

Making connections

Ratio and proportion link to fractions.



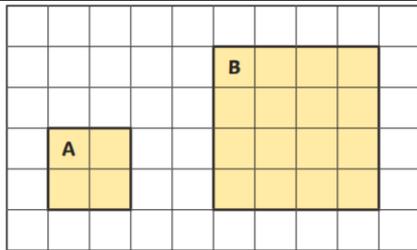
- For every 1 rugby ball there are 2 footballs
- The ratio is 1:2
- $\frac{1}{3}$ of the balls are rugby balls

Ratio and proportion link to multiples.



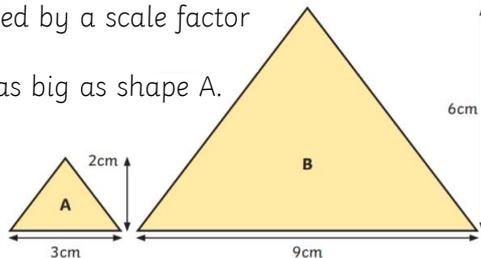
- For every 3 rugby balls there are 6 footballs.
- This can be simplified, both are multiples of 3
- $3:6 = 1:2$

Representations



A has been enlarged by a scale factor of 2.
B is now two times as big as shape A.

A has been enlarged by a scale factor of three.
B is now 3 times as big as shape A.



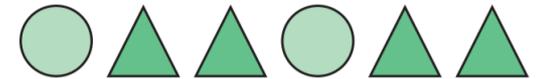
Key Vocabulary

Part	Whole	Length	Width	Perimeter
Ratio	Tells us how much there is of one thing compare to another.			
Proportion	Comparing a part to the whole e.g. 1 out of 6 balls are orange			
Scale	To make a shape bigger (scale up) or smaller (scale down)			
Enlargement	Make a shape bigger			
Scale Factor	By how much has a shape has been enlarged			

Key concepts and questions

How is ratio calculated?

For every one circle there are two triangles.
The ratio is 1:2



For every 3 apples there are 2 bananas.
The ratio is 3:2

Can ratio be represented as a fraction?

Yes, it can be.
For example, for every 1 banana there are 4 apples.
The ratio is 1:4

1 banana + 4 apples = 5 pieces of fruit

B	A	A	A	A
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How can scale factor be found?

The scale factor is what a part is multiplied by to make the whole. This is like finding a missing value, the inverse can be used to help.
E.g. Ben is 100cm tall, his shadow is 200cm long.
 $100 \times ? = 200$
 $200 \div 100 = 2$
The scale factor is 2.

To represent how many pieces of fruit are bananas as a fraction, find how many pieces of fruit altogether, this is the denominator. Then find how many bananas, this is your numerator.
 $\frac{1}{5}$ of the fruit is bananas.