

# Times Tables at Parklands

Parent Meeting February 2024

# Why are times tables important?

Times tables matter and multiplication facts are non-negotiable basic building blocks.

Learning the multiplication facts are essential as they make a very large contribution to numeracy and underpin our maths system like counting, number bonds and place value. If children can get a firm grasp of their times tables then they have a solid arithmetical foundation for future problem-solving.

Having a secure grasp of the basics of maths, including the fluent recall of times tables, is crucial for children's success in moving on to more complex maths.

Learning multiplication tables is a key part of maths education in many high-performing education systems such as those in Shanghai and Singapore.

# When do the children learn times tables?

## **Year 1 times tables learning**

Children are taught the simplest form of multiplication, counting up in 2s, 5s and 10s.

## **Year 2 times tables learning**

Children are formally introduced to multiplication, related division facts and repeated addition for the numbers 2, 5 and 10.

## **Year 3 times tables learning**

A crucial year for times tables learning. Children are expected to learn multiplication facts for the 3, 4 and 8 times tables and to use practical and written methods to multiply and divide two-digit numbers (for example,  $15 \times 4$ ).

## **Year 4 times tables learning**

A 'completing' year for all multiplication facts up to  $12 \times 12$ . Children also continue to develop their skills in multiplication of two-digit numbers by a one-digit number, using harder combinations of numbers. They will also learn to multiply a three-digit number by a one-digit number.

## **Year 5 and Year 6 times tables learning**

Children will be expected to be really confident in all their times tables (up to the 12 times table) by the start of Year 5. During Years 5 and 6 they will become confident in multiplying larger numbers (four-digits by two-digits, for example).

# How have we historically supported the learning of times tables?

Although the teaching and learning of times tables occurs in our day-to-day maths teaching, we have always tried to support children outside of the maths lesson to become secure in their times tables.

- ▶ We did have a teacher-made initiative that suited the needs of the children and reflected the expectations in education at the time.
- ▶ Children would have opportunities throughout the week to practise the times table that they were currently working on - this times table may have differed from their peers.
- ▶ Most classes had a Friday times table 'test' to see how they were getting on.
- ▶ The class teacher would regularly assess how the children were getting on with their times tables and move them forward through these when they felt appropriate.
- ▶ Those that had completed all their times tables tests with their class teacher would do a final oral test to earn their times table badge.

This has now changed.

# Why have we decided to change our approach to times tables?



As you may be aware, all eligible year 4 pupils who are registered at state funded schools including academies and free schools and special schools in England are required to take a multiplication check in June.



The multiplication tables check helps teachers understand which pupils know their times tables and it also helps schools identify if children may need additional support. It is an online, on-screen assessment given to pupils in year 4. It checks their ability to fluently recall times tables up to 12x12.



The check is made up of 25 times tables questions, where the children will have 6 seconds to answer each question. On average, the check should take no longer than 5 minutes to complete.



There is no expected standard or 'pass mark' for the multiplication tables check, but higher scores indicate greater proficiency in fluently recalling multiplication tables.



It was clear that our previous times table programme was not providing the children with the building blocks they needed in order to learn how to fluently manipulate number and recall facts at speed. We found that some times tables were stronger than others and children were not confident in both the multiplication and division facts. We wanted to achieve multiplication mastery.

# What is Multiplication Mastery?

Although learning tables by rote has been proven in research as by far the best method for speed and efficiency, accurately reciting the times tables doesn't mean children 'know' them. Children who claim to know all their tables only have a superficial understanding of them.

It is therefore crucial that children go deeper and understand what the numbers mean and how to apply their knowledge in a maths problem; this is known as multiplication mastery. Planned experiences and activities for learning about multiplication must be sequenced and ordered in order to support progression and real understanding.

# Our new programme - Number Sense Maths

We are very pleased to announce that we are now a number sense maths school. We have adopted their times table fluency programme to support our children with the learning of all times tables.

The Times Tables Fluency programme builds fluency in multiplication and division facts and an understanding of multiplicative relationships.

This programme is research informed, it is a coherently sequenced times table curriculum that is designed to prepare children for the MTC, and It has a consistent approach in all year groups.

The logo consists of a solid orange square with the words "Times Tables Fluency" written in white, bold, sans-serif font. The text is arranged in three lines: "Times" on the top line, "Tables" on the middle line, and "Fluency" on the bottom line. The square is centered within a larger white rectangular area.

