Introduction:

Times tables are at the heart of mental arithmetic, which helps form the basis of a child's understanding and ability when working with number. Once the children have learnt the times tables and related divisions by heart, they are able to work far more confidently – and efficiently – through a wide range of more advanced calculations.

Aim:

The main aim of this policy is to ensure that children at Spring Bank can recall and apply times tables facts up to 12 X 12 through a well-developed, consistent approach. This policy will ensure that there is a clear structure to learning throughout school. This will include the consistent use of the correct mathematical vocabulary and clear and precise sentence stems.

Research has found that maths facts are held in the working memory section of the brain. Children with working memory difficulties are likely to struggle with memorising lists of tables facts. For them to access tables facts rapidly, they need to understand the relationships between numbers and work flexibly with these, so they can transfer knowledge to long term memory. Because working memory can become blocked in stressful conditions, even those who can rote learn may not be able to retrieve facts under pressure.

Progression:

Year group	Expectation
EYFS	Skip counting in 1s and 10s Doubling and halving
Y1	Skip counting in 2s 5s and 10s Understand 1 times table as "one set of" and "___ one time". **Recall doubles and halves to 10.**
Y2	Skip counting in 2s, 3s, 5s, and 10s. **Introduce, learn and recall facts for tables for 2s, 5s and 10s** Explore clear links between 5s and 10s Explore times by 0.
Y3	Skip counting in 3s,4s, 8s, 100s and 50s **Consolidate 2s, 5s and 10s (including division facts)** **Introduce, learn and recall facts for tables 3s, 4s, and 8s** Explore links between 2s, 4s and 8s. Introduce square numbers.
Y4	Skip counting in 6s, 7s, 9s, 25s and 100s. **Consolidate 2s, 3s, 4s, 5s, 8s, 10s. (including division facts)** **Introduce, learn and recall facts for 6s, 7s, 9s, (11s and 12s*)** Explore links between 3s, 6s, 9s and 12s. Know square numbers.
Y5	Consolidate all facts up to 12 X 12 Revise square numbers. **Identify primes.**
Y6	Consolidate and apply all facts to 12 X 12 and beyond.

Tracking Progress:

Class teachers will track progress on a class spreadsheet which will be passed on to the next class. Records will demonstrate when a child can recite the table in order, then out of order, then as division facts.

Times Table progress will be shared with parents as appropriate at Parents Evenings.

Structure:

At Spring Bank times tables knowledge is a **daily** feature of learning in **Year 3 and Year 4**. Up to 10 minutes daily is dedicated to learning times tables facts and exploring links. This can be part of the daily Maths lesson or another convenient time during the school day, for example when the children return to the classroom after lunch.

From the **Spring Term** onwards **Year 2** will also have a daily times table session.

These sessions are designed to help children to learn facts and so will consist of activities like writing out tables, reciting tables facts, playing games (online and other) and completing low stakes test activities.

In Year 3 and Year 4 there **must** be built in opportunities for the children to use ICT to play timed games in preparation for the Multiplication Tables Check.

Home Learning:

Children from Year 2 onwards have access to TTRockstars and should be encouraged to use this at home to work on the times tables set by the class teacher. Other games and activities will be signposted by the class teacher as and when appropriate.

Parents will be made aware of the times tables that each particular year group or individual should be working on.

A video for parents that explains why tables knowledge is important, how we teach times tables at Spring Bank, what the expectations are within each year group, and how to support their children will be posted on the school website.

Approaches to Teaching:

1. Introduce new times tables by making conceptual links to the real world.

2. Ensure using CPA (concrete, pictorial, abstract) approach when teaching times tables. Be clear which representation you will use and why.

- For example, **Arrays for representing multiplication.** Arrays are the most versatile model for modelling the properties of multiplication (repeated addition, commutative, distributive, associative, inverse of division).

Make use of array sliders!

