

Dollis Primary School



Mathematics Policy

Mathematics Policy			
Review Frequency	Every year	Subject Leader (if applicable)	Joanne Constantinou
Date written	September 2026	Review Date	July 2028
Ratified by Governors (Date & Committee)	LGB	Website	Yes

MATHEMATICS POLICY

Rationale

The **National Curriculum** states that:

"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."

Following the introduction of the National Curriculum in 2014 the emphasis has been to ensure that all children:

- Become **FLUENT**
- **REASON** and **EXPLAIN** mathematically
- Can **SOLVE PROBLEMS**

1. Intent

1.1 Statement of Intent

At Dollis, the intent of our Mathematics curriculum is to create **enthusiastic, competent and articulate mathematicians who are fluent in the fundamentals of mathematics, able to solve problems and reason mathematically.**

Underpinning this pedagogy is the belief that all children can achieve in Maths.

Our Maths curriculum is designed to be accessible to all and maximise the development of every child's ability and academic achievement. It allows children to think critically, to question and to talk like a mathematician, in order to make sense of the world around them. They need to be able to make rich connections across the areas of Maths and use their knowledge in other subjects.

The Maths curriculum is closely aligned with our overall curriculum intent, as it reinforces preparing children for the future through equipping them with the essential skills of collaboration, communication, investigation, motivation, self-management and problem solving; as well as having a sense of enjoyment and curiosity about the subject.

By the end of year 6, our children will be independent mathematicians, able to apply their learning in different contexts and ready for their next key stage.

1.2 Aims and Objectives

The Purpose of Maths at Dollis is to develop for all pupils:-

- positive attitudes towards the subject and awareness of the relevance of mathematics in the real world
- competence and confidence in using and applying mathematical knowledge, concepts and skills
- an ability to solve problems, to reason, to think logically and to work systematically and accurately
- initiative and motivation to work both independently and in cooperation with others
- confident communication of Maths where pupils ask and answer questions, openly share work and learn from mistakes
- an ability to use and apply mathematics across the curriculum and in real life
- an understanding of mathematics through a process of enquiry and investigation

We aim to provide a stimulating and exciting learning environment that takes account of different learning styles and uses appropriate resources to maximise teaching & learning.

1.3 Role of the Maths Subject Leaders

- To lead in the development of Maths throughout the school.
- To monitor the planning, teaching and learning of mathematics throughout the school.
- To help raise standards in Maths.
- To provide teachers with support in the teaching of mathematics.
- To provide staff with CPD opportunities in relation to Maths within the confines of the budget and the School Improvement Plan
- To monitor and maintain high quality resources.
- To keep up to date with new developments in the area of mathematics

2. Implementation

2.1 Teachers Planning and Organisation

2.1.1 Long term planning

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

2.1.2 Medium term planning

Reception and Years 1-6 learn Mathematics by learning the skills in the following concepts sequentially:

- **Place value**
- **Addition and Subtraction**
- **Multiplication and Division**
- **Fractions, Decimals and Percentages**
- **Ratio and Proportion** (*year 6 only*)
- **Algebra**
- **Measurement**
- **Geometry**
- **Statistics** (*years 2 to 6*)

The classes use the White Rose Maths (WRM) Hub schemes of learning as their medium term planning documents.

These schemes support a mastery approach to teaching and learning and have number 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.

2.1.3. Short term planning

Teachers in EYFS ensure the children learn through a mixture of adult led activities and child initiated activities both inside and outside of the classroom. Maths is taught through an integrated approach.

Pre-school/Nursery: Maths planning is in line with the skills progression document generated with Development Matters. Maths is taught on a daily basis, with some key skills covered daily, such as days of the week.

Reception: Daily planning is presented on a PowerPoint/Notebook slides (as and when necessary) and are closely related to WRM daily lessons (adapted/edited where necessary). Mastering Number by the NCETM gives an opportunity for children to consolidate key skills four times a week.

Year 1-6: Daily planning is presented on Powerpoint/Notebook slides and are closely related to WRM daily lessons (adapted/edited where necessary). Every lesson starts with revision of prior learning through the 'Flashback 4'. Maths lessons have a balance of fluency, problem solving and reasoning and include elements such as 'odd one out' and 'true or false'.

