Times Tables at Orleans

Information for parents: 27th September 2022

Presented by: Miss Hedges (Maths Lead)

Agenda:

- Importance of times table
- National expectations
- Year 4 Multiplication Check
- Our Times Table Programme and how it works
- School subscription - Times Table Rockstars
- How multiplication and times tables are taught
- Top Tips
- Resources and websites

Why Are Times Tables So Important?

Having a **strong knowledge of times tables** will **help children in all other areas of maths**, not just in school, but throughout their lives. Times tables come into nearly every area of maths, such as fractions, ratio and proportion, division and multiplication, area and perimeter and much more.

Learning times tables **off by heart** makes **mental maths much easier**. It will **boost your child's confidence** in their maths lessons at school and help them to move quickly through more complex maths concepts and problems.

Not knowing your times tables puts additional **strain on your working memory** when tackling such new concepts in maths. This will **hinder the long term transition of the new facts** to the long term memory.

The simple truth is that if you don't know your times tables by secondary school then you're starting at a severe disadvantage.

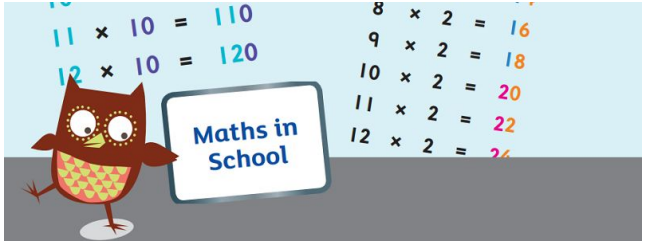
★ At Orleans, our aim is for our learners to become fluent in their multiplication and division facts. Being '**fluent**' means that children are able to **rapidly recall** their times tables.

By year 4, children are expected to know **all of their times tables** (up to 12x12) and the related division facts, i.e. knowing that 12 ÷ 4 = 3 is a division fact of 3 x 4 = 12.

For this reason, times tables are **first introduced in year 1** to give children the time and experience they need to master them.

From year 1 to year 4, new times tables are introduced each year so that children can **master them in stages**.

National Curriculum Requirements



Year 1 times tables learning

Children are taught the simplest form of multiplication, counting up in 2s, 5s and 10s.

Year 2 times table learning

Children are formally introduced to multiplication, related division facts and repeated addition for the numbers 2, 5 and 10.

Year 3 times table learning

A crucial year for times tables learning. Children are expected to learn multiplication facts for the 3, 4 and 8 times tables and to use practical and written methods to multiply and divide two-digit numbers (for example, 15 x 4).

Year 4 times tables learning

A ‘completing’ year for all multiplication facts up to 12 x 12. Children also continue to develop their skills in multiplication of two-digit numbers by a one-digit number, using harder combinations of numbers. They will also learn to multiply three-digit numbers by a one-digit number.

Year 5 and Year 6 times tables learning

Children will be expected to be really confident in all their times tables (up to the 12 times table) by the start of Year 5. During Years 5 and 6 they will become confident in multiplying larger numbers (four-digits by two-digits, for example).

At-a-glance

What does my child need to know?

- Year 2: x2, x5, x10
- Year 3: x2, x3, x4, x5, x8, x10
- Year 4: all times tables up to 12 x 12

Our Times Tables system in Years 2 - 6 and our Counting in Steps system in Reception & Year 1, is rigorous and helps to support children in moving through their times tables at the pace set out by the National Curriculum.

Year 4 multiplication tables check

The MTC determines if Year 4 children can fluently recall their multiplication tables.

They are designed to help schools identify which children require more support to learn their times tables.

There is no ‘pass’ rate or threshold which means that, unlike the Phonics Screening Check, children will not be expected to re-sit the check.

The Department for Education (DfE) will create a report about the overall results across all schools in England, not individual schools.

When the check will take place

There will be a 3 week window in June 2023 for schools to administer the check.

There is no set day to administer the check and children are not expected to take the check at the same time.

All eligible Year 4 children in England will be required to take the check.

How the check is carried out

- The check will be fully digital.
- Answers will be entered using a keyboard, by pressing digits using a mouse or using an on-screen number pad.
- Usually, the check will take less than 5 minutes for each child.
- The children will have 6 seconds from the time the question appears to input their answer.
- There will be a total of 25 questions with a 3 second pause in-between questions.
- There will be 3 practice questions before the check begins.

The check questions

- Each child will be randomly assigned a set of questions
- There will only be multiplication questions in the check, not division facts.
- The 6, 7, 8, 9 and 12 times tables are more likely to be asked.
- Reversal of questions (e.g. 8 x 6 and 6 x 8) will not be asked in the same check.
- Children will not see their individual results when they complete the check.

Our Times Table System

Guided by the National Curriculum, times tables are learned in a **logical order** to support children's access to the rest of their curriculum, as well as to make **connections explicit** such as learning the 8 times tables following the 4 times tables to relate to doubling. In school, we have split these tables into '**stages**':

Stage 1: x10, x2 and x5

Stage 2: x3, x6

Stage 3: x4, x8

Stage 4: x7, x9

Stage 5: x11, x12

Ultimate Challenge: All mixed up to 12x12

As you will notice, numbers with links have been paired together. The 6x tables is double that of the 3x table and the 8x tables is double that of the 4x table.

By learning times tables in this order, children will **make connections and spot patterns** more easily, helping them to speed up the process of learning and recalling facts. Halving and doubling play a key part, for example, 4 x 3 = 12 so 4 x 6 = 24; 8 x 10 = 80 so 8 x 5 = 40.

Other patterns will also be spotted as the children learn their tables such as in the 6x table, every other number is a multiple of 3.

Our Times Table System

The requirement for **Bronze, Silver** and **Gold** include a **progressive level of challenge**. These are as follows:

Bronze: Recite a complete multiplication table without error or long pauses (pupil may self-correct)

Silver: Answer random order multiplication equations without error or long pauses (pupil may self-correct)

E.g. 2 x 4? 2 x 8?

Gold: Give the multiplication fact for any given answer/product e.g. 36 – 6x6

The **Gold challenge** and its **link with division is key**. Children find division much more challenging and so making that link with multiplication all the way through, rather than just in the Ultimate Challenge, will be hugely beneficial. The more adept children are at knowing their times tables and related division facts, the easier subsequent learning in multiplication and division will be.

As the children continue with their learning in KS2, 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.

Our Counting in Steps System

As with our Times Table system, **Counting in Steps** works in the same way.

However, instead of recalling times table facts, children must **count in steps** of a given times table.

Bronze: Count in steps of a given number, e.g. 0, 2, 4, 6, 8… up to 12x2 (pupil may self-correct)

Silver: Count in steps from a given number (not 0) e.g. count in steps of five from 15

Gold: Say what number come before/after a given multiples, e.g. if testing the twos, what multiple of 2 comes after 10? Before 6?

How are Times Tables tested?

Usually every 2 weeks, children will be tested on their times tables. Each class will keep a log to track progress so that testing is personalised for each pupil.

