



# St ANDREW'S CE PRIMARY SCHOOL

## MATHEMATICS POLICY

### Introduction

At St Andrew's CE Primary school we value every pupil and the contribution they have to make. As a result we aim to ensure that every child achieves success and that all are enabled to develop their mathematical knowledge in accordance with their level of ability.

**Mathematics is both a *key skill* within school, and a *life skill* to be utilised throughout every person's day to day experiences.**

### Rationale

Mathematics equips pupils with the uniquely powerful set of tools to understand and change the world. These tools include logical reasoning, problem solving skills and the ability to think in abstract ways. Mathematics is important in everyday life. It is integral to all aspects of life and with this in mind we endeavour to ensure that children develop a positive and enthusiastic attitude towards mathematics that will stay with them.

The National Curriculum for Mathematics (2014) describes in detail what pupils must learn in each year group. Combined with our Calculation Policy, this ensures continuity, progression and high expectations for attainment in mathematics.

It is vital that a positive attitude towards mathematics is encouraged amongst all of our pupils in order to foster confidence and achievement in a skill that is essential in our society. At St Andrew's we use the National Curriculum for Mathematics (2014) as the basis of our mathematics programme. We are committed to ensuring that all pupils achieve mastery in the key concepts of mathematics, appropriate for their age group, in order that they make genuine progress and avoid gaps in their understanding that provide barriers to learning as they move through education. Assessment for Learning, an emphasis on investigation, problem solving, the development of mathematical thinking and development of teacher subject knowledge are therefore essential components of the Kinnerley approach to this subject.

### Aims

- To foster a positive attitude to mathematics as an interesting and attractive part of the curriculum.
- To develop the ability to think clearly and logically, with confidence, flexibility and independence of thought.
- To develop a deeper understanding of mathematics through a process of enquiry and investigation.
- To develop an understanding of the connectivity of patterns and relationships within mathematics.
- To develop the ability to apply knowledge, skills and ideas in real life contexts outside the classroom, and become aware of the uses of mathematics in the wider world.
- To develop the ability to use mathematics as a means of communicating ideas.
- To develop an ability and inclination to work both alone and cooperatively to solve mathematical problems.
- To develop personal qualities such as perseverance, independent thinking, cooperation and self confidence through a sense of achievement and success.
- To develop an appreciation of the creative aspects of mathematics and an awareness of its aesthetic appeal.

### Principles of Teaching and Learning Mathematics

The school uses a variety of teaching and learning styles in mathematics lessons during each lesson. Our teachers strive to:

- build children's confidence and self esteem
- develop children's independence
- allow all children to experience regular success
- Contextualise mathematics

- Use practical approaches to mathematics (models and images)
- Encourage children to select independently resources to help them
- Challenge children of all abilities.
- Encourage children to enjoy mathematics
- Develop a child's understanding of mathematical language
- Learn from teachers, peers and their own mistakes.
- Allow children to ask questions as well as answer them.

Our pupils should:

- have a well-developed sense of the size of a number and where it fits into the number system (place value)
- know by heart number facts such as number bonds, multiplication tables, doubles and halves
- use what they know by heart to figure out numbers mentally
- calculate accurately and efficiently, both mentally and in writing and paper,
- drawing on a range of calculation strategies
- make sense of number problems, including non-routine/'real' problems and identify the operations needed to solve them
- explain their methods and reasoning, using correct mathematical terms
- judge whether their answers are reasonable and have strategies for checking them where necessary
- suggest suitable units for measuring and make sensible estimates of measurements
- explain and make predictions from the numbers in graphs, diagrams, charts and tables
- develop spatial awareness and an understanding of the properties of 2D and 3D shapes

To provide adequate time for developing mathematics it is taught daily and discretely. However, application of skills are linked across the curriculum where appropriate.

### **Maths Curriculum Planning**

Mathematics is a core subject in the National Curriculum and we use the objectives from this to support planning and to assess children's progress.

