

Tudhoe Colliery Primary School



Year 5 Calculation Policy



Multiplication Year 5

End of Year Statements:

Multiply and divide numbers mentally drawing upon known facts.

Multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers.

Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000.

Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign.

Solve problems involving multiplication and division where larger numbers are used by decomposing them into their factors

Key Vocabulary:

groups of, lots of, times, array, altogether, multiply, count, multiplied by, repeated addition, column, row, commutative, sets of, equal groups, times, _times as big as, once, twice, three times..., partition, grid method, multiple, product, tens, units, value, *inverse, square, factor, integer, decimal, short/long multiplication, 'carry'*

Written Methods:

Children should be introduced to **Long Multiplication**. Like with the introduction of short multiplication, children can use the **Expanded Long Multiplication** as an interim step but should be encouraged to move into the **Compact Method** as soon as possible.

Children move away from the 'partitioning' used with the Expanded short method. This allows a more straightforward move from the Expanded to the Compact method.

			3	3					
		x	4	7					
			2	1	(3 x 7)				
			2	1	0	(3 0 x 7)			
			1	2	0	(3 x 4 0)			
		1	2	0	0	(3 0 x 4 0)			
		1	5	5	1				

Interim Step (if required)

The calculations in the Expanded Method, should be completed in the same order as in Compact Long Multiplication.

			3	3	
		x	4	7	
			2	3 ²	1
		1	3 ¹	2	0
		1	5	5	1

The 'carried' tens should be recorded above the line. This is so that children do not confuse them when completing the addition part of the calculation.

Children should be encouraged to 'cover up' the number they are not multiplying by to help make the calculation easier.

Children should continue to estimate their answers first and to check using the inverse calculation.



Division Year 5

End of Year Statements:

Multiply and divide numbers mentally drawing upon known facts.

Divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context.

Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000.

Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign.

Key Vocabulary:

share, share equally, one each, two each..., group, equal groups of, lots of, array, divide, divided by, divided into, division, grouping, number line, left, left over, inverse, short division, 'carry', remainder, multiple, divisible by, factor, *quotient, prime number, prime factors, composite number (non - prime)*

Written Methods:

Children should continue to use **Formal Short Division** with 4-digit numbers.

		1	5	3	1	
3		4	15	9	3	

Children need to be clear about the place value of the numbers, but use the vocab of 'How many 3s in 4?'

Children should start interpreting remainders in different ways, as appropriate to the context of the question.

		1	1	4	8	r	1									
4		4	5	19	33				4		4	5	19	33	1	4

Children should be able to write remainders as fractions and decimals.

		1	1	4	8	.	2	5		
4		4	5	19	33					

Children should continue to estimate their answers first and to check using the inverse calculation.

In some cases, children may be required to round the answer up or down to the nearest whole number. The key is that children should be able to look at the question and decide which type of answer is appropriate.