



Wansdyke School

Mathematics Policy

Date agreed: November 2020

Review Date: November 2021

National Curriculum Aims

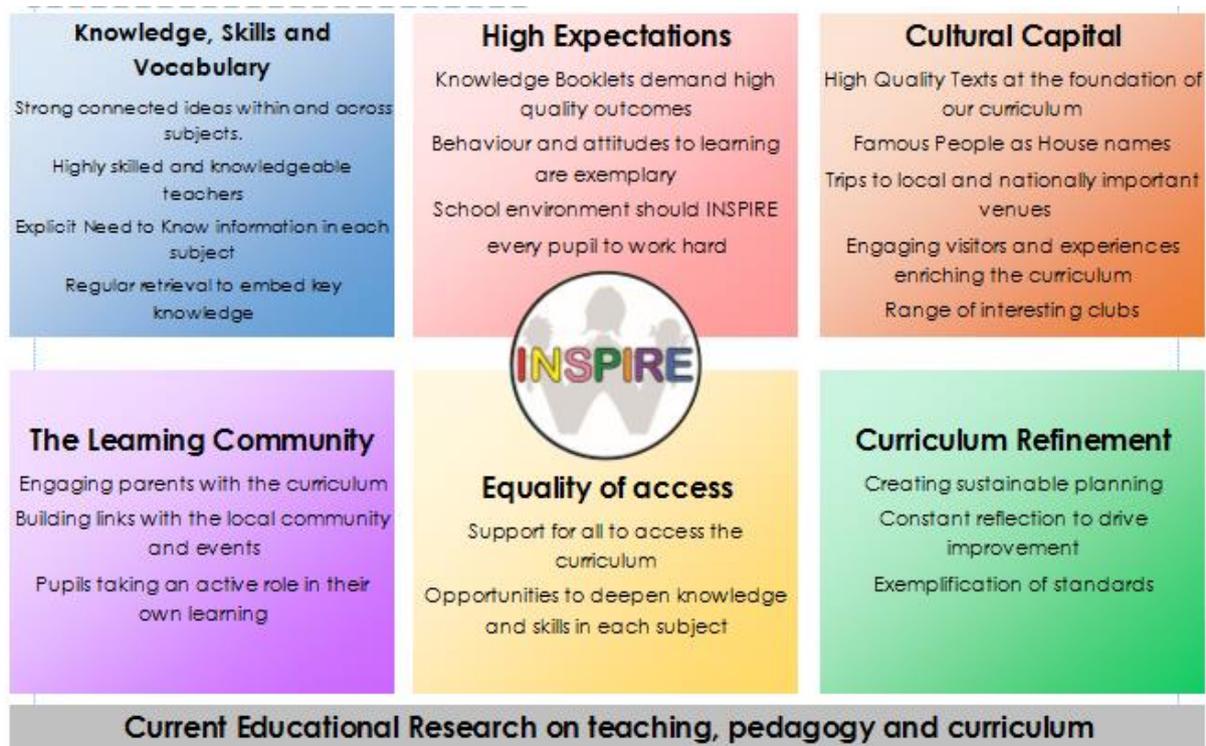
Mathematics is a creative and highly inter-connected discipline that has been developed over centuries, providing the solution to some of history's most intriguing problems. It is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most 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.

1. Intent:

At Wansdyke, it is our aim that children leave the school with a deep understanding of all areas within mathematics, being able to confidently access the content presented in their secondary education. We have high expectation and ambition for all our children, and want them all to achieve their full potential in maths during their time at Wansdyke School. We hold the belief that every child can successfully master the ideas within their year group's curriculum.

We hope to cultivate a culture of enjoyment and confidence in learning mathematics from the pupils and staff, valuing its importance within school and the wider world. We also aim to develop a deep conceptual understanding of mathematical principles within our children. It is our hope to promote skills such as arithmetic proficiency, creativity and mathematical reasoning and consistency within mathematics lessons in the school.

Our Mathematics curriculum is built upon the following principles:



Key Knowledge, Vocabulary and Skills:

Mathematical knowledge, key vocabulary and skills are imparted with the aim of each child 'mastering' the objective. To succeed in creating a mastery approach we aim include the following in our lessons:

- The pitch of the lesson is in line with year group expectations.
- Prior knowledge is visited at the start of the lesson.
- Children will be actively engaged in their learning.
- Carefully considered models and images are used during the input.
- Children are moved on from their starting point. They secure and deepen their understanding.
- Children should not be set for mathematics. Children should work in mixed ability pairs
- The lesson should incorporate teacher modelling, followed by independent practice, and then reflective discussion (Ping Pong style)
- Key sentence stems should be repeated by the children
- Effective sequences of lessons are designed to build on concepts and deepen understanding
- Lessons are adapted from previous lessons
- Differentiation should support children to meet the objective or apply the skill in an unfamiliar context. The children should not be completing vastly different learning.
- Children's thinking skills are developed by encouraging visual imagery, exploring strategies for tackling mental / oral questions, problem solving and investigative activities.
- Children should have access to the appropriate models and apparatus during all lessons.
- Children have opportunities to work independently and as a group
- Thoughtful questioning to deepen understanding or assess
- Carefully constructed questions and problems should form part of the independent work.

High Expectations

The knowledge, vocabulary and skills within each unit are exemplified within the lessons and are evident on the planning flipcharts and within the children's books which showcase the high outcomes we expect from our pupils.