Times Table Challenge

Class:	Stage 1									Stage 2						Stage 3						Stage 4					
	X10			X5			X2			X3			X6			X4			X8			X7			X9		
	B	S	G	B	S	G	B	S	G	B	S	G	B	S	G	B	S	G	B	S	G	B	S	G	B	S	G
Child A	✓	✓	✓				✓	✓	✓																		
Child B	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓														
Child C	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓																

Class	Stage 5						ULTIMATE CHALLENGE	
	X11			X12			All X Tables	
	B	S	G	B	S	G	Silver	Gold
Child A	✓	✓	✓					
Child B	✓	✓	✓	✓	✓	✓		
Child C	✓	✓	✓	✓				

Times Tables Certificates and Rewards

We want our learners to feel **proud and be praised for their efforts** in learning their times tables. Your child will receive a coloured badge and certificate when they have completed each stage of their times tables. Receiving the '**Ultimate Guru**' certificate and prize is a very special accomplishment, so this is celebrated in our Friday celebration assembly.

Stage 1 x 2, x 5, x 10	Blue Badge
Stage 2 x 3, x 6	Green Badge
Stage 3 x 4, x 8	Yellow Badge
Stage 4 x 7, x 9	Red badge
Stage 5 x11, x 12	Orange Badge
Ultimate Challenge (KS2 only)	Times Table Guru!

Using technology for quick fire recall

Two of the most popular options out there are Times Tables Rock Stars (school subscription) and Hit the Button (free).

Times Tables Rock Stars is a carefully sequenced programme of daily times tables practice.

Hit the Button is an interactive maths game with **quick fire questions** on **number bonds, times tables, doubling and halving, multiples, division facts and square numbers**. The games are against the clock and challenge and develop mental maths skills.

Times Table Rockstars

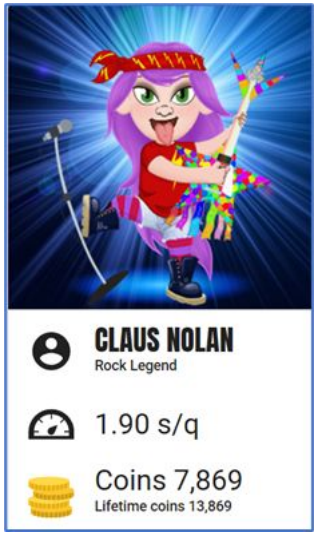
At Orleans, we use Times Tables Rock Stars as a carefully sequenced programme of times tables practice.

TTRS makes learning times tables more **fun and motivating** for the children, as they have the opportunity to design their own avatar and then complete with friends, classmates, and other year groups and schools to gain points and make their way up the leaderboard to Rock Hero!

They also love collecting coins which they can spend on altering their avatar!

To enable your child to play at home you will need to **download the App**.

All children should have now sat their **baseline test** 'Gig,' which sets the multiplication tables at an appropriate level.



Expectations: Children will be practising their tables using the App **4 or 5 times a week** (including both in school and as part of their home learning).

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 (× 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 12×12), 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 challengee 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.

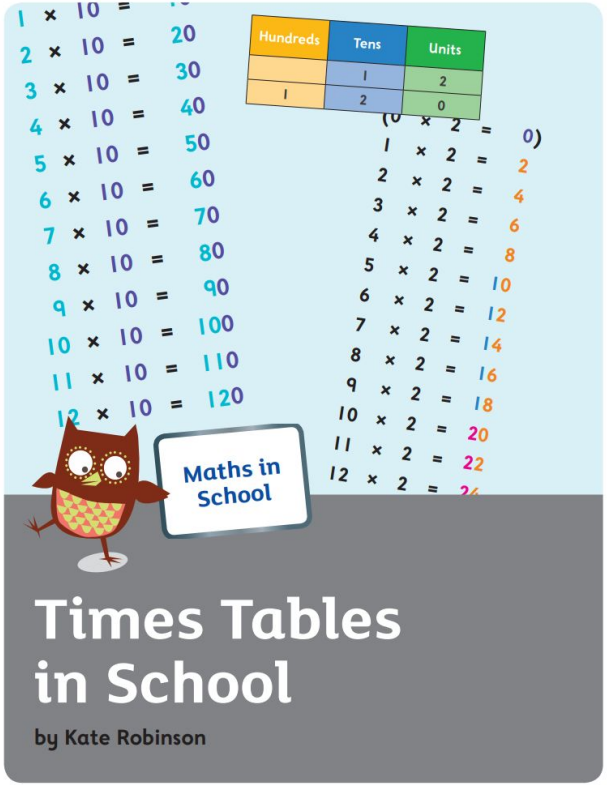
8 game modes on TTRS!

Read the 2-sided parent guide for more information on game modes and how best to use the platform for your child.

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

How are times tables taught at school?

Download Oxford Owl's free booklet 'Times Tables in School' to learn how children are first taught to use their fingers, counters, and paper to help them find the right number before moving on to reciting times tables. The booklet includes lots of tips and games to support learning at home, too.



Click to download

Ways to Support Times Table Knowledge

➔ Count and look for **patterns**
➔ Understand that multiplication is **repeated addition**
➔ Remember that multiplication is **commutative**
➔ Remember that multiplication is the **inverse of division**
➔ Recall and utilise **number families**

Use different representations to represent multiplication, such as:

- Concrete **manipulatives**, such as multilink, cubes or counters
- Create **pictorial** representations, such as arrays

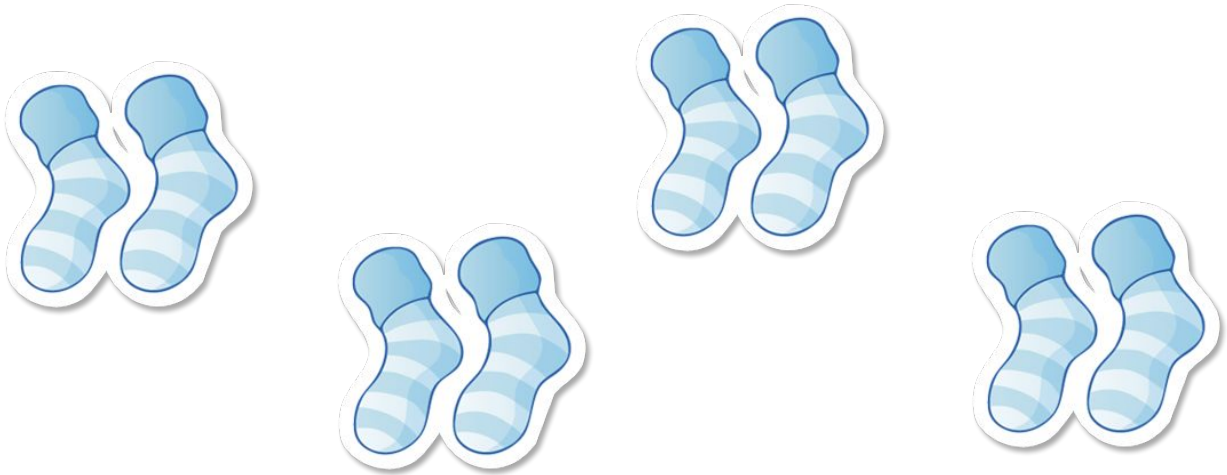
➔ **Let's take a look at these steps in action.**

