PARENTS EVENING MATHS PACK

YEAR 4

In this pack you will find:

-An explanation of the Power Maths approach, which we use to teach our daily maths lessons in school.

-A list of the topics your child will cover in Power Maths.

-A list of the basic skills your child will cover this year.

-A copy of the calculation policy, demonstrating the calculation methods your child will be using in class.

-An explanation of why we us Times Tables Rockstars and how to login at home and use it.

-An explanation of how the Year 4 Multiplication Test will work if it goes ahead in 2022

Dear parents,
We use a maths scheme called *Power Maths* to support our daily teaching of maths.

What is *Power Maths*?

Power Maths is a resource that has been designed for UK schools based on research and extensive experience of teaching and learning around the world and here in the UK. It has been designed to support and challenge all pupils, and is built on the belief that EVERYONE can learn maths successfully.

How does this support our approach to teaching?

The philosophy behind *Power Maths* is that being successful in maths is not just about rote-learning procedures and methods, but is instead about problem solving, thinking and discussing. It is about learning a range of methods to solve one problem, and about picking the most efficient method. Many people feel they were taught maths in a way that was about memorising formulas and calculation methods, then having to apply them without any real understanding of what or how these methods actually work. *Power Maths* includes practice questions to help children develop fluent recall and develop their conceptual understanding. *Power Maths* uses growth mindset characters to prompt, encourage and question children. They spark curiosity, engage reasoning, secure understanding and deepen learning for all.

How will the lessons work?

Each lesson has a progression, with a central flow that draws the main learning into focus. There are different elements, informed by research into best practice in maths teaching, that bring the lessons to life:

- **Basic skills-** the children revisit a topic they have been studying previously. The concept will be modelled to them and they will answer some questions relating to it.
- **Discover** – each lesson begins with a problem to solve, often a real-life example, sometimes a puzzle or a game. These are engaging and fun, and designed to get all children thinking.
- **Share** – the class shares their ideas and compares different ways to solve the problem, explaining their reasoning with hands-on resources and drawings to make their ideas clear. Children are able to develop their understanding of the concept with input from the teacher.
- **Think together** – the next part of the lesson is a journey through the concept, digging deeper and deeper so that each child builds on secure foundations

while being challenged to apply their understanding in different ways and with increasing independence.

- **Practice** – now children practice individually or in small groups, rehearsing and developing their skills to build fluency, understanding of the concept and confidence.
- **Reflect** – finally, children are prompted to reflect on and record their learning from each session and show how they have grasped the concept explored in the lesson.

What if my child needs a confidence boost, or wants to be challenged further?

Power Maths is based on a 'small-steps' approach, sometimes called a mastery approach. This means that the concepts are broken down so that your child can master one idea without moving on too quickly or feeling over-whelmed. There are a range of fluency, reasoning and problem solving questions in each lesson that are designed to support the different needs and confidence levels within a class, while at the same time fostering a spirit of working and learning together. Each lesson includes a challenge question for those children who can delve deeper into a concept.

How are we approaching the catch up curriculum after the extended 2020 and 2021 lockdowns?

This year, we have introduced basic skills sessions three days a week to address any mathematical gaps the pupils may be facing. A basic skills session is a fifteen minute mini lesson that comes before the main maths lesson. It comprises of counting, modelling and practice of a key mathematical skill. These sessions will allow repeated modelling and practice of the mathematical facts and the pictorial, mental and written calculation methods that the pupils need to feel confident with to be able to fully access the rest of the maths curriculum.

To further boost pupils' arithmetic skills, we have purchased a scheme of arithmetic questions for each year group and the pupils will also be working on these questions one day a week before their maths lesson to boost their confidence with calculations.

As a school, we are also having a focus on times tables recall. We have completed a baseline assessment of the children's times tables recall and will be using some of our maths lesson time, possibly alongside small-group interventions, to teach the times tables that pupils are less confident with. Teachers will alter TT Rockstars throughout the year to support your child with practising their target times tables at home.

