EFFECTIVE MATHS



This booklet contains suggestions about activities for greater depth. The activities are directly linked to the content of specific lessons, making them a relevant, logical way to develop children's understanding.

The overwhelming majority of greater depth tasks appear on the independent task worksheet under the heading 'Challenge'. Where possible, other activities have been written so that they do not require the teacher to make another worksheet/sticker that needs to printed and stuck in. The teacher's notes on the independent task slide also contains the suggestions for greater depth.

The activities here are *suggested* activities that will likely work well for many of the children who complete the independent task successfully. Clearly the class teacher will have specific knowledge of the needs of the children within the class and may determine different challenges are appropriate.

Lesson	Focus	Suggestions for greater depth
1	Equal groups	The greater depth task is located Equal groups at the bottom of the independent task (see right).
		Tick the group with the most legs.
		[a] 5 starfish with 5 legs each.
		[b] 3 crabs with 10 legs each.
		Explain your reasoning.
		(Adapted from NCETM Teaching for $\ \ \ \ \ \ \ \ \ \ \ \ \ $
		Starfish [a] 5 starfish with 5 legs + + + = starfish with legs each [b] 3 crabs with 10 legs x = Explain your reasoning.
2	5 × table	The greater depth task is located at the bottom of the independent [1] How many task (see right).
		Children find missing numbers. (This
		time the multiplier (the number of groups) is missing.) [2] How many statements can you write about the arrays?
		[3] Find the missing numbers. [a] $2 \times 5 =$ [b] $4 \times 5 =$ [c] $6 \times 5 =$ [d] $8 \times 5 =$ [e] $10 \times 5 =$ [f] $12 \times 5 =$
		CHALLENGE[a] \times 5 $=$ 15 Find the missing numbers.[b] \times 5 $=$ 25 [c] 35 $=$ \times 5 [d] 45 $=$ \times 5

Lesson	Focus	Suggestions for greater depth	
3	10 × table	The greater depth task is located at the bottom of the independent task (see right). Tick the statements that are correct. 10 + 10 + 10 = 3 × 10 3 × 10 = 6 × 5	 <u>10 × table</u> [1] Mustafa, Mia, Temi and Sarah have 10 balls each. How many balls do they have altogether? Write a multiplication sentence to prove your answer. [2] How many statements can you write about the arrays?
		6 × 5 = 5 + 5 + 5 + 5 + 5	[3] Find the missing numbers. [a] $9 \times 5 =$ [b] $= 11 \times 5$ [b] $9 \times 10 =$ [f] $= 11 \times 10$ [g] $= 12 \times 5$ [d] $10 \times 10 =$ [h] $= 12 \times 10$ CHALLENGE Tick the statements that are correct. $10 + 10 + 10 = 3 \times 10$ $3 \times 10 = 6 \times 5$ $6 \times 5 = 5 + 5 + 5 + 5 + 5$
4	2 × table	The greater depth task is located at the bottom of the independent task (see right). Finding missing × and = symbols and finding missing numbers.	2 \times tabe1Find the missing numbers.3groups ofandgroups ofgroups ofgroups ofmakesgroups ofgroups ofgroups ofwhich equalsgroups ofo9 \times 2o20 $+1 + 1$ 10 \times 20 $+ 2 + 2$ 12 \times 010 $+ 4 + 4$ 12 \times 010 $+ 5 + 5$ CHALENCE1321411510162162162171618219101021010101010101010101010101110121013214101510161016101710182191010101110121013101410151016101710182191019101910191010101110121013101410151016101710

