Maths Café

Year 3 and 4

Times tables

23rd, 24th, 26th September

At Broke Hall…

- Times tables are taught a minimum of twice a week in addition to daily maths lessons (in years 3-6).
- Emphasis is placed on learning for **understanding**, rather than rote learning.
- A range of methods and techniques are used to **teach** and **practise** times tables.

Why are times tables important?

- Frees up working memory.
- Helps with mental arithmetic.
- Less maths anxiety and boosts confidence.
- Improved problem-solving abilities.
- Promotes number sense.
- Can be applied to other areas of mathematics and beyond.

Adding, subtracting, multiplying and dividing fractions

$\frac{3}{4} \times \frac{2}{3} = \frac{6}{12}$

$\frac{1}{3} + \frac{1}{6}$

$\frac{1}{3} \times 2 + \frac{1}{6} \times 2$

$\frac{2}{6} + \frac{1}{6}$

Simplifying fractions

$\frac{9}{15} \div 3 = \frac{3}{5}$

Using scale factors

2 people	1 person	5 people
6 eggs	6 ÷ 2 = 3 eggs	3 x 5 = 15 eggs
100g flour	100 ÷ 2 = 50g	50 x 5 = 250g

4cm, 9cm, 12cm, 27 cm ?

Finding a fraction or a percentage of a number

$\frac{3}{4}$ of 48

12 | 12 | 12 | 12

48 ÷ 4 = 12
dividing by 4 finds one quarter.

12 x 3 = 36
multiplying by 3 finds 3 quarters

Calculating volume

2cm, 3cm, 5cm

Calculating ratio

A prize is shared in a ratio of 3 : 4 between Jamie and Dan. If Jamie gets £21, how much will Dan get?

Jamie : Dan
3 : 4
21 : 28

x 7, x 7

Using known facts

If 3 x 2 = 6, then
3 x 20 = 60
30 x 2 = 60
30 x 20 = 600

Using algebraic rules

1st term:	5 x	1 -	4 =	1		
2nd term:	5 x	2 -	4 =	6		
3rd term:	5 x	3 -	4 =	11		
4th term:	5 x	4 -	4 =	16		
5th term:	5 x	5 -	4 =	21		

Finding the area of rectangles, triangles and parallelograms.

4cm, 9 x 4 = 36 cm², 9cm

10 x 7 = 70cm², 7cm, 10cm

(b x h) ÷ 2
7cm, 10cm
1) 10 x 7 = 70 cm²
2) 70 ÷ 2 = 35cm²

Why are times tables useful?

Converting between mixed and improper fractions

add

$1\frac{3}{4} = \frac{7}{4}$

multiply

Convert between miles and kilometres

To convert km to miles:

5 miles = 8km
30 miles = 48km

1) Divide by 8 (48 ÷ 8=6)
2) Multiply by 5 (6 x 5 = 30)

Short and long division

125
5 | 625

Finding prime factors

52
2, 26
13, 2

Square and cube numbers

$2^2 = 2 \times 2 = 4$

$4^2 = 4 \times 4 = 16$

$3^3 = 3 \times 3 \times 3 = 27$

Factors and common factors

48: 1 x 48, 2 x 24, 3 x 16, 4 x 12, 6 x 8

36: 1 x 36, 2 x 18, 3 x 12, 4 x 9, 6 x 6

Ordering and comparing fractions

$\frac{2}{3}$ x 4, x 4 = $\frac{8}{12}$

$\frac{3}{4}$ x 3, x 3 = $\frac{9}{12}$

$\frac{8}{12} < \frac{9}{12}$

Finding equivalent fractions

$\frac{2}{3}$ x 4, x 4 = $\frac{8}{12}$

$\frac{3}{4}$ x 3, x 3 = $\frac{9}{12}$

Identifying prime and composite numbers

A prime number is a whole number greater than 1 with no divisors except 1 and itself.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20

