# PARKLANDS INFANT AND NURSERY SCHOOL

## MATHEMATICS SUBJECT POLICY

Approved by the Governing Body of Parklands Infant and Nursery School

Date: October 2024

Signed: _____

Mrs L Coates, Chair of Governors

**Parklands Infant and Nursery School**
**Mathematics Subject Policy– November 2023**

## Section 1: Introduction to the Policy

### Purpose
The purpose of this policy is to describe our practice in Mathematics and the principles upon which this is based.

### Aims
This policy sets out to ensure consistency in the teaching and learning within Mathematics across the school. This is to ensure that pupils are equipped with the mathematical skills which are essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment. The policy also sets out to ensure that pupils are fluent in the fundamentals of mathematics, able to reason mathematically and can solve problems.

This policy supports our school mission statement of: "To establish a life-long love of learning within a caring environment, in which we encourage all children to fulfil their potential through enjoyable and enriching experiences".

It also supports our whole school ethos of developing the Parklands Person.


### Consultation
The policy was put together by the Main consultation with teaching staff, pupils, parents/carers and school governors.

**The Intent, implementation and Impact of our Mathematics Curriculum**

**Intent**

The intent of Parkland's mathematics curriculum is to enable our pupils to be able to 'think like mathematicians'. Through a mastery approach, we aim for our children to understand that mathematics is a life skill. It is an essential element of communication, widely used in society, both in everyday situations and in the world of work.

Maths is a journey and long-term goal, achieved through exploration, clarification, practice and application over time. At each stage of learning, children should be able to demonstrate a deep, conceptual understanding of the topic and be able to build on this over time.

There are 3 levels of learning:

- **Shallow learning:** surface, temporary, often lost.
- **Deep learning:** it sticks, can be recalled and used.
- **Deepest learning:** can be transferred and applied in different contexts.

The deep and deepest levels are what we are aiming for by teaching maths using the mastery approach. We aim for our learners to transfer basic maths facts, skills and knowledge, including the subject specific vocabulary to their long term memory.

**Implementation**

Multiple representations for all- concrete, pictorial and abstract.

Objects, pictures, words, numbers and symbols are everywhere. The mastery approach incorporates all of these to help children explore and demonstrate mathematical ideas, enrich their learning experience and deepen understanding. Together, these elements help cement knowledge so children truly understand what they've learnt.

All children, when introduced to a key new concept, should have the opportunity to build competency in this topic by taking this approach. Pupils are encouraged to physically represent mathematical concepts. Objects and pictures are used to demonstrate and visualise abstract ideas, alongside numbers and symbols.

**Concrete –** children have the opportunity to use concrete objects and manipulatives to help them understand and explain what they are doing. **Pictorial** – children then build on this concrete approach by using pictorial representations, which can then be used to reason and solve problems.

**Abstract** – With the foundations firmly laid, children can move to an abstract approach using numbers and key concepts with confidence.

**Impact**

· Quick recall of facts and procedures.

· The flexibility and fluidity to move between different contexts and representations of Mathematics.

· The ability to recognise relationships and make connections in Mathematics.

A Mathematical concept or skill has been mastered when a child can show it in multiple ways, using the mathematical language to explain their ideas, and can independently apply the concept to new problems in unfamiliar situations.

## Section 2: Procedures and Practice

### Roles and Responsibilities

The Mathematics leader is responsible for providing an overview of the subject across the school to inform staff planning and to offer advice through which the curriculum can be delivered in an effective and engaging way. They should have an up-to-date knowledge of the subject requirements and ensure that these are met across the school, as well as having an overview of assessment. They are responsible for ensuring that an overview of the subject is available on the school website. The Mathematics leader also has a sound knowledge of the resources which are available within school and ensures that resources are replenished and updated as necessary. The Mathematics leader is responsible for the planning and implementation of any subject specific events which are ran in the school.

Individual teachers are responsible for the day-to-day planning, delivery and assessment of the Mathematics curriculum. The governor for Mathematics is responsible for ensuring there is a good professional dialogue with the subject leader throughout the school year.

