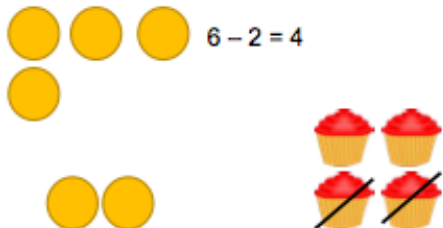
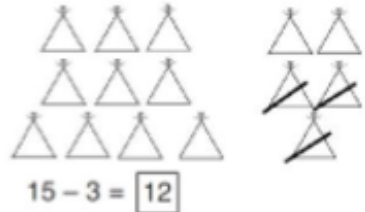
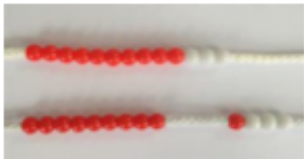
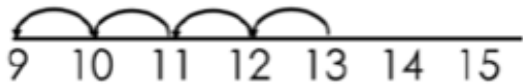
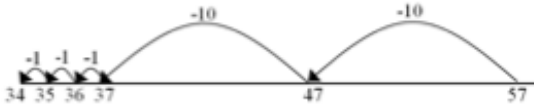
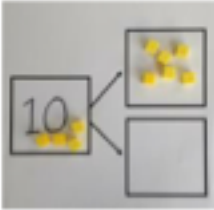
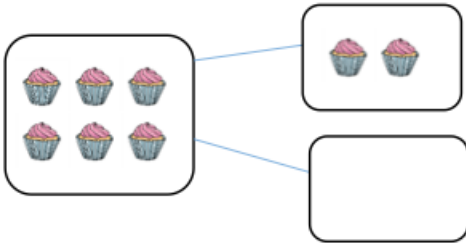
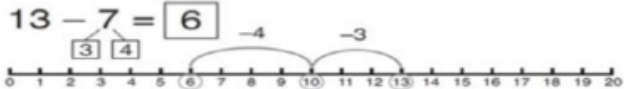


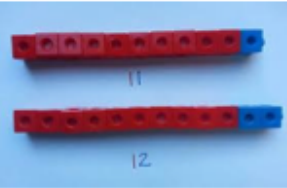
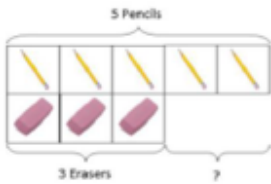
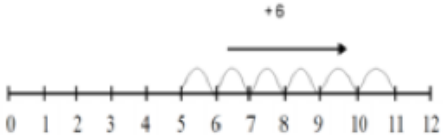
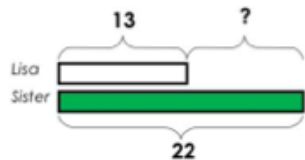
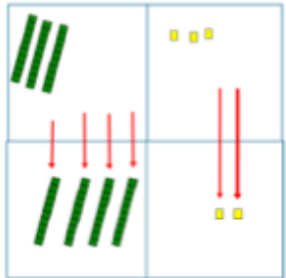
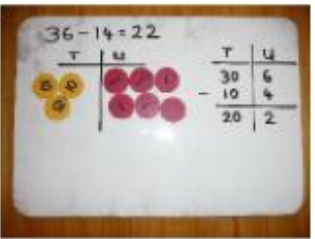
# Progression in Calculations: SUBTRACTION

| Year group | Objective and strategies                                                  | Concrete                                                                                                                                                                                                                                                                                                                                                                                                               | Pictorial                                                                                                                                                                                                                                                                                                                                                                                                              | Abstract                                                                                    |
|------------|---------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| 1          | Taking away ones                                                          | <p>Use physical objects, counters, cubes etc to show how objects can be taken away.</p>                                                                                                                                                                                                                                               | <p>Cross out drawn objects to show what has been taken away.</p>                                                                                                                                                                                                                                                                    | $18 - 3 = 15$<br><br>$8 - 2 = 6$                                                            |
| 1/2/3      | Counting back on a structured number line (progressing onto unstructured) | <p>Make the larger number in your subtraction. Move the beads along your bead string as you count backwards in ones.</p>  <p>13 - 4</p> <p>Use counters and move them away from the group as you take them away counting backwards as you go.</p>  | <p>Count back on a number line or number track</p>  <p>Start at the bigger number and count back the smaller number showing the jumps on the number line.</p>  <p>This can progress all the way to counting back using two 2 digit numbers.</p> | <p>Put 13 in your head, count back 4. What number are you at? Use your fingers to help.</p> |

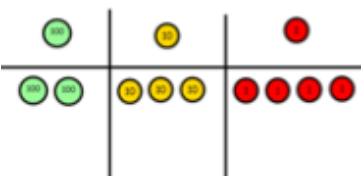
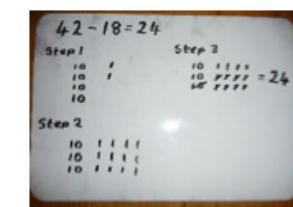
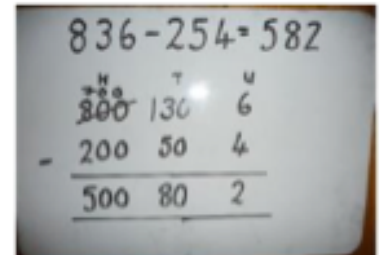
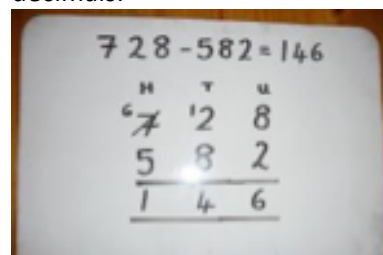
# Progression in Calculations: SUBTRACTION

