SEAGRY AND SOMERFORDS' WALTER POWELL PRIMARY SCHOOLS FEDERATION

Mathematics Policy

March 2015

This Policy outlines the teaching, organisation and management of mathematics taught and learnt at Seagry and Somerfords' Walter Powell Federated Primary Schools. The Policy is based on the 2014 expectations and aims of the 'New Curriculum' for Mathematics and the Early Years 'Development Matters' EYFS document, published by the British Association for Early Childhood Education.

The Policy has been drawn up by the Mathematics Subject Leader, shared and discussed with all staff and has the full agreement of the Governing Body.

Purpose of study

Mathematics is a creative and highly interconnected 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.

Aims

The new national curriculum 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.

Mathematics is an interconnected subject in which pupils need to be able to move fluently between representations of mathematical ideas. The programmes of study are, by necessity, organised into apparently distinct domains, but pupils should make rich connections across mathematical ideas to develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems. They should also apply their mathematical knowledge to science and other subjects.

The expectation is that the majority of pupils will move through the programmes of study at broadly the same pace. However, decisions about when to progress should always be based on the security of pupils' understanding and their readiness to progress to the next stage. Pupils who grasp concepts rapidly should be challenged through being offered rich and sophisticated problems before any acceleration through new content. Those who are not

sufficiently fluent with earlier material should consolidate their understanding, including through additional practice, before moving on.

Computing

Computers are an integral part of learning in school and teachers ensure that the children use computers to develop their learning whenever possible.

Spoken language

The national curriculum for mathematics reflects the importance of spoken language in pupils' development across the whole curriculum – cognitively, socially and linguistically. The quality and variety of language that pupils hear and speak are key factors in developing their mathematical vocabulary and presenting a mathematical justification, argument or proof. They must be assisted in making their thinking clear to themselves as well as others, and teachers should ensure that pupils build secure foundations by using discussion to probe and remedy their misconceptions.

Planning

Planning begins with a thorough understanding of children's needs based on effective and rigorous assessment and tracking, combined with high expectations for all children to achieve. Medium term planning outlines the areas of mathematics that will be taught during the term to ensure coverage of the National Curriculum. Short term planning is the weekly planning compiled by each teacher. This states the objectives for each lesson and what is to happen in each section of the lesson. Differentiation of activities for different ability groups is also detailed.

Teaching

Mathematics is taught on a daily basis for between 45 minutes to 1 hour, depending on the age of the child.

In the Foundation Stage, children are given the opportunity to develop their understanding of number, measurement, pattern and shape and space through a combination of short, formal teaching as well as a range of planned structured play situations. Children of this age are also encouraged to develop their mathematical skills through their own imaginative led play based learning.

A typical lesson in Year 1 to 6 will often have the following components:

- **Oral and mental work across the range of mathematics**. This involves work to rehearse, sharpen and develop mental and oral skills.
- **Main teaching session.** This includes both teaching input and pupil activities and a balance between whole class, group and individual work effectively differentiated and offering appropriate challenge. Sometimes the focus for this session is new learning, at other times pupils may be practising to master the application of a

concept they have learned earlier.The focus of this session may vary for different children depending on their learning needs.

- **Plenary.** This involves work with the whole class to sort out misconceptions, identify progress, to summarise key facts and ideas and what to remember, to make links with other work and to discuss next steps.

Teachers plan learning that is differentiated to meet the needs of all pupils, whether they have a specific learning difficulty in maths or whether they are particularly able.

Assessment

Assessment is regarded as an integral part of teaching and learning and is a continuous process. Formative assessment is mainly achieved through clear learning objectives, the use of success criteria, mini-plenaries, effective questioning, marking and pupil self-assessment. Assertive Mentoring (AM) materials are used to support rigorous and regular formative assessment of basic skills in mathematics.

Using AM half-termly tests, pupils are assessed summatively against Age Related Expectations. The schools' progress tracking system is updated termly. National Curriculum tests are used at the end of Key Stage 1 and 2.

Resources

A bank of essential resources is kept in each classroom. Further resources relating to key whole school topics, for example 'Shapes', are kept as a central resource.

Calculators are introduced near the end of key stage 2 to support pupils' conceptual understanding and exploration of more complex number problems, if written and mental arithmetic are secure.

Role of the subject leader

The Maths subject leader monitors the standards of teaching and learning within the school and in so doing evaluates the strengths and weaknesses of the subject and areas for further improvement. It is also their role to support colleagues in the teaching of numeracy and to keep informed of the current developments in the subject.

Policy review

The review cycle for this policy is every three years.

This policy was agreed by the governing body, Headteacher and staff at Seagry and Somerfords Walter Powell Primary Schools' Federation on 27th April 2015 and is due for review by March 2018.

Signed: ……..... Chair of Governors