Staff use long term planning to ensure coverage of all areas of the National Curriculum and medium term planning to differentiate objectives according to the set which they teach. The curriculum is a spiral one in which key objectives are revisited at least termly.

It is the class teacher who completes the weekly plans for the teaching of mathematics. These weekly plans list the specific learning objectives for each lesson and give details of how the lessons are to be taught. The class teacher keeps these individual plans, which they annotate according to the success of the lesson and future needs of pupils.

### **Assessment**

#### **Formative Assessment (AfL)**

Assessment is an integral and continuous part of the teaching and learning process at Kinnerley and much of it is done informally as part of each teacher's day to day work. Teachers integrate the use of formative assessment strategies such as: effective questioning, clear learning objectives, the use of success criteria, effective feedback and response in their teaching and marking and observing children participating in activities. Findings from these types of assessment are used to inform future planning.

## **Summative Assessment**

More formal methods are used to determine the levels of achievement of children at various times during the school year. Termly Rising Stars standardised assessments are administered and used to inform individual and group planning and monitoring of attainment and progress across the school.

## **Special Educational Needs**

Pupils will be given full access to the curriculum appropriate to their age and ability. Teachers will ensure that work is differentiated appropriately to meet the needs of the pupils.

Where it has been identified that children have difficulties with aspects of the mathematics curriculum, or if they have a recognised SEN in mathematics, the school will meet these needs either through the use of withdrawal support or individual targeting of support in the classroom.

## **Early Years Foundation Stage (EYFS)**

Children are supported in developing their understanding of mathematics in a broad range of contexts, in which they can explore, enjoy, learn, practise and talk about their developing understanding. They are provided with opportunities to practise and extend their skills in these areas and to gain confidence and competence in their use.

Children are encouraged to discover and use new words and mathematical ideas, concepts and language during child-initiated activities in their own play. They are encouraged to explore real-life problems. The outdoor environment is used to discover things about shape, distance and measures, through their physical activity. The indoor environment is used to discover things about numbers, counting and calculating through practical situations. We aim to develop mathematical understanding through all children's early experiences including through stories, songs, games and imaginative play.

In the EYFS observations are part of our daily routine. Observations are analysed to highlight achievements and needs for further support, and used to inform medium and short term planning – the next steps. Our planning is based around the individual children's needs and interests. The observations and annotated children's work and photos are used to inform judgments for the Early Years Foundation Stage Profile.

## **Resources**

A bank of essential mathematics resources are kept in each classroom. The subject co-ordinator is responsible for ensuring the appropriate use and storage of resources and to provide recommendation of new resources required to fulfil the requirements of the curriculum.

## **Computing Technology**

Teachers should use their judgement about when computing tools should be used to support teaching and motivate children's learning.

## **Role of the Subject Leader**

- Ensures teachers understand the requirements of the National Curriculum and helps them to plan lessons. Leads by example by setting high standards in their own teaching.
- Prepares, organises and leads CPD and joint professional development.
- Works with the SENCO and SLT.
- Observes colleagues with a view to identifying the support they need.
- Discusses regularly with the Headteacher and the mathematics governor the progress of implementing National Curriculum for Mathematics in school.
- Monitors and evaluates mathematics provision in the school by conducting regular work scrutiny, learning walks and assessment data analysis.
- Ensures maintenance and control of school resources.

## **Monitoring and review**

Monitoring of the standards of children's work and of the quality teaching in mathematics is the responsibility of the mathematics subject leader alongside members of the senior leadership team. The work of the mathematics subject leader also involves supporting colleagues in the teaching of mathematics, being informed about current developments in the subject, and providing a strategic lead and direction for the subject in the school.

A named member of the school's governing body is briefed to oversee the teaching of mathematics. This governor meets regularly with the subject leader to review progress.

Reviewed: May 2021

Reviewed by: M Hunt

Next review: May 2023