

## Learning a New Times Table

Use these Activity Notes with the Times Tables Activity Booklets and the FunKey Times Tables Cards to help a child learn any of the times tables up to 12x.

The ten activities listed below can be used for whichever times table you are tackling.

**These notes use the 7x table to explain each activity.**

These activities will help the child you are working with to **achieve rapid recall of times table facts (multiplication and division)**. They will also help the child to **step count fluently forwards and backwards, link related times table facts** and **understand** some of the **structures and patterns** which link multiplication and division facts.

*Before working with a child on any times table, please be sure that they understand what multiplication and division actually represent. If they don't know this, times tables won't make much sense to them!*

*For tips on getting a child ready to learn times tables, read pages 3 – 5 of our FunKey Times Table User Guide. It is also worth reading our tips on helping children memorise times table facts, which are on pages 8-9 of the User Guide.*

If you have any questions, or want advice, email us on [hello@funkeymaths.com](mailto:hello@funkeymaths.com)

Good Luck and Have Fun!

## The FunKey Team

***If you haven't used a FunKey Maths Mentoring Activity Booklets before, please read this!***

*Our activity booklets set out a series of activities which help children develop key skills in the target maths area. To really consolidate skills and build confidence a child needs to have **repeated opportunities to practise**. Remember that with younger children, **little and often** is a winning formula. 15 minutes at a time is enough to make progress. If you can manage **three sessions of 15 mins a week** you will make a difference.*

*You should do the activities in order, but the child doesn't have to be perfect at an activity before moving on. **Keep coming back to earlier activities for extra practice.***

*In our Activity Booklets, you will see an activity and then three columns, with one, two or three stars at the top of the columns. Every time you do an activity, give the child a tick. **All children like encouragement!** If they are just starting out with a new activity and are still finding it tricky, give them a tick in the one-star column. When they are getting good, give them a tick in the two-star column. When they can do it confidently, the tick goes in the three-star column. You are aiming at a minimum of **three ticks in the three-star column**. Brains forget, so you want to see the child succeeding at the activity **on three different days** before you can feel confident they have really got it.*

**These notes are written for the 7x table, but you can use these activities to learn any times table.**

Before you set to work, sort through your FunKey Times Tables Cards and find the 12 multiples of your chosen times table. These are the only cards you will need for the ten activities which follow. You may find it helpful to store the 12 multiples in the FunKey Times Table Cardholder.

### Activity 1: Step Counting forwards

Lay out the twelve multiples of 7 like this. Make sure 5x and 10x are below the line.



With the child, count out loud along the cards. Point to each card as you both say the product (the middle number) out loud. It is a good idea to pause at 35 and at 70 to give your brains the chance to absorb what they have just seen and heard.

7 – 14 – 21 – 28 – 35 – (PAUSE) – 42 – 49 – 56 – 63 – 70 – (PAUSE) – 77 – 84

11x and 12x are the bonus extra multiples. If the child can remember them, that's great! But if they are struggling to remember the other multiples, these are the two multiples to drop. For this reason, we call them *the bonus cards* and put them slightly apart from the rest.

When you and the child have counted up a couple of times, turn one card over (or two if the child seems confident) and count again. As the child counts, keeping pointing, even to the cards which are face down. Don't forget to pause at 5x and 10x. If the child can still count confidently, turn another card face down (or two cards) and count again.

Keep counting, keep pointing and keep turning cards over until all the cards are face down. Now count again. Can the child count even when they can't see the numbers?

### Activity 2: Step Counting backwards

Do the same exercise as above, but this time, count backwards.

## Activity 3: Spot the Odds and Evens

*(This is not an essential activity, but it builds a deeper level of understanding about odd and even numbers, and the structure of times tables.)*

Lay out the twelve multiples in order. Ask the child to spot all the odd numbers. What do they notice?

For the seven times table (and for any odd times table) this will be the pattern:

**Odd – Even – Odd – Even – Odd – Even – Odd – Even – Odd – Even – Odd – Even**

For any even times table, the products will all be even.

Can the child spot the pattern and explain it?

The explanations are as follows:

If you add even numbers, you will always get an even number answer.

If you add an odd number and an odd number, you will also get an even number answer. If you then add another odd number, you get an odd number answer.

In other words, you only get an odd total when you add an odd number of odd numbers! Or put another way, for an odd number times tables you see this pattern:

|                       |                                       |
|-----------------------|---------------------------------------|
| <b>1 x ODD = ODD.</b> | <b>(1 odd number is odd)</b>          |
| 2 x ODD = EVEN        |                                       |
| <b>3 x ODD = ODD</b>  | <b>(3 odd numbers added together)</b> |
| 4 x ODD = EVEN        |                                       |
| <b>5 x ODD = ODD</b>  | <b>(5 odd numbers added together)</b> |
| 6 x ODD = EVEN        |                                       |
| <b>7 x ODD = ODD</b>  | <b>(7 odd numbers added together)</b> |
| 8 x ODD = EVEN        |                                       |
| <b>9 x ODD = ODD</b>  | <b>(9 odd numbers added together)</b> |
| etc                   |                                       |

If children are struggling with this, use Numicon or coloured counters, or 1p and 2p coins to revise these concepts.