Counting and looking for patterns

Example: Counting in 2s

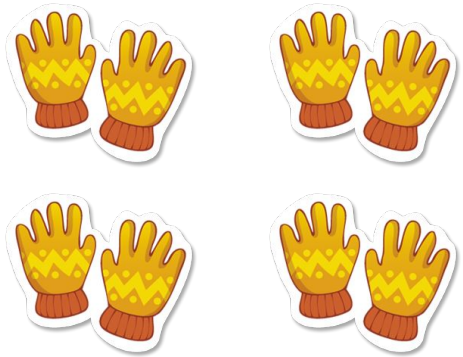
2, 4, 6, 8, 10…

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

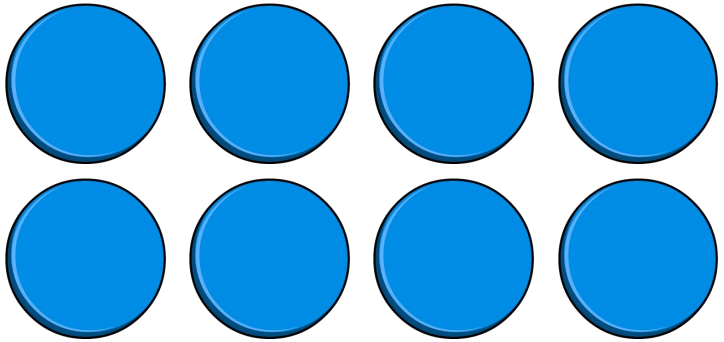


Repeated addition

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



2 + 2 + 2 + 2 = ?

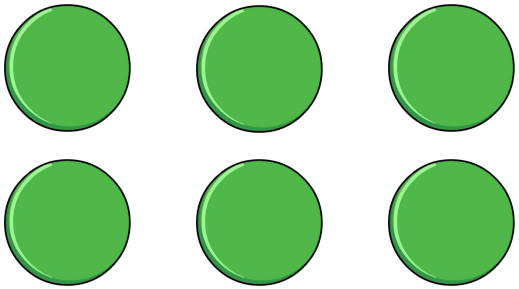


2 x 4 = ?

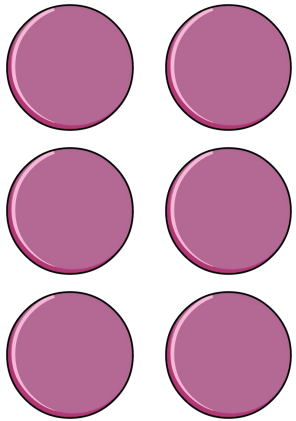
Multiplication is commutative

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

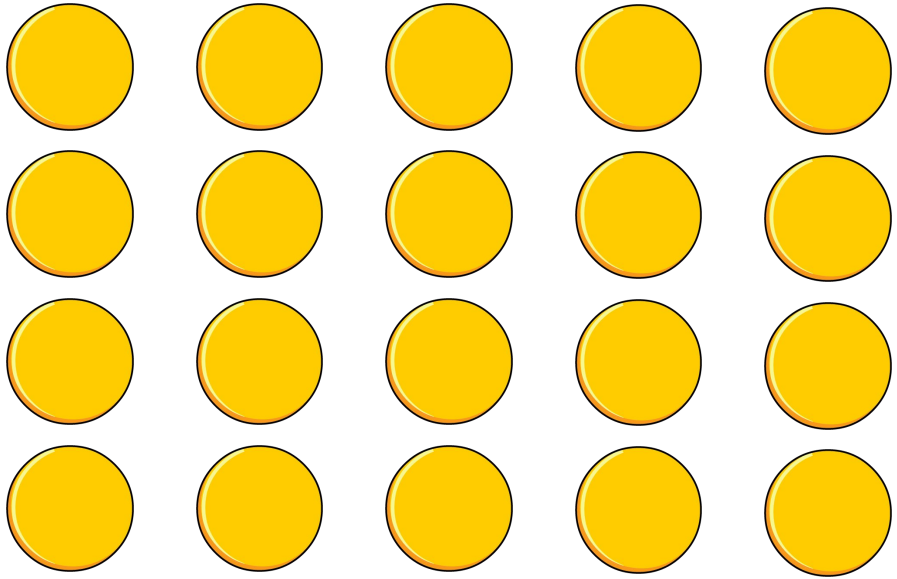


2 lots of 3 = 6

Multiplication is the inverse of division

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

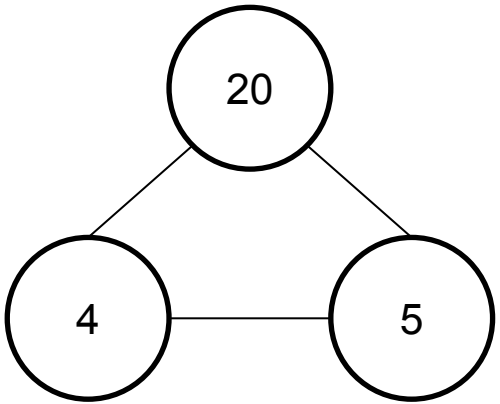
Using pictorial representations (such as arrays) is useful here for children to see the link between multiplication and division.



Number families

4 x 5 = 20, 5 x 4 = 20, 20 ÷ 5 = 4, 20 ÷ 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.



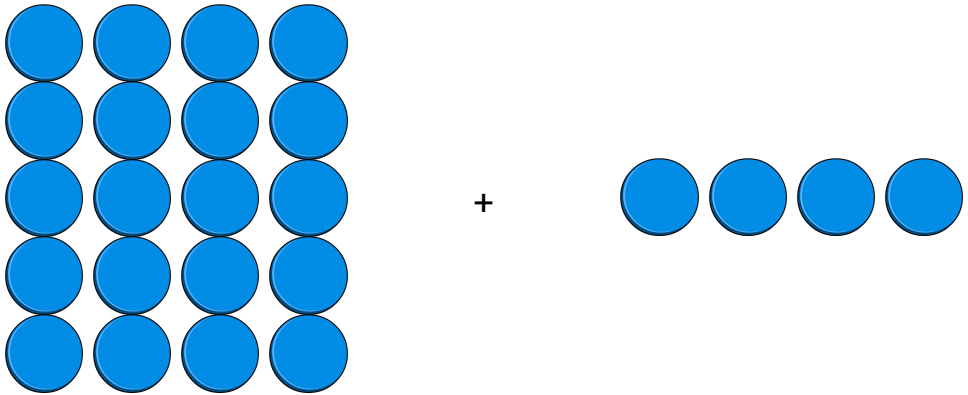
Using known facts

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.



How to Learn Times Tables in Year 1

In Year 1, times tables are introduced using the terms 'lots of' and 'groups of' only – there is no use of the multiplication symbol or writing formal multiplication sentences.

