St. Patrick's R.C. Primary School

Multiplication Tables Policy		
Date	**Review Date**	**Coordinator**
September 2018	**September 2019**	**Mr Sherrington**

Multiplication Tables – **Summary** of non-negotiables.

Learning Tables…

- A child will learn their tables daily in class by the method of recital – this should be primarily an oral exercise, '1 times two is …' (there is also some benefit to the writing out of a times table in full).
- As a child becomes more competent with the lower multiplications in the table that they are learning the recital could start at, for example, '3 times two is …' etc. *Counting sticks should be used to determine start points and as a visual aid when reciting and in order to maintain rhythm!*
- Times tables can also be learned in other ways and these 'other' methods should be used to supplement the main recital method… 'Other' methods can include games (e.g. splat, fizz buzz), computer programs (e.g. Rockstars), on the spot testing (e.g. What is 1 times two?)

Expectations…

- The multiplication tables to be learned (including division facts as appropriate) are specific to year groups as detailed in NC 2014
- All children from Year 1 to Year 6 will have daily times table homework (Y1 – counting tasks)
- All children from Year 1 to Year 6 will devote some curriculum time each day to the learning of times tables
- There will be a formal weekly times table test for every child in Year 2 to Year 6 – oral testing of a class or individuals should take place daily too!
- Parents and children must be aware of the times tables to be learned each week
- Simply learning the product is detrimental to quick recall and results in children simply counting up!
- Children are not permitted to use fingers in a test or to answer a times table question
- Each class will display the times table (s) being learned that week
- The speed at which a child will recall a times table fact will increase throughout the year due to extensive 'practise'
- NEVER tell a child they 'know their * times tables, instead tell them you're getting quicker at recalling facts from your * times tables

Why is it important for a child to learn their multiplication tables?

Learning multiplication tables is a vital part of any child's mathematical development. Once rapid recall of multiplication facts becomes possible, a whole host of mathematical activities will seem easier.

Children need to be able to recall multiplication facts in any order and also to derive associated division facts. Often it is not the process or concept that a child finds difficult – the barrier to progress is a poor recall of multiplication facts!

In what order should you teach tables? (Curriculum 2014)

It is important to note that there are important differences between learning the concept of multiplication and practising the skill of recalling multiplication facts. Firstly a child must learn and understand what multiplication is. They gain a conceptual understanding. When a child has an understanding of the concept they can then practise the skill. You must model a concept and practise a skill: memorising tables is not the same as understanding multiplication…

There is no research indicating an ideal order for teaching the times tables from 0 to 12. The usual consensus about learning tables is as follows:

- Start with the children building up a table using physical apparatus such as cubes and rods.
- Move on to pictorial representation of tables.
- Symbolise the two types of table – for example, the table of 2's and the two times table.
- Practise the tables in both written and oral forms.

What are the curriculum expectations?

Year Group	Non-Negotiable 'Expectation'
Year 1 – NC	Count on or back in ones, twos, fives and tens and use this to derive the multiples of 2, 5, and 10 to the tenth multiple.
Year 2 – NC	Derive and recall multiplication facts for the **2, 5 and 10** times tables and the related division facts.
Year 3 – NC	Derive and recall multiplication facts for the 2, **3, 4**, 5, **8** and 10 times tables and the related division facts.
Year 4 – NC	Quick recall multiplication and division facts for **all** multiplication tables **up to 12 x 12.** Facts recalled within a few seconds.
By the end of Year 4 ALL children will have learned all their times tables – in Years 5 & 6 they will progress to rapid and instant recall of facts.	
Year 5	**Rapid recall** of multiplication and division facts for multiplication tables up to 12 x 12. Facts recalled within 1 or 2 seconds.
Year 6	**Instant recall** multiplication and division facts for multiplication tables up to 12 x 12. Facts recalled instantly!

NB. Rapid recall wording should be used. Do not expect the child to say 'five times six is thirty' but rather 'five sixes is thirty'

A child should not repeat the question before responding – this is a stalling tactic and can become habitual. The answer should only be given.

How should I respond if a child has worked hard to learn their multiplication facts?

It is vital that we do not give children and parents the message that their child 'knows' a certain multiplication table. They may know them *better* but recall can always be improved!

You may make comments such as……

- You are much quicker at recalling facts in your _ multiplication tables.
- You have worked hard to learn the facts in your _ x-tables.
- Well done you have become quicker recalling facts from your _ x-tables. Now you can learn your _'s.

Do not use…

- Well done you know your _ tables.
- Now you can do your _'s you now need to learn your…

Can a child learn facts from a multiplication table that is not designated as the table they are currently targeted to learn?

Through their primary years children will benefit enormously from over-learning their multiplication tables. Children that are learning their 6, 7 and 9 multiplication tables should still be involved in activities for the other multiplication tables. The converse is also true; a child in Year 4 that is still on their 4's is still expected to be familiar with all multiplication tables and must be exposed to the 'higher' table facts.

