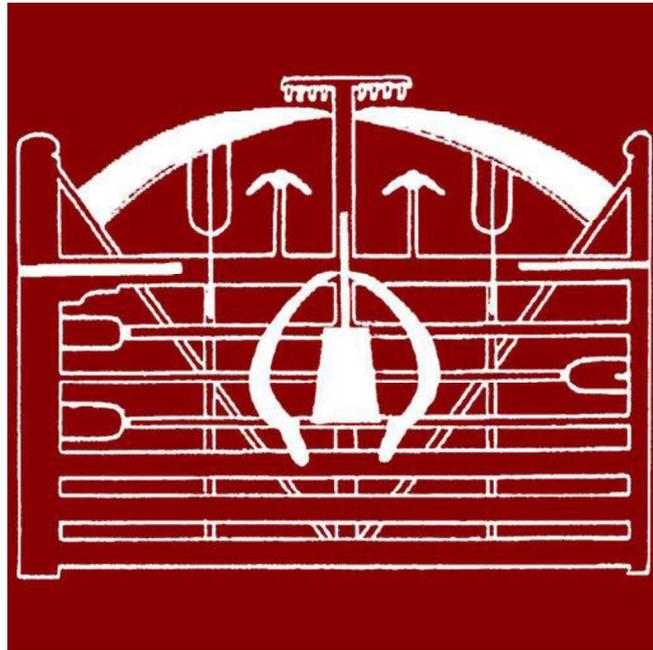


Prettygate Junior School



A Parents' Guide to Times Tables

Help your child to achieve
their best in Mathematics

Open the gate to lifelong learning

The Importance of Times Table Knowledge

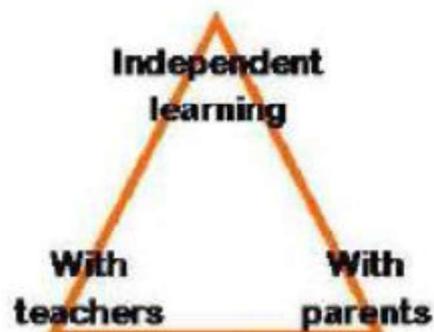
Knowing times table facts is crucially important to your child's progression in their mathematics education. Without a thorough understanding of multiplication and division facts, children frequently get 'lost' when it comes to doing anything with fractions and any multiplication or division with larger numbers. Many mental maths activities and tests require a quick recall of multiplication and division facts.

Children who are secure in their times tables knowledge are able to get to grips with trickier tasks straight away and are far more successful.

It is worth explaining what we mean by 'knowing' times tables. A child who knows their times tables will be able to recall any of the multiples of a times table out of order within 3 seconds, as well as knowing the corresponding division facts i.e. $4 \times 6 = 24$ as well as $24 \div 6 = 4$

Learning multiplication facts and tables are most effective when there is collaboration between the school, parents and children. In school, we regularly spend time learning times tables, but a child will be much more successful if they practise outside school independently and alongside parents.

A successful learner works
collaboratively.



Times Table Expectations

For Your Child

Below are the times tables your child should know as a minimum by the end of each academic year. This is in line with national expectations.

- **Reception:** When counting objects, children should be able to group in twos, fives and tens and record the total.
- **Year 1:** Record sequences of twos, fives and tens (e.g. 2, 4, 6, 8, etc) and identify any missing multiples. Know off by heart the doubles and halves of numbers to 12. Draw and use arrays to solve multiplication problems.

By the end of Year 2	By the end of Year 3	By the end of Year 4	By the end of Year 5	By the end of Year 6
2, 5, 10 including division facts.	2, 3, 4, 5, 8, 10 including division facts.	All times tables up to 12 x 12 with division facts.	As Year 4 and related questions e.g. 1/9 of 63 is 7. Knowledge of prime numbers to 19.	As Year 5 and a knowledge of prime numbers below 100. Identify common factors and multiples.

Times Table Vocabulary

Here are some words that may be used whilst learning and applying multiplication and division facts.

multiply divide prime
product once, twice, three times
lots of repeated addition times
factors array, row, column double
repeated subtraction multiple
sets of remainder halve

Here are some of the trickier words defined:

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 it is not a factor of 33 because after dividing there is a remainder of 3.

Groups of/lots of/sets of: 3 groups of 5 are 15, 3 lots of 5 are 15, 3 sets of 5 are 15 ($3 \times 5 = 15$)

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.

Product: A product is the answer you get when you multiply two or more numbers together. E.g. the product of 3 and 4 is 12.

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

Array: As shown, an array is a visual representation of a multiplication. Shown are 3 rows of 5 with 15 in total.



Learning Times Tables

The key to learning times tables is frequent repetition and regular revision. 5-10 minutes every day is better than an hour per 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.

Chanting:

When beginning to learn a times table, this is key. Repeatedly reading a times table out loud will help your child become familiar with the multiples for that times table. Try to 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.

Flash Cards:

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

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 previous time and score? See <http://www.online-stopwatch.com> for a variety of different timers.

Multiplying by 10:

Children need to be confident when multiplying by 10 (and later by 100 and 1000). The short cut of adding 0 does not work for multiplying decimals so it is best not to teach this. Multiplying by 10 makes the number ten times bigger. Learn the rule that to multiply by 10, we move the digits one place to the left and to divide by 10 we move the digits one place to the right.

