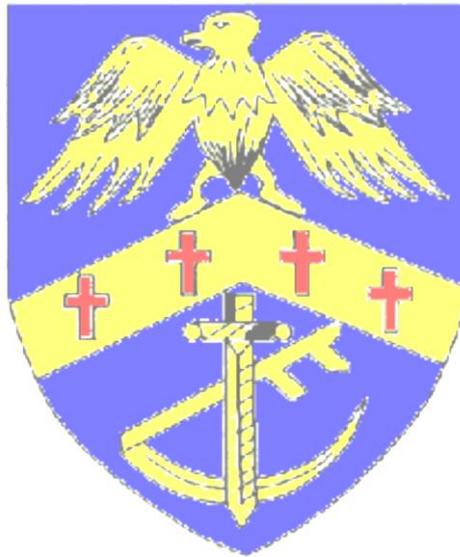


# SUNNYMEDE JUNIOR SCHOOL

*Learning for a Better Tomorrow*

## MATHEMATICS POLICY



**Review :** Every two years

**This Review:** October 2019

**Next Review Date:** October 2021

| <i>Headteacher's signature</i>  | <i>Chair of Governor's signature</i>   |
|---|--|
|  |  |

## **Rationale**

At Sunnymede Junior School, we believe that mathematics not only forms an integral part of our curriculum but is essential to everyday life. It equips pupils with a powerful set of tools that they need to understand and change the world. The National Curriculum (2014) states that 'A high-quality mathematics education 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.' Our school policy embraces this vision.

This policy is to be read in conjunction with the Calculation, Assessment and Marking policies.

## **Aims**

Our aims are to ensure that all pupils:

- Enjoy mathematics
- Have a secure understanding of number
- Can explain their methods and ideas fully, using mathematical vocabulary securely
- Develop their awareness of how maths is related to and can affect everyday life
- Understand how mathematics relates to the rest of the curriculum.

By enabling pupils to meet these aims, we hope to encourage them to maintain a positive attitude to learning and a clear understanding of how to achieve and make progress. Our pupils are encouraged to work independently, achieved by building their self-esteem, encouraging collaborative working and by improving their understanding and ability to explain and reason their thinking.

## **Mastery in Mathematics**

At Sunnymede, we provide a rich and deep level of learning for pupils so they can become 'masters' of their own understanding. Pupils are taught through small, carefully planned steps which focus on the development of deep long lasting knowledge. Precise questioning aids our pupils in deepening their thinking and enabling them to explain their thinking with fluency. Mastery within mathematics means that all pupils are given sufficient time to fully grasp, manipulate, reason and demonstrate their learning. This fundamental belief underpins our mathematical teaching and shows the importance of mathematics, not just as an academic but also as a life skill.

Within lessons, pupils are encouraged to show their learning and understanding through concrete, pictorial and abstract methods, creating a strong bond of mathematical vocabulary and technical understanding, displayed by both teachers and pupils.

## **Approach to Mathematics**

Our mathematics lessons are centered on the objectives of the National Curriculum. All our staff are aware of the expectations of our pupils and how a firm foundation of mathematical teaching is essential to progress. Long term planning, structured by the White Rose scheme, is also used to ensure the full range and required content of the curriculum is covered with enough depth and time to ensure mastery of skills. This ensures all strands of learning are covered and experienced by all pupils fully. Teachers are expected to adapt their teaching and learning to fully meet the needs of the pupils they teach, regardless of their academic need or barrier to learning. Children are taught Maths in mixed ability classes.

All pupils receive mathematical teaching each day and it is also expected that mathematical links are made within other subjects where possible. Pupils' understanding and progress is considered within stages of learning, with the expectation that most children will progress through these stages

at the same pace. However, some children may take a longer or shorter amount of time to achieve some objectives. Through learning basic number facts, mental strategies and times table knowledge, the progress of each pupil is greatly enhanced. At Sunnymede, pupils are required to work through and achieve times table awards through a structured scheme. This allows them to demonstrate their knowledge of times tables under time limits, out of sequence and the corresponding division facts. Awards are as follows:

Bronze: secure in 2,5 and 10 times tables

Silver: secure in 3,6 and 6 times tables

Gold: secure in 4,8 and 12 times tables

Platinum: secure in 7 and 11 times tables

Diamond: secure decimals, square and cubed numbers

Next step marking and concise feedback (both written and verbal) ensures children's progress is continual and moves at a good pace. More information on specific marking expectations is found within the school's marking policy.

