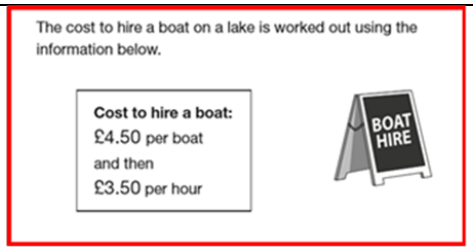
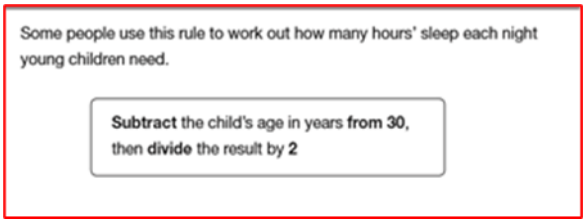
Y6 Personalised Learning Journey Algebra		
NC Objectives: • use simple formulae • generate and describe linear number sequences • express missing number problems algebraically • find pairs of numbers that satisfy an equation with two unknowns • enumerate possibilities of combinations of two variables.		
Resources/documents: Ready to Progress Guidance, White Rose Small steps, White Rose Calculation Policies (Use of concrete), NCETM mastery assessment docs, past SATs questions. Base 10. Place value counters.		
Real life discussion before/during teaching : Where do we use multiplication and division in real life: EG: Sharing out sweets,objects, money etc; at a restaurant sharing the bill.		
Pre- assessment	Assessment tasks	Language Focus
Revision from previous years:	Using fact families and inverse operations to solve missing number problems	
Teaching sequence	Learning tasks	Language Focus
6 Making connections: WALT: Use knowledge of multiplication and division to solve missing number problems.	Teach missing number calculations knowing when to use or not use inverse operations. Teach matching worded problems to division and multiplication calculations. Children can still use equipment to solve these. Daily intervention. Differentiation when ready –problem-solving and reasoning.	Divisor Dividend Quotient Share Divide Divided by Inverse of multiplication Integers Remainder Inverse
7. WALT: Solve missing number worded problems by working backwards and performing the inverse. Working backwards SATs style questions.	SATS style questions start easy then increasingly harder. EG: Zara thinks of a whole number that is less than 20. She doubles it then subtracts 5. Her answer is 11 Teach how to work backwards and perform the inverse.	
8. WALT: Solve problems by using a given formula.	Various worded problems EG:	

	 1. Jay hires a boat for 4 hours. How much does he pay? 2a. Billie and Zara hire a boat for 5 hours. What did they pay in total? b. They share the cost equally. How much do they each pay?  Evie is 8 years old. Use the formula to work out how many hours sleeps she needs. 2. Harry is 10 years old. Use the formula to work out how much sleep he needs. 3. Lisa is 6 years old. She wakes up at 7am every morning. Use the formula to work out what time she needs to go to bed.	
WALT: Use algebra for substitution	Give simple statements and show how to use algebra to substitute numbers EG: Zara went shopping and bought 2 items of clothing. They cost £25 altogether. What do we know about this statement? What don't we know? How much the 2 items cost. What questions could we ask? How much did each item cost? Could we write this as a number sentence? + = £25 Could we write this as an algebraic equation? a + b = £25 (different answers: £10 + £15 = £25 OR £8 + £17 = £25 many more answers) AND Billie bought 6 t-shirts that were the same price. The total cost was £72. What do we know about this statement? All 6 T-shirts are all the same price	

	What don't we know? How much the T shirts are. What questions could we ask? How much were the T shirts? Could we write this as a number sentence? 6 x = £72 Could we write this as an algebraic equation? 6a = £72 a = £72 ÷ 6 = £12	
WALT: Balance algebraic equations	Start with simple statements true or false? EG: 10 + 5 = 25 -10 Ensure that they know each side must be equal. 4 x 4 = 2 x 8 18 + 40 = 15 x 4 9 squared = 87 – 6 Move to algebraic equations EG: So how can we balance these algebraic equations? a + b = c + d e - f = g + h km = ny Ensure that they know that there are multiple possibilities.	