

# Manor Beach Primary School – Mathematics Policy

## Inspiring Minds, Shaping Futures

Wherever possible we will endeavor to link the children's mathematical learning to real life situations, through problem solving and practical activities. This will inspire them to think how mathematics could be used to shape their future lives and to help them to understand the importance of mathematics in a variety of different jobs and vocations.

**The national curriculum for mathematics aims to ensure that all pupils:**

- Become fluent in the fundamentals of mathematics, including the varied and regular practice of increasingly complex problems over time.
- Reason mathematically by following a line of enquiry, understanding relationships and generalisations, and developing an argument, justification or proof using mathematical language.
- Can solve problems by applying their mathematics to a variety of problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions

The expectation is that the large majority of pupils will progress through the curriculum content at the same pace.

- Differentiation is achieved by emphasising deep knowledge and through individual support and intervention.
- Teaching is underpinned by methodical curriculum design and supported by carefully crafted lessons and resources to foster deep conceptual and procedural knowledge.
- Practice and consolidation play a central role. Carefully designed variation within this builds fluency and understanding of underlying mathematical concepts in tandem. (Introduced into KS1 further training to follow in KS2)
- Teachers use precise questioning in class to test conceptual and procedural knowledge, and assess pupils regularly to identify those requiring intervention so that all pupils keep up.

However, decisions about when to progress will always be based on the security of pupils' understanding and their readiness to progress to the next stage. Pupils who grasp concepts rapidly will be challenged through being offered rich and sophisticated problems to develop mastery before any acceleration through new content.

**At Manor Beach Primary School we aim:**

- to promote enjoyment of learning through practical activity, exploration and discussion;
- to develop confidence and competence with numbers and the number system through rapid recall;
- to develop their conceptual understanding in order to solve problems through decision making and reasoning in a range of contexts;
- to develop a practical understanding of the ways in which information is gathered and presented;
- to help children understand the importance of mathematics in everyday life.

**Leadership and Management**

The subject leader's role is to empower colleagues to teach maths to a high standard and support staff in the following ways:

- By keeping up to date on current issues; disseminating relevant information and providing training for staff members (either directly or through other professionals)
- Leading by example / modelling lessons or styles of teaching
- Having a knowledge of the quality of mathematics provision across the school
- Identifying and acting on development needs of staff members
- Monitoring expectations, provision and attainment across the school and providing feedback to develop practice further in order to raise standards.
- Providing necessary equipment and maintaining it to a high standard

**National Curriculum**

The Early Years Foundation Stage Curriculum feeds into the new National Curriculum and the revised Primary Framework for mathematics. It is good practice to make use of cross curricular links to enable children to use their learning in a real life context. Therefore pupils should be given plenty of opportunities within sessions to use and apply the mathematical skills and concepts they have learned. The school's calculation policy (created alongside this policy) is designed to provide

continuity throughout the school with all four operations, which in turn will facilitate measured progress for children in school.

In the Foundation Stage we plan mathematical activities that address the learning objectives for mathematics as set out in EYFS development matters for Mathematics. We provide opportunities for children to develop their understanding of number, measurement, pattern, shape and space through a variety of activities, both child and teacher initiated, that allow them to enjoy, explore, practise and talk confidently about mathematics. Where a child in Reception has achieved the ELG they will begin to work on National Curriculum objectives.

### **Planning Mathematics**

The maths curriculum at Manor Beach is predominantly taken from the Lancashire Schemes of work which is based on the National Curriculum Programmes of Study. Lancashire Overviews have been adapted slightly for certain year groups to meet the needs of our children and to ensure there is a larger weighting on number and reasoning. Year 1 and Year 2 are using Lancashire's Mastery Approach. There is an overview sheet for each year group which links to the MTP objectives. Each class teacher is responsible for using these to plan a week of maths lessons.

The use of technology is included in the daily teaching of Mathematics, through the use of interactive programs and the use of specific Mathematics programs that aid children's development in a particular area.

Staff evaluate their planning and use as a working document to adapt where appropriate to meet the needs of the children.

Through careful planning and preparation we aim to ensure that throughout the school children are given opportunities for:

- Developing a range of skills, so they are confident in tackling both mental and written calculations.
- Participating in a range of practical activities and games.
- Taking part in individual, group and whole class discussions and activities, based around a mathematical concept.
- Tackling mathematical sums in a variety of different contexts, such as word problems and problem solving.
- Developing their problem solving and reasoning skills
- Using technology to support and enhance learning.

The use and application of Mathematics to investigate and solve problems is integrated with work on number, algebra, shape, space, and handling data to ensure that we meet all legal requirements and to help the children think mathematically; aiding their mathematical development.

