

# **MATHS POLICY**

**Approved by: Directors  
Effective From: December 2017  
Review Date: December 2019**

## **What is our Philosophy in Mathematics?**



*Article 28: Every child has the right to learn and to go to school*

In the Heathland Whitefriars Federation, we aim to provide pupils with an understanding of every area of the maths curriculum, which follows the expectations of the National Curriculum, and to give them the confidence to use their knowledge and understanding of mathematical processes in their daily lives. We believe that all pupils should be equipped with life-long skills in maths and will leave with enthusiasm and enjoyment for the subject which they will take with them into adult life and apply to real life settings.

## **What is our aim?**

We aim for every child to reach their highest potential in the understanding and use of mathematical skills ensuring that they are fluent in number. We believe that mathematical learning should encourage pupils to enquire, question, build on prior learning, create systems and strategies, communicate ideas, solve problems and apply skills.

We aim to provide pupils across the Federation with the same high level of mathematical experience and teaching that will ensure that every pupil achieves their full potential.



*Article 29: Your right to be the best that you can be*

## **What is our approach to teaching and learning?**

We believe that teaching should be objective driven through next steps learning which is an integral part of every maths lesson. As each child learns a new skill they are moved to the next step higher level target thereby enabling them to make rapid progress in their learning. Each new step offers an opportunity for new mathematical skills to be practiced, secured and deepened ensuring that pupils have an embedded understanding of concepts before moving on to their next step.

We believe that mathematical learning should include multi sensory experiences which will support the range of learning needs of all pupils. Pupils should have activities which combine the mental maths skills needed for mathematical calculations with the practical tasks which build a deeper understanding of mathematical concepts and shapes their abstract thinking of number.

Maths is taught as a discrete subject and is flexibly timetabled each day. Applying Maths is included in topic work where appropriate, enabling pupils to understand the role of maths in a wider context. Maths learning is also set as part of Home Learning activities each week and is relevant to the topic and skills learned each week. Maths home learning is often enquiry based and provides an opportunity for pupils to apply their knowledge to an open ended task.

As a Rights Respecting School, we believe that all children have the right to learn mathematical skills and to be supported in their learning within the Federation. Pupils are encouraged to recognise the right of other children to learn. Pupils are encouraged to work together co-operatively and to respect each others views and needs.

### **Protocols**

As a core subject, maths has a high priority within the curriculum and requires high quality teaching, programmed learning time and well resourced lessons that provide the children with the opportunity to acquire mathematical knowledge and understanding of mathematical concepts.

### **Resources**

Maths is extensively resourced with the provision of equipment for all areas of maths learning. Equipment to support the learning of calculation skills includes Numicon, a variety of cubes, dice and counters, base 10, number fans, digit cards, dominoes and number lines and squares. Also available are resources for weighing, measuring length, shape, time and capacity. Each classroom is equipped with resources for use on a daily basis and the centrally placed resource room has equipment for specific areas of maths.

In addition, there are a variety of on-line programmes, such as STOPS, Education City, and Espresso which can be used on the IWB for whole classes and also on individual laptops and I-pads.

Pupils are encouraged to freely make use of any manipulatives that may support their learning but are encouraged to move away from concrete support when they become more confident in abstract thinking of number

### **How do we teach maths?**

In EYFS, pupils begin to learn mathematical concepts through whole class adult led teaching and small focus group activities during the week where adults model mathematical language. The classroom setting allow for child initiated learning and enables children to practice their mathematical skills (counting and number recognition) more independently. Working with an adult, they will also learn how to apply what they know for example, by adding or subtracting numbers using equipment such as cubes, numicon or tactile resources. They also begin to build an understanding of weighing, measuring and capacity through organised play activities, and the concept of time by using specific mathematical vocabulary (O'clock, half past).

