



**"WORKING TOGETHER FOR THE SUCCESS OF ALL"**

## ***Mathematics Policy***

### **Curriculum Organisation**

British Forces School Naples provides a broad and balanced curriculum with a central focus on the importance of maintaining quality of teaching and learning. The implementation of the National Curriculum 2014 and Early Learning Goals is based on careful planning and appropriate assessment. Through an inclusive approach we aim to ensure that each child has the opportunity to achieve his or her full potential.

### **Aims and objectives**

Mathematics is a tool for everyday life. It teaches us how to make sense of the world around us through developing a child's ability to calculate, to reason and to solve problems. It is a whole network of concepts and relationships which provide a way of viewing and making sense of the world and provides the materials and means for creating new imaginative worlds to explore. Through their growing knowledge and understanding, children learn to appreciate the contribution made by many cultures to the development and application of mathematics.

Using the Programmes of Study from the National Curriculum 2014 it is our aim to:

- promote enjoyment and enthusiasm for learning through practical activity, exploration and discussion;
- foster positive attitudes towards Mathematics by developing pupils confidence, independence, persistence and co-operation skills
- promote confidence and competence with numbers and the number system;
- develop the ability to solve problems through decision-making and reasoning in a range of contexts;
- promote fluency in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils have conceptual understanding and are able to recall and apply their knowledge rapidly and accurately to problems;
- develop a practical understanding of the ways in which information is gathered and presented;
- explore features of shape and space, and develop measuring skills in a range of contexts;
- become mathematically literate and understand the importance of mathematics in everyday life.



## Teaching and learning style

The school uses a variety of teaching methods to cater for the range of learning styles of pupils in mathematics lessons. Our principal aim is to develop children's knowledge, skills and understanding in mathematics. During lessons we encourage children to ask as well as answer mathematical questions. The use of Mathematics resources is integral to the concrete – pictorial – abstract approach and thus planned into our learning and teaching.

We have a wide variety of good quality equipment and resources, both tangible and ICT based, to support our learning and teaching. Wherever possible, we encourage the children to use and apply their learning in everyday situations.

In all classes there are children of differing mathematical ability. We recognise this fact and provide suitable learning opportunities for all children by matching the challenge of the task to the ability of the child. We achieve this through a range of strategies – in some lessons through differentiated group work and in other lessons by organising the children to work in pairs on open-ended problems or games. We use Learning Support assistants to support some children as appropriate.

## Mathematics curriculum planning

Mathematics is a core subject in the National Curriculum, and all children in KS1 & 2 are taught from National Curriculum '14. At KS1 and KS2 teachers will use the objectives from the National Curriculum 2014 Programmes of Study to plan their daily maths lessons for their class. The School uses White Rose Hub for long and medium term planning and this informs our teachers' weekly short term planning.

Careful planning and preparation includes a balance of activities such as:

- practical mathematical activities
- real life problem solving activities
- individual, group and whole class discussions and activities
- open and closed tasks
- a range of methods of calculating e.g. mental, pencil and paper and using a calculator
- working with computers as a mathematical tool
- consolidation activities

Calculation methods are taught consistently throughout the school using the 'efficient methods' as prescribed in the *Calculation Policy*.

## The Early Years Foundation Stage

Mathematics within the EYFS is developed through purposeful, play based experiences and will be represented throughout the indoor and outdoor provision. The learning will be based on pupils' interests and schemas or current themes and will focus on the expectations from Development Matters and Early Years Statutory framework. 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. As the pupils progress through, more focus is placed on representing their mathematical knowledge through more formal experiences. Pupils will be encouraged to record their mathematical thinking when ready and this will increase throughout the year. Progress is continually assessed and monitored through observations and recorded and reported using Tapestry out online e-learning journal.

### **Provision for those working at greater depth or identified as demonstrating potential for working at greater depth:**

Teachers plan carefully crafted lessons where work is pitched accurately to foster deep conceptual and procedural knowledge. Pupils who grasp concepts rapidly will be challenged through rich and sophisticated problems before any acceleration through new content to encourage a deeper and broader understanding. Children who have been identified as working at greater depth or potentially working at greater depth can also extend their learning further by:

- gaining experience of more advanced mental and written methods of calculation from the school's calculation policy.
- accessing the more advanced levels of the times tables
- applying their understanding of the mathematical concepts they have learnt to more activities intended for older year group through the use of programmes such as My Maths or Education City
- applying the mathematical concepts they have learnt to a wide variety of problem solving situations available through NRIC materials.