Multiples and common multiples

Multiples of 3: 3, 6, 9, 12, 18, 21, 24

Multiples of 4: 4, 8, 12, 16, 20, 24, 28, 32

Short and long multiplication

x 853
6
8
1

x 32
45
0
1

@SarahFarrellKS2

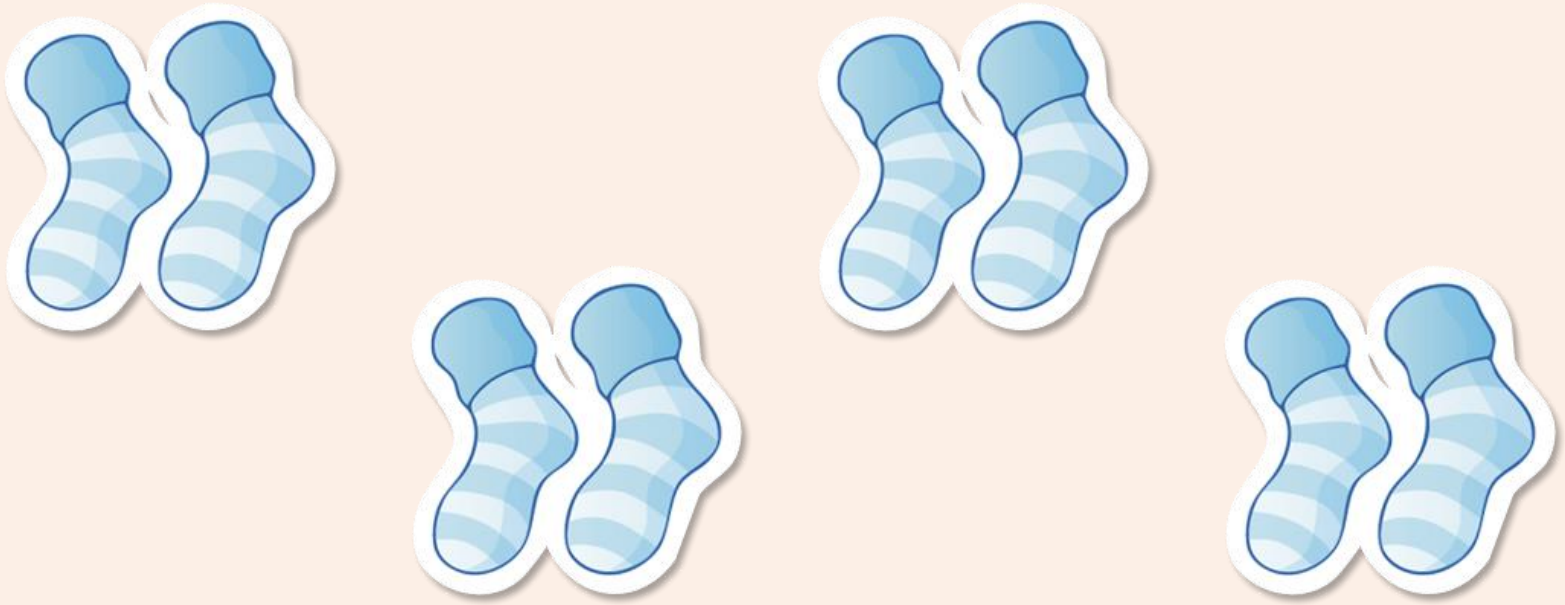
How will my child learn times tables?

- Counting stick
- Number line
- Chanting – rolling numbers
- Games
- Visual representations such as arrays
- Concrete resources and manipulatives
- Language – lots of, groups of, multiplied by

Counting and looking for patterns.