**Times  
Tables  
Fluency**

# There are 36 Essential Facts that the children learn in the programme

$2 \times 2 = 4$							
$3 \times 2 = 6$	$3 \times 3 = 9$						
$4 \times 2 = 8$	$4 \times 3 = 12$	$4 \times 4 = 16$					
$5 \times 2 = 10$	$5 \times 3 = 15$	$5 \times 4 = 20$	$5 \times 5 = 25$				
$6 \times 2 = 12$	$6 \times 3 = 18$	$6 \times 4 = 24$	$6 \times 5 = 30$	$6 \times 6 = 36$			
$7 \times 2 = 14$	$7 \times 3 = 21$	$7 \times 4 = 28$	$7 \times 5 = 35$	$7 \times 6 = 42$	$7 \times 7 = 49$		
$8 \times 2 = 16$	$8 \times 3 = 24$	$8 \times 4 = 32$	$8 \times 5 = 40$	$8 \times 6 = 48$	$8 \times 7 = 56$	$8 \times 8 = 64$	
$9 \times 2 = 18$	$9 \times 3 = 27$	$9 \times 4 = 36$	$9 \times 5 = 45$	$9 \times 6 = 54$	$9 \times 7 = 63$	$9 \times 8 = 72$	$9 \times 9 = 81$

Why 36 facts?

1. Short and long multiplication only use facts up to  $9 \times 9$
2. The 10 times table does not need to be taught to recall
3. Most of the 11 times table can be taught through simple pattern rather recall
4. The 12 times table can be solved by partitioning and applying facts up to  $9 \times 9$

The programme focuses on understanding and recall of these 36 facts and on using them to understand the commutative multiplication fact and the inverse division facts



$$2 \times 2 = 4$$

$$3 \times 2 = 6$$

$$3 \times 3 = 9$$

$$4 \times 2 = 8$$

$$4 \times 3 = 12$$

$$4 \times 4 = 16$$

$$5 \times 2 = 10$$

$5 \times 3 = 15$

$$5 \times 4 = 20$$

$$5 \times 5 = 25$$

$$6 \times 2 = 12$$

$$6 \times 3 = 18$$

$$6 \times 4 = 24$$

$$6 \times 5 = 30$$

$$6 \times 6 = 36$$

$$7 \times 2 = 14$$

$$7 \times 3 = 21$$

$$7 \times 4 = 28$$

$$7 \times 5 = 35$$

$$7 \times 6 = 42$$

$7 \times 7 = 49$

$$8 \times 2 = 16$$

$$8 \times 3 = 24$$

$$8 \times 4 = 32$$

$$8 \times 5 = 40$$

$$8 \times 6 = 48$$

$$8 \times 7 = 56$$

$$8 \times 8 = 64$$

$$9 \times 2 = 18$$

$$9 \times 3 = 27$$

$$9 \times 4 = 36$$

$$9 \times 5 = 45$$

$$9 \times 6 = 54$$

$$9 \times 7 = 63$$

$$9 \times 8 = 72$$

$9 \times 9 = 81$

Y3  
21 facts

Y4  
15 facts

Although, the programme looks slower in Year 3, 21 of the 36 essential facts are taught here, leaving only 15 left to teach in Year 4.

# Commutative multiplication and inverse division

Through the daily fluency sessions, the children get a lot of practice applying commutative multiplication and inverse division

$$7 \times 4 = 28$$

$$28 \div 4 = 7$$

$$4 \times 7 = 28$$

$$28 \div 7 = 4$$

Example: children are only taught  $7 \times 4 = 28$  but have lots of commutative multiplication and inverse division practice so can use the fact to know the others.