Lessons plans are monitored at regular intervals by the mathematics subject leaders.

All classes have a daily mathematics lesson where possible. In key stage one, lessons are 45-60 minutes and in key stage two, at least 60 minutes.

2.2 Special Education Needs & Disabilities (SEND)

Daily mathematics lessons are inclusive to pupils with special educational needs and disabilities. Within the daily mathematics lesson, teachers have a responsibility to not only provide support for children with SEND but also activities that provide sufficient challenge for children who are high achievers. It is the teachers' responsibility to ensure that all children are challenged at a level appropriate to their ability.

The WRM schemes include examples of 'low floor, high ceiling tasks' that support this approach to adapted learning together with reasoning and problem solving questions that will challenge all pupils and allow the 'quicker graspers' to look at the Maths in greater depth.

Maths is delivered with everybody studying the same topic. Many of the teaching strategies we advocate for all pupils are particularly useful for pupils with SEND. For example:

- Using concrete and pictorial resources
- Revisiting and reminding
- Planning for misconceptions
- Use of technology

2.3 Equal Opportunities

Positive attitudes towards mathematics are encouraged, so that all children, regardless of race, gender, ability or special needs, including those for whom English is a second language, develop an enjoyment and confidence with mathematics.

The aim is to ensure that everyone makes progress and gains positively from lessons and to plan inclusive lessons. Lessons involving lots of visual, aural and kinaesthetic elements will benefit all children including those for whom English is an additional language (EAL).

Adapted questions are used in lessons to help children alongside planned support from Teaching Assistants and other adults.

2.4 Feedback and Marking

2.4.1 EYFS

Verbal and non-verbal feedback is essential for all children in the Foundation Stage. Verbal feedback should be concise, positive, skills specific and in language the child will understand. Examples of non-verbal feedback are a smile, thumbs up, clap, high five.

2.4.2 KS1 & KS2

All calculations, whether completed in a focus group or independently, should be marked with a tick or a dot (not including Year 5 and 6 who can use an 'x' at the teacher's discretion). Please write or print **VF** where verbal feedback has

been given. If all the calculations are incorrect, an acknowledgement of this should be indicated (e.g. we will have another try at this). Quotes to record the pupils' voices are recorded in Maths books, post-its or stickers and on the Maths Working Wall.

The first part of the Maths lesson in KS1 & KS2 will begin with addressing misconceptions from the prior lesson (eg. Tuesday's lesson will begin by reflecting on the errors from Monday's lesson). This is called 'Tackling the Tricky Bits' and will be included on the daily teaching slides for each class.

2.4.3 Identifying success

Positive praise should be preceded by a tick and should be specific and in language that the child can understand. Adapted Teaching can be achieved by differing levels of recognition.

2.4.4 Giving an improvement suggestion (next step)

Any improvement suggestion or next step for learning is explained or modelled (verbally or written) by the teacher to help the child know how to make the specific improvement. Where it is written, it should be preceded by the initials NS in a circle. Teachers will check that next step challenges have been completed and pupils are successful. If necessary, extra support is given. Time must be given to allow for this.

2.4.5 Marking for assessment

In Year 1 and Year 6, assessment standards are checked-off using children's work as summative marking. For all year groups, marking is used as a form of formative marking to inform planning and final pieces can be used to draw summative conclusions for formal assessments. Regular marking will ensure planning support for children with misconceptions from previous lessons. Regular marking will also inform pupil groupings for targeted support and therefore be fluid, adaptable and well thought-out.

2.5 Cultural capital

Ofsted definition of cultural capital:

'The essential knowledge that pupils need to be educated citizens, introducing them to the best that has been thought and said and helping to engender an appreciation of human creativity and achievement'

Cultural capital is the accumulation of knowledge, behaviours, and skills that a child can draw upon and which demonstrates their cultural awareness, knowledge and competence; it is one of the key ingredients a pupil will draw upon to be successful in society, their career and the world of work. We give our pupils cultural capital in Mathematics through curriculum enrichment experiences to explore **famous Mathematicians** (eg *Pythagoras and Fibonacci*). Pupils also engage in a range of annual activity opportunities; **interviews with people who use Maths in their occupation; whole school number days, cross curricular projects demonstrating Maths in Art, Music and Science, workshops**

on money management that include: making payments, planning a budget and raising money for charity.

