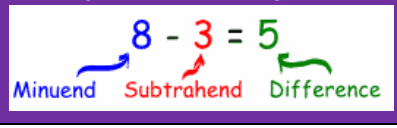
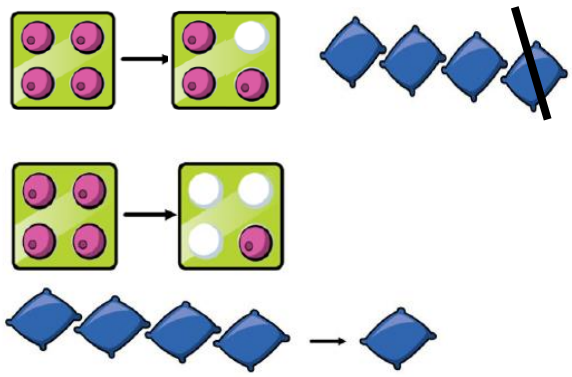
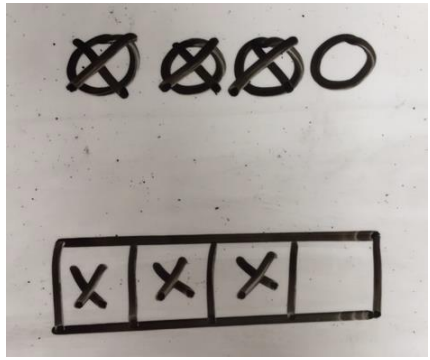
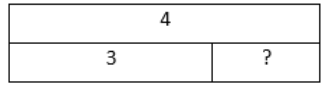
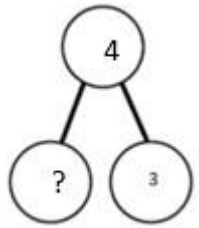
Calculation Policy: Subtraction

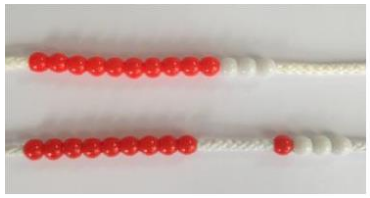
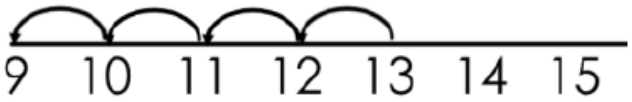
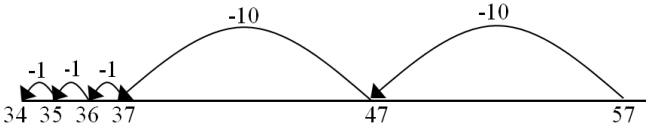
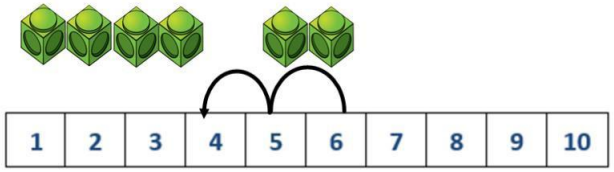
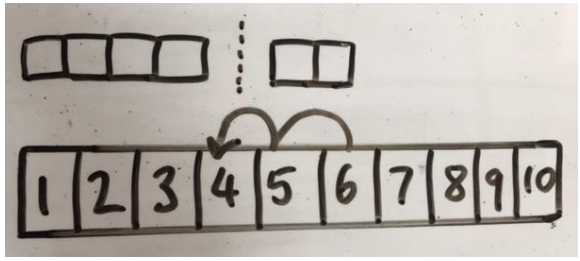
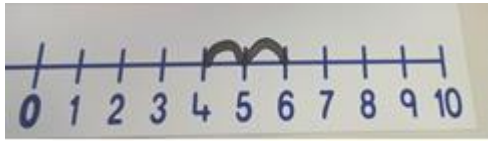
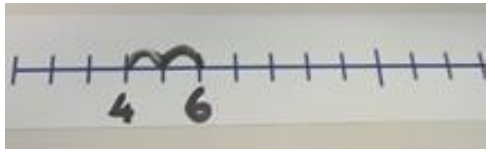
Key language: take away, less than, the difference, subtract, minus, fewer, decrease, reduction (taking away), minuend, subtrahend