Learning Community

Parents receive information at the beginning of each term about what is being covered in maths over the term. We share an insight into of some of the learning with parents through the Seesaw app.

Maths home learning is set weekly. Home learning tasks are specific and focused on the learning taking place in school.

Equality of Access

It is our aim that all children can access the mathematics curriculum for each year group. We plan with high expectations for outcomes and provide teachers with the tools and resources to deliver the content. This means they can spend more time preparing scaffolds to enable each child to achieve in the lessons. This includes carefully planned lesson delivery in small steps. All pupils will have the opportunity to deepen their thinking through 'Diving Deeper' questions and activities.

Intervention and Pupil Premium

Children with specific learning difficulties within maths, whose progress or attainment is below their peers will be supported by the school's intervention. Children who receive additional funding through the Pupil Premium fund may receive intervention in mathematics if appropriate for the child. Pupils underachieving should be raised within school data meetings. Interventions and TAs are deployed based on the needs and performance of the class, using summative data.

Special Needs

All children are encouraged to participate in mathematics activities, appropriate for their ability. Where appropriate, pupils remain within the classroom to complete their maths work. Teachers have a duty to provide quality first teaching within the classroom and through this, differentiate to cater for the range of ability in each class.

More able children are stretched by challenging work and extended questioning. Children's understanding of a concept will be deepened and broadened in a range of unfamiliar contexts. Children's learning is supported through concrete or symbolic representations where appropriate by the class teacher and manipulatives should be actively encouraged for pupils to use. Effective differentiated questioning should be used to support the lower attaining children. Less able pupils are further supported by focused group and the use of manipulatives.

Curriculum Refinement

It is our hope that every year, we can build on the successful teaching of the mathematics curriculum from the previous year. We will critically evaluate the quality of our mathematics curriculum delivery in terms of what children have remembered and understood. This will include deciding what resources and activities led to high quality outcomes for our pupils and what explicit connections could we make within and between subjects. The quality of mathematics planning and resources means teachers can spend their time developing their subject knowledge and on the quality of their lesson delivery.

Current Educational Research

Our understanding of how children learn has developed over recent years. Within our curriculum, we are placing much more emphasis on:

- Carefully considering the order in which content is structured and delivered.
- Being mindful of children's prior knowledge.
- Respecting the limitations of working memory by delivering learning in small manageable pieces.
- Drawing children's attention to the important aspects of ideas and principles.
- Ensuring children are thinking as deeply as possible throughout the lesson.
- Linking ideas together and revisiting learning through regular retrieval practice.

2. Implementation:

The school uses the 2014 National Curriculum and EYFS Curriculum for directing the teaching of mathematics. The school uses 'Power maths', which has been written to deliver the National Curriculum objectives, providing a robust and well-rounded curriculum. The scheme of work is focussed around a mastery approach to Mathematics where children are exposed to the same year group objective, with sufficient support and challenge to cater for all learners. The scheme is written around the three main mathematical concepts: fluency, reasoning and problem solving in the aim to ensure pupil master the different year group objectives. Teachers have high expectations through teaching to the appropriate yearly objectives and set work appropriate to the needs of the children in their class. Teachers use episodic lesson structure to build up ideas slowly and use assessment during regular independent practice. Material from supporting schemes such as 'White Rose' and 'Maths No Problem' are used to augment the independent work within a lesson. Opportunities for returning to, and expanding on prior knowledge and making explicit links is essential to allow concepts to enter the long-term memory.

A Mathematics Lesson

Mathematics lessons will focus on one aim from the national curriculum, broken down in to smaller steps enabling children build up their knowledge and skills to reach mastery in that area. Each session should address issues from the previous lesson and include retrieval practise to support the children in retaining the information they have learned long term. Teaching should be matched to pupil's attainment, with challenging and supportive teaching, and appropriately timed intervention.

Teachers use flipcharts to plan their lessons and the structure is carefully considered, with representations and models used to aid understanding and varied examples to fully expose the underlying structure. Teachers should highlight the key vocabulary for the session and teach this explicitly as part of each lesson. Opportunities for 'Diving Deeper' should be used throughout the lesson as a means of stretching the pupils further.

Teachers use an episodic approach in mathematics lessons giving them opportunities for formative assessment and feedback at different stages of the session.

3. Impact

We expect the outcomes for children within the school to remain strong in every year group. Through the carefully structured curriculum and high quality teaching, we have already delivered results above national in every phase within the school. Children at Wansdyke enjoy and engage with mathematics because they experience success and support to achieve. It is our aim that the outcomes within maths will continue to be above the National average and that we achieve the vision set out in our intent statement.

Assessment and Record Keeping

Teachers assess children through a variety of ways including, marking, observations, discussions and assessment activities. Evaluation of the weekly plans and assessment activities help to identify areas in need of future reinforcement, these are noted on the medium term plans.

Teachers should make use of Professor Assessor data to form a more summative assessment of the children's progress of areas covered. These assessments should inform future planning and highlight children who may need more targeted intervention.

NFER assessments are used at 3 points throughout the year to track the progress of the children throughout each year and also as they progress through the school.

Scrutiny of work is carried out during the year to ensure consistency and progression. Teacher's assessment and record keeping should follow stipulations within the Assessment Policy and the Staff Handbook.

Related policies

Assessment Policy

SEN Policy

Classroom environment checklist

Home Learning Policy

Signed:  Chair of Governors