Example: Counting in 2s
2, 4, 6, 8, 10…

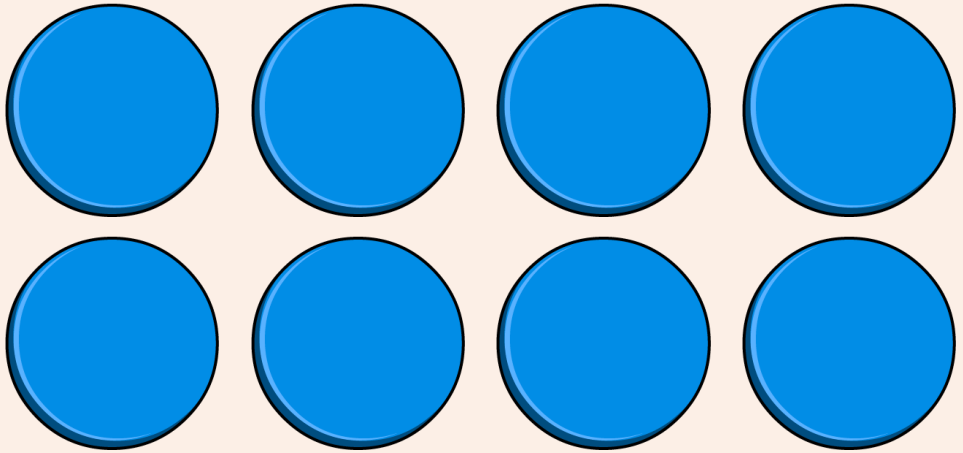
- Ensure children have a strong understanding of counting in groups first.
- When children are secure with counting, they can then look for patterns.



Repeated addition

Knowing that 2 x 4 is the same as 2 + 2 + 2 + 2

2 + 2 + 2 + 2 = ?

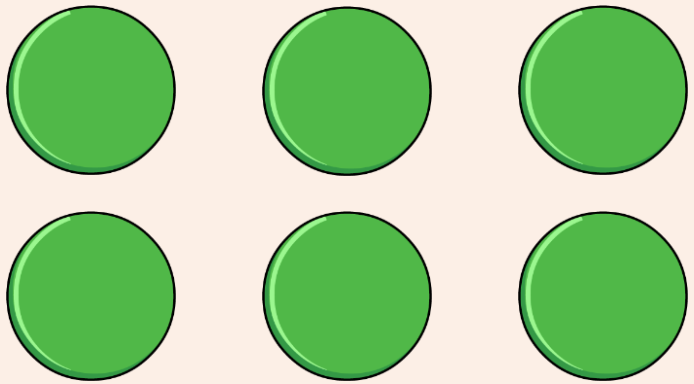


2 x 4 = ?

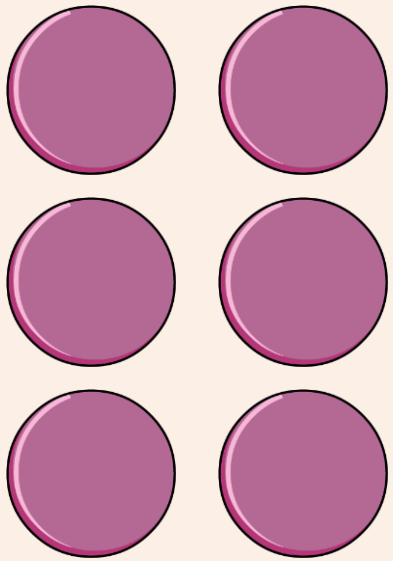
Multiplication is commutative

3 x 2 is the same as 2 x 3

Children need to understand that multiplication can be completed in any order to produce the same answer. Sometimes this link needs to be made explicit.



