Maths Vision and Policy

Maths Policy

Intent

At Butler's Hill Infant School, we view mathematics as essential to everyday life, critical to science, technology and creating the building blocks for later life. A high-quality mathematics education therefore provides a foundation for understanding the world, the ability to reason mathematically, and a sense of enjoyment and curiosity about the subject. Our intent is to provide children with a mathematics curriculum that will allow them to become confident individuals through developing their mathematical skills to their full potential. We also aim to present maths as a challenging, exciting, creative and relevant subject in order to promote a positive and confident attitude.

In line with the National Curriculum (2014), our aim is to:

- 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.
- 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

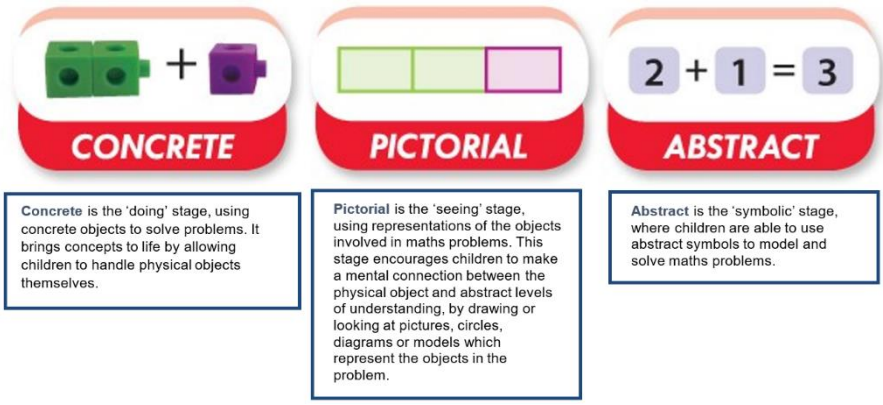
At Butler's Hill we are committed to providing a motivating, challenging and comprehensive maths curriculum that is accessible to all and links the use of mathematics across a range of subjects, adding meaning to the learning of maths.

Our whole school approach to the teaching and learning of maths involves the following;

Our maths planning is based on Schemes of Learning from White Rose Maths and individual teacher researching and collecting other ideas from other schemes of work This is also enhanced by a wide range of resources. This ensures a progressive and thorough curriculum in every year group. Teachers know which objectives must be taught and assessed in each year group and can follow progressive small steps to ensure pupils have a comprehensive understanding of maths.

• Teachers are encouraged to plan in, Activ Inspire creating slides for each 'small step' with teaching points and activities to be completed. This format ensures evaluation of each lesson and subsequent lessons are adapted accordingly.

• WRM (White Rose Maths) promotes kinaesthetic learning to ensure children acquire fluency of skills by introducing concepts in a practical/concrete way to progress to pictorial then abstract (C-P-A). We use this approach mixed with our own teacher led ideas.



Teachers deliver one curriculum for all, providing opportunities to stay together and to work through new content as a whole group. However concepts or areas of learning can be differentiated by different members of staffs during input where there is a clear gap in ability in a specific area. Children can move fluidly from these groups depending on the area of learning or their ability to understand the concept. Teachers teach the whole class, allow pupils time to practise and bring the class back together to move on. Differentiated learning is provided through a 'tier system' of tasks that the children work through to consolidate fluency, use skills to solve problems or use skills and reasoning skills to solve higher-level challenge problems. Teachers should use their professional judgement to determine the activities, timing and organisation in each lesson in order to suit the teaching objectives and ensure children understand each small step.

• For pupils who may struggle or possibly 'fall behind' with parts of the curriculum, in class support is provided on a daily basis. Additionally, intervention and consolidation is provided in the afternoon to ensure they are ready for the next lesson or concept of learning.

For SEN pupils (extreme) a separate curriculum may be more appropriate. SEN children have access to a 'rainbow room' where they access the math curriculum at their own level with highly trained members of staff and good quality SEN resources

• Throughout KS1, pupils have daily maths lessons. Plus 2 extra weekly 'fluency sessions' in year 2. In Early Years, pupils have 5 maths mornings or inputs each week and also opportunities to practise and consolidate their knowledge through a range of planned, child initiated activities.