Finally, what do children notice about the factors on cards with odd products? The answer is that if the product is odd, both factors will also be odd.

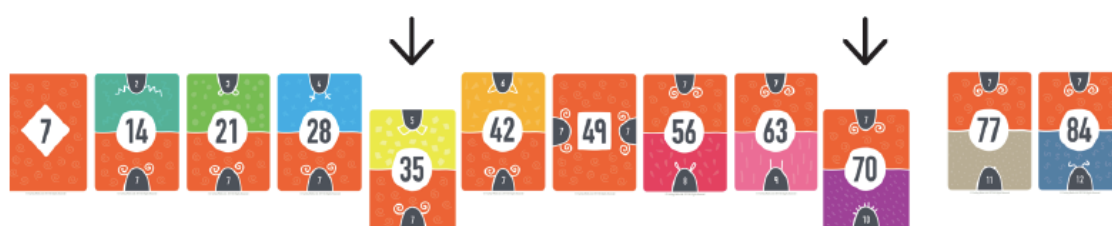
**Odd factor x Odd factor = Odd product**

## Activity 4: Spot the Doubles

*(This is also not an essential activity, but it builds a deeper level of understanding about the structure of times tables.)*

Within the first twelve multiples of any times table there are six doubles. Can the child spot them? Can they explain the link between doubles in terms of the group size doubling? It may help children to use counters and make the groups.

Here's how the doubles work for the 7x table. It's the same pattern for all times tables.



Double 7 is 14  
7 is 1 group of 7. 14 is 2 groups of seven.

Double 14 is 28  
14 is 2 groups of 7. 28 is 4 groups of seven.

Double 28 is 56  
28 is 4 groups of 7. 56 is 8 groups of seven.

Double 21 is 42  
21 is 3 groups of 7. 42 is 6 groups of seven.

Double 42 is 84  
42 is 6 groups of 7. 84 is 12 groups of seven.

Double 35 is 70  
35 is 5 groups of 7. 70 is 10 groups of seven.

Once the child has spotted and articulated all the doubles, it is helpful to keep reminding them of these links in the activities which follow.

### Activity 5: Order, re-order!

Ask the child to lay out the twelve multiples in order. Watch how they are doing it. Most children look for the numbers in sequence.

When the cards are in order, ask them to look carefully at the number line and notice what the highest number is and what the lowest is. Ask them to notice what  $5x$  and  $10x$  is and where these sit in the number line.

Now shuffle the twelve multiples and put them into a pile. Ask the child to take the first card off the pile and think about where it would go. Remind them about the highest and lowest numbers and what  $5x$  and  $10x$  are. Help the child place the card on the imaginary number line into roughly the right place.

Then take the next card and place that into the number line. Keep adding cards to the number line, adjusting the position of the other cards as you go. When all the cards have been laid out, check the sequence by counting up or down.

Get them to do this again and again, until they can do it in about a minute.

Once the child can quickly lay out the cards in whatever order they come, ask them to lay the cards out one more time. Then ask them to hide their eyes.

While they are hiding their eyes, mess up the order and then ask them to sort it. Get them to check the order by counting up again. Do this a few times.

Then, ask them to hide their eyes and this time you take one card away from the number line. Can they work out which card is missing? (Shuffle the other cards up so they can't see the gap!)

Now, take a card away **AND** mess up the order. Can they identify the missing card? Always ask the child to count back up or down to check that order has been restored! The more they count, the more secure their step counting will become.

## BEFORE YOU START on ACTIVITY 6, please read NOTE 1 and NOTE 2

### NOTE 1

There are lots of different ways to say any times table fact.

$5 \times 7 = 35$  can be said as

5 times/multiplied by/lots of/ groups of 7 are/make/equal 35

When you are helping a child to remember multiplication facts, it is important that you **always say the multiplication fact in an identical way.**

It helps the memory if you say multiplication facts using the shortest, most rhythmical form. We suggest you use the form below. We call this “the short form”:

1 seven is 7

2 sevens are 14

3 sevens are 21

4 sevens are 28

5 sevens are 35 etc

### NOTE 2

Before attempting to learn multiplication facts, it is worth checking that the child understands what a multiplication fact represents.

To check this, give them a card with two factors on it and some counters and see if they can use the counters to represent the multiplication facts on the card.



