

# Mathematics Policy 2018

## **Aims and Objectives**

The New Wave Federation uses the national curriculum, Mathematics Mastery and Primary Advantage programs in order to develop our a range of mathematical skills for our children.

- They will be positive and enthusiastic towards mathematics, with an awareness of the diversity of the subject.
- They will be competent and confident in taking risks to apply mathematical knowledge, concepts and skills.
- They will be able to solve problems, reason mathematically and think logically and systematically.
- They will be able to work independently and in cooperation with others.
- They will be able to use and apply mathematics across the curriculum, and to understand the application of mathematics in real life contexts and scenarios.

## **Organisation**

In the Foundation Stage, mathematics is taught discretely and explicitly according to the requirements of the EYFS curriculum. In Reception they use the Maths Mastery program. Years 1-6 implement the Mathematics Mastery program. This program prioritises depth of understanding rather than breadth of coverage.

Across the Federation, children's learning is differentiated by beginning their learning with concrete apparatus, progressing through to pictorial representations and finally applying their skills to abstract mathematics. This CPA approach is replicated across all year groups, and all mathematical units. Maths meetings occur every afternoon across the Federation. These meetings help the children to see mathematics in context, and to develop their mental agility in applying their number facts across a range of real life contexts.

## **Resources**

Staff have access to a wide range of concrete resources with which to develop children's understanding. Across the Federation, our children are taught to use mathematical resources productively and confidently, and to assess which resources are appropriate to support their learning; this includes digital learning equipment.

Technology is a diverse and supportive resource used in Mathematics for a variety of tasks including:

- Supporting children with data handling and statistical analysis with 'Sheets' and 'Numbers'.
- Developing mathematical reasoning using the 'Explain Everything'.
- Using 'Sphero' robots and drones to support the teaching of geometry.

## **Teaching and Learning**

Across the Federation, children are taught in an environment centred around the balanced mix of independent work, partner tasks and whole class tuition. Teachers work to support and guide their children through the following stages development:

- Talking mathematically; using appropriate vocabulary and examples.
- Developing the use of concrete, pictorial and abstract means of recording.
- Using and applying flexible mental strategies to solve calculations.
- Using bar models to support the teaching and learning of mental strategies.
- Explain and justify their use of strategies or resources to solve problems and calculations.
- Using an expanded method which leads into a standard written method for each of the four main operations.
- Understanding when to apply either written or mental methods when completing calculations.
- To develop skills of reasoning and problem solving, embedding these skills through regular opportunities.

## **Assessment**

The teaching and assessing of mathematics within our Federation follows the Assessment for Learning cycle of; plan, teach, review, assess. Children's work is marked regularly, as part of our Effective Marking policy, as an in-depth form of summative assessment. Children in EYFS are assessed regularly using the Early Learning Goals. This information is recorded in the children's EYFS Profile half-termly and in their Interactive Learning Diaries.

Formal tests are administered to children from Year 1 to 6, to assist teachers with their assessment of individual achievement and progress in mathematics. The following test formats are used within this process:

- Maths Mastery- Half term assessments: these formative assessments are conducted to support teacher judgments of children's understanding.
- PUMA Progress Tests: The results are analysed and used to isolate gaps in children's knowledge. They are also used to monitor progress in maths.
- SATs Preparation Assessments: Years 2 and 6 undertake a range of preparation assessments over the course of the year. These tests are used to track progress and attainment, encourage children's confidence, and support the identification of gaps in knowledge and understanding.

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## **Roles and Responsibilities**

The Mathematics leaders within each school have a clear overview of the maths teaching taking place within their own schools and across the federation. They are responsible for structuring the mathematics curriculum and ensuring its planning, delivery, content and assessment is of the highest quality. They oversee the distribution and use of resources, liaisons with external agencies and the monitoring of teaching and learning in mathematics across the school. Class teachers are responsible for planning and delivering maths each day in consultation with the maths leaders.

## **Equal Opportunities and Special Educational Needs**

All children have equal access to the Mathematics curriculum, regardless of race or gender. Children access the curriculum at the level appropriate to them, ensuring rapid measurable progress. Resources and learning environments are planned and designed to enable all children access to the learning required. Differentiated activities are provided to support less able children and to extend more able pupils. Where applicable, children's METs incorporate suitable objectives from the Mathematics Mastery and Primary Advantage programs. Teachers within the federation also provide appropriate challenges and activities to allow all children to work towards greater depth in mathematics.

Children with learning difficulties are assessed and diagnosed quickly in order for them to be supported appropriately. Parents are kept informed, through meetings with the class teacher and the SENCo when appropriate.

## **Planning and Time Allocation**

Medium term planning, instructions and resources for the Maths Mastery program are available for all teachers through an online portal. All class teachers are responsible for weekly planning, based on the agreed medium term plans and yearly overviews produced by the Mathematics Subject Leaders. Class teachers are supported to adapt materials for their own classroom based on the planning provided.

*Teachers will:*

- Identify the appropriate teaching and learning strategies required.
- Plan lessons with a balanced and engaging range of activities.
- Plan for the specific needs of children within their own class.
- Design weekly units using both the program guidance and their own expertise.
- Assess children routinely using formative and summative approaches.

## **Curriculum**

Across the Federation, we use the Mathematics Mastery program, in conjunction with the National Curriculum. We believe all children can succeed mathematically, and as such all children in our schools should follow the same curriculum and expectations. We ensure, through our informed planning and preparation process, that *all* children across our Federation are given opportunities to:

- Experience practical mathematical activities and games to support their learning
- Develop their reasoning, questioning and problem solving skills in a variety of contexts
- Take part in class, group, partner and independent learning and activities
- Learn, use and apply a range of methods to calculate solutions
- Use technology to support their development in mathematics

## **Parental and Community Engagement**

We involve our parents and communities in our children's learning. Through regular mathematics workshops to support their knowledge of the school mathematical approach we enable parents to use a range of activities to create fun learning opportunities at home. Parents are able to access materials to take home, as well as clear and precise tuition on the mathematical methods used within the Federation. The results of formalized assessments are recorded, tracked and reported to parents at carers and parents' evenings, as well as through an annual written report.

- From each GL assessment undertaken by the children, a progress score is generated showing the child's progress and attainment relative to their own year group.
- Each parents' evening, reports from the whole cohort assessments are made available to parents in order to display progress and any specific gaps in their child's learning.
- Year 6 mock SATs results are shared with parents, and updated each half term.

**Agreed:**

**Review date:**