### **Pupil's Record of their Work**

The children are encouraged to record and communicate their work in a variety of ways e.g. jottings, number lines, verbalizing answers photographs. They are taught different methods so they can be discussed and compared and so the most appropriate methods for the type of calculation is used. Children are taught methods for calculations (see calculations policy.) Parents are informed of these methods so support can be given at home

There are agreed conventions regarding the layout of and presentation of children's work. ( see Feedback, Marking and Presentation Policy)

Children in yr 1 and 2 have 1 cm squared books and folders for focused tasks.  
Children in yr 3-6 have 7mm squared books.

### **Marking ( Feedback, Marking and Presentation Policy)**

Staff mark in line with the marking policy. Where appropriate children can mark exercises which involve routine practice with support and guidance from the teacher. This is then overseen by the teacher. Where appropriate children in years five and 6 can check computational exercises with a calculator. This can foster independence in the children, who can seek help if they are unable to locate their errors.

The quality of marking is crucial. A simple 'x' is of little assistance to a child unless accompanied by an indication of where the error occurred. This may be in the form of a written comment in the book, symbol, oral discussion with the child or additional support given from teacher or teaching assistant as soon as possible.

### **Teaching Styles and Strategies**

A range of styles of teaching are necessary for the teaching of Mathematics. Approaches need to be related to the topic itself and to the abilities and

experience of both teachers and pupils.

Our teaching at all levels shall include opportunities for:

- teacher exposition;
- discussion techniques (pupil/pupil and pupil/teacher) appropriate practical work;
- consolidation and practice of fundamental skills and routines;
- problem solving;
- the committing to memory and recall of a range of mathematical facts;
- investigation work;
- classwork, group work, individual work.

### **Equal Opportunities**

The teaching of Mathematics will be in accordance with the present policy for Equal Opportunities. We aim to provide equal access to mathematics for all children in our school. The children's needs in a mathematics lesson will primarily be met through differentiation of work set by the class. Ways of differentiation in mathematics could be one of the following:

- Stepped or scaffolded activities, which gradually become more difficult.
- Investigations where differentiation is by outcome.
- Using appropriate resources to allow all children a stage of progression.
- Through working as part of a small group.
- Through the use of Classroom Assistants help where available.

In the daily maths lesson we support children with English as an additional Language by:

- repeating instructions
- using picture clues and practical apparatus
- encouraging them to join in counting, chants and rhymes.

These children are also encouraged to communicate their findings in a variety of ways e.g. photographic evidence, pictorial.

### **Assessment (See Assessment Reporting and Recording Policy)**

Teacher assessments based on class work are made regularly and then feed into their judgements in KLIPS. These judgements are then recorded on the Lancashire

tracker at the end of each term. As a result of teacher assessment, relevant support can then be put in place if required and this is detailed on class provision/intervention timetables.

Children are routinely tested on their times tables and rewarded for their knowledge. At the end of each term children complete either NFER assessment (Yr3-5) or focused questions from Lancashire assessment (Yr1) These link very closely to the objectives covered that term. This is just one form of assessment that help the teacher to form a judgement on a child. Each teacher will use the Lancashire LAPS to monitor progress and when appropriate highlight KLIPS to demonstrate what each child has achieved. Question level analysis data from these assessments is used to identify gaps in learning and inform new targets. Children are tracked to ensure they are working at national expectations and making the appropriate progress.

### **Reporting to parents**

Parents are informed about their children's progress at Parents Evening and with a written annual report in the summer term.

### **Parental Involvement**

The school actively encourages parents to take an interest in their child's learning. Parents are regularly half termly with the maths topic being covered. The Home School diary also encourages children to learn their times tables and has useful maths information for parents. Parents have access to the calculation policies. Parents are always welcome to come in and discuss their child's progress with the class teacher

- Workshops are offered to support the teaching of written calculation methods.
- Self help guides for different mathematical topics are accessible on the school website.
- The opinion of parents is very important and there is an opportunity for parents to ask for support.
- Opportunities for the parents to improve their own maths skills can be arranged with local services.
- Parents are encouraged to support their child with online learning activities.

## **Monitoring and Evaluation**

There is a rigorous Monitoring and Evaluation schedule which links to the yearly School Improvement Plan for maths with opportunities throughout the year for the maths subject leader and SLT to:

- Conduct a book scrutiny
- Monitor planning and provide feedback where appropriate
- Additional support given to individual teachers where appropriate.
- Opportunity for Subject Leader to work alongside members of staff.

## **Resources**

Class teachers having their own set of resources in their classrooms which may be used on a daily basis. The classroom resources are labeled and easily accessible to children. Resources which are not used on a daily basis are clearly labeled in a central store. Resources for Teaching Assistants are accessible. Subject Leader audits resources and ensures there are resources to meet the delivery of the maths curriculum for all children.

## **The Governing Body**

The Maths Subject Leader reports to the governors at least twice a year on the standards and developments in their subject.

Policy : September 2019

Review: September 2021

Signed \_\_\_\_\_ Subject Leader

Signed \_\_\_\_\_ Headteacher