|     |                  |                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                   |                                                                                                                                              |
|-----|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| 2   | Part whole model |  <p>Link to addition- use the part whole model to help explain the inverse between addition and subtraction.</p> <p>If 10 is the whole and 6 is one of the parts. What is the other part?</p> <p><math>10 - 6 =</math></p> | <p>Use a pictorial representation of objects to show the part whole model.</p>                                                                                                 |  <p>Move to using numbers within the part whole model</p> |
| 2/3 | Make 10          | <p><math>14 - 9 =</math></p>  <p>Make 14 on the ten frame. 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.</p>                                | <p><math>13 - 7 = 6</math></p>  <p>Start at 13. Take away 3 to reach 10. Then take away the remaining 4 so you have taken away 7 altogether. You have reached your answer.</p> | <p><math>16 - 8 =</math></p> <p>How many do we take off to reach the next 10?</p> <p>How many do we have left to take off?</p>               |

## Progression in Calculations: SUBTRACTION

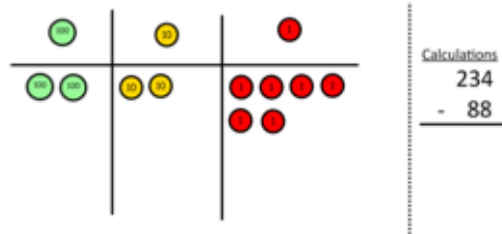
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|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2/3 | Finding the difference on an unstructured number line                                                                                                             | <p>Compare amounts and objects to find the difference.</p>  <p>Use cubes to build towers or make bars to find the difference</p>  <p>Use basic bar models with items to find the difference</p> |  <p>Count on to find the difference.</p> <p style="text-align: center;"><b>Comparison Bar Models</b></p> <p>Draw bars to find the difference between 2 numbers.</p> <p><i>Lisa is 13 years old. Her sister is 22 years old. Find the difference in age between them.</i></p>  | Hannah has 23 sandwiches, Helen has 15 sandwiches. Find the difference between the number of sandwiches.                                                                                                                                                                                                    |
| 2-6 | Column subtraction - without regrouping (This strategy forms a natural progression in a column method, as a small step before column subtraction with regrouping) | <p>Use Base 10 to make the bigger number then take the smaller number away.</p>  <p>Show how you partition numbers to subtract. Again make the larger number first.</p>                     |  <p>Draw the Base 10 or place value counters alongside the written calculation to help to show working.</p> <p><i>Calculations</i></p> $\begin{array}{r} 54 \\ - 22 \\ \hline 32 \end{array}$ <p><i>Calculations</i></p> $\begin{array}{r} 176 \\ - 64 \\ \hline 112 \end{array}$                                                                                | <p>If extra support is needed when transitioning to this more abstract method, the numbers can be expanded in column subtraction to highlight place value.</p> $47 - 24 = 23$ $\begin{array}{r} 40 + 7 \\ - 20 + 4 \\ \hline 20 + 3 \end{array}$ <p>This then progresses onto clear column subtraction.</p> |

# Progression in Calculations: SUBTRACTION

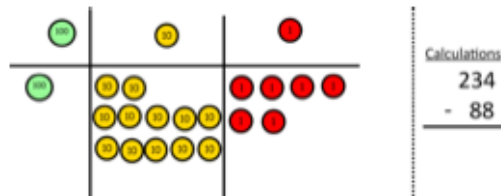
|     |                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-----|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|     |                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 2-6 | Column subtraction – regrouping | <p>Use Base 10 to start with before moving on to place value counters. Start with one exchange before moving onto subtractions with 2 exchanges.</p> <p>Make the larger number with the place value counters</p>  <div style="display: flex; align-items: center;"> <div style="border-right: 1px solid black; padding-right: 10px;"> <math display="block">\begin{array}{r} 234 \\ - 88 \\ \hline \end{array}</math> </div> <div> <p>Calculations</p> <math display="block">\begin{array}{r} 234 \\ - 88 \\ \hline \end{array}</math> </div> </div> <p>Start with the ones, can I take away 8 from 4 easily? I need to exchange one of my tens for ten ones.</p>  <div style="display: flex; align-items: center;"> <div style="border-right: 1px solid black; padding-right: 10px;"> <math display="block">\begin{array}{r} 234 \\ - 88 \\ \hline \end{array}</math> </div> <div> <p>Calculations</p> <math display="block">\begin{array}{r} 234 \\ - 88 \\ \hline \end{array}</math> </div> </div> |  <p>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.</p><br> <p>When confident, children can find their own way to record the exchange/regrouping.</p> <p>Just writing the numbers as shown here shows that the child understands the method and knows when to exchange/regroup.</p> | <p>If extra support is needed when transitioning to this more abstract method, the numbers can be expanded in column subtraction to highlight place value.</p> <br><p>Moving forward, the children use a more compact method. This will lead to an understanding of subtracting any numbers including decimals.</p>  |

## Progression in Calculations: SUBTRACTION

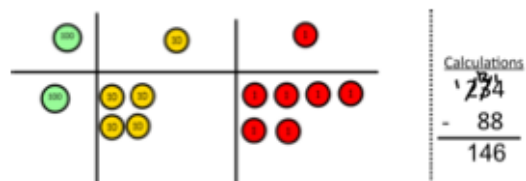
Now I can subtract my ones.



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



Now I can take away eight tens and complete my subtraction



Show children how the concrete method links to the written method alongside your working. Cross out the numbers when exchanging and show where we write our new amount.

## Progression in Calculations: SUBTRACTION