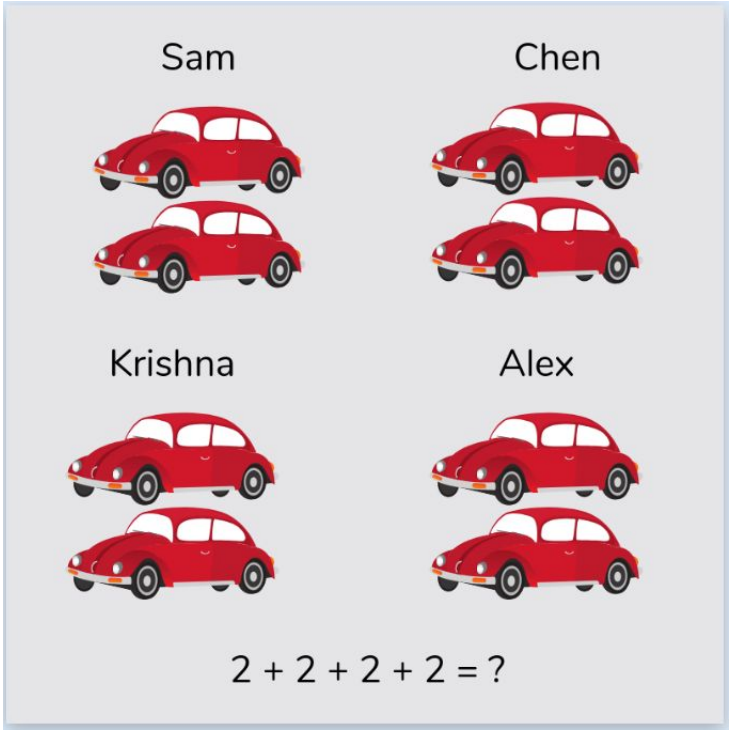
Counting up and down in 2s, 5s and 10s starts.

Use play or objects to understand numbers.

At this age, it is important that you **don't rush in to teaching times tables** at home, and that you make sure that the **key concepts** behind the maths used when working out times tables is already in place.

One way to do this is to use real-world objects to help your child grasp the **meaning of numbers** and their **values** – after all, what's the use of counting in 2s, 5s or 10s, if you don't know what those numbers really represent?

Something as simple as getting all of their toy cars out at once, pairing them up and asking them to count out how many there are can be a great way to do this.



How to Learn Times Tables in Year 1

Real-life objects are also an excellent way to demonstrate the opposite (**inverse**) operation to multiplication which is **division**.

For example, if you have just done the clothes wash and have 20 socks that are ready to be put away, ask your child to divide them by two so that you know how many pairs you will need by the end of the process.

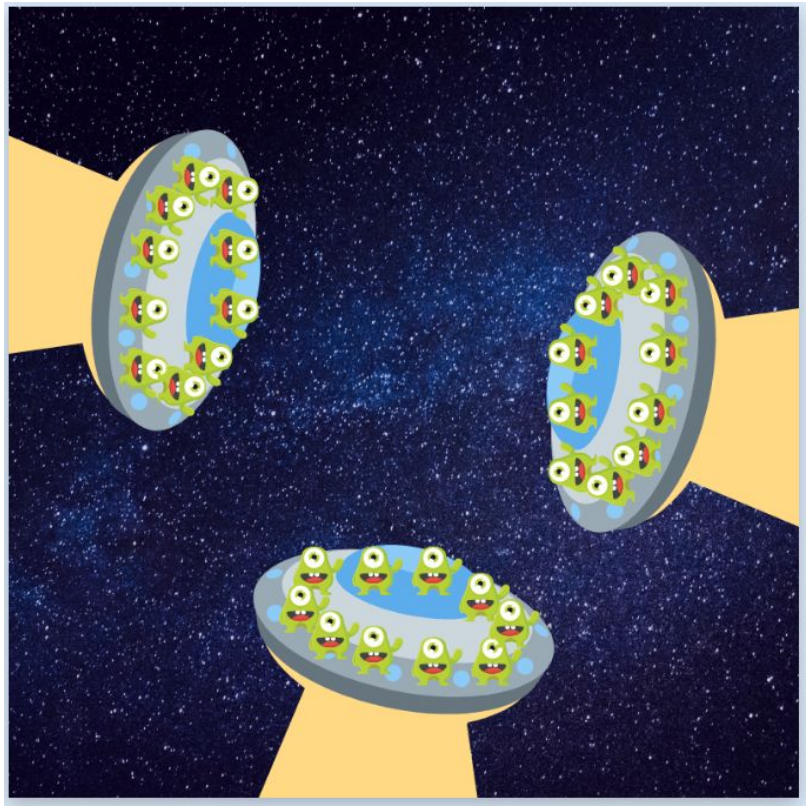
How to Learn Times Tables in Year 1

Counting in lots of 10 is one of the best ways to teach your child multiplication skills

10’s are often the easiest multiplication table for children to grasp thanks to their simple pattern of ending in a 0, regardless of which other number they are multiplied by.

To begin, have a go at finding some pictures with 10 objects in them and then ask your child how many there are altogether.

You can work your way through the problem with them, counting all of the objects on the first round, and then helping them see that if there 3 lots of 10 objects, they can bring their multiplication skills into the mix.

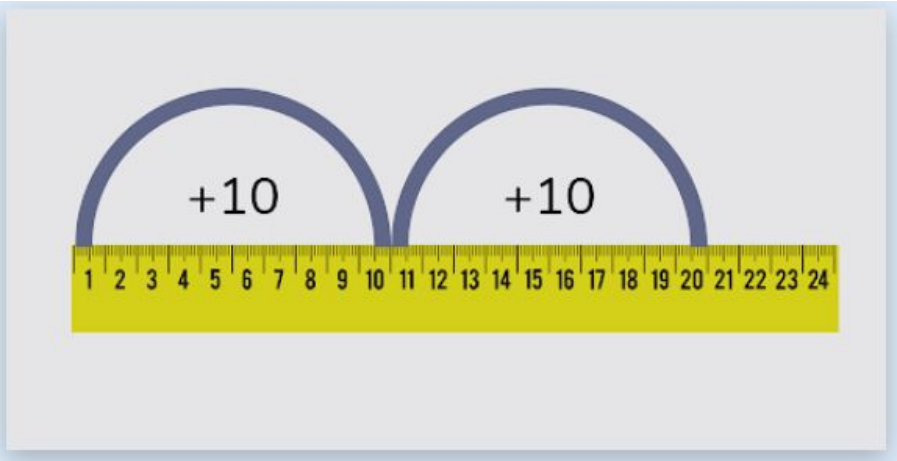


How to Learn Times Tables in Year 1

Number lines can help visualisation when teaching your child about times tables

If your child is struggling to understand the concept of multiplying by 10, a number line may help them to **visualise** the process.

You can use a number line to help them **picture** the jumps, or alternatively you could use a tape measure as a substitute in the likely scenario that you don't have a number line at home.



This is an easy way to teach a child times tables, as by showing how the 10's continue going up all the way along the number line, you can introduce the idea of **2 lots of 10 equalling 20**, **3 lots of 10 equalling 30** and so on.

