

Maths Progression Document Multiplication and Division Year 5 and 6

	<p>Reception Vocabulary Sharing, doubling, having, number patterns</p> <p>Year 1 Vocabulary Multiplication, multiply, multiplied by, multiple</p> <p>Division, dividing, grouping, array</p> <p>Year 2 Vocabulary groups of, times, once, twice, three times ... ten times</p> <p>repeated addition divide, divided by, divided into, share, share equally, left, left over one each, two each, three each ... ten each</p> <p>group in pairs, threes ... tens</p> <p>equal groups of, row, column multiplication fact, division fact</p> <p>Year 3 Vocabulary Factor, product, remainder</p> <p>Year 4 Vocabulary Inverse, (consolidate factor and product)</p>	
Key Vocabulary	<p>Year 5 Vocabulary Square, squared, cube, cubed, prime, composite</p>	<p>Year 6 Vocabulary No new vocab, (consolidate Y5 vocab)</p>
Year group	Year 5	Year 6
Key skills	<ul style="list-style-type: none"> • Multiply and divide numbers mentally drawing upon known facts. • Multiply and divide whole numbers by 10, 100 and 1000. • Multiply numbers up to 4 digits by a one digit number using formal column method. • Multiply numbers up to 4 digit by a 2 digit number using formal long multiplication written method. • Divide numbers up to 4 digits by a 1 digit number using formal bus stop division method of short multiplication • Identify multiples and factors, including all factor pairs of a number and common factor pairs of two numbers. • Recognise and use square numbers and cube numbers and use the notation of squared and cubed ($_^2$ and $_^3$). 	<ul style="list-style-type: none"> • Multiply multi-digit numbers up to 4 digits by a 2 digit number using the formal written method of long multiplication. • Divide digits up to 4 digits by a 2 digit whole number using the formal written method of long division and interpret remainders as whole numbers remainders, fractions or by rounding. • Identify common factors, common multiples and prime numbers. • Use their knowledge of the order of operations to carry out calculations involving the four operations. • Solve problems involving multiplication and division.

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- Solve problems involving multiplication and division including using knowledge of factors and multiples, squares and cubes.
- Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers
- Establish if a number up to 100 is prime and recall prime numbers up to 19

What it looks like in models and images. Note – this is not exhaustive, guidance should be taken from our calculation policy as well as WR Maths small steps guidance.

Follow all prior Y3 and Y4 steps with visuals and concrete manipulatives if child is not secure in abstract.


Children should be confident with abstract by the time they are multiplying by 2 digits.

$$\begin{array}{r} 124 \\ \times 26 \\ \hline 744 \\ 2480 \\ \hline 3224 \end{array}$$

Answer: 3224


$$5 \overline{) 615}$$

Long Division

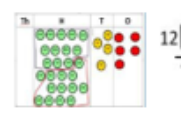


0	2	1	2
12	2544		
-	24		
	14		
	-	12	
		24	
		-	24
			0

2544 ÷ 12
How many groups of 12 thousands do we have? None




Exchange 2 thousand for 20 hundreds.



0	2
12	2544
-	24
	1

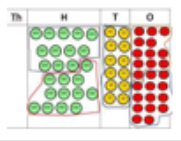
How many groups of 12 are in 25 hundreds? 2 groups. Circle them.

We have grouped 24 hundreds so can take them off and we are left with one.



0	2	1
12	2544	
-	24	
	14	
	-	12
		2

Exchange the one hundred for ten tens so now we have 14 tens. How many groups of 12 are in 14? 1 remainder 2.



Exchange the two tens for twenty ones so now we have 24 ones. How many groups of 12 are in 24? 2

0	
12	2544
-	24
	1

Step one- exchange 2 thousand for 20 hundreds so we now have 25 hundreds.

0	2
12	2544
-	24
	1

Step two- How many groups of 12 can I make with 25 hundreds? The 24 shows the hundreds we have grouped. The one is how many hundreds we have left.

0	2	1
12	2544	
-	24	
	14	
	-	12
		2

Exchange the one hundred for 10 tens. How many groups of 12 can I make with 14 tens? The 14 shows how many tens I have, the 12 is how many I grouped and the 2 is how many tens I have left.

0	2	1	2
12	2544		
-	24		
	14		
	-	12	
		24	
		-	24
			0

Exchange the 2 tens for 20 ones. The 24 is how many ones I have grouped and the 0 is what I have left.