

RAISING THE OUTCOMES OF THE YEAR 4 MULTIPLICATION TABLES CHECK



THE  
*Raleigh*  
SCHOOL

---

CASE STUDY:

RAISING THE OUTCOMES OF THE YEAR  
4 MULTIPLICATION TABLES CHECK



**South Farnham Educational Trust**



The Continual Pursuit of Excellence



THE  
*Raleigh*  
SCHOOL

## RAISING THE OUTCOMES OF THE YEAR 4 MULTIPLICATION TABLES CHECK

### CONTEXT:

The government's announcement of an online Multiplication Tables Check (MTC) in September 2017 has put an increased emphasis on times tables in schools.

The MTC is an online assessment, designed to determine whether pupils can fluently recall their multiplication tables up to 12, through a set of 25 timed questions (pupils have 6 seconds to answer each question). The purpose of the MTC is to determine whether pupils can recall their times tables fluently, which is essential for future success in mathematics. It helps schools to identify pupils who have not yet mastered their times tables, so that additional support can be provided.

The MTC has been statutory for all year 4 pupils registered at state-funded maintained schools, special schools or academies, including free schools, in England since the summer term 2022. It was added, in line with the Phonics Screening Check at the end of Year 1, with one key difference; there is no pass mark, resulting in schools aiming to achieve the highest results possible. Despite this, the recently published national data shows that just 29% of children across the country achieved 25/25 in last year's MTC. South Farnham Education Trust always strives for every child in each school to achieve 25/25, an aspirational target, but one that is achievable.

The Raleigh School saw 39% of their Year 4 cohort achieve 25/25 in 2021. This increased considerably to 59% in 2022. However, the academic year of 22-23 saw the school make a few changes to how times tables are taught. The changes brought success, with the school reaching the 100% target. This study will investigate what the school did in Year 4 to change results so drastically.

### WHAT THEY DID:

#### 1) Progress awareness

The Year 4 team's first job was to make the children more aware of their progress. There was already an expectation that the year group would set two times tables tests a week, but now the teachers would celebrate progress with the children. It was really important to stress that pupils should not focus on their current score or anyone else's score, they just had to hone in on whether they beat their previous score.



## RAISING THE OUTCOMES OF THE YEAR 4 MULTIPLICATION TABLES CHECK

This had several benefits. Primarily, it made children enjoy the journey of improving their times tables which, in turn, led to an increase in confidence as children celebrated their scores with their teacher and fellow pupils.

The focus on progress was also the first puzzle piece in an essential aspect of The Raleigh School's improvement - creating a positive ethos surrounding times tables.

### 2) A positive ethos

By the end of the academic year, the children in Year 4 were obsessed with times tables. This excitement was created through several mediums. The first was through the use of Times Table Rockstars (TTRS), an online platform that lets children practise times tables, whilst earning coins that can be used for their in-game character. This website was used to its full potential, as different game modes were set for homework and children were also able to play once a week in school at the start of their computing lesson.

TTRS was also used for one of the children's biggest talking points every term, the times table competitions. Every half term and termly holiday, a competition was set up between the two classes. The children would spend time during their holidays competing against each other for individual and class awards. This also allowed parents to see that times tables played a major role in the children's Year 4 learning journey, thus getting them on board.

There were several additional tools used to improve the school ethos of times tables, such as, other small competitions throughout the year, times table songs and dances, small games at the end of lessons and times table displays being put around the school. Finally, the teachers' attitudes towards times tables were overwhelmingly positive. If the teachers are passionate about something, the children are likely to follow.

### 3) Practical strategies employed

The Raleigh School did not spend whole lessons teaching times tables to their classes. On the contrary, they imposed a 'little and often' approach. Through the use of games, songs and lesson starters, the children were constantly exposed to the times table facts they needed to learn. One particularly effective strategy used by the Year 4 team was to look at the children's TTRS data, which gives a detailed analysis of where both the year group and individual children are struggling. For example, the 'BBC Supermovers' 7x table song was used



## RAISING THE OUTCOMES OF THE YEAR 4 MULTIPLICATION TABLES CHECK

frequently, as this was a noted area for development. Elsewhere, times tables quizzes that involved competition across houses, tables or groups allowed for the teacher to target specific times table questions (such as 6x8 and 7x8) that have been difficult to learn historically.

The Raleigh School also used tailored interventions to teach children who were struggling with their times tables. These sessions started with identifying a particular times table of weakness, learning that group of times tables primarily through chanting, before moving on to asking the children questions in a random order. Children seemed to find chanting an easier first step to learning a new set of facts, before they took on the MTC style of unsequential questioning.

