



Teaching of Times Tables Policy

Purpose of the Policy

- To ensure consistency in the teaching of, and application of, times tables
- To support teachers in key assessment years (Years 2, 4 and 6) with ensuring appropriate coverage.
- To embed effective assessment and ensure provision is put in place to address gaps

Rationale

Investment in time to save time in the longer term.

Opportunities for over learning, pre teaching and multi representation work to develop conceptual understanding

Key Role and Responsibilities

- Head Teacher
- Deputy Head Teacher
- Sendco
- Maths Leader
- Phase Leaders

Whole School Expectations

- Every day, every class makes a commitment to ten minutes of Mental Maths
- This will consist of 4 days of multiplication/division related facts. This needs to be taught not just tested.
- The counting stick should be used to support teaching (See example from ATM <https://youtu.be/yXdHGBfoqfw>)
- Additional resources should also be used: number lines, bead strings numicon, money etc... (see Multiplication Progressions Document and Multiplication Templates)
- On one day, this should consist of mental strategies and key facts: measurement conversion, days of the week and days in months etc... The number facts document will support with this knowledge. PLEASE REMEMBER the facts from previous years need to be revised too
- Parents should ensure children spend time practising their Times Table: both through Times Tables Rock Stars and One, Ten, Five Derive (see website)
- This should be indicated on an individual class timetable so SLT can monitor accordingly
- This should be indicated on Maths times tables medium term plan
- Time should be invested in mapping out an overview for the whole term to ensure coverage, pace and progression (see example for Year 1 below).
- Variation should be thought about to ensure all children can engage with related facts: for example with the 2x tables, some children could focus on 20 times or 0.2 times.
- Nothing needs to be recorded or marked
- All children to have a numberlink board



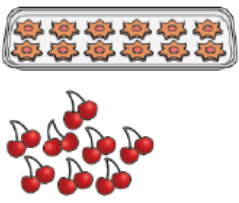

Year 1

- Counting in 2s, 5s and 10s
- Looking for patterns in number
- Starting on any even numbers and seeing the links (even number plus 2 is always even)
- Starting on any odd numbers and seeing the links (odd number plus 2 is always odd)
- Linking repeated addition to counting (2+2+2)
- Varied language: 'lots of' 'groups of'


- Refer back to practical examples of 2s, 5s and 10s (hands, socks etc... then to numicon and money etc...)

This could look like...

Learning Tables Facts by End of Year 4

Year 1	Enrichment	National Curriculum Non-Statutory Guidance
<p>By M1</p> <ul style="list-style-type: none"> Counting in 2s Linking 'adding 2s' eg $2+2+2$ to counting <p>By M2</p> <ul style="list-style-type: none"> Counting in 2s /10s Linking 'adding multiples of 2' to 'lots of 2, groups of 2' language to solve practical problems Linking 'adding multiples of 10' to 'lots of 10, groups of 10' language to solve practical problems, pictorial recording and repeated addition eg $10+10+10$ <p>By M3</p> <ul style="list-style-type: none"> Counting in 2s, 10s and 5s Linking 'adding multiples of 5' to 'lots of 5, groups of 5' language to solve practical problems, pictorial recording and repeated addition eg $5+5+5$ <p>By M4</p> <ul style="list-style-type: none"> Counting in 2s, 10s and 5s Linking 'adding in multiples of' 2/10/5 to solving practical problems <p><i>Assessment needs to accurately focus on which multiples individual pupils 'forget' or 'miss' when counting</i></p>	<ul style="list-style-type: none"> Missing number problems to develop reasoning (if I know this what else do I know?) Counting on from any multiple of two (ten) 	<p>By the end of year 1 pupils should be taught to:</p> <ul style="list-style-type: none"> solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher <p>Notes and guidance (non-statutory)</p> <p>Through grouping and sharing small quantities, pupils begin to understand: multiplication and division; doubling numbers and quantities; and finding simple fractions of objects, numbers and quantities.</p> <p>They make connections between arrays, number patterns, and counting in twos, fives and tens.</p>
<div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;">  <p>6 socks. How many pairs?</p> </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  <p>5 chocolates in a box. How many boxes needed for 15 chocolates?</p> </div> <div style="text-align: center;">  </div> </div>		

By Milestone 1, Year 1 children should have worked on Counting in 2s and Linking 'adding 2s' eg $2+2+2$ to counting





6 socks. How many pairs?

