



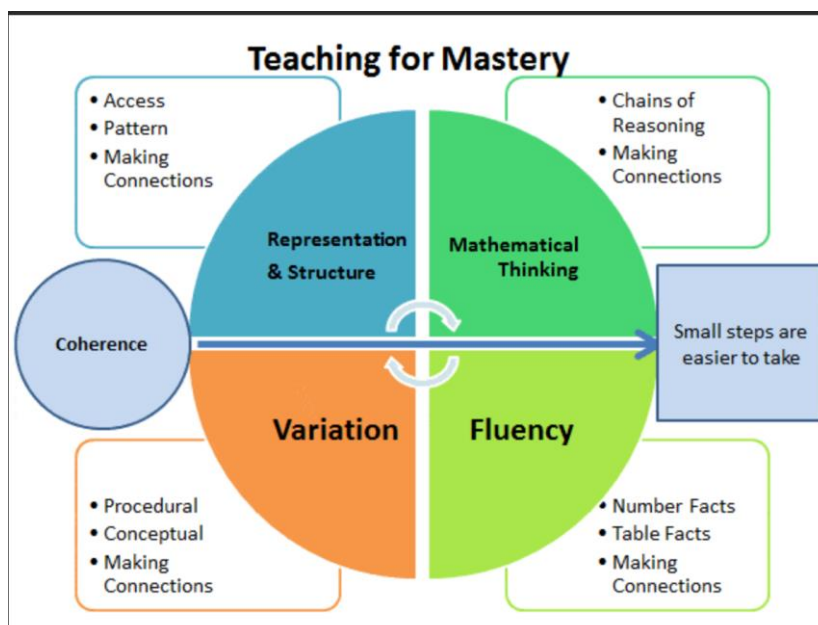
Fossebrook
Primary School

A place of discovery and friendship

Mathematics Core Policy

This policy was approved as follows:

Adopted by:	Advisory Board		
Review Date:	January 2026		



Mathematics Policy

Rationale

This policy outlines the teaching, organisation and management of mathematics taught and learnt across Discovery Schools Academy Trust (DSAT).

At Fossebrook Primary School we use the National Curriculum for Mathematics (2014) as the basis of our mathematics programme, and we use the Ready to progress document (June 2020) for areas identified as a priority.

Role of coordinator:

- To be enthusiastic about maths and demonstrate good practise.
- To work alongside colleagues in planning where needed (progress and activities)
- To work alongside teachers in the classroom (this will depend on release time and other available help)
- To coordinate and arrange staff in service training as required.
- To audit resources – concrete and online
- To manage the maths budget
- To “sample” the work of children across the age range (curriculum monitoring)
- To review and evaluate the effectiveness of teaching and learning of maths.
- To provide guidance on the **implementation** of the maths policy
- To suggest appropriate assessment activities where needed
- To provide support to those colleagues who request/require it, including help with planning and organisation
- To monitor the planning and delivery of lessons.

Developing Mastery (Intent)

We are committed to ensuring all pupils achieve mastery in the key concepts of mathematics, appropriate for their age group, in order that they make genuine progress and avoid gaps in their understanding that provide barriers to learning as they move through their education. Our mathematics curriculum reflects a greater emphasis on mastery of the key skills of mathematics to ensure children have adequate time to develop their fluency, reasoning, and deeper understanding before moving onto a new concept. **We have joined the developing phase with the East Midlands and South Maths Hub for 2023/24.**

Assessment for learning, an emphasis on investigation, problem solving and the development of mathematical thinking and a rigorous approach to the development of teacher subject knowledge are therefore essential components to the schools approach to this subject.

AIMS AND PURPOSES OF MATHS

Children should:

- Develop secure mathematical concepts and skills according to their ability.
- Become fluent mathematicians with a solid understanding of the concepts in mathematics
- Develop an ability to reason and problem solve.
- Progress and develop clear and logical thought.
- Learn to use and apply mathematical knowledge, skills and vocabulary in different contexts including everyday life
- Learn that mathematics has meaning and relevance to their own lives.

Extra-Curricular

Every Saturday morning 10-12pm we have a Coding Club – this is for children across Key Stage 2.