3 lots of 2 = 6

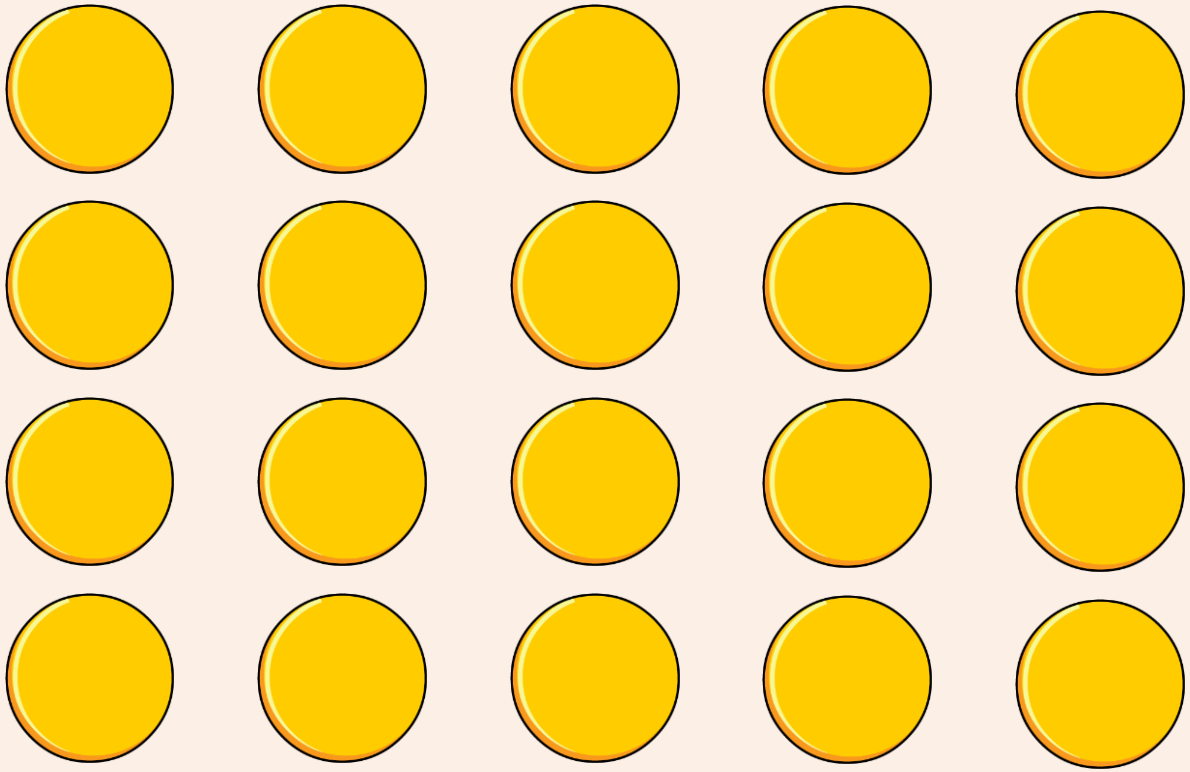


2 lots of 3 = 6

Multiplication is the inverse of division

20 ÷ 5 = 4 can be worked out because 5 x 4 = 20

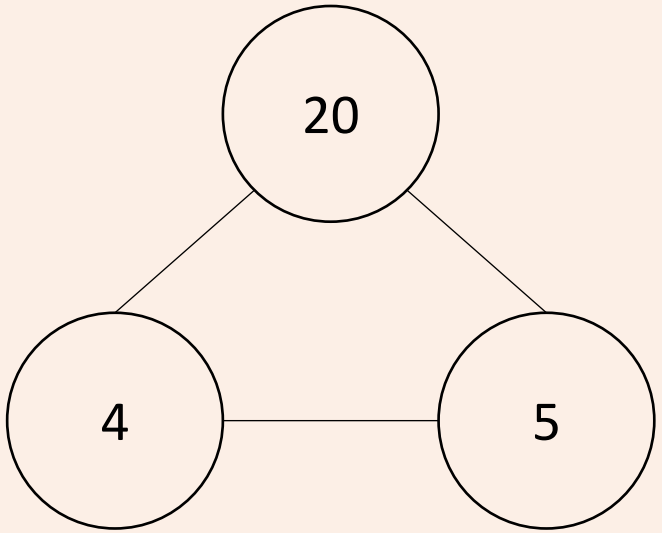
Using pictorial representations (such as arrays) is useful here for children to see the link between multiplication and division.



