

Multiplication Tables Practice Guidance

Overview

Having developed a deep conceptual understanding through small step learning, it is recognised that practise and consolidation are essential in helping children learn their number facts and calculation skills to automaticity. Unless pupils have key number facts procedures committed to long term memory, they will be unable to meet the aims of the curriculum. Children need the multiplication facts learnt to automaticity to free up working memory to access the upper KS2 curriculum. Whilst developing fluency skills are an integral part of all lessons – children need to be constantly learning to calculate using the most efficient methods – time needs to be regularly dedicated to practicing arithmetic skills and number facts, and particularly times table facts.

Teaching & Learning

How multiplication is taught will be outlined in the scheme schools are using (such as White Rose, Power Maths etc). It is vital for conceptual understanding that teachers attend to the small steps and don't rush through the 'seemingly obvious' stages.

Learning Sequence

The following sequence mirrors that set out by the National Curriculum and is followed by White Rose, Power Maths and Maths No Problem:

Year	Times Tables				
2	10	2	5		
3	3	4	8		
4	6	9	7	11	12

As children are introduced to the new times tables (through the multiplication & division units in years 2, 3 and 4), they should be regularly practicing them (at least daily) until they are secured.

Monitoring & Tracking

Testing should take place on an electronic device that simulates the MTC (e.g. Purple Mash). Children should complete a single test that covers the following times tables at each data collection point. Whilst we aim for all children achieving 25/25, for the purposes of tracking $\geq 22/25$ of the relevant times tables as outlined below is considered ARE.

YG	Autumn	Spring	Summer
2		2, 5, 10	2, 5, 10
3	2, 5, 10	2, 3, 4, 5, 8, 10	2, 3, 4, 5, 8, 10
4	All times tables	All times tables	MTC
5	All times tables	All times tables	All times tables
6	All times tables	All times tables	All times tables

Intervention

As knowing multiplication tables are a vital foundation to the next stage of study, gaps in knowledge should be identified as soon as they begin to appear, and children should be caught up with a program of intervention before the end of the academic year.

Practice

Practice can take the form of either device-based activities, such as Times Tables Rockstars or Purple Mash, or printed times table sheets and booklets. As both approaches have both pros and cons, a mixture of both is recommended. Later in this document, you will find guidance to using daily practice tests of 40 questions.

General advice

In Year 4, hold parents' meetings to ensure that they know the expectations and format of the test (including the type of device that will be used)

Ensure the children are used to the format they will be using – i.e. will it be touch screen or keypad?

Value accuracy over speed. TTRS ranks children on average time per question. We have seen children drop marks by trying to type too quickly. 6 seconds is ample time for children to know the answer, then check

Any practice or intervention should target new (or unknown) facts

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Using the Times Tables booklets

Below is guidance on how to use the Times Tables booklets, which can be found in the maths Teams space

Test Format

With the exceptions of the 11- and 12-times tables, and mixed times table booklets in year 4, which are intended solely for the purpose of MTC preparation, division facts are included (about 1 in 5 questions is a division question). This is because it is extremely helpful for children in terms of understanding the inverse relationship between multiplication and division. However there are not going to be division facts in the Y4 check, so they have been omitted from the final practice materials

The year 2 booklets (for times tables 2, 5 and 10) include only division by that times table (e.g. $16 \div 2$ but not $16 \div 8$ in 2 times table) as this supports understanding of division by grouping. By the time children get to the 6-, 7-, 8- and 9-times table they should have a good understanding of both grouping and sharing so e.g. both $54 \div 6$ and $54 \div 9$ are included in the 6 times table booklet.

Timings

By year 4, children should be completing the test in 2 minutes, but you may choose to begin by giving children 3 minutes as they get used to the tests in year 2. The administration and marking of the tests should take no longer than 5 minutes per day. It is recommended, where possible, this takes place away from the main maths lesson. In year 4, you may choose to spend longer on times table practice to ensure that children are sufficiently prepared for the MTC test. This may include doing more than one test per day, and should certainly include spending time getting used to using electronic devices required for the tests

Year 2

Children are introduced to the 2s, 5s and 10s times table during the multiplication & division unit at the end of the Autumn term/beginning of the Spring term. At the end of the unit, children should begin to practice the facts daily, using the tests provided. The tests are broken down in 4 sections:

- First part of the new times table (1-6x) – 4 tests
- Second part of the new times table (7-10x) – 4 tests
- All the new times tables (1-10x) – 4 tests
- All times tables learnt so far – 10 tests

Week 1

- Mon – introduce the new facts for the first part of the new times table (in red on the cover of the booklet)
- Tues – Fri – Complete tests 1-4.

Week 2

- Mon – introduce the new facts for the second part of the new times table (in blue on the cover of the booklet)
- Tues – Fri – Complete tests 5-8.

Week 3

- Mon – review all the new times table facts
- Tues – Fri – Complete tests 9-12

Week 4

- Mon – Fri – Complete test 13-17 – all tables learnt so far (depending on the success rate of the children, you may choose to do a second week and complete tests 18-22). You will not need to complete this section for the 10 times table, as it is the only times table learnt at this point. There are sufficient tests in the booklet to spend 2 weeks practicing the 10s times tables, should you feel this is necessary.

Having completed this cycle for the 10 times table, move onto the 2s, then 5s. The remainder of the year should be spent practicing 2-, 5- and 10-times tables (which can be found in tests 13-22 in the 5 times table booklet). By the end of year 2, children should be fluent in the 2s, 5s and 10s times tables.

