OLA Curriculum Implementation: Maths

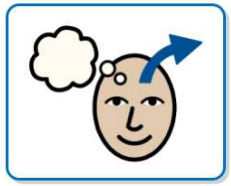
To ensure that our intent transfers into everyday classroom practice, our pedagogy and subject specific CPD is based on the Rosenshine Principles (incorporated within Plymouth CAST Principles Teaching and Learning) and Ebbinghaus' Forgetting Curve theory. This ensures that subject content is expertly delivered. We also deliver individualised coaching to all teachers to continually improve our practice.

Core concepts in Mathematics

Number Sense

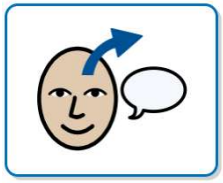
Understanding numbers, their value and how they relate to one another.

Fluency



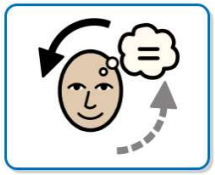
Recalling and applying facts and methods accurately, efficiently and flexibly.

Reasoning



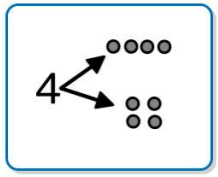
Explaining, justifying and making connections between mathematical ideas.

Problem Solving



Applying mathematical knowledge to unfamiliar situations and real-life contexts.

Representation



Using models, images, symbols and structures to explore and communicate mathematical thinking.

The curriculum is mapped using these core concepts. We plan for progression using the structure outlined in the impact section below. Lesson content is carefully sequenced to build understanding in small connected steps and follows the Power Maths mastery approach of discover, share, think together, practise and reflect. Pupils develop both procedural fluency and conceptual understanding through the use of concrete resources, pictorial representations and abstract methods. Substantive knowledge is acquired through each unit of study to ensure that pupils develop a deep and connected understanding of mathematics. This is supported through the explicit teaching of mathematical vocabulary, the use of stem sentences and representations, and reinforced through regular retrieval practice and daily fluency sessions which develop automaticity in key number facts and calculation strategies.

OLA Curriculum Implementation: Mathematics

Lesson Timetabling

All pupils receive a blend of a daily Mathematics lesson and fluency practice.

Reception

Daily maths lesson using Mastering Number materials and Maths activities and opportunities built into provision.

Year 1

Daily Power Maths lesson and Daily Mastering Number fluency session.

Year 2

Daily Power Maths lesson and Daily Mastering Number fluency session including times table for x2, x5 and x10 in the summer term.

Year 3

Daily Power Maths lesson and Daily Mastering Number fluency session including times tables work.

Years 4, 5 and 6

Daily Power Maths lesson and Daily Mastering Number fluency session.

Individual Lesson Delivery Structure in Mathematics

Flashback Four

- *Retrieval practice*
- *Developing fluency*

Discover

- *Introduction to lesson concept*
- *Mathematical discussion*
- *Paired or group problem solving*

Think Together

- *Development of lesson concept through variation*
- *Mathematical discussion*
- *Independent or paired work*
- *Use of manipulatives to support ideas*

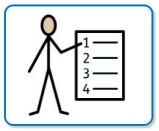
Independent Practice

- *Application of new skills and knowledge*
- *Independent reasoning and problem solving*

Reflect

- *Review of progress*

Adaptation, Extension & Enrichment: Mathematics

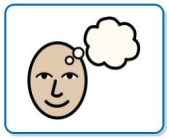


Some of the **adaptations** we make to learning in Mathematics for pupils are as follows:

- Use of manipulatives, diagrams or digital tools to represent thinking
- Small-step explanations with repetition, modelling and worked examples
- Pre-teaching of key mathematical vocabulary and concepts
- Explicit teaching of mathematical language and stem sentences
- Smart grouping informed by regular assessment and observation
- Use of concrete resources and visual representations matched to pupils' developmental stage
- Simplified tasks or number ranges to ensure accessibility
- Additional scaffolding for problem-solving through guided questions, structured prompts and modelled strategies
- Individualised tasks that match pupils' current level of understanding
- Extra thinking and processing time
- Opportunities for pupils to progress at their own pace, with repetition and reinforcement to secure understanding

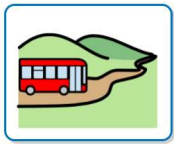
For pupils that struggle to record their ideas, we also provide **support for mathematics** in the following ways:

- Use of stem sentences, sentence starters and structured reasoning frames
- Cloze-procedure reasoning to reduce the writing load
- Adult scribing to record pupils' mathematical explanations



We **extend** learning in Mathematics by:

- Encouraging pupils to use more efficient strategies and justify their choices
- Challenging pupils to spot patterns, make generalisations and explain their reasoning
- Introducing more complex problems that require deeper thinking and multiple steps



The Mathematics curriculum is **enriched** for all pupils through:

- Strong cross-curricular links (e.g., data in science, measure in PE, pattern in art)
- A wide range of representations, manipulatives and real-life contexts
- Access to high-quality mathematical resources that reflect diverse cultures, contexts and applications