Children who are working at greater depth in the objectives for mathematics for their own year group may begin working towards the objectives from the year group above. However, this should only happen once they have successfully applied their knowledge and skills to a wide range of different contexts and situations.

### **The Maths Learning Journey**

The learning journey is underpinned by a set of principles for the way things are taught and learnt in our school. Through the learning journey children are encouraged to take responsibility for their own learning, they are aware of where they are in relation to the current learning journey, and what they still need to achieve to complete the learning journey.

In the EYFS, planning for and monitoring of the learning journey is done through a collection of different documents that provide a picture of a child's development in relation to the mathematical concepts being covered. This may consist of photos, art-work, mark-making etc. and is interspersed with observations made by practitioners and is recorded on Tapestry. This collection of documents is used to build a unique picture of what each child knows, feels and can do as well as his / her particular interests and learning style. This picture can then be used to pinpoint learning priorities and plan relevant and motivating learning experiences to challenge and help children to progress along their learning journey.



At KS1 and KS2 pupils are given a learning journey at the start of a unit of work. It is expected that all classes incorporate this into a maths display that changes with every new learning journey. This display should also include tools and equipment to be used, quality examples of work and models/representations of ideas and concepts. Pupils may also be given mini diagnostic assessment task appropriate to their year group. This mini task allows both teachers and pupils to identify their starting point on the learning Journey. Pupils may then refer to their learning journey throughout the unit of work, using it to track their progress over time and also to select appropriate tasks during their lessons. Each learning journey has an accompanying, end of unit assessment task. These allow pupils to demonstrate the knowledge and skills described in the relevant learning journey.

Regular opportunities for individual or small group pupil conferencing is embedded in this process and is aimed at encouraging children to have independence and ownership of their learning, as well as enabling practitioners to address gaps and misconceptions in their learning as identified through daily assessments. Pupils are encouraged to look for ways to improve their own learning by reflecting on what they have achieved. This powerful discussion then informs actions that promote positive outcomes for personalised learning for children, with a strong emphasis on moving learning forward.

### **Assessment and recording**

Mathematics is assessed in line with the school Assessment Policy.

Teachers are expected to make regular assessment of each child's progress in mathematics and to record these systematically. Teachers are responsible for tracking the progress of the children and using this information to target their specific needs. This information will be shared on a termly basis at pupil progress meetings. Assessments should comprise of a wide variety of modes of presentation, operation and response including:

- Pre-unit diagnostic tasks.
- Regular formative assessments which is used to help adjust daily plans. These are linked to learning objectives and steps to success. They take the form of focused observations and questioning of children; oral feedback; marking of work and written feedback; running records and annotated planning.
- Outcomes of assessments are recorded on Target Tracker and using assessment record sheets from Target Tracker which can be found in children's books. Judgements are made against each objective and recorded on a manual script, which is available to pupils, and the Target Tracker system.
- Half termly summative assessments are completed using materials from Rising Stars, Testbase or White Rose.
- End of Key Stage 1 and 2 testing.
- Ongoing assessment in the Foundation Stage is undertaken using the Foundation Stage Profile. This comprises of an electronic profile for each child which is completed using teacher assessment, mainly observation.
- As appropriate, children should have opportunities to self-assess and be an integral part of set targets.



Teachers meet regularly to review individual examples of work and assessment judgements are moderated and monitored termly.

From KS1 Children should be self-assessing their own learning regularly through the use of traffic lighting or reflections on their learning. Regular opportunities should be provided for children to complete corrections and respond to next step marking as appropriate for their age.

## **Resources**

All teachers should ensure that resources are accessible to the children within their classrooms and appropriately matched to support children with their learning. A wide range of resources are stored in the mathematics resources room. Teachers should plan to use these to support children with their learning.

## **Home Learning**

It is important that children's learning in mathematics is supported at home by the regular setting of home learning activities. See Homework Policy.

## **Monitoring and review**

Monitoring of the standards of children's work and of the quality of teaching in mathematics is the responsibility of the mathematics subject leader. The work of the mathematics subject leader also 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 mathematics subject leader gives the head teacher and SLT termly and annual summaries in which s/he evaluates strengths and weaknesses in the subject and indicates areas for further improvement.

## **Related Documents**

- Marking and Feedback Policy
- Homework Policy
- Calculation Policy
- SEND Policy
- Assessment Policy
- Development Matters (EYFS)
- FS, KS1 and KS2 Planning Formats