PLANNING, TEACHING AND MANAGEMENT (Implement)

The foundation Stage

Maths is taught as part of the Area of Learning designated as “Mathematics” in the EYFS Curriculum. The EYFS Curriculum is made up of two strands: Numbers and Shape, Space and Measure. The children will receive some whole class and adult led maths teaching and they have access to independent child-initiated maths activities daily. Children are given opportunities to work on maths activities both indoors and outdoors. These activities are based on the main areas outlined in the EYFS curriculum. EYFS staff also provide opportunities for the children to work on their maths targets both independently and as guided groups. As in the rest of the school, the maths planned builds on previous learning and allows time for children to develop ‘mastery’ in the key areas of mathematics without moving onto a new concept too quickly.

Planning is updated daily taking into account previous learning. This ensures the maths activities are appropriate and relevant to the children’s learning needs and their interest. Maths activities in Continuous Provision are planned taking into account both the children’s interests and curriculum coverage.

Key Stage 1 and 2

Planning (see Appendix 1)

The New National Curriculum has several strands.

- Number: number and place value, addition, and subtraction,
- Multiplication and division, fractions, percentages (years 5 & 6 only)
- Measure
- Geometry: properties of shape, position, and direction
- Statistics (year 2 upwards)
- Algebra (year 6 only)
- Ratio and Proportion (year 6 only)

Planning Key Stage 1 and 2

Short term plans are produced weekly by individual class teachers – this can be as a OneNote page, PowerPoint or written plan if preferred. These plans must show opportunities to review, teach, practise and apply skills in all strands.

Long term plans identify non-negotiables for each of the year groups and ways to develop children’s arithmetic skills.

Teaching

Key Stage 1 and 2

In Key Stage 1 and 2 children have a daily mathematics lesson of approximately 60 minutes. Teachers in Key Stage 1 also plan and provide opportunities for children to use and apply maths knowledge and skills in other areas of the curriculum where appropriate.

A typical lesson in Key Stage 1 consists of three main components. The timing and organisation of each component within a maths lesson may vary.

- **Starter/ Review**

This will involve whole class or same ability small group work to rehearse, sharpen and develop mental and oral arithmetic maths skills.

The use of Goal Free Questioning and also pre-teaching for groups/ individuals can be covered here.

- **Main teaching and independent learning**

A short teaching input and lots of opportunities for pupils to calculate the problem or practise the skill, which will use CPA, between whole class, paired, grouped and individual work.

- **Mini Plenaries and Plenaries (Teachers Meetings)**

These are a vital part of every maths lesson. It involves work with the whole class or small groups or individuals to identify and deal with misconceptions, summarise key facts and ideas, make links to other work and evaluate learning and progress and discuss next steps.

Investigative Maths

Where appropriate within the learning journey, the children will be given the opportunity to solve/investigate problems. We make sure reasoning skills are available to all our learners and not just seen as extension activities. We understand it is an important part of the children's mathematical learning as the 2014 National Curriculum states –

“The national curriculum for mathematics aims to ensure that all pupils ... become fluent... reason mathematically.. and can solve problems.”

Therefore, at Fossebrook, the teachers want to ensure all children will:

- Seek solutions, not just memorising procedures
- Explore patterns, not just memorise formulas.
- Formulate conjectures, not just doing mathematical exercises.

In years 2 to 6, opportunities will be given to develop more open ended adaptive types of problems, which will have greater potential for stimulating higher order mathematical thinking. This will ensure all children will be involved in searching for patterns and relationships between elements in the problem set.

More Able Pupils and those with Special Educational Needs (SEN)

Our school provides a fully inclusive maths curriculum where teaching and learning is adapted appropriately to meet the needs of all learning with challenge for all. Children may be streamed within their classes dependent on the needs and support of the class and individuals.

SEN Provision

If a child has a specific difficulty relating to maths that is listed on the provision map, they may be given extra time or additional support with a teacher or LSA to address their specific needs and to support and develop their mathematical knowledge and skills accordingly. [See Appendix 2.](#)

More Able Provision

When children are excelling in an area of maths, they will be given further opportunities to deepen their understanding and apply higher order thinking skills through carefully planned tasks.

EAL Provision

Care is taken to diagnose when an error is caused by language proficiency or a mathematical difficulty. When language is the barrier to learning, mathematics is made 'clearer' and opportunities are provided to enable EAL pupils to engage with the learning and convey and develop their mathematical ability.

