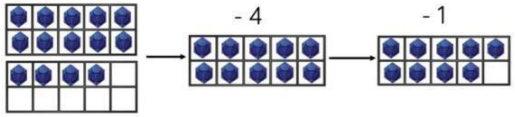
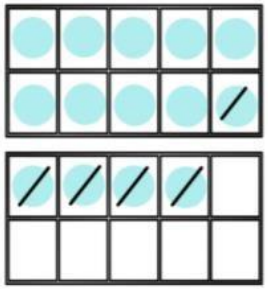
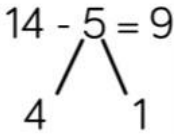
Objective and strategy	Key representations
Conceptually subitise to 5	
1 less	
Notice the composition of numbers within 10	

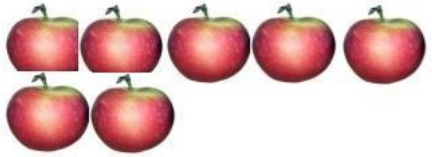
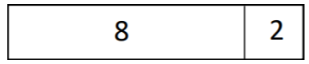
Partition	
Take away	

Year 1	
Fluency	**End of year expectations**
Count backwards (including crossing 100) any given number Switch count between ones and tens e.g. 33, 32, 31, 30, 20, 10 Represent and use subtraction facts linked to number bonds up to 20 (establish addition and subtraction as related operations) Find one less than a number Find ten less than a number Count back in multiples of 2s, 5s and 10s starting on multiples to highlight pattern	O - O TO - O numbers up to 20 (including subtracting zero) Understand subtraction as taking away What is … less than …?) Compare quantities to say how many less and/or how many more Read, write and interpret mathematical statements involving subtraction (-) and equals (=) signs 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

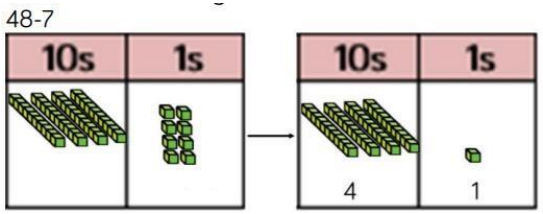
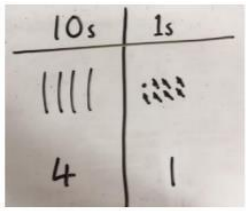
Objective and strategy	Concrete (build it)	Pictorial (draw it)	Abstract (write it)
Taking away ones	Use physical objects, counters, cubes etc to show how objects can be taken away. 	Cross out drawn objects to show what has been taken away. 	7 — 4 = 3 16 — 9 = 7

Objective and strategy	Concrete (build it)	Pictorial (draw it)	Abstract (write it)
Counting back	Move objects away from the group, counting backwards.  Move the beads along the bead string as you count backwards. 	Count back in ones using a number line. 	Put 13 in your head, count back 4. What number are you at?
Find the difference	Compare objects and amounts  Lay objects to represent bar model. 	Count on using a number line to find the difference.  Children to draw the cubes/other concrete objects which they have used or use the bar model to illustrate what they need to calculate.	Hannah has 12 sweets and her sister has 5. How many more does Hannah have than her sister?

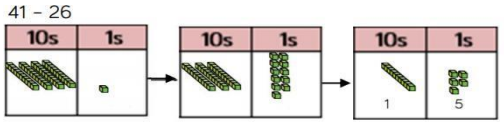
			
Represent and use number bonds and related subtraction facts within 20 **Part Part Whole model**	Link to addition. Use PPW model to model the inverse.  If 10 is the whole and 6 is one of the arts, what is the other part? 10—6 = 4	Use pictorial representations to show the part. 	Move to using numbers within the part whole model. 
Make 10	14 – 5 = 9 Make 14 on the ten frame. Take 4 away to make ten, then take one more away so that you have taken 5. 	Children to present the ten frame pictorially and discuss what they did to make 10. 	Children to show how they can make 10 by partitioning.  14 - 4 = 10 10 - 1 = 9

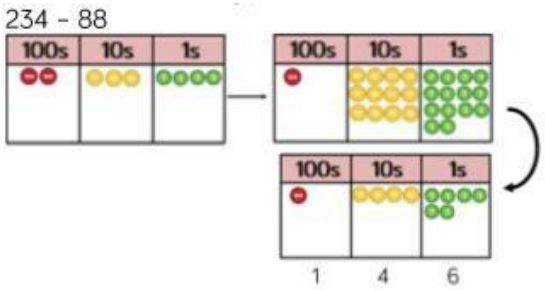
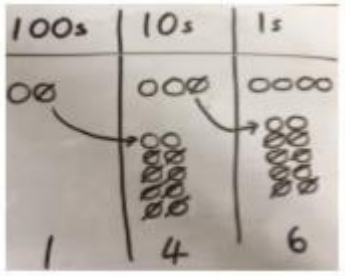
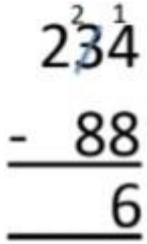
Bar model			 10 = 8 + 2 10 = 2 + 8 10—2 = 8 10—8 = 2

