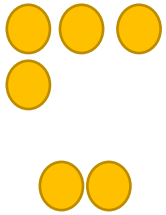
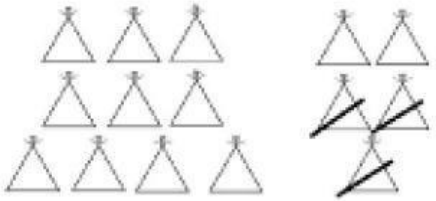
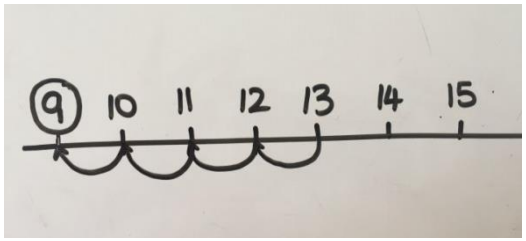
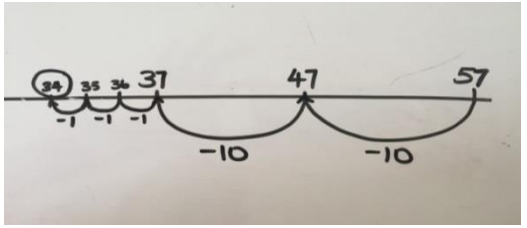
West Dean CE Primary School
Calculation Guide - Subtraction

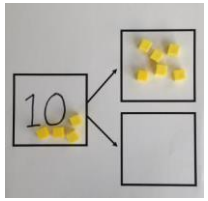
Links with addition are absolutely key throughout. Subtraction is key to understanding division.

Objective and Strategies	Concrete	Pictorial	Abstract
Taking away ones	Use physical objects, counters, cubes etc to show how objects can be taken away.  6 – 2 = 4	Cross out drawn objects to show what has been taken away.  15 – 3 = 12	15 - 3= 12 6 – 2 = 4
Counting back	Make the number with the greatest value in your subtraction. Move the beads along your bead string as you count backwards in ones.  13 – 4 Or 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 13 - 4  Start at the bigger number and count back the smaller number showing the jumps **below** the number line. 57 - 23  This can progress all the way to counting back using two 2 digit numbers.	Put 13 in your head, count back 4. What number are you at? Use your fingers to help. 13 – 4 = 9 57 – 23 = 34

<table>
<tr>
<td>

Part - Part Whole Model

</td>
<td>



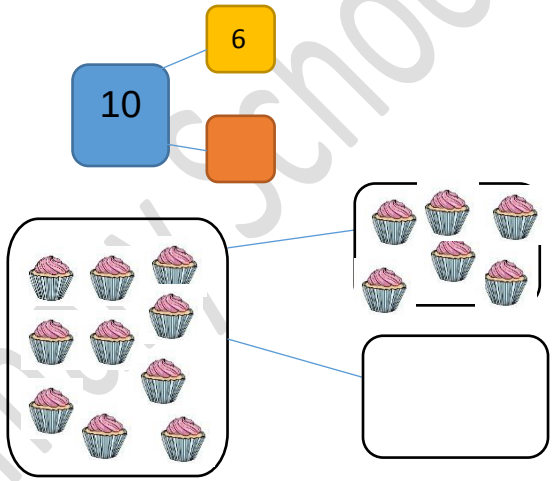
Link to addition- use the part part whole model to help explain the inverse between addition and subtraction.

If 10 is the whole and 6 is one of the parts. What is the other part?

10 - 6 =

</td>
<td>

Use a pictorial representation of objects to show the part part whole model.



</td>
<td>

10 – 6 = 4

10 – 4 = 6

6 + 4 = 10

4 + 6 = 10

Move to using numbers within the part whole model.

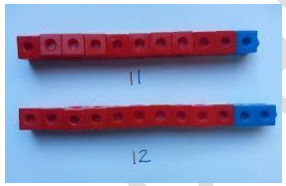
</td>
</tr>
<tr>
<td>

Find the difference

</td>
<td>

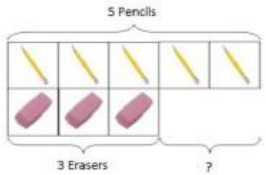
Compare amounts and objects to find the difference.

12 – 11 = 1



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

5 – 3 = 2

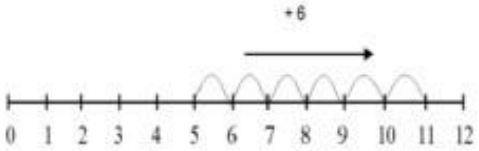


Use basic bar models with items to find the difference

</td>
<td>

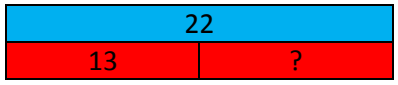
Count on to find the difference.

