



Maths Policy

Approved by: Headteacher & SLT

Last reviewed: March 2022

Next review: July 2023

Intent

To allow children to be resilient and inspired mathematicians who have the necessary tools to solve problems and communicate mathematically through concrete, pictorial and abstract strategies.

We want all pupils at Gaskell Primary School to experience the beauty, power and enjoyment of mathematics and develop a sense of curiosity about the subject with a clear understanding. By experiencing Maths, our children will understand how Maths can give them the thirst for knowledge about the world they live in. Wider life experiences are limited in our school context and Maths will give the children the chance have excellent knowledge of surviving in the real world of today. By learning about the place they live in, they will gain the knowledge and skills to see how diverse the world around them is. Children will have the opportunity to gain confidence in applying their knowledge into problems and show reasoning. Throughout their time at Gaskell, children will learn how to use money, read tables, and tell the time so that they can use and apply this outside of school life.

This policy outlines the guiding principles by which Gaskell Community Primary School will implement Mathematics in accordance with statutory requirements.

What are the aims for the Maths Curriculum?

- To be able to problem solve.
- To be able show reasoning skills through written, verbal or practical activities.
- To be able to explore, understand and use the correct mathematical vocabulary to communicate effectively.
- To become fluent and confident with timestables.
- To recognise concrete, pictorial and abstract strategies through learning.

The National Curriculum for Maths 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.

Implementation

Every child is given the opportunity to be included in all aspects of school life and in all areas of the curriculum. Teaching and learning in the school ensures that all children are set suitable learning challenges. A broad range of teaching styles are adopted in response to diverse learning needs. We make every effort to overcome potential barriers to learning and assessment for individuals and for groups of children. We aim for Gaskell Primary School to be an ideal learning environment for nurturing and developing the whole child.

How are Maths lessons taught at Gaskell Primary School?

Children are taught Mathematics for approximately 1 hour daily. Support is determined during each lesson to ensure secure understanding based on the needs of the child. Challenge is visible throughout the whole session, where children are asked to reason and prove their understanding at a deeper secure level. As a school we are following the National Curriculum statements, as well as using the White Rose Maths scheme for support with resources and assessments. As a school we are recapping on previous learning from Maths lessons or key learning areas such as number bonds, doubles, times tables, quick re-call division facts etc. Teachers are well prepared and resourced to use intervention sessions to immediately tackle misconceptions and consolidate learning if not understood.

Impact

By the end of KS2 we aim for children to be fluent in the fundamentals of mathematics with a conceptual understanding and the ability to recall and apply knowledge rapidly and accurately. All pupils will have the skills to solve problems by applying their mathematics to a variety of situations with increasing confidence. Furthermore, pupils will leave Gaskell enthusiastic and keen to learn more about Maths as they start their new journey onto Key Stage 3 with an already broad knowledge of the subject.

Our rationale for teaching Maths:

This policy has been created by staff and Governors to ensure consistency and progression in the school's approach to Mathematics, enabling 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 Gaskell Primary School we aim to:

- develop a positive attitude to mathematics as an interesting and attractive subject in which all children gain some 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 an appreciation of creative aspects of mathematics and awareness of its aesthetic appeal;
- explore, solve and understand mathematical problems and be able to show reasoning;
- develop mathematical skills and knowledge and quick recall of basic facts.

Statutory Requirements

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

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/335186/PRIMARY_national_curriculum_-_English_220714.pdf

The statutory framework for the Early Years Foundation Stage (2021))

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/974907/EYFS_framework_-_March_2021.pdf

and in the Development Matters in the Early Years Foundation Stage guidance document (2021) Development Matters - GOV.UK (www.gov.uk)

Gaskell Primary School

Our 'Created for Gaskell' Curriculum



Curriculum Statement

Principles

Drivers

Values

Our school ethos is to place the child at the centre of everything we do. Our curriculum is designed to encourage, challenge and enable our **children to become successful and resilient citizens in today and tomorrow's world**. At Gaskell, through a broad and balanced curriculum, we will provide the children with the skills and knowledge they require for their lifetime. The curriculum encourages children to be independent, resourceful, skilled, adaptable, flexible and empathetic.

Our school values are represented and underpinned by the curriculum drivers and form the basis of everything we do. They represent how we behave in, around and outside school from Nursery to Year 6, in all aspects of school life. They also support the teaching of British Values throughout the school.

