Rode Heath Primary School

'Inspiring learning; nurturing minds; achieving for life'

Multiplication Policy

The quick recall of multiplication and division facts (times tables) is essential for all children. The ability to recall these facts quickly enables children to answer related questions with ease.

It is therefore important that we approach the teaching and testing of times tables in a similar and progressive format from Year 2 to Year 6.

At Rode Heath, the expectation of times tables in each Year Group is as follows:

Year 2: 2x, 5x, 10x and corresponding division facts.

Year 3: Recall of 5x and 10x tables from Y2. 2x, 4x, 8x (the relationship between them).

Year 4: 3x, 6x, 9x (the relationship between them and corresponding division facts), 7x, 11x, 12x. All x and ÷ facts in preparation for the Multiplication Tables Check (MTC)

Year 5: All x and ÷ facts. Secure and maintain fluency in all multiplication tables and corresponding division facts, through continued practice.

Year 6: All x and ÷ facts and related language/symbols e.g. % and square root

These facts will be practised in KS2 at least once a week on Times Tables Rock Stars (TTRS) using the Garage mode. The other game modes all contribute to the heatmaps too **(The Gig is available on the 1st day of each month and needs to be completed to update the Garage questions. It takes about 5 minutes).** Please don't alter times tables on these areas as the algorithm produces a bespoke training programme. However, you can change the times tables on an individual basis if you think a child would benefit from a more defined set. **There will be a group a day, so the children will have one Fix-it Time on TTRS and four with Daily 10 to improve recall and fluency.**

Year 3 will have a times table lesson each week outside the Maths – No Problem! scheme of work. The lesson will teach children facts to improve their times tables and then use a worksheet and tracking system on TTRS to see their progress (tests take 5 minutes). All children will be shown how to access their heatmaps so they can take ownership of their learning. Years 4, 5 and 6 take part in Mastering Number daily. Years 1 and 2 will use Numbots to help improve their understanding, recall and fluency in mental addition and subtraction.

For assessment windows, Year 3 complete a bespoke TTRS test based on 60 questions. Years 4 and 5 complete a Soundcheck test, which is out of 25 questions. This is to be inputted onto the DCPro platform for the autumn, spring and summer terms. Year 4 do not need to do a Soundcheck test in summer, as their Multiplication Tables Check (MTC) scores will replace this.

These tests are designed to **test times tables knowledge, rather than to teach it.** There are many ways in which children can learn times tables - for example, playing games, quick-fire questions from an adult, chanting tables, writing the tables out, using songs, Education City and Times Tables Rock Stars. It is also important for children to learn their times tables at home too. The heatmaps can be given out at parent consultation evenings.

If children are not improving, introduce intervention strategies at assembly time/fix-it time to help with this. This can still be at the discretion of the teacher; as individual learning needs need to be catered for so that a positive attitude towards maths is maintained. By the end of each academic year, the vast majority of the children should be able to use and apply their multiplication facts appropriate to their year group.

Children should learn the multiplication tables in 'families' (2x, 4x and 8x for example). Making connections between the multiplication tables in each family will enable children to develop automatic recall more easily, and to provide a deeper understanding of multiplication and division.

Multiplication and division facts

The full set of multiplication calculations that pupils need to be able to solve by automatic recall are shown in the table below. Pupils must also have automatic recall of the corresponding division facts.

