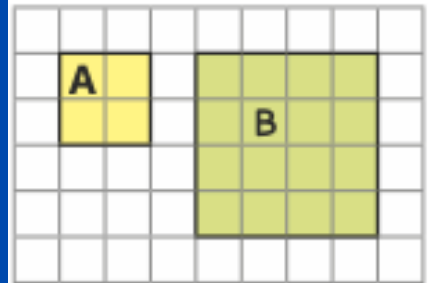




MATHS- RATIO

YEAR 6



RECAP

- Recall multiplication facts for multiplication tables up to 12×12
- Recall division facts for multiplication tables up to 12×12
- Find fractions of an amount
- Find multiples of a given number

CRUCIAL KNOWLEDGE

- The $:$ symbol shows the relation between the two quantities represented. Enlargement means to change the size of a shape.
- A scale factor is the number that will determine by how much a shape is going to change sizes.
- In order to make a shape bigger, we need to use a scale factor greater than 1.
- In order to make a shape smaller, we need to use a scale factor between 0 and 1.

Ratio Symbol



The ratio of footballs to rugby balls is 1:4.
The ratio of rugby balls to footballs is 4:1.



The ratio of apples to bananas is 1:2.
The ratio of bananas to oranges is 2:3.
The ratio of apples to bananas to oranges is 1:2:3.

Ratios and fractions

For every 3 green counters there are 2 yellow counters

The ratio of green to yellow counters is $3 : 2$

The fraction of green counters is $\frac{3}{5}$ (There are 3 green counters, 2 yellow counters, 5 counters overall)

The fraction of yellow counters is $\frac{2}{5}$

The ratio symbol

"For every 2 strawberries I have 4 bananas and 6 berries"

Ratio of strawberries, bananas and berries $2 : 4 : 6$

The order of notation follows the order of the parts

The colon notation is the symbol for ratio "For every..."

Representing a ratio

"For every 5 boys there are 3 girls"

This is the "whole" — boys and girls together

This represents the 5 boys

This represents the 3 girls

5:3

This is the "whole" — boys and girls together

Scale Factors

The two rectangles are similar.

Use corresponding sides to calculate a scale factor

This is an enlargement of scale factor 15

Scale factor can also be calculated by:

Bigger corresponding side / Smaller corresponding side

Small corresponding side \times SF = Big corresponding side

Big corresponding side \div SF = Small corresponding side

KEY VOCABULARY

| | |
|------------|---|
| Ratio | Ratio is a relationship between two things when it is expressed in numbers or amounts. |
| Proportion | A part to whole comparison |
| Fraction | A fraction is a number that can be expressed as a proportion of two whole numbers. For example, $\frac{1}{2}$ and $\frac{3}{4}$ are both fractions. |

| | |
|--------------|--|
| Multiple | If one number is a multiple of a smaller number, it can be exactly divided by that smaller number. |
| Scale factor | A number which tells you how much a shape has been enlarged by. |
| Enlarge ment | The process of changing the size of a shape. Whilst keeping the angles the same. |