How do we assess the multiplication facts that a child needs to learn?

The children will be taught as per the National Curriculum 2014 expectations (see table, page 1). If after an assessment a child is exceeding expectations for their year group, i.e. recall is rapid for all expected multiplication tables, they can progress to learning a multiplication table from the year above.

At the start of each year the class teacher must assess each child individually to determine the multiplication tables that are required to be taught.

It is envisaged that some (perhaps many) children will end up 'relearning' a multiplication table from a previous year group. This is not a problem.

Oral, 'on the spot', testing of an individual child is the most effective method and should be used for all children despite it being a time consuming task.

A written test that covers a specific multiplication table, or a range of multiplication tables is not effective for assessment.

- An oral test sheet should be completed for each child (see attached).
- The test sheets will use the progression of 2, 5, 10, 3, 4, 8, 6, 7 and 9.
- A child in years 2 to 4 will be given credit for learning a multiplication fact if they respond within 2 or 3 seconds.
- If there is any counting up on fingers or oral recitation of their tables to calculate a times table fact the child is deemed to not having learned that fact, even if they arrive at the correct answer quickly.

- Expectations increase to ‘rapid’ and ‘instant’ recall, in years 5 and 6 respectively, when little or no time is given for a response. Therefore it is highly likely that a child entering Year 5 will say ‘I know my _ tables, I did them in Year 4’. The message from teachers in years 2 to 4 must be, in Year 5 and 6 you will need to recall facts more rapidly and instantly. Such consistent responses to child (and parent) will alleviate any misconceptions about their child ‘going backwards’ and pointing the finger – ‘Well they knew their _’s last year when they were in class _’.

When will the children practise their multiplication tables in school?

All children from year 1 to year 6 should practise multiplication tables daily. The amount of coverage will vary from year group to year group and from day to day. A couple of minutes in a Mental warm up is acceptable; so too a full lesson! It is vital that a child repetitively over-learns all multiplication facts, otherwise recall will slow and some facts be forgotten!

How will we test a child's knowledge of the multiplication tables that they have been learning?

- A written test should be given every fortnight to assess *loosely* how the child is progressing in the learning of their tables.
- An oral assessment is required to determine whether a child has learned a multiplication table proficiently well enough. (See attached assessment sheets)

How will children learn facts from their multiplication tables?

The debate as to how children best learn their multiplication tables has gone on for years and will do so in the future.

Rote learning definitely has its place and is one strategy to use.

What is not in question is that children need a fluent knowledge of number facts and without this being accessible and automatic they cannot demonstrate enough facility with numbers to enable them to solve problems. But rote learning can't dominate. What is clearly needed alongside this is a range of fun strategies and games that addresses a range of learning styles. Like all learning children need to be engaged. That said – some learning of multiplication tables will be dull – but their importance outweighs any negatives.

Each child should have a times table planner to assist parents. It will ensure that a range of strategies are being used at home (see attached). Please feel free to choose the most appropriate planner for individual children – also adapt the charts as required.

It is the responsibility of the class teacher to source the appropriate activity, games and websites for their children. (Some ideas and website links will be on the school website).

There are some teaching ideas attached to this document.

What should I display in my class?

All classes must have display features appropriate to the learning of multiplication tables in their class. This will include…

- Appropriate associated vocabulary – lots of, groups of, product, multiplied by, times _ by _ etc
- Multiplication tables. A 'poster' displaying the multiplication tables that each child is learning and those that they are able to recall facts from quickly.
- A record of the multiplication tables that individual children are learning/have been learning.

What should I do if a child has difficulty learning their multiplication tables?

- Practical methods should be used regardless of the academic year that the child is in.
- The child should have practical apparatus readily available to them.
- When a class task involves a knowledge of multiplication tables in order to complete it successfully (e.g. converting mixed numbers, division using chunking) a multiplication square should be provided. Also consider when it is appropriate to set questions that uses the multiplication tables that a child can recall independently (e.g. when converting mixed numbers use halves – x2 or fifths – x5)

Ultimately, if a child is not making progress in learning their multiplication tables, particularly in the early stages, it could be an indicator of number learning issues including dyscalculia. The class teacher should notify the Numeracy subject leader of their concerns. An assessment for learning may be required.

Some suggestions for the teaching of multiplication tables.

Guidance on different ways to teach multiplication tables can be found in *'Teaching Mental Multiplication Strategies – Guidance for teachers at key stages 1 and 2'* (Part 4 **Teaching Multiplication and Division Skills and Strategies**) and Part 5, *Using Calculators*).

