



# Parent's Guide to Times Tables

# Aims

The aims of this presentation are:

- To explain how multiplication is taught across the different year groups.
- To emphasise how times tables are used in the maths curriculum.
- To show the progression of times tables.
- To demonstrate and explain methods for learning and reciting times tables.
- To show you a variety of ways you can help your child learn their times tables at home.

# Why are times tables important?

“It is really important that children have the tools of arithmetic at their finger tips. Without that it is like sending a plumber out to do a job without knowing how to use a spanner.”

Jean Humphreys, Ofsted’s education director

“It’s a fundamental part of everything that follows in maths – it’s the same as knowing your letters if you are going to read.”

Carol Vorderman

# Why are times tables important?

When children know their times tables, mental arithmetic becomes easier. Practising times tables also helps children to understand number and number relationships, and to see patterns in numbers. These skills will help them to master key concepts and move quickly through more complex maths problems with confidence.

A thorough knowledge of multiplication and division facts will help children succeed in their tests at the end of primary school and set them up for success at secondary school. As they grow older, knowing the times tables will help them with everyday activities like shopping, budgeting and cooking.

# Progression in times tables

Year Group	
Reception	Begin to recognise numbers verbally and physically and start counting.
Year 1	Make connections between arrays, number patterns, and counting in 2s, 5s and 10s. Recall and use all doubles to 10 and corresponding halves
Year 2	Introduced to multiplication tables. Recall and use multiplication and division facts for the 2, 5 & 10 and count in 3s multiplication tables

# Progression in times tables

Year Group	
<b>Year 3</b>	Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables
<b>Year 4</b>	Begins with a focus on the 6, 7, 9, 11 and 12 times tables. By the end of the year recognise all the multiplication tables. Recognise some of the division facts.
<b>Years 5 and 6</b>	Apply all the multiplication tables and related division facts frequently, commit them to memory and use them confidently to make larger calculations.

# Key concepts in Key Stage 1

At Key Stage 1, the focus should be on practical and visual techniques to help the students grasp the basics of multiplication.

- Looking at pairs of objects e.g. shoes, socks, gloves (2 times table)
- Doubling and halving
- Grouping and sharing small quantities physically (counters, bricks etc.)
- Repeated steps on a number line supports children's understanding of repeated addition and groups.

# Key concepts as children progress

- Recognise times tables as repeated addition

$4 \times 5$  is the same as  $5 + 5 + 5 + 5$

- Understand that times tables are commutative

$4 \times 5 = 20$  and  $5 \times 4 = 20$

- Recognise that multiplication is the inverse of division.

$20 \div 5 = 4$  can be worked out because  $4 \times 5 = 20$



# Looking for patterns

Times Table	Pattern
x2	Answer is always double the given number
x3	Answer always adds up to 3, 6 or 9
x4	Answer is double, then double again
x5	Always ends in 5 or 0
x8	Answer is double the 4 times table
x9	Answer always adds up to 9
x10	Answer always is sequence number with a 0 in the ones column
x11	Answer is always repeat digits (up to 11 x 9 )

# How you can help at home...

- Reciting times tables out loud
- Working backwards
- Practising times tables
- Encourage the use of near facts
- Visuals
- Songs
- Games
- Real Life Arrays
- Loop cards
- Tricks and Rhymes
- Fact Family
- Apps

# Reciting Tables

Many children find that reading and hearing themselves say a times table regularly helps them to learn it.

## Tips:

- On a 1-to-1 basis, read the times tables out loud together. When the child is comfortable proceeding alone, ask them to tap the table. If they are unsure or get an answer incorrect, join in again. Repeat several times, on a regular basis.
- Each time your child practises, ask your child to first read the table from a sheet, and see how far they can go with their eyes closed. Being able to recall something without looking at it is an important step to getting it lodged in our memory.
- Add rhythm, sound, movement and humour as this can really help children remember things.
- Some children learn a table by reciting the whole thing - the calculation (e.g.  $3 \times 8$ ) and the answer (24). Other children remember the table better if they only recite the answers and use their fingers to remember which multiple they have got to.

