St James CE Primary School,

Haslingden

MATHEMATICS POLICY	
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Growing in God's Love, Learning as we go.

ENDURANCE FORGIVENESS PEACE
FRIENDSHIP TRUST KOINONIA
THANKFULNESS

Introduction

Mathematics is important in everyday life. It is integral to all aspects of life and with this in mind we endeavour to ensure that children develop a healthy and enthusiastic attitude towards mathematics that will stay with them. We also believe and foster a positive 'can do' attitude in maths and aim to ensure that all children feel that they can achieve and enjoy maths.

This policy outlines what we are aiming to achieve in respect of pupils' mathematical education. It also describes our agreed approach to the planning, delivery and assessment of the mathematics' curriculum.

The National Curriculum (2014) for mathematics describes what must be taught in each key stage. The mathematics taught and the methods used reflect both the statutory requirements and the non-statutory guidance and recommendations outlined in the following documents:

(A) Guidance: Teaching Mathematics in Primary Schools (2020)
(B) Statutory Framework for the early years foundation stage (2021)
(C) Mathematics Programmes of Study: key stages 1 and 2 National Curriculum in England (2013)

This policy provides information and guidance for staff, governors and other interested persons.

Aims

Mathematics helps children to make sense of the world around them through developing their ability to calculate, to reason and to solve problems. It enables children to understand and appreciate relationships and pattern in both number and space in their everyday lives. Through their growing knowledge and understanding, children learn to appreciate the contribution made by many cultures to the development and application of mathematics.

At Haslingden St James we aim to:

- develop a positive attitude to mathematics as an interesting and attractive subject in which all children gain success and pleasure;
- develop mathematical understanding through systematic direct teaching of appropriate learning objectives;
- encourage the effective use of mathematics as a tool in a wide range of activities within school and, subsequently, adult life;
- develop an ability in the children to express themselves fluently, to talk about the subject with assurance, using correct mathematical language and vocabulary;
- develop an appreciation of relationships within mathematics;
- develop ability to think clearly and logically with independence of thought and flexibility of mind;

- develop our ‘mastery’ of areas of maths so that understanding can be transferred in different areas of maths.
- develop an appreciation of creative aspects of mathematics and awareness of its aesthetic appeal;
- develop mathematical skills and knowledge and quick recall of basic facts

Teaching and Learning Style

Haslingden St James uses a variety of teaching styles to cater for the different learning needs of pupils in mathematics lessons. We are using ‘mastery techniques’ within our teaching. To support this, the maths subject leader and one other teacher are taking in the mastery programme with our local maths hub (Abacus North West). As part of this 4 year process, the two participants receive bespoke training from the group leader and are able to observe other teachers and receive school visits to look at maths teaching within our school.

Our principle aim is to develop children’s knowledge, skills, confidence and understanding in mathematics. We do this through a daily lesson that has an appropriate variety of teacher modelled work, group/paired work, and independent work. During these lessons we encourage children to ask as well as answer mathematical questions. They have the opportunity to use a wide range of resources such as number lines, number squares, digit cards and small apparatus to support their work. Children use ICT in mathematics lessons where it will enhance their learning, as in modelling ideas and methods. Although the programmes of study of the National Curriculum (2014) are organised into distinct domains we believe as the National Curriculum states ‘that pupils should make rich connections across mathematical ideas to develop fluency, mathematical reasoning and competence in solving increasing sophisticated problems’ (DFE, 2013:3) With this at the forefront of our teaching we ensure that using and applying mathematics is integrated into planning and teaching.

In all classes there are children of differing mathematical ability. 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. Using the ‘mastery approach’, all children start work at a similar (when appropriate) level, but will progress through the lesson at different speeds. Some children will require further support, or differentiated tasks, but all children are able to make progress across lessons.

We use teaching assistants to provide appropriate support to individuals or to groups of pupils. Teaching assistants within Haslingden St James are viewed as an important ‘asset’ to the school and, as such, are appropriately involved in the planning and delivery of the mathematics curriculum. Their knowledge, skills and understanding are constantly updated through involvement in school-based and wider training.

All staff, children and parents have access to our Calculation Policy (updated Dec 2021) which outlines the representations, mental and written methods that are to be used within in year group. This policy has been planned (in line with that of White Rose maths) to allow consistent use across the school, and also clear progression.

Mathematics Curriculum Planning

Mathematics is a core subject in the National Curriculum, and we use the Mathematics Programmes of Study: key stages 1 and 2 National Curriculum in England (2013) and a combination of different resources to plan and deliver our lessons. These include:

- Guidance for teaching mathematics (2020) – DfE
- WhiteRose maths schemes of learning
- NCETM planning and resources materials
- Lancashire Planning CD

Our long-term and medium term planning has been tailored to suit the needs of our children, and is blocked so that children are able to 'master' an area, before moving onto other areas of maths. For example, in the Autumn Term, all children focus on Number, before moving onto Shape, Space and Measure in the Spring Term.