Pupils in Key Stages 1 and 2 are taught maths on a daily basis with emphasis on the consolidation of calculation skills, the main focus of their learning. This includes addition, subtraction, multiplication and division, how to halve and double numbers, use fractions and decimals, solve algebraic equations and collect, record and use data. In addition pupils learn how to accurately use standard measures for length, weight, capacity and time. Pupils learn to recognise and describe 2d and 3d shapes and build an understanding of position and direction. Using and applying maths is taught through problem solving, deepening knowledge and seeing similar problem represented in various ways. Along with this, maths skills are used in topic work and

other curriculum areas. For example, in Science when studying force children will use cm to measure the distance travelled by an object. History will involve the measurement of time and in Geography, data handling can be used to compare different temperatures and rainfall.

All pupils improve their mental mathematical skills by working through the Maths Passport programme featuring the solar system. This includes the Foundation Stage Maths Passport where a rocket is built representing the objectives required to get each part has been achieved. Each planet has a set of maths targets based on calculation facts. When a child achieves their targets, they receive a certificate and move onto the next planet eventually reaching the sun.



*Article 3: Everyone who works with children should always do what is best for each child.*

Class teachers lead the maths lessons with Teaching Assistants providing support for small groups or individual children. Each lesson is tailored to suit the needs of the maths targets for that day and TA's are fully briefed on their role in supporting the pupils. Work is differentiated to meet the needs of pupils at all levels and challenging learning is provided for the most able children.

### **How do we assess pupils?**

In the Early Years, pupils are assessed against the Early Learning Goals, a series of detailed targets covering the first steps in maths.

In Key stages 1 and 2, there is rigorous assessment of pupil progress through all areas of the maths curriculum and this is recorded using Pupil Asset. Questions for Learning for the session are shared with the pupils and teachers monitor pupil progress through discussion, observations and recorded work. Children are provided with opportunities for self and peer assessment and improvement using a blue pen. Marking provides children with an understanding of what they have achieved and what their next step in learning will be when applicable. A system of one star and a wish is used with green and orange pens. Green pen comments are used to give pupils positive feedback on mathematical skills learned while orange pen comments aim to challenge pupils to secure their understanding by using the same skill in another way. Purple pen is utilised within lessons to scaffold, intervene, challenge and accelerate learning. Pupils are expected to respond to the teacher's comments with a blue pen when necessary and to show an understanding of what they need to learn next and to amend any errors made to show learning from misconceptions.

Next steps learning is an integral part of every maths lesson with pupils working on differentiated targets according to their level of learning. As each child learns a new skill, they are encouraged to secure and deepen that skill by applying it in a different way and investigating their own understanding of the mathematical skill taught. Pupils are then moved to the next step higher level target thereby enabling them to make rapid progress in their learning. In the maths lessons, pupils work in groups with pupils who share the same current learning objective. This promotes talk for learning, independence and collaborative learning.

**How do we support pupils?**

All learning is tailored to suit the individual needs of each child and intervention programmes are in place to support children with additional learning needs. In addition there are after school maths clubs and support groups which help pupils achieve their full potential.

Parents are encouraged to support their children's learning at home through parent workshops, home learning activities and the schools' websites where the calculation policy is made available for parents to refer when supporting their children at home. Parents are also informed about how they can help at home during parents evening and on termly reports.

Maths lessons make use of the latest technology in interactive displays and lessons are resourced from a variety of software. This allows the staff to choose the best and most appropriate activities to meet the needs of all.

Our school recognises the changes in the new maths curriculum which places more emphasis on calculation skills and includes new learning targets in each year group. INSET sessions provide staff with updated information and training in the use of new resources and the opportunity to share ideas and information.

Signed \_\_\_\_\_ Date \_\_\_\_\_  
(Maths Faculty Leader)

Signed \_\_\_\_\_ Date \_\_\_\_\_  
(Executive Head Teacher)

Signed \_\_\_\_\_ Date \_\_\_\_\_  
(Chair of Directors)