

Gisburn Road C.P School Mathematics Policy



Date Agreed: September 2020

Review Date: September 2023

MATHEMATICS POLICY

At Gisburn Road School our philosophy is:

Together we dream it, believe it, achieve it!

I. VISION STATEMENT

At Gisburn Road Primary School, we are developing a Mathematics Mastery curriculum to ensure every child can achieve learning excellence. Our aim is for all children to think mathematically, enabling them to reason, solve problems and assess risk in a range of contexts. Children can experience a sense of awe and wonder as they solve a problem for the first time, discover different solutions and make links between different areas of mathematics. The curriculum provides pupils with a deep understanding of the subject through a concrete, pictorial and abstract approach. This ensures pupils fully understand what they are learning

2. INTENT

At Gisburn Road School we aim to present a Mathematics Curriculum that is:

- Relevant to the pupil's experience
- Meaningful
- Accessible
- Practical
- Challenging
- Achievable
- Enjoyable

The Mathematics Curriculum should provide pupils with a strong level of Mathematical fluency and a deep, long-term, secure and adaptable understanding of Mathematics. It should enable pupils to become resilient in solving non-routine Mathematic problems and enjoy challenging Mathematics and acquire new Mathematical skills, representations and thinking.

Mastery Approach

Teaching Mathematics for mastery is a transformational approach to Mathematics teaching. When taught to master Mathematics, pupils develop their Mathematical fluency without resorting to rote learning and are able to solve non-routine Mathematics problems without having to memorise procedures. This approach is evidence-based and helps pupils develop a deep long-term and adaptable understanding of Mathematics.

On our journey towards teaching for mastery, the expectation is that the majority of pupils will move through the programmes of study at broadly the same pace. 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; differentiation through depth, rather than acceleration. Those who are not sufficiently fluent with earlier material should consolidate their understanding, before moving on.

3. STATUTORY REQUIREMENTS

Statutory requirements for the teaching and learning of Mathematics are laid out in the National Curriculum in England (2014).

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 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.

In the Foundation Stage (Nursery and Reception)

The principle focus of Mathematics teaching in EYFS is to equip the pupils with the skills to be able to count, read, write and order numbers to 20. They should be immersed in a numerate environment and use Mathematics as part of their every day school life.

At Key Stage One (Years 1 and 2)

The principal focus of Mathematics teaching in key stage 1 is to ensure that pupils develop confidence and mental fluency with whole numbers, counting and place value. This should involve working with numerals, words and the four operations, including with practical resources.

At Lower Key Stage Two (Years 3-4)

The principal focus of Mathematics teaching in lower key stage 2 is to ensure that pupils become increasingly fluent with whole numbers and the four operations, including number facts and the concept of place value. This should ensure that pupils develop efficient written and mental methods and perform calculations accurately with increasingly large whole numbers.

At Upper Key Stage Two (Years 5-6)

The principal focus of Mathematics teaching in upper key stage 2 is to ensure that pupils extend their understanding of the number system and place value to include larger integers. This should develop the connections that pupils make between multiplication and division with fractions, decimals, percentages and ratio.

4. SUBJECT ORGANISATION- IMPLEMENTATION

The Mathematics Curriculum is delivered using the Mathematics programmes of study: Key Stages 1 and 2 sections of the National Curriculum in England (Sept 2014). This is supported by LAPs (Learning and Progression Steps) and Mathematics National Curriculum Progression 2014 created by the Lancashire Mathematics Team. This document sets out a progression of learning for individual strands of the 2014 National Curriculum for Mathematics.

Each strand has been separated into individual aspects to support teachers with planning by identifying:

- age related expectations
- precursor skills
- subsequent learning

Throughout school, Mathematics lessons will take place 5 days per week. Pupils will work as a whole class, within a group, with a partner or individually, depending upon the task at hand. In addition to this, extra whole class fluency sessions may be timetables for some year groups and additional Mathematics provision provided for particular pupils, as necessary.

Early Years Foundation Stage

The Early learning Goals from the Early Years Outcomes document are followed to ensure continuity and progression from the Foundation Stage through to the National Curriculum. Pupil provision is related to age related expectations. Mathematics is incorporated into both adult directed activities and continuous provision activities throughout the year. White Rose resource are used to support this area.

Key Stage 1

Lessons follow the Red Rose Mastery Mathematics scheme, Mastery One and Mastery Two, published by Lancashire Education Authority, and based on the National Curriculum in England 2014 document.