Our weekly plans list the specific learning objectives for each lesson and give details of how the lessons are to be taught. The foundation stage planning is based around the objectives in the Statutory Framework for the early years foundation stage (2021). Planning is completed weekly on an agreed school planning proforma, and reflects the following:

1) Mental and oral objectives,
2) Mental and oral activities, including resources,
3) Main objectives and appropriate vocabulary,
4) Clear steps to show progression through the lesson.
5) Key Questions and teacher points
6) Example representations that are being used in each step
7) Resources,
8) Support staff,
9) Aspects of Learning,
10) Maths curricular targets,
11) Opportunities for speaking and listening.

Foundation Stage planning is more pertinent to the needs of the staff and the children with more emphasis on continuous provision of Maths with the addition of focussed teacher lead learning activities. Plans are monitored by the Senior Leadership Team on a termly basis. They are also made available to consultants, advisors, governors and inspectors upon request.

Assessment

Informal assessment for learning is undertaken on a daily basis through questioning and observation within the lesson and in the plenary so that misunderstandings can be identified and corrected within the current lesson, intervention time or next lesson. This assessment is reinforced by the marking of children's work, which is carried out supportively so that children can overcome misunderstandings

Assessment has two main purposes:

- assessment of learning (also known as summative assessment);
- assessment for learning (also known as formative assessment).

Assessment of learning (AoL) – summative assessment

Assessment of learning is any assessment that summarises where learners are at a given point in time – it provides a snapshot of what has been learned. Within Haslingden St James, AoL is used appropriately, e.g. to provide a Teacher Assessment judgement and grade at the end of KS1.

Summative assessment takes place termly using a combination of methods. Firstly, teacher's use evidence gathered within the children's books and lesson to assess against the Ready to Progress Criteria as described in the 'Guidance for teaching mathematics in primary school (2020)' from the DfE. We also use scores in tests to support our summative assessment of the children.

Attainment marked in summative assessments is discussed termly as part of Pupil Progress Meetings with a member of the SLT.

Assessment for learning (AfL) – formative assessment

"Assessment for learning is the process of seeking and interpreting evidence for use by learners and their teachers to decide where the learners are in their learning, where they need to get to and how best to get there."

Assessment Reform Group, 2002

At Haslingden St James we recognise that AfL lies at the heart of promoting learning and in raising standards of attainment. We further recognise that effective AfL depends crucially on actually using the information gained.

The assessment procedures within our school encompass:

- Making ongoing assessments and responding appropriately to pupils during 'day-to-day' teaching. These 'immediate' responses are mainly verbal and are not normally recorded;
- Using knowledge of pupils drawn from ongoing pupil tracking records and the progression document to inform 'prior learning' at the beginning of each unit of work to guide our planning and teaching;
- Adjusting planning and teaching within units in response to pupils' performance;
- Use of the Assessment questions within the 'Guidance for teaching mathematics in primary school (2020)'. We also use the assessment questions within the Assessment Documents from the NCETM. to check learning against the end of year objectives. If necessary future planning is adapted in response to assessment outcomes;
- Use of ongoing teacher assessment in order to identify gaps in attainment and at the end of each full term using this information to judge each child's attainment against year group expectations;
- Use of information gained from statutory and internal school tests. Analysis is done at both a quantitative and qualitative level. Information gained is used to

identify the group's and individual's strengths and areas for improvement and also to determine which strategies or methods are particularly effective in respect of specific areas of mathematics (the how and why).

Assessment The Early Years Foundation Stage

Work undertaken within the Early Years Foundation Stage is guided by the requirements and recommendations set out in the Revised Statutory Framework for the EYFS (2021). We give all the children ample opportunity to develop their understanding of mathematics. We aim to do this through varied activities that allow them to use, enjoy, explore, practise and talk confidently about mathematics.

Homework

Maths homework is regularly set for all children to support the work that they are doing in class.
We use a variety of resources to support maths homework including:
- Timetable Rockstars
- Testbase
- Sarah Farrell Arithmetic Sheets

Contribution in Mathematics to Teaching in Other Curriculum Areas

At Haslingden St James we are always looking for opportunities to use and develop maths skills in other areas of the National Curriculum.

Some of these examples include:

English

Mathematics contributes significantly to the teaching of English in our school by actively promoting the skills of reading, writing, speaking and listening.

