

The Rationale

At Longshaw, we believe that knowing times tables is important and should be taught in schools at a young age to ensure fluency for later mathematics. Our children become fluent in this fundamental, through varied and frequent practice, developing conceptual understanding and the ability to recall and apply this knowledge rapidly and accurately. Automatic memorisation of times tables frees up working memory, allowing children to focus on other tasks such as problem solving and other examples of applying conditional knowledge.

“Quick retrieval of number facts is important for success in mathematics. It is likely that pupils who have problems retrieving addition, subtraction, multiplication, and division facts, including number bonds and multiples, will have difficulty understanding and using mathematical concepts they encounter later on in their studies.”

EEF Guidance Report, 2017

How we teach times tables

In our maths curriculum, multiplication is explicitly taught, using a range of methods and representations. In addition, children receive regular retrieval opportunities, including low stakes testing.

Low-stakes tests are timed to promote recall and prevent children relying on inefficient methods. These are designed to constantly review previously learned times tables to build retrieval fluency and to prevent children forgetting these from their long-term memories.

Further reading:

EEF Guidance Report: <https://educationendowmentfoundation.org.uk/education-evidence/guidance-reports/maths-ks-2-3>

Cambridge Maths: <https://www.cambridgemaths.org/espresso/view/learning-and-assessing-times-tables/>

DfE Curriculum Guidance: <https://www.gov.uk/government/publications/teaching-mathematics-in-primary-schools>

Maths National Curriculum: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/335158/PRIMARY_national_curriculum - Mathematics 220714.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/335158/PRIMARY_national_curriculum_-_Mathematics_220714.pdf)

Ofsted Research Review: <https://www.gov.uk/government/publications/research-review-series-mathematics/research-review-series-mathematics>

Studies comparing computer-based practice of times tables with pencil and paper practice (e.g. Godfrey, 2001) suggest that computer-based practice is more effective, perhaps because students are more motivated

Cambridge Mathematics, 2016

Guidance and Expectations:

In KS2:

- All children to complete weekly a speed grid as part of retrieval practice and to measure progress
- Children to mark and correct (using green pen) before taking test home to learn from
- Weekly scores are recorded and updated on the school's tracking system
- Year 4 children to complete one TTRS Soundcheck per half-term
- Years 3, 5 and 6 to complete a termly test aligned to their curriculum
- Year 4 to receive 2x15minutes discreet teaching sessions per week
- Years 3 and 5 to receive 1x15 minute discreet teaching session per week

In KS1:

- Children in Year 2 to complete speed grids from Spring 1
- Year 2 to complete a termly test aligned to their curriculum
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Yearly overview for discrete teaching and practice

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 1	Addition	Addition	Addition	Subtraction	Subtraction	Subtraction
Year 2	Addition	Subtraction	Add/sub	2x	10x	5x
Year 3	2x,5x,10x	4x	8x	3x	6x	Practice
Year 4	9x	7x	11x	12x	Practice	Squares
Year 5	4x	8x	6x	12x	7x	Practice
Year 6	2x, 4x, 8x	3x, 6x, 12x	7x, 9x, 11x	Squares and cubes	Practice	Practice

Example of termly unit progression

Session 1	With the children, systematically build together the times tables that you already know. Explicitly explore the commutative law e.g., using arrays. Repeat each multiplication fact
Session 2	Skip count (using hundred square) to complete the calculations. Repeat each multiplication fact and then again with just the product. Play Splat!
Session 3	Identify the multiples from the non-examples. Once complete, add the number sentences for each product. Finally, write down all fact families e.g., commutative multiplication facts and division.
Session 4	Use electronic versions of flashcards. After the teacher reveals the pictorial representation, children write the product onto whiteboards as quick as they can. Children are challenged to also write the fact families. Pairs use printed versions of the flashcards to coach their partner.
Session 5	Play Splat! Hit the Button and other web-based games. Children compete against themselves to improve their scores and their times.
Session 6	Low-stakes test focused solely on the term's times tables. Reflections and targets.

When pupils commit multiplication table facts to memory, they do so using a verbal sound pattern to associate the 3 relevant numbers, for example, "six fours are twentyfour". It is important to provide opportunities for pupils to verbalise each multiplication fact as part of the process of developing fluency

DfE Maths Curriculum Guidance, 2020