



# Schools for Every Child

Shared Moral rooting- The driving force that gives ethical and moral validity to the organisation. A higher purpose that can be relied upon to drive the organisation. A rooting is long lasting and outlives the wishes of one individual or another.

- [UNICEF rights of child](#)

Shared Values- Actions and things we do day to day; we live our values to get to our vision:

- Altruistic- Doing good things whenever, however and to whoever you can
- Pioneering- striving to discover new things and exceed expectations
- Ethical- Making conscious decisions to be kind and fair

Shared Vision- an aspiration for the future. This holds the different parts of the organisation together. The shared vision is something each part works towards, in its own way. Specific enough that it stands you apart from others in the same field.



- Nurturing Brilliance, Guiding Exploration, Cultivating Respect- a committed journey to put every learner's individuality, curiosity, and dignity at the forefront of the world that awaits.

## Maths Policy

Rayleigh Primary School is a Rights Respecting School. Our policies are underpinned by the UNCRC.

*UNICEF Article 28(right to an education)*

- *Every child has a right to an education. Children's human dignity. Wealthy countries must help poorer countries achieve this. Article 29(goals of education)Education must develop every child's personality, talents and abilities to the full. It must encourage the child's respect for human rights, as well as respect for their parents, their own and other cultures, and the environment.*

Date Policy Created:	Autumn 21
Reviewed:	Spring 24

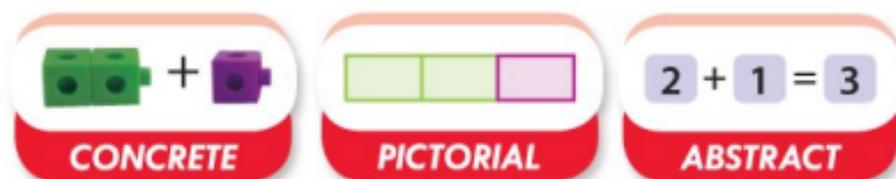
### Curriculum intent: Introduction, Vision and Philosophy

Our curriculum rationale is to ensure every child attending Rayleigh Primary shares an education that is *rich, varied, challenging and inspiring*, enabling them, by becoming **independent learners**, to **fulfill their potential to the highest possible standard**. Our Intent, in regards to our Maths curriculum, is not different. However, in the contexts of delivering a mastery curriculum, our aims in the teaching of mathematics are:

- To promote **enjoyment** of learning through practical activity, exploration and discussion.
- To develop **confidence and competence** with numbers and the number system.
- To develop the ability to **solve problems** through decision making and reasoning in a range of contexts.
- To develop a **practical understanding** in the ways of which information is gathered and presented.
- To help children understand the importance of mathematics in **everyday life**.
- To become **fluent** in the fundamentals of mathematics, including through **varied and frequent practice** with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.

We aim to equip pupils with a mathematical set of tools to use to understand and change the world. These tools include logical reasoning, problem-solving skills, and the ability to think in abstract ways. We aim to provide a rich and varied context for pupils to acquire, develop and apply a broad range of knowledge, understanding and skills, and our curriculum should enable pupils to think creatively and critically and to solve problems. We believe mathematics is important in everyday life, in employment, science and technology, medicine, the economy and in public decision making. Our aim is to provide mathematics which transcends cultural boundaries and links to all other areas of the curriculum – in particular creativity.

At RPS, we believe that all children are able to succeed mathematically, and that one of our primary tasks as maths teachers is to find ways of presenting, scaffolding, and teaching concepts in such a way that everyone will achieve. This supports pupils to develop a deeper conceptual understanding of the underlying mathematical structure; enabling children to master the concepts taught and developing a deep understanding of mathematics. Staff receive regular CPD on the teaching and planning of maths within school, as well as the opportunity for additional training delivered by external sources.



