



## Philosophy

‘Children need to be exposed to an approach to mathematics that engages learners through the systematic use of concrete objects, actions and language to make the abstract, symbolic language of mathematics both accessible and enjoyable to all learners.’

Richard Dunne

## Principles

Priestley Primary School uses *Maths Makes Sense (MMS)* - a learning programme that develops true mathematical understanding right from the start. We adapt it to create a unique Maths programme that suits the needs of all our pupils. *Maths Makes Sense* recognises the importance of maths in our daily lives and helps our children to:

- learn the skills of numeracy, geometry and measure that can be used in everyday life and developed later for the specific demands of a particular career
- develop problem-solving and reasoning skills that are so vital in day-to-day life
- develop thinking skills – an invaluable skill in every subject area.

*Maths Makes Sense* gives our school:

1. **A consistent whole-school approach.** A structured and coherent mathematics curriculum for the whole school, helping us to deliver a high-quality mathematics education to every child.
2. **High expectations for all.** Underpinned by the ambition for all children to excel and develop a sense of excitement about mathematics.
3. **Fluency with number.** Strong emphasis is placed on developing quick and accurate number skills.
4. **Deep understanding.** Using a powerful learning system of concrete objects, actions and vocabulary, a solid understanding of maths is developed from the earliest stages, leading to strong **reasoning** and **problem-solving** skills.

### **The Maths Makes Sense learning system**

*Maths Makes Sense* uses a learning system of concrete objects, exaggerated actions and special vocabulary to help every child succeed in our school and become a confident mathematician. The combination of objects, actions and vocabulary makes maths accessible to children from the youngest age. The learning system builds deep understanding and embeds a picture of the maths in children’s minds so they progress to thinking without the aid of physical objects; they refer to their mental images instead.

## Procedures

### **The Maths Makes Sense teaching cycle**

We teach *Maths Makes Sense* with a teaching cycle of instruction and assessment to help every child succeed and to ensure no child gets left behind. The cycle consists of **Direct Instruction**, **Guided Practice** and **Partner Teaching**, with **Partner Work** embedded throughout.

During **Direct Instruction**, our teachers use big teaching to teach a new concept or idea to the class. During **Guided Practice**, the children practise what they have been taught under careful guidance from their teacher. **Partner Teaching** is a proven technique that works on the premise that the best way to understand if you really understand something is to try and explain it to somebody else. Children teach each other what they have learned and, in this way, they consolidate and deepen their own understanding.

**Assessment** is at the heart of this cycle; our teachers carefully monitor and assist children where necessary.

### ***Maths Makes Sense* structure and coverage**

*Maths Makes Sense* covers all areas of mathematics. Each year group is organised into six blocks of work, with each block lasting roughly one term. *Maths Makes Sense* 1-6 is organised into strands (Arithmetic 1, Geometry, Data and Measure, Arithmetic 2, Reasoning), with each strand taught on a different day of the week. *Maths Makes Sense* Foundation focusses on a different strand or a combination of strands each week, including counting, number, writing, calculation, shape, position, sorting and data. *Maths Makes Sense* closely correlates to the objectives in the Program of Study for Mathematics for the National Curriculum (2014).

### **Performance**

Formative assessment is on-going in each lesson and next steps are identified on short term planning. Formative assessments are used to inform future planning to take account of achievements and misconceptions. Teachers adapt the MMS planning in order to meet the needs of all pupils and use further resources/publication material to support, extend and to ensure application of MMS teaching and learning is successfully achieved. The assessment key used to monitor attainment is:

**H** = High level of support  
**M** = Moderate level of support  
**I** = Independent

There are 3 summative assessment opportunities during each academic year – Autumn, Spring and Summer. We use 'HeadStart Primary Maths Tests' to assess the children's understanding. End of Key Stage Assessments are administered annually for Y2 and Y6 in the Summer Term.

The Foundation Stage progress for those pupils in Ducklings Class is measured in line with current practice using the statutory framework for the Early Years Foundation Stage.

**To be Reviewed Summer 2020**