

# Cookridge Holy Trinity Church of England (Aided) Primary School



INVESTOR IN PEOPLE

## Policy Statement

### Mathematics

#### The Best for Every Child

At Cookridge Holy Trinity Primary School, as an inclusive school, we aim to achieve the highest standards of Mathematics capable for all our pupils. We aim for pupils to leave Holy Trinity being aware that Mathematics is an integral part of everyday life. A high quality mathematics education provides a foundation for understanding the world, gives children the ability to reason mathematically and creates a sense of curiosity.

Mathematics also provides us with tools to;

- Tackle real life problems
- Communicate information
- Develop skills which are essential in other areas of the curriculum
- A lot of enjoyment can be obtained from appreciating the power of mathematics.

#### Aims for Mathematics

Holy Trinity are continually aiming to raise the standards of achievement in Mathematics of our pupils.

#### Our Mathematics curriculum aims to:

- provide a positive attitude to Mathematics by making it interesting, purposeful and enjoyable.
- develop an awareness of the relevance of Mathematics in the real world.
- become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems.
- reason mathematically by following a line of enquiry, conjecturing 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, including breaking down problems into simpler steps and persevering in seeking solutions
- pupils should make rich connections across mathematical ideas to develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems.
- develop, use and understand the language of Mathematics at their own level and be confident when articulating Mathematical concepts.
- be able to record their work in a clear and accurate where the presentation is a high standard and something they are proud of.
- develop the ability to think logically, reasonably and creatively in Mathematics.
- perform calculations mentally, using appropriate strategies.
- carry out written methods in-line with the school's Calculation Policy.
- develop the ability to work both independently and collaboratively.
- provide opportunities to use a variety of equipment to stimulate and develop mathematical learning situations.
- achieve a sense of satisfaction through success.
- allow children to have fun!

## **Teaching methods and approaches**

It is essential to have continuity and progression throughout the Mathematics curriculum so that it provides structure, purpose and meaning.

- The school currently follows the White Rose Maths Hub schemes of learning. These schemes provide each year with an overview of the strands to be taught. The schemes allow children to become fluent, reason and solve problems mathematically using a range of manipulatives.
- This provides flexibility, which allows teachers to be creative and develop professionally whilst at the same time, supports the less confident or newly qualified teachers.
- A balance between whole class, group and individual approaches in the teaching of Mathematics is used throughout the school.
- In-line with our calculation policy, we use a concrete-pictorial-abstract approach to allow children to become independent learners and thinkers.
- Bruner's constructivist theory suggests: *'It is effective, when faced with new material, to follow a progression from enactive (action-based) to iconic (image-based) to symbolic representation (language-based); this holds true even for adult learners.'*
- Mathematics lessons often include elements of all / some:
  - Starting activity which may be a recap of a previous objective
  - focused group work and individual independent activities
  - time to review what children have learnt
  - teachers/ support staff working with individuals/ groups
  - children accessing resources./ using resources to aid their learning
- A balance of practical, investigative, oral and written activities (indoor and outdoor) is used throughout the school.
- Children are given opportunities for investigative work and problem solving, at all ages and levels, to develop their ability to apply their mathematical skills to real life situations
- A cross-curricular approach is used to provide first-hand experience wherever appropriate and this is referenced on teacher's planning and seen in books/ on displays.
- The children develop their mathematical language and reasoning through opportunities to question and explain their activities and in discussion with the teacher, support staff and each other adults.
- As a school, we have common high expectations and standards regarding both presentation and methodology in order to provide consistency and continuity. Children's recordings are encouraged to be:
  - neat and of a high standard
  - presented in a clear and organised way
  - presented in a variety of forms e.g. diagrammatically, graphically, pictorially, as a model or in written form.
  - reflective on learning that has taken place through the use of photographs, thought bubbles
- When recording their calculations, investigations and other mathematical work:
  - children are encouraged to formulate their own ways of recording their results in-line with the school policy
  - teachers are modelling the children's verbal explanations
  - teachers are demonstrating standard methods

## **Planning**

The school has a common format for planning which is used throughout the school from Y1 to Y6. This is completed on a weekly basis and outlines the learning objectives (taken from the National Curriculum), success criteria, individual/ group activities and assessment opportunities. Vulnerable groups and ability groups are indicated on the plans. Foundation Stage complete a similar Maths plan with links to Early Years Outcomes. Year group teachers plan together and consistency is established across year groups. This is regularly monitored by the Maths Subject Leader and feedback is provided to staff.

## **Assessment**

### **Short term**

**Children's classwork is assessed frequently through:**

- regular marking
- analysing children's errors

- questioning
- discussion
- use of plenaries
- self and peer assessment

The aim for the assessment is to inform future planning and teaching and assess children's knowledge.

### **Medium term**

In Years 1-6, children are assessed using the Chris Quigley Essentials Curriculum on depth of learning (based on objectives taken from the current National Curriculum). Each strand within the curriculum is shown with the appropriate objectives. Teachers regularly track children's progress once a particular strand has been taught. This information is updated throughout the year and is passed on to the following teacher as children move year groups. Termly assessments are carried out in each year using the White Rose arithmetic and problem solving tests. These assess the children's knowledge on all strands taught in that term. The progress is monitored by teachers and Senior Management Team at termly progress matters meetings.

