Peacehaven Heights Primary School Mathematics Policy 2019-2020

Aims and objectives

Mathematics teaches us how to make sense of the world around us through developing the child's ability to calculate (using number fluency), to reason and to solve problems.

It enables children to understand and appreciate relationships and pattern in both number and space in their everyday lives.

The objectives of the teaching of mathematics are:

- To promote confidence and fluency with numbers and the number system;
- To promote enjoyment and enthusiasm for learning through practical activity, exploration and discussion;
- To develop the ability 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 explore features of shape and space, and develop measuring skills in a range of contexts;
- To understand the importance of mathematics in everyday life;
- To encourage children to become resilient with their learning, setting themselves challenges appropriate to their level and understanding.

Teaching and learning style

Our school uses a variety of teaching and learning styles in mathematics lessons. The principal aim of these lessons is to develop children's knowledge, skills and understanding in mathematics.

We do this through a daily lesson that has a high proportion of whole-class participation and uses a wide range of practical resources. The use of concrete apparatus/resources enables children to develop and demonstrate their understanding of all concepts taught. During these lessons, we encourage children to ask, as well as answer, mathematical questions using appropriate mathematical vocabulary. Wherever possible, we encourage the children to use and apply their learning in everyday situations. In addition to this, we teach discrete fluency sessions that focus on the rapid recall of number and times table facts that support children's ability to solve problems with increasing confidence in a number of different contexts.

In all classes, there are children of differing mathematical ability. As a school, we follow a Mastery approach to the teaching of Mathematics that ensures that all children in the class are supported in order to achieve the lesson objective. We do this by providing suitable learning opportunities for all children by matching the challenge of the task to the ability of the child and by often using open ended challenges. As children become more mature, we encourage them self-differentiate by selecting their own level of challenge by reflecting on their own understanding.

Mathematics curriculum planning

Mathematics is a core subject in the National Curriculum, and we use the documentation relating to the 2014 National Curriculum as the basis for implementing the statutory requirements of the programme of study for mathematics. The mathematics subject leader has updated the medium-term plans to reflect the expectations of National Curriculum 2014 and in line with NCETM

and White Rose guidance. Both of these are resources that support the planning, and implementation of the Mastery approach to Mathematics teaching,

We carry out the curriculum planning in mathematics in both long term and short term plans. The long term gives an overview of the mathematical concepts taught in each year, over each week, and the short term plans give detailed daily guidance on how to embed the overall curriculum objective through precise teacher instruction and modelling and carefully select quality learning tasks.

The programmes of study in the National Curriculum 2014 give a detailed outline of what we teach from YR to Y6, while our long term plans identify the key concepts in mathematics that we teach each term and, on what week.

It is the class teachers who complete the weekly plans for the teaching of mathematics, based on the National Curriculum programmes of study and alongside the NCETM and White Rose guidance, provided by the Maths subject lead. These weekly plans list the specific learning objectives for each lesson and give details of how the lessons are to be taught. They specify the resources needed for each lessons as well as the activities the children will undertake, in order to demonstrate their understanding and progress over the course of the lesson.

Teachers will plan to follow the CPA (Bruner) approach, encouraging pupils to use appropriate materials to build concrete experiences leading to pictorial and abstract concepts.

Children will use technology to apply their mathematical skills, knowledge and understanding to enrich their learning when this is relevant.

The Foundation Stage

We teach mathematics in our Reception classes. As the class is part of the Foundation Stage of the National Curriculum, we relate the mathematical aspects of the children's work to the objectives set out in the Early Years Foundation Stage curriculum which underpin the curriculum planning for children from birth to five.

We give all the children ample opportunity to develop their understanding of number, measurement, pattern, shape and space through varied activities that allow them to enjoy, explore, practise and talk confidently about mathematics.

Children are assessed against a baseline when they start in Reception. They are assessed at the end of Reception against the Early Learning Goals.

Contribution of mathematics to teaching in other curriculum areas

Mathematics contributes significantly to the teaching of other areas of the curriculum and, where appropriate, Maths is integrated into the teaching of other subjects. There are many natural links to be found into subjects such as Science, ICT, Geography, Art, Design Technology, PE, but Maths can successfully be integrated into any subject.

Teaching mathematics to children with special educational needs

At our school, we teach mathematics to all children, whatever their ability. Mathematics forms part of the school curriculum policy to provide a broad and balanced education to all children. Through our mathematics teaching, we provide learning opportunities that enable all pupils to make progress. We do this by setting suitable learning challenges and responding to each child's different needs. Assessment against the National Curriculum levels allows us to consider each child's attainment and progress against expected levels.

When progress falls significantly outside the expected range, the child may have special educational needs. Our assessment process looks at a range of factors – classroom organisation, teaching materials, teaching style, and differentiation – so that we can take some additional or different action to enable the child to learn more effectively. This ensures that our teaching is matched to each child's needs.

Intervention through School Support will lead to the creation of a Support Plan for children with special educational needs. The Support Plan may include, as

appropriate, specific targets relating to mathematics and may lead to individual or group interventions and are developed with input by the child, the parent/carer, the class teacher, support staff and our SENCO.

We enable pupils to have access to the full range of activities involved in learning mathematics. Where children are to participate in activities outside the classroom, we carry out a risk assessment prior to the activity, to ensure that the activity is safe and appropriate for all pupils.

We are committed to meeting the needs of able and gifted children also through specific differentiation and the use of challenge, using the school's 'Have a go Hero' in mathematics lessons.

Assessment and recording

We assess children's work in mathematics from three aspects (long-term, medium-term and short-term). We make short-term assessments which we use to help us adjust our daily plans. These short-term assessments are closely matched to the teaching objectives and are informed by the work that is produced by the children in response to the lesson activity.

At the end of each term, data is transferred onto Target Tracker (our school assessment system) and is then analysed to identify progress made by each pupils and groups of pupils. We make long-term assessments towards in the Summer Term, including the use of Interim SATs in Key Stage 2, and we use these to assess progress against school and national targets. We use the national tests for children in Year 2 and Year 6.

Additionally, pupil progress meetings are held each term with the assessment coordinator and our Head teacher to discuss individual pupils' progress and to address any concerns which arise.

Resources

There are a range of resources to support the teaching of mathematics across the school. All classrooms have a number line and a wide range of appropriate concrete resources that are carefully selected by the Class Teacher to use in each lesson. Class teachers model the use of resources/apparatus to demonstrate the concept being taught and encourages children to show and explain their own understanding using concrete resources/apparatus before they move on to understand these concepts in a more abstract way.

Monitoring and review

Monitoring of the standards of children's work and of the quality of teaching in mathematics is the responsibility of the subject leader. The work involves supporting colleagues in the teaching of mathematics, being informed about current developments in the subject, and providing a strategic lead and direction for the subject in the school. The subject leader monitors the planning, teaching and learning of mathematics on a regular basis with classroom observations being undertaken annually. Children's feedback and regular work scrutiny is used to inform the subject leader's action plan.

Mathematics Non-negotiables

Each classroom is expected to have an engaging mathematics display, at the front of their classroom. This is used to display the children's current learning and will include examples of children's work as well as the topic specific vocabulary, related to the current learning within the classroom. In addition to this, we have high expectations of the children's work in their maths books and teachers constantly reinforce the importance of work that is laid out correctly.

Auditing

The subject leader is responsible for auditing resources, annually, and proposing the acquisition of new resources via the school business manager.

Equal Opportunities

As with all teaching at the school, mathematics is taught in such a way as to include all children irrespective of their ability, gender, race, ethnicity or socio-economic background.