

Brize Norton Primary School



A Guide to Learning the Times Tables

Times Tables Guidelines

As a general rule the following programme of learning tables should apply to most children:

Year 2 2, 5 and 10

Year 3 3, 4, 6

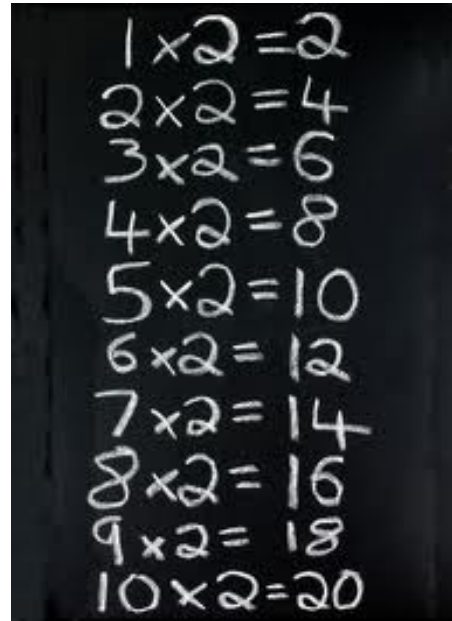
Year 4 7, 8, 9

Year 5 All tables to be known in order and recited at speed, working towards instant recall

Year 6 Thorough knowledge of all tables expected, together with the ability to recall them instantly and recall related decimal times table facts.

Top tips for helping your child learn their times tables:

- 1) Learn a little at a time. If you start a new times table, don't try to master it all overnight. Start with 1×5 , 2×5 one day, then add more in when they are used to the sequence.
- 2) Try different strategies: all children learn in different ways, so what worked for an older sibling may not work for another child.
- 3) Constant revision of all of the tables is important, as they are easy to forget when you move on to a new set.
- 4) Demonstrate using concrete apparatus so that children can see, for example, 3 lots of 4 as 3 rows of 4 matchsticks.
- 5) Sweets are very good for demonstrations, as the anticipation of getting a reward can make the lesson much more memorable. As any parent knows - a little bribery goes a long way!
- 6) Use real-life situations to develop understanding of times tables, for example: "If you save 3p every day, how much do you think you would have saved in a week?"
- 7) There is no 'right' way to learn the times tables, and it helps to know lots of tricks, 'cheats' and links between times tables facts. The next few pages will help you to identify some ways of making the times tables more fun and relevant than just rote learning.



TRICKS OF THE TRADE!

It's just a quick way of doing a LONG addition sum:

It is very important that the children understand how the tables are compiled so that they can start to find their own tricks for speeding up:

$$1 \times 5 = 5$$

This means there is 1 'lot of' 5

$$2 \times 5 = 10$$

This means that there are 2 'lots of 5' i.e. 5 plus another 5
($5 + 5 = 10$)

$$3 \times 5 = 15$$

3 lots of 5

$$5 + 5 + 5 = 15 \text{ etc.}$$



This knowledge is especially helpful for the higher number tables. If a child, does not know what 7×7 is they do not have to start right at the very beginning of the 7 x table but can leap in half way:

$$5 \times 7 = 7 \times 5 = 35$$

$$6 \times 7 = 35 + 7 \text{ (we now have 6 lots of 7)} = 42$$

$$7 \times 7 = 42 + 7 \text{ (7 lots of 7)} = 49$$

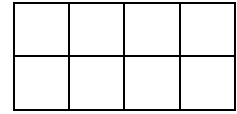
Once they have learnt that they can start from 5 x the number to find higher multiples, they will be able to solve multiplication problems much more quickly.

Multiplication is Commutative

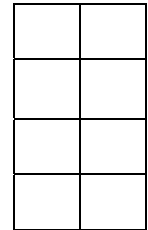
(Commutative means that it doesn't matter which way around the numbers go, so 3×4 is the same as 4×3).

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

This can be demonstrated very easily by drawing a rectangle 4 squares by 2:



Here you have 2 rows of 4 squares but it is exactly the same if you turn it around so that there are 4 rows of 2 squares. You still have 8 squares in total.



This is another good time to get out the sweets! Large bars of chocolate are ordered into these rows and columns, or you could lay out Smarties into different arrays.

Use mnemonics to aid the memory

I ate and ate `till I was sick on the floor: **8 times 8 is 64!**

Wakey, wakey, rise and shine: **seven 7s are 49!**

Make up some of your own : $7 \times 8 = 56$ $56 = 7 \times 8$



Odd and Even Numbers

The following rules always apply:

$$E \times E = E$$

$$E \times O = E$$

$$O \times E = E$$

$$O \times O = O$$

$$2 \times 6 = 12$$

$$4 \times 5 = 20$$

$$9 \times 2 = 18$$

$$7 \times 3 = 21$$

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

Talk the tables:

- Count forwards and backwards in 2s, 3s, 4s, etc.
- Put one more finger up every time you move onto the next number in the sequence, if this will help the child to remember which number they are up to.
- Chant the tables in the old fashioned way .
- Working on only one table at a time, try saying them out of order, like: $3 \times 5 = ?$ could be followed by, $3 \times 7 = ?$
- Give them the answer, for them to work out the question. Like, 35: how many 5s make this?

