

# King's Stanley Church of England Primary School

## Mathematics Policy

### 1. MISSION STATEMENT

At King's Stanley Church of England Primary School we believe that mathematics is a fundamental life skill.

### 2. AIMS AND OBJECTIVES

To teach the children how to calculate, reason and solve problems. This enables children to understand relationships and patterns in both number and space so that they can use these in everyday situations. Through their growing knowledge and understanding children learn to use these life skills to prepare them for their future development and economic well-being. Pupils will be given opportunities to develop their numeracy skills within a broad and balanced curriculum.

At our school we strive for children to be able to use mathematics as a life skill.

Objectives for the children are to be able to:

- acquire appropriate and necessary mathematical skills and to apply them confidently and accurately
- enjoy mathematics, be successful and have a positive attitude to the subject
- demonstrate their skills and knowledge and talk about their work using appropriate mathematical language
- develop thinking skills and logically apply their mathematical knowledge to reason and solve problems
- use mathematics as part of their everyday life in school and at home
- work individually, collaboratively in groups and within the whole class
- develop as independent learners, able to make decisions about their own work.
- develop a sound understanding of basic mathematical concepts through practical and investigational work
- achieve standards appropriate to their abilities and potential by providing them with interesting and challenging tasks
- follow a broad and balanced mathematics programme based on the requirements of the National Curriculum and the statutory EYFS guidance.

### 3. STATUTORY REQUIREMENTS

The National Curriculum for mathematics describes what must be taught in each Key Stage. We follow the Primary framework which provides detailed guidance for the implementation of the National Curriculum for mathematics. In EYFS the curriculum is guided by the Early Learning Goals and the Development Matters documents.

**In the Foundation Stage (Reception)** children should be given opportunities to:

- develop and improve their skills in counting,
- understand and use numbers,
- calculate simple addition and subtraction problems;
- describe shapes, spaces, and measures.

**At Key Stage 1 (Year 1 and 2)** children should be given opportunities to:

- develop their knowledge and understanding of mathematics through practical activities, exploration and discussion
- learn to count, read, write and order numbers to 100 and beyond
- develop a range of mental calculation skills and use these in a range of settings
- learn about shape and space through practical activity building on their understanding of their environment
- begin to use and understand mathematical language, using it to talk about their methods and explain reasoning when solving problems

**At Key Stage 2 (Year 3 - 6)** children should be given opportunities to:

- use the number system more confidently, moving from counting reliably to calculating fluently using the four number operations
- tackle problems using a mental approach before using jottings or a formal written method
- explore features of shape and space
- develop their measuring skills in a range of situations
- discuss and present their methods and reasoning using a wide range of mathematical language, diagrams and charts.

#### **4. TEACHING AND LEARNING SUBJECT ORGANISATION**

At King's Stanley Church of England Primary School, mathematics is primarily taught through a mastery approach based on the 'White Rose Maths Mastery approach' (WRM). There is a comprehensive overview for each year group and medium term plans.

White Rose Mastery documents provide:

- Comprehensive overview for each year group and medium term plans which include small steps for learning
- It builds on a concrete - pictorial - abstract approach, ensuring secure foundations and deep understanding of mathematical concepts.  
*Concrete - practical learning using apparatus,*  
*Pictorial learning using images and models*  
*Abstract learning using the formal methods for recording mathematics.*
- Using a spiral progression to develop fluency, reasoning, and problem solving and conceptual understanding for mastery.

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- We have adopted a Do it (initial learning), Twist it (varied fluency) and Stretch it (reasoning and problem solving) Approach.

*Do it - Teaching and learning of a new skill*

*Twist it - A range of activities, question types that demonstrate the skill being applied in different ways.*

*Stretch it - Use of the skills taught to demonstrate a deeper understanding of the maths to solve problems*

## 5. CROSS CURRICULAR MATHEMATICS OPPORTUNITIES

### English

English is an integral part of the teaching of Mathematics. For example, in mathematics lessons, we expect children to read and interpret problems, in order to identify the mathematics involved. They are also improving their speaking and listening skills when they explain their mathematical thinking and present their work to others. In English lessons too, maths can contribute: younger children enjoy stories and rhyme that rely on counting and sequencing, while older children encounter mathematical vocabulary, graphs and charts when reading non-fiction texts.

### Personal, social and health education (PSHE) and citizenship and Enterprise

Mathematics contributes to the teaching of PSHE and citizenship. The work that children do outside their normal lessons encourages independent study and helps them to become increasingly responsible for their own learning. The planned activities that children do within the classroom encourages them to work together and respect each other's views. We present older children with real-life situations in their work in Enterprise particularly money. The teaching of mathematics supports the social development of our children through the way we expect them to work with each other in lessons. We group children so that they work together, and we give them the chance to discuss their ideas and results.

### Science

Mathematics is evident when recording and presenting the results of scientific experiments. The mathematical skills that have been learned can be seen in data collection and graphical representations of the results.

## 6. THE USE OF ICT

The use of ICT, with clear ICT learning objectives, promotes, enhances and supports the using and applying of Mathematics. ICT is particularly useful for mathematical tasks. It also offers ways of impacting on learning which are not possible with conventional methods.