Lesson	Focus	Suggestions for greater depth	
5	Division: sharing by 2	The greater depth task is located at the bottom of the independent task (see right).	DIVISION Sharing by 2 [1] 8 apples are shared between 2 children. How many apples does each child receive?
		Jason and Shazia want to share sweets out equally between them. They can buy bags of 17, 16 or 15 sweets. Which bag should they buy? What other numbers of sweets cou be shared equally? (Adapted from NCETM Teaching fo Mastery Y2)	 [2] 12 children go on a school trip. They are divided into 2 groups. How many children are in each group? Image: Image: Imag
			<u>CHALLENGE</u> Jason and Shazia want to share sweets out equally between them. They can buy bags of 17, 16 or 15 sweets. Which bag should they buy? What other numbers of sweets could be shared equally?
6	Division: making groups of 2	The greater depth task is located at the bottom of the independent task (see right).	DIVISION BY GROUPING GROUPS OF 2 Circle to show groups of 2 and write a division sentence and a multiplication sentence for each picture.
		Draw some shapes of your own and put them into groups of 2. Write a division sentence and a multiplication sentence to describe what you have drawn.	10 ÷ 2 = 5 × 2 = [2] 10 10 10 10 10 10 10 10 10 10 10 10 10
			<u>CHALLENGE</u> Draw some shapes of your own and put them into groups of 2. Write a division sentence and a multiplication sentence to describe what you have drawn.

Lesson	Focus	Suggestions for greater depth	
7	Odd and even numbers	The greater depth task is located at the bottom of the independent task (see right). Add more numbers to the Venn diagram. How many more numbers can be added to the 'less than 10' set?	Odd and even numbers Sort the numbers onto the Venn diagram. 5 6 8 9 19 20 21 28 29 32 48 USE Challenge Ad more numbers to the Venn diagram.
8	Dividing by 5	The greater depth task is located at the bottom of the independent task (see right). Here are some odd and even numbers. Divide them by 5. What do you notice?	<section-header></section-header>

Lesson	Focus	Suggestions for greater depth	
9	Dividing by 10	The greater depth task is located at the bottom of the independent task (see right). [a] Share 70 squares between 10 people. [b] Put 70 squares into groups of 10.	$\begin{array}{c} \text{Dividing by 10} \\ [1] \text{Find the missing numbers.} \\ \hline \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0$

Lesson	Focus	Suggestions for greater depth
1	5 × table - revision	The greater depth task is located at the bottom of the independent task (see right). Which calculations could help solve $15 \times 5?$ (2) What calculations are represented by the bars? (3) Find the products. (3) Find the products. (4) $5 \times 5 = 1$ (5) $5 \times 5 = 1$ (5) $5 \times 5 = 1$ (6) $4 \times 5 = 1$ (7) $\times 5 = 1$ (1) $4 \times 5 = 1$ (2) $4 \times 5 = 1$ (3) $4 \times 5 = 1$ (4) $4 \times 5 = 1$ (4) $4 \times 5 = 1$ (5) $5 \times 5 = 1$ (5) $5 \times 5 = 1$ (6) $4 \times 5 = 1$ (7) $\times 5 = 1$ (7) $\times 5 = 1$ (1) $4 \times 5 = 1$ (2) $4 \times 5 = 1$ (3) $4 \times 5 = 1$ (4) $4 \times 5 = 1$ (5) $5 \times 5 = 1$ (5) $5 \times 5 = 1$ (6) $4 \times 5 = 1$ (7)
		Which calculations could help solve 15 × 5?
2	4 × table	The greater depth task is located at the bottom of the independent task (see right). Look at the ones digits in the products of the 4 × table. Explain what you notice. Will this continue?

Lesson	Focus	Suggestions for greater depth
3	8 × table	The greater depth task is located at the bottom of the independent task (see right). Find the missing digits and explain how you approached this task. Did children use the sequence in the ones digits to support? $8 \blacktriangleright 6 \blacktriangleright 4 \blacktriangleright 2 \blacktriangleright 0$ $\begin{bmatrix} 21 \\ Tick the products that are in the 4 × table and tick theproducts that are in the 8 × table.\\ \hline \\ \hline$
4	3 × table	The greater depth task is located at the bottom of the independent task (see right). The challenge takes the concept from question [1] and varies it. (Adapted from NCETM Teaching for Mastery Y3) $10 \times 3 \cdot 3 \times 3 = 0$ $2 \times 3 = 6$ $3 + 3 + 3 = 2 \times 3 = 6$ $3 + 3 + 3 = 2 \times 3 = 6$ $3 + 3 + 3 = 2 \times 3 = 6$ $3 + 3 + 3 + 3 = 2 \times 3 = 6$ $3 + 3 + 3 + 3 = 2 \times 3 = 6$ $3 + 3 + 3 + 3 = 2 \times 3 = 6$ $3 + 3 + 3 + 3 = 2 \times 3 = 6$ $3 + 3 + 3 + 3 = 2 \times 3 = 6$ $3 + 3 + 3 + 3 = 2 \times 3 = 6$ $10 \times 3 - 3 \times 3 = 2 = 2$ 1

