

Whitfield St James' CE (VC) Primary School

Policy for Mathematics

Autumn 2018

Introduction

- This document is a statement of the aims, principals and strategies for teaching and learning of mathematics at Whitfield -St James' C.E (C) School.
- It was developed during the spring of 2018, through a process of consultation with teaching staff and the maths link governor.
- The mathematics taught and methods used reflect the recommendations as outlined in The New National Curriculum in England 2014 framework document.

What is Mathematics?

MATHEMATICS is a body of knowledge which provides a way of viewing and making sense of the world. It is used to analyse and communicate information and ideas and to tackle a range of practical tasks and real life problems. Mathematics also provides the means for children to solve problems and investigate mathematical concepts. It is through this exploration that new mathematics is created and current ideas are modified and extended.

The Aims of the National Curriculum

The National Curriculum for mathematics aims to ensure all pupils will:-

- *become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems...*
- *Pupils reason mathematically by following a line of enquiry, conjecturing relationships and generalizations, and developing an argument, justification or proof using mathematical language.*
- *Pupils can solve problems by applying their mathematics to a variety of routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.*

Our Aims in teaching Mathematics

are that all children at Whitfield St James' will develop:

- A sound understanding of number, calculation, geometry and statistics
- A positive and enthusiastic attitude towards maths
- A broad range of skills which can be applied both within school and within everyday lives
- A wide range of written and mental calculation strategies that they can use to solve problems
- Their ability to reason and ask questions of their learning, allowing them to create proofs and generalisations
- An ability to express themselves fluently, by talking and using appropriate mathematical vocabulary
- A deep and lasting interest in maths

They will also:

- have experiences of mathematical activities, which enable them to make sense of their world and to discover how to analyse and communicate their ideas.
- enjoy the subject and study it with confidence and a sense of achievement
- apply these skills with confidence and understanding when solving problems within school and subsequently in adult life.

Early Years Foundation Stage (EYFS)

We follow EYFS curriculum guidance for Mathematics.

Pupils initially explore numbers to 20 and the development of models and images for numbers as a solid foundation for further progress. We are committed to ensuring the confident development of number sense and put emphasis on mastery of key early concepts.

We will achieve this by:

- Introducing children to opportunities for maths learning through structured play, e.g. play area, visiting shops, sand & water
- Providing readily available maths resources for both indoor and outdoor.
- Using the outdoor environment to explore mathematical concepts.
- Encouraging an awareness of maths through exploration of everyday materials and equipment
- Building on the children's own experience, encouraging an awareness of maths through exploration of everyday materials and equipment
- Building on the children's own experiences of number, shape and measure
- Developing the understanding of mathematical concepts through stories, songs and rhymes.
- Exploring patterns seen in the environment and life of each child
- Teaching names of specific numbers, shapes and symbols, and drawing them correctly.
- Developing a range of recording, appropriate to the KSF
- Providing opportunities for problem solving through play and real life situations

Assessment

Please refer to Development Matters statements in age brackets. Baseline on entry to F1 (Nursery) most of the children will be working in low 30-50 months. By the end of F2 children should achieve early learning goals in number, shape space and measure. We track the progress of the children using Eexat (Early Excellence assessment tracker)

Planning and Teaching

Fluency, Reasoning and Problem solving are the three main aims of the National Curriculum for Mathematics, therefore these core aims underpin all Mathematics lessons at Whitfield St James. Teachers seek to integrate the development of these skills into their lessons on a daily basis.

Giving children the chance to talk about their learning is key and the quality of the talk is important. This doesn't just involve a child simply sharing how they did a particular calculation, but describing why and how it worked and how their method is the same or different to those of others.

Through the use of reasoning and being given the chance to make generalisations and proofs in their learning, children are enabled to make active progress in their understanding of key mathematical concepts, both abstract and concrete.

The school uses a variety of teaching styles to cater for the variety of learning styles of pupils. Our principle aim is to develop children's knowledge, skills and understanding. We do this through a daily lesson that has a high proportion of whole class and focus teaching. During these lessons we encourage children to ask as well as answer questions. They have the opportunity to use a wide range of resources such as number lines, number fans, whiteboards, 100 squares, digit cards and small apparatus to support their work. Children are given the opportunity to use ICT in mathematics where it will support, enhance and extend their learning.

