

**St Anthony of Padua**



**Catholic Primary School**  
**Mathematics**  
**Policy**

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*Growing together following Jesus*

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Mrs S. Bloor

## THE NATURE OF MATHEMATICS

Mathematics is a creative and highly inter-connected discipline that has been developed over centuries, providing the solution to some of history's most intriguing problems. It is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment. A high-quality mathematics education therefore provides a foundation for understanding the world, the ability to reason mathematically, an appreciation of the beauty and power of mathematics, and a sense of enjoyment and curiosity about the subject.

## THE NATIONAL CURRICULUM

The National Curriculum (September 2013) for mathematics aims to ensure that all pupils:

- become **fluent** in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- **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 routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

## TEACHERS' PLANNING AND ORGANISATION

The teaching of mathematics in our school aims to reflect the principles detailed in the Made to Measure Report May 2012:

*The responsibility of mathematics education is to enable all pupils to develop conceptual understanding of the mathematics they learn, its structures and relationships, and fluent recall*

*of mathematical knowledge and skills to equip them to solve familiar problems as well as tackling creatively the more complex and unfamiliar ones that lie ahead. (p.9)*

At St. Anthony of Padua we recognise that it is important that planning at all levels is consistent across the school and have put into practice common formats for the three linked levels of planning.

### **Long-term Planning**

Our long-term planning is the Primary National Curriculum statutory programmes of study for each year group.

### **Medium-term Planning**

We use the medium-term planning from School Improvement Liverpool (SIL). Class teachers use their professional judgement as to the time each objective requires, depending on where the children's strengths and weaknesses lie, whilst still ensuring sufficient time is allocated to address the selected objectives. To support the teaching of mastery in Mathematics teacher also use materials from NCETM and the White Rose Maths Hub

### **Short-term Planning**

Teachers plan using the planning sheets developed during whole school CPD meetings. In Year 1- 6 teachers plan objectives for each domain from the medium-term unit and organise them across a series of lessons. These short term plans organise the structure of each daily maths lesson and also highlight what the teacher and the children will do and the resources they will use, how children will be grouped, and which children the teacher and any classroom assistants will work with. The plans take into account the needs of the children in the class and focus on the school curriculum targets.

Short term plans are monitored by the Headteacher and Mathematics Co-ordinator termly to ensure that the teaching programme is planned thoroughly and to ensure that there are high expectations, clear differentiation, consistent approaches and continuity and progression throughout the school. SMT also check that the calculation sequence and calculation policy is followed consistently. The impact of plans as they are put into practice is monitored through lesson observations which are carried out by the Headteacher and Mathematics Co-ordinator as stated in the school's Mathematics Action Plan.

EYFS plan from the EYFS curriculum document

## **TEACHING**

Mathematics is taught through daily mathematics lesson and daily basic skills sessions. It is the responsibility of all staff to improve the basic skills in Mathematics.

The approach to the teaching of mathematics within the school is based on the objectives from the Primary National Curriculum

5.1 Teachers should use every relevant subject to develop pupils' mathematical fluency. Confidence in numeracy and other mathematical skills is a precondition of success across the national curriculum.

5.2 Teachers should develop pupils' numeracy and mathematical reasoning in all subjects so that they understand and appreciate the importance of mathematics. Pupils should be taught to apply arithmetic fluently to problems, understand and use measures, make estimates and sense check their work. Pupils should apply their geometric and algebraic understanding, and relate their understanding of probability to the notions of risk and uncertainty. They should also understand the cycle of collecting, presenting and analysing data. They should be taught to apply their mathematics to both routine and non-routine problems, including breaking down more complex problems into a series of simpler steps.

Teachers of the Reception class base their teaching on objectives in the Framework for Reception; this ensures that they are working towards the 'Early Learning Goals For Mathematical Development'. Towards the end of Reception teachers aim to draw the elements of a daily mathematics lesson together so that the children are school-ready when they move into Year 1.

## **STAFFING AND RESOURCES**

Teachers brief classroom assistants as to their role in the daily maths lesson. During any whole-class work assistants are asked to position themselves close to any children who may need special help or extra challenge and provide this discreetly. During group work the assistant supports children learning enabling them to achieve the objective reinforcing mathematical vocabulary. Assistants feedback to the teacher as to how individual children performed in relation to the stated objectives. Classroom assistants are invited to join in any whole-school training days.

All teachers should organise an area within the classroom dedicated to mathematics and follow the guidelines for Mathematics display proforma distributed by the Mathematics Subject

Lead.

## **DIFFERENTIATION**

This should always be incorporated into all mathematics lessons. All work should address the needs of individual /groups of children. The More Able children should be given opportunities to start challenging tasks promptly.