Lesson	Focus	Suggestions for greater depth	
5	Solving problems involving the 3, 4 and 8 × tables	The greater depth task is located at the bottom of the independent task (see right). Solve a multi-step problem. Holly has a jar of marbles. She has 9 friends. She has 9 friends. She gives them 8 marbles each. She has 28 marbles left. How many marbles were in the jar at the start?	Problems involving the 3, 4 and 8 times tables [1] The number 24 goes in three places on this multiplication grid. Image: Colspan="2">Image: Colspan="2" Colspan="2">Image: Colspan="2" Colspa="2" Colspan="2" Colspan="2" Colspan="2" Colsp
6	Dividing by 4	The greater depth task is located at the bottom of the independent task (see right). Children to think of other ways to represent the calculation. NB This task is repeated in the next lesson, so spend time exploring different ways at the end of this lesson to enable more children to come up with more ways in the next lesson.	Dividing by 4 Circle the cubes to show them being shared between four people.

Lesson	Focus	Suggestions for greater depth	
7	Dividing by 8	The greater depth task is located at the bottom of the independent task (see right). Children to think of other ways to represent the calculation.	Dividing by 8 Circle the squares to show them being shared between eight people. Now circle the squares to show them being put into groups of eight. Write the division fact that is represented by both of the above examples. CHALLENGE Think of other ways to represent this calculation.
8	Dividing by 3	The greater depth task is located at the bottom of the independent task (see right). Create your own representation/s and write the related facts for	Dividing by 3 Write a family of multiplication and division facts linked to each representation. 1 1 1 1 1 1 1 1 1 1 1 1 1
		21 ÷ 3 = 7.	<u>CHALLENGE</u> Create your own representation/s and write the related facts for $21 \div 3 = 7$.

Lesson	Focus	Suggestions for greater depth	
1	8 × table - revision	The greater depth task is located at the bottom of the independent task (see right). If you know the answer to 6 × 8, what else do you know?	<complex-block></complex-block>
2	Reasoning about multiplication	The greater depth task is located at the bottom of the independent task (see right). Children create their own multiplication puzzles.	Multiplication puzzles[1] Find the missing numbers. 5×8 5×8 5×7 5×7 5×7 5×7 $6 36$ 24 24 24 24 24 24 24 24 24 24 24 24 24 24 36 24 24 36 24 36 24 36 44 4

Lesson	Focus	Suggestions for greater depth	
3	6 × table	 The greater depth task is located at the bottom of the independent task (see right). Find four more numbers to add to the Venn diagram: one for the 6 × table set; one for the 8 × table set; one for the intersection; one for the universal set. 	6 × table [1] Find a multiplication sentence to describe each array. Image: sentence to describe to describe to describe each array. Image: sentence to describe
4	9 × table	The greater depth task is located at the bottom of the independent task (see right). [a] Explain what you notice about the products in the 6 × table and the products in the 3 × table. [b] Explain what you notice about the products in the 9 × table and the products in the 3 × table.	9 × table 11 Describe all of each array and then describe the parts. Image: stable and the stable and

Lesson	Focus	Suggestions for greater depth	
5	7 × table	The greater depth task is located at the bottom of the independent task (see right). Explain the relationship between the 7 × table and the 5 and 2 × tables.	$J \times table$ [1] Describe the parts of each array then describe all of each array. $J \to J$
6	Dividing by 6	The greater depth task is located at the bottom of the independent task (see right). Think of other ways to represent this calculation.	Dividing by 6 Circle the cubes to show them being shared between six people.