Please do not hesitate to contact me through the school office if you have any questions about maths at Booker.

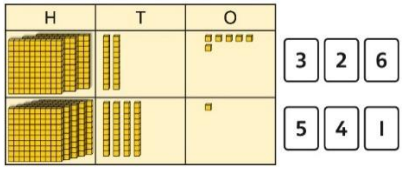
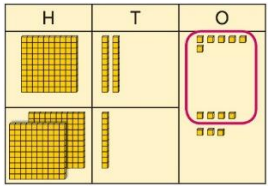
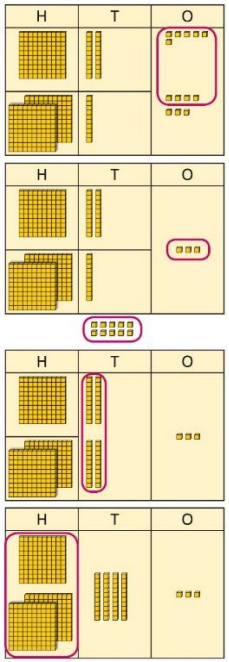
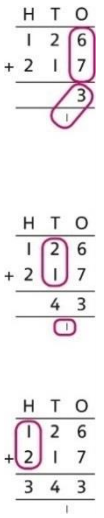
Best wishes,
Mrs Moody, Maths Lead.

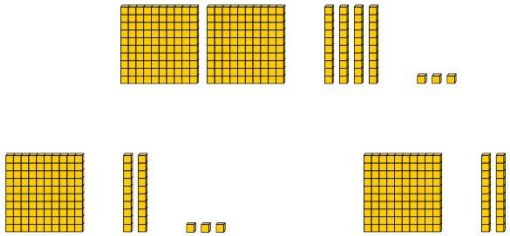
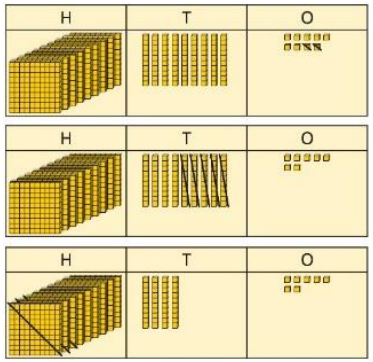
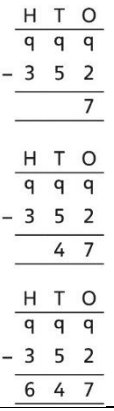
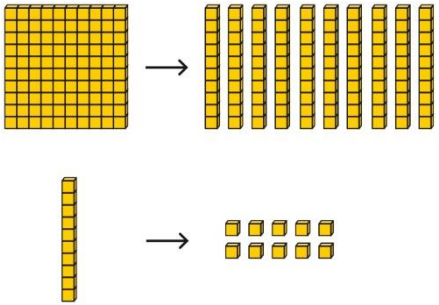
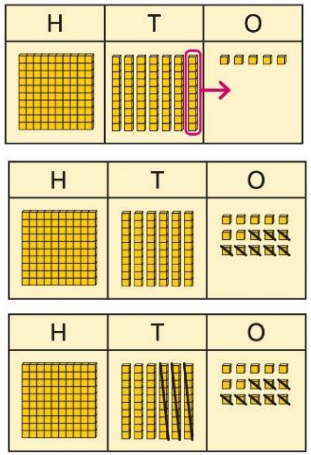
Power maths topics Year 4:

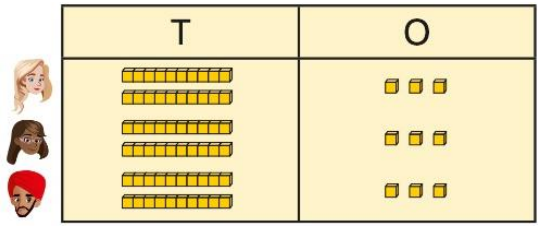
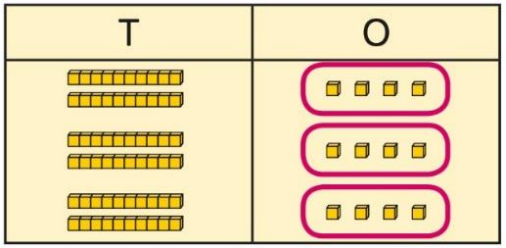
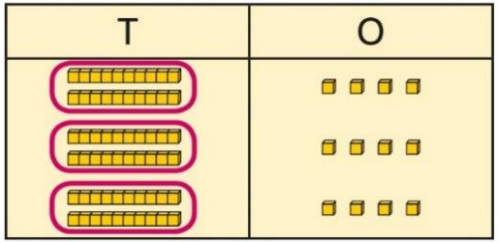
Textbook	Strand	Unit		Number of Lessons
Textbook A / Practice Book A (Term 1)	Number – number and place value	1	Place value – 4-digit numbers (1)	9
	Number – number and place value	2	Place value – 4-digit numbers (2)	9
	Number – addition and subtraction	3	Addition and subtraction	15
	Measurement	4	Measure – perimeter	5
	Number – multiplication and division	5	Multiplication and division (1)	11
Textbook B / Practice Book B (Term 2)	Number – multiplication and division	6	Multiplication and division (2)	15
	Measurement	7	Measure – area	5
	Number – fractions (including decimals)	8	Fractions (1)	7
	Number – fractions (including decimals)	9	Fractions (2)	8
	Number – fractions (including decimals)	10	Decimals (1)	10
Textbook C / Practice Book C (Term 3)	Number – fractions (including decimals)	11	Decimals (2)	7
	Measurement	12	Money	9
	Measurement	13	Time	5
	Statistics	14	Statistics	5
	Geometry – properties of shapes	15	Geometry – angles and 2D shapes	10
	Geometry – position and direction	16	Geometry – position and direction	6

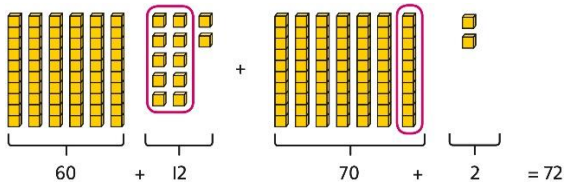
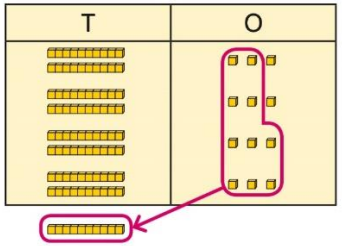
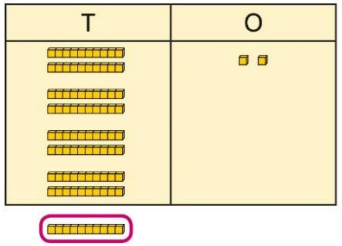
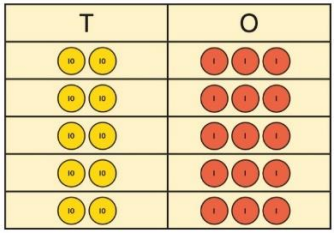
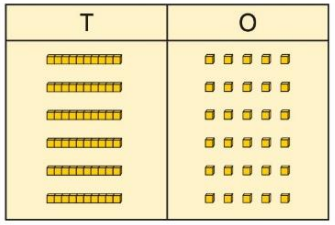
Basic skills targets Year 4:

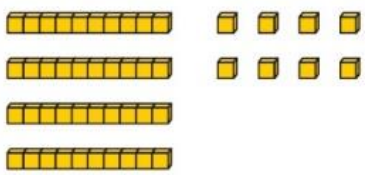
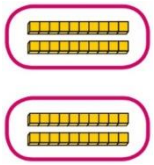
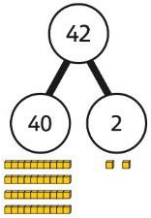
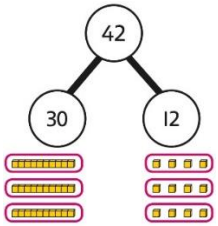
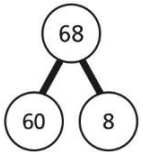
Year 4 basic skills
• Count from zero in multiples of 6, 7, 9, 25 and 1000 using bringing strategies as appropriate • Use knowledge of complements to 100 to find change from whole pounds • Use knowledge of complements to 60 to calculate time within an hour • Recall multiplication facts and related division facts for tables up to 12 x 12 • Read and write numbers up to 10,000 and recognise the place value of each digit • Recognise the pace vale if each digit in a four – digit number • Compare and order numbers up to 10,000 • Partition numbers into place value columns • Partition numbers in different ways • Round any four-digit number to the nearest 10, 100 and 1000 • Use rounding to support estimation and calculation • Use knowledge of place value to derive new addition and subtraction facts • Use knowledge of inverse to derive associated addition and subtraction facts and check answers • Double any number between 1 and 100 and find all corresponding halves • Add and subtract mentally THTU ± U, THTU ± T, THTU ± H, TU ± TU and HTU ± TU • Multiply numbers including decimals by 10 and 100 • Divide decimal number (to one decimal place) by 10 • Divide four – digit whole numbers by 100 • Use knowledge of inverse to derive associated multiplication and division facts • Use known facts to derive facts • Use known facts to derive equivalent facts • Count up and down in tenths and hundredths and recognise equivalent decimal places • Recall fraction and decimal pairs to 1 • Identify fractions greater or less than a half • Identify equivalent fractions • Order, add and subtract fractions with the same denominator • Recognise decimal equivalents of fractions with a denominator of ten and one hundred and also decimal equivalents of half, one quarter and three quarters • Round decimals with one decimal places to the nearest whole number • Tell and write the time from a 12-hour analogue clock and a clock with Roman numerals and a digital clock display • Read, tell and write the time from a 24 hour clock • Convert between 12 and 24 hour clocks • Convert between money and measures including time • Recognise right angles, straight angles, half and full turns and relate the turn to a measurement in degrees • Identify different types of angles including acute and obtuse

3-digit number + 3-digit number, no exchange	Use place value equipment to make a representation of a calculation. This may or may not be structured in a place value grid. *326 + 541 is represented as:* 	Represent the place value grid with equipment to model the stages of column addition.	Use a column method to solve efficiently, using known bonds. Children must understand how this relates to place value at every stage of the calculation.
3-digit number + 3-digit number, exchange required	Use place value equipment to enact the exchange required.  *There are 13 ones.* *I will exchange 10 ones for 1 ten.*	Model the stages of column addition using place value equipment on a place value grid. 	Use column addition, ensuring understanding of place value at every stage of the calculation.  *126 + 217 = 343* Note: Children should also study examples where exchange is required in more than one column, for example *185 + 318 = ?*

3-digit number − up to 3-digit number	Use place value equipment to explore the effect of splitting a whole into two parts, and understand the link with taking away. 	Represent the calculation on a place value grid.  	Use column subtraction to calculate accurately and efficiently. 
3-digit number − up to 3-digit number, exchange required	Use equipment to enact the exchange of 1 hundred for 10 tens, and 1 ten for 10 ones. 	*Model the required exchange on a place value grid.* *175 − 38 = ?* *I need to subtract 8 ones, so I will exchange a ten for 10 ones.*  	Use column subtraction to work accurately and efficiently.  175 − 38 = 137 If the subtraction is a 3-digit number subtract a 2-digit number, children should understand how the recording relates to the place value, and so how to line up the digits correctly. Children should also understand how to exchange in calculations where there is a zero in the 10s column. 