## **SPECIAL EDUCATIONAL NEEDS**

Children with SEN are taught within the daily mathematics lesson and are encouraged to take part when and where possible

Where applicable children's IEPs incorporate suitable objectives from the National Curriculum and teachers keep these objectives in mind when planning work.

When additional support staff are available to support groups or individual children they work collaboratively with the class teacher

Within the daily mathematics lesson teachers not only provide activities to support children who find mathematics difficult but also activities that provide appropriate challenges for children who are high achievers in mathematics.

The SEN Code of Practise provides advice on approaches to ensure all children can access the National Curriculum and achieve their full potential.

## **EQUAL OPPORTUNITIES**

All pupils have equal access to the mathematics curriculum, regardless of ability, gender, race cultural background or any physical or sensory disability.

Equality of opportunity will be promoted in mathematics according to school guidelines

outlined in the Equal Opportunities Policy.

We incorporate mathematics into a wide range of cross-curricular subjects and seek to take advantage of multi-cultural aspects of mathematics.

In the daily mathematics lesson we support children with English as an additional language in a variety of ways.

eg. repeating instructions, speaking clearly, emphasising key words, using picture cues, playing mathematical games, encouraging children to join in counting, chanting, finger games, rhymes etc. ....

## **PUPILS' RECORDS OF THEIR WORK**

Children are taught a variety of methods for recording their work, leading to formal written methods. They are encouraged and helped to use the most efficient method of recording in line with the calculation policy.

All children are encouraged to work tidily and neatly when recording their work.

## **MARKING**

See School Marking Policy

## **ASSESSMENT AND RECORD KEEPING**

We acknowledge that assessment is an integral part of all teaching and learning. Without it progress could not be ensured as assessment procedures produce information to enable staff to provide a better match between children and the mathematical work that is offered to them.

Our assessment procedures at St. Anthony's inform teaching plans at three linked levels –

short-term, medium-term and long-term assessments to ensure that there is a continuous cycle of planning, teaching and assessment. The school uses Target tracker and the assessment systems developed through the Liverpool LA pilot project to track pupil progress. (See Assessment Policy)

### **Short-term Assessment**

Short-term assessments are an informal part of every lesson and are closely linked to specific teaching objectives indicated in the weekly teaching plan. Assessment for Learning is used to support the teachers assessments.

### **Medium-term Assessment**

Our medium-term assessments are carried out each term. Evidence is collected from a range of sources such as pupils books, tasks and tests, guided group work and class and individual mathematical discussions.

### **Long-term Assessments**

Our long-term assessments are carried out towards the end of the year to enable us to assess where our pupils are in relation to school and national targets. These long-term assessments are made through teacher assessments that draw upon the mental image we have created about each child's progress through our informal day-to-day assessments and by looking at a sample of their work. Long-term assessments are also made through end-of-year SATS for Years 2 and 6 and by NFER optional tests for Years 3, 4, and 5.

The purposes of our long-term assessments is to :

- assess children's work against the programme of study statutory requirements for each year group

- provide supplementary information about individual children's attainment and progress to enable us to report to parents and the child's next teacher;
- help us as a school to set targets for the National Curriculum tests in future years.

## **REPORTING**

Our long-term assessments are also used to enable the Headteacher to inform the governing body and parents on overall progress and attainment in the school as a whole, including progress towards school, LA and national targets.

Reporting to parents on their individual child is done through 2 parents' evenings per year and SEN meetings, and annually through a written report. Reporting in mathematics will focus on each child's achievements, effort and attitudes. Each pupil's strengths will be reported on as well as areas in which they need to focus upon to improve further.

## **MONITORING AND EVALUATION**

Each term teachers take part in school and cluster monitoring meeting to monitor and evaluate the quality and standards of mathematics throughout the school and enables the coordinator to support teachers in their own classrooms. Exemplification materials are used to support the teachers' judgements.

## **PARENTAL INVOLVEMENT**

Parents are invited into school twice yearly to look at their children's work. Curriculum statements are sent out every term detailing the mathematics curriculum for each year group. Parents are provided with parent booklets, workshops, website information to support their child's learning at home.

## **HOMEWORK**

Opportunities for children to use and apply the skills and knowledge acquired in the daily mathematics lesson are extended through the regular setting of homework (see Homework Policy). Out- of-class activities are frequent, short and focused. The type of homework set by the teacher practises and consolidates the learning of the lesson and should not require parents to teach children.

## **THE GOVERNING BODY**

The Mathematics subject lead is also a Mathematics Governor worked and informs the governors about the teaching and learning, progress and attainment of mathematics at St Anthony of Padua.