- The teaching of mathematics at Butler's Hill promotes the use of mathematical vocabulary through encouraging children to explain their thinking, strategies and mistakes during lessons to embed understanding and to support peer on peer learning as children learn well from peers. We have a vocabulary progression ladder

- During lessons, the adults mark, using green (correct) and pink (incorrect) highlighters/pens. After activities, where necessary, the whole class discuss answers, strategies and mistakes. This provides children with immediate feedback and time to reflect on their learning. Mistakes are discussed and correction time given as part of a lesson. Children respond well to this and learn well from their mistakes. We see assessment as an integral part of the teaching process and strive to make our assessment purposeful, allowing us to match the correct level of work to the needs of the pupils, thus benefiting the pupils and ensuring confidence and progress.

- WRM planning is taught in blocks, when staff use this planning/progression of lessons Prior to each block, children complete a pre-assessment and then, at the end of the block, a post assessment. This is a clear way to measure short-term progress. Objectives for each block are shared and discussed with the children during the block. This ensures children know their learning targets.

- The national curriculum for mathematics reflects the importance of spoken language in pupils' development across the whole curriculum – cognitively, socially and linguistically. The quality and variety of language that pupils hear and speak are key factors in developing their mathematical vocabulary and presenting a mathematical justification, argument or proof. Children need to learn to explain their thinking clearly and teachers should ensure that pupils build secure foundations by using discussion to probe and remedy their misconceptions. Opportunities for speaking and listening are offered daily in the math sessions.

Impact

Our successful approach to the teaching and learning of maths, results in a fun and engaging curriculum that embeds understanding and knowledge through hands on, practical activities. Introductions to concepts using concrete materials and practical activities supports learning through memorable activities, 'songs' and 'games' which children can recall at a later date, relating the learning to new situations. Our policy of 'marking with the children' within lessons supports children in recognising their strengths and areas for development. Children are encouraged to share their misconceptions and misunderstandings and become adept in using appropriate vocabulary in doing so. The inclusion of open dialogue to discuss and explain mathematical thinking also strengthens the use and understanding of mathematical language along with ensuring children can explain, justify and evidence their thinking. Connecting maths across the curriculum highlights how maths relates to life. We use and highlight our use of

maths in science investigations, collecting, recording and presenting data, such as in Year 2 ICT and science curriculum using data handling and geography field trips collecting and categorising resources from the world around us and taking measurements, e.g. orienteering in year 1 Computing also highlights the real use of maths with statistics and data collection and analysis while measuring and position and direction are essential skills to programme toys such as Beebots and coding

Teaching and Learning

EYFS

The principle focus of mathematics teaching in the Early Years is for children to develop a strong grounding in number so they can develop the necessary building blocks to excel mathematically. Children should be able to count confidently, develop a deep understanding of the numbers to 10, the relationships between them and the patterns within those numbers. We provide frequent and varied opportunities to build and apply this understanding - such as using manipulatives, including small pebbles/buttons/ and tens frames for organising counting – this helps our children to develop a secure base of knowledge and vocabulary from which mastery of mathematics is built. In addition, our curriculum includes rich opportunities for children to develop their spatial reasoning skills across all areas of mathematics including shape, space and measures. We teach our children to develop positive attitudes and interests in mathematics, look for patterns and relationships, spot connections, 'have a go', talk to adults and peers about what they notice and not be afraid to make mistakes. We are all safe to do so at Butler's Hill.

KS1

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 involves working with numerals, words and the four operations, including with practical resources. At this stage, pupils develop their ability to recognise, describe, draw, compare and sort different shapes and use the related vocabulary. Teaching involves using a range of measures to describe and compare different quantities such as length, mass, capacity/volume, time and money. Pupils read and spell mathematical vocabulary, at a level consistent with their increasing word reading and spelling knowledge at key stage 1. By the end of year 2, we aim for all pupils to know the number bonds to 20 and be precise in using and understanding place value. An emphasis on practice at this early stage will aid fluency.

Organisation, Planning and Resources.

- Each class has a general bank of resources for day-to-day maths lessons. EYFS classrooms have a wide range of counting equipment for children to explore and use in their learning and play.