Lesson	Focus	Suggestions for greater depth
7	Dividing by 9	The greater depth task is located at the bottom of the independent task (see right). What could the missing digits be? Find different possibilities.
8	Dividing by 7	The greater depth task is located at the bottom of the independent [1] task (see right). What could the missing digits be? Find different possibilities. $\begin{bmatrix} Can you \\ continue the \\ sequence? \\ \begin{bmatrix} a \\ 20 \\ = 84 \\ + 7 \\ + 1 \\ \end{bmatrix}$ $\begin{bmatrix} a \\ 20 \\ = 77 \\ + 7 \\ + \\ \end{bmatrix}$ $\begin{bmatrix} c \\ 20 \\ = 63 \\ + 7 \\ + \\ \end{bmatrix}$ $\begin{bmatrix} c \\ 20 \\ = 56 \\ + 7 \\ + \\ \end{bmatrix}$ $\begin{bmatrix} a \\ 20 \\ = 56 \\ + 7 \\ + \\ \end{bmatrix}$

Lesson	Focus	Suggestions for greater depth	
1	9 × table - revision	The greater depth task is located at the bottom of the independent task (see right). Use all the digits to create two multiplication sentences from the × table.	<pre>9 × table - revision [1] Describe all of each array and then describe the parts. 9 ALL: ALL: PARTS: PARTS: [2] Add the products from the 9 × table to the multiplication grid. 1 2 3 4 5 6 7 8 9 10 11 12 2 4 4 5 6 7 8 9 10 11 12 3 4 5 6 7 8 9 10 11 12 3 4 5 6 7 8 9 10 11 12 3 4 5 6 7 8 9 10 11 12 3 4 5 6 7 8 9 10 11 12 3 4 5 6 7 8 9 10 11 12 3 4 5 6 7 8 9 10 11 12 3 4 5 6 7 8 9 10 11 12 3 4 5 6 7 8 9 10 11 12 3 4 5 6 7 8 9 10 11 12 3 4 5 6 7 8 9 10 11 12 3 4 5 6 7 8 9 10 11 12 4 4 5 6 7 8 9 10 11 12 3 4 5 6 7 8 9 10 11 12 4 4 5 6 7 3 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9</pre>
2	Reasoning about multiplication	The greater depth task is located at the bottom of the independent task (see right). Children create their own multiplication puzzles.	Multiplication puzzles[1] Find the missing numbers. 12×8 12×7 $12 \times $

Lesson	Focus	Suggestions for greater depth	
3	Factors	The greater depth task is located at the bottom of the independent task (see right).	Factors [1] What number are the open arrays showing the factors of? What are the factors of that number?
		'Factors come in pairs so all numbers have an even number of factors.' Do you agree? Explain your reasoning.	[2] Find the missing factors. Factors of 24 1 2 3 4 Factors of 36
		(NCETM Teaching for Mastery Y5)	[3] Sort the numbers onto the Venn diagram. 50 40 30 20 10 1 2 4 5 8 9 FACTORS OF 40 MULTIPLES OF 10 FACTORS OF 40 MULTIPLES OF 10 CHALLENGE 'Erctors come in paging so all numbers have an even number of
			factors.' Do you agree? Explain your reasoning.
4	Understanding division	The greater depth task is located at the bottom of the independent task (see right). Draw an array of your own and find different ways to describe it, including using division.	Understanding division [1] Find the missing numbers. squares are shared between people. Each person receives squares. [2] Use division to find two ways to describe each array.
			$\begin{array}{c} \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\$

Lesson	Focus	Suggestions for greater depth			
5	Division problems	The greater depth task is located at the bottom of the independent task (see right). What could the missing digits be? Find different possibilities.	[1]	Division In the diagrams on the right the rule is 'to make the number in a triangle, multiply the numbers in the two circles above it'. Find the missing numbers.	on problems 10 11 30 100 121 20 70 100 100 120 490
			[2]	Create your own example.	
			[3]	Find the missing numbers.	
			[4]	Find the 5 7 ÷ digits. 5 7 ÷	9 = remainder 1
			<u>CHALI</u> What	LENGE could the missing digits I	7 = 8 remainder 1 be? Find different possibilities. = 6 remainder 1
6	Multiplication arithmagons	The greater depth task is located at the bottom of the independent task (see right).	[1]	Multiplicat Find the missing produ	tion arithmagons cts.
		The diagrams below work in the same way as the arithmagons: the	(ó- <u></u>]-€	9-1-12
		numbers in the circles are multiplied to obtain the numbers ir the squares. Find different ways to complete the diagrams.	[2] h	Find the missing factor	s. 48 42
			CHAL	LENGE	56-56
			numb	ers in the circles are mu es. Find different ways t	o complete the diagrams.
				- - •	

