

INTENT

At St-Swithun's C of E Primary academy, our children are Mathematicians!

We are committed to ensuring that children are able to recognise the importance of maths in the wider world and that they are also able to use their mathematical skills and knowledge confidently in their lives in a range of different contexts.

Our Maths provision at St-Swithun's C of E Primary academy aims to build a curriculum which develops learning and results in the acquisition of knowledge and skills so that all pupils know more, remember more and understand more.

When teaching mathematics, we intend to use a variety of teaching methods and resources that allow all pupils equal access to mathematics and to experience maths success and enjoyment throughout their lives. Over time, children will become more resilient learners who are able to understand that to make mistakes is a necessary step to achieve success. Children will be appropriately challenged and supported through varied fluency, reasoning and problem solving. Irrespective of personal starting points, children will explore maths in depth, and use a range of mathematical vocabulary to reason and explain their own thinking. Pupils will continue to build their knowledge by recalling and adding to previous knowledge and skills, then apply these new skills to a wide variety of contexts both within maths and across the curriculum.

IMPLEMENTATION

We implement our approach through quality first teaching and the delivery of appropriately pitched work for all groups of learners supported through mastery materials from the White Rose Scheme of Learning, as well as NCETM and Primary stars (KS1) to supplement teaching and learning resources. Regular and ongoing assessment will inform teaching, as well as intervention, to support and enable the success of each child.

To ensure lessons are coherent they 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 to a range of concepts. Representations are used in lessons to expose the mathematical structure being taught, with the aim to be that pupils can do the maths without recourse to the representation. Mathematical thinking encourages the pupils to think, reason and discuss ideas and strategies within their classroom environment. Pupils become fluent mathematicians through quick and efficient recall of facts and procedures and the flexibility to move between different contexts and representations of mathematics. Variation is built on over a sequence of lessons and represents concepts in more than one way.

EARLY YEARS

Through our Maths Mastery approach, number fluency is continually developed within early years, our Mathematical curriculum covers 'Number and Shape,

Space and Measures.’ Children participate in short maths sessions daily, which are carefully planned following the ‘Birth to 5 Matters’ statements and White Rose Maths Scheme of learning. Children are given time to explore mathematical concepts, test ideas, develop their understanding and practise taught skills through play. Maths can be found in all areas of our provision and children experience it in a purposeful and meaningful context within their play and daily routines. Our mud kitchen, water area, construction areas, large sand pit and domestic role play are just some of the areas in which children can explore number, shape, space and measures. Children are encouraged to use their mathematical understanding and skills to solve real life problems and practitioners are trained to identify and extend opportunities to foster this.

EYFS read a wide range of texts which are carefully linked to their main themes. They also have a list of texts which are used throughout the year to support mathematical concepts.

KEY STAGE 1 AND 2

- From Y1 through to Y6, Maths lessons are planned and delivered using a specially designed lesson consisting of Counting, Review, Vocabulary, Guided practice, and independent practice. Teachers use the White Rose Scheme of Learning resources to support the careful planning of each small step for each unit. It is underpinned by the concrete, pictorial, abstract (CPA) approach. Classrooms have a range of mathematical resources made available for children in each key stage. These include, but are not limited to, Numicon, Base 10, place value counters, bead strings, number lines, digit cards and hundred squares. Varied starting points and timely teacher interventions are utilised in response to teachers’ ongoing formative assessments through effective deployment of teaching assistants.
- In addition to daily maths lessons, Y1-Y6 children access a daily fluency skills session designed by their teacher. This provides opportunities for all children to practise their mental and calculation knowledge. This serves to reinforce and consolidate previous learning; increase fluency, speed and accuracy; and improve confidence through the spaced learning approach. Regular use of ‘TT Rockstars’ and ‘Numbots’ within school and home enables children to practise multiplication and division knowledge.
- Throughout each lesson, formative assessment takes place and feedback is given to the children through marking and where appropriate targets set to ensure they are meeting the specific learning objective. Teachers then use this assessment to influence their planning and ensure they are providing a mathematics curriculum that will allow all children to progress. The teaching of maths is monitored on a termly basis through pupil and staff voice, regular book looks, learning walks and lesson observations. Each term, children from Year 1 and above complete a summative assessment to help them to develop their testing approach and demonstrate their understanding of the topics covered, using White Rose End of Term testing, and Puma for baseline and

end of year assessments. Years 2 and 6 also use previous SATs papers. The results from both the formative assessment and summative assessment are then used to determine children's progress and attainment.