2.6 Pupil Voice

At Dollis, we wholeheartedly value pupil voice. Children can offer a unique perspective on what it is like to be a pupil at their school. Involving them in decision-making can create meaningful change and better academic outcomes, as well as facilitating a sense of empowerment and inclusion. Therefore, we ask our school councillors about the core curriculum areas at their weekly meeting.

In addition, during the summer term, we give our pupils an annual Maths survey in order to gain an insight about their attitudes towards Maths. Pupil surveys are exceptionally important because they let us exactly what the children feel and makes them feel valued. It also helps our school with our self-evaluation and often helps us to drive improvement.

2.7 Research

We are a research-engaged school as we place research and enquiry 'at the heart of our outlook, systems and activity'. Our pedagogical research is looking at **Rosenshine's Principle of Instruction**, looking at questioning in particular.

3. **Impact**

3.1 Assessment

Assessment is an integral part of teaching and learning and is a continuous process. Teachers make daily assessments of pupils through: -

- regular marking of work
- analysing and picking up on misconceptions
- asking questions and listening to answers
- facilitating and listening to discussions
- making observations

These ongoing assessments inform future planning and teaching. Lessons are adapted readily and short term planning evaluated in light of these assessments.

3.2 Summative assessment in KS1 & KS2

3.2.1 Short term

WRM 'end of unit' assessments are administered at the end of each unit taught.

3.2.2 Medium Term

Assessments are carried out across the school at three times during the year using NTS Assessments. These assessments, alongside judgements made from classwork, support the teachers in making an assessment for each pupil for attainment and progress. Teacher assessments are entered onto Arbor. The data collected from Arbor is collated and evaluated in the school Performance Report. Year groups carry out a 'gap analysis' to identify strengths and areas requiring improvement.

Pupil Progress meetings are timetabled each term for all classes. Progress of pupils is discussed and appropriate intervention considered and put in place where appropriate.

3.2.3. Long Term

In EYFS, children are measured at the end of Foundation stage against the Early Learning goals criteria for the Mathematics specific area of development and are graded as emerging or have met the goals for number and shape, space and measure.

Year 2 complete optional SATs and Year 6 complete the national tests (SATs) in May.

3.3 Resources

Each class has a stock of core resources that are age appropriate. Additional mathematical equipment and resources are stored centrally in the Maths cupboard. Pupils in years 2 to 6 have access to 'Times Tables Rock Stars' which is a website facilitating the learning and practise of times tables.

3.4 Home learning

There will be weekly Maths home learning in years 1 – 6 that supports the learning and curriculum in the class.

3.5 Parental Involvement

We value our partnership with parents as they are key contributors in their child's learning and achievement. At regular intervals throughout the year, parents are invited to attend Maths workshops which explain: -

- how Maths teaching is delivered in the school
- the progression of formal written methods
- any new developments in the subject

3.6 Related policies

Please read this policy together with the other related policies.

- Calculations Policy
- Teaching & Learning Policy
- Curriculum Policy
- Feedback and Marking Policy
- Equalities Policy

Appendix 1

Maths in Foundation stage

- There are six main areas that collectively underpin children's early mathematical learning at Dollis Primary, and which provide the firm foundations for the Maths that children will encounter as they go up the years at Dollis Primary School. They are:
 1. Cardinality and Counting: understanding that the cardinal value of a number refers to the quantity, or 'howmanyness' of things it represents
 2. Comparison: understanding that comparing numbers involves knowing which numbers are worth more or less than each other
 3. Composition: understanding that one number can be made up from (composed from) two or more smaller numbers
 4. Pattern: looking for and finding patterns helps children notice and understand mathematical relationships
 5. Shape and Space: understanding what happens when shapes move, or combine with other shapes, helps develop wider mathematical thinking
 6. Measures: comparing different aspects such as length, weight and volume, as a preliminary to using units to compare later.