Lesson	Focus	Suggestions for greater depth	
7		The greater depth task is located at the bottom of the independent task (see right).	Common factors and common multiples [1] [a] What are the common factors of 18 and 28? [b] What is the greatest common factor of 18 and 28?
		The greatest common factor and the lowest common multiple of 40 and _0 sum to 210. Find the missing digit.	 [2] Add the factors of 32 and 44 to the Venn diagram. [3] FACTORS OF 32 FACTORS OF 44 [4] Find the greatest common factor of 30 and 40. Find the lowest common multiple of 30 and 40. [3] GREATEST COMMON FACTOR [30] [40] LOWEST COMMON MULTIPLE [30] [40] CHALLENGE The greatest common factor and the lowest common multiple of 4 0 and 0 sum to 210. Find the missing digit.
8		The greater depth task is located at the bottom of the independent task (see right). Emma thinks of two prime number She adds the two numbers togethe Her answer is 30. What prime numbers could Emma be thinking of? How many possibilities can you find	Prime numbers [1] Write a list of the first 10 prime numbers. 1 </th

Lesson	Focus	Suggestions for greater depth		
9	Square numbers	The greater depth task is located at the bottom of the independent task (see right).	[1]	Square numbers Find the missing words. * 1 2 3 4 5 6 When you a number 2 2 4 6 8 10 12 by, the result is a 3 3 6 9 12 15 16 number. 5 5 10 15 20 24
		Find 2 square numbers that add together to make another square number.	[2]	True or false? 10 ² is the sum of the first ten odd numbers. Prove your answer.
		How many possibilities can you find	d ? ₃]	Every square number ends in either 0, 1, 4, 5, 6 or 9. Investigate.
			[4]	What happens if you subtract a square number from the next square number?
			<u>CHALI</u>	LENGE
			Find 2 numbe How n	2 square numbers that add together to make another square er. many possibilities can you find?

Lesson	Focus	Suggestions for greater depth	
1	7 × table - revision	The greater depth task is located at the bottom of the independent task (see right).	<u>7 × table - revision</u> [1] Describe all of each array and then describe the parts.
		A shop sells packs of sweets. Each pack has one red sweet and two purple sweets and four green sweets. Amy buys some packs so she has fourteen purple sweets. How many sweets does she have altogether?	ALL: ALL: PARTS: PARTS: [2] Each diagram is part of the multiplication grid. Find the missing numbers. Image: Comparison of the multiplication grid. 14 21 15 21 77 84
2	Multiples and factors -	The greater depth task is located at the bottom of the second	Factors [1] Sort the numbers onto the Carroll diagram. (0) 2(0) 10 25 57 140 54
	revision	independent task (see right).	69 36 10 35 57 14 54 multiples of 3 factors of 70
		Here are some number cards.	odd
		7, 8, 9, 10, 11, 12, 13, 14 Jason picks two even numbers. Jon picks two odd numbers. Jason gives one of his cards to Jon Jon gives one of his cards to Jason Jason says, 'Now my cards are both factors of 28'. Jon says, 'Now my cards are both multiples of 3'. What numbers did they each start with?	[2] Find the missing numbers. 3 2 × 6 = 3 2 × 3 × 3 0 × 4 0 = 3 0 × 4 × 3 0 × 4 0 = 3 0 × 4 × (3] Find the common factors of 25, 60 and 100. (3] Find the common factors of 25, 60 and 100. (3] Find the common factors of 25, 60 and 100. (3) Find the common factors of 25, 60 and 100. (4) Find the common factors of 25, 60 and 100. (4) Find the common factors of 25, 60 and 100. (5) CHALLENGE Here are some number cards. (7) 8 9 10 11 12 13 14 Jason picks two even numbers. Jon picks two odd numbers. Jason gives one of his cards to Jason. Jon gives one of his cards to Jason. Jason says, 'Now my cards are both factors of 28'. Jon says, 'Now my cards are both multiples of 3'. What numbers did they each start with?