### Curriculum Implementation: What does Mathematics look like at RPS?

Mathematics is taught to all children, whatever their ability or individual need, as every child has an equal right to an education that involves Mathematics. We aim for children to master the key areas and domains in Mathematics, narrowing the gap between the least and most able learners. The expectation is that the majority of pupils will move through the programme of study at broadly the same pace. However, decisions about when to progress will always be based on the security of pupils' understanding and readiness. We understand the programmes of study need to be personalised in order to have the desired impact! Pupils who grasp new concepts rapidly will be challenged to deepen their understanding by being offered rich and sophisticated problems, not merely accelerating through new content.

**Curriculum Time:** To provide adequate time for developing Mathematical skills, each class teacher will provide at least five daily mathematics lessons per week. This will usually last for about 60 minutes, though it may be more appropriate at times for time to be shorter in Foundation Stage.

**Foundation Stage:** Children count reliably with numbers from 1 to 20, use the operations addition and subtraction and solve problems, including doubling, halving and sharing. Children use everyday language to talk about size, weight, capacity, position, distance, time and money to compare quantities and objects and to solve problems.

**Key Stage 1:** The principle focus of mathematics teaching in Key Stage 1 is to ensure that children develop confidence and mental fluency with whole numbers, counting and place value. This involves working with numerals, words and the four operations. **Lower Key Stage 2 (Years 3-4)** The principle focus of mathematics teaching in lower Key Stage 2 is to ensure that children become increasingly fluent with whole numbers and the four operations, including number facts and the concept of place value. This should ensure that children develop efficient written and mental methods and perform calculations accurately with increasingly large whole numbers. At this stage, children develop their ability to solve a range of problems, including with simple fractions and decimal place value.

Teaching should also ensure that pupils draw with increasing accuracy and develop mathematical reasoning so they can analyse shapes and their properties, and confidently describe the relationships between them. It should ensure that they can use measuring instruments with accuracy and make connections between measure and number.

By the end of year 4, pupils should have memorised their multiplication tables up to and including the 12 multiplication table and show precision and fluency in their work. Pupils should read and spell mathematical vocabulary correctly and confidently, using their growing word reading knowledge and their knowledge of spelling. Upper

**Key Stage 2 (Years 5-6):** The principle focus of mathematics teaching in upper Key Stage 2 is to ensure that children extend their understanding of the

number system and place value to include larger integers. This should develop the connections that children make between multiplication and division with fractions, decimals, percentages and ratio.

At this stage, children develop their ability to solve a wider range of problems, including increasingly complex properties of numbers and arithmetic, and problems demanding efficient written and mental methods of calculation. With this foundation in arithmetic, children are introduced to the language of algebra as a means for solving a variety of problems. Teaching in geometry and measures should consolidate and extend knowledge developed in number. Teaching should also ensure that pupils classify shapes with increasingly complex geometric properties and that they learn the vocabulary they need to describe them. By the end of Year 6, the aim is for the children to be fluent in written methods for all four operations, including long multiplication and division, and in working with fractions, decimals and percentages. Pupils should read, spell and pronounce mathematical vocabulary correctly.

### Scheme of work

At RPS, when planning a unit, teachers use a range of resources and areas to support and structure their overviews. Generally, teachers will follow the recommended progression from the White Rose Maths Hub. This gives a good idea of what a unit of work might include, and a sensible order in which to teach it. The White Rose Maths Hub states the national curriculum objectives that need to be covered and provides teachers with a small-step progression guide. Furthermore, the hub offers guidance for lessons detailing the mathematical talk that should be happening in every classroom, varied fluency as well as reasoning and problem-solving examples. From this exemplification, teachers go off and create the resources to aid outstanding teaching. However, the decision of when to move onto the next unit is always made by the teacher, based on childrens' readiness.



### Typical Daily Lesson structure

**Recap** (5 minutes) - to develop fluency and review previous learning (5 minutes). Review of previous learning, activating prior knowledge or addressing misconceptions from previous learning. This will be in the style of Flashback 4, but personalised by the teacher based on the needs of the

pupils.

**Introduction of Can I** (5 minutes) – What are we learning about, how does this link/build on yesterday's learning and why is it interesting or important? Wherever possible, there is an engaging hook to the lesson (linked to real life examples or other areas of the curriculum).