EYFS

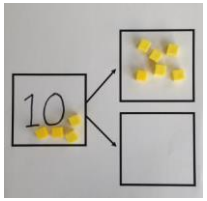
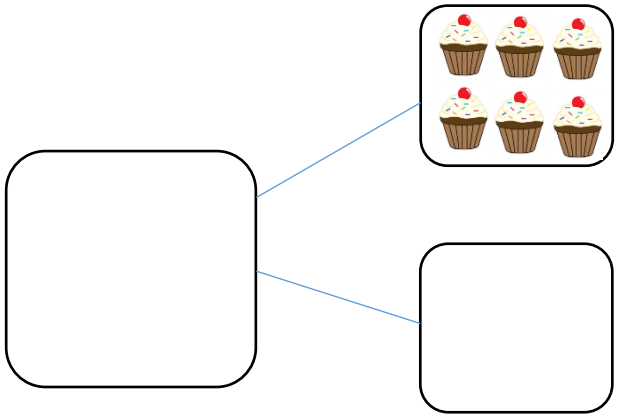
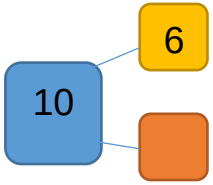
- using quantities and objects, they subtract two single-digit numbers and count back to find the answer.

Concrete	Pictorial	Abstract
Physically taking away and removing objects from a whole (ten frames, Numicon, cubes and other items such as beanbags could be used). Focus on the language of 1 less 	Children to draw the concrete resources they are using and cross out the correct amount. The bar model can also be used. 	**4- 3=** **= 4 – 3**  

Counting back – Also used in Band 1 Use counters and move them away from the group as you take them away counting backwards as you go.  Make the larger number in your subtraction. Move the beads along your bead string as you count backwards in ones. 13 – 4 	Count back on a number line or number track  Start at the bigger number and count back the smaller number showing the jumps on the number line. This can progress all the way to counting back using two 2 digit numbers for later bands. 57 – 23 = 24  Children to draw their own number lines.	Put 13 in your head, count back 4. What number are you at? Use your fingers to help.
Counting back (using number lines or number tracks) children start with 6 and count back 2. 6 – 2 = 4  **Also used in Band 1**	Children to represent what they see pictorially e.g.  	Children to represent the calculation on a number line or number track and show their jumps. Encourage children to use an empty number line  

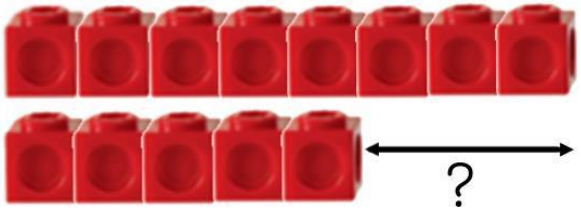
Band 1

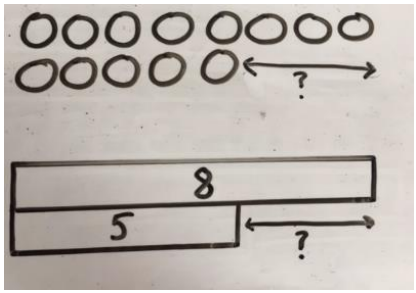
- subtract one-digit and two-digit numbers to 20, including zero.

Part-part whole model  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 = Link numbers to stories to give them a context, e.g. There are 10 children in the park. 6 are on the swings, the rest are on the slides. How many on the slides? There are 10 cakes on the plate. We ate 6, how many are left?	Use a pictorial representation of objects to show the part whole model. 	Move to using numbers within the part whole model.  Children can create stories themselves about the part-part whole model.

<table>
<tr>
<td>Finding the difference (using cubes, Numicon or Cuisenaire rods, other objects can also be used).

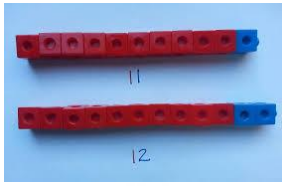
Calculate the difference between 8 and 5.

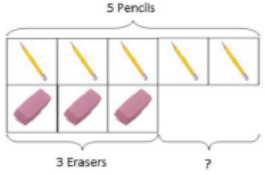
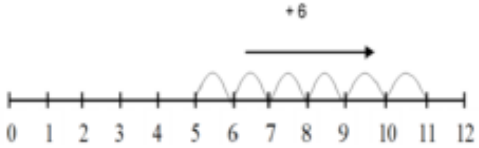
  </td>
<td>Children to draw the cubes/other concrete objects which they have used or use the bar model to illustrate what they need to calculate.

  </td>
<td>Find the difference between 8 and 5.