11 – 5 = 6
5 + 6 = 11



Draw bars to find the difference between 2 numbers.

Lisa is 13 years old. Her sister is 22 years old. Find the difference in age between them.



13 + __ = 22

</td>
<td>

Hannah has 23 sandwiches, Helen has 15 sandwiches. Find the difference between the number of sandwiches.

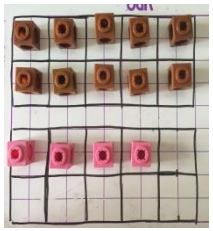
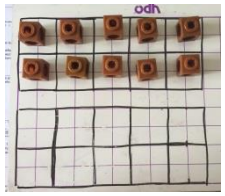
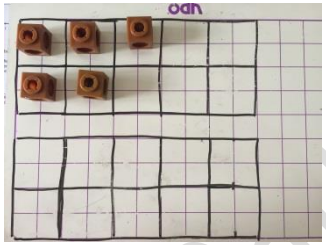
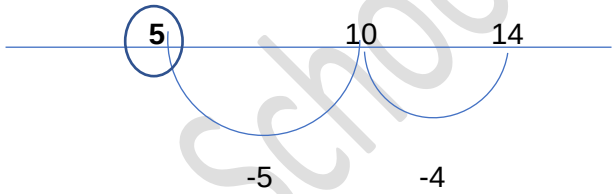
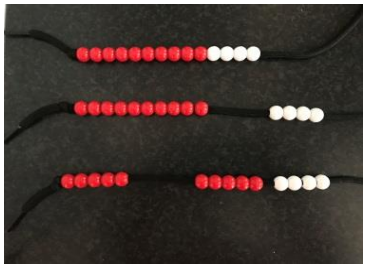
23 – 15 = 8

15 + __ = 23

THE LINK TO ADDITION IS VERY IMPORTANT AT THIS STAGE

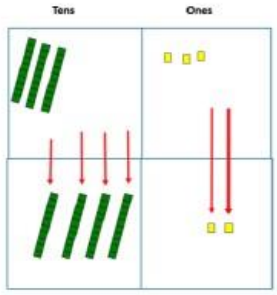
23 – 15 = 8
23 – 8 = 15
15 + 8 = 23
8 + 15 = 23

</td>
</tr>
</table>

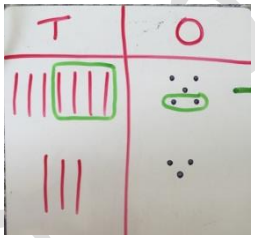
Number line – using understanding of 10s boundaries	14 – 9 =  Make 14 on the ten frame. Take away the four first to make 10  Then takeaway five more so you have taken away 9. You are left with the answer of 5. 	 Start at 14. Take away 4 to reach 10. Then take away the remaining 5 so you have taken away 9 altogether. You have reached your answer. Bead strings can aid understanding here. Mental strategies such as subtracting 10 and adjusting by adding 1 support children here. 	14 – 9 = 5 14 – 5 = 9

Column method without regrouping

75 – 42 =

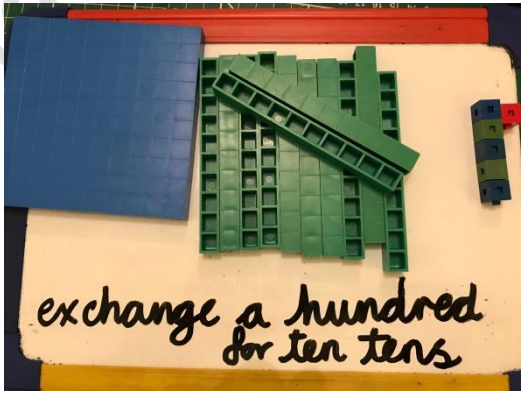


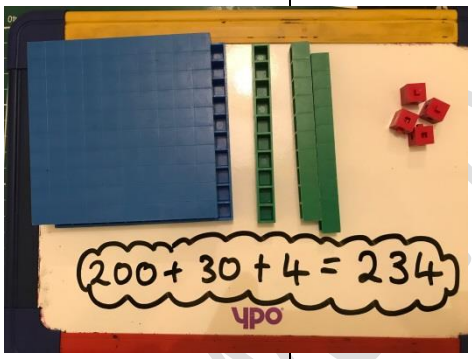
Use Deines to make the number with the greatest value then take the smaller number away.

