Edward Peake Church of England Middle School		
Topic: Ratio	**Year: 6**	**NC Strand: Number**

What should I already know?

- How to solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.

What will I know by the end of the unit?

- How to use ratio language
- How to compare ratio and fractions
- How to use the ratio symbol
- How to solve problems involving ratio
- How to use scale factors
- How to calculate using scale factors
- How to solve ratio and proportion problems

Key Information/Diagrams

The Ratio Symbol

The ratio of footballs to rugby balls: 1:4

The ratio of rugby balls to footballs: 4:1

The ratio of circles to triangles: 2:3

The ratio of triangles to circles: 3:2

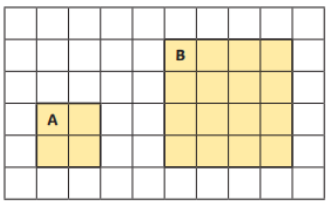
The ratio of apples to bananas: 1:2

The ratio of bananas to oranges: 2:3

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

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

Scale Factors

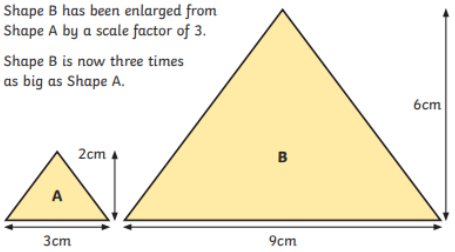


Shape A has been enlarged by a scale factor of 2 to make Shape B.

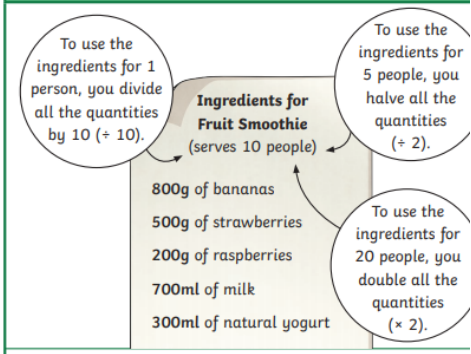
Shape B is now two times as big as Shape A.

Shape B has been enlarged from Shape A by a scale factor of 3.

Shape B is now three times as big as Shape A.

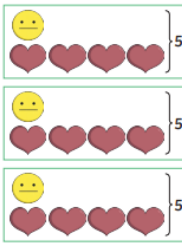


Ratio and Proportion Problem-Solving



In a bag of 15 sweets, there is 1 smiley face sweet for every 4 love heart sweets.

Therefore, there will be 3 smiley face sweets and 12 love heart sweets in the bag.



Ratio and Fractions

For every 1 rugby ball, there are 2 footballs.

Ratio of rugby balls to footballs: 1:2

$\frac{1}{3}$ of the balls are rugby balls.

For every 1 triangle, there are 3 squares.

Ratio of triangles to squares: 1:3

$\frac{1}{4}$ of the shapes are triangles.

Ratio Language

For every 1 circle, there are 2 triangles.

For every 2 bananas, there are 3 apples.

For every 1 football, there are 3 rugby balls.

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Vocabulary			
Ratio	Part	Enlargement	Width
Proportion	Whole	Similar Shape	Perimeter
For every … there are…	Scale Factor	Length	

Investigate/Homework tasks

- Homework will be set by your teacher using google classroom
- You should complete at least 30 minutes of maths tasks using the website and log in provided by your teacher. Please attend help sessions if you do not have access to the internet at home
- Additional work you could complete:
  - Find out more about the meaning of the vocabulary list using http://www.amathsdictionaryforkids.com/
- To challenge yourself: Answer the key questions to deepen your knowledge

Key Questions

How would your sentences change if there were 2 more blue flowers?

How would your sentences change if there were 10 more pink flowers?

Can you write a "For every..." sentence for the number of boys and girls in your class?

How many counters are there altogether?

How does this help you work out the fraction?

What does the denominator of the fraction tell you?

How can a bar model help you to show the mints and chocolates?

What does the : symbol mean in the context of ratio?

Why is the order of the numbers important when we write ratios?

How do we write a ratio that compares three quantities?

How do we say the ratio "3 : 7"?

What does enlargement mean?

What does scale factor mean?

Why do we have to double/triple all the sides of each shape?

Have the angles changed size?

What does similar mean?

What do you notice about the length/width of each shape?

How would drawing the rectangles help you?

How much larger/smaller is shape A compared to shape B?

What does a scale factor of 2 mean? Can you have a scale factor of 2.5?

How does this problem relate to ratio?

Can we represent this ratio using a bar model?

What does each part represent? What is the whole?

What is the same about the ratios?

What is different about them?

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How can we represent this ratio using a bar model? What does each part represent? What will each part be worth? How many parts are there altogether? What is each part worth? If we know what one part is worth, can we calculate the other parts?	