Intervention

Teachers plan for interventions for children in Key stage 1 and 2. Following our flowchart of Good Teacher Practise children are identified if they need more purposeful planned pre-teaching sessions. This may move to an afternoon IMPACT session. [See Appendix 3.](#)

Class teachers use their knowledge of the children and various materials and resources to support children who are not working at age related expectations in maths. These interventions provide short term targeted support to move the children's learning forward and enable these learners to reach their full potential. These interventions are carefully tracked and monitored.

Marking children's work

In all year groups work should be marked in line with the schools [Marking and Feedback Policy](#).

Whole class assessment forms are used – not in all lessons – but as a guide to monitor children's progress and quickly identify misconceptions for interventions.

Foundation

In the children's books, each unit of work has a "looking for Learning" note, showing the main skill linked to the EYFS curriculum, with steps to success to achieve the target. Work which is marked is in line with the marking policy. The lesson objective will be displayed on screen and children will complete a book follow up activity.

Key Stage 1 and 2

At the beginning of a new unit of work – **Fossebrook Footprints** are put into the children's books to show the objectives that are going to be covered in that unit and the steps to success. These footprints are also displayed on the IWB and maths working walls in the classroom. They are discussed with the children at the start of each lesson in that unit.

Positive comments are made in green pen and are important to keep children's motivation and self-esteem high, although this does not need to be lengthy. Correct work is marked with green pen.

Written orange comments need to be given in child friendly language that enables the child to move their learning on. Misconceptions and errors are identified using orange pen. Orange comments can be used to deepen children's learning with questioning or as a tool to reflect on the learning taking place.

Children are encouraged to reflect on their own learning and others through, highlighting the learning objective, and identified the work they have done – **Walking Alongside, Mastering, Stepping Up and Challenge**.

Children make comments using purple pen linked to the maths skills taught.

ASSESSMENT – **Impact**

Use of the Ready to Progress statements are used to assess children on prior learning in order to build new learning. This may be using the White Rose pre and post assessment or by using Century.

Progress is reported to parents at least annually.

Maths assessment happens in 2 forms:

- **Formative** – the day to day assessment that takes place continually and informs teachers short term planning e.g. work samples, observation notes, whole class feedback forms.
- **Summative** – formal assessment that takes place at the end of a strand of learning or a whole year taking into account all evidence gathered through formative assessments e.g. work in books, end of unit reviews, end of term tests, SATs tests (year 6)

The data from formative assessments is used to judge children's attainment at the end of each term or year.

Foundation Stage

Teachers continually update children's 'Learning Journey's with observations, photographs and work samples in their journals, which detail the children's progress in maths. In addition this is also recorded on the on line assessment tool, Tapestry.

EXPECTATIONS

All pupils should be working at age related expectations for their year group.

By the end of Foundation Stage, most children, when assessed against the Early Learning Goals for Mathematics, will be judged as 'expected' this means that they have reached the level of development expected at the end of the EYFS. For example, they will:

- Count to 20.
- Count reliably at least 10 objects.
- Use 'more' and 'less' to compare two numbers.
- Estimate number of objects and check by counting.
- Recognise written numerals 1 to 9.
- Say one more/less (to 10).
- Add and subtract two small groups of objects (to 10).

By the end of Year 1 children are expected to achieve Age Appropriate Expectations or above. For example they will:

- Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number
- Count, read and write numbers to 100 in numerals
- Count in multiples of twos, fives and tens
- Given a number, identify one more and one less
- Read and write numbers from 1 to 20 in numerals and words.
- Represent and use number bonds and related subtraction facts within 20
- Add and subtract one-digit and two-digit numbers to 20, including zero

By the end of Year 2, teachers will use class work and SATs test results to make a level judgement about children's attainment. Children are expected to achieve Age Appropriate Expectations or above. For example they will:

- Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward or backward
- Recognise the place value of each digit in a two-digit number (tens, ones)
- Compare and order numbers from 0 up to 100
- Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables
- Recognise odd and even numbers
- Add and subtract numbers using concrete objects, pictorial representations, and mentally, including:
 - a two-digit number and ones
 - a two-digit number and tens
 - 3 one-digit numbers
- Find simple fractions, e.g. $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{1}{10}$ of shapes & amounts.
- Tell and write the time to five minutes

By the end of Year 3, teachers will use class work and test results to make a level judgement about the children's attainment. Children are expected to achieve Age Appropriate Expectations or above. For example, they will:

- Count from 0 in multiples of 4, 8, 50 and 100
- Find 10 or 100 more or less than a given number
- Recognise the place value of each digit in a three-digit number (hundreds, tens, ones)
- Compare and order numbers up to 1000
- Read and write numbers up to 1000 in numerals and in words
- Add and subtract numbers mentally, including:
 - a three-digit number and ones
 - a three-digit number and tens
- Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables
- Add and subtract fractions with the same denominator within one whole
- Know the number of seconds in a minute and the number of days in each month, year and leap year

By the end of Year 4, teachers will use class work and test results to make a level judgement about the children's attainment. Children are expected to achieve Age Appropriate Expectations or above. For example, they will:

- Count in multiples of 6, 7, 9, 25 and 1000
- Find 1000 more or less than a given number
- Count backwards through zero to include negative numbers
- Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones)
- Order and compare numbers beyond 1000
- Solve number and practical problems that involve all of the above and with increasingly large positive numbers
- Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate
- Recall multiplication and division facts for multiplication tables up to 12×12
- Add and subtract fractions with the same denominator
- Read, write and convert time between analogue and digital 12 and 24-hour clocks

By the end of Year 5, teachers will use class work and test results to make a level judgement about the children's attainment. Children are expected to achieve Age Appropriate Expectations or above. For example, they will:

- Read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit
- Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000
- Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers through zero
- Add and subtract whole numbers with 4 or more digits

- Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number (e.g. $2\frac{4}{5} + \frac{4}{5} = 6\frac{4}{5} = 1\frac{1}{5}$)
- Convert between different units of metric measure including time

By the end of Year 6, children will take their statutory KS2 test. Children are expected to achieve Age Appropriate Expectations or above. For example, they will:

- Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit
- Add, subtract, multiply and divide numbers with up to 4 digits using the formal written methods of columnar addition and subtraction, short and long multiplication, and short and long division
- Identify the value of each digit to three decimal places and multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places
- Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions
- Express missing number problems algebraically
- Convert between miles and kilometres


MONITORING

The policy will be monitored and reviewed in line with the school's monitoring and review practises.

The work undertaken will be monitored and evaluated by the curriculum leader with responsibility for maths. This will be in the line with the school's monitoring and evaluation practice e.g. sampling teachers planning, samples of work, discussions with children and observations.

Established by:	Maths Subject Lead	Approved Gov:	
Revised by:		Last reviewed:	
		Next review due:	

Appendix One.

 Planning of Maths	Sequencing of lessons	What our maths lessons look like and include Building on new knowledge skills
<p>We use White Rose maths as the skeleton for planning our maths lessons and for an order of lessons.</p> <p>We also use the RTP (Ready to Progress) document to ensure we are focusing on the key elements of each year group.</p> <p>We use the White Rose Whole school progression maps to follow the scheme on work.</p> <p>We are aware of the expectations for timestables for each year group and we follow the DSAT Multiplication Facts Planner</p> <p>Other resources:</p> <ul style="list-style-type: none"> ➤ Twinkl – can sometimes have more reasoning style questions that enable deeper thinking ➤ RTP – using the assessment questions as both pre and post teaching tools ➤ Teach for Mastery – promoting group work and mathematical talk ➤ Isaa documents – problem solving and embedding skills ➤ Testbase – good for starters, plenaries and SATs style reasoning questions ➤ Classroom secrets <p>Every lesson in books there should be a starter activity and evidence of independent work.</p>	<p>Maths learning walls show the sequence of maths lessons and timeline using Fossebrook Footprints</p> <p>The maths learning cycle which is when chn are made aware of where they are in their learning. New, Practise, Consolidate, Embed</p> <p>New knowledge and skills are identified to the chn as being NEW areas of maths learning – but they are taught to build on prior knowledge – through questioning – <i>what do we already know?</i> Etc.</p>	<p>Maths lessons are moving over to OneNote using the same format across all year groups</p> <p>Learning objective is introduced at the start of every lesson and is shared on the Success Criteria</p> <p>Learning from last lesson/ Learning from last week/ Learning from last month These are used when and where necessary – not all three every lesson! Picks up misconceptions – how they will be addressed within the lesson. Flashback 4 Revisit from White Rose</p> <p>Vocabulary for the lesson is shared at the start of the session and <u>referred back to</u> throughout</p> <p>As a school we are working on talking in full sentences when answering and using the correct mathematical language</p> <p>Starter/review – often starters can be <i>differentiated</i> Aim for the starter to be an open task that gives pupils the opportunity to talk and explore. GOAL-FREE QUESTIONING. The starter can be a revisit; a pre teach for SEN chn and a challenge for the GDS chn. Do not be afraid to have more than one starter.</p> <p>Share Success Criteria with the children. This has the learning objective on it and the three levels of learning.</p> <p>Teach/Practise – whole class teaching – sharing maths cycle with children. Refer to the White Rose PPT but cut it down to what you feel is appropriate</p> <p>A worked example by the teacher – talk out loud your thought process</p> <p>ASSESS – Are the chn ready to move on? Teachers meetings? Whole class feedback forms.</p> <p>Apply – chn work independently – 3 differentiated levels plus a challenge Consolidating/ Mastering/ Deepening/ Challenge or Extension Deepening tends to move onto more open-ended questions. FIVE QUESTIONS AND THEN THE CHN ASSESS AND MOVE ON; ASK FOR HELP ETC. Rapid intervention – teachers' meetings in the lesson if a <u>child needs</u> picking up on any misconceptions or misunderstandings</p>