By knowing our pupils well, teachers adjust the provision and expectations for these children accordingly. All children, no matter what their academic or social needs, are expected to receive a full and purposeful mathematics curriculum tailored to their needs.

### **Content of Mathematical Learning**

The content of our lessons follows the guidance from the National Curriculum, which states 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.' (National curriculum page 3).

Mathematics lessons are usually structured so that they contain a mental 'starter' (daily 5 or 10), teaching input, along with shared and individual learning. A pupil's ability to work both on their own and collaboratively is vital within any aspect of our curriculum. An emphasis is placed on mathematical vocabulary and how it is used to support our explanations and understanding.

Each area of the National Curriculum for Mathematics is adhered to and taught in a progressive manner throughout the school. In line with our Calculation Policy, children's learning is planned and delivered in 'stages'. Once a stage or concept has been mastered, pupils are encouraged to move on. Each stage consists of secure mental methods, leading to expanded written methods, to demonstrate clear knowledge of number and place value and, finally, formal written methods.

### **Assessment within Mathematics**

The most purposeful element of assessment is quickly understanding what knowledge a pupil has, how far the element has been mastered and establishing next steps. Teachers acquire this knowledge in a variety of different ways and this is used to form judgments about the attainment and progress of our pupils.

Assessment for learning within lessons is a key starting point for ensuring the content, progression and learning needs of the children are met. Questioning, discussion and modelling ensure children are ready to demonstrate their learning and knowledge on their own. In cases where they are unable to demonstrate this, fluid intervention is put into place to support them. Each term summative assessments (Headstart Mathematics and White Rose resources) are carried out to give pupils the opportunity to demonstrate the depth and breadth of their learning. Termly assessment documents are completed to show specific progress against the relevant year group objectives and targets to move them on. All of this information is combined into a teacher judgment and assessed on Target Tracker.

Where pupils have been assessed at working below age related expectations, intervention programmes are used to target certain pupils in specific areas of the curriculum. These support pupils to make rapid progress in order to 'close the gap' and reduce the risk of pupils making less than expected progress. High quality LSA led programs, such as '1<sup>st</sup> Class @ Number 2" (Years 3 and 4) and Success@arithmetic' (Years 5 and 6), are used to achieve this.

Units of work mainly begin with a revision of known facts, consolidation of understanding and addressing of misconceptions. The continual assessment of children's day to day work is a vital component in not just the teachers understanding of progress, but the pupils own understanding of their learning and how they can improve. Our Marking policy states that children should be responding to marking at least twice a week and demonstrating their understanding of how they can improve.

In Year 6, all children working at or exceeding the expected standard, will complete the end of KS2 SATs. Throughout the school, pupils are given the opportunity to receive 'test' style questions in order to help the pupils to show their understanding in different ways. This a key part of preparing our pupils for the expectations they will encounter during their schooling and beyond.

These elements follow our assessment policy.

### **School- Parent Partnership**

In accordance with our homework policy, children will be required to complete a maths activity through an online program called '*Mathletics*' in Years 5 and 6 and using '*Times Tables Rock Stars*' in Years 3 and 4. This allows children to consolidate their thinking and apply their learning at home. It is also a vital opportunity for teachers to see how much of their learning has been retained and identifies areas for consolidation. Feedback from parents on the progress of their child is essential in supporting pupils to make good progress.

In addition to the *Mathletics* or *Times Tables Rock Stars* task, our pupils also receive written maths homework, on a tri-weekly basis in Years 3 to 5. In Year 6 the written maths task will be weekly.

Parent workshops are also offered to allow parents to understand the process of how pupils learn the different written and mental methods of calculation. This follows the stages set out within the Calculation Policy.

### **Monitoring and Evaluation**

In order to ensure continuity and progression, the teaching of maths across the school will be monitored regularly, using a range of strategies. Day-to-day monitoring is the prime responsibility of the senior leadership team, including phase leaders. The maths subject leader also undertakes a range of monitoring activities throughout the year. Any monitoring activities are evaluated and reported to the Leadership Team promptly (within one week). This includes a written summary of strengths, areas for development and what support may be required. Any agreed actions arising

should be acted upon within an identified time frame. The subject leader should ask for support with monitoring where appropriate.

The mathematics subject leader performs regular book looks, data analysis, lesson 'drop-ins' / observations and pupil voice discussions. This helps to ensure subject progression, purposeful marking and the level of pupil understanding within the subject. These findings are shared with the senior management team and form part of the report to governors.