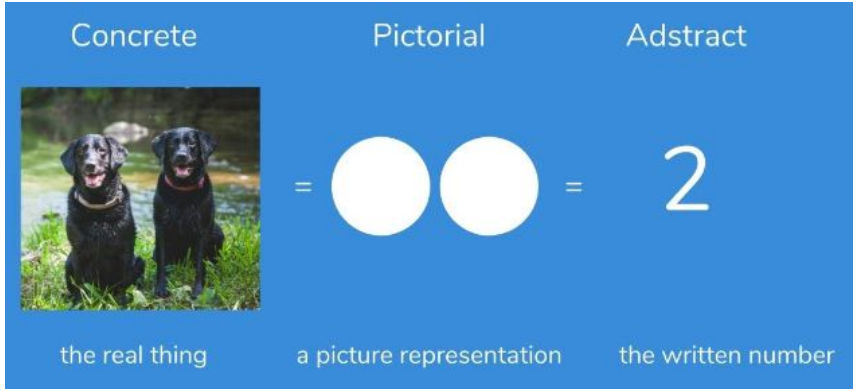
Use the CPA (concrete-pictorial-abstract) approach to teach times tables to your child

Often used in primary schools, for those who haven't heard of it, the **CPA** approach is simple.

Step 1 – Concrete: To begin, you should get a concrete example of the number you want to represent. An example could be 2 building blocks, or 4 shoes.

Step 2 – Pictorial: The next step is to represent the concrete item from above in the form of a picture. This could be a bar chart, a tally chart or any other way of getting the information down onto a piece of paper in a pictorial format.

Step 3 – Abstract: The third and final step is to then represent the number in an abstract manner by writing it down in it's numerical form.



By bringing in the **CPA** approach, you will find that it is a fantastic way to help a child **visualise** numbers and gain a **deeper understanding** of the numbers that are being discussed.

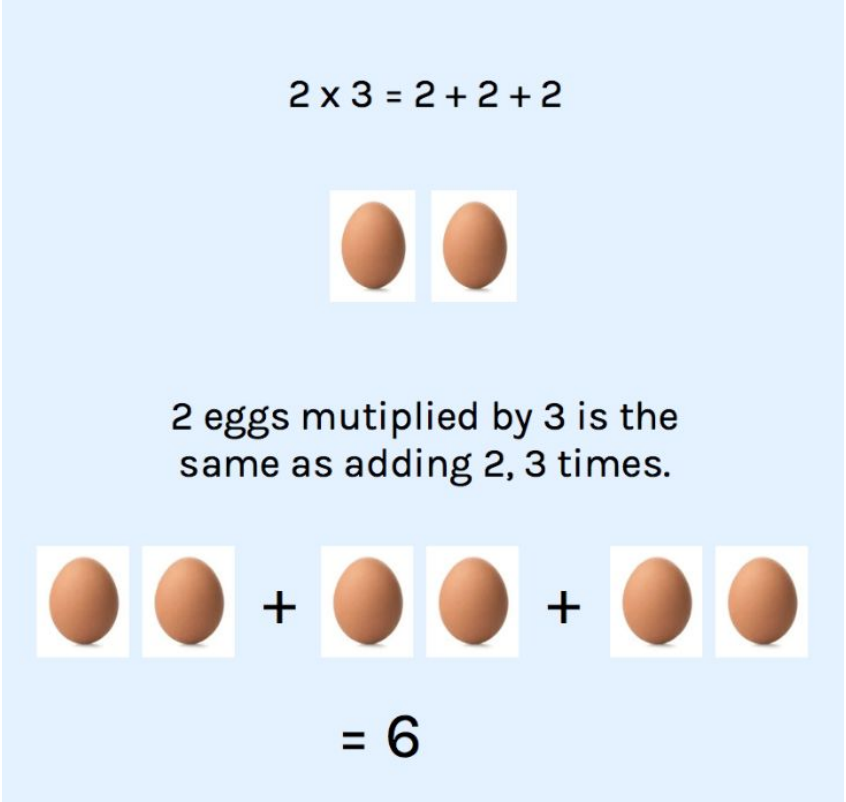
Repeated addition can bridge the gap between adding up and multiplying

Repeated addition simply means **adding** a number to itself one or more times.

This will help your child get to the same result as a multiplication calculation, but by using addition, which will probably be more familiar to them. You can then use this approach to help teach your child about their times tables once they have grasped the concept.

So, for example:

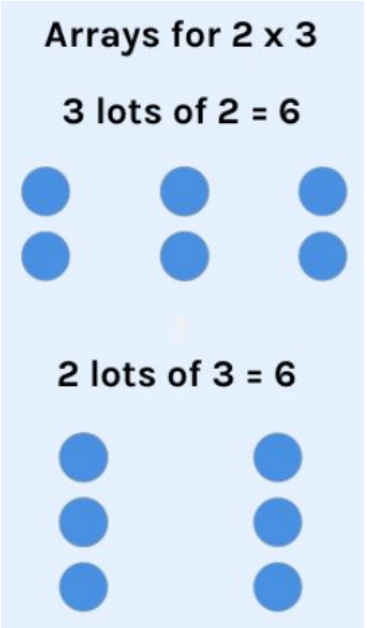
2 x 3 written as repeated addition would be **2 + 2 + 2.**

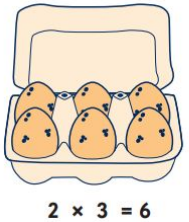


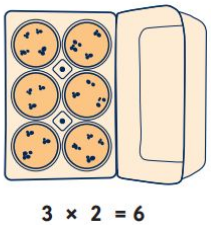
Arrays are a great way to bring times tables to life on paper

Arrays are another **visual** method of representing multiplication.

You might recognise them from terms like ‘**groups of**’ or ‘**lots of**’, and they’re really handy for investigating how multiplication is **related** to division.







How to Learn Times Tables in Year 2

In Year 2, continue to build **fluency** and introduce **multiplication and division symbols** and **link** multiplication and division facts as well as the concept of '**sharing**'. Children will start to consolidate their 2s, 5s, and 10s. Some **rote learning is fine**.

By Year 2, your child should be able to write number sentences independently (e.g. 4 x 2 = 8). This is important as writing problems down will help them to **keep track of their thinking** and enable them to **spot mistakes** even if they have moved on to another part of the question.

