



*Learning and growing in the love of God*

*(John 4:16)*

## **Sledmere and Wetwang Federation**

### **MATHS POLICY – October 2020**

Adopted by Sledmere and Wetwang Federation Policy Review Group  
on

Signed: Andrew McCormack

Position: Chair of Governors

To be reviewed by Governors October 2021

## Our Vision

### **Vision**

#### **‘Learning and growing in the love of God’ (1 John 4:16)**

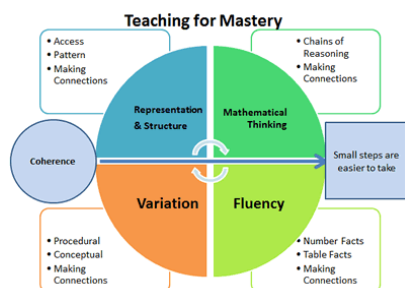
We want all our pupils to experience, deep and sustained understanding whilst learning and growing in the love of God so that they become happy and confident mathematicians, throughout their learning and into their adult life.

Through a positive, caring environment, we nurture confidence in the subject and a love of mathematics, to enable every child to reach their full potential. We promote a ‘can do’ attitude to maths without a fear of making mistakes. Children will be given time, support and resources to develop a depth of understanding.

## Introduction

In September 2018, The Sledmere and Wetwang Federation started its journey towards a mastery approach to the teaching and learning of mathematics. We understand that this will be a gradual process and may take time to fully embed. The rationale behind changing our approach to teaching mathematics arose from our involvement in the NCETM Maths Hub and Teaching for Mastery Programme and our belief in the philosophy that all children can achieve, as well as the 2014 National Curriculum, which states that the expectation is that most pupils will move through the programmes of study at broadly the same pace. Pupils who grasp concept 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.

Our teaching for mastery is underpinned by the NCETM’s 5 Big Ideas:



### Coherence

Lessons are broken down into small connected steps that gradually unfold the concept, providing access for all children and leading to a generalisation of the concept and the ability to apply the concept to a range of contexts.

### Representation and Structure

Representations used in lessons expose the mathematical structure being taught, the aim being that students can do the maths without recourse to the representation

### Mathematical Thinking

If taught ideas are to be understood deeply, they must not merely be passively received but must be worked on by the student: thought about, reasoned with and discussed with others

## Fluency

Quick and efficient recall of facts and procedures and the flexibility to move between different contexts and representations of mathematics

## Variation

Variation is twofold. It is firstly about how the teacher represents the concept being taught, often in more than one way, to draw attention to critical aspects, and to develop deep and holistic understanding. It is also about the sequencing of the episodes, activities and exercises used within a lesson and follow up practice, paying attention to what is kept the same and what changes, to connect the mathematics and draw attention to mathematical relationships and structure.

## Curriculum Aims

We aim to develop lively, enquiring minds encouraging pupils to become self-motivated, confident and capable in order to solve problems that will become an integral part of their future. The 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 have conceptual understanding and are able to recall and apply their knowledge rapidly and accurately to problems
- 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.
- To use 'ready to progress' guidance from the Government to ensure coherence is achieved and connections are made.

## Intent

Mathematics is important in everyday life and, with this in mind, the purpose of Mathematics in the Wetwang and Sledmere Federation is to develop an ability to solve problems, to reason, to think logically and to work systematically and accurately. All children are challenged and encouraged to excel in Maths. New mathematical concepts are introduced using a 'Concrete, Pictorial and Abstract' approach; enabling all children to experience hands-on learning when discovering new mathematical topics, and allows them to have clear models and images to aid their understanding. Arithmetic and basic math skills are practised daily to ensure key mathematical concepts are embedded and children can recall this information to see the links between topics in maths.

## Implementation

Our mastery approach to the curriculum is designed to develop children's knowledge and understanding of mathematical concepts from the Early Years through to the end of Y6.

- In school, we follow the national curriculum and use White Rose Schemes of Work as a guide to support teachers with their planning and assessment.
- The calculation policy is used within school to ensure a consistent approach to teaching the four

operations over time.

