Anston Greenlands Primary School – Medium Term Maths Curriculum
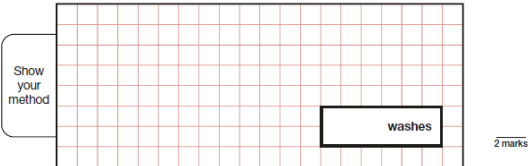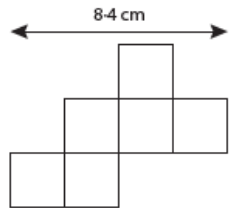
Year 6

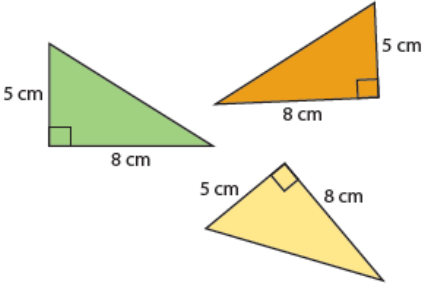Term 1 – Boggle Hole/The Escape Room

Objectives	Approximate number of lessons (70 total)	Investigations/variation	Context/links
Read, write, order and compare numbers up to 10,000,000 and determine the value of each digit.	1		Large numbers linked to countries – populations, areas etc. Read and write these numbers and identify value of digits.
Identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places.	2 (then M&O)	A box of labels costs £24. There are 100 sheets in the box. There are 10 labels on each sheet. Calculate the cost of one label, in pence.	Find 10% and 1%
Round any whole number to a required degree of accuracy.	2	Eduardo says, 'The population of Mexico City is 11 million (to the nearest million) and the population of New York is 11·2 million (to the nearest hundred thousand).' He says, 'The population of New York must be bigger than the population of Mexico City because 11·2 million is bigger than 11 million.' Do you agree with him? Explain your answer. The population of Shanghai is 21 million, to the nearest million. Each person weighs on average 70 kg.	Large numbers linked to countries – populations, areas etc.

		Estimate the total weight of all the people in Shanghai. Do you think your answer is more or less than the actual answer you'd get if you weighed everyone in Shanghai accurately?	
Add decimal numbers with varying numbers of digits after the decimal point	2	Can you use five of the digits 1 to 9 to make this number sentence true? □□·□+□·□ = 31·7 Can you find other sets of five of the digits 1 to 9 that make the sentence true?	Costings linked to enterprise – Escape Room. Calculations linked to residential – e.g. suitcases, shopping
Subtract decimal numbers with varying numbers of digits after the decimal point	2	Two numbers have a difference of 2·38. What could the numbers be if: • the two numbers add up to 6? • one of the numbers is three times as big as the other number? Two numbers have a difference of 2·3. To the nearest 10, they are both 10. What could the numbers be?	
Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why	4	A shop sells boxes of chocolates costing £2·60. The shop also sells packets of sweets. One packet costs £1·39. Ramesh has a £10 note and he wants to buy one box of chocolates. Sara says that Ramesh can work out how many packets of sweets he can buy using the number sentence 10 – 2·60 ÷ 1·39. Do you agree or disagree with Sara? If you disagree, what number sentence do you think Ramesh should use? Explain your reasoning. NRich – Dicey Addition NRich – How much does it cost?	

Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate		**13** A box contains 2.6 kg of washing powder. washing powder 2.6 kg Jack uses 65 grams of powder for each wash. He uses all the powder. How many washes did Jack do? Show your method washes 2 marks	Calculations linked to residential – e.g. suitcases, shopping Calculations linked to alien 'Top Trumps'
Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication	4	It is correct that 273 × 32 = 8736. Use this fact to work out: 27·3 × 3·2 2·73 × 32 000 873·6 ÷ 0·32	Costings for Escape Room visit and enterprise. Area and Perimeter Volume of cuboids Calculating Means
Multiply one-digit numbers with up to two decimal places by whole numbers	1	87·36 ÷ 27·3 8736 ÷ 16 4368 ÷ 1·6	
Divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context	5	In each pair of calculations, which one would you prefer to work out? (a) 35 × 0·3 + 35 × 0·7 or (b) 3·5 × 0·3 + 35 × 7 (c) 6·4 × 1·27 – 64 × 0·1 or (d) 6·4 × 1·27 – 64 × 0·027 (e) 52·4 ÷ 0·7 + 524 ÷ 7 or (f) 52·4 ÷ 0·7 – 524 ÷ 7 (g) 31·2 ÷ 3 – 2·4 ÷ 6 or (h) 31·2 ÷ 3 – 1·2 ÷ 0·3 Explain your choices.	
Use written division methods in cases where the answer has up to two decimal places	1		

solve problems involving addition, subtraction, multiplication and division	3	A box of labels costs £63. There are 140 sheets in the box. There are 15 labels on each sheet. Sara, Ramesh and Trevor want to calculate the cost of one label, in pence. Ramesh uses the number sentence (6300 ÷ 140) × 15. Sara uses the number sentence 63 ÷ 1·4 ÷ 15. Trevor uses the number sentence (15 × 140) ÷ 6300. Who is using the right number sentence? Explain your choice. NRich – Sometimes, Always, Never NRich – Reach 100 NRich – Twenty divided into six NRich – Two and Two	
identify common factors, common multiples and prime numbers	4 Then M&O	NRich – Abundant numbers NRich – Factors and Multiples game	Area and perimeter Escape Room puzzles
Recognise that shapes with the same areas can have different perimeters and vice versa	2	Given an area, investigate possible rectangles with integer sides and calculate the perimeter. Here is a tiled floor pattern. It is made from squares. Work out the perimeter of the design. Give your answer in metres. 8·4 cm 	Factors and multiples Prime and Compound numbers

Calculate the area of parallelograms and triangles Recognise when it is possible to use formulae for area and volume of shapes	3	Which of these right-angled triangles have an area of 20 cm²? 5 cm / 8 cm (green) 5 cm / 8 cm (orange) 5 cm / 8 cm (yellow)	
Calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm^3) and cubic metres (m^3), and extending to other units [for example, mm^3 and km^3].	2	Can you find two or more different cuboids each with a volume of 64 cm^3? What's the same and what's different about your cuboids?	Volumes of buildings
Calculate and interpret the mean as an average.	2	Carol counts the matches in **10** boxes. She works out that the **mean** number of matches in a box is **51** Here are her results for **9 boxes**. Number of matches in a box 48 | 49 | 50 | 51 | 52 | 53 | 54 ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ Calculate how many matches are in the **10th box**.	

use common factors to simplify fractions; use common multiples to express fractions in the same denomination	5	In each number sentence, replace the boxes with different whole numbers less than 20 so that the number sentence is true: $\dfrac{1}{\square} = \dfrac{3}{\square}$ $\dfrac{\square}{3} = \dfrac{\square}{12}$ $\dfrac{\square}{\square} = \dfrac{\square}{\square}$ $\square \div \square = \square \cdot \square$ $\dfrac{30}{\square} = \dfrac{45}{\square}$	
compare and order fractions, including fractions > 1	3	Only a fraction of each whole rod is shown. Using the given information, identify which whole rod is longer $\dfrac{2}{7}$ $\dfrac{3}{9}$ Explain your reasoning.	
add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions	10	On Monday I ran $1\frac{2}{3}$ km and on Tuesday I ran $2\frac{2}{5}$ km. How far did I run altogether on these two days? On Wednesday I ran $1\frac{2}{3}$ km and my sister ran $2\frac{2}{5}$ km. How much further did my sister run than I did? NRich – A4 Fraction Addition	Fraction problems linked to fractions of books read/to read.