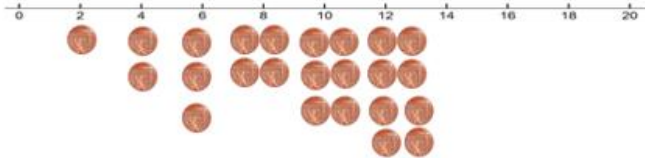
●● 2

●● 2+2=

●● 2+2+2=







Suggestion of Medium Term Plan (Use AFL to judge)

Day 1 Counting Stick to ten in twos from zero (forwards)

Day 2 Counting Stick to ten in twos from zero (backwards)

Day 3 Counting Stick recap and then relate to numicon on a number line going forwards (cumulatively with twos numicon- see end part of Multiplication Template x2)

Day 4 Counting Stick recap and then relate to numicon on a number line going forwards (cumulatively with twos numicon- see end part of Multiplication Template x2)

Day 5 Recognise coins in order: 1p, 2p, 5p, 10p

Day 6 Counting Stick recap forwards and backwards (cumulatively with twos numicon- see end part of Multiplication Template x2)

Day 7 Use bead strings to count in twos forwards, linking to numicon on a number line

Day 8 Recap bead strings and introduce pairs of socks. How many pairs etc???

Day 9 Recap pairs of socks on a washing line and link to a number line

Day 10 Recognise coins in order: 1p, 2p, 5p, 10p

Day 11 Recap pairs of socks on a washing line and link to a number line

Day 12 Use 2 1p coins on a number line to show counting in 2s (real life context). Link to a number line.

Day 13 Recap using 2 1p coins on a number line to show counting in 2s (real life context). Link to a number line.

Day 14 Introduce using 2p coins on a number line to show counting in 2s (real life context). Link to a number line. Have 2 numicon underneath the 2p coin to support

Day 15 Recognise coins in order: 1p, 2p, 5p, 10p

Day 16 Recap using 2p coins on a number line to show counting in 2s (real life context). Link to a number line.

Day 17 Recap using 2p coins on a number line to show counting in 2s (real life context). Link to a number line.

Day 18 Use lego figures to count in twos pairs of legs/arms and link to a number line

Day 19 Recap using lego figures to count in twos pairs of legs/arms and link to a number line

Day 20 Begin to recognise days of the Week

Weeks 5 and 6 introduce multi-representational images for counting in 2s.

Going forwards consider the same structure for 5s and 10s.

In other Year groups, the multiplication templates can support planning and progression in the teaching

