

<p>Does it or not?</p>	<p>Skills practised:</p>
<p><i>Children find numbers between 50 and 100 which they can divide by 4. They halve each number twice to find out.</i></p>	<ul style="list-style-type: none"> • Halving two-digit numbers • Using mental strategies to divide by 4
<p>Conjecture: <i>We can invent a rule to tell if a number between 50 and 100 divides by 4.</i></p>	
<p>What to do: <i>Children work individually or in pairs.</i></p> <ol style="list-style-type: none"> 1. Write a two-digit number that is more than 50 – it needs to be even! 2. Look at your number. Is the tens digit even or odd? What is the units digit? 3. Halve the number and write the answer. 4. Halve that number. Is the answer a whole number? 5. If it is, draw a circle around your number as it does divide by 4. 6. If the answer is not a whole number, then don't draw the circle. The number does not divide by 4! 7. Repeat this, starting with a new two-digit number over 50. <p>When you and your partner have done six or eight numbers, look at which ones have circles. Can you start to formulate a 'rule'? Do the numbers with circles share a particular characteristic? (For example, they all have an even tens number, or they all end in 4 or 6...)</p> <p>Write a possible 'rule'.</p> <ol style="list-style-type: none"> 8. Try another five or six numbers to see if your rule works. 9. Then you may refine your rule – change it a bit so that it works. Maybe it has to have two parts...? <p>Look at all your circled numbers. Now look at your 'rule'. Are you confident that it works?</p> <ol style="list-style-type: none"> 10. Try a few more numbers... <p>Write your rule out once you are completely sure that you can show that it works!</p>	
<p>Aim: – To invent a rule to identify multiples of 4 above 50</p>	<p>Minimum number of calculations expected 16 or more</p>

Does it or not?

- Write a two-digit number that is more than 50 – it needs to be even!
- Look at your number. Is the tens digit even or odd? What is the units digit? Halve the number and write the answer.
- Halve that number. Is the answer a whole number?
- If it is, draw a circle around your number as it does divide by 4. If the answer is not a whole number, then don't draw the circle. The number does not divide by 4!
- Repeat, starting with a new two-digit number over 50.

<input type="radio"/>					
<input type="radio"/>	58	→	29	→	14.5
<input checked="" type="radio"/>	84	→	42	→	21
<input type="radio"/>	68	→			
<input type="radio"/>					
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When you and your partner have done six or eight numbers, look at which ones have circles. Can you start to formulate a 'rule'?

Do the numbers with circles share a particular characteristic?

(For example, they all have an even tens number, or they all end in 4 or 6...)

Write a possible 'rule'.

- Try another five or six numbers to see if your rule works.
- Refine your rule – change it a bit so that it works. Maybe it has to have two parts...?

Look at all your circled numbers. Now look at your 'rule'.

Are you confident that it works?

- Try a few more numbers...

Write your rule out once you are completely sure that you can show that it works!