Teachers can use software to present information visually, dynamically and interactively, so that children understand concepts more quickly. Younger children use ICT to communicate results with appropriate mathematical symbols. All children use it to produce graphs and tables when explaining their results, or when creating repeating patterns. When working on control, children can use both standard and non-standard measures for distance and angle. They can also use simulations to identify patterns and relationships.

## 7. ASSESSMENT FOR LEARNING

A range of methods are used to assess children's attainment in Mathematics.

- In September we complete a baseline assessment of the previous years end of year assessment.
- Short term assessments that teachers make as part of every lesson help to inform, and alter as appropriate, their daily plans - where they may need to '*linger longer*'.
- White Rose provides opportunities for ongoing assessments as part of the teaching structure at the end of units of work.
- As a school we use National Curriculum Objective grids on the data tracking system as a means of giving pupils multiple opportunities to demonstrate their understanding of work. The data tracking grids are completed six times a year to give a picture of where each individual child is working.
- In the Foundation Stage formative assessments are made against the Development Matters Statements and summative assessments against the Early Learning Goals and recorded on a personalised assessment proforma. The assessments are made using a high percentage of Child Initiated observations.

Following the September baseline assessment, we are able to set personalised targets for the children. Following each termly assessment personalised targets are set for the children and this is shared in class with the child and at Parent's Evening with the parents.

The children's progress and achievements are shared with the parent's in their child's report in July, these are linked to the end of year non-negotiables.

## 8. INCLUSION

8.1 Our school provides all children with an equal opportunity to learn mathematics at the right level. This includes provision for children with Special Educational Needs, Gifted and Talented, English as an Additional Language and other vulnerable groups.

Whole class planning addresses the needs of all children:

- differentiated questioning to challenge and encourage every child to participate

- opportunities to draw on different experiences - maths day
- range of activities to motivate and engage

Our intervention programmes include specific support for children on the SEND register, as well as small group support work often lead by our teaching assistants.

Targeted support is provided for specific underachieving groups and individuals:

- Focus classes for Year 6
- Targeted intervention in Key Stage 1
- 1:1 Tuition

Targeted support for more-able groups

- Gifted and talented focus group Year 6 - aimed at children who are working at above expected levels
- Gifted and talented children are identified and challenged through the Stretch it challenges and by using NCETM resources to provide opportunities to deepen mathematical understanding. They are also given opportunities to complete open ended tasks, where they can drive the learning forward.

## 8.2 Equal Opportunities

All children are provided with equal access to the Mathematics curriculum. We aim to provide suitable learning opportunities regardless of gender, ethnicity or home background.

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

For further details see separate policies for Special Educational Needs; Gifted and Talented.

## 9. RESOURCES

All classrooms have a number line and a wide range of appropriate small apparatus to support the CPA approach to learning. Mathematical dictionaries are available in all Key Stage 2 classrooms. Calculators and a variety of audio-visual aids are available from the central storage area. The library contains a number of books to support children's individual research. A range of software is available to support work with the computers. All classrooms are fitted with an interactive whiteboard that enables access to numerous resources.

## 10. PARENTAL AND COMMUNITY INVOLVEMENT

At King's Stanley Church of England Primary School we regard the school / parent relationship as vital to the development and education of our children. Parents are informed about the school's approach to math's homework and are encouraged to be an active participant in their children's learning at home. We share the methods and practices of our

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calculation policy with parents through information evenings. Non-negotiables for each year and targets set in October are shared with parents at parents' evenings.

## 11. ROLES AND RESPONSIBILITIES

### 11.1 Role of the Subject Leader:

The Subject Leader working alongside the Head teacher is responsible for raising the standards of teaching and learning in Mathematics through:

- (a) Monitoring and evaluating Mathematics including:-
  - pupil progress informing the provision of Mathematics (what is actually being taught, including Intervention and Support programmes)
  - the quality of the Learning Environment
- (b) Taking the lead in policy development
- (c) Auditing and supporting colleagues with their CPD
- (d) Purchasing and organising resources
- (e) Keeping up to date with recent Mathematical Developments
  - Staff are keen to continue developing their subject knowledge and the subject leader takes an active role in disseminating best practice, new government initiatives and making recommendations for staff development
- (f) Annual report made to the governors

### 11.2 Role of the Head teacher and Governing Body

- (a) Monitor maths attainment 6 times a year
- (b) Monitor maths progress 6 times a year
- (c) Report to the governors
- (d) Observe the mathematics teaching

### 11.3 Role of the Mathematics Governor

Monitoring the teaching of mathematics twice a year  
 Termly discussions held with the mathematics co-ordinator  
 Weekly support of Mathematical teaching in school  
 Keeping up to date with recent Mathematical Developments

This policy needs to be reviewed every year or in the light of changes to legal requirements.

## 12 CONCLUSION

This policy needs to be read in conjunction with the following school policies:

Teaching and Learning Policy

Assessment Policy

Calculation Policy

Marking Policy

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Special educational Needs Policy  
ICT Policy  
Equal opportunities Policy  
Health and Safety policy

### 13. APPENDICES

Update to policy record sheet  
Assessment and Target setting timetable

**Signed:**

**Date:**

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March 2019