Key Stages 2

In Year 3, lessons follow the Red Rose Mastery Mathematics scheme, Mastery Three, published by Lancashire Education Authority, and based on the National Curriculum in England 2014 document. Year four will begin using this scheme in 2021/22, Year 5 in 2022/23 and Year 6 in 2023/24. Those year groups that have not begun to use the Res Rose Mastery Mathematics scheme, will follow the Mathematics Planning document published by Lancashire Education Authority, and based on the National Curriculum in England 2014 document. Learning will still be undertaken with a mastery approach and lessons / activities may be supported by other schemes, such as White Rose or MathsNoProblem!.

5. RECORDING OF WORK

There is encouragement to use Mathematics mentally and orally.

When formal recording takes place, pupils will learn to record their work:

- In books / journals
- In Mastery workbooks (Y1,Y2 and Y3, 2020)

- By practical model making
- Pictorially
- By group presentations or displays

6. PRESENTATION

Where age appropriate, presentation of work should reflect the school Presentation Policy.

7. CALCULATIONS

The separate 'Calculation Policy' should be read in conjunction with this Policy. It provides detail of the skills, strategies and formal written methods taught at different stages. This Policy will be updated in line with changes to the Curriculum.

8. CROSS-CURRICULAR MATHEMATICS OPPORTUNITIES

Teachers will seek to take advantage of opportunities to make cross-curricular links. They will plan for pupils to practise and apply the skills, knowledge and understanding acquired through Mathematic lessons to other areas of the Curriculum. The Lancashire Professional Development Service (LPDS) National Curriculum Support Materials provide creative and cross-curricular learning opportunities for Mathematics to be taught across the curriculum, in each themed booklet. These may be used to support this area.

9. THE USE OF ICT

Opportunities to use ICT to support teaching and learning in Mathematics will be planned for and used as appropriate. This will include opportunities to use ICT to support models and visual aids, alongside providing interactive opportunities and engaging games to consolidate and revisit learning. These opportunities will be provided for pupils in a variety of situations, including whole class, small group and 1:1 opportunities. ICT opportunities are also provided in the Mathematics Planning document and used as appropriate.

Some websites used to support learning include:

- <https://nrich.maths.org/frontpage>
- http://www.bbc.co.uk/schools/teachers/keystage_2/topics/maths_using.shtml
- <http://www.primaryresources.co.uk/maths/mathsDI.htm>
- <https://www.topmarks.co.uk/Interactive.aspx?cat=29>
- <https://www.tes.com/articles/teachers-tv-primary-maths-applying-number-and-problem-solving>
- <http://mathszone.co.uk/using-applying/>

10. INCLUSION

We aim to provide for all pupils so that they achieve as highly as they can in Mathematics according to their individual abilities. We will identify which pupils or groups of pupils are under-achieving and take steps to improve their attainment. Gifted pupils will be identified and suitable learning challenges provided.

Intervention Programmes

The most effective form of intervention is when a difficulty or misconception has been identified and is addressed with immediacy. This may take the form of further teaching during the lesson or during additional time outside of the lesson, which will therefore allow the pupil to access the next lesson more effectively.

This requires a tailored approach to intervention and a realisation that any pupil may require some form of intervention at a given time. Various intervention strategies are carried out where appropriate and are delivered by Teaching Assistants / Teachers.

Regular intervention groups and programmes are planned by the class teacher, based on the needs of pupils and are reviewed termly. These are delivered by Teaching Assistants / Teachers and are carefully monitored and evaluated to ensure these programmes are timely and effective. Termly reports of the effectiveness of these interventions are provided for Governors.

Particular identified pupils may be invited into school to attend after lunch time or after school sessions to support their Mathematics.

Equal Opportunities

All pupils are provided with equal access to the Mathematics Curriculum. We aim to provide suitable learning opportunities regardless of gender, ethnicity or home background.

II. ASSESSMENT AND TARGET SETTING

Work will be assessed in line with the Assessment Policy.

