

Maths policy

Greenlands Community Primary School



Approved by:

Curriculum Committee

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Purpose of study

Mathematics is a creative and highly interconnected 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.

Taken from the new Primary Mathematics Curriculum – reference DFE 2013

1. Curriculum intent:

The national curriculum for mathematics aims to ensure that all pupils:

- master the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately
- 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

Mathematics is an interconnected subject in which pupils need to be able to move fluently between representations of mathematical ideas. The programmes of study are, by necessity, organised into apparently distinct domains, but pupils should make rich connections across mathematical ideas to develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems. They should also apply their mathematical knowledge to science and other subjects.

The expectation is that the majority of pupils will move through the programmes of study at broadly the same pace, mastering their year group expectations. However, decisions about when to progress should always be based on the security of pupils' understanding and their readiness to progress to the next stage. Pupils who grasp concepts rapidly should be challenged through being offered rich and sophisticated problems. Those who are not sufficiently fluent with earlier material should consolidate their understanding, including through additional practice, before moving on.

Curriculum implementation

2.1 The school aims to develop teachers and promote expert teaching knowledge and uses a variety of teaching and learning styles in mathematics. Our principal aim is to develop children's knowledge, skills and understanding while fostering our school values: Respect, Compassion, Trust, Perseverance, Resilience and Ambition. During our daily lessons, we encourage children to ask as well as answer mathematical questions and discuss methods fully. They have the opportunity to use a wide range of resources, such as number lines, number squares, digit cards and apparatus to support their work. Teachers are encouraged to follow the school's written calculations policy and have a Working Wall for maths, where methods, vocabulary, models and images, times tables, large apparatus and examples of good work can be displayed for the period of time appropriate to the topic. Pupils are encouraged to refer to the Working Walls during lessons. COMPUTING is used in mathematics lessons for modelling ideas and methods and the pupils may use appropriate programmes and the internet to demonstrate their understanding. Wherever possible, we encourage the children to apply their learning to everyday situations.

- 2.2 In all classes, children have a wide range of mathematical abilities. We recognise this fact and provide suitable learning opportunities for all children by matching the challenge of the task to the ability of the child, but aim for the majority of the class to master their relevant year group expectation. We achieve this through a range of strategies – in some lessons through differentiated group-work, and in other lessons by organising the children to work in pairs on open-ended problems or games. We use classroom assistants to support some children, and to ensure that work is matched to the needs of individuals.

3 Mathematics curriculum planning

- 3.1 Mathematics is a core subject in the National Curriculum, and the New National Curriculum in England 2014 is used as the basis for implementing the statutory requirements of the programme of study for mathematics.
- 3.2 We carry out the curriculum planning in mathematics in three phases (long-term, medium-term and short-term). The National Curriculum in England 2014 for literacy and mathematics give a detailed outline of what we teach in the long term. The Key Learning in Maths half termly grids, produced by Lancashire ensure an appropriate balance and distribution of work across each term. The blocked units are completed at a pace appropriate to the pupils and the teacher may decide to revisit a block or a unit before it's repeated, if assessment for learning indicates they should.
- 3.3 Our daily plans, completed by the class teacher, identify the learning objectives and ensure a spiral approach over time to ensure coverage of the blocks and units specified in the National Curriculum in England 2014. These daily plans list the specific learning objectives and expected outcomes for each lesson, and give details of how the lessons are to be taught at the appropriate level, the resources to be used, and any implications for future learning. The class teacher keeps these individual plans, and the class teacher and subject leader may discuss them during monitoring visits, or on an informal basis if requested.
- 3.4 We continue to plan the activities in mathematics so that they build on the children's prior learning, as detailed in the LAPS and KLIPS assessment grids, so a teacher may decide to amend their plans on a short term basis, i.e. on the day of teaching, or indeed during the lesson if he/she feels that pupils are not working at the level expected when planning.
- 3.5 Teachers may set one short piece of maths homework each week. This gives the chance for pupils to practice and demonstrate skills learned in class. Where pupils consistently forget to return homework, they are encouraged to attend the Homework Club.