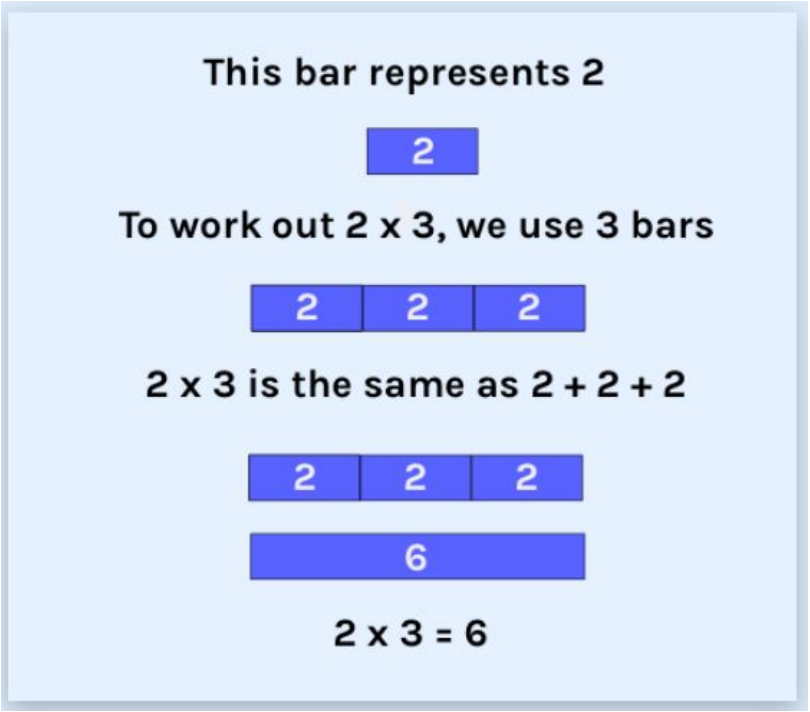
Year 2 children need to understand **commutativity** and begin to solve simple multiplication problems. As well as knowing their 2, 5 and 10 times tables, they will benefit from understanding **bar modelling, arrays and grouping**.

How you can help your child learn multiplication tables using a bar model

Bar modelling is a **visual** representation of maths.

It uses long rectangles (bars) to show how the method works, and they're great for helping children to understand what the numbers in maths really mean.

Here's an example of how you might use bar modelling to explain multiplication to your 6-year-old, based on the calculation 2 x 3.



How you can help your child understand that multiplication is **commutative**

Commutativity means that changing the **order** that the calculation is done in does not change the outcome of the calculation

Take a look at the example below:

We can switch the numbers we multiply around, and we'll still get the **same answer**:

2 x 3 = 6

3 x 2 = 6

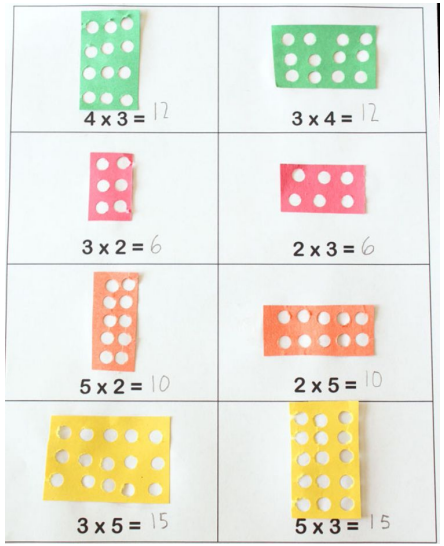
That's because multiplication is **commutative**.

If we try the same with division, it doesn't work.

6 ÷ 2 = 3

2 ÷ 6 = 0.33333333333

They're not the same answer, so **division is not commutative.**



Once your child knows these rules, it will be a lot easier for them to see how multiplication and division work.

When helping your child with their times tables at home, **practise switching numbers around** in the times tables to show just how easy commutativity is.

Ask the following questions in pairs and ask your child what they notice:

2 x 1 = ?

1 x 2 = ?

2 x 3 = ?

3 x 2 = ?

5 x 2 = ?

2 x 5 = ?

Hopefully, your child will observe that whilst each of the calculations **looks slightly different**, each pair gives the **same answer**.

A fun way to practise multiplication – Using real-life maths to master multiplication problems

Making up simple times tables word problems on the go will help your child find them much easier to answer. Offering them the chance to sit at a table and answer questions versus heading out to help you with the shopping is only going to present one winner!

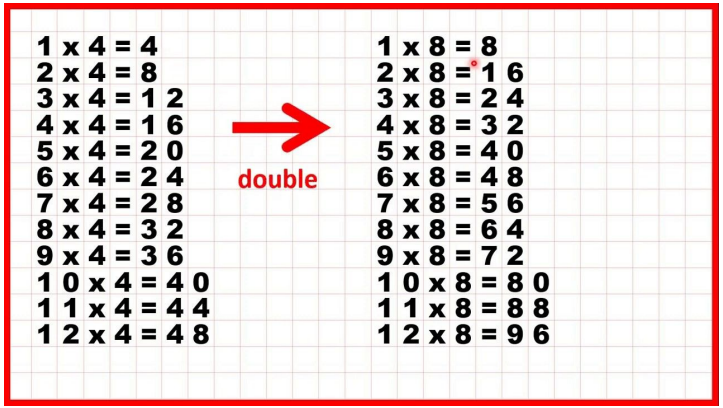
When you go shopping, ask questions that will get them thinking and give you a chance to demonstrate the answer (using concrete manipulatives if needs be.)

- “If I buy 2 bags of 5 cookies, how many will there be altogether?”
- “How much will 3 bags that cost 5p each cost altogether?”
- “If 100g of cheese costs 50p, how much will 300g cost?”

Year 3 Times Tables

In Year 3, children start learning their multiplication facts of the **3, 4, and 8 times tables**. The 4 and 8 times tables are introduced as related to the 2 times tables (doubling each time).

5 times table and 2 times table should now be solid so it's worth practising these too.



Fun ways to learn times tables at home

Speed tables game!

What's the game about?

Recalling times tables as **quickly as possible**!

How to play:

1. Take it in turns to call out the answers to your 2, 5 and 10 times tables as fast as you can.
2. Make sure you time each other.
3. How fast can you get through the 2s, 5s, and 10s?
4. Turn it into a weekly Sunday afternoon competition and keep track of the results with a leaderboard. Who will be the reigning times tables champion?!

Car modelling game

What's the game about?

Parked cars make great bar models on the go and are a fun and easy way to practise this useful maths method!

How to play:

1. Find a line of parked cars and count them together.
2. How many cars would there be on two streets?
3. How about three?
4. Go up to the times table you want to practise the most, adding a new street each time to increase the times table.

Scaling windows game

What's the game about?

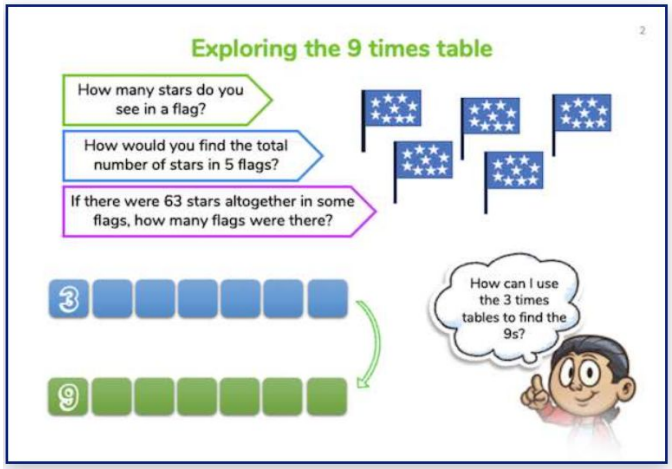
Scaling can seem like a scary word to many primary school kids, but it doesn't have to be with this game as it can help them bring scaling in to the real world!