In addition to this:

- In EYFS, the assessments made follow the Early Learning Goals criteria and are recorded on a regular basis.
- Formative assessment (AfL) takes place on a daily basis through questioning the pupils and observation of their work.
- Classroom Day Books are used by all Teachers to record daily planning and assessment opportunities. These are annotated daily and observations are used to inform future planning, assessment and interventions opportunities.
- LAPs (Learning and Progression Steps) are an additional tool used by Teachers to assess learning. These are then used during planning to ensure teaching and learning objectives are correctly pitched at the level the pupils need and coinciding with the learning expected at the current time of the year for the age related expectations.
- The Marking and Feedback Policy is used across the school and this provides a uniform assessment tool for both pupils and staff. The triangle system used in day books will also be used in children's books and comments will be included, when necessary. The triangle system is as follows:



Achieved learning objective – secure understanding.



Developing an understanding of the objective.



Has not met the learning objective. Needs further support.

- Pupils are assessed using KLIPs (Key Learning Indicators of Performance) and these are completed and moderated on a termly basis.
- A formal written assessment is made termly and the results are recorded using the Target Tracker online assessment, which is available to the Headteacher and SLT.
- Pupils are assessed termly using Lancashire Mathematics Assessments, additional tasks (KSI) and teacher assessments (KLIPs). Y2 and Y6 are also assessed annually through SATs.
- Parents / carers are informed of termly judgements by report cards, which are given out prior to termly parents meetings.
- Each year, annual assessments are forwarded to the next teacher and are recorded on each pupil's individual assessment record.

12. CONTINUOUS PROFESSIONAL DEVELOPMENT

Staff will be provided with a wide range of relevant training courses and professional development opportunities.

These are delivered in various forms, including:

- Staff Meeting; led by the Subject Leader or Lancashire Mathematics Consultants
- Mathematics Surgeries; led by the Subject Leader
- Peer support opportunities, such as within Staff Meeting or additional sessions
- School – School support
- Training Courses; delivered by Lancashire Professional Development Service (LPDS), Teaching and Learning Consultants, Mathematics Coordinators / Subject Leaders, Maths Hub run by the National Centre for Excellence in the Teaching of Mathematics (NCETM) or other relevant providers
- Lancashire Mathematics Subject Leaders Network Meeting, each term, delivered by Lancashire Mathematics Teaching and Learning Consultants (attended by the Subject Leader)

13. THE GOVERNING BODY

Regular reports are made to the governors and to our Mathematics Governor, Miss C. Longdon. These focus on the attainment and progress of Mathematics provision, including the effectiveness of interventions.

This Policy will be reviewed every three years or in the light of changes to legal requirements.

14. THE MONITORING AND EVALUATION OF MATHEMATICS

The Subject Leader will be responsible for improving the standards of teaching and learning in Mathematics through the monitoring and evaluation of the subject through:

- Moderation of teacher assessments
- Reviewing pupil progress data
- Reporting to SLT and Governing Body
- Identification of pupils for intervention
- Monitoring the provision of Mathematics (including Intervention and Support programmes)

- Monitoring the quality of the Learning Environment and the deployment and provision of support staff

15. ROLE OF SUBJECT LEADER

In addition, the Mathematics Subject Leader will:

- Lead Policy review and development
- Keep up to date with developments in Mathematics
- Write subject development plans which form part of the overall school development plan
- Support colleagues in their CPD
- Purchase and organise resources

16. PARENTAL INVOLVEMENT

Parents are encouraged to support their pupil with the learning of instant recall facts and the completion of other Mathematics homework which may be set. There are also some opportunities for parents to join pupils in school with Mathematics focused learning sessions.

17. INTENDED IMPACT

Pupils should leave Gisburn Road School with a strong level of Mathematical fluency and a deep, long-term, secure and adaptable understanding of Mathematics. They should be resilient in solving non-routine Mathematic problems and enjoy challenging Mathematics and acquiring new Mathematical skills, representations and thinking.

18. CONCLUSION

This Policy also needs to be in line with other school polices and therefore should be read in conjunction with the following school policies:

- Teaching and Learning Policy
- Assessment and Record Keeping
- Responding to pupils' work / Marking and Feedback Policy
- Special Educational Needs Policy
- ICT Policy
- Equal Opportunities Policy
- Health and Safety Policy
- Calculations Policy

19. APPENDICES

Resources

Resources for Mathematics are constantly being evaluated and updated as funding allows. This is managed by the Mathematics Subject Leader who is responsible for ordering any new books and equipment. Resources are currently both class and centrally based.

Related Policies

- Written Calculation Policies (Addition, Subtraction, Multiplication and Division)

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- Mental Calculation Policies (Addition and Subtraction; Multiplication and Division)
- Parents Calculation Policy
- Marking and Feedback Policy
- Presentation Policy
- Assessment Policy