**Teach and Talk input (MT/YT):** (15-20 minutes) – Here the teacher gives a whole-class input, with lots of opportunities for children to talk to their partner about their learning, apply their learning to mini-tasks, and **clarify misconceptions** (The teacher isn't talking for 20 minutes). Because teachers adapt the WR scheme to provide **personalised learning** for their pupils, WR powerpoints are not used. Wherever relevant, **Stem Sentences** are used to include accurate mathematical vocabulary in a highly structured sentence that provides pupils with a way to communicate their ideas with mathematical precision as well as clarity in understanding key teaching points.

During the teacher's input, mathematics is **modelled** (using a range of **concrete, pictorial and abstract representations**) explicitly to help children visualise and understand the mathematics being taught. Where appropriate **scaffolds** are available for pupils who may require it in order to be successful, and their uses are modelled, so children understand how they could use the resources to help them in their learning, if they choose to use it.

Where a process is being explicitly taught, **Steps To Success** are created with the pupils to reinforce this process, and act as a blueprint for them to be successful in their mathematics. The aim here is for pupils to internalise these Steps To Success so they can draw upon these in the future.

Pupils who grasp key concepts quickly may be encouraged to move on to independent tasks before the rest of their peers. This will ensure that their learning is challenging and no learning time is wasted.

**Understanding check** (5 minutes) Before the independent task, the teacher provides the children with an understanding check, which provides the teacher with valuable AFL opportunities to ascertain who may require additional support, a different level of challenge or the general understanding of the class. This can be shown as a tick or a cross or a thumbs up or down as well as spot the error or hinge questioning. Depending on the context of the lesson, this may be done at various points during the lesson to clarify misconceptions, via a whole class or small group mini plenary. **Independent Task** (20-25 minutes) – Here the children complete a series of tasks/questions which are personalised to ensure all are, regardless of their level, **challenged** and exposed to key learning. Questions progress from fluency to problem solving and reasoning, though children may be required to consolidate further before 'going deeper' if they have not demonstrated they are fluent. Scaffolded resources are available for those who require them to be successful in their learning, and any children identified as having SEN, or working well below age related expectations, may have work personalised further, and different from their peers, in order to access the curriculum dependent upon their needs. Children working above age-related expectations, or those who demonstrate they are ready to be challenged further, will be exposed to deeper learning.

**Reflection time (5 minutes)** - typically, maths lessons will end with pupils assessing their competence and understanding of what has been learnt. Children in KS1 will typically use simpler age-appropriate methods, such as traffic light symbols, to **reflect** on their learning and indicate their confidence or competence. In KS2, pupils will be exposed and encouraged to reflect deeply in a variety of ways: comparing their depth of knowledge at the end of the lesson compared to the beginning, recapping key vocabulary and learning points, identifying how they can improve further and exploring how their new skills might benefit them in the future. When appropriate, the end of a lesson may be used to solve a problem together.

**After the lesson** - Before the next maths lesson, all pupils' work will be marked in accordance with the marking and feedback policy to ensure subsequent lessons are adapted to ensure misconceptions are addressed and learning is pitched appropriately. Pupils who have been assessed as 'working towards' the Can I will not progress onto the next lesson until the teacher is confident they are ready to do so.

#### **Impact: Evidence and Assessment**

In lessons we use formative assessment to help decide on what we should do next with pupils and the progress they are making. This allows us to understand how to support and extend our pupils appropriately. Typically, children's work is recorded in their maths books, though practical or outdoor learning may be recorded differently and stored elsewhere.

Teachers recognise the difference between performance and learning and understand that pupil performance in the lesson today does not necessarily translate into the type of learning that will be evident tomorrow. As a result, the use of end of unit assessments enable staff to regularly assess what learning has been retained by pupils over longer periods of time. This allows teachers to identify pupils who are not competent in key mathematical concepts, and how best to support them.

At two assessment points, pupils also sit a standardised test so that gaps can be analysed. These assessments address the three key elements of the curriculum; fluency, reasoning and problem solving.