Number families

$$4 \times 5 = 20,\ 5 \times 4 = 20,\ 20 \div 5 = 4,\ 20 \div 4 = 5$$

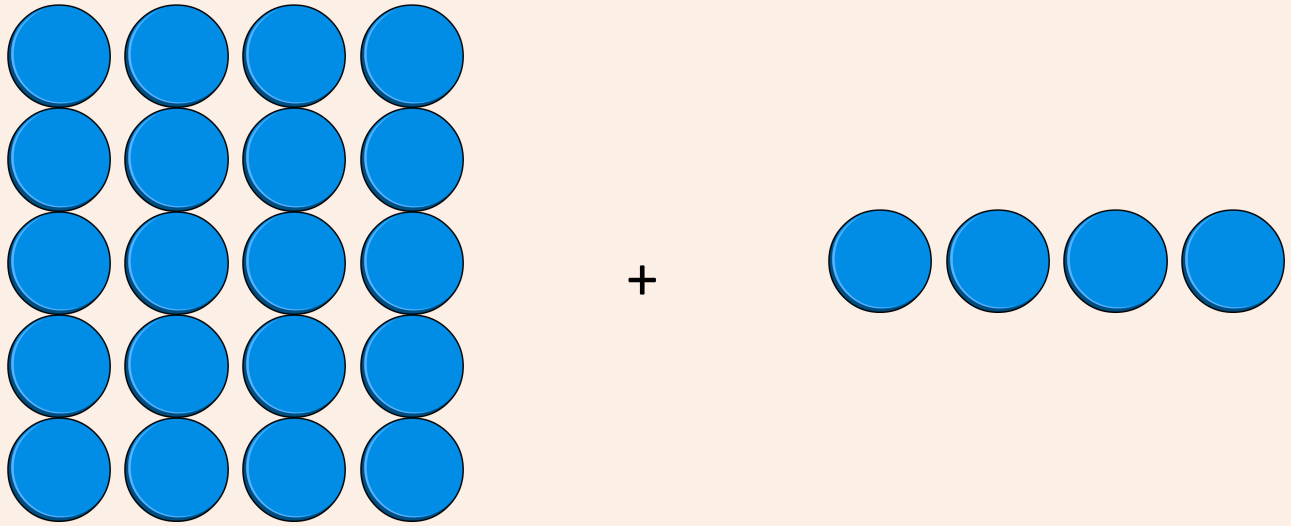
Due to their commutative understanding, children should also be able to see whole number families. For many children this will need to be pointed out and discussed.



Using known facts

4 x 6 = ?
I know 4 x 5 = 20
Therefore, 20 + 4 = 24

By using known facts from ‘easier’ times tables, children should be able to find answers with increasing speed.



Year 4 multiplication check

- In 2022, the Department for Education have introduced a statutory multiplication check for all Year 4. This will take place in June.
- The purpose of the check is to determine whether children can fluently recall their times tables up to 12, which is essential for future success in mathematics.
- It will also help our school to identify who may need additional support.
- This test will be in school time and will consist of 25 mixed questions. Pupils will have 6 seconds to answer each question.

Multiplication tables check

Do you have a child in year 4 at primary school?

If so, your child will be participating in the multiplication tables check (MTC) in June.

The purpose of the check is to determine whether your child can fluently recall their times tables up to 12, which is essential for future success in mathematics. It will also help your child's school to identify if your child may need additional support.

What is the multiplication tables check?

It is an on-screen check consisting of 25 times table questions. Your child will be able to answer 3 practice questions before taking the actual check. They will then have 6 seconds to answer each question. On average, the check should take no longer than 5 minutes to complete.

What if my child cannot access the check?

There are several access arrangements available for the check, which can be used to support pupils with specific needs. Your child's teacher will ensure that the access arrangements are appropriate for your child before they take the check in June.

The check was designed to be inclusive and accessible to as many children as possible, including those with special educational needs or disability (SEND) or English as an additional language (EAL). However, there may be some circumstances in which it will not be appropriate for a pupil to take the check, even when using suitable access arrangements.

If you have any concerns about your child accessing the check, you should discuss this with your child's headteacher.

Do I need to do anything to prepare my child for the check?

No, you do not need to do anything additional to prepare your child for the check. As part of usual practice, teachers may ask you to practise times tables with your child.

Schools will have unlimited access to a 'try it out' area from April. They can use this to make sure pupils have the necessary support to access the check. This includes opportunities for pupils to familiarise themselves with the check application and try out any access arrangements that may be required.

How will the results be used?

Schools will have access to all their pupils' results, to allow them to identify pupils who need additional support.

Will I receive feedback on my child's check?

Yes. Your child's teacher will share your child's score with you, as they would with all national curriculum assessments. There is no pass mark for the check.

How can I support my child at home?

