



What maths looks like at LPS

At LPS we aim to deliver a maths curriculum that develops confidence, depth of understanding and enthusiasm. We strive to master concepts deeply and have designed a curriculum that revisits key concepts regularly and builds on this key knowledge. Our approach is all underpinned by the concrete-pictorial-abstract model with problem solving and reasoning at every stage. In order to learn our ambitious curriculum in depth, both 'keep up' and 'catch up' interventions are used across all stages which enable **all** children to access quality whole class teaching.

A typical maths lesson at LPS will follow, but is not restricted to, the following sequence:

- **Keeping skills** - daily arithmetic and key skills **consolidation** task evidenced in the back of Maths books. Questions are carefully structured and include a combination of written and mental methods. They encourage the use of different strategies and approaches and **consolidate** prior learning. Each day there will be an addition, subtraction, multiplication and fractions question. These daily questions will recap on age appropriate key skills that the children will need in order to confidently and flexibly tackle other areas of mathematics.
- **Retrieval** – Within each lesson is a question based on key concepts from prior weeks, terms or years. Our retrieval questions are carefully structured and are designed to promote oracy and reasoning within the key areas. These tasks may be completed through discussion, on white boards or in books.
- **Focus Task**- Every lesson begins with a high quality, engaging 'hook' (focus task) that promotes mathematical discussion and incorporates rich vocabulary. This is made relevant and stimulating by using a range of real-life contexts. A typical focus task will require problem solving and reasoning. This may be a well-chosen question or problem used to stimulate discussion and focuses on the learning objective. Manipulatives may and should be used at this point to explore and demonstrate mathematical thinking.
- **I do, we do, you do** Once the key learning has been identified and modelled by the teacher using worked examples, children work collaboratively using rich mathematical discussion and in-depth thinking. This is evidenced through jotting either as a class or in books. Children are encouraged to use vocabulary and sentence stems from the working wall to encourage their discussion and reasoning. A range of chosen manipulatives is available to children to explore and explain their reasoning. Where necessary the teacher should carefully model the use of manipulatives to support the question. During this section, teachers will guide children and make the learning clear. This section ends with children practising independently in a 'low stakes' environment so that children are encouraged to take risks and grapple with tricky concepts. This can be consolidated on white boards or in maths books.

- **Practise-** A series of well selected questions are used to encourage children to use a range of their skills; fluency, reasoning and problem solving to demonstrate their understanding (although not all are expected to be evident within one lesson, all should be seen over a series of lessons). Children aim to work independently to show the progress made in their books. This work should be well-presented and both scaffold and challenge should be seen here.

Any major misconceptions identified here, should be addressed by swift intervention or during whole class feedback.

- **Feedback** is given verbally throughout the lesson by immediate intervention by the teacher to address misconceptions that are taking place and is signposted by a 'vf'. Whole class feedback is given before the next session and is based on teacher assessment. Evidence of this is seen via pupil's purple pen work.

Intervention

- Outside of the maths sessions, quality interventions will take place throughout the year to support children who require more consolidation or extra input in order to 'keep up'. These will be personalised and targeted, short term 'bursts' of input using 'Number Stacks' or 'The Ready to Progress' materials. Where possible, these sessions will be delivered by the teacher and will involve a range of manipulatives in keeping with our wave 1 approach.
- Teachers will also use 'pre-teach sessions' to work on required key skills, methods or previous objectives before a unit starts. This will enable them to tackle the wave 1 sessions with more confidence and make greater progress. In all instances, interventions will have clear objectives and entry and exit points in order for progress to be clearly monitored. All interventions will be regularly reported to the Senior Leadership Team and used to inform further teaching and assessment

Inclusive Teaching

- **Adaptive teaching** – Inclusion is at the heart of LPS so all teaching is designed to make learning accessible for everyone. This is achieved by the use of low floor, high ceiling tasks, support from well-trained adults, effective use of intervention and high quality first teaching that uses questioning to include all.
- **Challenge-** As we use a mastery approach, children of all abilities should be stimulated throughout the lesson. Once children have completed a task, they are encouraged to show their learning in a different way. This may be by using manipulatives, drawing or maths stories that show their deep understanding of a topic. Each working wall has a challenge grid that indicates how children can extend their thinking on that particular day.

Key Skills

In addition to our main maths curriculum, each stage has an additional structured focus to consolidate an age-appropriate key skill. An additional 1 hour is allocated to maths (either in smaller sessions or 1 longer one) where children practise a key area vital to that stage's progression. This is completed outside of the usual maths session.

Resourced Provision

Our Resourced Provision follows a similar structure but children may be taught in much smaller groups focussing on their stage objectives. Adults are used to allow children to learn and consolidate learning at their pace taking into consideration their needs as any specific EHCP requirements.

Outcomes for learners

- A depth of understanding of concepts and an ability to explain and prove through confident use of manipulatives and a range of methods.
- An ability to approach problems in different ways and confidently choose their most efficient strategies.
- To have a bank of key maths facts/skills ready for quick recall to reduce cognitive load that enables fast and effective problem solving and reasoning.
- The ability to explore and experiment through discussion using rich mathematical vocabulary.
- Ability to grapple with tricky concepts and multi-step problems.
- For struggling learners to have their gaps met swiftly and effectively.