Lostwithiel School Maths Curriculum

The Aims of the Maths Curriculum are that all pupils:

- become fluent in the fundamentals of mathematics, including through varied and frequent practise with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language
- can solve problems by applying their mathematics to a variety of routine and nonroutine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

Part 1 Fluency:

1) Key number facts are learnt to automaticity, and other key mathematical facts are learned deeply and practised regularly, to avoid cognitive overload in working memory and enable pupils to focus on new learning.

2) Procedural fluency and conceptual understanding are developed in tandem because each supports the development of the other.

In EYFS, Mastering Number forms the main part of the daily maths lessons and developed through continuous provision and focused adult-led activities.

In Year 1 and 2, Mastering Number is taught during a fluency lesson, which is in addition to the daily maths lesson.

In KS2, all children have a daily maths fluency lesson which is in addition to the daily maths lesson. Each lesson follows the same structure: whole class counting / oral activity, focused teaching input followed by independent practise.

It is recognised that practice is a vital part of learning, but the practice must be designed to both reinforce pupils' procedural fluency and develop their conceptual understanding.

What this looks like:

1) Daily oral practise of number facts with actions, games followed by written practise within this part of the lesson
2) Use of number facts with variation, developing examples, representations and models that are carefully selected to deepen learning.
3) In Year 6, opportunity to use conditional knowledge to answer questions using number facts and a chosen strategy using fluent in 5 to prepare for statutory testing.

Times Tables

The National Curriculum expectation is that by the end of Year 4, pupils are able to recall times tables facts up to 12x12. The teaching of times tables is carefully planned and progressive across all year groups, building on prior knowledge and securing facts through clear, focused games and activities.

Year 1

Autumn 1 & 2	Count in 2's up to 24, linking with even numbers and supporting doubles. Count in multiples of 10 in order up to 120.
Spring 1 & 2	Focus on counting in multiples of 5 up to 60, linking with knowledge of counting in 10s. Continue to develop fluency of counting in 2's and 10's.
Summer 1	Count in multiples of 10, 2 and 5 in order with growing fluency.
Summer 2	Count in multiples of 10, 2 and 5 in order fluently.

Year 2

Autumn 1	Consolidate counting in steps of 2, 5 and 10 in order from 0 up to 12x.
Autumn 2	Count in steps of 2 and 5 from 0 up to 12x fluently. Recall multiples of 10 up to 12x10 in any order, including missing numbers and related division facts with growing fluency.
Spring 1	Recall multiples of 2 up to 12x2 in any order, including missing numbers and related division facts. Recall multiples of 10 up to 12x10 fluently.
Spring 2	Recall multiples of 5 up to 12x5 in any order, including missing numbers and related division facts. Recall multiples of 2 up to 12x2 in any order, including missing numbers and related division facts with growing fluency.
Summer 1	Count in multiples of 3 to 12x3 in order from 0. Recall multiples of 2 up to 12x2 in any order, including missing numbers and related division facts fluently. Recall multiples of 5 up to 12x5 in any order, including missing numbers and related division facts with growing fluency.
Summer 2	Count in multiples of 3 to 12x3 in order from 0 with growing fluency. Recall multiples of 5 up to 12x5 in any order, including missing numbers and related division facts fluently.

Year 3

Autumn 1	Count in multiples of 3 to 12x3 in order from 0 fluently.
Autumn 2	Recall multiples of 3 up to 12x3 in any order, including missing numbers and related division facts with growing fluency. Count in multiples of 4 to 12x4 in order from 0 with growing fluency. Introduce (relating to x4) and begin to count in multiples of 8 from 0 to 12x8.
Spring 1	Recall multiples of 3 up to 12x3 in any order, including missing numbers and related division facts fluently. Count in multiples of 4 to 12x4 in order from 0 with fluency. Count in multiples of 8 to 12x8 in order from 0 with growing fluency.
Spring 2	Recall multiples of 4 up to 12x4 in any order, including missing numbers and related division facts with growing fluency. Count in multiples of 8 to 12x8 in order from 0 fluently.
Summer 1	Recall multiples of 4 up to 12x4 in any order, including missing numbers and related division facts fluently. Recall multiples of 8 up to 12x8 in any order, including missing numbers and related division facts with growing fluency.
Summer 2	Recall multiples of 8 up to 12x8 in any order, including missing numbers and related division facts fluently.

