John Perry Calculation Policy

<u>Notes</u>

The calculation policy should not replace:

- varied fluency tasks;
- problem solving and reasoning questions.

What does the calculation policy not include?

It does not include:

- mental calculation methods;
- discussion about the most efficient methods for a task (e.g. formal written methods are not always the best choice);
- key knowledge needed before a formal written method e.g. what exchanging is and how to do it;
- Context questions (e.g. multi-step word problems / money and measure problems);
- addition, subtraction, multiplication or division of fractions;
- multiplying and dividing by powers of 10.

Also consider that the calculation policy is geared towards the National Curriculum objective (end point) e.g. in year 3 the objective is to add two 3-digit numbers. However, if you are following White Rose there is a build up to this - e.g. adding a 1-digit number to a 3-digit number.

Layout for formal written methods to ensure consistency across the school:

Addition:

	1	3	7	8
+	2	1	4	8
	3	5	2	6
		1	1	

Addition symbol on the left. Exchanging shown underneath the calculation.

Subtraction:

$$-\frac{31}{4357}$$

$$-2735$$

$$-1622$$

Subtraction symbol on the left. Exchanging show by crossing out the top digit and re-writing it.

Multiplication:

By a one-digit number:

	Th	Н	Т	О
	1	8	2	6
×				3
	5	4	7	8
	2		1	

Multiplication symbol on the left. Exchanging shown underneath the calculation.

Division:

Exchanging to be shown above the digits but below the line.

*Year 6 taught to show remainders as fractions or decimals.

Short division (year 6 ONLY):

$$7,335 \div 15 = 489$$

	0	4	8	9
15	7	7 3	¹³ 3	¹³ 5

15	30	45	60	75	90	105	120	135	150

Children write multiples to assist them when dividing by a two-digit number.

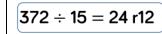
Long division (year 6 ONLY):

Ву	а	two-dia	it	number:
•			,	

TTh	Th	Н	Т	О
	2	7	3	9
×			2	8
2	1 5	9	1 7	2
5 1	4	7 1	8	0
7	6	6	9	2

Multiplication symbol on the left. Exchanging shown above the digits (in the multiplication). Exchanging in the addition shown underneath the calculation.

Children multiply the ones first, then the tens.



			2	4	r	1	2	1 × 15 = 15
1	5	3	7	2				$2 \times 15 = 3$
	_	3	0	0				$3 \times 15 = 4$
			7	2				$4 \times 15 = 6$
	_		6	0				$5 \times 15 = 75$
			1	2				$10 \times 15 = 1$

Children write multiples to assist them when dividing by a two-digit number.