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Year 3

In the first half term, revisit previous year's learning. The Y2 recap booklet takes you through the following cycle:

- 1-2: 1st half of the 10s
- 3-4: 2nd half of the 10s
- 5-8: all the 10s
- 9-10: 1st half of the 2s
- 11-12: 2nd half of the 2s
- 13-16: all of the 2s
- 17-20: all 2s and 10s
- 21-22: 1st half of the 5s
- 23-24: 2nd half of the 5s
- 25-28: all of the 5s
- 29-32: all of the 2s, 5s and 10s

Once this revision is complete, begin to introduce the new times tables facts (3s, 4s then 8s) in the 4–5-week cycles set out in the year 2 guidance above. Children can start to learn these times tables before they begin the Multiplication and Division units, as they will already be familiar with the concepts of multiplication tables. Any time left in the year should be spent practicing all tables learnt so far (which can be found in tests 13-22 in the 8 times table booklet)

Year 4

At the beginning of year 4, revisit previous year's learning. The Y3 recap booklet takes you through the following cycle:

- 1-2: 1st half of the 3s
- 3-4: 2nd half of the 3s
- 5-8: all the 3s (plus Y2 facts)
- 9-10: 1st half of the 4s
- 11-12: 2nd half of the 4s
- 13-16: all of the 4s
- 17-20: all 3s and 4s (plus Y2 facts)
- 21-22: 1st half of the 8s
- 23-24: 2nd half of the 8s
- 25-28: all of the 8s
- 29-32: all of the 3s, 4s and 8s (plus Y2 facts)

If the children are suitably fluent with their times tables by this point, you may choose to move through the revision materials more quickly – either doing fewer tests, or by covering 2 test a day. Once this revision is complete, begin to introduce the new times tables facts (6s, 9s then 7s) in the 4–5-week cycles. It's worth noting that there are relatively fewer facts to learn now – when you reach the 7s times table, 7x7 is the only new fact to learn.

The 11- and 12-times tables are presented separately. You may choose to set these as October half-term (11s) and Christmas holiday (12s) home learning, and practice them in the fortnight afterwards. Alternatively, you may cover them once the children have learnt the tables 6, 9 and 7.

Once the class have covered all the multiplication tables, they should move on to the mixed practice booklets in preparation for the MTC. Ensure that as much practice as possible, and testing, is in the same digital format as the MTC. It's a very different experience for the children to a paper test, so the more exposure they have, the more comfortable they will be.

Years 5 and 6

Children should continue to practice their times facts at least three times a week throughout the remainder of KS2, using the mixed practice booklets. Children who have been identified as having gaps in their knowledge should be caught up systematically through a program of intervention

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Times Table Booklet Contents

YG	Booklet	Tests	Calculations covered	Number of Tests	
2	10	1-4	1-6 x 10	4	
		5-8	7-10 x 10	4	
		9-18	1-10 x 10	10	
	2	2	1-4	1-6 x 2	4
			5-8	7-10 x 2	4
			9-12	1-10 x 2	4
			13-22	1-10 x 2 & 10	10
	5	5	1-4	1-6 x 5	4
			5-8	7-10 x 5	4
			9-12	1-10 x 5	4
			13-22	1-10 x 2, 5 & 10	10
	3	Year 2 Recap	1-2	1-6 x 10	2
3-4			7-10 x 10	2	
5-8			1-10 x 10	4	
9-10			1-6 x 2	2	
11-12			7-10 x 2	2	
13-16			1-10 x 2	4	
17-20			1-10 x 2 & 10	4	
21-22			1-6 x 5	2	
23-24			7-10 x 5	2	
25-28			1-10 x 5	4	
29-32			1-10 x 2, 5 & 10	4	
3		3	1-4	1-6 x 3	4
			5-8	7-10 x 3	4
			9-12	1-10 x 3	4
			13-22	1-10 x 2, 3, 5 & 10	10
4		4	1-4	1-6 x 4	4
			5-8	7-10 x 4	4
			9-12	1-10 x 4	4
			13-22	1-10 x 2, 3, 4, 5 & 10	10
8		8	1-4	1-6 x 8	4
			5-8	7-10 x 8	4
			9-12	1-10 x 8	4
			13-22	1-10 x 2, 3, 4, 5, 8 & 10	10
4		Year 3 Recap	1-2	1-6 x 3	2
			3-4	7-10 x 3	2
			5-8	1-10 x 3	4
			9-12	1-10 x 2, 3, 5 & 10	4
			13-14	1-6 x 4	2
			15-16	7-10 x 4	2
			17-20	1-10 x 4	4
			21-24	1-10 x 2, 3, 4, 5 & 10	4
			25-26	1-6 x 8	2
	27-28		7-10 x 8	2	
	29-32		1-10 x 8	4	
	33-36		1-10 x 2, 3, 4, 5, 8 & 10	4	
	6		6	1-4	1-6 x 6
		5-8		7-10 x 6	4
		9-12		1-10 x 6	4

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		13-22	1 – 10 x 2-6, 8 & 10	10
	9	1-4	1-6 x 9	4
		5-8	7-10 x 9	4
		9-12	1-10 x 9	4
		13-22	1-10 x 2-6 & 8-10	10
	7	1-4	1-6 x 7	4
		5-8	7-10 x 7	4
		9-12	1-10 x 7	4
		13-22	1-10 x 2-10	10
	11	1-14	1-12 x 11	14
	12	1-14	1-12 x 12	14
	Mixed	1-22	1-12 x 1-12	22