Computing/ICT

The effective use of ICT can enhance the teaching and learning of mathematics when used appropriately. When considering its use, we take into account the following points:

- ICT should enhance good mathematics teaching. It should be used in lessons only if it supports good practice in teaching mathematics;

- Any decision about using ICT in a particular lesson or sequence of lessons must be directly related to the teaching and learning objectives for those lessons;

- ICT should be used if the teacher and/or the children can achieve something more effectively with it than without it;

- Useful suggestions as to integrating ICT is given in the ICT section of the Lancashire Interactive Planning tool (National Curriculum 2014).

Science

Almost every scientific investigation or experiment is likely to require one or more of the mathematical skills of classifying, counting, measuring, calculating, estimating and recording in tables and graphs. In science pupils will for example order numbers, including decimals, calculate simple means and percentages, use negative numbers when taking temperatures, decide whether it is more appropriate to use a line graph or bar chart, and plot, interpret and predict from graphs.

Art, Design and Technology

Measurements are often needed in art and design and technology. Many patterns and constructions are based on spatial ideas and properties of shapes, including symmetry. Designs may need enlarging or reducing, introducing ideas of multiplication and ratio. When food is prepared a great deal of measurement occurs, including working out times and calculating cost; this may not be straightforward if only part of a packet of ingredients has been used.

History, Geography and Religious Education

In history and geography children will collect data by counting and measuring and make use of measurements of many kinds. The study of maps includes the use of co-ordinates and ideas of angle, direction, position, scale and ratio. The pattern of the days of the week, the calendar and recurring annual festivals all have a mathematical basis. For older children historical ideas require understanding of the passage of time, which can be illustrated on a time line, similar to the number line that they already know.

Physical Education and Music

Athletic activities require measurement of height, distance and time, while ideas of counting, time, symmetry, movement, position and direction are used extensively in music, dance, gymnastics and ball games.

Personal, Social and Health Education (PSHE) and Citizenship

Mathematics contributes to the teaching of personal, social and health education, 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. The planned activities that children do within the classroom encourage them to work together and respect each other's views.

Teaching Mathematics to Children with Special Needs

At Haslingden St James we aim to provide a broad and balanced education to all pupils. Quality First Teaching is considered an entitlement for all pupils. Effective pupil tracking enables identification of pupils who may benefit from early 'intervention' at an appropriate level, i.e. Wave 2 or Wave 3.

We also recognise, and aim to make provision for, pupils who have a particular ability in mathematics.

Equality

St James Primary school welcomes its duties under the Equality Act (2010).
The Equality Act establishes 9 protected characteristics which apply to schools. The first 7 characteristics apply to pupils:

- Disability
- Race
- Sex
- Gender reassignment
- Pregnancy and maternity
- Religion or belief
- Sexual orientation
- Marriage and civil partnership
- Age

Public Sector Equality Duty (2011)

St James Primary school has paid due regard to the need:

- **to eliminate discrimination**, harassment, victimisation and any other conduct that is prohibited by or under this Act
- **to advance equality of opportunity** between persons who share a relevant protected characteristic and persons who do not share it
- to foster good relations **between persons who share a relevant protected characteristic and persons who do not share it.**

We value every learner as an individual who has an important part to play in our community. We encourage all learners to develop the skills, qualities and aspirations to become independent learners, confident individuals and responsible citizens.

Resources

Wherever possible; resources are stored in maths teaching areas. Every class has access to place value and number equipment for the children to access in order to promote their independent calculation and problem solving skills. In all years there are iPads and IWB with relevant software to aid teaching and learning for teaching all aspects of Mathematics. There are some resources that are stored centrally.

For example:
Clocks,
Shapes,
Measuring instruments,
Weighing scales.
Weights,
Capacity equipment,

Resources are continually audited and updated where funding allows in accordance to the subject improvement plan drawn up in the summer term. This will also include the buying of appropriate and up to date software

Responses to Children's Work

We recognise the importance of responding to children's work, whether orally or in writing. We seek to encourage children by acknowledging positive achievements. This could include praise for use of a viable method even if the end results were incorrect. Children are frequently provided with next steps to support and enhance their understanding and make links between previous and future learning. Children are given opportunities, and actively encouraged, to explain their work to others and to display their work when it seems appropriate. They are encouraged to value and respect the work of others. They are also encouraged to reflect on their learning.

Monitoring and Review

Monitoring of the standards of children's work and of quality of teaching in mathematics is the responsibility of the head teacher and link governor supported by the subject leader.

The work of the subject leader also involves supporting colleagues in the teaching of mathematics, being informed about current developments in the subject, and providing a strategic lead and direction for the subject in the school.

This policy should be read in conjunction with:
Curriculum Policy
Teaching and Learning Policy
Marking and Feedback Policy
Assessment Policy
Inclusion Policy
Calculation Policy