Using fingers to calculate the nine times tables:

- 1) Lay both hands flat, palms down, on the table.
- 2) Number the fingers, from left to right, 1 - 10.

- 3) If you want 7×9 , wiggle the third finger and then curl it under.



- 4) On the left of this finger there are 6 fingers (6 TENS).
- 5) On the right of this finger there are 3 fingers (3 UNITS)
- 6) $9 \times 7 = 63$

Look for number patterns in the tables

0x: Think of 'empty pockets'. Ask your child how many pockets he or she has in the clothes they are wearing at the moment. If there are three pockets, all with nothing in them, then they have nothing. It doesn't matter how many pockets they have, if they are all empty, then there will be nothing. $3 \times 0 = 0$ etc.



2x: After 2, 4, 6, 8, 10, the pattern is repeated in the last digit, like: 12 14 16 18 20 22 24.

3x: The numbers follow the pattern of: Odd, Even, Odd, Even, like: 3, 6, 9, 12, 15.

4x: All of these are double the two times table:

2 4 6 8 10 (2 x table)

4 8 12 16 20 (4x table)

5x: Any odd number times 5, ends in a 5. Any even number times 5 ends in a 0:

$1 \times 5 = 5$ $2 \times 5 = 10$

$3 \times 5 = 15$ $4 \times 5 = 20$

6x: These answers are just double those in the 3x table:

3 6 9 12 15 18 21 (3x table)

6 12 18 24 30 36 42 (6x table)

8x: These answers are all double the 4x table:

4 8 12 16 20 (4x table)

8 16 24 32 40 (8x table)

9x: All of the digits add up to 9. This even works for really high multiples of 9, but you need to keep going until there is only one digit:

$9 \times 4 = 36$ ($3 + 6 = 9$)

$$9 \times 101 = 909 \quad (9 + 0 + 9 = 18, 1 + 8 = 9)$$

There is an additional trick to the 9 x table, more information on the next page!

10x: All numbers end in a zero! (Please note we are not 'adding a zero'. What is actually happening is that the digits which are being multiplied move one column to the left, to make them ten times bigger - they are 'held' in that position by putting a zero into the empty column).

H	T	U
		9
	9	0

This column means that the number is ten times bigger than it was in the units column.

A zero has to go in here to keep the digit in the correct column.

11x: Both digits are the same (for answers up to 100). You can also think of it as 10x tables, plus one more 'lot' of the number that you are multiplying by 11:
 9×11 is the same as $9 \times 10 + 9$.

12x: If you've learnt all the other tables - there actually should only be one thing to learn by this stage: $12 \times 12 = 144$

Praise for progress:

As the tables are learned, they can be coloured or highlighted both horizontally and vertically. You can use this opportunity again to emphasise that $3 \times 6 = 6 \times 3$, so therefore as well as learning the entire 3 x table, part of the 6 x table has also been learned so this can be coloured in as well!

Therefore, by the time all the tables up to and including the 5x have been learnt, there is actually only one quarter of this grid left to commit to memory.



	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



Record your own tape or CD



It is supposed to be far more effective if a child listens to his/her own voice on a tape (rather than a presenter). It is better if the children follow a 'script' when making the tape. The children should say the first bit into the microphone then leave a short pause before reading the answer. This is so that, when the tape is being played back, they will have chance to say the answer themselves before checking that it is correct with the answer given by the tape.

One 5 is -- 5 One 2 is -- 2
 One 10 is -- 10
 Two 5s are -- 10 Two 2s
 are -- 4 Two 10s are -- 20
 Three 5s are -- 15 Three
 2s are -- 6 Three 10s are
 -- 30
 Four 5s are -- 20 Four 2s
 are -- 8 Four 10s are -- 40
 Five 5s are -- 25 Five 2s
 are -- 10 Five 10s are -- 50
 Six 5s are -- 30 Six 2s are
 -- 12 Six 10s are -- 60
 Seven 5s are -- 35 Seven
 2s are -- 14 Seven 10s are
 -- 70
 Eight 5s are -- 40 Eight 2s
 are -- 16 Eight 10s are -- 80
 Nine 5s are -- 45 Nine 2s
 are -- 18 Nine 10s are -- 90
 Tens 5s are -- 50 Tens
 2s are -- 20 Tens 10s are -- 100
 Eleven 5s are -- 55
 Eleven 2s are -- 22
 Eleven 10s are -- 110