Lesson	Focus	Suggestions for greater depth
3	Prime numbers, square numbers and cube numbers - revision	The greater depth task is located at the bottom of the independent task (see right). Think of 6 more numbers to add to the Venn diagram. [1] Prime numbers set [2] Prime numbers set [2] Prime numbers /odd numbers set [3] Odd numbers set [4] Odd numbers set [5] Square numbers set [6] Universal set [7] Square numbers to add to the Venn diagram. [1] Prime numbers set [2] Prime numbers set [3] Odd numbers set [4] Odd numbers set [5] Square numbers set [6] Universal set [7] Square numbers set [8] Universal set [9] Square numbers set [1] Prime numbers set [2] Prime numbers set [3] Odd numbers set [4] Sort the different cube numbers in every box to complete the statements below. [9] Write different cube numbers in every box to complete the statements below. [9] Write different cube numbers in every box to complete the statements below. [1] Trime numbers set [2] Prime numbers set [3] Odd numbers set [4] Odd numbers set [6] Universal set [7] Siguare numbers to add to the Venn diagram. [1] Prime numbers set [2] Prime numbers set [3] Odd numbers set [4] Sourt the Venn diagram. [4] Diversal set [4] Sourt the Venn diagram. [5] Square numbers set [6] Universal set [6] Universal set [7] Siguare numbers intersection [8] Square numbers set [9] Square numbers set
4	Strategies for multiplication	The greater depth task is located at the bottom of the independent task (see right). Find the missing numbers. (Adapted from NCETM Teaching for Mastery Y6) $\begin{bmatrix} 6 & x & 9 & = \\ 3 & x & 9 & = \\ 1.5 & x & 9 & = \\ 1.5 & x & 9 & = \\ 2.4 & x & 6 & x & 20 & = \\ 2.2 & x & 6 & x & 20 & = \\ 2.2 & x & 6 & x & 20 & = \\ 2.2 & x & 6 & x & 20 & = \\ 2.2 & x & 6 & x & 20 & = \\ 2.2 & x & 6 & x & 20 & = \\ 3 & What would the products. That the products of these calculations be? \begin{bmatrix} 29 & x & 9 & = & 351 \\ 49 & x & 9 & = & 351 \\ 49 & x & 9 & = & 351 \\ 49 & x & 9 & = & 351 \\ 49 & x & 9 & = & 351 \\ 49 & x & 9 & = & 351 \\ 49 & x & 9 & = & 351 \\ 49 & x & 9 & = & 351 \\ 49 & x & 9 & = & 351 \\ 49 & x & 9 & = & 441 \\ \begin{bmatrix} 4 \\ Ling buys 12 bags of 100 balloons.\\ Who has the most balloons and why?\\ How many balloons dowthich has the greatest product. Can you use the digits 5, 6 and 7 once to make the multiplication with the smallest product. Can you use the digits to make the multiplication with the smallest product. 24 & 6 & x & 20 & = \\ 25 & x & 4 & x & 40 & = \\ 22 & x$

