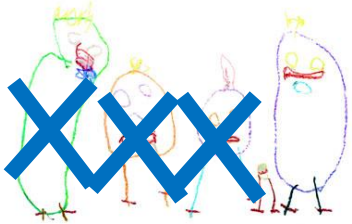
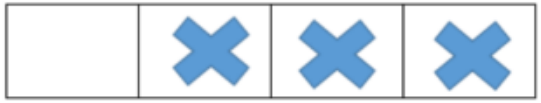
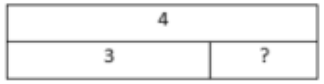
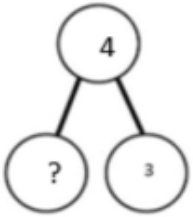
Thythorn Field Calculation Policy - Subtraction

Progression in Calculations

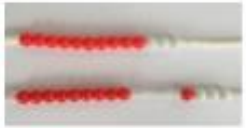
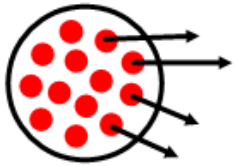
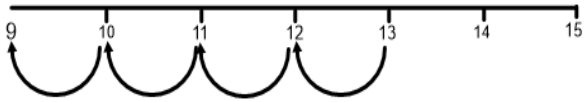
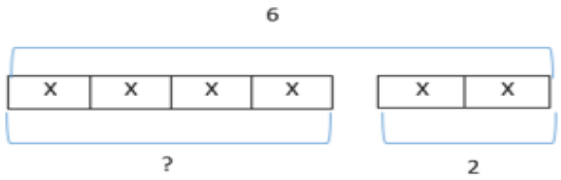
Physically taking away and removing objects from a whole

CONCRETE	PICTORAL	ABSTRACT
Using physical objects, counters, cubes etc to show how objects can be taken away. Physically taking away and removing objects from a whole (use various objects too) rather than crossing out, children will physically remove the objects. **4 – 3 = 1**  	Children to draw the concrete resources they are using and cross out.  Use of the bar model: 	**4 - 3 =** **□ = 4 - 3**  

FS

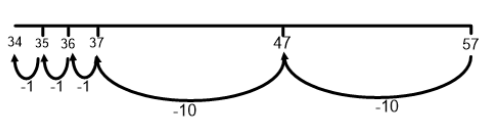
Year 1

Counting back

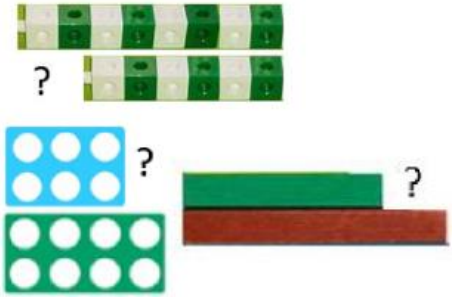
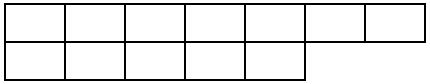
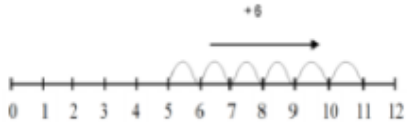
CONCRETE	PICTORAL	ABSTRACT
Make the larger number in your subtraction. Move the beads along your bead string as you count backwards in ones. **13 – 4**  Use counters and move them away from the group as you take them away, counting backwards as you go. 	count back on a number line or number track (also using empty numberlines).  Children to represent what they see pictorially e.g.  	Put 13 in your head, count back 4. What number are you at? Use your fingers to help.

Year 2

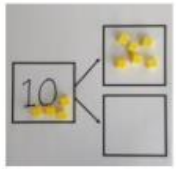
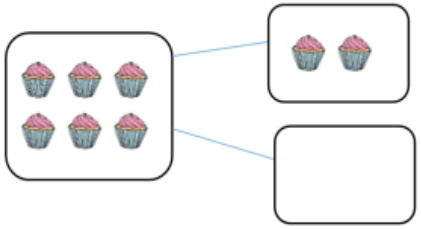
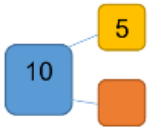
Thythorn Field Calculation Policy - Subtraction

	Progress all the way to counting back using two 2-digit numbers. 57 - 23 =  	Counting back in head any 3, 2 or 1 digit number from a 3 digit, using fluent methods.	Year 3 Year 4

Find the difference

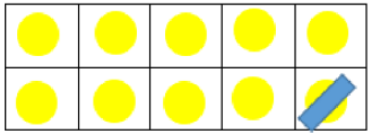
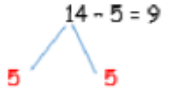
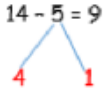
CONCRETE	PICTORAL	ABSTRACT	
Finding the difference (using cubes, numicon or Cuisenaire rods, 100 square and other objects can also be used)  	Children to draw the cubes/other concrete objects which they have use XXXXXXXX XXXXXX Use of the bar model  count on to find the difference.  	Find the difference between 8 and 6. 8 – 6, the difference is ? Children to also explore why 9 - 7 = 8 – 6 (the difference, of each digit, has changed by 1 so the difference is the same- this will help when solving 10000-9987)	Year 1 Year 2 (Year ¾)

Part Part Whole model

CONCRETE	PICTORAL	ABSTRACT	
 Link to addition- use the part whole model to help explain the inverse between addition and subtraction. If 10 is the whole and 6 is one of the parts. What is the other part? 10 - 6 =	Use a pictorial representation of objects to show the part part whole model. 	 Move to using numbers within the part whole model.	Year 1 Year 2