- At the start of each new topic, key vocabulary is introduced and revisited regularly to develop language acquisition, embedding as the topic progresses.
- All lessons begin with a short assessment to support retrieval practice and develop long-term memory.
- Children are taught through clear modelling and have the opportunity to develop their knowledge and understanding of mathematical concepts. The mastery approach incorporates using objects, pictures, words and numbers to help children explore and demonstrate mathematical ideas, enrich their learning experience and deepen understanding at all levels.
- Reasoning and problem solving are integral to the activities children are given to develop their mathematical thinking.
- Resources are readily available to assist demonstration of securing a conceptual understanding of the different skills appropriate for each year group.
- Children are encouraged to explore, apply and evaluate their mathematical approach during investigations to develop a deeper understanding when solving different problems / puzzles.
- A love of maths is encouraged throughout school via links with others subjects, applying an ever growing range of skills with growing independence.
- Children with additional needs are included in whole class lessons and teachers provide scaffolding and relevant support as necessary. For those children who are working outside of the year group curriculum, individual learning activities are provided to ensure their progress.

### Impact

- Children demonstrate a quick recall of facts and procedures. This includes the recollection of the times table.
- Children show confidence in believing that they will achieve.
  - Each child achieves objectives for year group.
- The flexibility and fluidity to move between different contexts and representations of maths.
- The chance to develop the ability to recognise relationships and make connections in maths lessons.
- Mathematical concepts or skills are mastered when a child can show it in multiple ways, using the mathematical language to explain their ideas, and can independently apply the concept to new problems in unfamiliar situations.
- Children show a high level of pride in the presentation and understanding of the work

### Assessment and Feedback

- Assessment informs the teaching and learning sequence, and children work on the objectives they are assessed as being at.
- Feedback is given on children's learning in line with our feedback policy. Formative assessment within every lesson helps teachers to identify the children who need more support to achieve the intended outcome and who are ready for greater stretch and challenge through planned questioning or additional activities.
- In order to support teacher judgments, children may be assessed using current and reliable tests in line with the national curriculum for maths.
- Summative assessments are completed at the end of each term and results are reported to parents in the end of year report.

### Calculation Policy

The calculation policy (see calculations/progression policy) has been updated in light of the new national curriculum programmes of study.

### Inclusion and Equal Opportunities

All children are provided with equal access to the mathematics curriculum. We aim to provide suitable learning opportunities regardless of gender, ethnicity or home background.

### Long Term Planning

The National Curriculum for Mathematics 2014, Development Matters and the Early Learning Goals (Number, Shape, Space & Measure) provide the long term planning for mathematics taught in the school.

### Medium Term Planning

Years EYFS -6 use the White Rose Maths schemes of learning are used to create medium term planning documents.

These schemes provide teachers with exemplification for mathematics objectives and are broken down into fluency, reasoning and problem solving, key aims of the National Curriculum.

They support a mastery approach to teaching and learning and have numbers at their heart. They ensure teachers stay in the required key stage and support the ideal of depth before breadth. They support pupils working together as a whole group and provide plenty of time to build reasoning and problem solving elements into the curriculum.

The new 'Ready to progress' guidance is used to ensure:

- Greater coherence to the national curriculum by exposing core concepts in the national curriculum and demonstrating progression from year 1 to year 6
- Summarise the most important knowledge and understanding within each year group and important connections between these mathematical topics.

### Times Tables

Wetwang and Sledmere Federation uses TT Rockstars. TT Rockstars is an initiative for Year 2 – 6 . Pupils are expected to log onto TT Rockstars at home for 15 minutes per week. In school, pupils log in 2 -3 times per week. Pupils (and teachers) can compete against each other and to keep motivation high. A full guide to TT Rockstars can be found on the website. Timetables tests are carried out once a week and TT Rockstars can be set by teachers to align with the test.

## KIRFS

Key instant recall facts are planned for each year group (KIRF Progression Document) Children are expected to work on their KIRF, for that term, at home. Children will be given time within school to work on KIRFS. Termly assessments should be carried out to measure progress.

## Resources

When introduced to a key new concept, pupils should have the opportunity to build competency in this topic by taking the following approach:

Concrete – children should have the opportunity to use concrete objects and manipulatives to help them understand what they are doing.

Pictorial – pupils should then build on this concrete approach by using pictorial representations. These representations can then be used to reason and solve problems.

Abstract – with the foundations firmly laid, learners should be able to move to an abstract approach using number and key concepts with confidence.

## Displays

Each classroom / resource area should have a maths display relating to current work. The maths display should be updated regularly to reflect the pace of learning. Displays can include: key vocabulary, children's work, teacher modelling, visual prompts and questions to develop reasoning skills.

## Monitoring

The Maths Lead alongside SLT are responsible for monitoring and evaluating mathematics curriculum. Mathematics is rigorously monitored through book looks, drop-ins and talking to pupils.