1 × 1	1 × 2	1 × 3	1 × 4	1 × 5	1 × 6	1 × 7	1 × 8	1 × 9	1 × 10	1 × 11	1 × 12
2 × 1	2 × 2	2 × 3	2 × 4	2 × 5	2 × 6	2 × 7	2 × 8	2 × 9	2 × 10	2 × 11	2 × 12
3 × 1	3 × 2	3 × 3	3 × 4	3 × 5	3 × 6	3 × 7	3 × 8	3 × 9	3 × 10	3 × 11	3 × 12
4 × 1	4 × 2	4 × 3	4 × 4	4 × 5	4 × 6	4 × 7	4 × 8	4 × 9	4 × 10	4 × 11	4 × 12
5 × 1	5 × 2	5 × 3	5 × 4	5 × 5	5 × 6	5 × 7	5 × 8	5 × 9	5 × 10	5 × 11	5 × 12
6 × 1	6 × 2	6 × 3	6 × 4	6 × 5	6 × 6	6 × 7	6 × 8	6 × 9	6 × 10	6 × 11	6 × 12
7 × 1	7 × 2	7 × 3	7 × 4	7 × 5	7 × 6	7 × 7	7 × 8	7 × 9	7 × 10	7 × 11	7 × 12
8 × 1	8 × 2	8 × 3	8 × 4	8 × 5	8 × 6	8 × 7	8 × 8	8 × 9	8 × 10	8 × 11	8 × 12
9 × 1	9 × 2	9 × 3	9 × 4	9 × 5	9 × 6	9 × 7	9 × 8	9 × 9	9 × 10	9 × 11	9 × 12
10 × 1	10 × 2	10 × 3	10 × 4	10 × 5	10 × 6	10 × 7	10 × 8	10 × 9	10 × 10	10 × 11	10 × 12
11 × 1	11 × 2	11 × 3	11 × 4	11 × 5	11 × 6	11 × 7	11 × 8	11 × 9	11 × 10	11 × 11	11 × 12
12 × 1	12 × 2	12 × 3	12 × 4	12 × 5	12 × 6	12 × 7	12 × 8	12 × 9	12 × 10	12 × 11	12 × 12

Pupils must be fluent in these facts by the end of year 4, and this is assessed in the multiplication tables check. Pupils should continue with regular practice through year 5 to secure and maintain fluency.

The 36 most important facts are highlighted in the table. Fluency in these facts should be prioritised because, when coupled with an understanding of commutativity and fluency in the formal written method for multiplication, they enable pupils to multiply any pair of numbers.

Fluency Policy

Addition and subtraction facts

The full set of addition calculations that pupils need to be able to solve with automaticity are shown in the table below. Pupils must also be able to solve the corresponding subtraction calculations with automaticity.

+	0	1	2	3	4	5	6	7	8	9	10
0	0+0	0+1	0+2	0+3	0+4	0+5	0+6	0+7	0+8	0+9	0+10
1	1+0	1+1	1+2	1+3	1+4	1+5	1+6	1+7	1+8	1+9	1+10
2	2+0	2+1	2+2	2+3	2+4	2+5	2+6	2+7	2+8	2+9	2+10
3	3+0	3+1	3+2	3+3	3+4	3+5	3+6	3+7	3+8	3+9	3+10
4	4+0	4+1	4+2	4+3	4+4	4+5	4+6	4+7	4+8	4+9	4+10
5	5+0	5+1	5+2	5+3	5+4	5+5	5+6	5+7	5+8	5+9	5+10
6	6+0	6+1	6+2	6+3	6+4	6+5	6+6	6+7	6+8	6+9	6+10
7	7+0	7+1	7+2	7+3	7+4	7+5	7+6	7+7	7+8	7+9	7+10
8	8+0	8+1	8+2	8+3	8+4	8+5	8+6	8+7	8+8	8+9	8+10
9	9+0	9+1	9+2	9+3	9+4	9+5	9+6	9+7	9+8	9+9	9+10
10	10+0	10+1	10+2	10+3	10+4	10+5	10+6	10+7	10+8	10+9	10+10

Pupils must be fluent in these facts by the end of year 2, and should continue with regular practice through year 3 to secure and maintain fluency. It is essential that pupils have automatic recall of these facts before they learn the formal written methods of columnar addition and subtraction.

Factual fluency progression

	Year 1	Year 2	Year 3	Year 4	Year 5
Additive factual fluency	Addition and subtraction within 10.	Addition and subtraction across 10.	Secure and maintain fluency in addition and subtraction within and across 10, through continued practice.		
Multiplicative factual fluency			Recall the 10 and 5 multiplication tables, and corresponding division facts.	Recall the 3, 6 and 9 multiplication tables, and corresponding division facts.	Secure and maintain fluency in all multiplication tables, and corresponding division facts, through continued practice.
			Recall the 2, 4 and 8 multiplication tables, and corresponding division facts.	Recall the 7 multiplication table, and corresponding division facts.	
				Recall the 11 and 12 multiplication tables, and corresponding division facts.	

EYFS, Year 1, Year 2 (4 times a week), Year 4, Year 5 and Year 6 (5 times a week) classes use Mastering Number to assist with their fluency progression and automaticity of facts. Years 1 and 2 also use Numbots to assist with fluency of addition and subtraction facts.

The Explore stage in the Maths – No Problem! scheme of work also develops fluency skills.