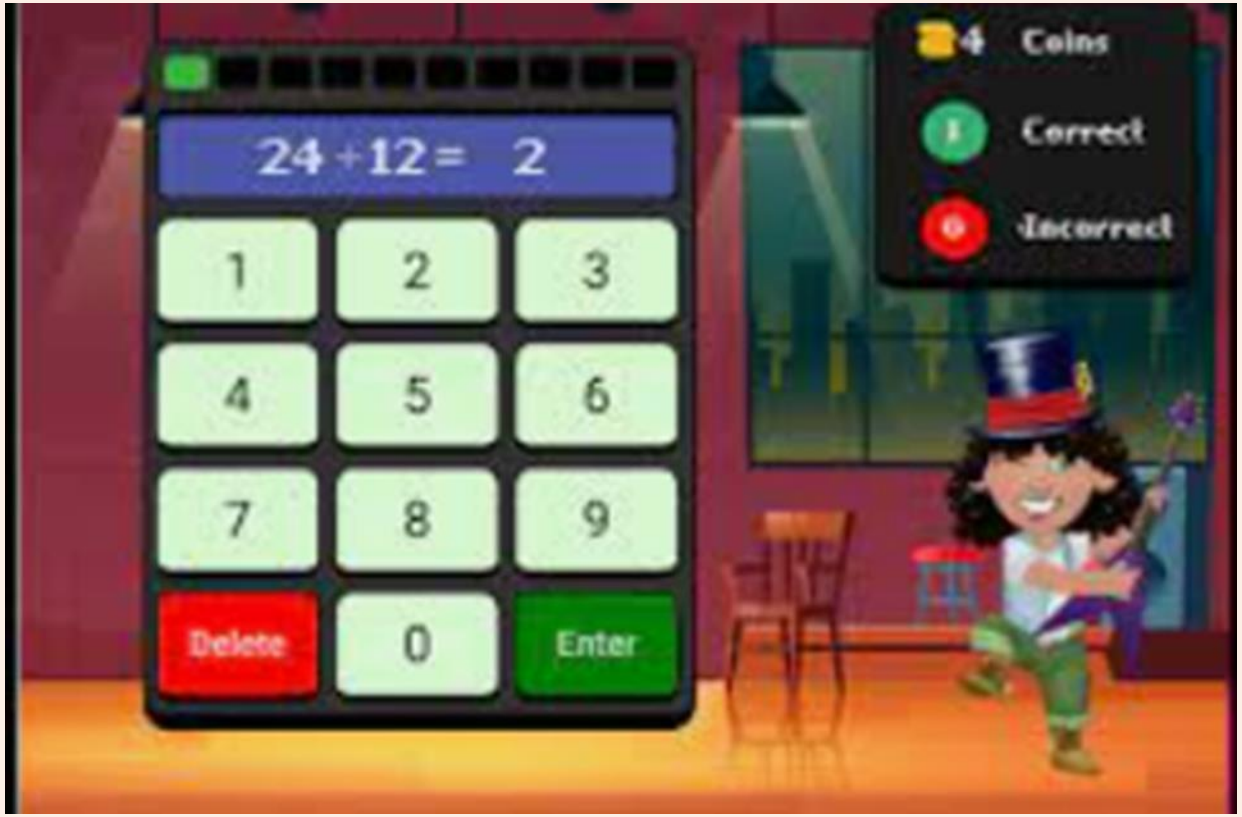
- Focus on understanding
- Develop rapid recall
- Chants and songs
- Counting in steps
- Games such as times tables snap, bingo
- Real life objects e.g. count pairs of socks, grouping objects
- Encourage playing on TTRS or Maths Frame.
- Display tricky facts
- Flash cards

Online games

Maths Frame

https://mathsframe.co.uk/en/resources/resource/477/Multiplication-Tables-Check

Online games



Times Table Rock Stars

Parent Guide

We recommend a "little and often" approach; 3 minutes practice a day, 4 or 5 times a week is a good target.

What are the different Game Modes?

