

<p><b>Subtraction trios</b></p>	<p><b>Skill practised:</b></p>
<p><i>Children look for patterns in answers when subtracting three-digit numbers from four-digit numbers with consecutive digits.</i></p>	<ul style="list-style-type: none"> <li>Using column subtraction (or Frog) to subtract three-digit numbers from four-digit numbers</li> </ul>
<p><b>Conjecture:</b> <i>This is something in common in answers whenever you subtract a three-digit number with consecutive digits from a four-digit number with consecutive digits (all digits different).</i></p>	
<p><b>What to do:</b>  <i>Children work individually or in pairs.</i></p> <ol style="list-style-type: none"> <li>Work out the answers to <math>1234 - 567</math>, <math>2345 - 678</math> and <math>3456 - 789</math>.  What do you notice about your answers?</li> <li>Now try <math>4321 - 765</math>, <math>5432 - 876</math> and <math>6543 - 987</math>.  What happens this time?</li> <li>Try other similar subtractions with consecutive digits where each digit is only used once within the calculation, e.g. <math>4321 - 567</math>, <math>5432 - 678</math> and <math>6543 - 789</math> and then, <math>1234 - 765</math>, <math>2345 - 876</math> and <math>3456 - 987</math>.  Can you predict the answers to the third subtraction in each trio?</li> </ol> <p>Why do you think the last three digits are as they are in each trio of subtractions?  What happens to the digits in each subtraction as you move from one subtraction to the next?</p> <p>Could you create your own subtraction trio where the last three digits are the same in each case?</p>	
<p><b>Aims:</b></p> <ul style="list-style-type: none"> <li>To look for patterns, test predictions and begin to explain the reasons for them</li> </ul>	<p><b>Minimum number of calculations expected</b></p> <p>12</p>

## Subtraction trios

- Work out the answers to:  
 $1234 - 567$ ,  
 $2345 - 678$  and  
 $3456 - 789$ .  
 What do you notice about your answers?
- Now try  $4321 - 765$ ,  
 $5432 - 876$  and  
 $6543 - 987$ .  
 What happens this time?
- Try other similar subtractions with consecutive digits where each digit is only used once within the calculation, e.g.  $4321 - 567$ ,  
 $5432 - 678$  and  
 $6543 - 789$  and then,  
 $1234 - 765$ ,  
 $2345 - 876$  and  
 $3456 - 987$ .

111214
<del>1234</del>
<u>- 567</u>
<u>667</u>
2345
<u>- 678</u>

Can you predict the answers to the third subtraction in each trio?

Why do you think the last three digits are as they are in each trio of subtractions?  
 What happens to digits in each subtraction as you move from one subtraction to the next?

### Challenge

Can you create your own subtraction trio where the last three digits are the same in each case?