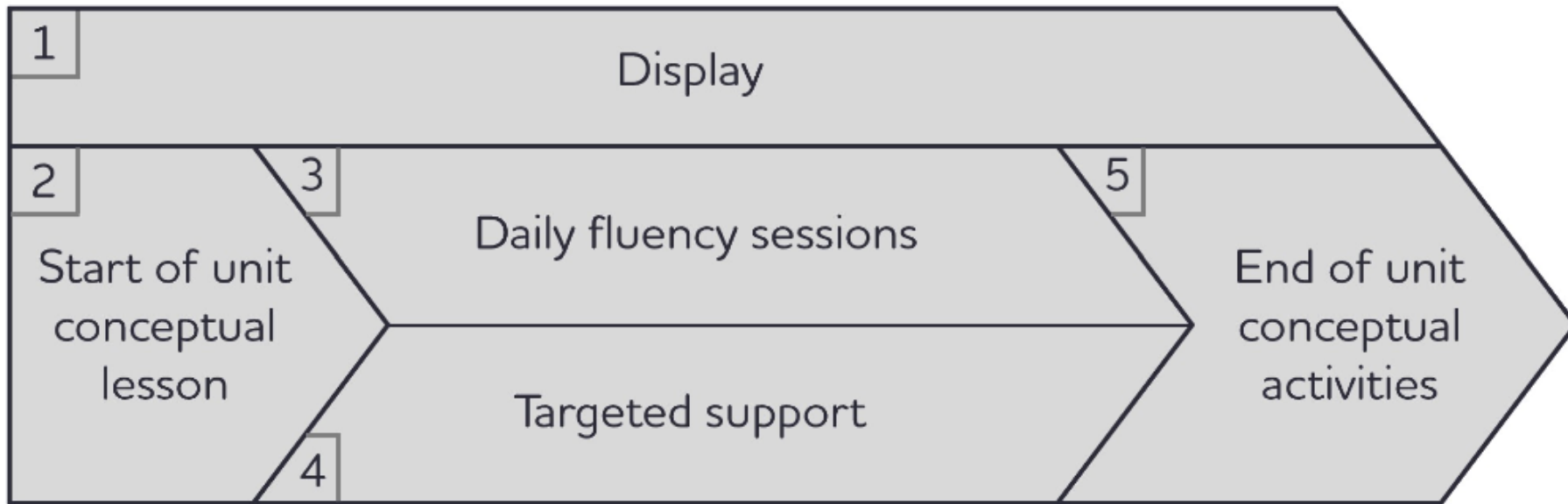
## Additional facts needed for the MTC

[illegible]

As previously stated, the 11 and 12 times table are taught in a lighter touch way; as well as practice of the 10 times table.

# What does this programme look like for my child?

All times table units are structured in the same way: they start by looking at the classroom display, they have a start of unit conceptual lesson where the times table is taught, they then have a series of daily fluency sessions where targeted support occurs by the teacher, and they finish with some end of unit conceptual activities.



This process is then repeated again and again for each new times table unit.

# Classroom Display

There is a consistent classroom display throughout the programme that is designed to help children see where they are on the journey to multiplication fluency and provides them with a place to find facts that they do not yet know.

Two purposes for the classroom display:



1. The first is to make the learning of times table feel achievable and show children where they are on the journey to fluency.



2. The second is to provide a place where the full times tables are always on display so the children can always copy a fact when they don't know it. The task is to recall facts, not derive them.

Display at the start of the programme

new  
facts

Our 36 times tables facts

0 facts learnt so far

36 facts to go

$2 \times 2 = 4$									
$3 \times 2 = 6$	$3 \times 3 = 9$								
$4 \times 2 = 8$	$4 \times 3 = 12$	$4 \times 4 = 16$							
$5 \times 2 = 10$	$5 \times 3 = 15$	$5 \times 4 = 20$	$5 \times 5 = 25$						
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It is not for children to copy from all the time, it is there as a prompt until we can recall.