Single Player	
Jamming 4 or 8 coins/correct answer	The only game mode without a timer, players chose the table and operation (x or ÷ or both) they want to practise. Answer 10, 20 or 30 questions.
Gig 10 coins per correct answer	Gig games last 5 minutes and contain up to 100 questions, which come in 'waves', starting with the 10s, then the 2s, 5s, 3s, 4s, 8s, 6s, 7s, 9s, 11s and 12s. Novices are not expected to get past the 5s. Gigs provide the child (and their teacher) with a simple measure of their current skills, which is why learners should concentrate fully for the whole Gig as they won't get another try until next month.
Garage 10 coins per correct answer	Players are given a personalised set of 6 multiplication questions (and their matching division questions) in each round. The questions they get keep adjusting to provide the best fit for every learner's needs. This is probably the best game made for improving their recall while they're still learning.
Studio 1 coin per correct answer	Here your child earns their Rock Status, which is based on their Studio Speed. The faster they are the better their status. Studio Speed is the average of their most recent 10 Studio games. Suitable for confident players.
Soundcheck 5 coins per correct answer	Soundcheck games ask 25 multiplication questions (up to 12x12), allowing 6 seconds for each question. Suitable for confident players.
Multi Player	
Festival 1 coin per correct answer	Children compete against others from around the world, with their identities protected behind their rock names. Suitable for confident players.
Arena 1 coin per correct answer	Children race against other members of their class who are logged in and choose the same arena name at the same time. Arena games use the same smart question algorithm as Garage games.
Rock Slam 1 coin per correct answer	Players challenge their classmates or teachers to answer as many questions as they can in 60 seconds, setting a score for the challenge to beat. Pupils don't need to be online at the same time.
Tournaments	Battle of the Bands – groups of children within the same school (usually classes, year groups or teams) compete to have the highest *average* score per player. Top of the Rocks – like a Battle of the Bands *between* schools. The winning class or school is the one with the most correct answers per person. Important: Each correct answer (in any game mode) earns 1 point towards the team's total in addition to the coins earned. For example, in Garage games each correct answer is worth 1 point for the team and 10 coins for the player.

Parent Guide

Learners with different needs

How can I hide the timer?	Start a game and press ⚙ > Hide Practice Clock. You could also play a game in Jamming.
How can I increase the length of Garage games?	Single player > Garage > press the little arrow below "play solo" > choose 1, 2 or 3 minutes.
The tables are too hard	Make sure your child is playing in Garage or Arena game modes. If this does not resolve the issue, please speak to your child's teacher. Remember that Jamming mode allows the child to choose the tables themselves.
My child gets anxious	Try the three above plus: setting mini goals (e.g. complete 2 minutes today, get 1 more point in the next game, pass 1 level); having a break from online play (come back in a couple of days); and reminding them of Baz's words: "A good rock star stays chillaxed by accepting they make mistakes."
My child has visual impairments; what settings are available?	Head to the Profile page where you can: change the colour scheme; reduce the visual stimuli with Declutter mode; increase the font size or switch to a dyslexia-friendly font called Lexie. play.ttrockstars.com is also screen reader compatible.
Can I turn off division?	Yes in Jamming mode but not in the other games. The reason for that is that practising multiplication and division at the same time supports the recall of both and is the most successful approach. If your child is finding division confusing, please speak to their teacher about starting with the 10s only and for advice on how to help at home.

Troubleshooting

My child's coins and/or Studio speed have suddenly dropped	Another child may have logged in as your child. Please reassure your child that this can be rectified. Contact their teacher who can set a new password, refund any coins, delete Studio games and talk to the class about online safety.
My child plays too much	Set firm TTRS time limits; reward healthy choices; take away devices before bed.
My child's name is showing on a school leader board.	Please ask your child's teacher to change the settings at their end so that rock names show on the leaderboards instead of real names.
What does the 🎧 mean?	If this symbol appears over a game tile (e.g. over Garage) it means the teacher has set your child a certain number of minutes to practise in that game mode for homework. Once they complete those minutes the other games unlock.

https://www.youtube.com/watch?v=pitxPS_OnOte What is Times Tables Rockstars? Parents and Carers Guide

Today’s café…

- A range of resources
- An opportunity to see how children learn and practise.
- Times tables can be fun!

Maths Café

Thank you.

Any questions?