2 x 24 or 24 X 2

(10 x 2) + (2 x 2)

(2 × 4) × 3 = 2 × (4 × 3)

12 × 2 = (4 x 3) x 2 = 24

- **Bar model for representing multiplication problems**

'Molly has 4 books
Harry has five times as many books as Molly
How many books has Harry?'

5 x 4 = 20 (books)

3. Introduce a new times table by building it around facts that children already know.
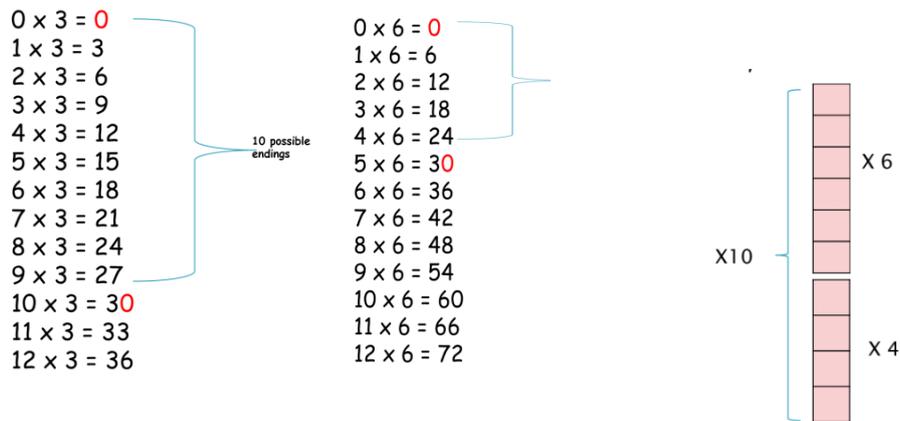   - **For example: We have learned the 2,3,4,5 and 10 times tables. We have already memorised some of the facts from the 8 times table. What are they? Which facts are left to learn? Which facts will help us to work out the facts we already know?**

0 × 8 = 0
1 × 8 = 8
2 × 8 = 16
3 × 8 = 24
4 × 8 = 32
5 × 8 = 40
6 × 8 =
7 × 8 =
8 × 8 =
9 × 8 =
10 × 8 = 80
11 × 8 =
12 × 8 =

4. Take time to explore the patterns of each times table as you introduce it to the class. Provide opportunities which deepen knowledge and understanding and require children to reason, conjecture, predict and explain.
   - Ensure children engage with 'rich' tasks/investigations linked to times tables which encourage deeper learning, greater levels of reasoning, links to be made and patterns to be discovered.

nrich
Specialists in rich mathematics

- Investigating how many different possible last digits there are for different times tables. Spotting patterns and relationships.


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0 x 3 = 0          0 x 6 = 0
1 x 3 = 3          1 x 6 = 6
2 x 3 = 6          2 x 6 = 12
3 x 3 = 9          3 x 6 = 18
4 x 3 = 12         4 x 6 = 24
5 x 3 = 15         5 x 6 = 30
6 x 3 = 18         6 x 6 = 36
7 x 3 = 21         7 x 6 = 42
8 x 3 = 24         8 x 6 = 48
9 x 3 = 27         9 x 6 = 54
10 x 3 = 30        10 x 6 = 60
11 x 3 = 33        11 x 6 = 66
12 x 3 = 36        12 x 6 = 72
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10 possible endings

X10   X 6   X 4

5. Use "Intelligent Practice".

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2 × 3 =        6 × 7 =        9 × 8 =
2 × 30 =       6 × 70 =       9 × 80 =
2 × 300 =      6 × 700 =      9 × 800 =
20 × 3 =       60 × 7 =       90 × 8 =
200 × 3 =      600 × 7 =      900 × 8 =
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6. Consistency of how times tables are represented across the school. Language used is consistent.
   - Teachers should ensure they are clear about use of language '**multiplier**' and '**multiplicand**'. They should be confident to identify each within a multiplication problem and should encourage children to be able to identify each one within problems too.

This policy was written by Tracey Baruah in consultation with colleagues.

This policy was agreed by staff April 2021

This policy was agreed by Governors 2021