This card tells us that to make 28 you would need *four groups of seven*. Can the child make *four groups of seven*?

Can they also make *seven groups of four*?

If the child can quickly and confidently make and name groups of counters, then they are ready for Activity 6.

## Activity 6: Practise recall of multiplication facts

Lay out the twelve multiples in order. Pick any card. Look at it closely and say the multiplication fact from your chosen times table **in the short form**. Say it several times. Let the child represent the fact with counters if they want to. When they have said the fact out loud a few times, turn the card over and place it back in the number line.

Do this with two more cards. When three cards are turned over, point at any of the cards facing down and ask the child a prompt question. It is important that you also use the same, short form for your prompt questions.

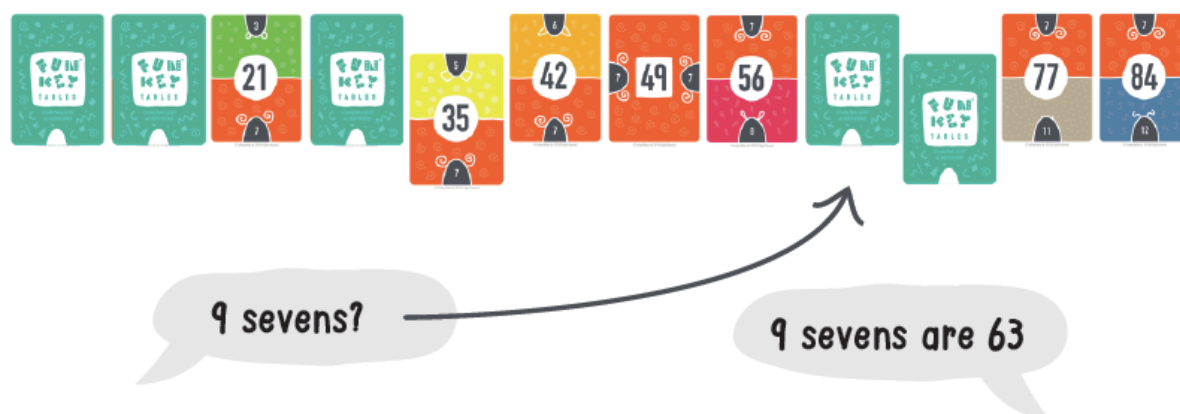
For example, “Two sevens?” or “Four sevens?”

Make sure that the child **always** gives the full answer.

“Two sevens are 14”

“Four sevens are 28”

This is really important for training their memory.



Each time you turn another card face down, ask the times table question for every card already turned down. You can vary the order. If a child is struggling to answer a particular question, keep going back to this card to give them lots of practice!

The trick to getting the child to remember facts is:

1. Always use the same short form for the questions.
2. Always get the child to give the full answer: “Three sevens are 21”
3. Ask each times table many times, and focus more on the ones they keep forgetting.

In most times tables there will be cards with more than two factors. To match up factors, look for the matching symbols around the product.



$$\begin{aligned} 2 \times 12 &= 24 \\ 3 \times 8 &= 24 \\ 4 \times 6 &= 24 \end{aligned}$$



If you have a card with more than two factors, just learn the one fact for the times table you are focussing on.

For example, if I am learning the 5x table, 20 will be one of the twelve multiples.

The multiplication fact on this card for the 5x table is: *4 fives are 20.*



### Activity 7: Slap Bingo

Lay out the 12 multiples face up. They should be in random order and equidistant from you and the child.

Now, shout out a times table question and you and the child race to slap the card which shows the answer.

Always ask the question **in the short form**, for example “9 sevens?” or “6 sevens?”

Whoever slaps the right answer can take the card. As they take the card, they must say the multiplication fact in full, for example “9 sevens are 63” or “6 sevens are 42.”

Continue until all the cards have been taken. The winner has the most cards at the end of the game.

### Activity 8: Hunter

Lay the twelve cards out randomly on the table, face down.

Player One ask a multiplication question from the chosen times table.  
For example, “6 sevens?”

Player Two then picks a card. If they pick the right answer, they keep the card. If they pick a card which isn’t the right answer, they show it to Player One and put it back face down.

Then Player Two asks Player One a multiplication question. Player One turns over a card. If they pick the right answer, they keep the card. If not, they show Player Two and return it face down to the table.

Players take it in turns to ask questions. The winner is the one with the most cards when all the cards have been picked.

### Activity 9: Practise recall of division facts

Look at each of the cards in turn and practise saying the division facts for whichever times table you are practising.



Division facts can be expressed in two ways. On this card we could say

$$14 \div 7 = 2 \quad \text{or} \quad 14 \div 2 = 7$$

Both expressions can represent 14 being split into two groups of seven.