KS1 classrooms have a maths shelf/area for children to access during lessons, selecting and choosing resources that will be most helpful to them

Further shared resources are stored in the Maths resource cupboards located in the Year 2 corridor for staff to access.

- Each classroom has a maths 'working wall' showing examples of the topic currently being covered and a permanent display of mathematical symbols, numbers, times tables (2,5,3,10's) and vocabulary appropriate to the age range.

- Each classroom is equipped with an Active Board and access to laptops and Ipads to enhance mathematical learning (Timestable Rockstars).

- Additional resources are available in school to support children's learning further, e.g specific teaching programmes, (Malowi maths for SEN in Year 2)

- Online programmes (TTR and Purple Mash) are used to enhance learning and provide motivational tasks and homework activities.

Assessment

At the end of each term, children complete an end of term assessment, assessing all the blocks taught over the term. White Rose Termly assessments are used in both Year 1 and 2. This assesses long-term progress and enables teachers to assess the children against age related expectations. Termly assessments are recorded on INSIGHT (online tracking and assessment programme bought in by school) This is shown by recording what 'term' and 'year group' they are working within e.g end of Autumn 1 in Year would be 1.1. Some children are working below their year group expectations and this is recorded accordingly.

In Early Years, pupils we are going through a transition phase with a brand new curriculum in 2021.Currently the children are being assessed against 'achieved' and 'not achieved', with a view to moving to specific a statements each term through the year (R.1, R.2 and r.3 which will link to KS1 Each term, the maths lead analyses the data for achievement across the school to identify the percentage of those working at expected, above expected and below expected. This enables SLT to identify groups of pupils who are at risk of underachieving, in which case, intervention strategies, programmes and support are implemented to support learning.

Performance Indicators

Performance Indicators, which are the criteria for success of the school's mathematics policy at Butler's Hill, are:

- Early Years Foundation Profile (Statutory Assessment)
- KS1 results (Statutory Assessment)
    - Year 1 Phonic Screening Test
    - Year 2 Phonic screening test (those that did not pass in Year 1)

Equal Opportunities

All children have equal access to the curriculum regardless of race, social circumstance or gender. This is monitored by analysing pupil performance throughout the school to ensure that there is no disparity between groups.

Teachers ensure that VAK (Visual, Auditory and Kinesthetic) learning styles are acknowledged and opportunities for all learners to use their preferred style are provided. HLTA support is given to groups of identified children both in and out of class. Special Educational Support Plans are used to address specific areas of weakness and achievable targets are set in order to help the child make progress. We are committed to giving all our children every opportunity to achieve the highest of standards. We do this by taking account of pupils' varied life experiences and needs. We offer a broad and balanced curriculum and have high expectations for all children. The Inclusion Policy helps to ensure that this school promotes the individuality of all of our children, irrespective of ethnicity, attainment, age, disability, gender or background.

Our school aims to be an inclusive school. We actively seek to remove the barriers to learning and participation that can hinder or exclude pupils. We make this a reality through the attention we pay to the different individual and groups of children within our school to ensure minimal risk of underachievement.

Role of Subject Leader

The Mathematics Subject Leader monitors standards of planning and teaching and carries out scrutinies of children's work and teachers' planning. Support is given, if necessary, to ensure all staff are adhering to the agreed policy and planning format. Findings from monitoring are discussed with the Senior Leadership Team and shared with teaching staff as appropriate.

Parental Involvement.

At Butler's Hill we encourage parents to be involved by:

• Inviting them into school to participate in year group maths workshops. To be informed about the up to date objectives, methods and strategies we use and to work with their child on a range of activities. Copies of the presentations and notes are sent home for parents who are unable to attend, put on the website and sent as a video demonstration on Class Dojo for parents to watch. • Inviting them to parents' evening each term to discuss the progress of their child.

• Providing weekly homework to consolidate classroom learning to inform parents of their children's learning. This is most often fluency fact based homework.

The Governing Body

A governor responsible for mathematics is identified from the governing body. Governors are invited to attend any Maths workshops or training days. The subject leader and the nominated governor meet annually for a monitoring meeting.

Policy Review

This policy will be reviewed bi-annually.

Last reviewed September 2022