### 4) Monitoring data

The Year 4 team at The Raleigh School adopted a heavily statistical approach to their times tables development. From the start of the year, each week, the children would complete a practice MTC on TTRS in their classroom, this result was then put into a spreadsheet as can be seen below:

| Wk1 | Wk2 | Wk3 | Wk4 | Wk5 |
|-----|-----|-----|-----|-----|
| 24  | 25  | 25  | 25  | 25  |
| 24  | 23  | 25  | 25  | 25  |
| 9   | 17  | 9   | 15  | 18  |
| 24  | 25  | 25  | 23  | 25  |
| 25  | 23  | 25  | 25  | 25  |
| 20  | 22  | 21  | 24  | 25  |
| 25  | 25  | 25  | 25  | 25  |
| 13  | 17  | 19  | 21  | 18  |
| 22  | 22  | 24  | 19  | 20  |
| 25  | 25  | 25  | 25  | 25  |
| 16  | 19  | 19  | 21  | 24  |
| 24  | 23  | 24  | 24  | 25  |
| 23  | 25  | 24  | 23  | A   |
| 6   | 16  | 15  | 18  | 25  |
| 15  | 16  | 19  | 18  | 22  |
| 18  | 19  | 23  | 23  | 25  |
| 25  | 25  | 25  | 25  | 25  |
| A   | 25  | 25  | 25  | 25  |
| 21  | 20  | 24  | 24  | 20  |
| 20  | 21  | 20  | 21  | 25  |
| 25  | 24  | 25  | 25  | 25  |
| 24  | 24  | 23  | 25  | 25  |
| 23  | 25  | 25  | 25  | 23  |
| 25  | 25  | 25  | 25  | 25  |
| 17  | 13  | 13  | 17  | 21  |
| 11  | 15  | 12  | 15  | 15  |
| 17  | 22  | 22  | A   | 21  |
| 24  | 22  | 23  | 25  | 24  |
| 15  | 16  | 19  | A   | 19  |
| 19  | 22  | 22  | 25  | 21  |
| 21  | 24  | 18  | 25  | 25  |
| 24  | 21  | 23  | 23  | 24  |

This child was placed on an intervention where they focussed on their 7 and 9 times tables. They also had a huge increase in motivation to achieve 25/25 and so began to practise at home every day.



## RAISING THE OUTCOMES OF THE YEAR 4 MULTIPLICATION TABLES CHECK

This spreadsheet was used as a constant reminder to staff of the children who required the most support with their times tables. Through the use of interventions and focussed practise (see previous section) with certain children, their scores were able to quickly climb towards 25/25.

### 5) The MTC

The two-week period of the MTC is important to get right. Each child only has one attempt and so it is important that every child is in the right mindset. The Year 4 team created groups using the information set out in the 'MTC Administrative Guidance' and normal classroom practice. This guidance states that it may be appropriate for pupils with specific needs to have additional arrangements so they can take part in the MTC. These include children with an EHCP, those with SEND, those who have behavioural, emotional or social difficulties and those who have EAL. The Year 4 team closely monitored all children throughout the year, and decided with the children if an access arrangement was suitable for them based on their normal classroom practice.

The Raleigh School's aim was to have pre-prepared the children for their new setup with several practice runs throughout the year. Through the use of TTRS 'Officially Unofficial' MTC, the children completed the check on 3 separate occasions. This allowed for assessment data throughout the year, but also meant that the daunting scenario of answering test questions within the six seconds was no longer a worry for the children.

The teachers ensured that each child was ready for their assessment on the day. Those children with access arrangements completed their test first, whilst the others continued practicing and building confidence. Before they took their MTC, the children completed practice runs on a computer nearby, which helped to warm up their brain before they jumped into the real test.



## RAISING THE OUTCOMES OF THE YEAR 4 MULTIPLICATION TABLES CHECK

### 6) Other top tips for taking the MTC

- Ensure children always practice on the devices they will actually use during the test.
- Brief the children on what is going to happen, it can help their confidence when they are sure of upcoming events.
- Ideally, children should have access to number keys at the side of their keyboard, as this is the fastest way to type numerical answers in. Obviously, the children will need to have practiced on this type of keyboard first.
- A few months before the official test, stop the children from pressing the enter key to submit an answer, it still counts as correct if they have the correct number on the screen at the end of the 6 seconds. This allowed children to look back at their answers and have the time to change them if they recognised that they made a mistake.
- Keep the children calm; whilst they may be aware they are taking a test, knowing that you have confidence in them to achieve will help them immeasurably.
- Look at your time table and decide which days are best for your children to take the test. The Raleigh School had a trip at the start of the MTC, so didn't complete any tests for a few days as the children were still tired from their earlier excitement.

### OUTCOME:

Following all of the aforementioned steps, 100% of the Year 4 children at The Raleigh School achieved 25/25 in their final MTC. As is evident, a structured and proactive approach from the Year 4 team make this achievement possible. With high aspirations for all children and the right approach to their learning, all children can achieve in the same light as the children at The Raleigh School.