1. Count the number of windows on a house you pass by.
2. How many windows would the house have if it were five times bigger?
3. Have a go at seven times bigger.
4. Or half the size?

Year 4 Times Tables

In Year 4, times tables are a major focus, not just because of the multiplication tables check in the summer of Year 4. Children are expected to have **mastered their 6, 7, 9, 11 and 12 times tables**, as well as those from the previous years.

Links between the 11, 12 and 9 times tables and the 10 times table are encouraged.



Year 5 Times Tables

In Year 5 children often work on their **speed and accuracy** with times tables speed tests to start developing the degree of **fluency** required to answer 30+ questions in the SATs at the end of Year 6.

As fractions and decimals are introduced, times tables start to have real relevance to other topics.

Money multiplication

Practise multiplying decimals using money. You don’t have to shell out extra pocket money to do this – you can get your child to help with things like shopping receipts, bills and future budgets too.

These are all great life lessons and your child will enjoy the responsibility at an age when they feel like they’re practically grown ups.

Example questions could be:

“I bought two t-shirts that cost £4.56 each. Can you tell me how much the total amount should be on the receipt?”

“We bought 4 meals from the restaurant with a special offer, so they cost £10.50 each. How much should the total be?

“Every month we spend £11.42 on our water bill. How much will it cost us over the year?”

Year 6 Times Tables

Finally by Year 6, the times tables work teachers do tends to move children beyond the core curriculum, thinking about **powers of 10** (eg 30 x 40) or **decimals times tables** (eg 0.4 x 9).

They will also identify **common factors**, **common multiples** and **prime numbers.**

Factor – One number is a factor of another if it divides or 'goes into' it exactly (without any left over, a remainder). E.g. 6 is a factor of 30 because it goes into it 5 times, but is not a factor of 33 because after dividing there is a remainder of 3.

Multiple - These are the numbers that you find in a times table. E.g. 20 is a multiple of 5, 4, 2 and 10 because it is found in all of those times tables. The multiples of 5 are 5, 10, 15, 20 etc.

Prime – A prime number will only divide equally between 1 and itself e.g. 7, 11. The first ten prime numbers are: 2,3,5,7,11,13,17,19,23,29.

Notes and reminders for learning times tables

Don’t be afraid of drilling the times tables

Some drilling is inevitable when developing counting, initially alongside concrete and pictorial manipulatives but quickly moving to chanting ‘3 times 7 is 21, 4 times 7 is 28’ etc.

After a child has learned the facts, it is important for them to keep practising for **6 months to a year** to anchor them in **long term memory**.

Deeper understanding of multiplication facts and times tables

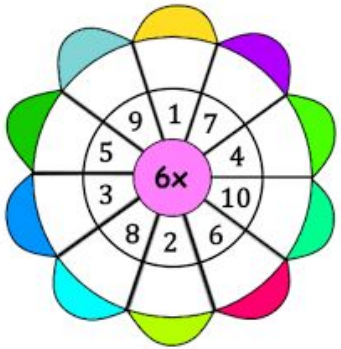
For children with **small working memories**, frequently children with special educational needs, being able to count quickly and accurately will give them an appropriate alternative to instant recall, as long as it is underpinned with reasoning and understanding.

However these children can often then **struggle to convert** the ability to count rapidly into being able to instantly recall facts. By working on children's **deeper understanding** of what multiplication is, how it is **related to division** and number families you should be able to address this.

How to teach instant recall across all times tables

Not all children will need the suggested structure below, however it will help those who struggle to convert quick counting into instantly recallable facts.

The example is for the 6 times table but the principle can be applied to any.



Teaching 6 Times Table step-by-step

1. Fire just 1 x 6, 2 x 6, 5 x 6, 10 x 6 at them first. This will build up on their most secure existing table facts
2. Add in 3 x 6, 4 x 6 when step 1 is frequently recalled correctly and instantly
3. Build up with 6 x 6, 7 x 6, 8 x 6
4. When looking at 9 x 6, 11 x 6 and 12 x 6, children should:
5. Look at finding 10 x 6 and adjust
6. Be guided to remember what the last 2 numbers were in the sequence they learnt (66, 72)
7. Add in related division facts. For some children, this step can be integrated from step 1 onwards. For others, they will need time to develop recall of multiplication facts first before adding this in.

Learning Times Tables

The key to learning times tables is **frequent repetition** and **regular revision**. 5 to 10 minutes every day is better than an hour a week. A poster on the wall that is not used is simply wallpaper. Here are some ideas to help your child memorise their multiplication and division facts.

1. Chanting

When beginning to learn a times table this is key. Repeatedly reading a times table out aloud will help your child become familiar with the multiples for that times table. Try and keep a rhythm, changing vocabulary regularly (two times three is six, two threes are six, two lots of three are six etc.) Clapping or marching may help with keeping the rhythm going. (See school website for times tables lists).

2. Flash Cards

Make a set of cards for the times table being learnt by putting a question on one side of the card (6 x 5 =) and the answer on the reverse (30). Go through the cards reading the question and then turning over to see the answer. Try and say the answer before you turn over. When familiar with the multiplication table, the cards can then be shuffled and used in a random order.

3. Testing and Timing

Make this fun. When your child has become more confident at learning a particular times table, ask them questions on it and see how many they can get correct in a particular time. Alternatively write some questions out of order and get them to time how long it takes to complete the questions. Can they beat their time and score?
(see http://www.online-stopwatch.com) for a variety of different timers.

4. Using a multiplication Square

A multiplication square is particularly useful for establishing the link between multiplication and division facts but can also be used instead of a times table list. When children are more confident with their times table knowledge, a blank multiplication square can be filled in. Time your child to complete their square, or see how many multiples they can complete in a set time. Can they beat their score and time?

5. Times Tables Games

Bingo is a great way of learning times tables as a family. Write 6 multiples from a particular times table down in a grid and the caller reads out questions from the same multiplication table.

Rolling dice and multiplying the numbers together is a good way to compete with each other to get the correct answer first. Two dice can be rolled at once to create all questions up to 12 x 12. A similar game can be created with playing cards where two cards are chosen and their values multiplied together. The Jack, Queen and King need to be 11, 12 and 0.

To help with division, each player chooses and writes down five of the following numbers: 5, 6, 8, 9, 12, 15, 20, 30, 40 and 50. Take it in turns to roll a dice and if the number you roll is a factor of one of your numbers, cross it out. E.g. if a 4 is rolled it goes into 8 so cross out 8. If 1 is rolled, you miss a go; if 6 is rolled you get an extra turn. The winner crosses all of their numbers out first.

These are just a few games. You will find links to game packs and ideas on our school website and also under the ‘Times Tables’ tab on your child’s Google Classroom.

Learning Times Tables

6. Online Resources

There are many free multiplication and division games available online. Just use the search engine to uncover them all. Here are a few places to get you started:

www.multiplication.com

www.coolmath-games.com

www.oswego.org/ocsd-web/games/Mathmagician/mathsmulti.html

www.topmarks.co.uk/maths-games/7-11-years/times-tables

www.tablestest.com

www.timestables.com/games/

www.mathletics.co.uk

Many apps also exist for smart phones and tablets. Many of these are free to download. Search in the App store or on Google Play. Ibooks can also be helpful such as Carol Vorderman Maths Made Easy Times Tables.