Year 4

Autumn 1	Recall multiples of 3,4 and 8 up to 12x in any order, including missing numbers and related division facts fluently. Fluently count in 6's in order up to 12x6, using multiples of 3 to support.
Autumn 2	Recall multiples of 6 in any order, including missing numbers and related division facts with growing fluency. Fluently count in 7's in order up to 12x7.
Spring 1	Recall multiples of 6 in any order, including missing numbers and related division facts fluently. Recall multiples of 7 in any order, including missing numbers and related division facts with growing fluency.
Spring 2	Recall multiples of 7 in any order, including missing numbers and related division facts fluently. Fluently count in 9's in order up to 12x9. Fluently count in 11's in order up to 12x11.
Summer 1	Recall multiples of 9 in any order, including missing numbers and related division facts with growing fluency (using 10s and adjusting by 1 group to find 9x as a strategy). Recall multiples of 11 in any order, including missing numbers and related division facts fluently. Fluently count in 12's in order up to 12x12.
Summer 2	Recall multiples of 9 in any order, including missing numbers and related division facts fluently. Recall multiples of 12 in any order, including missing numbers and related division facts with growing fluency (using 10x and adjusting by adding 2 more groups).

Year 5

Autumn Term	Recall multiples of 12 in any order, including missing numbers and related division facts fluently. Recall multiples of all times tables up to 12x12 in any order, including missing numbers and related division facts with growing fluency.

Part 2) Main lesson

Recap or link to prior learning to ensure all can access the new learning and carefully sequenced steps in progression to build secure understanding. This can be done through effective questioning, or verbal recap.

WALTs are taken from the White Rose small steps. Success criteria break down the WALT into clear steps of learning, focusing on the skills the children will need, to help them to achieve the WALT. Use of 'I understand, I know, I can' statements.

Teacher Modelling of key concept- use of conditional knowledge – what strategy to use. Teachers ensure this is chosen carefully according to needs of the class. Adaptive learning used to ensure all can access this. Use of precise mathematical language and sentence stems, enables all pupils to communicate their reasoning and thinking effectively.

- I Do
- We do
- You do

In a typical lesson, the teacher leads back and forth interaction, including questioning, short tasks, explanation, demonstration, and discussion, enabling pupils to think, reason and apply their knowledge to solve problems.

This does not mean working through all the WR Slides and materials if this is not appropriate to your class. Download and use what is needed but only use what is right for your pupils and what is moving learning on. Ensure *all pupils* have an opportunity to use conditional knowledge – so that they can choose appropriate strategies to solve problems and explain why.

Plan carefully for SEND and Disadvantaged so that learning is adaptive to cater for this.

Ensure all pupils can use their book to record their thinking, jottings and answers. One digit, one box.

Part 3) Lesson Review with pupils
Ask pupils what they have learnt today. Listen carefully to disadvantaged and SEND to ensure lesson concepts have been understood by most important pupil groups. If not, why not? What can be adapted for the next lesson?
In the plenary, questions are planned to assess understanding. These may take the form of '..... says .... ' do you agree? True or false, Spot the mistake or a specific style of problem.

Assessment
Assessment in mathematics needs to be considered carefully. In particular, how information is being used to inform the next lessons to avoid curriculum dysfluency.
AFL: Priority mark the SEND and Disadvantaged pupil's books daily. Adapt learning for next lesson.
Daily observation throughout lessons, working with groups of children or individuals and marking work all contribute to the continuous assessment of children in maths. As a result, lessons may be adapted, extended or a new approach may be used, to ensure lessons are pitched appropriately and adapted to the specific needs of each class.
In Years 1-5 PUMA tests are used in the summer term.

In Year 6, past SATs papers are used in autumn and spring to assess the children and to inform future planning and intervention.