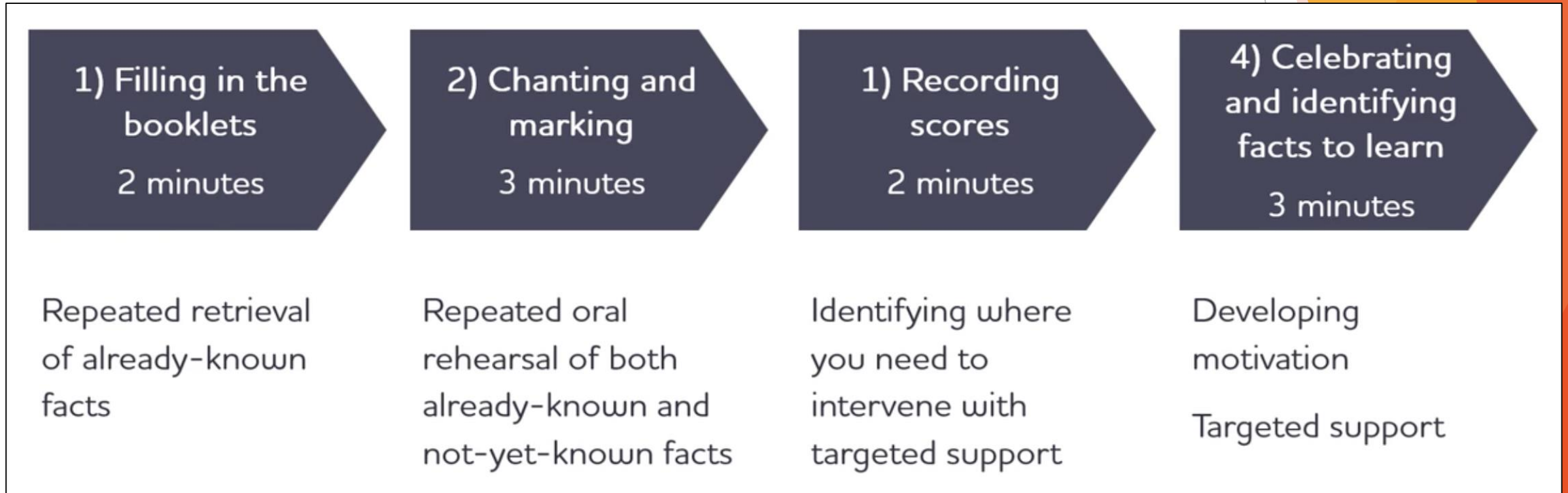


- We teach children to recall facts, so they don't need to rely on derivation.
- If they can't yet recall the correct answer they should be given the fact.
- Giving the answer changes the nature of the task

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# What do the daily sessions look like?



# Filling in the booklets

The sessions are centred around booklets which contain daily practice sheets.

Each practice sheet contains 40 facts with careful progression between the sheets in the booklets.

It is the teacher's job to manage the sessions in order for every child to build up their score to 40/40 in every booklet

Key components:

- 2 minutes per practice sheet
- The children work through in order not missing any out.
- When there is a fact they don't know yet, they can copy from the display.

My 2 Times Table Practice Booklet	
Name: _____	
Class: _____	
New facts in this booklet:	
$2 \times 2 = 4$	
$3 \times 2 = 6$	
$4 \times 2 = 8$	
$5 \times 2 = 10$	
$6 \times 2 = 12$	
$7 \times 2 = 14$	
$8 \times 2 = 16$	
$9 \times 2 = 18$	

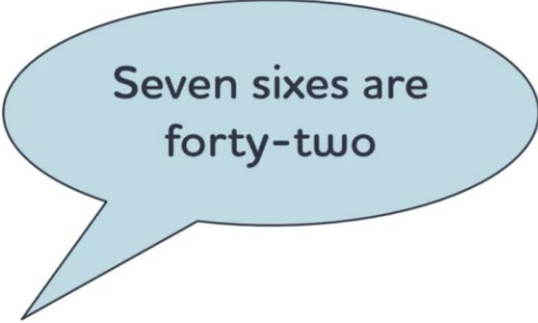
9	
7 x 6 = _____	6 x 3 = _____
6 x 7 = _____	54 ÷ 6 = _____
6 x 3 = _____	6 x 7 = _____
42 ÷ 6 = _____	6 x 5 = _____
6 x 4 = _____	8 x 6 = _____
6 x 9 = _____	9 x 6 = _____
36 ÷ 6 = _____	12 ÷ 6 = _____
5 x 6 = _____	6 x 9 = _____
8 x 6 = _____	6 x 5 = _____
48 ÷ 6 = _____	7 x 6 = _____
6 x 7 = _____	5 x 6 = _____
6 x 6 = _____	24 ÷ 6 = _____
9 x 6 = _____	6 x 3 = _____
12 ÷ 6 = _____	4 x 6 = _____
6 x 4 = _____	6 x 4 = _____
6 x 8 = _____	30 ÷ 6 = _____
18 ÷ 6 = _____	6 x 2 = _____
8 x 6 = _____	6 x 8 = _____
6 x 6 = _____	3 x 6 = _____
2 x 6 = _____	2 x 6 = _____



# Chanting and marking

This is a critical part of the process that involves repeated oral rehearsal of both already known and not yet known facts. The children learn each of the 36 essential times table facts as a memorised sound pattern just like we might learn the lyrics to a song.

Here you can see four different equations in written form but in spoken form they are all referred to as seven sixes are forty-two.