Songs can be accessed on Mathletics (Times Tables Toons) or can be downloaded at a cost. For example, Times Tables Challenge by Kidzone, available through Amazon mp3. Youtube have many popular songs to help.

These online resources are good but are usually not enough in themselves for learning multiplication tables off by heart. They are best suited for consolidating times table knowledge and for increasing the speed of recall.

Learning Times Tables

7. Quick Questions Anywhere!

A few questions here and there are much better than hundreds in one go:

on the way to school in advert breaks whilst getting dressed a few before bed going up and down stairs

Check out this short video on

how to practise times tables.

Times Tables Games To Play At KS1 & KS2: Free & Fun Ways To Learn Tables Fast

Times tables **games** are one of the **best ways to help** children learn their multiplication tables.

So here, for all parents looking for ideas to inject more enthusiasm into learning times tables, are 35 times tables games, organised by year group and times table - find these on the school website and on Google Classroom.

These times tables activities have been deliberately selected for their ease of use: most don't need any additional resources at all; some require just a pen and paper, or a pack of cards, or some board game counters.

All of these times tables games are easily adaptable to do at home at the kitchen table or even out on a walk. We've been sure to include a few active maths times tables games too to get children running around as they learn.

Top Times Table Hints

It may seem a daunting task to learn so many multiplication facts, but because of the **commutative** property of multiplication, there are fewer facts than you may think.
For example, 3 x 4 and 4 x 3 give the **same answer** so you need to only **learn this once**.

Zero Times Table - **Anything multiplied by zero will always equal zero. Multiplication is repeated addition so 3 x 0 is 0 + 0 + 0, which equals 0.**

One Times table: Any number multiplied by one is itself.

Two Times Table: Any number multiplied by two is double the number. 7 x 2 =14 7 + 7 = 14 double 7 is 14

Three Times Table: Digits within this times table add up to multiples of 3. For example: 3, 6, 9, 12 (1+2=3), 15 (1+5=6), 18 (1+8=9) 21 (2+1=3), 24 (2+4=6) etc. The numbers also follow the pattern of: odd, even, odd, even (3,6,9,12).

Four Times Table: The four times table is double the two times table. 4 x 2 = 8, 4 x 4 = 16, 16 is double 8. Alternatively the fours can be thought of as double double. So double 3 (6) and double again (12) is the same as 3 x 4 = 12.

Five Times Table: All multiples of 5 end in five or zero. For even numbers (e.g. 8 x 5) you can halve the number (4) and then put a zero after it (40). For odd numbers (e.g. 7 x 5) you can subtract one from the number (6), halve it (3) and then put a 5 after it (35). Any odd number times 5 ends in a 5. Any even number times 5 ends in 0.

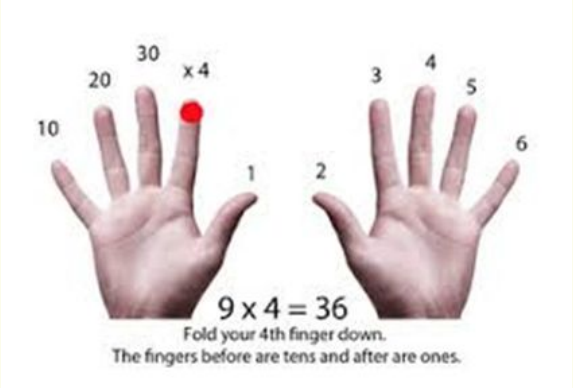
Six Times Table: The six times table is double the three times table. So 5 x 3 = 15, 5 x 6 = 30, 30 is double 15.

Seven Times Table: Combine the 5 and the 2 times table: 7 x 4 = 28 or (5x4) + (2x4) = 28

Eight Times Table: The eight times table is double the four times table. So 7 x 4 = 28, 7 x 8 = 56, 56 is double 28. The units in the multiples of eight also go down in twos. 8, 16, 24, 32, 40, 48, 56, 64, 72, 80 (8, 6, 4, 2, 0, 8, 6, 4, 2, 0).

Nine Times Tables

Fingers can be used to work out the nine times table up to 10 x 9. The first finger is put down for 1 x 9 and the remaining fingers show 9 units (1 x 9 =9). Then the second finger is put down for 2 x 9 and the remaining fingers show 1 ten (to the left) and 8 units (to the right) which equals 18, and so on. For example:



The digits found in the multiples of nine when added together also equal nine. For example: 9 = 9, 18 (1 + 8) = 9, 27 (2 + 7) = 9, 36 (3 + 6) = 9, 45 (4 + 5) = 9 etc. See the pattern shown:

9 x 0 =	0
9 x 1 =	9
9 x 2 =	18
9 x 3 =	27
9 x 4 =	36
9 x 5 =	45
9 x 6 =	54
9 x 7 =	63
9 x 8 =	72
9 x 9 =	81
9 x 10 =	90

Ten Times Table: All the digits in the ten times table end in zero.

Eleven Times Table: Most of the multiples in the eleven times table are recalled by putting two of the number side by side. 7 x 11 = 77, 8 x 11 =88.

Twelve Times Table: The units in the twelve times table go up in twos. 12, 24, 36, 48, 60, 72, 84, 96, 108, 120, 132, 144 (2, 4, 6, 8, 0, 2, 4, 6, 8, 0). The multiples of 12 are also the multiples of 10 and the multiples of 2 combined

Odd and Even Numbers E = even O = odd

The following rules always apply:

E x E = E	E x O = E	O x E = E	O x O = O
2 x 6 = 12	4 x 5 = 20	9 x 2 = 18	7 x 3 = 21

Therefore, the only time you get an odd answer is when two odd numbers are multiplied together.

12 x 12 Multiplication Grid

×	1	2	3	4	5	6	7	8	9	10	11	12
1	1	2	3	4	5	6	7	8	9	10	11	12
2	2	4	6	8	10	12	14	16	18	20	22	24
3	3	6	9	12	15	18	21	24	27	30	33	36
4	4	8	12	16	20	24	28	32	36	40	44	48
5	5	10	15	20	25	30	35	40	45	50	55	60
6	6	12	18	24	30	36	42	48	54	60	66	72
7	7	14	21	28	35	42	49	56	63	70	77	84
8	8	16	24	32	40	48	56	64	72	80	88	96
9	9	18	27	36	45	54	63	72	81	90	99	108
10	10	20	30	40	50	60	70	80	90	100	110	120
11	11	22	33	44	55	66	77	88	99	110	121	132
12	12	24	36	48	60	72	84	96	108	120	132	144

Notice the diagonally shaded numbers. These are square numbers.

The answer to a whole number multiplied by itself is a square number.

1 x 1 = 1 2 x 2 = 4 3 x 3 = 9 4 x 4 = 16 5 x 5 = 25 6 x 6 = 36

7 x 7 = 49 8 x 8 = 64 9 x 9 = 81 10 x 10 = 100 11 x 11 = 121

12 x 12 = 144