### Promoting SMSC through Mathematics

We promote spiritual, cultural and moral development in Mathematics by developing deep thinking and questioning about the way in which the world works promoting their understanding of Mathematics and how it relates to the world around them. For example, children consider the development of pattern in different cultures including work on tessellations such as using Rangoli designs or the use of religious symbols for symmetry.

We promote social development in Mathematics by children utilising problem solving skills and through teamwork. These are fundamental to Mathematics, through thinking, discussion, explaining and presenting ideas. Children are always encouraged to develop their Mathematical reasoning skills, to communicate with others and to explain concepts to each other. Self and peer reviewing are very important to enable pupils to have an accurate grasp of where they are and how they need to improve. Working together in pairs or groups and supporting others is a key part of Maths lessons.

### Promoting Fundamental British Values through Mathematics

The mathematics curriculum promotes the British values of tolerance and resilience on a daily basis through problem solving and the understanding of complex concepts, encouraging children to persevere and to try different methods to arrive at a correct conclusion.

Children work together throughout the whole of the mathematics curriculum to support each other and build mutual respect for one other. Children are allowed to make mistakes and learn from them in all maths lessons. This fosters confidence and builds self-esteem. This encourages children to take risks and to become lifelong learners whilst using their mathematical skills in all aspects of life.

## Section 3: Aspects

### Planning

Early Years Foundation Stage

In the Early Years, teachers plan to ensure that children have a good grasp of concepts through the use of White Rose Maths and the NCETM Number Counts programme. In the Reception year, the Mastering Number Programme is also followed to deliver in-depth teaching and mastery learning.

Key Stage 1

White Rose Maths, Primary Stars materials and the Mastering Number Programme is followed to deliver in-depth teaching and mastery learning. In all Year groups, we move through the order of work at a pace which suits our children, to ensure most, if not all of our children are secure in the area of maths before moving on. To adapt the scheme to our children, we ensure that we approach new vocabulary each lesson and revisit previous learning so that we can secure knowledge. Our planning will have documents for the Long, Medium and Short Term. Long Term planning shows the whole school overview, medium Term planning shows a half term and breaks down which Learning Objectives will be taught in which week ensuring full coverage of the Early Years Framework and the National Curriculum. Short Term planning is weekly and includes more detail around Learning Objectives and how they will be taught. The planning described is monitored by the subject leader and the SLT.

### Teaching and Learning

In the Early Years, Mathematics is taught in small groups as part of the on-going provision for pupils. There are also independent mathematical activities which pupils are able to access throughout the day. It is essential that experiences here help to develop the basics of mathematics and that children have access to a wide range of practical and concrete resources to help develop their understanding. Teaching and Learning in maths is displayed in every teaching area. Key vocabulary for each area of learning is shared, alongside samples of children's work and progression across each year group.

In Key Stage 1, a daily Mathematics lesson takes place. This incorporates a ten minute Mastering Number session, before a teacher led session with a range of activities. As in the Early Years, it is essential that children have access to a range of practical experiences and resources before developing a more formal written method of recording. All classes have a range of counting and practical resources. IT is used as a tool to help children visualise mathematical concepts and to motivate their learning. Teaching Assistants are used to support groups of varying ability. Teachers will carefully ensure that children's mathematical ability is developed and deepened without causing cognitive overload. Previous knowledge is constantly referred to and built upon so that children can make meaningful links between what they learn. Key vocabulary is modelled, repeated and displayed to ensure children's understanding and their use of it is encouraged. Children are encouraged to be the talkers through the use of them using stem sentences to help transfer knowledge to long-term memory, and with methods such as talk partners, peer support and self-assessment.

