

Fancy fraction answers

Children find non-unit fractions of multiples and look for patterns.

Skills practised:

- Finding non-unit fractions of amounts
- Listing multiples

Conjecture: *There is a pattern in the answers when finding a fraction of each number in a times table.*

What to do:

Children work individually or in pairs.

1. Work out the following:

$$\frac{2}{3} \text{ of } 6 \quad \frac{2}{3} \text{ of } 12 \quad \frac{2}{3} \text{ of } 18$$

Can you predict the next answer? Carry on until $\frac{2}{3}$ of 72 so that you have found $\frac{2}{3}$ of all the numbers in the 6 times table. Keep a record of your answers.

2. Now work out $\frac{2}{3}$ of 9, $\frac{2}{3}$ of 18, $\frac{2}{3}$ of 27 and each number in the 9 times table up until you can predict the next answer each time.
3. Now work out $\frac{2}{3}$ of 12, $\frac{2}{3}$ of 24 and each number in the 12 times table up until you can predict the next answer each time.
4. Next work out $\frac{2}{3}$ of 15, 30, 45... BUT before you do, look at your answers to questions 1, 2 and 3 on finding $\frac{2}{3}$ of numbers in the 6, 9 and 12 times tables.
Can you predict what the answers for the 15 times table might be?
Now test out your prediction!

What do you think the answers to $\frac{2}{3}$ of numbers in the 18 times table would look like? Why?

You could try a different fraction, e.g. $\frac{3}{5}$ of numbers in the 10 times table, the 15, then 20 times table and see if you get a pattern. Or choose your own non-unit fraction. The times table must be a multiple of the denominator.

Aims:

- To look for patterns, make and test predictions
- To consolidate understanding of the relationship between fractions, division and multiplication

Minimum number of calculations expected

24

Fancy fraction answers

1. Work out the following:

$$\frac{2}{3} \text{ of } 6 \quad \frac{2}{3} \text{ of } 12 \quad \frac{2}{3} \text{ of } 18$$

Can you predict the next answer?

Carry on until $\frac{2}{3}$ of 72 so that you have found $\frac{2}{3}$ of all the numbers in the 6 times table. Keep a record of your answers.

2. Now work out $\frac{2}{3}$ of 9, $\frac{2}{3}$ of 18, $\frac{2}{3}$ of 27 and each number in the 9 times table up until you can predict the next answer each time.

3. Now work out $\frac{2}{3}$ of 12, $\frac{2}{3}$ of 24 and each number in the 12 times table up until you can predict the next answer each time.

4. Next work out $\frac{2}{3}$ of 15, 30, 45...
BUT before you do, look at your answers to questions 1, 2 and 3 on finding $\frac{2}{3}$ of numbers in the 6, 9 and 12 times tables.
Can you predict what the answers for the 15 times table might be?
Now test out your prediction!

What do you think the answers to $\frac{2}{3}$ of numbers in the 18 times table would look like? Why? You could try a different fraction, e.g. $\frac{3}{5}$ of numbers in the 10 times table, the 15, then 20 times table and see if you get a pattern. Or choose your own non-unit fraction. The times table must be a multiple of the denominator.

$\frac{2}{3}$	of 6 = 4
$\frac{2}{3}$	of 12 =
$\frac{2}{3}$	of 18 =