

# Sacred Heart Catholic Primary School



# Mathematics Policy

2017-18

**PROUD** of our children: **PROUD** of our school: **PROUD** of our faith

<b>Date Policy agreed</b>	June 2017
<b>Governors Committee Responsible</b>	Teaching, Learning and Curriculum
<b>Governor Lead</b>	
<b>Status and Review Cycle</b>	<b>Annual</b>
<b>Next review date</b>	June 2018
<b>Headteacher signature</b>	
<b>Chair of Governors signature</b>	

## Document Purpose:

The purpose of this document is to outline the teaching, organisation and management of the mathematics taught and learnt at Sacred Heart Catholic Primary School. The policy has been drawn up as a result of staff discussion and has the full agreement of the Governing body/IEB. The implementation of this policy is the responsibility of all teaching staff.

## Mission Statement:

Our Mission Statement sets out what our school stands for: beliefs, ethos, values and purpose.

At Sacred Heart we are:

**PROUD** of our children; **PROUD** of our school; **PROUD** of our faith.

We aim:

*To live as a Christian family inspired by the values of Jesus.*

*To celebrate and develop every child's full potential through a rich and enjoyable learning environment.*

*To promote and encourage an effective partnership between home, school, parish and community.*

The staff of Sacred Heart Catholic Primary School will work to give each child the tools necessary for them to make **progress**, show **resilience**, approach subjects with an **open heart**, celebrate **uniqueness** (irrespective of ability) and provide opportunities to **demonstrate their faith**. From this each child will have a strong sense of self-worth and self-esteem. We are **PROUD** that all teaching and learning is underpinned by the school mission statement.

This Maths Policy sets out how we achieve our Mission Statement and School Aims.

## Rationale:

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 healthy and enthusiastic attitude towards mathematics that will stay with them. Mathematics provides pupils with a means of making sense of the world in which they live. Building on experiences, it encourages thinking and reasoning skills to grow. It embraces natural curiosity and develops the confidence to tackle situations that arise in mathematics and other curriculum areas.

## Aims:

We aim to provide all pupils with a mathematics curriculum which will produce individuals who are: literate, creative, independent, inquisitive, enquiring and confident. We also aim to provide a stimulating environment and adequate resources so that pupils can develop their mathematical skills to their full potential.

At Sacred Heart Catholic Primary School, we aim for each child to:

1. Have a positive attitude towards mathematics.
2. Have self-confidence in their ability to deal with mathematics.
3. Be able to work systematically, co-operatively and with perseverance.
4. Be able to think logically and independently.
5. Experience a sense of achievement regardless of age and ability.
6. Understand the appropriate underlying skills, concepts and knowledge of number, measurement, shape, space and handling data.
7. Be able to apply previously acquired concepts, skills, knowledge and understanding to new situations both in and out of school.
8. Understand and appreciate pattern and relationships in mathematics.
9. Be able to: communicate with peers and adults, share ideas and experiences, ask questions clearly and fluently and use the appropriate mathematical language.
10. Be able to explore problems using the appropriate strategies, predictions and deductions.
11. Have equality of opportunity regardless of race, gender or ability.
12. Be aware of the uses of mathematics beyond the classroom.
13. Encourage the use of mental calculations and efficient strategies to work out the answers.

For parents to:

1. Be actively involved in their children's mathematical learning both in school and at home.
2. Understand and support the school's mathematics and homework policy and scheme of work.

## **Provision:**

Sacred Heart Catholic Primary School will start to use the Singapore approach to teach mathematics from September 2015, in years 1 to 3 and September 2016 years 4 to 6. The Singapore method of teaching mathematics places great emphasis on: problem solving and comprehension, allowing students to relate what they learn to prior knowledge; careful scaffolding of core competencies of: visualisation (as a platform for comprehension), mental strategies (to develop decision making abilities) and pattern recognition (to support the ability to make connections and generalise) with more emphasis on the foundations for learning and not on the content itself so that students learn to think mathematically as opposed to merely reciting formulas or procedures.

In early years, the curriculum is guided by the Early Learning Goals, which mirror the Reception Learning Objectives in the Renewed Framework.

## Organisation of Teaching and Learning:

In Key Stage 1, mathematics lessons are held on a daily basis and last for approximately one hour. Children are taught in mixed ability classes.

In Key Stage 2, the daily maths lessons last for one hour. The children are taught in mixed ability classes aside from year 6; where they are streamed.

## Provision Singapore Maths Lesson Structure:

- Explore – At the start of the session children are presented with a problem. Using manipulative equipment on the table; children try and solve the problem.
- Structure – Children offer their methods to the teacher. The teacher models 3 selected methods on the board.
- Journal – Children choose their preferred method to journal in their books.
- Reflect and practise – Children are given the opportunity to review other methods given by their peers. Through guided practice, children familiarise themselves with their new skills to answer familiar problems.
- Apply – Children have the opportunity to use their new skills to answer unfamiliar problems.

From Y2 upwards, children complete a start of the day maths workout which revises all basic skills. Each week children also have opportunity to achieve a times table wrist band by completing a times table challenge.

## Planning:

Singapore Maths - Each member of teaching staff annotates the text book, which requires them to plan in detail each part of the Singapore lesson structure (outlined above). Using the online planning guide, teachers can receive guidance on: which methods children are most likely to come up with; questions to help promote deeper thinking; ideas to extend the learning of able pupils and also how to cater for less able children.

## Recording Work:

The Singapore Approach - All children work in a designated maths journal from Year 2 onwards. All are expected to 'journal' their preferred method to answer the problems. Children then go on to a variety of hands on activities which aids discussion. All children have a Singapore Workbook, which has worksheets to support each lesson, where children can demonstrate their new skills. During this activity children may choose to use a different method. If so, children should be prompted to return to their journal and complete a post journal to show their progression.

