

# Mathematics Overview

Here at Uplands, our children learn maths through a **Teaching for Mastery approach**. This is a highly effective approach to teaching maths in which children are able to explore maths in small steps, using different representations and developing their reasoning and problem solving skills at each small step. To support planning and teaching with this approach, we have adopted the **Power Maths Teaching for Mastery Scheme**.

## What is Power Maths?

*Power Maths* is based on research and extensive experience of teaching and learning around the world and here in the UK. It has been designed to support and challenge all pupils, and is built on the belief that **EVERYONE** can learn maths successfully.

## How does this support our approach to teaching?

The philosophy behind *Power Maths* is that being successful in maths is not just about rote-learning procedures and methods, but is instead about problem solving, thinking and discussing. Many people feel they were taught maths in a way that was about memorising formulas and calculation methods, then having to apply them without any real understanding of what or how these methods actually work. *Power Maths* includes practice questions to help children develop fluent recall and develop their conceptual understanding. *Power Maths* uses growth mind-set characters to prompt, encourage and question children. They spark curiosity, engage reasoning, secure understanding and deepen learning for all.

## How do our lessons work?

There are five different elements, informed by research into best practice in maths teaching, that bring the lessons to life:

- **Discover** – lessons begins with a problem to solve, often a real-life example, sometimes a puzzle or a game. These are engaging and fun, and designed to get all children thinking.
- **Share** – the class shares their ideas and compares different ways to solve the problem, explaining their reasoning with hands-on resources and drawings to make their ideas clear. Children are able to develop their understanding of the concept with input from the teacher.
- **Think together** – the next part of the lesson is a journey through the concept, digging deeper and deeper so that each child builds on secure foundations while being challenged to apply their understanding in different ways and with increasing independence.
- **Practice** – now children practice individually or in small groups, rehearsing and developing their skills to build fluency, understanding of the concept and confidence.
- **Reflect** – finally, children are prompted to reflect on and record their learning from each session and show how they have grasped the concept explored in the lesson.

## What if my child needs a confidence boost, or wants to be challenged further?

*Power Maths* is based on a 'small-steps', mastery approach. This means that the concepts are broken down so that your child can master one idea without feeling over-whelmed. There are a range of fluency, reasoning and problem solving questions in each lesson that are designed to support the different needs and confidence levels within a class, while at the same time fostering a spirit of working and learning together. Each lesson includes a challenge question for those children who can delve deeper into a concept.