Twelve 5s are -- 60
 Twelve 2s are -- 24
 Twelve 10s are -- 120
 One 3 is -- 3 One 4 is -- 4
 One 6 is -- 6
 Two 3s are -- 6 Two 4s are -- 8
 Two 6s are -- 12
 Three 3s are -- 9 Three 4s
 are -- 12 Three 6s are -- 18
 Four 3s are -- 12 Four 4s
 are -- 16 Four 6s are -- 24
 Five 3s are -- 15 Five 4s
 are -- 20 Five 6s are -- 30
 Six 3s are -- 18 Six 4s
 are -- 24 Six 6s are -- 36
 Seven 3s are -- 21 Seven
 4s are -- 28 Seven 6s are -- 42
 Eight 3s are -- 24 Eight
 4s are -- 32 Eight 6s are -- 48
 Nine 3s are -- 27 Nine 4s
 are -- 36 Nine 6s are -- 54
 Ten 3s are -- 30 Ten 4s
 are -- 40 Ten 6s are -- 60
 Eleven 3s are -- 33
 Eleven 4s are -- 44
 Eleven 6s are -- 66
 Twelve 3s are -- 36
 Twelve 4s are -- 48
 Twelve 6s are -- 72

One 7 is -- 7 One 8 is -- 8
 One 9 is -- 9
 Two 7s are -- 14 Two 8s
 are -- 16 Two 9s are -- 18
 Three 7s are -- 21 Three
 8s are -- 24 Three 9s are -- 27
 Four 7s are -- 28 Four 8s
 are -- 32 Four 9s are -- 36
 Five 7s are -- 35 Five
 8s are -- 40 Five 9s are -- 45
 Six 7s are -- 42 Six 8s are -- 48
 Six 9s are -- 54
 Seven 7s are -- 49
 Seven 8s are -- 56
 Seven 9s are -- 63
 Eight 7s are -- 56 Eight
 8s are -- 64 Eight 9s are -- 72
 Nine 7s are -- 63 Nine 8s
 are -- 72 Nine 9s are -- 81
 Ten 7s are -- 70 Ten 8s
 are -- 80 Ten 9s are -- 90
 Eleven 7s are -- 77
 Eleven 8s are -- 88
 Eleven 9s are -- 99
 Twelve 7s are -- 84
 Twelve 8s are -- 96
 Twelve 9s are -- 108

If you don't have the facilities to record a tape or CD, there are programmes online that you can use to make voice recordings.

GAMES!

Playing games is always a really effective way of learning. These are some examples that can be adapted, but please see your child's teacher if you want some more ideas.

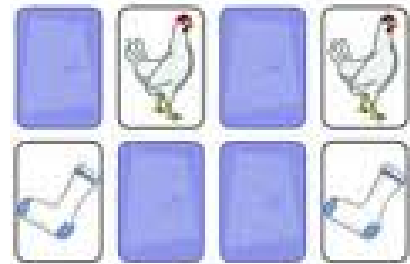
Buy a set of blank business cards from any good stationer.

Snip one corner of each card so that you can tell which way up they should be when the cards are face down.

Write a variety of times tables questions and answers the cards.

Pelmanism (or Pairs):

- Shuffle the cards and arrange them in a neat order on the table, face down.
- The players take it in turn to reverse any two cards; the cards must be left on the table face upwards so that everybody gets a good chance to look at them.
- If the two cards are equivalent the player gets to keep the pair and has another go.
- If the two cards are not a pair they are turned over once more and left on the table.
- The game continues until all the cards have been claimed.
- You could write 'questions' on half of the cards and 'answers' on the other half.



Snap



face down.

- Half of the cards should be the 'question' (2 x 5) and the other half of the cards should contain the answer (10).
- Shuffle the cards and divide them equally between two players.
- The players keep their cards in a pile,

- One person turns over a card and then the other person turns over a card next to it so the two cards are close to each other.
- If the cards are equivalent, the last person to have turned over a card keeps all the cards in the two upturned piles. (it is better not to have a 'speed' element of competition in the early stages of learning, as they may need thinking time).
- The winner of the round then starts the next round.

Bingo

- Each player selects five 'answers' from one of the times tables.
- Roll two dice, add the dots together.
- Multiply that total by whichever table it is you are doing
- e.g. you are learning the 6 x table
- five and two is rolled on the dice
- five and two is 7
- $7 \times 6 = 42$
- Any player who has 42 on their 'Bingo card' can cross it off. The next player rolls the dice.



Fishy Fingers



- Two players stand facing each other with their hands behind their backs.
- They say 'Fishy-fishy fingers' and then present their hands with numbers shown by raised fingers (like in Rock, Paper, Scissors).
- The players then need to multiply the number on their hands with their partner's number.
- The first to say the answer wins a point and play continues.

Times Tables Table Tennis

- Each player holds an imaginary table tennis bat and one player starts with the first number in the times tables that they are learning (e.g. 3)
- Players try to build a rally by 'batting' the next number in that times table back to their partner (e.g. 6).



- The aim is to say the times tables as quickly as possible in order.