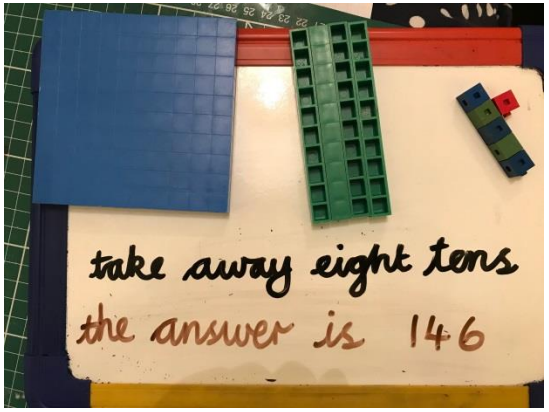


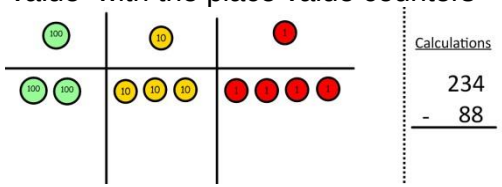
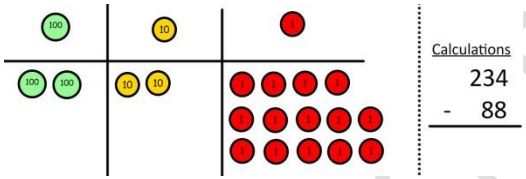
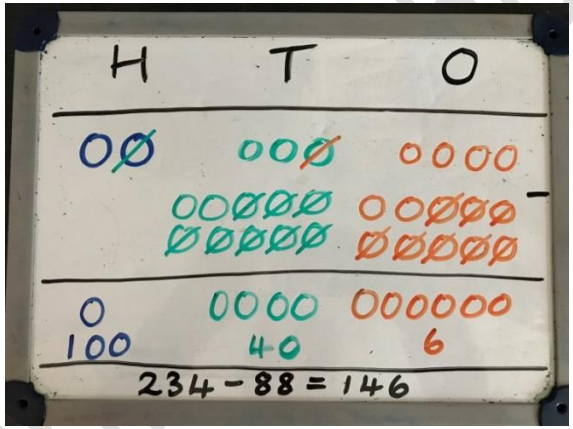
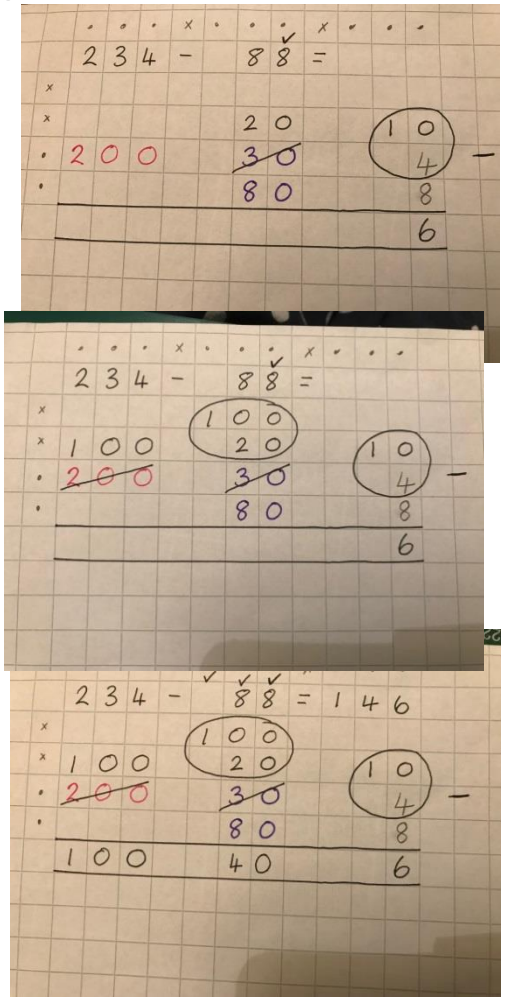
75 – 42 = 33

Column method with regrouping DEINES – concrete

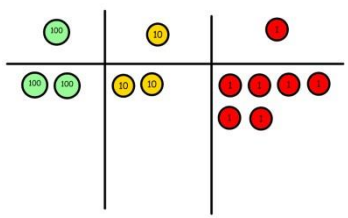






Column method with regrouping	Use Base 10 or Deines to start with before moving on to place value counters. Start with one exchange before moving onto subtractions with 2 exchanges. Make the number with the greatest value with the place value counters  Start with the ones, can I take away 8 from 4 easily? I need to exchange one of my tens for ten ones.  	Draw the counters onto a place value grid and show what you have taken away by crossing the counters out as well as clearly showing the exchanges you make.  	Children can start their formal written method by partitioning the number into clear place value columns.  When confident, the children use a more compact method.