Multiplying a 2-digit number by a 1-digit number	Understand how to link partitioning a 2-digit number with multiplying. *Each person has 23 flowers.* *Each person has 2 tens and 3 ones.*  *There are 3 groups of 2 tens.* *There are 3 groups of 3 ones.* Use place value equipment to model the multiplication context.  *There are 3 groups of 3 ones.* *There are 3 groups of 2 tens.*	Use place value to support how partitioning is linked with multiplying by a 2-digit number. *3 × 24 = ?*  *3 × 4 = 12*  *3 × 20 = 60* *60 + 12 = 72* *3 × 24 = 72*	Use addition to complete multiplications of 2-digit numbers by a 1-digit number. *4 × 13 = ?* *4 × 3 = 12* *4 × 10 = 40* *12 + 40 = 52* *4 × 13 = 52*

Multiplying a 2-digit number by a 1-digit number, expanded column method	Use place value equipment to model how 10 ones are exchanged for a 10 in some multiplications. *3 × 24 = ?* *3 × 20 = 60* *3 × 4 = 12*  *3 × 24 = 60 + 12* *3 × 24 = 70 + 2* *3 × 24 = 72*	Understand that multiplications may require an exchange of 1s for 10s, and also 10s for 100s. *4 × 23 = ?*   *4 × 23 = 92*  *5 × 23 = ?* *5 × 3 = 15* *5 × 20 = 100* *5 × 23 = 115*	Children may write calculations in expanded column form, but must understand the link with place value and exchange. Children are encouraged to write the expanded parts of the calculation separately.  T O 1 5 × 6 + 6 × 5 6 × 10 *5 × 28 = ?* T O 2 8 × 5 4 0 5 × 8 1 0 0 5 × 20 1 4 0

2-digit number divided by 1-digit number, no remainders	Children explore dividing 2-digit numbers by using place value equipment.  *48 ÷ 2 = ?* *First divide the 10s.*  *Then divide the 1s.* 	Children explore which partitions support particular divisions.  *I need to partition 42 differently to divide by 3.*  *42 = 30 + 12* *42 ÷ 3 = 14*	Children partition a number into 10s and 1s to divide where appropriate.  *60 ÷ 2 = 30* *8 ÷ 2 = 4* *30 + 4 = 34* *68 ÷ 2 = 34* Children partition flexibly to divide where appropriate. *42 ÷ 3 = ?* *42 = 40 + 2* *I need to partition 42 differently to divide by 3.* *42 = 30 + 12* *30 ÷ 3 = 10* *12 ÷ 3 = 4* *10 + 4 = 14* *42 ÷ 3 = 1*
2-digit number divided by 1-digit number, with remainders	Use place value equipment to understand the concept of remainder. *Make 29 from place value equipment. Share it into 2 equal groups*.  *There are two groups of 14 and 1 remainder.*	Use place value equipment to understand the concept of remainder in division. *29 ÷ 2 = ?*  *29 ÷ 2 = 14 remainder 1*	Partition to divide, understanding the remainder in context. *67 children try to make 5 equal lines.* *67 = 50 + 17* *50 ÷ 5 = 10* *17 ÷ 5 = 3 remainder 2* *67 ÷ 5 = 13 remainder 2* *There are 13 children in each line and 2 children left out.*

Your child should have a code to login to Times Tables Rockstars at home. This tool will helps them with their times tables.

Goal

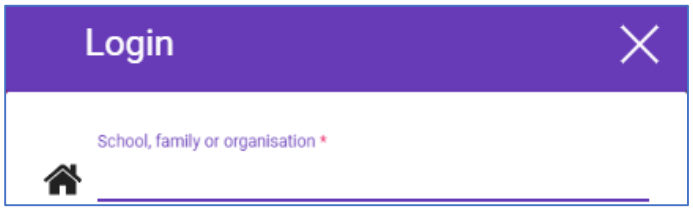
When it comes to times tables, speed AND accuracy are important – the more facts your child remembers, the easier it is for them to do harder calculations.