4 The Foundation Stage

- 4.1 The Reception class base their planning on the Statutory Framework for the Early Years Foundation Stage and work towards the Early Learning Goals. They use the planning support provided by the Lancashire Maths Team. We teach mathematics in our reception class. We give all the children ample opportunity to develop their understanding of number, measurement, pattern, shape and space, through varied activities that allow them to enjoy, explore, practise and talk confidently about mathematics. See Foundation Stage Policy for further details.

5 Contribution of mathematics to teaching in other curriculum areas

5.1 English

The teaching of mathematics contributes significantly to children's understanding of English in our school by actively promoting the skills of reading, writing, speaking and listening. For example, in mathematics lessons, we expect children to read and interpret problems, in order to identify the mathematics involved. They are also improving their command of English when they are asked to explain, reason and present their work to others during maths sessions. In English lessons too, maths can contribute: younger children enjoy

stories and rhyme that rely on counting and sequencing, while older children encounter mathematical vocabulary, graphs and charts when reading non-fiction texts.

5.2 Personal, social and health education (PSHE) and citizenship

Mathematics contributes to the teaching of PSHE and citizenship. The work that children do outside their normal lessons encourages independent study and helps them to become increasingly responsible for their own learning. If pupils request extra homework, then teachers are encouraged to foster their enthusiasm and provide them with activities and equipment. The planned activities that children do within the classroom encourage them to work together and respect each other's views. We present older children with real-life situations in their mathematics work on the spending of money through the PSHE curriculum specifically focusing on savings and debt.

5.3 Spiritual, moral, social and cultural development

The teaching of mathematics supports the social development of our children through the way we expect them to work with each other in lessons. We group children so that they work together, and we give them the chance to discuss their ideas and results.

British Values

We ensure that the fundamental British Values are introduced, discussed and lived out through the ethos and work of the school and aim to incorporate our school values. Where relevant, D&T provides a vehicle for furthering understanding of these concepts.

5.4 The creative curriculum

Where possible, teachers have made links between maths and the topics they teach in their classes, using the specific skills suggested from their year group.

6 Mathematics and Computing

6.1 Information and communication technology enhances the teaching of mathematics significantly, because Computing is particularly useful for mathematical tasks. It also offers ways of impacting on learning which are not possible with conventional methods. Teachers can use software to present information visually, dynamically and interactively, so that children understand concepts more quickly.

7 Mathematics and inclusion

7.1 At our school, we teach mathematics to all children, whatever their ability and individual needs. Mathematics forms part of the school curriculum policy to provide a broad and balanced education to all children. Through our mathematics teaching, we provide learning opportunities that enable all pupils to make good progress. We strive hard to meet the needs of those pupils with special educational needs, those with disabilities, those with special gifts and talents and those learning English as an additional language, and we take all reasonable steps to achieve this.

7.2 When progress falls significantly outside the expected range, the child may have special educational needs. Our assessment process looks at a range of factors – classroom organisation, teaching materials, teaching style and differentiation – so that we can take some additional or different action to enable the child to learn more effectively. Assessment against the National Curriculum allows us to consider each child's attainment and progress against expected levels. This ensures that our teaching is matched to the child's needs.

7.3 Individual Learning Plans (ILP) will be created for children with additional special educational needs. The ILP may include, as appropriate, specific targets relating to mathematics using and applying, number and shape and space.

7.4 We enable all pupils to have access to the full range of activities involved in learning mathematics. Where children are to participate in activities outside the classroom (a 'maths

trail', for example), we carry out a risk assessment prior to the activity, to ensure that the activity is safe and appropriate for all pupils.

