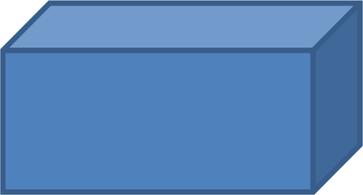
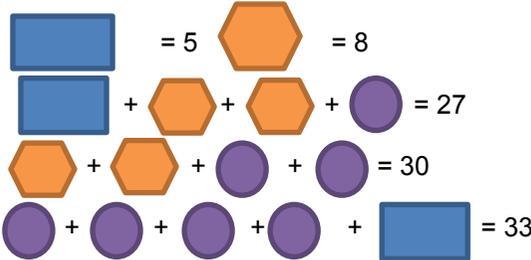
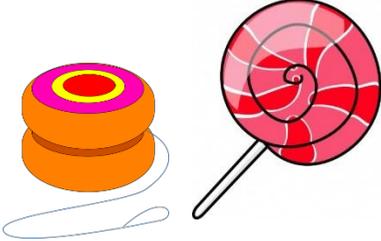


	National Curriculum Statement	All students																		
		Fluency	Reasoning	Problem Solving																
Algebra	<p>Enumerate possibilities of combinations of two variables.</p>	<ul style="list-style-type: none"> In this equation, a and b are both whole numbers which are less than 12. <div style="text-align: center; border: 1px solid black; border-radius: 10px; background-color: #6a3d9a; color: white; padding: 5px; width: fit-content; margin: 0 auto;"> $2a=b$ </div> <p>Write the calculations that would show all the possible values for a and b.</p> <ul style="list-style-type: none"> Use the equation to fill in the missing values in the table below. $7x + 4 = y$ <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Value of x</th> <th>Value of y</th> </tr> </thead> <tbody> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </tbody> </table>	Value of x	Value of y									<ul style="list-style-type: none"> $ab = 9$ <p>Deanna says,</p> <div style="text-align: center; border: 1px solid black; border-radius: 15px; background-color: #76b82a; color: white; padding: 10px; width: fit-content; margin: 0 auto;"> "a and b must both be odd numbers" </div> <p>Do you agree? Prove it.</p> <ul style="list-style-type: none"> The bar model below shows the equation $2g + w = 10$ <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td colspan="3" style="text-align: center;">10</td> </tr> <tr> <td style="text-align: center;">g</td> <td style="text-align: center;">g</td> <td style="text-align: center;">w</td> </tr> </table> <p>Can you draw a bar model to represent the following equations: $3f + g = 20$ $7a + 3b = 40$</p> <p>What could the letters represent?</p>	10			g	g	w	<ul style="list-style-type: none"> Lollipops come in bags of 5 and chocolate bars come in packs of 4. Mr Smith needs to buy 79 individual sweets in total. How many different combinations of lollipops and chocolate bars could he buy? Can you write the equation that shows this problem? The volume of a cuboid is 152cm^3. The length of the cuboid is 8cm. <p>What could the width and depth of the cuboid be?</p> <div style="text-align: center;">  <p>8cm</p> </div>
Value of x	Value of y																			
10																				
g	g	w																		

	National Curriculum Statement	All students		
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Algebra	Express missing number problems algebraically.	<ul style="list-style-type: none"> Which of the following algebraic statements correctly describes the following problem? <i>"Four times a number and add 5 to get the answer 17"</i> <div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; background-color: #8e44ad; padding: 5px; border-radius: 10px;">$4n + 5 = 17$</div> <div style="border: 1px solid black; background-color: #3498db; padding: 5px; border-radius: 10px;">$5n + 4 = 17$</div> </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div style="border: 1px solid black; background-color: #2980b9; padding: 5px; border-radius: 10px;">$n^4 + 5 = 17$</div> <div style="border: 1px solid black; background-color: #27ae60; padding: 5px; border-radius: 10px;">$4(n + 5) = 17$</div> </div> <ul style="list-style-type: none"> An electrician charges £15 for every job that he attends and then £8 an hour for every hour he works. Tick the formula that could be used to calculate how much the electrician would charge for a job. h stands for hours: <div style="display: flex; justify-content: center; gap: 20px; margin-top: 10px;"> $9h - 16$ $16h + 9$ </div> <div style="display: flex; justify-content: center; gap: 20px;"> $9h + 16$ </div> A plumber charges £9 an hour. She is currently offering a £5 discount for all jobs. Write a formula to calculate how much money she should charge her customers. 	<ul style="list-style-type: none"> A taxi driver charges £3 at the start of each journey. For every mile covered another 25p is added to the fare. <div style="text-align: center; margin: 20px 0;">  </div> <p>The driver writes the following formula. Cost of journey = $3 + \text{number of miles} \times 25$</p> <p>Is the formula correct? Prove it.</p> <ul style="list-style-type: none"> James and Kelsey are using the following formula to work out what they should charge for three hours work. Cost in pounds = $40 + 20 \times \text{number of hours}$ <p>James writes down £180 Kelsey writes down £100</p> <p>Who do you agree with? Why?</p>	<ul style="list-style-type: none"> Find the value of the circle in each of the following problems. It is worth a different value in each question. <div style="text-align: center; margin: 10px 0;">  </div> <p>Can you write each of the number sentences above algebraically?</p> <ul style="list-style-type: none"> Kyra has 92p. She buys yoyos (y) costing 11p and lollies (l) cost 4p. Can you write a formula to solve her problem? Can you find more than one set of numbers to solve her problem? <div style="text-align: center; margin-top: 20px;">  </div>

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Algebra	<p>Find pairs of numbers that satisfy an equation with two unknowns.</p>	<ul style="list-style-type: none"> X and Y are whole numbers. X is a one digit number. Y is a two digit number. $X + Y = 25.$ <p>Find all the possible pairs of numbers that satisfy the equation.</p> <ul style="list-style-type: none"> a and b are variables: $a + b = 6$ <p>Find 5 different possibilities for a and b.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>a</th> <th>b</th> </tr> </thead> <tbody> <tr><td> </td><td> </td></tr> </tbody> </table> <ul style="list-style-type: none"> Find 3 different possible pairs of values for a and b: $ab = 18$ <p>1) a= b= 2) a= b= 3) a= b=</p>	a	b											<ul style="list-style-type: none"> Rhian is solving the equation $a + b = 18$ <p>a and b are both positive whole numbers.</p> <p>Rhian says,</p> <div style="border: 1px solid blue; border-radius: 15px; padding: 5px; background-color: #4a7ebb; color: white; text-align: center; width: fit-content; margin: 10px auto;"> <p>“a and b must both always be less than 18.”</p> </div> <p>Do you agree?</p> <p>Explain your reasoning.</p> <ul style="list-style-type: none"> Toby is finding a pair of numbers to fit the equation: $2a + b = 15$ <p>Both letters represent whole numbers.</p> <p>Toby says, “One of the numbers must be odd and one must be even,”</p> <p>Do you agree with Toby?</p> <p>Show your reasoning.</p>	<ul style="list-style-type: none"> a and b stand for whole numbers. $a + b = 1000$ and a is 150 greater than b. Work out the values of a and b. A rectangle has the area 24cm^2. This is expressed through the equation $l \times w = 24\text{cm}^2$. <p>What could l and w stand for? Draw the rectangles to prove that the area is 24cm^2.</p> <ul style="list-style-type: none"> x and y are both whole positive numbers. When multiplied together they make an odd number under 20. What could x and y be?
a	b															