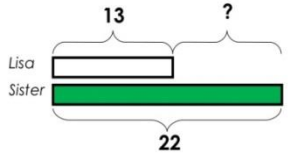
8 – 5, the difference is [ ]

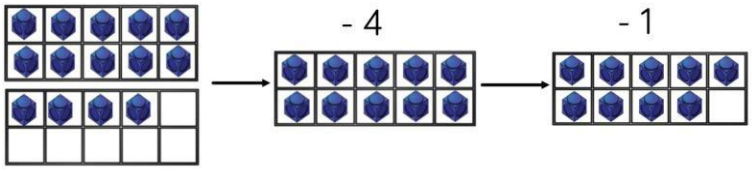
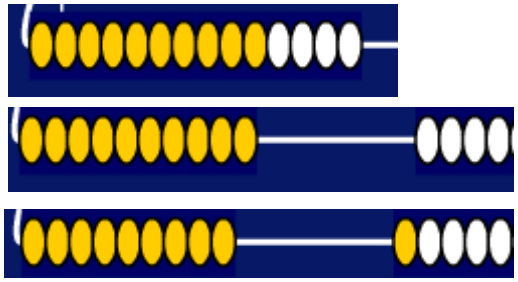
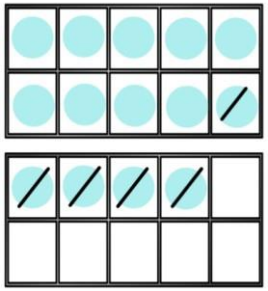
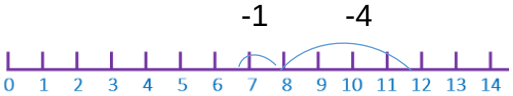
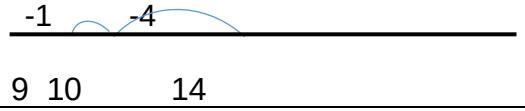
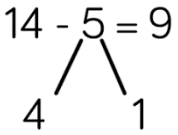
Children to explore why
9 - 6 = 8 – 5 = 7 – 4 have the same difference.</td>
</tr>
<tr>
<td>Compare amounts and objects to find the difference.

 
Use cubes to build towers or make bars to find the difference

 
Use basic bar models with items to find the difference</td>
<td> 
Count on to find the difference.

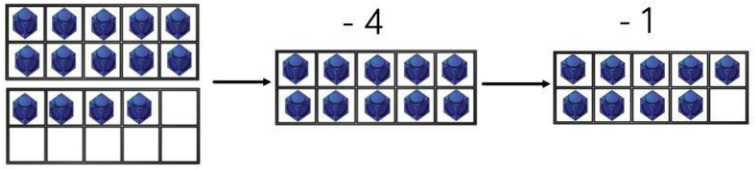
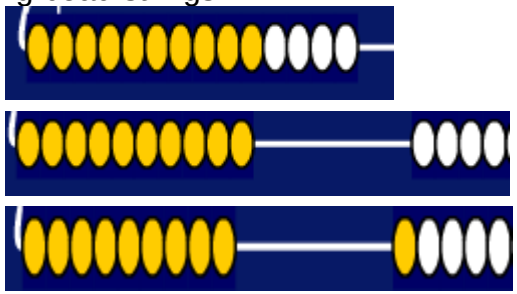
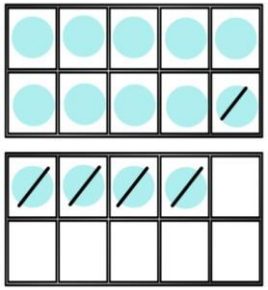
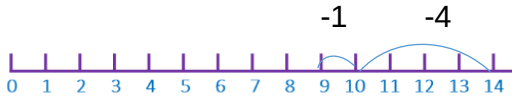
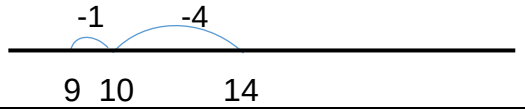
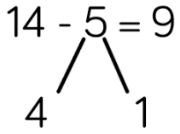
Draw bars to find the difference between two numbers.