Our curriculum develops the attitude, skills and knowledge for a successful life within Gaskell Primary School.

Our Curriculum is ambitious, developmental and responsive to the current needs of our children.

Our Curriculum enables children to learn more and remember more; facilitating a change of long term memory.

Healthy Pioneers Avid Adventures World Citizens Confident Communicators Creative Minds

The drivers enhance the National Curriculum to support the needs and personal development of our children. They address current gaps in knowledge, skills and topical issues, which we believe will give our children the best attributes to achieve.

Happiness Empathy Ambition Respect Resilience Tolerance Self Confidence

At Gaskell we have key values and drivers which support our children *'to become successful citizens in today and tomorrow's world'*. In Maths we show:

Happiness: In Maths, we motivate and ensure children are fully engaged and enjoy their lessons. We link to real life problems and also the interests of the children. Children will thrive on learning new things and new concepts in Maths to develop and expand their understanding of Maths.

Empathy: We keep connected to the ever changing world and the issues we face locally, nationally and globally. Children are aware of others finding aspects challenging so we support each other in class.

Ambition: We aspire to be prepared for our future roles in the community and working world with the use of skills that we have learnt and can apply in our world.

Respect: We respect the equipment that we will be using to support our work.

Resilience: We appreciate that some aspects of Maths can be challenging but we continue to work hard to improve our skills and our understanding.

Tolerance: We respect that other people might have different views to ourselves as we live in a diverse community. In our classes, children make mistakes in Maths but we stick together and support each other.

Self-confidence: We are actively engaged in Maths which helps us achieve our goals of problem solving and reasoning.

In Maths we are:

Healthy Pioneers:

We are aware and enjoy our school environment so that we can explore Active Maths through different learning opportunities. Children will be given the experiences of learning Maths outside and will explore the positive impacts it has on their bodies both mentally and also physically.

World Citizens:

Our children will develop an understanding about how to survive in the world. Through learning about money, reading timetables, graphs and charts. Children will also be able to tell the time and explore scales as well as measurements so that they will recognise their role in today and tomorrow's world. Children are encouraged to challenge themselves to gain high aspirations about what their future 'world of work' may look like.

Avid Adventurers:

We are passionate that children are excited about the real world. We believe that a curriculum rich in real life experiences develops confidence and resilience. We want them to know that life exists outside school, their home and local community. There is a world waiting to be explored. We will allow them to manage risk-taking by having lots of fun and experiencing a little danger. These learning experiences will ignite the imagination and advance their knowledge and understanding, taking into account their diverse starting points and enrich their experiences of life.

Confident Communicators:

In Maths, we will read and understand questions so that we can therefore make the correct choices when confidently applying our answers. This can be either through writing or verbally speaking using a rich vocabulary on how well we understand Maths.

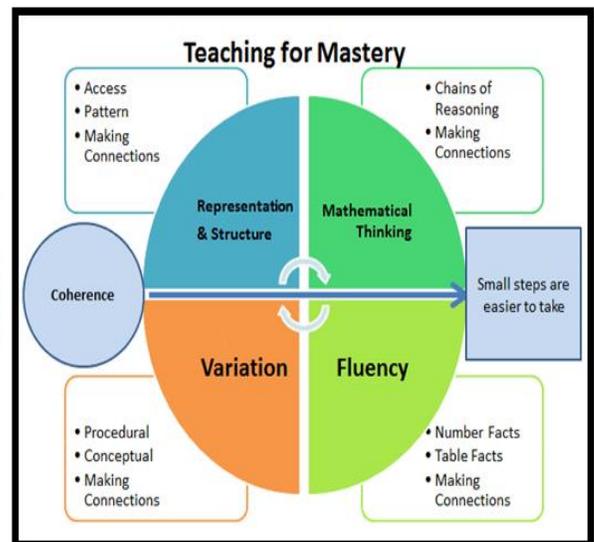
Creative Minds:

Individuality and self-expression is promoted through Maths whilst developing resilience, resourcefulness and risk taking when faced with more challenging tasks. Creativity is encouraged in all areas.

Curriculum

Teachers will seek to take advantage of opportunities to make links across the Curriculum. They will plan for pupils to practise and apply the skills, knowledge and understanding acquired through Maths lessons to other areas of the curriculum. Extended writing is expected to be produced in some project work.