Modeling the concept, these are just some ideas…

1. Look up the CD Models and Images, produced by the Numeracy Strategy.
2. Use an abacus (or abacus diagram) and draw beads for each of the multiples of e.g. 6, writing the number below each rod. This also helps with early place value.
3. Use a 1-100 number line or washing line, marking the numbers on it.
4. Colour the multiples on a 100 square.
5. Graph the multiples on squared paper.
6. Use a calculator and the constant function.
7. Teach tests of divisibility for each of the tables as they are being taught.
8. Use a chime bar. Each time the teacher taps, the children add e.g. 6 So 4 taps would be 6 x 4.

Recall of tables, some ideas…

Remember, recall of tables is a skill. It is quite possible to 'know the multiplication tables by heart' and not understand what multiplication is. It is important that both concept and skill are mastered.

1. Make sure the relevant multiplication tables are part of the classroom display and in a position to be seen clearly.
2. Use a counting stick to rehearse the multiples of any table.
3. Hold the counting stick vertically and get the children to stand when counting up and to sit when counting down.
4. Use a counting race. Everyone needs scrap paper about the length and width of a ruler on which they write their name. For example to learn x7 they write 7 at the top, you shout GO and then they write 14, 21 beneath etc. They have 30 seconds to keep adding 7. After 30 seconds shout STOP. Children swap papers and stand up. Together the whole class chants the multiples of 7. Individuals sit

down when either their strip runs out or has a mistake on it. The winners are the counter and their partner – great for inclusion!

5. Use part of mental maths for learning in silence.
6. Use a clapping rhythm, e.g. pat the lap (eight), clap the hands (threes), snap the right thumb and finger (twenty four). Chant the table to that rhythm.
7. Try a tables race – on scrap paper. How many times can you write the 6 times table in 2 minutes? Allow this and encourage this, you want speed and so do they – they won't copy parts they know and the ones they don't they will 'learn'.
8. Use digit cards or number fans in show me activities.
9. Draw a clock face. Write 5 in the middle. Put the numbers 1 to 12 as per clock face. Starting at 1 point and children chant – eventually pointing to random numbers.
10. Chant table to music.
11. Play Banana Splat – a good plenary game. Two children stand opposite each other with ruler in their 'holster'. Ask table facts – when child knows the answer they shoot – raise ruler and shout answer followed by splat. Can play first to 3?
12. Use chime bars. E.g. using 2 chime bars you could give each note a different value, 3 and 4. A bar that dings could be 3 and a bar that dongs could be 4. So children listen and write down the calculations…ding ding dong ding dong dong ding – they write 3+3+4+3+4+4+3
13. Children can work in pairs testing each other using white boards. Each pupil writes the numbers 0 to 10 in random order. They agree a times table to test. They then take it in turns to read their list one number at a time and the partner says the whole number fact in response.
14. Use follow me cards – these are readily available online.
15. Play multiplication bingo.
16. Use flash cards.

Some useful websites…

http://www.teachingtables.co.uk/

http://www.multiplication.com/

http://www.teachingideas.co.uk/maths/talkteachingtimestables.htm

http://www.mathsisfun.com/tables.html

http://www.topmarks.co.uk/maths-games/7-11-years/times-tables

http://www.mathplayground.com/games.html

Multiplication Tables Assessment Record – Year 5&6

	Multiplication Table								
Name of child	2	5	10	3	4	8	6	7	9

Multiplication Tables Assessment Record – Year 4

	Multiplication Table								
Name of child	2	5	10	3	4	8	6	7	9

Multiplication Tables Assessment Record – Year 3

	Multiplication Table								
Name of child	2	5	10	3	4	8	6	7	9

Multiplication Tables Assessment Record – Year 2

	Multiplication Table								
Name of child	2	5	10	3	4	8	6	7	9

Times Table Planner

Term: Autumn1

Week	X Table	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
1								
2								
3								
4								
5								
6								
7								

Please initial when your child has learned their multiplication tables each evening. Regular practise will benefit your child greatly!

Times Table Planner

Term: Autumn 1

Week	X Table	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
1								
2								
3								
4								
5								
6								
7								

Please initial when your child has learned their multiplication tables each evening. Regular practise will benefit your child greatly!

Oral Test Sheet – Multiplication Tables

Name of child:

Assessment questions.	Date: X table to be assessed:	Date: X table to be assessed:	Date: X table to be assessed:	Date: X table to be assessed:	Date: X table to be assessed:	Date: X table to be assessed:
5x?						
8x?						
4x?						
3x?						
10x?						
7x?						
2x?						
9x?						
6x?						
12x Years 5&6						
11x Years 5&6						
Outcome…Explain to the child what now…						

If a child responds accurately and within the time expected tick that box, otherwise enter an x. Share results with the child each time they are tested – detailing next steps.

Headteacher:	M. Ryan	**Date:**	September 2018
Chair of Governing Body:	G. Wilson	**Date:**	September 2018