Times Tables are at the heart of mental arithmetic, which in itself helps form the basis of a child's understanding and ability when working with number. Once the children have learnt 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. At Estfeld, we believe that through a variety of interactive, visual, engaging and rote learning techniques, most children can achieve the full times tables knowledge required by the end of Year 4.

The National Curriculum 2014 states that:

"The principal focus of mathematics teaching in lower key stage 2 is to ensure that pupils become increasingly fluent with whole numbers and the four operations, including number facts and the concept of place value. This should ensure that pupils develop efficient written and mental methods and perform calculations accurately with increasingly large whole numbers."

And *"By the end of year 4, pupils should have memorised their multiplication tables up to and including the 12 times table and show precision and fluency in their work."*

The importance of times tables and their links across other mathematical concepts is clear and at Estfeld, we also understand the importance of reducing cognitive load to enable all children to access the learning with confidence and efficiency. Research suggests that if times tables are embedded in long term memory, the cognitive load of mathematical questions are reduced, therefore it is important that children develop their efficiency in recalling times tables facts.

Aims

1. To raise the profile of the teaching of times tables and to raise overall knowledge of the times tables and related division facts across the school.

2. To explain the expected practices, to ensure children learn their times tables.

3. To ensure continuity in practices and progression in times tables.

4. To ensure there is successful teaching and learning of times tables and related divisions within our school.

5. To develop our knowledge of language associated with times tables: 'times', 'lots of', 'multiplied by', and 'group of', 'multiplier', 'multiplicand', 'product'.

DfE Year 4 Multiplication Check

In 2022, the Department for Education introduced a statutory Multiplication Check for Year 4 pupils which takes place in June of the Summer Term. The purpose of the check is to determine whether children can fluently recall their Times Tables up to 12 x 12, which is essential for future success in Mathematics. This test will also help our school to identify pupils who may need additional support within Year 5 and 6. The Multiplication Check will be in school time, and will consist of 25 mixed multiplication questions. Pupils will have 6 seconds to answer each question. Parents of pupils in Year 4 will receive a copy of their children's results in their end of year report.

Progression of times tables throughout the school

Below is the expected progression throughout the school but children who are ready may progress into higher year group expectations once they have a secure knowledge of the times tables facts (and related divisions) and can recall them accurately.

Reception

Count in steps of 2, 5 and 10.

Year 1

Recall the 5- and 10-times table.

Count in steps of 2.

Year 2

Consolidate learning from previous years.

Recall the 2-, 5- and 10-times table and associated division facts.

Count in steps of 3.

Year 3

Consolidate learning from previous years.

Recall the 3-, 4- and 8-times table and associated division facts.

Year 4

Consolidate learning from previous years.

Recall the 6, 7-, 9-, 11- and 12-times table and associated division facts

Year 5 & Year 6

Recall all of times tables facts and related divisions through regular consolidation of all, including extension to place value facts (ie 4 x 500 = 2000, 0.4 x 5 = 2)

