Term by Term Objectives

Year 6

Ratio and Proportion

National Curriculum Statement	All students		
	Fluency	**Reasoning**	**Problem Solving**
Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts.	• In 1 week I eat 2 ice creams. How many ice creams will I eat in: a) 2 weeks? b) 4 weeks? c) 8 weeks? d) 14 weeks? • For every 2 apples Sally eats, she eats 1 banana. Fill in the missing numbers in the sentences below. For every 4 apples, Sally eats ___ bananas. For every ___ apples, Sally eats 8 bananas.	• 1:2 and 3:6 are equivalent ratios. Circle the ratios below that are also equivalent to 1:2 and 3:6 4:5 8:16 4:8 3:9 2:6 Explain how you know. • Finish the sequence of ratios: 3:4, 6:8, 9:12, _____, _____ Explain how you found the missing numbers. What is the rule for the sequence? • 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.	• I measured my stride when walking and found it to be 80cm. If I walk for 16m, how many strides do I take? • Idina is making buns. Can you fill in the missing quantities in the table below? • 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?

	Butter	Sugar	Eggs	Flour
12 buns	120g		2	
24 buns		200g		
30 buns				375g
84 buns				

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Ratio and Proportion

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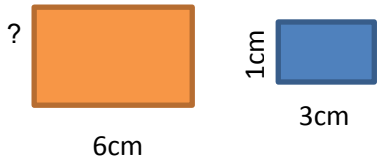
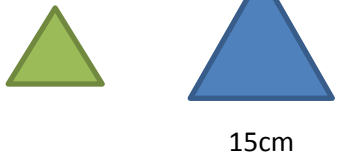
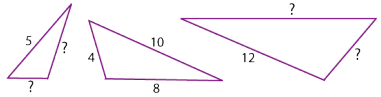
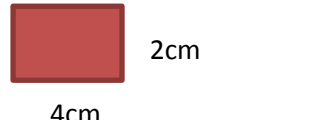
	Fluency	**Reasoning**	**Problem Solving**
Solve problems involving similar shapes where the scale factor is known or can be found.	• These 2 rectangles are similar. Can you find the missing lengths?  • The rectangles in the table below are similar. Fill in the missing lengths and widths. Rectangle / Length / Width A / 5cm / 2cm B / / 4cm C / 25cm / D / / 18cm • Here are two equilateral triangles. The blue triangle is three times larger than the green triangle. Find the perimeter of both triangles.  	• Find the missing lengths.  Can you explain how you found each of the missing lengths? • Tom says these three rectangles are similar.  Do you agree? Explain your reasoning.	• One rectangle has a perimeter of 16cm. Another similar rectangle has a perimeter of 24cm. The length of the smaller rectangle is 6cm. Draw both rectangles. • Draw 3 rectangles with the same area where the length increases by the scale factor 2. Can you find more than one way of doing this?

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Year 6

Ratio and Proportion

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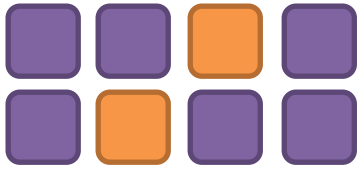
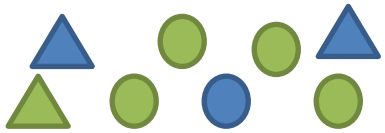
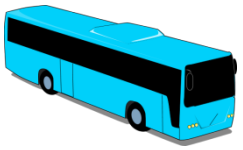
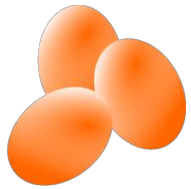
Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.	• Look at the set of shapes. Circle the statements that are true.  1. There are two orange squares for every six purple squares. 2. There are three purple squares for every orange square. 3. The ratio of orange to purple is 1:3 4. The ratio of purple to orange is two to six. • Complete the sentences to describe the set of objects.  There are 3 _____ for every 5 _____. There are _____ for every _____.	• Danyal makes a necklace using green and orange beads. He makes a repeating pattern of 2 green beads and 3 orange beads. If he has 14 green beads and 25 orange beads, can he make a necklace without any beads being left over? Explain your answer. • Sarah makes a necklace using the repeating pattern shown below: Which of the following statements is true? 1. If Sarah uses 12 green beads, she will use more than 30 orange beads. 2. If Sarah uses 12 green beads, she will use exactly 30 orange beads. 3. If Sarah uses 12 green beads, she will use less than 30 orange beads. Explain your reasoning.	• A coach holds 50 people. Most of the seats are taken. Junior tickets cost £13 and Adult tickets cost £23 The total amount paid for tickets is approximately £900 How many people on the coach were adults and how many were juniors? Can you find more than one option?  • A shopkeeper spent exactly £10 on 100 eggs for her shop. Large eggs cost 50p each. Medium eggs cost 10p each. Small eggs cost 5p each. For two of the sizes, the shopkeeper bought the same number of eggs. How many of each size did the shopkeeper buy? 

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