

Maths Ninjas Sets 7 – 10 and 13 – 17 (multiplication tables)

The Maths Relevance Explained

Your child is now moving on from addition and subtraction bonds to learn times tables (please call them multiplication tables sometimes – children need to know all the different maths vocabulary). The first step in learning times tables is to be able to count up in steps. eg. When learning the $5\times$ table, your child will at first count up 5, 10, 15, 20 . . . to the relevant number of 5s. However, this is only the *beginning* of knowing the table. Your child knows it completely when someone can say (out of the blue), “What is 7×5 ?” or “How many 5s in 30 ?” and he/she can reply instantly with the correct answer, without counting up in fives.

Some children can be confused between addition and multiplication. See below for practical ideas to ensure your child understands the concept of multiplying.

Although learning all the tables up to $12\times$ seems daunting initially, there are only 79 facts to learn and some of them, like the $1\times$ table, are very easy. Right from the start, your child needs to understand that if he/she knows that

$3 \times 4 = 12$ means that your child should also know

$4 \times 3 = 12$

$12 \div 3 = 4$

$12 \div 4 = 3$

and that they can be written with the unknown in any position. eg. $3 = 12 \div \square$

Instant recall of the times tables is essential for both mental and written arithmetic, including in every day life. eg. Cooking for a Brownie Camp, you might need to multiply your recipe by 8! If you are on a car journey averaging 40mph and you want to estimate how long it will take you to travel the 120 miles, you need your $4\times$ table because you have to calculate $120 \div 40$, which is the same as $12 \div 4$.

With secure, instant recall of multiplication tables (times and division facts), your child will be confident, speedy and accurate doing mental and written calculations.

How to Help Your Child learn Multiplication Tables

- First it is important that your child understands the concepts of multiplication and division. Ask your child to jump 5 times, then explain that they timesed the jump by 5 – they did the *Same Thing* 5 times. That is what *times* tables are about – when we have the same number again and again and again (so many *times*). Instead of the jump, they could have a group of something. 4 conkers timesed by 5 is: 4 conkers and another 4 conkers and another 4 conkers and another 4 and another 4. So they picked up a group of 4 conkers 5 times.
- Division is often the hardest operation for children to understand. We think about it in two subtly different ways: sharing and grouping. Have a pile of 12 raisins or beads. Draw 3 people on a sheet of paper and ask your child to share the raisins between the 3 people. Most children get the concept of sharing so that everyone has the same number. Next, you need to show that successively taking out groups of 3 from the pile is the same. Put the raisins back in a pile and explain that you can do the same thing by taking out groups of 3, because you take out a group of 3 (which is one raisin for each person), then you take out another group of 3 (which is another raisin for everybody), and then you take out

another group of 3 (another raisin for everyone), and so on until there are none left, or a remainder is left.

- In everyday life, talk about and show multiplication as being repeated 'packets of' or 'boxes of' or 'groups of', like this:

"I'm buying 3 boxes of eggs. That's multiplication – 6 eggs and another box of 6 eggs and another box of 6 eggs; 3 boxes of 6 eggs, $3 \times 6 = 18$ eggs"

"We've got 4 packets of haribos. Each packet has 10 sweets in. That's 10 sweets in that packet, and ten sweets in that packet, and ten sweets there and another 10 sweets there. So we've got 4 lots of 10 sweets. That's a times calculation – 4 packets with 10 sweets in each packet is $4 \times 10 = 40$ sweets in total."

"There are 12 biscuits here. If we have 2 each, how many of us can have biscuits? That's a dividing calculation because we're seeing how many groups of 2 we can get out of the 12: $12 \div 2 = 6$ people."

- A tiny bit of practice every day is best. When learning a times table, begin by counting up in steps. Eg. For the $3 \times$ table, begin with saying 3, 6, 9, 12. Once your child is very reliable with that, add in a couple more so that he/she can say 3, 6, 9, 12, 15, 18. Don't add in any more until, he/she knows that much really well. Then slowly extend it by one or two more numbers at a time. *Don't rush it* or your child may start to get muddled. Once your child can count up in steps of three quickly and correctly to at least 6×3 , you can start using a standard 1-6 die for board games like this:

Put some little white paper stickers over the spots on the die. On the sticker over one spot, write a number 3; on the sticker over the two spots write a number 6; over the three spots write number 9, up to 18 over the six spots. Then use the die to play a board game. If your child rolls '15', he/she has to say *out loud*, " $5 \times 3 = 15$, so I can move on 5." Once your child knows all the facts really well using the 1-6 die, you can change the stickers to be from $7 \times$ up to $12 \times$. You write 21 on the sticker over one spot, 24 on the sticker over the two spots, 27 on the sticker over the three spots, etc. Then if your child rolls '24', he/she says out loud, " $8 \times 3 = 24$, so I can move on 8."

- Try to spend a few seconds every day, even when you don't have time for a game, asking your child to recall a few facts. Eg. "What are 4 threes?" "How many threes make 18?" "What is 7 multiplied by 3?" "So, you know $7 \times 3 = 21$. What related facts do you know?" You're hoping they'll say, " $3 \times 7 = 21$, $21 \div 3 = 7$ and $21 \div 7 = 3$."
- Once your child knows a times table reliably and he/she moves on to learn the next one, please *keep going back to the old ones* so that they don't start to muddle the old ones with the new one.
- Ask your child to test you orally but tell them first that you're going to give a few wrong answers. They have to spot the wrong answers and correct them!

*A mixed set of dice, very useful for playing games to revise number bonds and times tables, can be bought for about £3 from Amazon