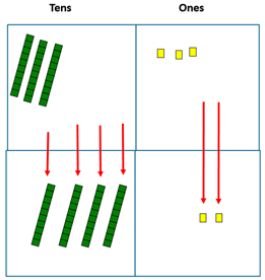
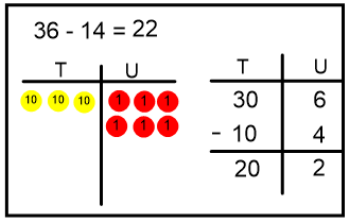
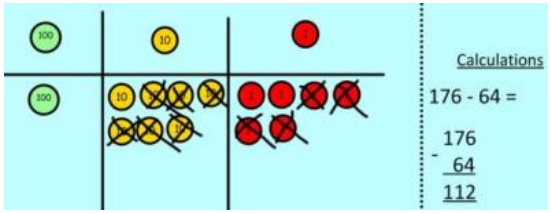
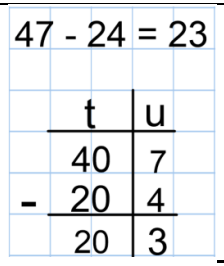
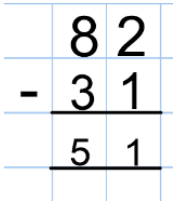
Thythorn Field Calculation Policy - Subtraction

Make 10

CONCRETE	PICTORAL	ABSTRACT
Making 10 (using numicon or ten frames) **14 – 5**  Children could also do this by subtracting a 5 from the 10. 	Children to present the ten frame pictorially  	14 – 5 = 9 You also want children to see related facts e.g. 15 – 9 = 5 Children to represent how they have solved it e.g  14 is made up of 5, 5 and 4 so I can subtract one 5 to be left with 4 and 5  5 is made up of 4 and 1 so I can subtract 4 to make 10 and then 1 to get to 9

Year 2

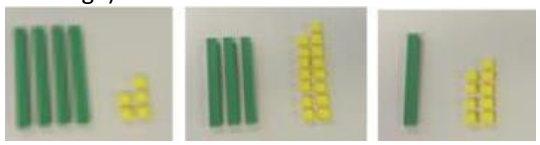
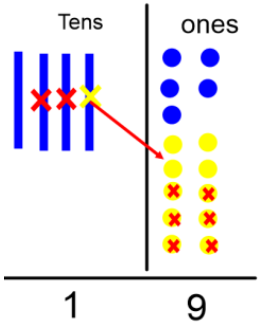
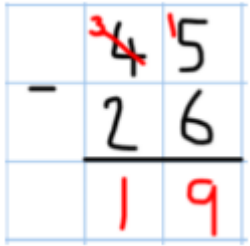
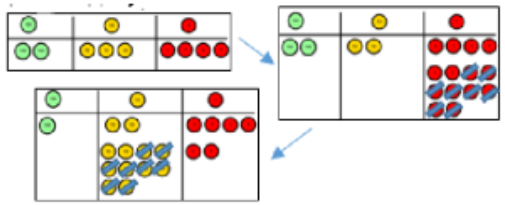
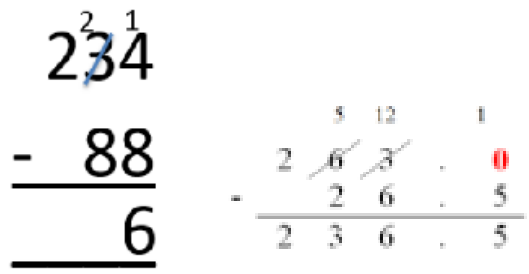
Column methods without regrouping

CONCRETE	PICTORAL	ABSTRACT
Recording addition and subtraction in expanded columns can support understanding of the quantity aspect of place value and prepare for efficient written methods with larger numbers. The numbers may be represented with Dienes apparatus. E.g. **75 – 42**  70 5 -40 2 30 3 Show how you partition numbers to subtract. Again make the larger number first.	Draw the Base 10 or place value counters alongside the written calculation to help to show working.   	 This will lead to a clear written column subtraction:- 

Year 2
Year 3
Year 4

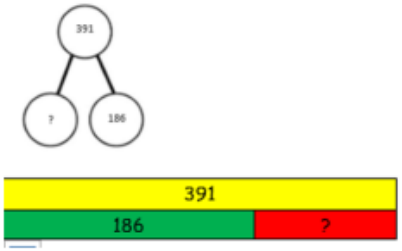
Thythorn Field Calculation Policy - Subtraction

Column method with regrouping

CONCRETE	PICTORAL	ABSTRACT
Column method (using base 10 and having to exchange) **45-26** 	Represent the base 10 pictorially 	It's crucial that the children understand that when they have exchanged the **10** they still have **45**. **45 = 30 + 15** 
Column method (using place value counters) **234-88** 	Once the children have had practice with the concrete, they should be able to apply it to any subtraction. Like the other pictorial representations, children to represent the counters.	

Yr4 - 6

Fluency variation, different ways to ask children to solve 391-186:



Raj spent £391, Timmy spent £186. How much more did Raj spend?

I had 391 metres to run. After 186 I stopped. How many metres do I have left to run?

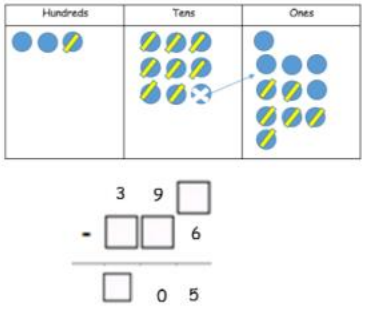
391 - 186

□ = 391 - 186

391
-186

Find the difference ebtween 391 and 186
Subtract 186 from 391.
What is 186 less than 391?

What's the calculation? What's the answer?



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