Times Tables Policy

WHY?

Students frequently find multiplication and division tasks to be a stumbling block in their mathematical progress. Children should acquire secure basic multiplication facts within primary to support their progress when solving calculations.

WHO?

All children should know up to 12x12 (and division facts) by the end of Year 4.

WHAT?

Children need to be able to rapidly recall their multiplication alongside their division facts for up to the 12x12 by the end of Year 4 due to testing of their multiplication recall.

HOW?

Each maths every day lesson across school should begin with chanting and counting/ times tables for 5-10 minutes (Research has shown that 10/15 minutes focussing on chanting/number facts/times tables followed by 45 minutes to teach a mathematical concept is the most effective teaching method for children).

The chanting of times tables should begin in the spring/summer term in Y2 and then every day for Y3 onwards. Flashcards are to be used with the times tables on one side and the product on the other (similar to RML pinny time). This should take place at the beginning of the maths lessons and can be repeated at different times during the day e.g. first 5 minutes after break and lunch.

From spring/summer Y2 onwards a times tables speed grid should take place each week – this should be done using Times Tables Rockstars.
This is extremely important as Y5/Y6 cannot access their curriculum without secure times tables understanding.
It is a good idea to focus on a multiplication table per week.

The structure to follow when teaching a multiplication table is –

Chanting of the tables – flashcards – Lots of different facts games including identifying any tables patterns (see the Turning The Tables document) - finding the multiples (children to explain why or why not a multiple) – then a weekly test.

Use different approaches for children to learn their times tables. It could be through rote learning but also various other strategies – daily snappy maths http://www.snappymaths.com/multdiv/multdiv.htm and weekly times tables tests as well as the resources and ideas that are available in the document 'Turning The Tables: A Whole School Approach to Learning and Understanding Times Tables.'

Expectations – (Also see Skills in multiplication document)

Y1 – Must know the multiples of 2, 5 and 10 by the end of the year
Y2 – Fluent in x2, x5 and x10 (and what happens when x10 to a number) Doubling 2 digit numbers + commutativity
Y3 – X2, X3, X4, X8, X11 (more work with fractions in Y3 so there is a higher expectation) Doubling 2 digit numbers
Y4 – X6, x7, x9, x12 Doubling 2/3 digit numbers

<u>In each year group</u>

The children will receive basic skills homework related to multiplication facts that they will be tested on each week. The results of the test should be included on a class record sheet.

The children should be tested on all multiplication facts alongside division facts that they know as well as what they are currently being taught and tested using a speed test on Times Tables Rockstars.

The national curriculum is clear over which basic skills facts the children should learn in each year group, but this does not mean that a child should be held back from learning and being tested on facts from the year(s) above.

Teachers' medium term and short term planning should evidence how basic skills are being taught on a weekly basis, including the <u>strategies (e.g. doubling/halving)</u> that are being taught. Strategies will require a good amount of focus over the course of a week (see the 'How' section of this policy.

WHO?
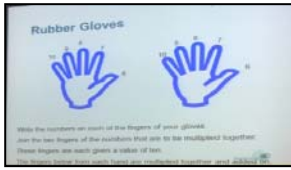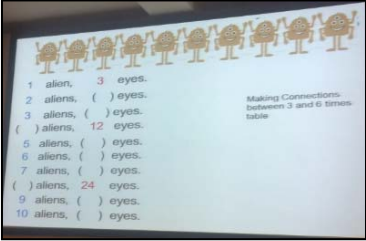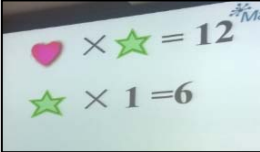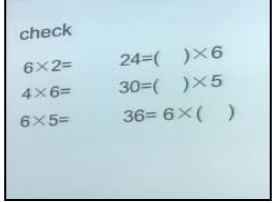
- Teachers
- LSPs

How will we celebrate our children's success?

When the children demonstrate that they are fluent in their multiplication tables up to 12 x12 by accurately completing a speed test using Times Tables Rockstars, their names will be sent to the maths leader and the child will receive a certificate and badge during assembly.

Alongside the ideas below, please also refer to 'Turning The Tables: A Whole School Approach To learning & Understanding Times Tables' for further ideas/ resources as well as the folders that have been provided for each class.