Facts taught by the end of Year 4

	0	1	2	3	4	5	6	7	8	9	10	11	12
0	0 x 0	0 x 1 0 ÷ 1	0 x 2 0 ÷ 2	0 x 3 0 ÷ 3	0 x 4 0 ÷ 4	0 x 5 0 ÷ 5	0 x 6 0 ÷ 6	0 x 7 0 ÷ 7	0 x 8 0 ÷ 8	0 x 9 0 ÷ 9	0 x 10 0 ÷ 10	0 x 11 0 ÷ 11	0 x 12 0 ÷ 12
1	1 x 0	1 x 1 1 ÷ 1	1 x 2 2 ÷ 2	1 x 3 3 ÷ 3	1 x 4 4 ÷ 4	1 x 5 5 ÷ 5	1 x 6 6 ÷ 6	1 x 7 7 ÷ 7	1 x 8 8 ÷ 8	1 x 9 9 ÷ 9	1 x 10 10 ÷ 10	1 x 11 11 ÷ 11	1 x 12 12 ÷ 12
2	2 x 0	2 x 1 2 ÷ 1	2 x 2 4 ÷ 2	2 x 3 6 ÷ 3	2 x 4 8 ÷ 4	2 x 5 10 ÷ 5	2 x 6 12 ÷ 6	2 x 7 14 ÷ 7	2 x 8 16 ÷ 8	2 x 9 18 ÷ 9	2 x 10 20 ÷ 10	2 x 11 22 ÷ 11	2 x 12 24 ÷ 12
3	3 x 0	3 x 1 3 ÷ 1	3 x 2 6 ÷ 2	3 x 3 9 ÷ 3	3 x 4 12 ÷ 4	3 x 5 15 ÷ 5	3 x 6 18 ÷ 6	3 x 7 21 ÷ 7	3 x 8 24 ÷ 8	3 x 9 27 ÷ 9	3 x 10 30 ÷ 10	3 x 11 33 ÷ 11	3 x 12 36 ÷ 12
4	4 x 0	4 x 1 4 ÷ 1	4 x 2 8 ÷ 2	4 x 3 12 ÷ 3	4 x 4 16 ÷ 4	4 x 5 20 ÷ 5	4 x 6 24 ÷ 6	4 x 7 28 ÷ 7	4 x 8 32 ÷ 8	4 x 9 36 ÷ 9	4 x 10 40 ÷ 10	4 x 11 44 ÷ 11	4 x 12 48 ÷ 12
5	5 x 0	5 x 1 5 ÷ 1	5 x 2 10 ÷ 2	5 x 3 15 ÷ 3	5 x 4 20 ÷ 4	5 x 5 25 ÷ 5	5 x 6 30 ÷ 6	5 x 7 35 ÷ 7	5 x 8 40 ÷ 8	5 x 9 45 ÷ 9	5 x 10 50 ÷ 10	5 x 11 55 ÷ 11	5 x 12 60 ÷ 12
6	6 x 0	6 x 1 6 ÷ 1	6 x 2 12 ÷ 2	6 x 3 18 ÷ 3	6 x 4 24 ÷ 4	6 x 5 30 ÷ 5	6 x 6 36 ÷ 6	6 x 7 42 ÷ 7	6 x 8 48 ÷ 8	6 x 9 54 ÷ 9	6 x 10 60 ÷ 10	6 x 11 66 ÷ 11	6 x 12 72 ÷ 12
7	7 x 0	7 x 1 7 ÷ 1	7 x 2 14 ÷ 2	7 x 3 21 ÷ 3	7 x 4 28 ÷ 4	7 x 5 35 ÷ 5	7 x 6 42 ÷ 6	7 x 7 49 ÷ 7	7 x 8 56 ÷ 8	7 x 9 63 ÷ 9	7 x 10 70 ÷ 10	7 x 11 77 ÷ 11	7 x 12 84 ÷ 12
8	8 x 0	8 x 1 8 ÷ 1	8 x 2 16 ÷ 2	8 x 3 24 ÷ 3	8 x 4 32 ÷ 4	8 x 5 40 ÷ 5	8 x 6 48 ÷ 6	8 x 7 56 ÷ 7	8 x 8 64 ÷ 8	8 x 9 72 ÷ 9	8 x 10 80 ÷ 10	8 x 11 88 ÷ 11	8 x 12 96 ÷ 12
9	9 x 0	9 x 1 9 ÷ 1	9 x 2 18 ÷ 2	9 x 3 27 ÷ 3	9 x 4 36 ÷ 4	9 x 5 45 ÷ 5	9 x 6 54 ÷ 6	9 x 7 63 ÷ 7	9 x 8 72 ÷ 8	9 x 9 81 ÷ 9	9 x 10 90 ÷ 10	9 x 11 99 ÷ 11	9 x 12 108 ÷ 12
10	10 x 0	10 x 1 10 ÷ 1	10 x 12 20 ÷ 2	10 x 3 30 ÷ 3	10 x 4 40 ÷ 4	10 x 5 50 ÷ 5	10 x 6 60 ÷ 6	10 x 7 70 ÷ 7	10 x 8 80 ÷ 8	10 x 9 90 ÷ 9	10 x 10 100 ÷ 10	10 x 11 110 ÷ 11	10 x 12 120 ÷ 12
11	11 x 0	11 x 1 11 ÷ 1	11 x 12 22 ÷ 2	11 x 3 33 ÷ 3	11 x 4 44 ÷ 4	11 x 5 55 ÷ 5	11 x 6 66 ÷ 6	11 x 7 77 ÷ 7	11 x 8 88 ÷ 8	11 x 9 99 ÷ 9	11 x 10 110 ÷ 10	11 x 11 121 ÷ 11	11 x 12 132 ÷ 12
12	12 x 0	12 x 1 12 ÷ 1	12 x 12 24 ÷ 2	12 x 3 36 ÷ 3	12 x 4 48 ÷ 4	12 x 5 60 ÷ 5	12 x 6 72 ÷ 6	12 x 7 84 ÷ 7	12 x 8 96 ÷ 8	12 x 9 108 ÷ 9	12 x 10 120 ÷ 10	12 x 11 132 ÷ 11	12 x 12 144 ÷ 12