Lesson	Focus	Suggestions for greater depth
5	Strategies for division	Strategies for divisionThe greater depth task is located at the bottom of the independent task (see right).Strategies for division $\begin{bmatrix} 1 \\ 216 \div 6 \end{bmatrix}$ $\begin{bmatrix} 180 \div 6 \end{bmatrix}$ $\begin{bmatrix} 180 \div 6 \end{bmatrix}$ $\begin{bmatrix} 180 \div 7 \end{bmatrix}$ $\begin{bmatrix} 12 \\ 216 \div 6 \end{bmatrix}$ $\begin{bmatrix} 210 \div 7 \end{bmatrix}$ $\begin{bmatrix} 49 \div 7 \end{bmatrix}$ $\begin{bmatrix} 216 \div 6 \end{bmatrix}$ $\begin{bmatrix} 216 \div 6 \end{bmatrix}$ $\begin{bmatrix} 259 \div 7 \end{bmatrix}$
		Look at the calculations in question [1]. What would the answer to question [1e] be? What would the question be? $\begin{bmatrix} 240 \div 8 = \\ \underline{64 \div 8 =} \\ \underline{304 \div 8 =} \\ \underline{304 \div 8 =} \\ \underline{351 \div 9 =} \\ \underline{351 \div 9 =} \\ \underline{260 \div 4 =} \\ \underline{116 \div 2 \div 2 =} \\ \underline{260 \div 4 =} \\ \underline{116 \div 2 \div 2 =} \\ \underline{260 \div 4 =} \\ \underline{116 \div 2 \div 2 =} \\ \underline{260 \div 4 =} \\ \underline{116 \div 2 \div 2 =} \\ \underline{260 \div 4 =} \\ \underline{116 \div 2 \div 2 =} \\ \underline{116 \div 4 =} \\ 11$
		$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
		$\begin{bmatrix} 3 \end{bmatrix} \begin{bmatrix} a & 12 & \div & 6 & = \\ & 6 & \div & 6 & = \\ & 3 & \div & 6 & = \\ \hline & 10.5 & \div & 7 & = \\ \hline \end{bmatrix} \begin{bmatrix} b & 42 & \div & 7 & = \\ & 21 & \div & 7 & = \\ & 10.5 & \div & 7 & = \\ \hline \end{bmatrix}$
		c192 \div 8=d95 \div 10=192 \div 4=95 \div 5=192 \div 2=95 \div 2.5=CHALLENGELook at the calculations in question [1]. What would the answer to question [1e] be? What would the question be?
6	Reasoning about division	The greater depth task is located at the bottom of the independent task (see right). Explain the relationships between the calculations. $4,816 \div 1 = 4,816$ $4,816 \div 1 = 301$
		Devise a similar set of calculations. 4,816 ÷ 4 = 1,204 4,816 ÷ 32 = 150.5 <u>CHALLENGE</u> Devise a similar set of calculations.

Lesson	Focus	Suggestions for greater depth	
7	Multiplying a 2-digit number by a 2-digit number - revision	The greater depth task is located at the bottom of the independent task (see right). Find the missing digits in compact column method for multiplication.	Compact method for multiplying a 2-digit number by a 2-digit number - revision Use the compact column method to solve the calculations.
			$ \begin{array}{c c c c c c c c c c c c c c c c c c c $
8	Solving problems involving multiplying a 2-digit number by a 2-digit number	The greater depth task is located at the bottom of the independent task (see right). Look at the answers to questions [1]-[4]. What do you notice? Explain why this happens.	Word problems involving long multiplication [1] A supermarket orders 44 boxes of eggs. Each box contains 4 cartons of eggs. Each carton contains 12 eggs. How many eggs does the supermarket order in total? [2] Another supermarket orders 22 boxes of eggs. Each box contains 4 cartons of eggs. Each carton contains 24 eggs. How many eggs does the supermarket order in total? [3] In a supermarket storeroom there are: • 40 boxes of tomato soup • 40 boxes of togetable soup • 8 boxes of chicken soup There are 24 tins in every box. How many tins of soup are there altogether? [4] In another supermarket storeroom there are: • 24 boxes of tomato soup • 30 boxes of chicken soup There are 24 tins in every box. How many tins of soup are there altogether? [4] Lin another supermarket storeroom there are: • 24 boxes of tomato soup • 30 boxes of chicken soup There are 24 tins in every box. How many tins of soup are there altogether? [4] Lin another supermarket storeroom there are: • 24 boxes of tomato soup • 30 boxes of segetable soup • 30 boxes of segetable soup • 30 boxes of chicken soup There are 24 tins in every box. How many tins of soup are there altogether? CHALLENGE Look at the answers to questions [1]-[4]. What do you notice? Explain why this happens.

Lesson	Focus	Suggestions for greater depth	
9		There is no worksheet for the	Multiplying a 3-digit number by a 2-digit number
	independent task - which is shown on a slide (see right).	on a slide (see right).	Solve each of these calculations using the compact column method. Can you use a further method to check?
The	The challenge is to explain the relationship between the	[1] 375 × 25 [2] 385 × 25	
	calculations.	[3] 385 × 26 [4] 395 × 26	
		<u>CHALLENGE</u> Explain the relationship between the calculations.	