Appendix Two.

Fossebrook SEND offer – *A pupil has SEND where their learning difficulty or disability calls for special educational provision to be made for them, that is provision different from or additional to that normally available to pupils of the same age.*

- All pupils identified with SEND have an individual provision map. Priorities for provision are identified based on the child's academic, social and emotional needs.
- We access the IDL Dyscalculia assessment to look further into specific difficulties in maths.
- Access to EP service to look at underlying difficulties with executive functioning, which may be having an impact on a child's ability to access/retain learning.
- We recognise that some of our SEND pupils excel in arithmetic but have difficulties with reasoning and problem solving. There may be a barrier to reading or lengthy word problems may result in cognitive overload. We will explicitly model how to break down a question and how to recognise key information. An LSA will support children with this process.
- Concrete and pictorial representations to support understanding (base ten, number lines, hundred squares, shapes, money, word mats, Numicon, cubes, counters).
- Modelling the use of manipulatives.

- Revisiting and reminding. Opportunities everyday to consolidate prior learning.
- Pre-teaching new concepts.
- Planning for misconceptions – misconceptions are addressed either immediately by a supporting adult, or 1:1 after lunch.
- Removing admin tasks when required, to focus on the learning intention (e.g. pre-drawn number line, tables to collate information etc.)
- We use technology to support current learning in maths, but also as an aid to consolidate or address gaps in learning (Mathletics, Century, Kahoot, Hit the Button, TTRS).
- We recognise that aspects of the maths curriculum rely on rapid-recall, as does tech such as TTRS. We understand that this can be anxiety inducing for some of our pupils and work may not show their true capabilities. Where possible, we will remove or reduce time limits. We will provide pupils with alternative methods to practice.

How we support disadvantaged pupils – *Disadvantaged pupils are defined as those who have been eligible for Free School Meals (FSM) at any point over the last 6 years; pupils who have been looked after continuously for at least one day in the last year; pupils who have left care through a formal route such as adaption.*

- Children have access to several subscriptions to support them with their maths at home (TTRS, Mathletics).
- Laptops have been loaned temporarily to pupils who do not have access to tech at home.

How we support the lowest achieving 20% - *At Fossebrook we use Insight to collate assessments to accurately identify the lowest achieving 20%. Measures to support these pupils are discussed between teachers and senior leaders in pupil progress meetings.*

- Century used to address gaps in learning.
- Support from LSA, practical work in guided groups.
- Alternative ways of recording their work (this may be a group piece when supported by an adult).
- Access to consolidation work daily.
- Misconceptions addressed immediately by a supporting adult, or the same day after lunch (1:1).

Appendix Three.

Ensuring Maximum Progression for ALL: A Flowchart of Good Teaching Practice.

At Fossebrook Primary School, we know Quality First Teaching (QFT) to be: well thought pedagogical choice, differentiated learning, strategies to support all pupils' learning in class, ongoing assessment of learning and personalised learning.

Your assessment identifies that a child in your class has a recent error/misconception, a long-standing gap in their learning or will benefit from purposeful, planned pre-tutoring. Personalised provision must be put in place.

ASSESS-PLAN-DO-REVIEW