Learning Times Tables

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 times table lists. See the multiplication square in your child's school diary. When children are more confident with their times tables knowledge, a blank multiplication square can be filled in. Time your child when completing their square, or see how many multiples they can complete in a set time. Can they beat their previous score and time? Download blank multiplication squares from here: http://www.mathsonline.org/downloads/tablesGrid_12.pdf

Bingo:

This is a great way of learning times tables as a family. Each player draws a grid 2 squares tall by 3 squares wide. In each cell, players write 6 numbers from a chosen times table. A Bingo caller then reads out questions from the chosen table. The first person to cross out all their numbers is the winner.

Dice Games:

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 12×12 (if rolled twice). 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 turn; if 6 is rolled, you get an extra turn. The winner is the person that crosses all of their numbers out first.

These are just a few games. If you create any of your own or find some good ones, please let us know!



Learning Times Tables

Learning and practising times tables can literally be done anywhere and at any time. Why not practise a few questions when in a traffic jam, whilst walking to school, during television advert breaks or even a few before bedtime.

Online Resources:

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

www.multiplication.com

www.coolmath-games.com

<https://www.oxfordowl.co.uk/for-home/kids-activities/fun-maths-games-and-activities/>

<https://www.timestables.co.uk/>

<https://www.topmarks.co.uk/maths-games/hit-the-button>

www.topmarks.co.uk

www.teachingtables.co.uk

<http://www.timestables.me.uk/>

Phone Apps

Times Table Rockstars

Squeebles Times Tables

Maths Champions

DK 10 Minutes a Day



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: 3×4 and 4×3 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 3×0 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
 $7 \times 2 = 14$ $7 + 7 = 14$ Double 7 equals 14.

Three Times Table

Digits within this times table add up to multiples of 3. For example: after 3, 6, 9 comes 12 ($1+2 = 3$), 15 ($1 + 5 = 6$), 18 ($1 + 8 = 9$), 21 ($2 + 1 = 3$), 24 ($2 + 4 = 6$) etc.

Four Times Table

The four times table is double the two times table.
 $4 \times 2 = 8$, $4 \times 4 = 16$, 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 $3 \times 4 = 12$.

Five Times Table

All multiples of 5 end in 5 or 0. For even numbers (e.g. 8×5), you can halve the number you are multiplying 5 by (8 halved to 4) and add a zero after it (40 so $8 \times 5 = 40$).

Any odd number multiplied by 5 ends in a 5. Any even number multiplied by 5 ends in 0.

Six Times Table

The six times table is double the three times table.
So $5 \times 3 = 15$, $5 \times 6 = 30$, 30 is double 15.

Seven Times Table

Combine the 5 and the 2 times table $7 \times 4 = 28$ or $(5 \times 4) + (2 \times 4) = 28$.

Eight Times Table

The eight times table is double the four times table.

So $7 \times 4 = 28$, $7 \times 8 = 56$, 56 is double 28.

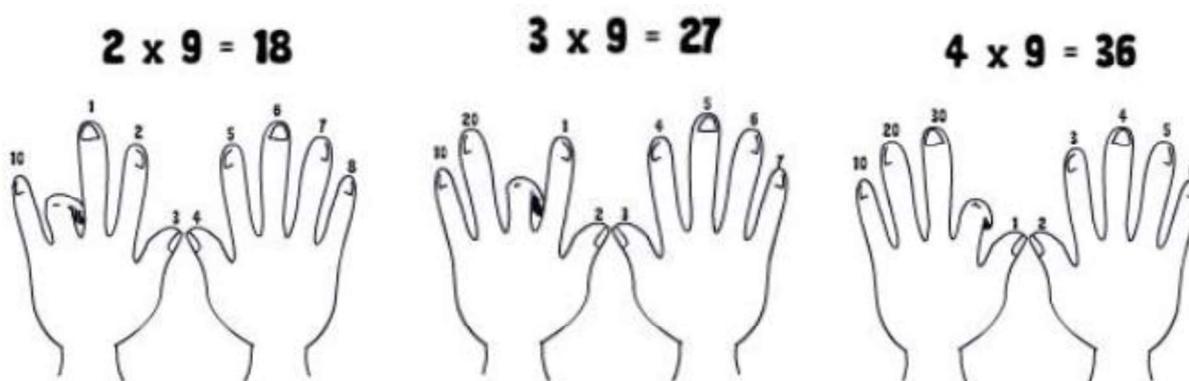
The ones column in the multiples of 8 also go down in twos:

8, 16, 24, 32, 40, 48, 56, 64, 72, 80

Nine Times Table

Fingers can be used to work out the nine times table up to 10×9 . The first finger is put down for 1×9 and the remaining fingers show 9 ones. ($1 \times 9 = 9$).

Then the second finger is put down for 2×9 and the remaining fingers show 1 ten (to the left) and 8 ones (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 $9 = 9$, $18 (1 + 8 = 9)$, $27 (2 + 7 = 9)$, $36 (3 + 6 = 9)$ etc.

Ten Times Table

All the digits in the ten times table end in a zero.

Eleven Times Table

Most of the multiples in the 11 times table are recalled by putting two of the numbers side by side: $7 \times 11 = 77$, $8 \times 11 = 88$.

Twelve Times Table

The ones column in the 12 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.

For more top tips, take a look at

<https://www.multiplication.com/teach/teaching-tips-and-tricks>