Multiplication ideas in the classroom

Daily snappy Maths	Fizz Buzz game	Mexican wave	Rubber Gloves
Rote learning Times table challenges (girls vs. boys, beat the teacher etc) Counting stick Bean bags	Recall of times table facts. Start where each child counts in 1's, when they land on a multiple of 3 the chn say 'fizz', a multiple of 5, say 'buzz' or a multiple of 3 and 5 'fizz buzz.'	Show Mexican wave tables as an alternative. All count together as a class. Stand up on every multiple of 2. Practice. Now start again, but raise arms on multiple of 3. Practice. Now put together, using actions for 2 and 3. Annotate on a number line to enable them to see the patterns.	Write the numbers on each on the fingers of your gloves. Join the two fingers with the numbers that you want to multiply together. These figures are given a value of ten. The fingers below from each hand are multiplied together and added on.
Create own multiplication grid	**Make connections**	**Missing numbers/basic algebra**	**Check**
Chn have a I-shape and they start at any square by writing in the box touching the I-shape how many squares they can see. Then, they can move the L-shape either right of down and then right in how many squares they can see now…this can continue.	Show chn a picture and go around the classroom to get the times table facts.	Show chn a number sentence and they have to work out what the symbols could be. You could extend it so some symbols could be worth a range of numbers.	Give chn a range of questions for them to answer and use their facts in other ways.
Multiplication Bingo	**Fabacus**	**Number fun monsters**	**Weekly times table quiz**
Given chn a bingo card these can either have the number sentences or answers and the teacher is the bingo caller.	To demonstrate how arrays can be used to support multiplication tables knowledge. E.g. 7 x 4 we can use 5x4=20 + 2x4 =8 = 28 12 x 12 abacus – 8x6 = 5x3 + 2x3 + 3x3 + 3x6 (could be done as BIDMAS for Y6)	Lots of discussion points – what has he got 1 of, 2 of etc. Counting of body parts and grouping. Singing of the song.	Give chn a weekly quiz for 10minutes on facts, chn self-mark so they can see their gaps and that could be a focus.

<u>**Policy to be reviewed**</u>

<u>**September 2020**</u>

Skills in multiplication – Foundation Stage – Year 1

- Recognising the multiples of 10 in the number system and using these as milestones in their counting.
- Counting forwards and backwards in ones, twos, fives and tens
- Recognising and using the repeating patterns between multiples of 10 and beginning to see how these patterns continue beyond 100.
- Deriving some multiples of 2, 5 and 10.
- Counting on and back in tens starting from zero or from a multiple of 10 such as 40
- Linking counting in equal steps to making equal jumps along a bead string, a number track or a number line
- Sharing objects into equal groups to solve problems
- Finding combinations of groups of equal numbers of objects,

Skills in multiplication – Years 2, 3 and 4

- Repeated addition
- Multiplication as equal jumps along a number line
- Knowing by heart 1s, 2's and 10's, then 5's, then other tables (11s, 3's & 4's, 6s & 8s, 7s, 9s & 12s)
- Understanding that multiplication is commutative – 5x2 = 2x5
- Doubling 2-digit numbers
- Using doubling to work out other tables – 8 times table is double the 4 times table etc
- Using related facts – 5x4 = 20 so 6x4 = 24
- Recognising the effect of multiplying a number by 10
- Approximating / estimating then working out calculations by rounding and adjusting – 19x17 = (20x17) - 17

How 'easy' is it to learn times tables

- Year 2 – 1, 2, 5, 10

    1s – Basic understanding - Extremely easy (12 facts)

    10s – Place value – Very Easy (12 facts – 11 new)

    2s – Doubles from Y1 – Easy (12 facts – 10 new)

    5s – Learning / recall – Quite Easy (12 facts – 9 new)

Whilst learning these 48 facts (42 new), we have also learned the commutative facts for the other 8 tables (an extra 32 facts)

Therefore, by the end of Year 2, we already know 80 / 144 facts!

- Year 3 – 11, 3, 4, 8

    11s – Simple pattern - Easy (12 facts – 8 new)

    3s – Small products – Moderate (12 facts – 7 new)

    4s – Repeated pattern – Quite Easy (12 facts – 6 new)

    8s – Repeated pattern – Moderate (12 facts – 5 new)

Whilst learning these 48 facts we are actually learning only 26 new facts, of which 6 are 'easy' 11 times table facts - therefore 20 specific facts to recall.

We have also learned 16 commutative facts for the other tables

Therefore, by the end of Year 3, we already know 128 / 144 facts!

- Year 4 – **6, 7, 9, 12**

- **6 x 6 = 36**   7 x 7 = 49   **9 x 9 = 81**   **12 x 12 = 144**
- 6 x 7 = 42   7 x 9 = 63   9 x 12 = 108
- 6 x 9 = 54   7 x 12 = 84
- 6 x 12 = 72

That's it for Year 4!!!

Skills in multiplication – Years 4, 5 and 6

- **Knowing all facts up to 12x12**
- **Partitioning – 27x6 = (20x6) + (7x6)**
- **Understanding the effect of multiplying numbers by 100 or 1000**
- **Multiplying multiples of 10 & 100 –** 30x50, 700x20
- **Multiplying tenths and hundredths by whole numbers –** 0.3 x 6, 0.07 x 8
- **Using factors –** 51x12 = 51 x 4 x 3 or 12x25 = 12 x 100 ÷ 4
- **Using related facts –** 12x20 = 240 so 12x21=252
- **Approximating – recognising that** 43x18 is close to 40x20 = 800 or 372÷5 is close to 370÷5 = 70