

LO: I can use ratios to calculate missing values.

Daily Counting



He mixes his own paint using 8 litres of blue paint and 2 litres of white paint.

4:1

He decides to go for a more turquoise colour, so he adds 6 litres of green paint.

4:1:3



She mixes pink and purple paint at a ratio of 3:5

9 litres

because 9:15 is equivalent to 3:5



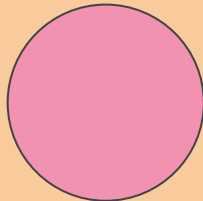
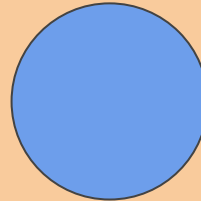
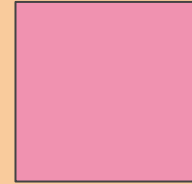
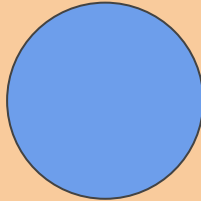
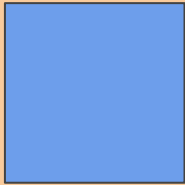
She decides this is far too bright, and decides to add 3 litres of white to the 24 litres of paint she already has.

3:5:1

because it is equivalent to 9:15:3

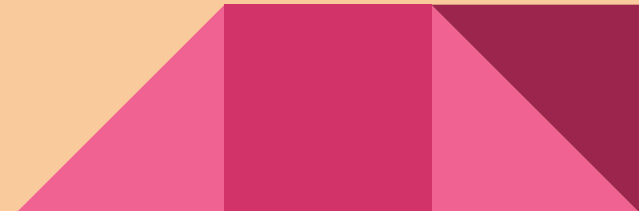
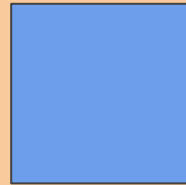
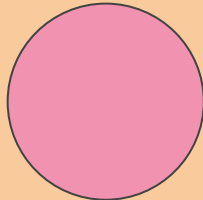
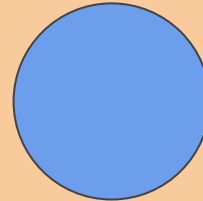
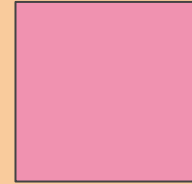
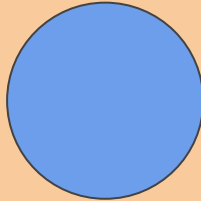
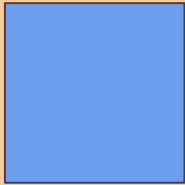
If there were 12 squares, how many circles would there be?

12
because 12:12 is
equivalent to 1:1



If there were 8 pink shapes, how many blue shapes would there be?

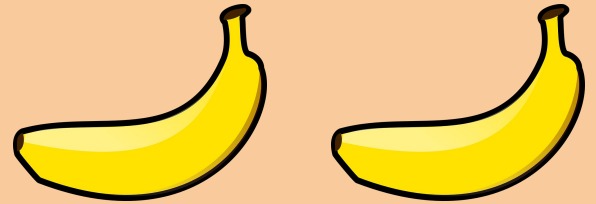
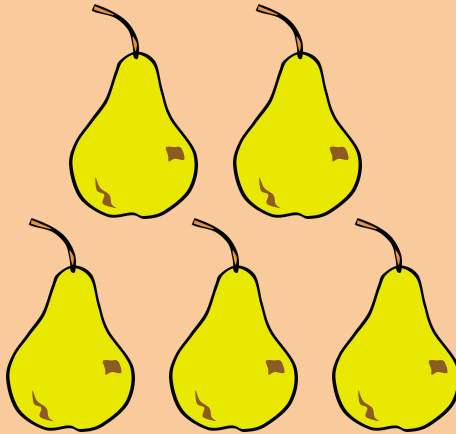
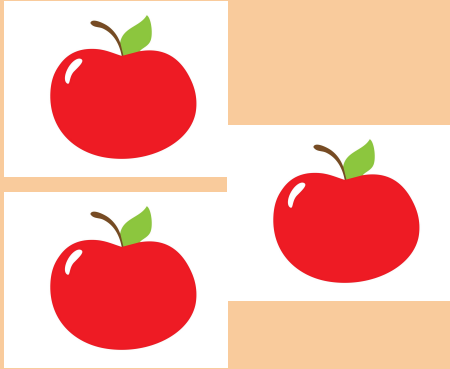
16
because 8:16 is
equivalent to 1:2



If there were 15 pears,
how many apples and
bananas would there be?

**9 apples and 6
bananas**

because $9:15:6$ is
equivalent to $3:5:2$



How could you find
the value of a?

Can you think of
another equivalent
ratio?

$$3:1 = a:6$$

$$3:1 = 18:6$$

Generalisation

We can use equivalent ratios to find missing values.

For example,



$$a=2$$

Know

Find the unknown numbers.

$$3:2:6 = m:4:12$$

$$b:18 = 1:3$$

$$2:1:5 = 6:3:d$$

$$5:k = 10:2$$

$$4:7 = a:b$$

Put each ratio into a
maths story/problem.



Understand

Orange paint is made from red and yellow paint in the ratio of 3:5

To make 40 litres of orange paint how much would I need of each colour?

Explain your thinking.

Tom has 5 green cubes for every 3 yellow cubes.

He has 16 cubes in total.

Draw a diagram to represent this.



Apply

In Year 6, there are 36 children with blonde hair and 48 children with brown hair.

There are half as many children with black hair as there are with blonde hair.

What is the overall ratio for blonde to brown to black hair in Year 6?

Can you simplify this ratio?

Convert the ratio into proportion. Create a fraction for each part of the ratio.



Reflection

When do you think this skill would be useful in your daily life outside of school?

