7-minute Times-table Programme: Policy

Declarative knowledge

Rationale:

An essential part of the maths curriculum as it helps pupils learn key facts and vocabulary in order to avoid relying on derivation or guesswork. Pupils who are not able to recall maths facts struggle with later calculations due to their working memory being overloaded. For example, a child who does not know the multiplication facts will be stuck using skip counting with their fingers when performing basic multiplication. Pupils should learn key mathematics facts by heart, through opportunity to overlearn and a sequenced and coherent curriculum of teaching and practice.

Times-tables facts are a key element of declarative knowledge.

Times-table facts: Lower Key stage 2

Expectation:
That all children learn the times-table facts, by heart, by the end of Year 4 to 12 × 12. That children can use the facts flexibly, that is, apply the distributive law and have a conceptual understanding of multiplication – the multiplicand and multiplier, interpreting a multiplication equation.

Times-tables facts: Year 5

Expectation:
Continuation of practice of the times-table facts to support on-going movement of facts into the long-term memory, especially the hard to learn facts. Continuation of the development to use the facts flexibly, that is, apply the distributive law and doubling.

The programme is designed to extend learning so that children begin to apply their fact knowledge to the wider areas of mathematics e.g., related facts, equivalent fractions etc.

7-Min Times-table Programme

Core expectation	Key notes
Are instructional approaches systematic, with new content introduced in a logical order, building on what pupils know?	The 7-minute Times-table programme has a clear plan as to which facts are taught in which year group, when and over what timescale. This is aligned to the National Curriculum outcomes and goes beyond. It is a 2-year programme, for Year 3 and Year 4, focussed on the acquisition of the multiplication facts to 12 × 12. The approach is strategy based, and therefore systematic, with each day focussed on one aspect of the strategy. For example, Monday is 2 ×, 4 ×, 8 × for each multiplication fact, Tuesday 3 ×, 6 × 12 ×. Year 5: Continue to practice the connection between facts whilst focusing on the hard to learn facts.
Declarative knowledge with conceptual understanding.	The 7-min Times-table programme supports conceptual understanding. The group (the multiplier) and the amount in each group (the multiplicand) are clearly distinguished within this approach, hence supporting conceptual understanding of the facts. The link to repeated addition is also explicitly seen.
Are pupils able to recall effectively, without having to use visual or memory aids?	It takes 6-8 weeks of repetition for facts to transfer into the long-term memory. The 7-minute Times-table programme is delivered daily from Monday to Thursday with a checker (low stakes testing) on the Friday. Each multiplication fact has a minimum of 6 weeks (half a term) of daily practice, thus supporting automaticity of facts over time.

	The Friday checker has no visual aids; hence it assesses the instant recall of facts at that time. Year 5: Applying the facts to areas within maths provides continued practice of the facts.
Do pupils have enough time to rehearse core content, leading to effective and efficient methods?	The programme is strategy based. Hence, it supports children to build links between facts e.g., if you know 2 × you know 4 × and 8 × through doubling and supports children's skill in applying the distributive law. Through this, the programme supports the ability of finding unknown facts from known facts using an efficient method. Practice is daily, with a checker on Fridays.
Choral response.	The 7-minutes Times-table programme uses choral response. This helps to support all learners, including SEND, and reduce anxiety.
Monitoring	Year 4 children, every week, practice using a MTC style checker. This offers practice prior to the checker test at the end of Year 4 and supports the monitoring of progression. Owning to strong monitoring, TTRS heat maps (in Year 4) identify which children are not making progress.
	Hard to learn facts. One 'hard to learn fact' is focussed on each week. This is displayed within the classroom. The facts can be taken from the Heat map on TTRS and or the Guardian research (2013).
Are parents an active part of the learning process? Have leaders identified an approach that meets the community needs?	

Research and reading

Add in key text and key research

Ofsted July 2023 - Coordinating mathematical success: the mathematics subject report.

McCrea, P., (2015) Lean Lesson Planning (Deliberate practice)

Boaler, J. (2015) Fluency Without Fear: Research Evidence on the Best Ways to Learn Math Facts. Youcubed at Stanford University

https://www.theguardian.com/news/datablog/2013/may/31/times-tables-hardest-easiest-children