Year 2 Facts	
Year 3 Facts	
Year 4 Facts	

Requirements for satisfying the year group expectations are as follows:

• To be able to count in steps, the children are required to count on in quick succession. - If the child has to count on in 1's to reach the next 5, the child is unable to count on in 5's.

• To be able to recall, the child must be able to recall the times tables and related division facts instantly

• If the child needs to count on/count up in 7's to reach 4 x 7, they do not know their 7 times table. They are able to count on in 7's.

Teaching Times-tables

We use a variety of strategies and techniques to help children to understand the concept of times tables, such as:

It is important to highlight what the children already know as known facts. Children may already know facts due to the commutative law of multiplication (3 x 7 = 7 x 3)

Write up the associated division facts alongside the times table facts so that the children can see the clear relationship between multiplication and division.

- Arrays
- Findings patterns
- Making links between multiplication and division explicit by learning fact families: 4 x 5 = 20 and 5 x 4 = 20 so 20 ÷ 4 = 5 and 20 ÷ 5 = 4
- Using nearby facts to calculate trickier facts
- Doubling and halving strategies
- Making links between known times tables (6s are double 3s etc)
- Counting sticks https://www.youtube.com/watch?v=yXdHGBfoqfw
- Highlighting already known facts through commutative law.
- Chanting
- Rhymes
- Songs
- Times table grids
- Times-table practise books
- Games and challenges
- Times-tables Rockstars

Learning programmes

To ensure that children are secure in the recall of the times table and related division facts the children need to practise regularly. In reception, year 1 and year 2, this will take place within the daily maths lessons, where appropriate to the curriculum. #

In years 3, 4 and 5 children will have a weekly programme of times-tables learning which reflects the expectations for their year group. This will include weekly times-tables homework and low-stakes testing. This programme will continue into year 6 for children who have not yet mastered fluent recall of all times-tables.

Teachers in years 3, 4 and 5 will keep a log of the children's weekly progress and interventions will be provided for children not making regular progress. In years 3 and 4, children will be assessed on a termly basis to ensure they are making sufficient progress towards the multiplication check in the summer term of Y4.

Times-table Rock Stars is a home learning tool to which all pupils from Year 2 to 6 have access. Teachers will set learning tasks for pupils and children will be actively encouraged to access this platform from home on a weekly basis.

A gap analysis of children's results can be found on TTRS and can be used by teachers to inform planning so that gaps in knowledge can be addressed and target children identified.

Differentiation

It is expected that children will be at varying stages in their times table journey. In KS1 it is very important that less able children have extra support in developing an understanding of the concept of 'lots of' and 'groups of' before moving on to more abstract or rote learning of any times tables. If children are confident in the times tables and associated division facts allocated for their year group, they can be moved on to the times tables from the years above. If they have not yet achieved the target tables for their year groups, they must work of the tables for the year group below.

Once children are able to recall all their times tables facts, they need to be extended through related number facts and real-life problem solving/problems in context.

Application of times tables in calculation

A child's growing understanding of times tables is only relevant if they are aware of their application in calculations and real life. In order to do this, children should be using recall of times tables and related divisions when needed in calculations.

This awareness can be created in several ways:

- Highlighting when times tables are being used during modelling
- Discussion of how they are being applied during problem solving
- Inclusion of real-life examples of times table application
- Practicing times tables on a daily basis
- Marking – identifying where errors have been made, due to incorrect calculating.