Year 2	
Fluency	**End of year expectations**
Practise addition and subtraction facts to 20 Show increasing fluency in deriving subtraction facts for numbers up to 10 and then up to 20 Use known facts to 20 to derive new facts e.g. 7 - 3 , 70 - 30 Use knowledge to derive and use subtraction number facts up to 100 Subtract ones from any number Subtract multiples of 10 and subtract 10's from any number Subtract two digit numbers not across and across a 10	TO - O TO - tens TO - TO Understand subtraction as taking away **and** finding the difference Ensure children understand that subtraction is not commutative (cannot be done in any order) Children should be able to partition numbers in different ways 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.

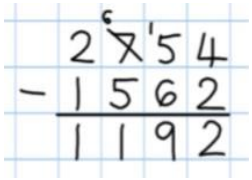
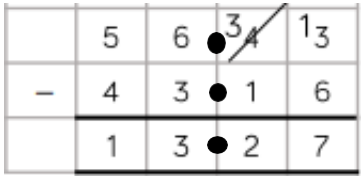
Objective and strategy	Concrete (build it)	Pictorial (draw it)	Abstract (write it)
Subtract without exchanging	Use base 10.  	Children to represent the base 10 pictorially.  	48 – 7 = 56 – 24 =

Year 3	
Fluency	**End of year expectations**
Count back in ones, tens and hundreds maintaining fluency through varied and frequent practice Perform mental calculations with two-digit numbers; the answer could exceed 100 Find ten and a hundred less than a number with up to three-digits Switch count between hundreds, tens and ones e.g 500, 400, 300, 290, 280, 270, 269, 268, 267 Mentally subtract HTU - ones, HTU - tens, HTU - hundreds	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 (formal written column method) Subtract fractions with the same denominator within 1 whole

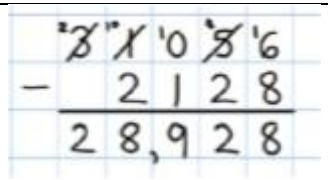
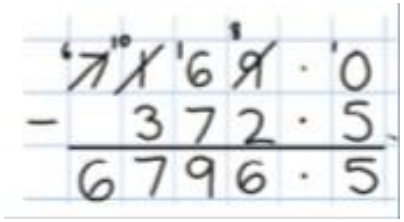
Objective and strategy	Concrete (build it)	Pictorial (draw it)	Abstract (write it)
Subtraction with exchanging		Represent the base 10 pictorially, remembering to show the exchange. 	41 – 26 = 15

Column method using place valuecounters	Begin with base 10. Move to place value counters, modelling the exchange of a ten into ten ones. 	Represent the place value counters pictorially; remembering to show what has been exchanged. 	Formal column method. Children must understand what has happened when they have crossed out digits. 

Year 4	
Fluency	**End of year expectations**
Count back in 6, 7, 9, 25 and 1000 Count back through zero to include negative numbers Find 1000 less than a number Continue to practise mental calculations with increasingly large numbers to aid fluency Subtract up to two 4-digit numbers Subtract decimal numbers in the context of money	Subtract numbers with up to four-digits (formal written column method) Understand subtraction as the inverse of addition Solve two-step problems deciding upon the appropriate operations and methods and justifying choices made Solve simple measure and money problems involving fractions and decimals to 2 decimal places Subtract fractions with the same denominator

Objective and strategy	Concrete (build it)	Pictorial (draw it)	Abstract (write it)
Column method of subtraction with up to 4 digits	As Year 3, using place value counters	As Year 3, using place value counters	
Introduce decimal subtraction through context of money	Use decimal place value counters	Use decimal place value counters	

Year 5	
Fluency	**End of year expectations**
Count backwards in powers of ten up to one million Count backwards in positive and negative whole numbers through zero Practise mental calculations with increasingly large numbers Subtract decimals with up to 2 decimal places	Subtract larger numbers (formal written column method) Subtract numbers mentally with increasingly large numbers Subtract decimals, including a mix of whole numbers and decimals, decimals with different numbers of decimals places, and complements of 1 Subtract fractions with the same denominator, and denominators that are multiples of the same number

Objective and strategy	Concrete (build it)	Pictorial (draw it)	Abstract (write it)
Subtract with at least 4 digits, including money and measures.	As Year 3/4	As Year 3/4	
Subtract with decimal values, including mixtures of integers and decimals and aligning the decimal			 Use zeros for placeholders.

Year 6	
Fluency	**End of year expectations**
Undertake mental calculations with increasingly large numbers and more complex calculations Subtract integers up to 10 million Subtract decimals with up to 3 decimal places Negative numbers	Subtract larger numbers (formal written column method) Use 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

Objective and strategy	Concrete (build it)	Pictorial (draw it)	Abstract (write it)
Subtract with increasingly large and more complex numbers and decimal values	As Year 3/4/5	As Year 3/4/5