Year 2

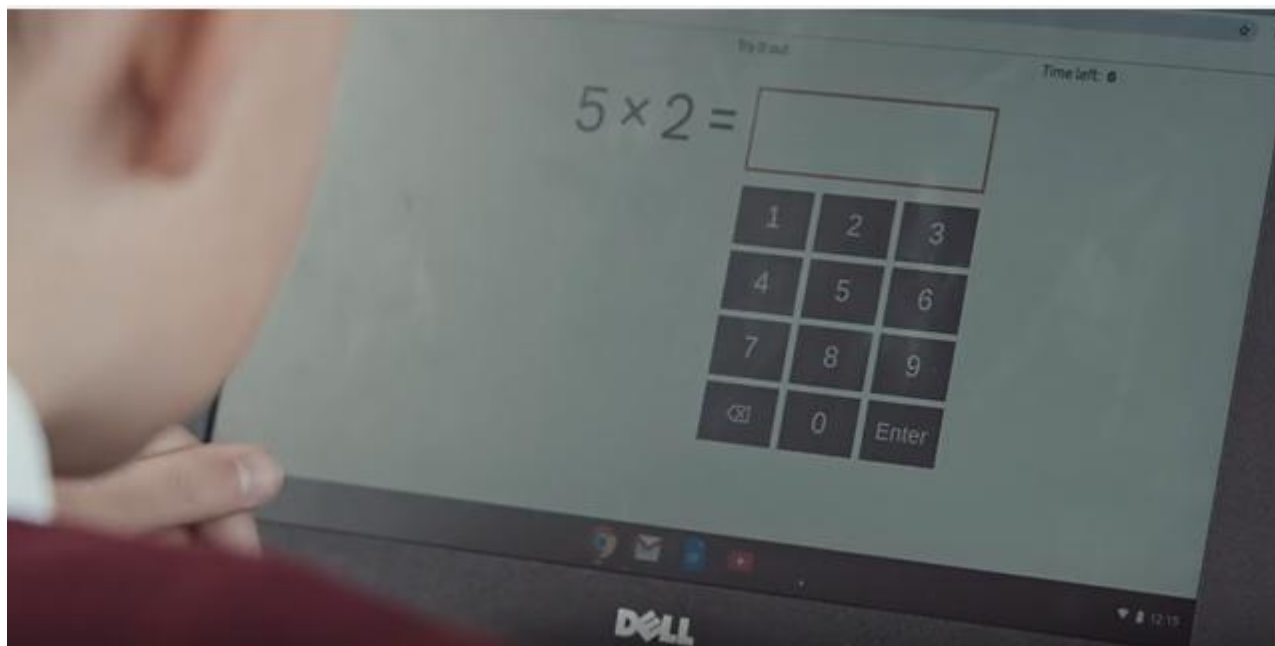
- As well as using the progression in Multiplication document, teachers should expose children to SATS style questions as part of task design (not a test) from Spring 1.
- From the beginning of Year 2, these multiplication tables facts should be taught alongside division facts. For example $2 \times 3 = 6$ $3 \times 2 = 6$ $6 \div 3 = 2$ $6 \div 2 = 3$ (family of four)

Year 3

- Begin to extend to derived facts: for example 2×2 and 2×20 . See the Numberlink Board Training Slides

Year 4

- Begin to extend to include decimals 2×2 and 2×0.2 . See the Numberlink Board Training Slides
- Teachers to build in time for pace and rapid recall. Children have 6 seconds to answer each question. There are 25 questions to be answered.
- Children will need to practice the method of entry (Ipad or Keyboard). This will include thinking about whether there is a num pad or whether the children use the numbers above the letters or on the screen.
- In conjunction with **SENDCO** teachers to decide the best input method for all.



<https://youtu.be/GhAJMJUsAac>

Year 5

- By Year 5 all facts to 12×12 should be secure
- This should then be extended to fractions as well as decimals

$200 \times 8 = 1600$ $800 \times 2 = 1600$

$0.2 \times 8 = 1.6$ $0.8 \times 2 = 1.6$

$16/10 = 1 \frac{6}{10}$ $8/10 \times 2 = 16/10 = 1 \frac{6}{10}$

$20 \times 8 = 160$ $80 \times 2 = 160$

$8 \times 2 = 16$

$2 \times 8 = 16$

$16 \div 2 = 8$ $16 \div 8 = 2$

$160 \div 2 = 80$ $160 \div 8 = 20$

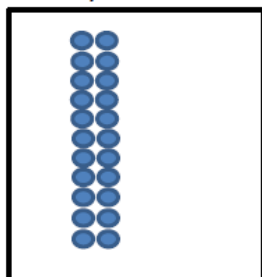
$160 \div 20 = 8$ $160 \div 80 = 2$

Which sets of related facts would be appropriate for Y3, Y4, Y5?
Could pupils adjust the number lines, bar models to match?
Links to fractions?