When learning the seven times table, it makes sense to focus on the division fact in the form  $14 \div 7 = 2$ . And when learning the 2x table, it makes sense to learn the division fact in the form  $14 \div 2 = 7$

So the facts the child is learning for Activity 9 and 10 are:

$$\begin{aligned} 7 \div 7 &= 1 \\ 14 \div 7 &= 2 \\ 21 \div 7 &= 3 \\ 28 \div 7 &= 4 \text{ etc} \end{aligned}$$

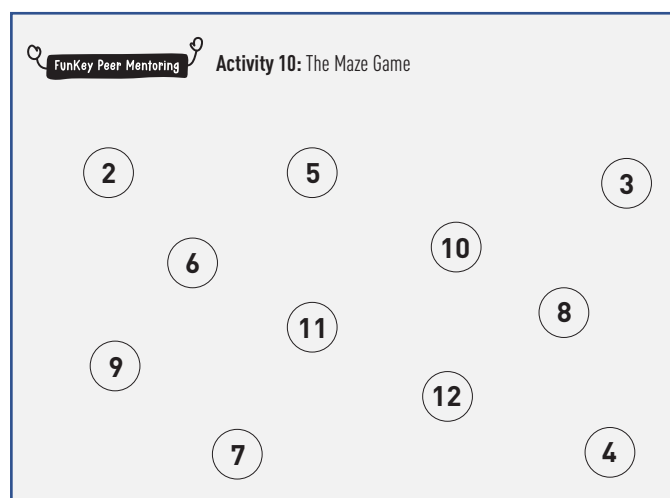
Once the child has rehearsed the division facts looking at the cards, you can shuffle the cards and put them in your hand. You say the product and the child tells you how many groups are needed to make that product. For example, you might say: 63. How many sevens are there in 63. The child shouts the answer and you move on to the next card. How quickly can they get through all the cards?

## Activity 10: The Maze Game

Use the pre-printed Maze Game sheet, which you will find in the resource pack. Or make your own version.

Players take it in turns to challenge each other to draw a line between two numbers on the sheet. But there is a catch!

Players can't say the number on the sheet! Instead they give division clues to the numbers that have to be joined!



Each number on the sheet represents the answer to a division question. If a child is learning the seven times table, the division questions would be as follows:

| Question    | Answer on the sheet |
|-------------|---------------------|
| $7 \div 7$  | 1                   |
| $14 \div 7$ | 2                   |
| $21 \div 7$ | 3                   |
| $28 \div 7$ | 4                   |
| $35 \div 7$ | 5                   |
| etc         | etc                 |

So, if the challenge was to join 10 to 8 the challenge would be posed like this:

*"Find  $70 \div 7$ ." They find 10. "Now, join it up to  $56 \div 7$ ." They find 8 and join 10 to 8.*

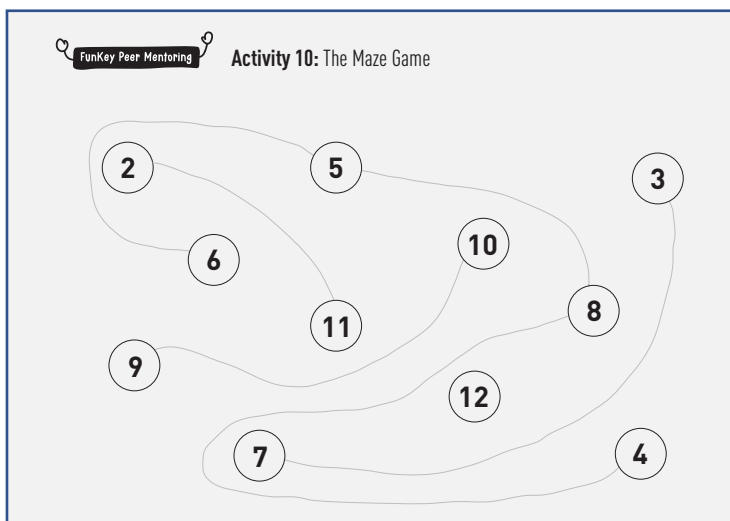
When you are giving a child a challenge, let them put a finger on the first answer. Then give them the second question.

The other way to phrase the challenge would be like this:

*"How many sevens in 70?" They find 10 and put their finger on it.*

*"How many sevens in 56?" They find 8 and join 10 to 8.*

Players can join numbers in any way they like, **but they must not touch any other line or the circles**. As the game goes on, it gets more challenging to find a route across the page. A player wins when the other player can't complete a challenge or accidentally touches another line.



Be careful not to point at the numbers you want the child to join up!

Let them do the work of solving the division questions!

**Congratulations! You have reached the end of the ten activities!**  
**Try your new skills out on a times table test!**