Seven sixes are  
forty-two

$$7 \times 6 = 42$$

$$42 \div 6 = 7$$

$$6 \times 7 = 42$$

$$42 \div 7 = 6$$

We do not say: 'seven times six equals forty-two' as we are trying to make a link between seven, six and forty-two and we are trying to memorise these three numbers as a family. There should be emphasis on the three numbers in the family.

We always say the chant with the largest factor first, even when marking division questions.

Let me demonstrate...

# Chanting and marking

Here are some example questions from one of the booklets.

When marking, the children are required to chant back all of what the teacher has said, including the questions that they have not answered.

All answers are said in the same way with the largest factor first, including the division facts.

$5 \times 6 = \underline{\quad}$
$8 \times 6 = \underline{\quad}$
$48 \div 6 = \underline{\quad}$
$6 \times 7 = \underline{\quad}$
$6 \times 6 = \underline{\quad}$
$9 \times 6 = \underline{\quad}$
$12 \div 6 = \underline{\quad}$
$6 \times 4 = \underline{\quad}$

Six fives are thirty

Eight sixes are forty-eight

Eight sixes are forty-eight

Seven sixes are forty-two

Six sixes are thirty-six

Nine sixes are fifty-four

Six twos are twelve

Six fours are twenty-four

# Recording scores

This stage in the lesson is essential as it determines where the teacher may need to put targeted support.

Children are to say their scores out loud and the teacher will record them. We are aware that for some children this is a daunting experience and they do not wish to share their scores with their peers and therefore they are invited to come up to the teacher's work area or to write their score on a piece of paper. However, most children are keen to share their score and see the progress they have made session by session.

This is not an exercise to highlight those that have not done well but for children to recognise where they can go next and celebrate their achievements.

40	40	40	40	40	40	40	40	-	40
40	40	39	40	-	40	40	40	40	40
39	40	39	39	40	39	40	40	39	40
13	21	27	30	21	35	33	35	38	39
40	-	40	40	40	40	-	-	40	40
40	40	31	40	38	40	40	40	40	-
37	39	30	37	38	40	40	40	40	40
40	40	39	40	40	-	40	40	40	40
26	23	30	30	30	30	30	30	34	27
40	39	40	40	39	40	40	40	40	40
32	35	23	21	35	40	19	33	37	-
40	40	40	40	40	40	-	-	-	40
40	39	40	40	40	40	40	40	40	40
40	40	39	40	40	40	40	40	40	40
35	39	37	37	36	40	39	40	-	40
38	35	37	36	39	39	38	40	-	40
28	39	31	39	36	38	37	40	39	40
40	40	40	40	-	40	40	40	40	40
40	40	40	40	40	39	40	40	40	40
36	40	36	40	40	40	40	40	40	40
30	38	35	40	31	40	34	40	40	40
15	29	33	28	34	37	23	30	40	40
40	40	36	40	40	40	40	40	40	40
36	40	35	19	40	40	39	40	40	40
39	39	40	40	40	40	40	40	-	40
32	38	36	34	39	32	-	-	-	-
21	24	28	30	21	24	32	34	35	40
33	29	28	26	40	35	39	36	40	40
40	40	39	40	40	40	40	40	40	40
33	-	40	40	40	40	40	40	40	40



# Celebrating and identifying facts to learn

The key focus of the final part of each session is to develop motivation:

- celebrations
- rationalising
- prompting children to identify a target fact

# Targeted Support

In all sessions, the class teacher is providing targeted support. This may include:

- writing the answer for the child when they have worked it out to support with speed
- removing the visual of the timer
- prompting them to say the fact under their breath
- enlarging booklets where needed
- some practice multiplication sheets that can support outside of the session

If the teacher identifies that there may not be any progress being made with specific individuals, then they may implement some further targeted support. This will be a discussion that they should have with you to discuss what support they are putting in place and how this can be mirrored at home.

# How can you support at home?

- ▶ Encourage practice of times table for at least 5 minutes a day at home.
- ▶ Continue to use times table rock stars
- ▶ Mirror the same sound patterns that the children are becoming familiar with in the programme when practicing at home e.g. five threes are fifteen
- ▶ Become familiar with the 36 facts that are part of the times table fluency programme
- ▶ Play times table games
- ▶ Listen to times table songs
- ▶ Quiz your child regularly but not incessantly
- ▶ Reward their efforts