In the Foundation Stage the children are assessed against the Early Learning Goals. Teachers make judgements against the goal and decide if a child has reached 'Expected' levels, have 'Exceeded' the goal, or is still working towards the goal which known as 'Emerging'. Children's progress is tracked on 'Tapestry' with evidence and an observation included. Parents also have access to Tapestry which allows them to track the progress of their child. The Foundation Stage leader monitors the progress and moderates the judgments against other schools in the cluster.

### **Long Term**

Long-term assessments are made against the National Curriculum objectives and children are judged at 'working towards the expected standard,' 'expected,' or 'working above the expected standard.' The following tests are also carried out annually

- SATs at the end of Y2 and Y6

The results of these are recorded on class lists and numerical targets are set for the following year.

### **Record Keeping**

Teachers are expected to keep records of objectives taught and the levels achieved. This information is used to inform

- annual reports to parents
- next teachers/school
- Progress Matters meetings with SMT
- Target setting for pupils

### **Organisation and Time**

#### **Foundation**

In the Foundation Stage there is a daily mathematics adult led session. Some children then either work with an adult using practical resources or carry out activities to consolidate their learning. Manipulatives are used to encourage children to grasp on concrete understanding of the objective. The other children are engaged in child initiated activities. All mathematics activities take place either inside or outside. All pupils can access the outdoor area during mathematics lessons. There is always a focussed group working with an adult both inside and outside.

#### **Key Stage 1**

In KS1 there is a daily mathematics lesson of between 45 and 60 minutes for all children in mixed ability classes. Differentiation is used to meet the needs of all children. Teaching assistants are planned in to support particular groups with their learning in each maths lesson.

#### **Key Stage 2**

In KS2 there is a daily mathematics lesson of approximately 60 minutes for all children in mixed ability classes. Differentiation is used to meet the needs of all children. At different times in the year there may be intervention groups taught separately to the rest of the class using various teaching resources.

### **Resources and Display**

In our school we recognise the importance of a stimulating learning environment. Each classroom has a mathematical display area, which includes mathematical vocabulary, visual aids and interactive activities where appropriate. Each class have their targets for that week shown on the board and the manipulatives on show for all children to use if necessary.

### **Non-negotiables**

The following statements are used throughout the whole school, starting in EYFS to provide consistency:

- '=' sign is referred to as 'is the same as' and 'equal.'
- Use the terminology 'exchange' when solving subtraction calculations.
- When having to carry in an addition calculation the number is placed above the answer, for example:

$$\begin{array}{r} 27 \\ + 54 \\ \hline 81 \end{array}$$

- When having to carry in a multiplication calculation the number is placed below the answer, for example:

$$\begin{array}{r} 17 \\ \times 4 \\ \hline 68 \\ 2 \end{array}$$

Place value column headings:

M, HTH, TTH, TH, H, T, 0, t, h, th (showing the numerical equivalence also).

### **Computing**

Mathematics is taught through computing where it is appropriate and where the use of computing enhances the teaching and learning. This could be using the laptops, the interactive whiteboard, iPads and voice recorders.

### **S.E.N. / Inclusion**

At our school children with SEN in Mathematics are included in the daily mathematics lesson through:

- setting suitable learning challenges
- responding to children's diverse learning needs
- overcoming potential barriers to learning and assessment for individuals and groups of children

Interventions to enable inclusion may involve:

- the use of EHC
- grouping for teaching purposes
- additional human resources
- different curriculum and teaching methods
- different use of resources

Where the interventions involve spending some time outside the classroom, it will be in the context of the inclusive curriculum.

### **Equal Opportunities**

At our school we believe that all children regardless of their gender, age, ethnicity, academic or physical ability are given equal opportunities to develop their attainment in mathematics to reach their full potential, confidently and successfully. We ensure that the specific needs of all pupils are met by providing tasks that are appropriate to the pupils ability and that their learning is supported by good quality, relevant first hand experiences to consolidate and extend their mathematical learning.

### **Staff Development**

All staff are encouraged to develop, assess and improve their teaching of Mathematics.

Whenever possible we;

- encourage staff to attend mathematics courses
- make provision for the mathematics subject leader to work alongside colleagues in the classroom or shared areas
- provide school based INSET
- involve staff with policy and decision making
- provide the opportunity to learn from colleagues expertise

## **Parents and Home Learning**

Parents are involved in their children's learning of Mathematics through

- Mathematics home learning tasks (weekly)
- annual reports to parents with suggestions for how parents can help their children at home
- using learning logs to stimulate mathematical learning

Maths stay and play sessions – parents are invited into children's maths lessons once a term to get involved and support children with their learning.

## **Links with the Governing Body**

The Maths Co-ordinator meets with the Governing Body Curriculum committee towards the end of each academic year to inform them of progress made and the outcomes of monitoring. We discuss key issues in Maths in our school to formulate the action plan for the coming academic year.

**Policy reviewed: June 2017 by Miss Collinson**