Mastery in Maths



The Mastery-learning model forms the basis of our approach to traditional teaching. This means spending greater time going into depth about a subject as opposed to racing through the things that all children should know. Previously, racing through content lead to some children having large gaps in subject knowledge because the concept they had just learnt was either too big or learnt too quickly. As a primary school, it is our duty to ensure that children have an absolutely solid, concrete understanding of subject knowledge and skills as well as being emotionally resilient for secondary school.

Now, we have the confidence to take learning at a steadier and deeper pace, ensuring that no child is left behind, as well as providing deeper and richer experiences for children who are above the national expectation for their age.

We focus on all children achieving what is expected of their age group and not going beyond this. Evidence shows that children need to be able to understand a concept, apply it in a range of situations and then be creative to really understand it. Simply going beyond their age group does not guarantee they understand something, it just means they have heard it.

At our school no child will be taught content from the year group above them, they will spend time becoming true masters of content, applying and being creative with new knowledge and skills in multiple ways.

Contribution in Mathematics to Teaching in Other Curriculum Areas

At Gaskell school we use the Focus Learning Challenge Curriculum to highlight creative learning opportunities and outcomes for mathematics across other subjects.

English

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

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 2013).

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.

Computing

The use of ICT enables children to use and apply their developing skills in Maths in a variety of ways. Younger children use ICT as a source of information and as a way of enabling them to present their completed work effectively. Older children use LbQ and Purple Mash to enhance learning. We encourage all children to use ICT as a resource for learning, whenever it is appropriate.

Personal Development

Maths contributes to the teaching of Personal Development, including SMSC and British Values. We encourage children to take part in class and group discussions on topical issues. Additionally, we encourage children to be open about their feelings and voice their worries; to solve their conflicts with friends. The teaching of Maths develops skills through which our children can give critical responses to the moral questions they meet in their work. The organisation of lessons allows children to work together and gives them the chance to discuss their ideas and results.

Resources

There is a range of resources to support the teaching of mathematics across the school. Staff are encouraged to use practical and visual models to support children's learning in mathematics. All classrooms have a wide range of appropriate practical apparatus. A range of audio visual aids are also available and a range of software is available to support mathematics work. We use WhiteRoseMaths to enhance teaching and learning.

Planning

We use the National Curriculum (2014) to inform our planning and as the basis for implementing the statutory requirements of the programme of study for Maths, this is integrated in our Maths framework which ensures skills and knowledge are revisited and embedded. This is progressive throughout the Key stages. The National Curriculum for Maths objectives encompasses the breadth of what is taught. The planning process is explained in the Maths Offer document.

Evaluation and Monitoring

Governors monitor coverage of National Curriculum subjects and compliance with other statutory requirements through:

- Such as school visits
- Meetings with the school council
- Teaching and Learning meetings with the Senior Leadership Team.

Senior Leaders and subject leaders monitor the way their subject is taught throughout the school by:

- Lesson observations
- Planning and Review meetings
- Project Reviews
- Book looks
- Coverage trackers
- Environment walks
- Learning Talks

Subject leaders also have responsibility for monitoring the way in which resources are stored and managed. The work of the Subject Leader also involves supporting colleagues in the teaching of Maths, being informed about the current developments in the subject, and providing a strategic lead and direction for the subject in the school.

Interventions/inclusion/EAL

Children are given the opportunity to access the interventions:

- One to One tutoring.
- Those children who need additional support to keep up or catch up, take part in monitored interventions.

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.

Staff Development

At Gaskell, staff development is undertaken in the following ways:

- By identifying areas for development during Performance Management reviews (personal development)
- In the School Improvement plan (whole school development)
- By discussion with the Head Teacher and/or Subject Leads
- By making staff aware of relevant courses
- By observation and feedback
- By whole school INSET
- Key Stage Phase meetings and shared planning for Teaching and Learning
- Mini CPD sessions for all staff
- CPD training
- By Peer mentoring/observation and collaborative working
- By visits to leading English teachers when appropriate

Subject Leadership

The Subject Leadership Team has allocated time in order to enable them to review samples of the children's work and undertake lesson observations of Maths teaching across the school. The Teaching and Learning Governor Committee receive reports/presentations on data, new initiatives and standards in Teaching and Learning of Maths.