In the **Foundation stage**, we do this by having a mathematically rich environment, where:

- The learners are provided with mathematical challenge through questioning, games and activities which allow them to explore the six main areas of Maths
- The learners have access to high quality resources which can be used to explore mathematics. These resources are of various shapes and sizes and are found both inside and outside
- The learners are exposed to a number rich environment, with digits, words and representations of number in interactive and visual displays throughout the learning environment
- The learners hear and learn songs and rhymes relating to Maths
- The learners are encouraged to use their bodies to count actions, e.g. jumps
- The adults highlight the Maths around, modelling mathematical vocabulary
- The learners have access to Maths related books
- The adults demonstrate secure subject knowledge, including in their understanding of where the children have come from and are going to with their mathematical learning
- The adults present intelligently selected and planned resources, including IWBs and other resources
- The adults are clear and succinct when modelling and giving explanations that expose learners to physical, visual and abstract methods.

There are daily opportunities for counting in real life situations such as how many children in the line, how many pencils are needed if there are 3 children here etc.

- o As well as Start and End Goals in line with Development Matters, there are Dollis End Goals that have been created that are ambitious pertinent to our children in order for children to be equipped with confidence in Maths beyond the classroom environment.

It is our aim that by the end of their EYFS journey, children at Dollis will be able to:

- Using a wide range of manipulatives to represent and organise numbers to 10
- Feeling confident to explore number and to have a go
- Not afraid to 'make mistakes'
- Using stem sentences during Maths sessions
- Using the correct and taught vocabulary to explain their understanding and reasoning
- Talk to adult about their own learning
- Talk to their peers about what they notice when looking at numbers, patterns, groups and sequences

Appendix 2

Maths in KS1 and KS2

At Dollis Primary school, we aim to "master Maths". Mastering Maths means pupils acquiring a deep, long-term, secure and adaptable understanding of the subject.

In KS1 and KS2 we primarily do this through our discrete teaching of Maths, where:

- o The learners are encouraged to be methodical mathematicians
- o The learners answer in full sentences
- o The learners are encouraged to prove the Maths through a concrete, pictorial and abstract approach (CPA). This will be evidenced by a weekly summary provided by teachers.
- o The learning has a variety of fluency, problem solving and reasoning opportunities
- o The learning follows White Rose unit order, building on previous year's mastery
- o The learning is concrete, pictorial and abstract
- o The learning will repeat stem sentences ('I say, you say')
- o The learning provides challenge at all levels with low threshold high

ceiling activities

- o The learning begins with 'Flashback 4' revision
- o The learning follows a 'ping-pong' style in Key Stage One
- o The learning provides opportunities for Maths to be incorporated into other areas of learning, e.g. PE, history, DT and highlights "real Maths"
- o The learning will provide opportunities for class, group and partner talk, with children developing clear and logical explanations and the ability to question
- o The learning is shared through working walls with vocabulary and methods which are regularly referred to
- o Children will have individual workbooks from WRM in Years 2 to 6. Children will copy and calculate the fluency questions. Reasoning and problem solving questions that require a written answer will be written in full sentences using procedural, declarative or conceptual knowledge to explain. In Year 1, children will continue to have adapted activities through the use of the WRM activity sheets.
- o The learning is acknowledged by the teacher
- o The learning is assessed in end of unit and end of term White Rose assessments, with the latter being reported
- o The adults demonstrate secure subject knowledge, including in their understanding of where the children have come from and are going to with their mathematical learning
- o The adults present intelligently selected and planned resources, including IWBs and other resources
- o The adult's model mathematical language
- o The adults are clear and succinct when modelling and giving explanations that expose learners to physical, visual and abstract methods.

Appendix 3

Classroom poster to support learners in KS1&2 (see page 12)

Maths at Dollis Primary School

- We are taught stem sentences to explain the Maths
- We talk about Maths and have a positive attitude to learning new concepts
- We know that our opinions about Maths are valued and we share our views through an annual Maths survey.
- We are asked to answer in full sentences
- We are given time to discuss our Maths in pairs or groups
- We refer to our working wall to support our learning
- We challenge ourselves everyday
- We use resources to help us understand
- We draw pictures to help us understand
- We can reason using mathematical language
- We can work methodically when solving problems
- We learn from our mistakes