A nominated governor for maths will monitor the policy and practice of mathematics within the school. They will liaise with the Subject Leader and meet with them in order to monitor and review evidence to support their evaluation of the school's provision. They will look at the range of evidence and may talk to pupils about their learning experiences in maths. The governor completes a monitoring report on their findings following a visit, giving another perspective on the quality of provision within mathematics.

This policy will be reviewed every two years, or sooner if considered necessary, and in consultation with relevant stakeholders. Any changes will be presented to the Governing Body for approval.

### **Inclusion**

We believe that all children irrespective of ethnicity, culture, gender, social circumstance, special need or disability should have equal access to the mathematics curriculum. Teaching resources used will ensure that no stereotyping in any form is promoted and that resources reflect positive images of different cultures, ethnicities and of those with disabilities.

All children have equal entitlement and equal access to a range of materials and teaching strategies to support their learning in Maths. Any disability will be fully catered for to ensure full access to the curriculum. Children with special educational needs will work on the same content but there will be differentiation in accordance with the SEND policy.

### **The Role Of The Maths Subject Leader**

There is a named co-ordinator responsible for co-ordinating the teaching of mathematics throughout the school. Their role is to:

- Provide support, advice and resources to members of staff
- Monitor the planning and teaching of mathematics and outcomes for all children, supporting staff with planning and assessment of where necessary (to include reviewing the quality of termly and weekly planning, book scrutiny, review of curriculum coverage, assessment records, pupil voice activities, review of the learning environment and, where appropriate, direct observation of teaching and learning)
- Ensure the curriculum and school policy is understood and implemented by all relevant parties
- Attend relevant training and support staff through relevant INSET sessions
- Monitor the use of resources throughout the school and ensure high quality resources are available to support high quality teaching
- Keep up to date with developments in the teaching of Maths, adapting the school's curriculum, assessment systems and policies in line with any changes to statutory requirements and national and local developments.

|          |             |      |                 |
|----------|-------------|------|-----------------|
| Teacher: | Year Group: | Unit | Week Beginning: |
|----------|-------------|------|-----------------|

| Lesson | Objective (WALT) Success Criteria (WILF) | Starter/ Consolidation activity | Teaching input<br>Model/ vocabulary discussion/ reasoning thought process |             |             | Plenary/ consolidation of lesson | Evaluation- what are the next steps for my learners? |          |
|--------|--|---------------------------------|---|-------------|-------------|----------------------------------|--|----------|
| 1      | Learning question: Can I                 |                                 |   |             |             |                                  |  |          |
|        |  |                                 |   |             |             |                                  |  | TA focus |
|        |  |                                 | Challenge 1   | Challenge 2 | Challenge 3 |                                  |  |          |
|        |  |                                 |   |             |             |                                  |  |          |
| SEND:  |  |                                 | Resources:  |             |             |                                  |  |          |
| 2      | Learning question: Can I                 |                                 |   |             |             |                                  |  |          |
|        |  |                                 |   |             |             |                                  |  | TA focus |
|        |  |                                 | Challenge 1   | Challenge 2 | Challenge 3 |                                  |  |          |
|        |  |                                 |   |             |             |                                  |  |          |
| SEND:  |  |                                 | Resources:  |             |             |                                  |  |          |
| 3      | Learning question: Can I                 |                                 |   |             |             |                                  |  |          |
|        |  |                                 |   |             |             |                                  |  | TA focus |
|        |  |                                 | Challenge 1   | Challenge 2 | Challenge 3 |                                  |  |          |
|        |  |                                 |   |             |             |                                  |  |          |
| SEND:  |  |                                 | Resources:  |             |             |                                  |  |          |

|   |                          |  |             |             |             |          |  |  |
|---|--------------------------|--|-------------|-------------|-------------|----------|--|--|
| 4 | Learning question: Can I |  |             |             |             | TA focus |  |  |
|   |                          |  | Challenge 1 | Challenge 2 | Challenge 3 |          |  |  |
|   |                          |  |             |             |             |          |  |  |
|   |                          |  | SEND:       | Resources:  |             |          |  |  |
| 5 | Learning question: Can I |  |             |             |             | TA focus |  |  |
|   |                          |  | Challenge 1 | Challenge 2 | Challenge 3 |          |  |  |
|   |                          |  |             |             |             |          |  |  |
|   |                          |  | SEND:       | Resources:  |             |          |  |  |