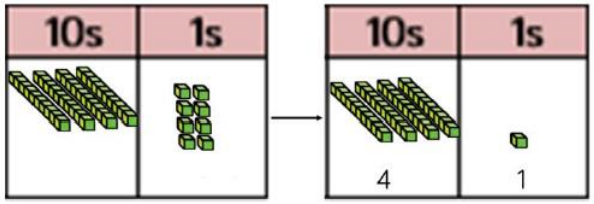
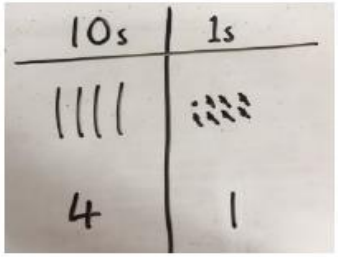
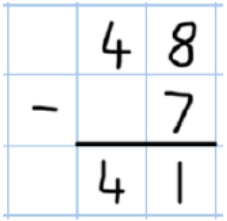
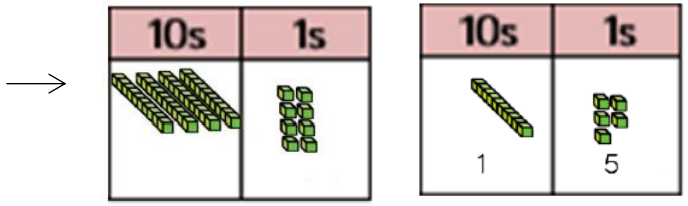
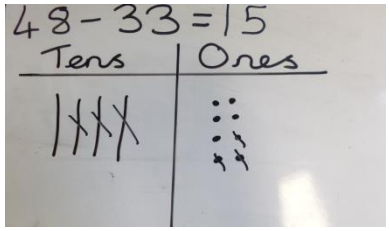
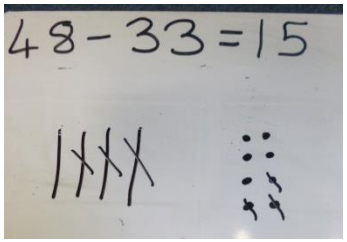
Comparison Bar Models
Lisa is 13 years old. Her sister is 22 years old.
Find the difference in age between them.
  </td>
<td>Hannah has 23 sandwiches, Helen has 15 sandwiches. Find the difference between the number of sandwiches.</td>
</tr>
</table>

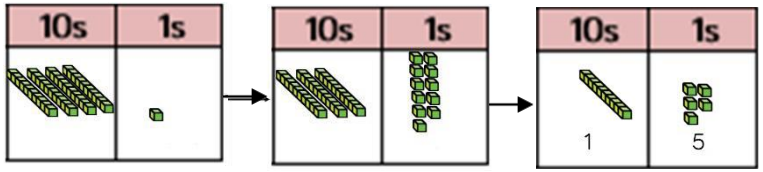
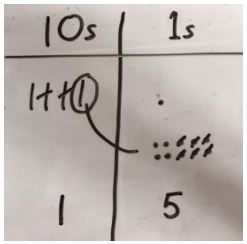
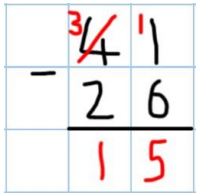
Bridging through 10 Using ten frames. 14 – 5  Using bead strings 	Children to present the ten frame pictorially and discuss what they did to make 10.  Children to use a number line  Children to draw their own number line.  	Children to show how they can make 10 by partitioning the subtrahend.  14 – 4 = 10 10 – 1 = 9

Band 2

- 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

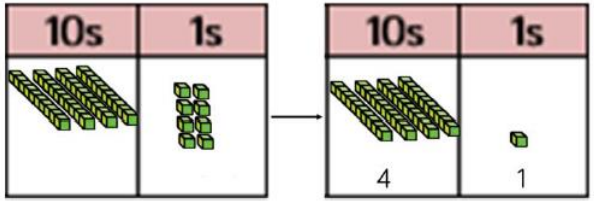
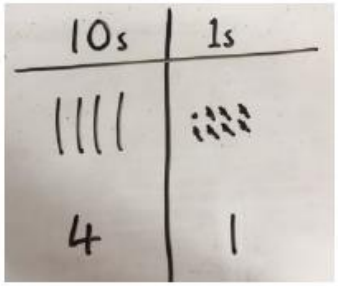
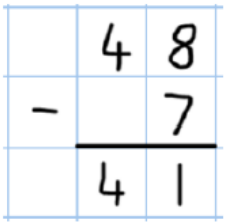
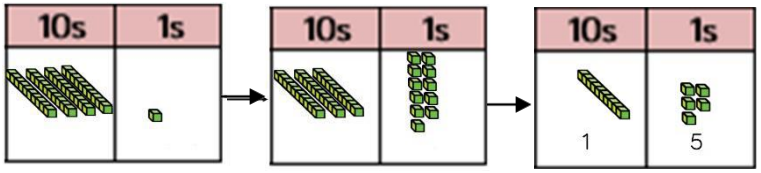
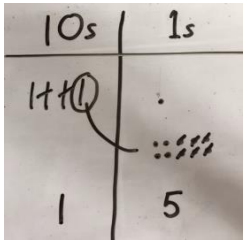
Concrete	Pictorial	Abstract
Bridging through 10 Using ten frames. 14 – 5  Using bead strings 	Children to present the ten frame pictorially and discuss what they did to make 10.  Children to use a number line  Children to draw their own number line. 	Children to show how they can make 10 by partitioning the subtrahend.  14 – 4 = 10 10 – 1 = 9

