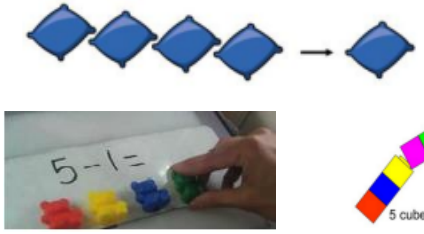
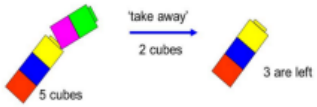
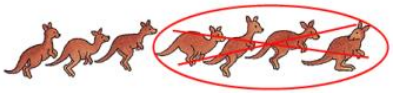
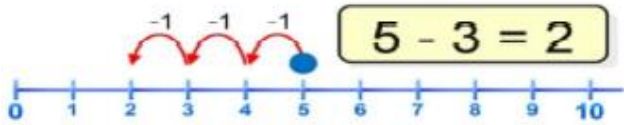
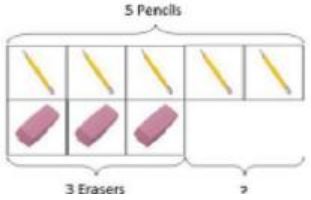
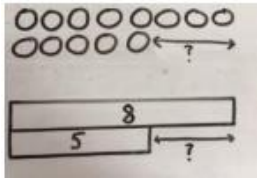
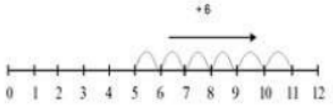
Maths Methods and Representations – Subtraction

Strategies	Concrete	Pictorial	Abstract
Taking away ones	Use physical objects to demonstrate how something can be taken away.  	Move on to crossing out drawn representations. This can be developed by representing a group of ten with a line and ones with dots.  23 – 1=22	A focus on symbols and numbers to form a calculation. 18 – 3 = 15 8 – 2 = 6 There are 15 cakes in the shop. One cake is eaten, how many are left?
Counting back	Move objects away from the group, counting backwards. Move beads along a bead string whilst counting backwards. 	Count back in ones using a number line. 	Put 13 in your head. Count back 4. What number do you get?
Finding the difference	Use practical resources to visualise the difference and begin to recognise the inverse relationship.  Lay out objects to make a bar model.	Draw objects or a bar model to find the difference.  Count up on a number line. 	Hannah has 12 sweets and her sister has 5. How many more does Hannah have than her sister? Look at the graph. Fewer children have green eyes than blue. What is the difference? What is the difference between 8 and 5? 8 – 5 =

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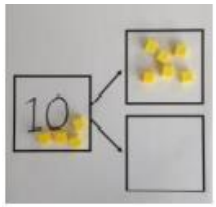
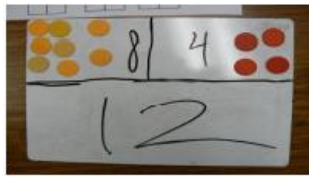
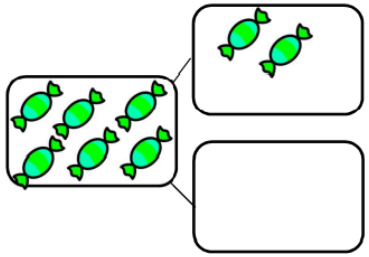
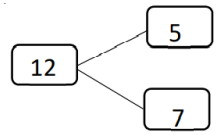
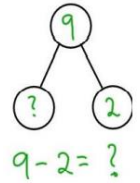
<table>
<tr>
<td>Part-Part-Whole Model

Represent and use number bonds and related subtraction facts within 20</td>
<td>10 – 6 - 4
 

If 10 is the whole and 6 is one of the parts. What is the other pa rt?
 
</td>
<td>Use pictorial representations to show the part-part-whole.
6 – 2 =
  </td>
<td>Write numbers on a PPW model.
 

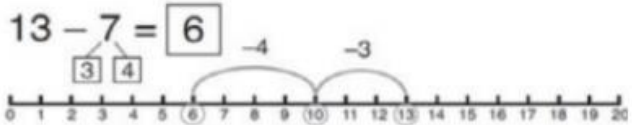
Include missing number problems:
 

12 - ? = 5
7 - 12 = ?</td>
</tr>
<tr>
<td>Making 10

Use this strategy to subtract a single digit number from a 2-digit number.

Pupils identify how many need to be taken away to make ten first. Then they take away the rest to reach the answer.</td>
<td>
14 – 5 = 9

Make 14 on the ten frame or with different coloured cubes to represent the ten and the ones. Take away the four first to make 10 and then takeaway one more so you have taken away 5. You are left with the answer of 9.</td>
<td>Draw a tens frame with counters.

Start at the 13 and count back 3 to 10. Then count back another 4.
 
</td>
<td>15 - 8 =

How many do we need to subtract to get to 10? How many more do we need subtract?</td>
</tr>
</table>

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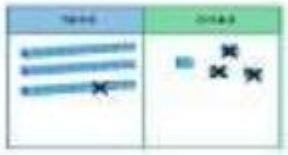
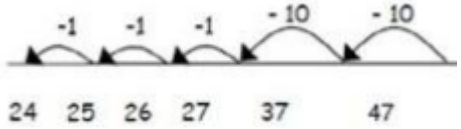
Partitioning to subtract without regrouping.	34 - 13 = 21 Make the first number using Dienes / Base 10. Take away the ones (3). Then take away the tens. 	 	43 – 21 = 22 Children draw the tens and the ones, then cross off. 47 - 23 = 24 Partition the number to be taken away and subtract the tens and the ones on a structured, then unstructured, number line.  Move on to making more efficient jumps. 	43 - 21 = 22 There are 35 children in the class and 12 are boys. How many are girls? 35 – 12 =

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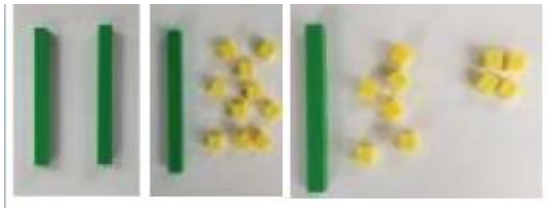
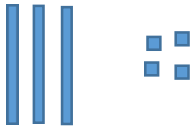
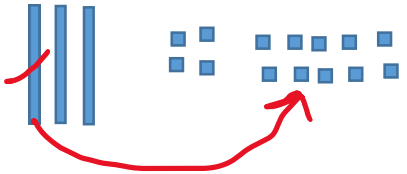
Regroup a ten in to ten ones.	20 – 4 = When the number of ones is larger in the second number (4 is larger than 0), exchange 1 stick of ten for 10 ones before doing the calculation. 	34 – 17 = 17 Draw the first number as tens and ones:  Exchange a ten for ten ones and draw:  Subtract the second number by crossing out and count how many are left. 	20 - 4 = 34 - 17 = Mrs Gray has 20 Daisies in class, but 4 of them are sent home poorly. How many Daisies are left in class?