All children should be encouraged to explain their workings out and give reasons for their answers.

Individual white boards are also used to record answers during mental / oral activities.

## Assessment and Record Keeping:

Assessment is regarded as an integral part of teaching and learning and is a continuous process. At Sacred Heart Catholic Primary, we are continually assessing our pupils and recording their progress, allowing us to match the correct level of work to the needs of the pupils and to identify children who are in need of additional / targeted support. Assessment is carried out on three levels:

Short-term assessments are an informal part of every lesson. The Singapore approach to teaching mathematics is structure into chapters. All children complete a pre – learning challenge for each chapter. This indicates children’s prior knowledge and their gaps. At the end of each chapter, children complete the post learning challenge (end of chapter assessment) to demonstrate the progress they have made.

## Achieved Support Method:

Medium term assessments are carried out every ten weeks; at the beginning as a diagnostic assessment and at the end in order to review and record the progress the pupils have made in relation to the Key Objectives. It also assists in the identification of children who are in need of targeted intervention work in order to meet their yearly maths target. Children’s progress is tracked throughout the year using end of year expectations. The percentage of expectations highlighted, will determine if the child is classed as ‘E’ (emerging ARE) ‘B’ (below ARE), ‘D’ (developing within the ARE) or are an ‘S’ (secure with ARE). See Sacred Heart Catholic Primary Assessment Policy for more details.

Long term formal assessments are carried out towards the end of the school year when pupils’ attainment is measured against individual, school and national targets.

## Marking:

Work is marked on a daily basis; where possible with the child concerned - this includes self-marking of the work in KS2. Marking informs part of the on-going teacher assessment. Comments are to be made on the child’s book only when there is a clear misunderstanding. When a child has exceeded teacher expectations, a challenge will be set, which will focus on deepening the child’s understanding rather than accelerating their learning. Work is marked in accordance with the colour-coding marking policy.

## Singapore Intervention:

Due to the nature of the Singapore approach and the emphasis placed on the children becoming independent learners, teachers and teaching assistants are able to conduct more thorough assessment of children’s understanding. Sessions have been timetabled in the afternoons, for teaching assistants to revisit objectives which children have found challenging. These sessions will focus on children who cannot confidently use method 1 or to move children, who are over reliant on method 1, on to a more efficient method.

Class intervention time is built in through the Singapore approach. These lessons are for the teacher to focus on areas of the curriculum which they feel children need more practise. These lessons can also be

used for the discrete teaching of basic skills.

Filling Gaps - children who are absent from school are expected to catch up on any work missed. TA's are to keep a record of children who are absent and the objectives they have missed. When the children return to school, they work with the class TA during intervention time to complete any gaps in their work.

## **Cross-curricular Links:**

Mathematics is taught mainly as a separate subject but every effort is made to link maths with other areas of the curriculum. Opportunities will be sought to draw mathematical experiences out of a wide range of activities. This will allow children to begin to use and apply mathematics in real contexts.

## **Resources:**

A full audit of Maths resources was conducted in October 2016. Resources were purchased to support the teaching of the Singapore approach. Everyday basic resources are stored in each classroom while topic specific resources e.g. scale and weights are stored centrally in each of the key stage buildings. Singapore Textbooks and Workbooks have been purchased for each class.

## **Computing**

IT is used in various ways to support teaching and motivate children's learning. Many sources of IT are used including; various mathematical software programmes, ITPs and Smart board resources.

## **Homework:**

Where appropriate teachers set homework for pupils in order to consolidate work taught in a lesson or in preparation for a future lesson. Not all homework is written work and pupils are encouraged to continually practise their mental/oral skills, in particular, learning times tables.

## **More Able Pupils:**

More able pupils will be taught with their own class and stretched through work and extra challenges which enriches their learning. When working with the whole class, teachers will direct higher order questions to the more able. Very occasionally, arrangements will be made for an exceptionally gifted pupil, e.g. they may follow an individualised programme with more challenging problems to tackle.

## **Special Educational Needs:**

Teachers will aim to include all pupils fully in their daily mathematics lessons. Teachers will differentiate to meet the needs of such pupils and use Teaching Assistants to support such pupils where appropriate. However, a pupil whose difficulties are severe or complex may need to be supported with an individualised programme.

## Reporting to Parents:

During the year there are three parent consultation evenings that allow the teacher and parents to discuss a child's progress and attainment. All parents receive an annual written report on which there is a summary of their child's efforts and progress in mathematics over the year.

At the end of Key Stage 1 and Key Stage 2 each pupil's level of achievement, against national standards, is included as part of their annual written report.

## Parental Involvement:

At Sacred Heart Catholic Primary School, we encourage parents to be involved by:

- Inviting them into school twice yearly to discuss the progress of their child.
- Inviting parents into school in the summer term to discuss the yearly report.
- Holding workshops for parents e.g. focusing on the teaching of mathematical calculations.

## Equal Opportunities:

As a staff, we endeavour to maintain an awareness of, and to provide equal opportunities for all our pupils in mathematics. We aim to take into account cultural background, gender and SEN, both in our teaching attitudes and in the published materials we use with our pupils.

## TRAINING AND DEVELOPMENT:

The subject leader should:

- Audit staff skills and confidence in the teaching of maths on a regular basis.
- Arrange training for individuals as required.
- Attend courses and support and train staff as far as possible.

Advice, regarding all aspects of maths, can be sought from the subject leader and any requirements for training can be discussed and planned for.

## MONITORING, EVALUATION and REVIEW

The Maths Subject Leader, together with the Leadership Team, is responsible for monitoring and evaluating Maths in line with the whole school policy. The Maths policy is reviewed every two years (or as needed) and updated as necessary.