# Working backwards & Time fillers

## Work backwards

Give the child the answer, can they give you the question

e.g. adult says 36 what could the question have been?

Child could answer with

6 x 6 or 4 x 9

## Practising times tables as a time filler

Find a time and place for reciting that's easy to keep to.

- Brushing teeth
- On the way to and from school

It is important times tables are learnt and practiced in short bursts rather than long sessions.

# Near facts

It is really useful to remember near facts to increase the speed of recall.

For example, if you remember  $8 \times 5 = 40$  you can work out  $8 \times 6 = 48$  more easily.

Once children are comfortable with the times table, it is important children do not always start from  $8 \times 1 = 8$

# Visual Aids

## Times Tables 1 to 12

1 times table	2 times table	3 times table	4 times table
1 x 1 = 1	2 x 1 = 2	3 x 1 = 3	4 x 1 = 4
2 x 1 = 2	2 x 2 = 4	3 x 2 = 6	4 x 2 = 8
3 x 1 = 3	3 x 2 = 6	3 x 3 = 9	4 x 3 = 12
4 x 1 = 4	4 x 2 = 8	4 x 3 = 12	4 x 4 = 16
5 x 1 = 5	5 x 2 = 10	5 x 3 = 15	5 x 4 = 20
6 x 1 = 6	6 x 2 = 12	6 x 3 = 18	6 x 4 = 24
7 x 1 = 7	7 x 2 = 14	7 x 3 = 21	7 x 4 = 28
8 x 1 = 8	8 x 2 = 16	8 x 3 = 24	8 x 4 = 32
9 x 1 = 9	9 x 2 = 18	9 x 3 = 27	9 x 4 = 36
10 x 1 = 10	10 x 2 = 20	10 x 3 = 30	10 x 4 = 40
11 x 1 = 11	11 x 2 = 22	11 x 3 = 33	11 x 4 = 44
12 x 1 = 12	12 x 2 = 24	12 x 3 = 36	12 x 4 = 48

5 times table	6 times table	7 times table	8 times table
1 x 5 = 5	2 x 6 = 12	3 x 7 = 21	4 x 8 = 32
2 x 5 = 10	3 x 6 = 18	4 x 7 = 28	5 x 8 = 40
3 x 5 = 15	4 x 6 = 24	5 x 7 = 35	6 x 8 = 48
4 x 5 = 20	5 x 6 = 30	6 x 7 = 42	7 x 8 = 56
5 x 5 = 25	6 x 6 = 36	7 x 7 = 49	8 x 8 = 64
6 x 5 = 30	7 x 6 = 42	8 x 7 = 56	9 x 8 = 72
7 x 5 = 35	8 x 6 = 48	9 x 7 = 63	10 x 8 = 80
8 x 5 = 40	9 x 6 = 54	10 x 7 = 70	11 x 8 = 88
9 x 5 = 45	10 x 6 = 60	11 x 7 = 77	12 x 8 = 96
10 x 5 = 50	11 x 6 = 66	12 x 7 = 84	
11 x 5 = 55	12 x 6 = 72		
12 x 5 = 60			

9 times table	10 times table	11 times table	12 times table
1 x 9 = 9	1 x 10 = 10	1 x 11 = 11	1 x 12 = 12
2 x 9 = 18	2 x 10 = 20	2 x 11 = 22	2 x 12 = 24
3 x 9 = 27	3 x 10 = 30	3 x 11 = 33	3 x 12 = 36
4 x 9 = 36	4 x 10 = 40	4 x 11 = 44	4 x 12 = 48
5 x 9 = 45	5 x 10 = 50	5 x 11 = 55	5 x 12 = 60
6 x 9 = 54	6 x 10 = 60	6 x 11 = 66	6 x 12 = 72
7 x 9 = 63	7 x 10 = 70	7 x 11 = 77	7 x 12 = 84
8 x 9 = 72	8 x 10 = 80	8 x 11 = 88	8 x 12 = 96
9 x 9 = 81	9 x 10 = 90	9 x 11 = 99	9 x 12 = 108
10 x 9 = 90	10 x 10 = 100	10 x 11 = 110	10 x 12 = 120
11 x 9 = 99	11 x 10 = 110	11 x 11 = 121	11 x 12 = 132
12 x 9 = 108	12 x 10 = 120	12 x 11 = 132	12 x 12 = 144