Times Table Rock Stars is a fun and challenging programme designed to help students master the times tables!

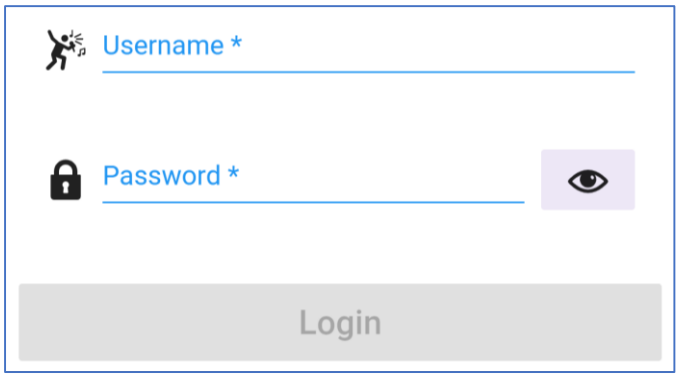
To be a Times Table Rock Star you need to answer any multiplication fact up to 12×12 in less than 3 seconds!

Logging in to Times Tables Rock Stars

1. Type **play.ttrockstars.com** into your browser's address bar.
2. Click Login! > School > Student
3. Enter the School Name.



4. Enter your child's username and password.



Game Modes

Single Player

Garage - the questions will only come from the times tables the teacher has set for the week. It will include multiplication *and* division questions.
As pupils start to answer questions, TT Rock Stars works out which facts they take longer on and will give them more of these questions to answer. The Garage is best for getting quicker at a few facts. Players get 10 coins per question.

Studio - the questions in the Studio can be anything from 1×1 up to 12×12.
TT Rock Stars calculates the mean response time from their last 10 games in the Studio and translates that time into a Rock Status.

≤ 1 sec/qu = Rock Hero
≤ 2 secs/qu = Rock Legend
≤ 3 secs/qu = Rock Star
≤ 4 secs = Headliner
≤ 5 secs/qu = Support Act
≤ 6 secs/qu = Breakthrough Artist
≤ 7 secs/qu = Unsigned Act
≤ 8 secs/qu = Gigger
≤ 9 secs/qu = Busker
≤ 10 secs/qu = Garage Rocker
> 10 secs/qu = Wannabe

If you don't play in the Studio you don't get a Rock Status.

Players earn 1 coin per question and the Studio is the place for them to set their best time across all the tables.

Soundcheck – When you play Soundcheck, you get 20 questions each with a 5-second time limit. The questions are multiplication only and evenly weighted in terms of difficulty each time you play. Players earn 5 coins per correct answer.

