



The Winterton Federation Mathematics Policy



Introduction

This policy outlines the teaching, organisation and management of the mathematics taught and learnt at The Winterton Federation. The Federation's policy for mathematics is based on the 2014 expectations and aims of the 'New Curriculum' for mathematics. This ensures continuity and progression in the learning and teaching of mathematics. The policy has been drawn up as result of staff discussion and has full agreement of the Governing Board. The implementation of this policy is the responsibility of all the teaching staff.

Purpose

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 in all forms of employment. A high-quality education in maths therefore provides a foundation for understanding the world, ability to reason mathematics, an appreciation of the beauty and power of mathematics, and a sense of enjoyment and curiosity of the subject.

Aims

The National Curriculum for mathematics aims to ensure that all pupils:

- Become fluent in the fundamentals of mathematics, including through varied and frequent practise 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 solution.

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 distinct areas, but pupils should make connections across mathematical ideas to develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems. They apply 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, decision about when to progress is always based on the security of pupils' understanding and their readiness to progress to the next stage. Pupils who grasp concepts rapidly are 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 additional practice, before moving on.

Use of ICT

Calculators are not to be used as a substitute for good written and mental mathematics, and do not form any part of the curriculum at The Winterton Federation. ICT is used to good effect in supporting pupil progress. Year 1 and Year 2 utilise an online programme called Numbots, to help develop their knowledge of number bonds and key number facts, while Year 3, 4, 5 and 6 utilise an online programme called Times Table Rockstars to help improve times table recall. Where staff feel technology would enhance lessons, it should be deployed, ensuring that it is supporting pupils in their learning.

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 mathematical justification, argument or proof. They are assisted in making their thinking clear to themselves as well as others and teachers ensure that pupils build secure foundations by using discussion to probe and remedy their misconceptions. Teachers also probe children's understanding through open questions to develop their mathematical literacy and encourage deeper thought.

For parents to:

- Be actively involved in their children's mathematical learning both in school and at home;
- Understand and support the school's mathematics and homework policy and scheme of work;
- Where possible, enable their children can access Numbots or Times Table Rockstars programmes at home.



The Winterton Federation Mathematics Policy



Teaching Mathematics

A Typical Lesson

- Planning allows for children to begin learning as soon as the lesson starts with open ended thinking activities, times tables activities or consolidation of learning to warm them up. In Spring and Summer Terms, staff use Flashback challenges to build on prior learning. Lessons then include fluency, reasoning and problem solving activities, all of which are linked explicitly to the White Rose Maths MTP. The maths lesson is split into two parts with a break in the middle to allow teachers to effectively assess pupil understanding and progression, enabling them to target key pupils, address misconceptions and implement same day intervention in the same day;
- Questioning is the key to success in all our mathematics sessions and questions are continuously adapted by the teacher and support staff based on assessment for learning;
- Mental maths is incorporated throughout all lessons and mental strategies for solving all mathematical concepts are discussed and developed based on continuous assessment for learning;
- Use of teaching assistant support is planned for in every part of the mathematics lesson to ensure they are used effectively in supporting, developing and assessing pupil progress throughout. TAs are effectively directed following the assessment break in order to maximise their impact. At The Winterton Federation we value the impact that TA support has on all our children's learning. Regular training opportunities are given to keep them fully updated and develop their skills further. They are encouraged to share assessment observations throughout the lesson and through discussions with teaching staff to have a shared impact on childrens' progression.

Progression of Calculation Methods

We have a policy for progression in calculation methods to ensure continuity and consistency throughout school. Please read this for further information.

Differentiation and Support: (including provision for SEND, More Able and P.P pupils)

This is incorporated into all mathematics lessons and is done in various ways, such as:

- Setting challenging age related fluency, reasoning and problem solving tasks based on systematic, accurate assessment of pupils' prior skills, knowledge and understanding;
- Small differentiated target steps for all children to move through at a pace that suits their needs;
- Timely support and intervention; systematically and effectively checking pupils' understanding throughout lessons;
- Ensuring that marking and constructive feedback develop their work – with planned time for children to respond to feedback;
- Real life, practical links where possible;
- Range of practical-real life resources used to support all stages of learning within the class;
- Intervention programmes/extra teacher support delivered where and when needed both in class and through extra sessions planned outside the lessons;
- Visual stimulus aids are provided where needed.

Marking

The main purpose of our marking is to develop pupil progress and enable us, as educators, to support pupils most effectively. Work is marked in accordance with the Marking and Feedback Policy.

Assessment

Assessment is regarded as an integral part of teaching and learning and is a continuous process. It is the responsibility of the class teacher to assess all pupils in their class. This is mainly achieved through mini-plenaries, questioning, marking, TA feedback and pupil self-assessment.

In addition to the assessment opportunities, all pupils' attainment and progress is recorded on The Winterton Federation assessment system, which is updated termly.

Homework

- Times tables are set on a weekly basis, and can be practised using technology;
- Other homework activities are set as and when required (in line with school homework policy).



The Winterton Federation Mathematics Policy



Monitoring and Review

The monitoring of the standards of children's work and the quality of learning and teaching mathematics is the shared responsibility of the SLT and the subject leader. The work of the subject leader involves supporting colleagues in the teaching of maths, being informed about current developments in the subject, and providing a strategic lead and direction for the subject in school.

Governors are briefed on the overview of mathematics at pupil progress meetings and standards meetings. All subject leaders are required to give an overview of their subject once a year at a governor meeting.

This policy must be used in conjunction with the:

- Calculation policy;
- New Maths Curriculum 2014 government documentation;
- Intervention groups/timetables (updated regularly);
- Staff non-negotiables;
- The Marking and Feedback Policy.

Policy reviewed by Adam Downs: Autumn 2021

Policy agreed by Staff: Autumn 2021

Policy agreed by Governors: Autumn 2021

Policy review date: Autumn 2024