## Multiplication



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

## Multiplication Square

x	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



# Youtube Songs



Mr. DeMaio



The Musical Adventurists



Laughalongandlearn

# Games

## Superfingers!

This is a game for two players!

The game is basically a version of rock, paper, scissors but with numbers. Two players count to 3 and then make a number using their fingers.



Player 1

Player 2

Both players then have to multiply both numbers together and the quickest wins.

## BINGO!

This game will need 2 players!

Make a grid of six squares on a piece of paper and ask your child to write a number in each square from the target tables. Give them a question and if they have the answer, they mark they off. First one to mark off all their numbers is the winner!





# Games

## Pairs

Write answers to a times table on one set of cards. On another set, write the questions, turn them face down. Mix them and put them into a grid.

Each person gets to turn over two cards, if they find a matching pair (the question and the answer) they get to keep the pair and have another turn, if not they must put them back into the grid in the same place and the next person gets a turn.

This improves memory as well as recall.

# Apps and Websites



# Arrays



# Rhymes for certain facts

I ate and I ate until I was sick on the floor  $8 \times 8$  is 64

6 times 8 is 48, so don't forget to finish your plate.

Let's go outside and pick up sticks  $6 \times 6$  is 36

6 times 7 is 42, and don't forget to tie your shoe

I like to swim in the sea  $7 \times 9$  is 63

$7 \times 6$  isn't hard to do  $7 \times 6 = 42$

8 and 4 were sad and blue  $8 \times 4$  is 32

Children could make up their own rhymes.

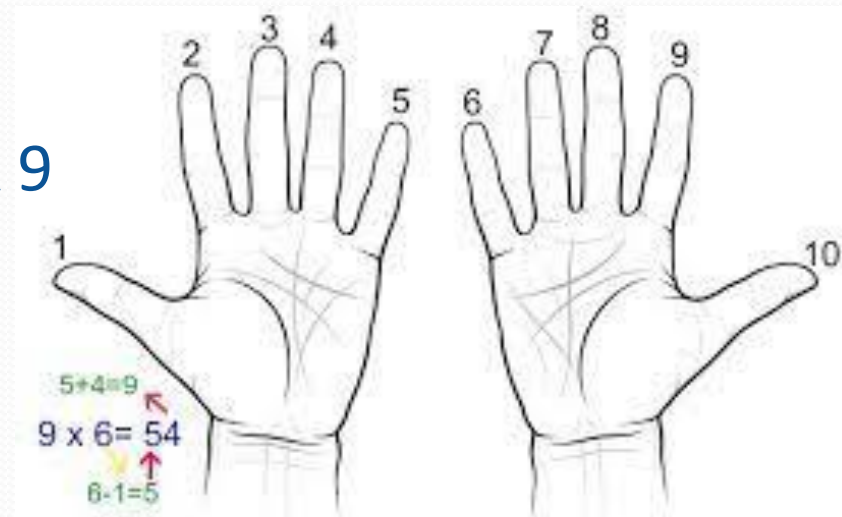
# 9 x table trick

Put the finger down for the multiple

e.g.  $3 \times 9$  you would put the 3rd finger down.

The fingers to the left are the tens (2) and the fingers to the right are the ones (7)

So,  $3 \times 9 = 27$  Works for up to  $10 \times 9$



<https://www.topmarks.co.uk/maths-games/7-11-years/times-tables>

<https://phet.colorado.edu/en/simulation/arithmetic>

<http://www.transum.org/Software/Game/Connect4/>