Year 6

- Everything recapped at pace from Year 1 to Year 6

Array



$$200 \times 8 = 1600$$

$$800 \times 2 = 1600$$

$$0.2 \times 8 = 1.6$$

$$0.8 \times 2 = 1.6$$

$$\frac{2}{10} \times 8 = \frac{16}{10} = 1 \frac{6}{10}$$

$$\frac{8}{10} \times 2 = \frac{16}{10} = 1 \frac{6}{10}$$

$$20 \times 8 = 160$$

$$80 \times 2 = 160$$

$$8 \times 2 = 16$$

Eg $2 \times 8 = 16$

$$16 \div 2 = 8$$

$$16 \div 8 = 2$$

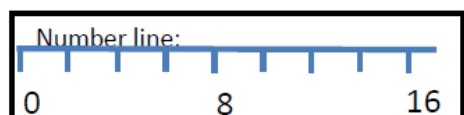
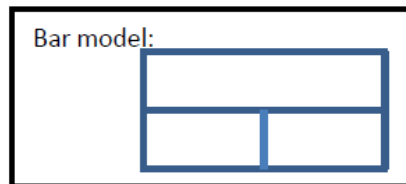
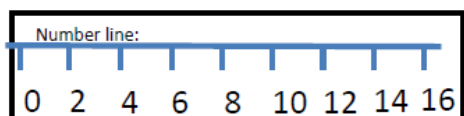
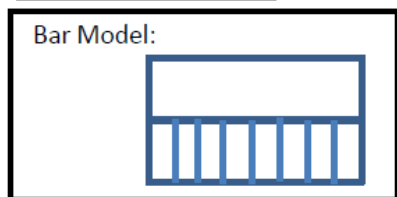
$$160 \div 2 = 80$$

$$160 \div 8 = 20$$

$$160 \div 20 = 8$$

$$160 \div 80 = 2$$

Which sets of related facts would be appropriate for Y3, Y4, Y5?
 Could pupils adjust the number lines, bar models to match?
 Links to fractions?



- Remember to relate percentages, fractions and decimals back to known facts (E.g. your 8x tables)

Assessment

Away from the point of learning (minimum of a different week to the teaching of the skill), children should be assessed on their understanding of taught concepts. This should be out of order, it can be oral or recorded (dependent on Year Group) and can be differentiated i.e. some children can be working on 2x and some 20x- within the appropriate year group.

So for example:

Year 3

Test 1

- $2 \times 2 =$
- $2 \times 6 =$
- $2 \times 8 =$
- $2 \times 9 =$

Test 2

- $2 \times 5 =$
- $10 \div 2 =$
- $9 \times 2 =$
- $6 \times 2 =$
- $12 \div 2 =$

Test 3

-
- $20 \times 5 =$
- $120 \div 2 =$
- $60 \times 2 =$
- $180 \div 2 =$

St Peter's Catholic Primary School, Winchester

The results can then be recorded on the assessment pro forma as a RAG rating. I would suggest all tests are 10 questions (I appreciate this doesn't allow for all possibilities). Green can then be applied as 8+, Amber as 6+ and Red below 6.

		Frank	Daniel	Conor	Layla	Siobhan	River	Joshie	Oliver	Jacob
Year 1	2 x	Green	Green	Green	Green	Green	Green	Green	Green	Green
	5 x	Green	Green	Green	Green	Green	Green	Green	Green	Green
	10 x	Green	Green	Green	Green	Green	Green	Green	Green	Green
Year 2	2 x 2 ÷	Green	Green	Green	Green	Green	Green	Green	Green	Red
	5 x 5 ÷	Green	Green	Green	Green	Green	Green	Green	Green	Red
	10 x 10 ÷	Green	Green	Green	Green	Green	Green	Green	Green	Red
Year 3	2 x 20	Green	Green	Green	Green	Green	Green	Green	Green	Green
	3 x	Green	Green	Green	Green	Green	Green	Green	Green	Green
	3 x 3 ÷	Green	Green	Green	Green	Green	Green	Green	Red	Red
	3 x 30	Green	Green	Green	Green	Green	Green	Green	Red	Green
	4 x	Green	Green	Green	Green	Green	Green	Green	Green	Red
	4 x 4 ÷	Green	Green	Green	Green	Green	Green	Green	Green	Red
	4 x 40	Green	Green	Green	Amber	Amber	Green	Green	Green	Green
	8 x	Green	Green	Green	Green	Green	Green	Green	Green	Green
	8 x 8 ÷	Green	Green	Green	Green	Green	Green	Green	Red	Red
	8 x 80	Green	Green	Green	Amber	Amber	Amber	Red	Red	Red

As we can see above (in this fictional class), we then understand gaps which can then be addressed as children move through the school.

Finally it is important to realise that Green does not mean that times tables should not be frequently revisited and revised to ensure children can continually see the links within mathematics.