



# **Julian's Primary School**

**Mathematics Policy**

**September 2015**

## **INTRODUCTION**

This policy describes our approach to the Mathematics curriculum. It is to be used alongside the school calculations policy, which gives detailed guidance about the stages of mental and written calculations. Mathematics provides the basic skills which children need to become Mathematicians. The study of Mathematics is more than Numeracy.

Materials used for the teaching of Primary Mathematics:

- National Curriculum Programme of Study for KS 1&2
- Early Years Foundation Stage guidance
- Primary Framework used as guidance for Mathematics

This policy provides information for staff, parents and governors.

### **Importance Statement:**

*Mathematics introduces children to concepts, skills and thinking strategies that are essential in everyday life and support learning across the curriculum. It helps children make sense of the numbers, patterns and shapes they see in the world around them, offers ways of handling data in an increasingly digital world and makes a crucial contribution to their development as successful learners. Children delight in using mathematics to solve a problem, especially when it leads them to an unexpected discovery or new connections. As their confidence grows, they look for patterns, use logical reasoning, suggest solutions and try out different approaches to problems. Mathematics offers children a powerful way of communicating. They learn to explore and explain their ideas using symbols, diagrams and spoken and written language. They start to discover how mathematics has developed over time and contributes to our economy, society and culture. Studying mathematics stimulates curiosity, fosters creativity and equips children with the skills they need in life beyond school.*

### **Aims:**

At Julian's Primary School, children develop:

- a positive attitude to maths in which children experience pleasure and success;
- basic skills in the 4 operations of addition, subtraction, multiplication and division to inform problem solving and algebra;
- mathematical understanding through systematic teaching and independent problem solving;
- the use of maths as a tool in a wide range problem solving and real life activities;
- mathematical understanding through talk and exploration
- an appreciation of patterns and relationships;
- the ability to visualize and to develop spatial awareness;
- the ability to seek solutions from different starting points;
- the ability to think logically, systematically and flexibly;
- their full potential through focused interventions and challenges.

Through regular consultation meetings and workshops, we encourage full engagement from parents/carers to support children's mathematical development.

### **Teaching and Learning:**

Learning opportunities to develop understanding of Mathematics and links to everyday society and other areas of learning include:

- targeted and differentiated use of questioning,
- mixed ability groupings,

- structured talk for learning opportunities,
- practical experimentation,
- the use of physical and digital equipment to support understanding,
- trial and improvement,
- regular teacher, peer and self-assessment opportunities to develop children's understanding and to accelerate progress,
- exploration of models and processes through ICT
- targeted guided group work (led by class teacher and/or TA)
- regular reinforcement of subject specific vocabulary.

Mental mathematics strategies are practised each day through a mental/oral starter to encourage children into a mathematical way of thinking for their lesson. Children work towards termly targets. All children should have 'facts at their fingertips' to support further learning around Number and Calculation. Talk for learning in maths is a key aspect of learning and helps all children to develop confidence in and understanding of the subject.

### **Planning:**

Planning is done in advance of teaching. This involves mapping out the objectives, investigations and calculation skills to be taught.

More detailed weekly planning is done with particular focuses on the starter, questions and assessment. It should be very clear at the end of each lesson what children are **learning** as well as **doing**. Grouping should be explicit in each lesson. **CHILDREN SHOULD ONLY WORK IN ABILITY GROUPS FOR NUMBER. For all other areas of Maths, they should work in mixed or near ability groups/pairs.**

Relevant, helpful links should be made to other curriculum areas eg using measures in Science and Geography or using data handling in History or PSHE. ICT should be integrated into Maths learning.

The mathematics subject leader will support year group leaders in monitoring planning and children's books at least six times over the academic year. Feedback is given and actions are followed up in future monitoring and support.

### **Recording:**

Children are expected to record calculations, diagrams and explanations independently from the earliest stages. Although there are times when worksheets are the most appropriate way to record information, they should be avoided as they can result in a form-filling exercise with little in the way of actual maths recorded.

Children record their learning in blank books. Squared paper is available when required. This, along with any worksheets, should be stuck into books. Neatness and attention to detail are required in Mathematics as much as in other subjects.

Rulers must be used accurately. Drawing straight lines using a ruler is a taught skill. Digits which are not written correctly must be corrected and examples given in children's books. All work should be dated with a learning objective and the date completed.

### **Assessment:**

Teachers make judgments about children's attainment the end of each term, with a baseline assessment at the beginning of each year. This is done using the new National Curriculum objectives to inform teacher assessment. Evidence is gathered and stored in

the Pupil Asset assessment programme which supports a summative judgement at the end of the term. Prior attainment of children does not inform expectations.

Children will peer and self-assess their learning according to success criteria, including BLP objectives, which inform the learning style required for the task. Feedback to children should reflect the agreed success criteria and should refer back to the learning objective. Dots and ticks will be used in written feedback and examples should be given in marking when the children have not understood. Please refer to the marking policy for further information.

The practice of reviewing anonymous examples of work, collectively discussing how errors have been made and suggesting how strategies could be improved is an aspect of assessment for learning which is promoted at Julian's.

### **Equal Opportunities:**

Effective pupil tracking and pupil progress meetings help to identify children who may require intervention, or who are not making good progress in relation to their starting points. We provide in class intervention through the class teacher and TA and effective challenge through differentiation. It is recognized that children who are learning English as an additional language may need additional support with the language of Maths. This is provided using specific strategies and visual cues as part of quality first teaching. At Julian's, we recognize that number systems and strategies come from many different parts of the world. We are committed to discovering, exploring and celebrating these with children.

### **Resources:**

All classrooms have age-appropriate equipment. This should be used regularly and should be noted in planning. There is also a range of software available for developing Maths concepts. Each classroom should have their maths targets displayed within the classroom and children should be aware of what they are working towards. Resources should be made available to children in lessons and independence in using them effectively, should be promoted.

All KS2 children are given a password for Mathletics. Children are given opportunities to practice their skill using Mathletics during class time and as part of homework.

### **Homework:**

Homework is given weekly – please see the homework policy for the requirements for each year group.

### **Parents/Carers:**

We are committed to keeping parents/carers up to date with current practice in Mathematics. We aim to provide parents/carers with information to help children with Maths at home. All help and engagement from home is welcome!