Mystery age	**Skills practised:**
Children use their knowledge of the 3, 4 and 5 times tables to work out mystery numbers.	• Multiplying by 3, 4 and 5 • Dividing by 3, 4 and 5 with remainders • Checking using the inverse

Conjecture: It is possible to demonstrate that there is only one possibility in this context.

What to do:

Children work individually or in pairs.

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.

   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?

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 ages for Mum appear in all three lists?

Write your own clues to work out Dad's age, 34. Get another child/pair to try them out.

Aims:	**Minimum number of calculations expected**
– To list multiples of 3, 4 and 5 and add a single-digit number to solve a problem – To work systematically to list possibilities in order to find one in common	At least 8

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.

Sam's age

4 so 4 x 4 = 16 and 16 + 3 = 19 No!

5 so 4 x 5 =