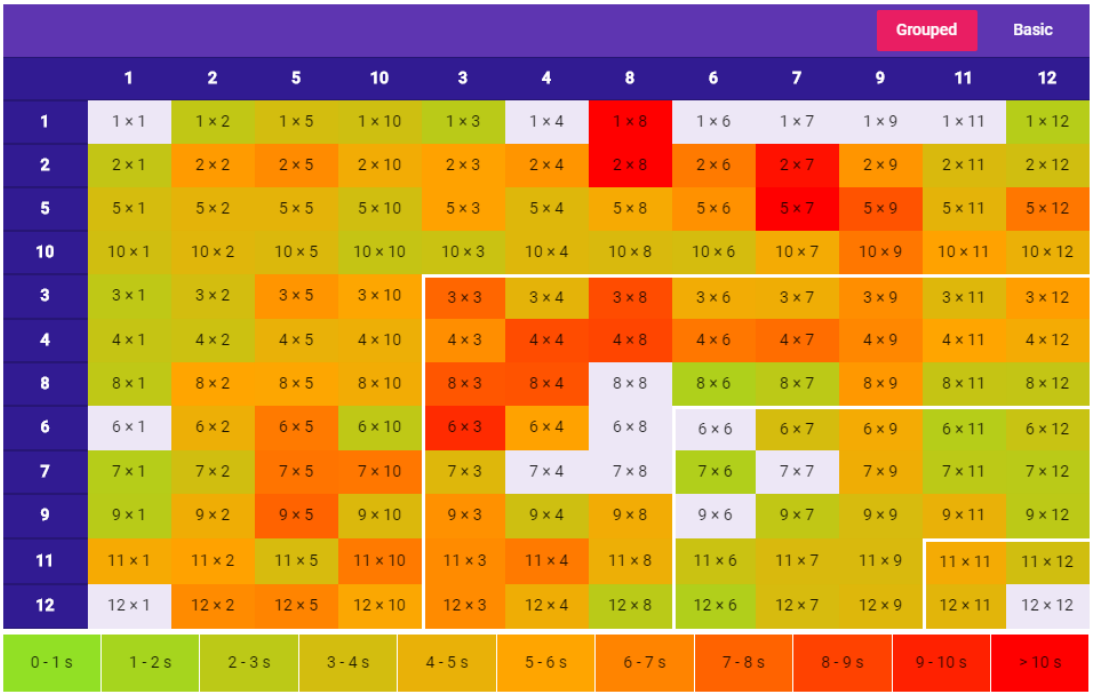
Multiplayer

Rock Arena - The Arena allows players to compete against all other members of their Band (their Bandmates would need to join the same game in order to compete together).
A new Arena game starts every 15 seconds and once the clock starts they race to answer more questions than the others. In the Arena, questions will only come from the times tables the teacher has set for the week, similar to the Garage. They earn 1 coin per correct answer.

Rock Festival - The Rock Festival games are open to players from around the world. Like the Arena, there is no limit to the number of players who can join a game; however, unlike the Arena, questions are selected at random from 1×1 to 12×12.
Pupils might choose the Rock Festival if they were playing at home (and therefore couldn't easily synchronise playing against a classmate) or wanted to compete against others not in their Band. They earn 1 coin per correct answer.

Stats

If you click on your avatar icon in the top right of the screen and then click My Stats, a heatmap like the one below will load. It shows how successful your child is at each of the facts.



Contact Mrs Moody or your child's teacher if…

- *You have username or password issues*
- *Something isn't working or you're not sure how it works*
- *You have a complaint or a suggestion*
- *You have something nice to say about ttrockstars.com!*

Year 4 Times Tables Check

You may have heard announcements about the Multiplication Tables Check coming in for year 4 children. We are not sure yet what the government's approach will be regarding these tests in 2022, but if they do go ahead, here is what you need to know:

1. Maths is a big subject and we appreciate there's more to it than times tables and there's more to times tables than learning them off by heart. However, a lot of the rich, interesting maths is all about the multiplicative relationships and these are hard to fully grasp without fluent recall of the tables. For that reason, learning the tables is fundamental – they are a key facilitator to the maths that sits on top.
2. The checks became compulsory in 2020.
3. If they go ahead, they will be done most likely within a two-week-long window towards the end of the year.
4. The results of the test are not published publicly, they're not going to end up on a league table and they're not to worry about. There's no pass or fail, there's just a score out of 25 marks. They're not to be used to compare children, they're for *us* to reflect on so that we make the most of our provision.
5. The checks consist of 25 questions. The questions will only be multiplication and they will go up to 12×12. There's nothing novel about the questions and they don't require problem solving so there's nothing to trip them up. The pupils are likely to complete the test on the school ipads.
6. Given that the questions are relatively simple, age appropriate and the length of the check, which is carried out on a computer, is no more than 2½ minutes, the checks should not be onerous.
7. Please try to practise your tables with the children at home. If you are practising with your child, remember you're practising for the benefit of their wider maths education, not for them to get a high score on the tests.

Some tools for practising times tables:

- Times Tables Rockstars play.ttrockstars.com
- Hit the Button https://www.topmarks.co.uk/maths-games/hit-the-button
- Maths Frame https://mathsframe.co.uk/en/resources/resource/477/Multiplication-Tables-Check