## Assessment

Children are continually assessed throughout their learning journey in a range of formal and informal ways. A variety of strategies, including questioning, discussion, marking, feedback sheets and feedback sessions are used to assess progress. Selfassessment is used. The information is used to identify what is taught next. Teachers within year groups and key stages will moderate decisions and the Maths leader will carry out monitoring exercises which ensure teacher judgements are correct. Formal assessment of pupil's learning is made half termly against the key assessment criteria. The subject leader and assessment coordinator then analyses this information to identify anyone falling behind and those who need to be challenged further. It is also used to monitor the progress of vulnerable groups and ensure appropriate support is put into place.

### Early Years

Children in the Early Years will be assessed against the EYFS Statutory Framework, also referencing Development Matters. Tapestry will be used to record observations and monitor coverage of the Early Years curriculum for Maths.

### Key Stage One

Class teachers will use the 2014 National Curriculum objectives to assess against for all aspects of Maths.

## Monitoring

The subject leader is responsible for monitoring teaching and learning in mathematics. Monitoring exercises take place half termly and will be fed back to staff to ensure that teaching and learning is adapted to meet the needs of our pupils. Such activities may include: lesson observations, learning walks, pupil work scrutiny, planning scrutiny, pupil discussion. A termly review is then presented to the school governor responsible for mathematics. The governor may also take part in monitoring activities.

## Child Protection and Safeguarding in Maths

The Maths Policy adheres to our school Child Protection and Safeguarding Policy.

### Online Safety

Children will be reminded about online safety and will be encouraged to take responsibility for this themselves following protocols in a child-friendly way. Posters reminding them about online safety are displayed in every classroom.

### Anti-bullying/Discrimination/Equal Opportunities

It is an expectation that all children are able to participate fully in Maths lessons without fear of bullying or discrimination. The Parklands Person ethos and Jigsaw PSHE Learning Charter may be referred to, to ensure all children are treated fairly and with respect. They will understand how to report anything they are uncomfortable with and know who they can talk to if they are worried.

Health and Safety

Children will be reminded about using equipment safely in Maths lessons and the clearly identifiable Safeguarding Team can be used to focus children on safe classroom behaviour.

All of the above will be monitored by the class teachers teaching the lessons. The Maths lead may also carry out monitoring using Pupil Voice to ensure all children are aware of how to be and feel safe.

## Special Educational Needs and Disabilities (SEND) in Mathematics

Daily Mathematics lessons are inclusive to pupils with special educational needs and disabilities. Where required, Pupil Support Plans incorporate suitable objectives from the National Curriculum for Mathematics or Development Matters and teachers keep these in mind when planning work. These targets may be worked upon within the lesson as well as on a 1:1 basis outside the Mathematics lesson. Mathematics focused intervention in school helps pupils with gaps in their learning and mathematical understanding. Within the daily Mathematics lesson, teachers have a responsibility to not only provide differentiated activities to support pupils with SEND, but also activities that provide sufficient challenge for pupils who are high achievers.

## Parent Partnership

Parents are encouraged to support their children with their mathematical development in a range of ways. This includes set homework activities, and through the use of the online resource 'White Rose 1 Minute Maths' which develops number fluency. The subject leader maintains an area of the website which provides information for parents as well as appropriate web links. Focus Child meetings take place termly giving parents/carers the opportunity to discuss their child's learning with the teacher. Parents/carers also receive a termly progress report.

## Section 4: Conclusion

## Monitoring and Review

The Maths subject leader is responsible for monitoring the standards of children's work and the quality of teaching. The leader supports colleagues in the teaching of Maths by addressing CPD needs and by giving them information about current developments in the subject, and by providing a strategic lead and direction for the subject in the school. The subject leader is also responsible for reviewing developments for Maths identified on the School Improvement Plan, evaluating strengths and weaknesses in the subject, and indicating areas for further improvement. Monitoring exercises are carried out termly in accordance with the Computing action plan. Reports are shared with staff and the responsible governor.

## Other Documents and Appendices

The Maths policy should be read in conjunction with our policies for curriculum, teaching and learning and assessment and calculation. It is in reference to the National Curriculum for Maths, EYFS Statutory Framework and EYFS Development Matters.

## Governor Approval and Review Dates

The policy is to be reviewed annually.