Welcome to our Maths Information Evening

The purpose of tonight is to share with you:

- An insight into Maths Mastery
- An opportunity to see and use some of the resources we use with your children
- The progression of multiplication through the school
- Ideas of how to support your children



Maths Mastery Model

- Believes everyone can do maths and everyone can do well
- pupils acquire a deep, long-term, secure and adaptable understanding of mathematical concepts
- Is not breath but depth
- Pupils explore mathematical ideas rather than told
- Pupils are taught through whole-class interactive teaching, where all pupils work together on the same lesson content at the same time,
- Taught through the 5 big ideas of coherence, structure and representation, mathematical thinking, variation and fluency



- **Coherence** Lessons are broken down into small connected steps that gradually unfold the concept, providing access for all children and leading to a generalisation of the concept and the ability to apply the concept to a range of contexts.
- Variation procedural where the teacher chooses examples to highlight the desired learning or relationship

Eg	7 - 3 =		7 + 3 =	
	8 - 4 =	6453 - 199	8 + 2 =	6453 + 199
	9 - 5 =		9 + 1 =	

- Conceptual where the same concept is used but within a different representation

 Mathematical thinking – the ability to reason and explain why something happens using mathematical language.

Eg Which number is the odd one out?

7 9 14

• Fluency - Quick and efficient recall of facts and procedures and the flexibility to move between different contexts and representations of mathematics

• Representation and structure (Concrete, Pictorial, Abstract)

Concrete – the use of manipulatives to expose the mathematical structure being taught.

Pictorial – can be used as a visual representation of a problem to help with understanding or to prove a solution.

Eg - use of a number line bar model place value chart

7 - 2.45 30% of 150 56.3 x 10

Abstract – number calculations

Resources Used

- Activity 1 Tens frames and number lines
- Activity 2 Dienes
- Activity 3 Gattegno chart
- Activity 4 Place Value coins and Place Value charts

Multiplication - Year 3

Learning journey:

Equal / unequal groups

Multiplier / Multiplicand No of groups / Number in each group.

Arrays Skip-counting

Strategies to work out unknown facts.

So, 10 x 5 = 50... Take one group off and you have 9 groups of 5! 666 66666 66666 666 $10 \times 5 = 50$ $9 \times 5 = 50 - 5 = 45$

Learning journey:



 $24 \div ? = 6$

4x? = 24

Bar model representations

3, 4, 8 times table facts Relationship: doubles / halves

Range of 'real life' problems

Relationship with division

Multiplication - Year 4

Learning Journey

- Multiplying by 10 and 100

 e.g 21 x 10, 32 x 100
- Learning the remaining tables up to 12 x 12
- Multiplying 3 numbers e.g. 5 x 7 x 2
- Factors
- Informal methods to multiply e.g. 16 x 3, 28 x 5

Times Tables Rock Stars daily practice in school



Please practise at home too!

Single Player Games



Garage/Gig Auto or teacher-set questions Best for practice and

earning coins

Studio Questions up to 12 × 12 Earn rock speed and status



Soundcheck 25 questions 6 second limit per question

Multi Player Games





Festival

Questions up to 12 × 12 Take on the world

Take on the world

Arena

Auto or teacher-set questions

Compete against your class mates

Rockslam

Questions up to 12 × 12

Head to head against another member of the school

The Multiplication Tables Check in June

- Computer based
- 25 questions/ 6 seconds per question

• Best way to prepare is to use TTRS!

Year 5 – Introducing formal short multiplication method

We begin our unit by exploring area models – similar to arrays. Prior knowledge: They know their tables to 12x12 They can multiply a power of 10. (i.e 20x3, 40x5 etc) What does the sum mean?

13×3

Draw an area model of the calculation:



What is the most efficient way to split this area model?



Our next step ... beginning to look at a formal method...



+

Let's draw an area model together for this calculation:





What does the sum mean?

3

27 × 3

Draw an area model of the calculation:

27

What is the most efficient way to split this area model?





+

3

Let's draw an area model together for this calculation:





Multiplication - Year 6

• Mental strategies – use of factors

Eg 32 x 4 = 32 x 15 = 232 x 30

• Long multiplication 232 x 47



How to Help

- Times table recall rock stars
- Number bonds to 10 and 100
- Number facts
- Related facts
- Maths games