Teachers use the school's long term planning documents based on the white rose scheme of work to guide them when planning units of work to ensure coverage of the 204 curriculum in their class. The LTPs have been organised so that if a teacher feels the need to extend a unit of work to ensure progress is made then appropriate amendments can be made.

Each class has a designated maths area in the form of a working wall.

In all classes there are children of differing abilities and we provide suitable learning opportunities for all children by matching the challenge 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.

In Key stage 2 children are split into ability groups to ensure their learning remains appropriate and challenging.

We use teaching assistants to provide appropriate support to individuals or to groups of pupils. Teaching assistants at Whitfield St James are viewed as an important 'asset' to the school and as such, are appropriately involved in the planning and delivery of the mathematics curriculum.

Interventions such as 1st Class at Number are delivered by teaching assistants.

It is important to ensure that the children see and use mathematics in as many practical contexts as possible. Throughout the curriculum, opportunities exist to extend mathematics. Teachers need to ensure they seek to take advantage of these cross curricular links whenever possible.

Mastery

At Whitfield St. James' we are embedding our use of the mastery approach in lessons. Through the mastery approach in lessons children are given opportunities to reason their ideas, gain a deeper understanding of their learning and consequently, are enabled to make deeper connections. Teachers look for opportunities to deliver the mastery approach in lessons and ensure that children feel comfortable in their ability to reason and are celebrated in doing so. Children are given opportunities to develop these skills through learning.

The principal schemes in use in the school which support the curriculum are:-

- White Rose Maths, Target your Maths and the New National Curriculum 2014.
- Intervention materials e.g. 1st Class @ Number 1 and 2
- A variety of online materials, eg Corbett maths 5 a day, Third Space learning fluent in 5, NCTEM, Nrich, TT rock stars.

Class teachers are responsible for appropriate differentiation of the curriculum for all pupils including those with Special Educational Needs and children working at Greater Depth.

It is expected that all pupils will undertake activities at home, related to the mathematics taught through:-

- the learning of tables ,expected of all pupils from Year 1-4 and Y5-6 to be able to use and apply knowledge of times tables
- Specific tasks set weekly by teachers which may involve gathering data or learning facts and completing work started at school which will consolidate learning.
- Children are tested regularly on our school's Times Tables Initiative.

The Role of the Mathematics Coordinator is to:-

- take the lead in policy development and the production of schemes of work designed to ensure progression and continuity in mathematics throughout the school
- support colleagues in their development of detailed work plans and implementation of the scheme of work and in assessment and record keeping activities
- monitor progress in mathematics and advise the head teacher on action needed
- take responsibility for the purchase and organization of central mathematical resources
- Keep up-to-date with developments in mathematics education and disseminate information to colleagues as appropriate.
- Identify pupils requiring intervention strategies
- Monitor marking, challenge and differentiation through regular book trawls.

Feedback to pupils about their own progress in mathematics is achieved through the marking of work. Effective marking (see marking policy)

Assessment

Assessment is used to guide the progress of individual pupils in mathematics. It involves identifying each child's progress in each aspect of the subject, determining what each child has learned and what therefore should be the next steps in his/her learning.

Formative Assessment

Teachers integrate the use of formative assessment strategies such as effective questioning, clear learning objectives, the use of success criteria and effective feedback and response in their teaching.

Summative Assessment

Using half termly tests, pupils are assessed against NC levels every half term. The school's progress tracking system is updated termly.

National Curriculum tests are used at the end of KS1 and 2; teachers use past and sample papers to inform their assessments as they prepare pupils for these assessments. All assessments and teaching informs teachers understanding of a child's ability in mathematics.

The school's Assessment and Marking Policies inform high quality feedback and pupils' response to it in Mathematics.

Reporting to parents is done on a termly basis in parents' evenings in the Autumn and Spring terms and in the form of a written report at the end of the Summer term.

Resources

Each class has their own set of resources and there is a centrally stored maths cupboard found in the main school corridor. (see the list on the school server)
There is also a selection of stories with a mathematical theme.

It is the responsibility for all class teachers to ensure the close supervision of pupils and to take reasonable steps to ensure their health and safety when undertaking mathematical activities. It is the responsibility of all staff to ensure that resources are maintained and stored correctly.