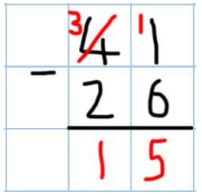
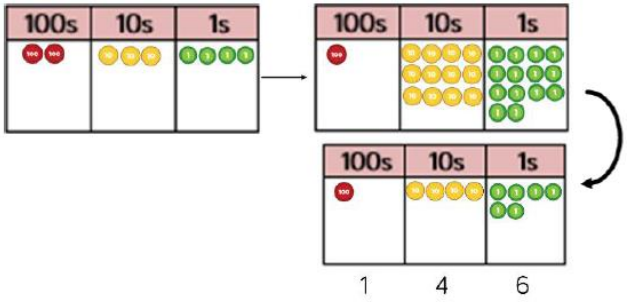
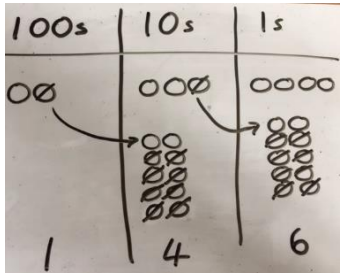
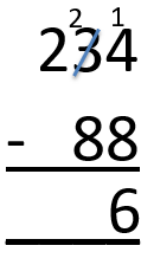
Column method using dienes **48-7** 	Children to represent the dienes pictorially. 	48 – 7 40 – 0 = 40 8 – 7 = 1 
48 – 33 = 15 	Children to represent the dienes pictorially.  	48 – 33 = 15 40 8 30 3 40 -30 = 10 8 - 3 = 5 10 + 5 = 15 48 – 33 = 15 30 3 48 –30 = 18 18 – 3 = 5

Column method using base 10 and having to exchange. 41 – 26 	Represent the base 10 pictorially, remembering to show the exchange. 	Expanded column method 41 – 26 = 15 20 6 41 – 20 = 21 21 – 6 = 15 or 41 – 6 = 35 35 – 20 = 15 Formal column method. Children must understand that when they have exchanged the 10 they still have 41 because 41 = 30 + 11. 

Band 3

- subtract number 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 of columnar addition and subtraction
- solve problems including missing number problems, suing number facts, place value, and more complex subtraction

Concrete	Pictorial	Abstract
Column method using dienes **48-7** 	Children to represent the dienes pictorially. 	
Column method using base 10 and having to exchange. 41 – 26 	Represent the base 10 pictorially, remembering to show the exchange. 	Expanded column method 41 – 26 = 15 20 6 41 – 20 = 21 21 – 6 = 15 or 41 – 6 = 35 35 – 20 = 15

		Formal column method. Children must understand that when they have exchanged the 10 they still have 41 because 41 = 30 + 11. 
Column method using place value counters. 234 – 88 	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. 

Band 4

- subtract numbers with up to 4 digits using the formal written methods of columnar subtraction where appropriate
- estimate and use inverse operations to check answers to a calculation
- solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.

Concrete	Pictorial	Abstract
See earlier bands for strategies to use.		

Band 5

- subtract whole numbers with more than 4 digits, including using formal written methods (columnar subtraction)
- subtract numbers mentally with increasingly large numbers
- solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.

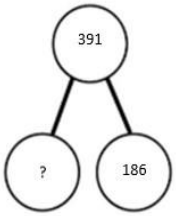
Concrete	Pictorial	Abstract
See earlier bands for strategies to use.		

Band 6

- perform mental calculations, including with mixed operations and large numbers
- use their knowledge of the order of operations to carry out calculations involving the four operations
- solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.

Concrete	Pictorial	Abstract
See earlier bands for strategies to use.		

Conceptual variation; different ways to ask children to solve 391 - 186



391	
186	?

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

Calculate the difference between 391 and 186.

□ = 391 – 186

391
-186
———

What is 186 less than 391?

Missing digit calculations