OVERVIEW LONG TERM PLAN

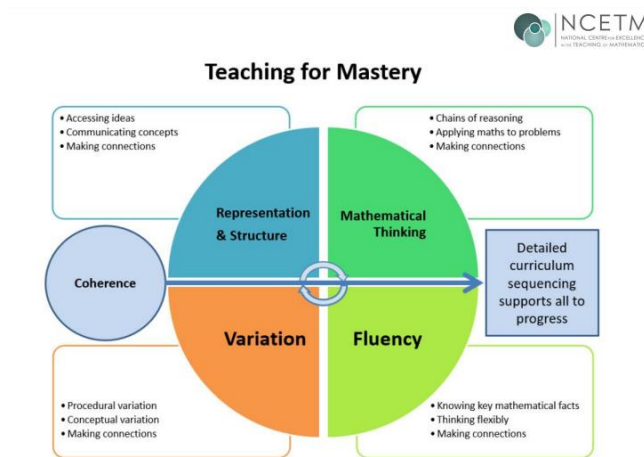
All year groups follow the White Rose Scheme of Learning Overview for Version 3. Teachers, through formative assessment, may adapt overviews to suit their current cohort's attainment and next steps.

LESSON STRUCTURE

- ▶ **Fluency** – everyday. TTRS/Flash back 4/Gap analysis task
- ▶ **Counting** – active counting, counting sticks linked to main focus times table overview.
- ▶ **In focus task** – Hook. Story, counting song, prove it etc.
- ▶ **Vocab** - Introduce up to no more than three precise words which will be used throughout the session and use along sentence stems which will support the learning and will help to make generalisations. This language is not taught explicitly here but just be introduced. The language is looked at carefully at appropriate times throughout the session.
- ▶ **Main input** – LO, skill, model (inc with resources/scaffolds)
- ▶ **Guided practice** – EYFS/ KS1 and maybe Y3 more practical on the carpet.
 - UKS2, recorded in books with GP in margin/WB.
- ▶ **Independent practise/ focus group work** – scaffold, resources available and accessed when needed.
- ▶ **Plenary** – EYFS share learning at end of morning session. Who has been a mathematician today?
 - KS1 and KS2 – True or false, share WAGOLLL, reasoning questions and share methods.

Note: Every lesson doesn't need to be recorded in books. If practical – record on seesaw.

This lesson model is highly based around the Five Big Ideas model from NCETM.



MATHS SKILLS

A daily 15 minute skills/fluency session is delivered to all children Y1 - Y6. This is timetabled in separately from a maths lesson to avoid cognitive overload. The session consists of counting, flash and times tables:

Counting

- Whole class counting forwards and back appropriate to year group.
- Counting in small groups

Times Tables

- Whole school Times Table progression table, indicates an order in which times tables are taught and practised.
- Children taught once explicit lesson on a set of times table per half term.
- Children focus mainly on the half termly times table alongside continuing retrieval practise of other known times tables through daily counting, fluency and TTRS practise.
- Weekly times table test on the half term focus time tables, how this is done, is down to individual classes.

LANGUAGE

Teachers use White Rose Scheme of Learning to help plan in possible sentence stems for each step taught. Vocabulary is progressive and we follow a separate language progression document which informs teachers of what to expect and how to build on children's previous knowledge.

Appropriate language for each step is briefly shared at the beginning of each lesson but is explored more in detail during the part of the lesson where language is used to enhance a deeper understanding.

Teachers also refer to White Rose's calculation policy glossary to ensure that language is consistent across school. This supports children when making generalisations and explaining their thinking

IMPACT

By the end of KS2 we aim for children to be fluent in the fundamentals of mathematics with a conceptual understanding and the ability to recall and apply knowledge rapidly and accurately. They should have the skills to solve problems by applying their mathematics to a variety of situations with increasing sophistication, including in unfamiliar contexts and to model real-life scenarios. Children will be able to reason mathematically by following a line of enquiry and develop and present a justification, argument or proof using mathematical language. Children will also recognise the importance of Mathematics as a facilitating subject to enable them to access other areas of learning and operate successfully in everyday life both now and in the future.

In order to monitor the impact of our Maths provision we will use:

- Questioning
- Pupil book discussions with the children
- Discussions to teachers
- Low stakes 'Drop-in' observations
- Regular opportunities for AfL
- End of block and term assessments
- Feedback and marking
- Progress in book matches the curriculum intent
- Pupil voice
- Staff voice