8 Assessment for learning:

8.1 Teachers will continually assess children's progress as part of every lesson and adjust their plans accordingly.

8.2 Marking and feedback should be carried out during the lesson, or as soon after the lesson as possible, and should follow the guidelines set out in the Feedback and Marking Policy.

8.3 We use short-term assessments to help us adjust our daily plans. These short-term assessments are closely matched to the learning objectives. If teachers identify pupils who are working above, or below the expected level in a lesson, then they should move the pupil into another group for the day. Groups should always remain fluid and match the needs of pupils in each learning objective. Where a teacher feels a pupil requires a little extra help outside the maths lesson to achieve the day's learning objective, then they are encouraged to refer the pupil to the Teaching Assistant, who should teach the pupil in a small group situation outside core curriculum time. Teachers / teaching assistants are encouraged to keep a log of the daily intervention carried out in this way. Short term assessments may be used to inform judgements in the KLIPS process.

8.4 We make medium term assessments on a termly basis and long-term assessments towards the end of the school year, and we use these to assess progress against school and national targets. We can then set targets for the next school year and make a summary of each child's progress before discussing it with parents and carers. We pass this information on to the next teacher at the end of the year, so that s/he can plan for the new school year. We make the long-term assessments with the help of end-of-year tests and teacher assessments. We use the national tests for children in Year 2 and Year 6. We also make annual assessments of children's progress measured against the level descriptions of the National Curriculum. These records also enable the teacher to make an annual assessment of progress for each child, as part of the school's annual report to parents and carers.

Three times a year, teachers will assess the child against the year group expectations of either entering, developing or secure. This will be recorded on the Lancashire pupil progress tracker. Their end of year level will be reported to parents via the end of year report. Progress throughout the year will be feedback at parent/teacher meetings.

8.5 Medium and long term assessments also help to inform the teacher of pupils who require more structured intervention programmes- See section 9. As a school, we value small group intervention work, and provide every class with a teaching assistant (TA) who can deliver this.

8.6 Children are also encouraged to make judgements about how they can improve their own and each other's work.

8.7 Areas for development identified in test analysis help to identify and improve future teaching and learning.

8.8 Y4 carry out the Multiplication Tables Check Assessment Framework annually.

8.9 Tracking pupil progress

Teachers are asked, by the Head teacher, to report levels in Maths 3 times a year. This information is entered onto the School Tracker, which may be used by teachers, Curriculum leaders, the Senior Management Team, or the School Advisor for monitoring purposes.

9 Intervention Programmes

Assessments help to inform the teacher of pupils who require structured support. Pupils are assessed on entry and exit, to measure the effectiveness of the programme and identify further need.

10 Resources

- 10.1 All classrooms have access to appropriate small apparatus and other appropriate resources. The cupboards in the hallways stock further maths resources which are free for teachers to use when required. A range of software is available to support work with the computers and iPads.
- 10.2 When KS1 teachers are planning their role-play areas, they should consider opportunities for mathematical development and provide easily accessible resources to encourage this.

11 Impact:

- 11.1 The coordination and planning of the mathematics curriculum are the responsibility of the subject leader, who also:
- supports colleagues in their teaching, by keeping informed about current developments in mathematics, and by providing a strategic lead and direction for this subject;
 - gives the Head teacher an annual summary report in which s/he evaluates the strengths and weaknesses in mathematics, and indicates areas for further improvement;
 - uses specially allocated regular management time to review evidence of the children's work, and to observe mathematics lessons across the school.
- 11.2 The quality of teaching and learning in mathematics is monitored and evaluated by the Head teacher and Subject Leader as part of the school's agreed cycle of lesson observations.
- 11.3 A named member of the school's governing body is briefed to oversee the teaching of numeracy. The numeracy governor meets regularly with the Head teacher to review progress.
- 11.4 This policy will be reviewed at least every two years.

Related Policies to be reviewed

- Feedback and Marking Policy
- Equal Opportunities Policy
- Special Needs Policy
- Written calculations policy

Signed: L Hatch

Date: September 2022