

<h2>Mystery age</h2>	<h2>Skills practised:</h2>
<p><i>Y3: Children use their knowledge of the 3, 4 and 5 times tables to work out mystery numbers.</i></p> <p><i>Y4: Children use their knowledge of the 5, 6 and 8 times tables to work out mystery numbers.</i></p>	<ul style="list-style-type: none"> • Multiplying by 3, 4 and 5 (Y3) or 5, 6 and 8 (Y4) • Dividing by 3, 4 and 5 (Y3) or 5, 6 and 8 (Y4) with remainders • Checking using the inverse
<p>Conjecture: <i>It is possible to demonstrate that there is only one possibility in this context.</i></p>	
<p>What to do:</p> <p><i>Children work individually or in pairs.</i></p> <p>Year 3:</p> <ol style="list-style-type: none"> 1. Three children are trying to guess their Mum's age. They know she is between 30 and 40 years old, but no more! She gives them the following clues: <ul style="list-style-type: none"> Multiply Sam's age by 4, then add 3 to get my age. Multiply Amy's age by 5, then add 1 to get my age. Multiply Max's age by 3, then add 1 to get my age. 2. All three children are at primary school. Can you work out their Mum's age, AND all their ages? <p>HINT: Multiply each number from 4 to 11 by 4, and add 3 to each answer in turn to see which answers are between 30 and 40. What ages can Sam be? And his Mum? Now do the same for the other children. Which possible age for Mum appears in all three lists?</p> <p>Write your own clues to work out Dad's age, 34. Get another child/pair to try them out.</p> <p>Year 4:</p> <ol style="list-style-type: none"> 1. Three children are trying to guess their Mum's age. They know she is between 30 and 40 years old, but no more! She gives them the following clues: <ul style="list-style-type: none"> Multiply Sam's age by 6, then subtract 11 to get my age. Multiply Amy's age by 8, then subtract 17 to get my age. Multiply Max's age by 5, then subtract 19 to get my age. 2. All three children are at primary school. Can you work out their Mum's age, AND all their ages? <p>HINT: Multiply each number from 4 to 11 by 6, and subtract 11 from each answer in turn to see which answers are between 30 and 40. What ages can Sam be? And his Mum? Now do the same for the other children. Which possible age for Mum appears in all three lists?</p> <p>Write your own clues to work out Dad's age, 34. Get another child/pair to try them out.</p>	
<p>Aims:</p> <ul style="list-style-type: none"> – To list multiples of 3, 4 and 5 (Y3) or 5, 6 and 8 (Y4) and add/subtract a number to solve a problem. – To work systematically to list possibilities in order to find one in common 	<p>Minimum number of calculations expected</p> <p>At least 8</p>

Mystery age

1. Three primary school children are trying to guess their Mum's age. Can you help them?
2. They know she is between 30 and 40 years old, but no more!
She gives them some clues:

Multiply Sam's age by 4, then add 3 to get my age.

Multiply Amy's age by 5, then add 1 to get my age.

Multiply Max's age by 3, then add 1 to get my age.
3. Work out their Mum's age AND all their ages.
4. Write your own clues to work out Dad's age, 34. Get another child/ pair to try them out.

Sam's age

4 so $4 \times 4 = 16$ and $16 + 3 = 19$ No!

5 so $4 \times 5 =$