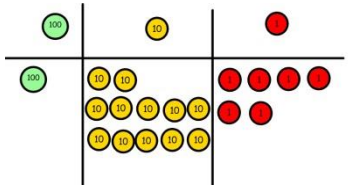
Now I can subtract my ones.



Calculations

234
- 88

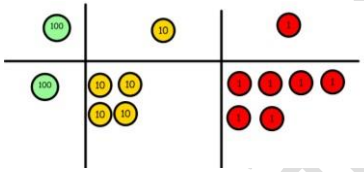
Now look at the tens; can I take away 8 tens easily? I need to exchange one hundred for ten tens.



Calculations

234
- 88

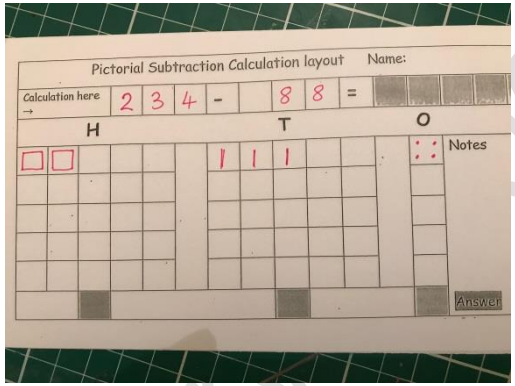
Now I can take away eight tens and complete my subtraction

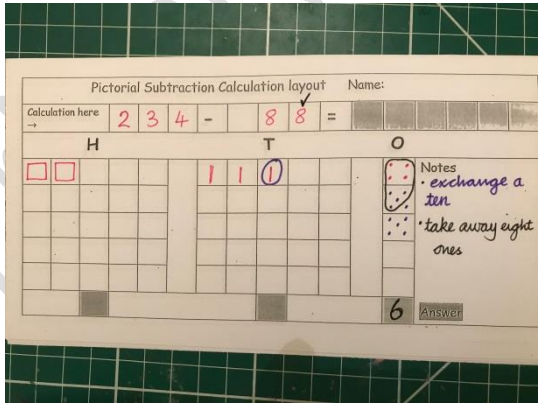


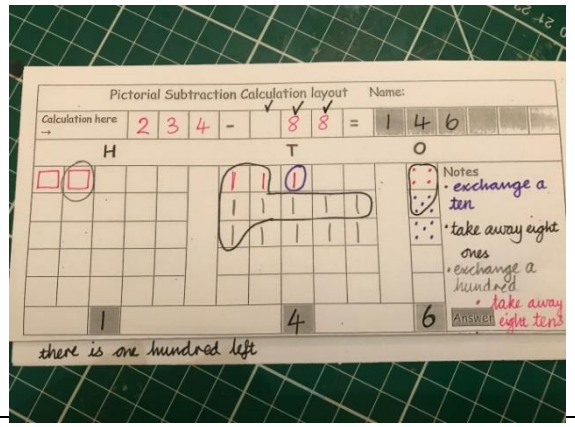
Calculations

~~2~~ ~~3~~ 4
- 88
146

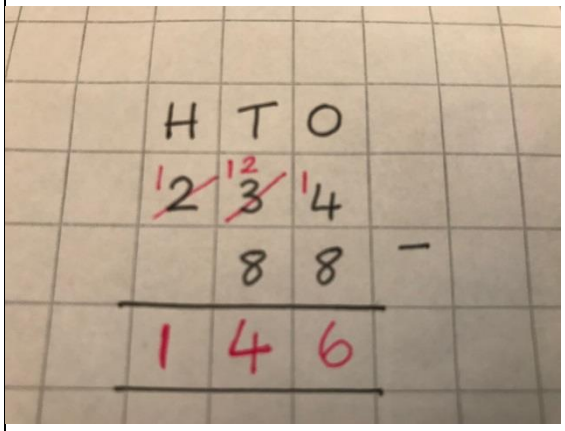
Show children how the concrete method links to the written method alongside your working. Cross out the digits when exchanging and show where we write our remaining digit.







This will lead to an understanding of subtracting any number including decimals, where the principles are the same.



Decimal subtractions work in exactly the same way, taking care to keep digits in the correct columns and not to move the decimal point!