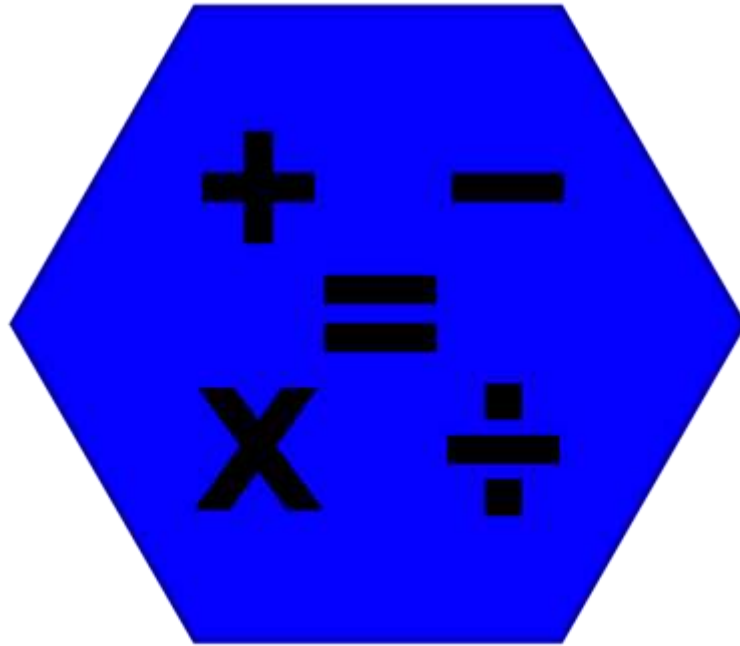




Maths

POLICY

Policy Date:	02/02/2023	Version:		
Policy Review Date:		Mrs R Dulieu (Head teacher)	Signature	Date
Ratified by Governing /Body:				
Name:		Signature	Date	

1. Curriculum Intent – Maths Curriculum Intent:

At Barley Croft Primary School, we have embraced a mastery approach to the teaching and learning of mathematics. Our belief is that all children can be successful in the study of mathematics. We do not accept that ‘some children cannot do maths’ or that children should be limited by prior attainment. Maths is for everyone – you just need the right mindset! We teach the skills to ensure our children are resilient learners who become life-long mathematicians. We aim to deliver an inspiring and engaging mathematics curriculum through high quality teaching using Power Maths.

The Power Maths approach enables children to be numerate, independent, enquiring and confident. Children should not be afraid to make mistakes and should fully embrace the fact that mistakes are part of learning! Developing a positive attitude to Maths is essential at Barley Croft. Teachers promote children’s enjoyment of maths and provide opportunities for children to build a conceptual understanding of maths before applying their knowledge to everyday problems and challenges. Our aim, is to ensure that challenge is provided for all children, whatever their understanding. Children are encouraged to be brave and push the boundaries, deepening their understanding further.

The Maths Curriculum supports the whole school curriculum intent by delivering a curriculum that:

At Barley Croft, we...

- Plan lessons which have a clear real-world purpose.
- Provide children with opportunities for self-reflection.
- Build new skills and knowledge in a progressive and systematic way which allows children to link their learning.
- Teach in a way that allows children to understand the purpose of their learning both now and in their future pathway through life.
- Create an aspirational and stimulating environment throughout the school, where children are challenged to better themselves.
- Provide opportunities for children to develop their oracy skills throughout the curriculum.

- Foster an inclusive environment where all children's needs are met.
- Develop children's mental health and wellbeing through raising self-esteem and valuing their contributions.

2. Organisation and planning - Implementation of the Maths Curriculum

Details of how the curriculum is implemented

The knowledge and skills progression map for Maths ([Appendix A](#)) is organised to ensure it is delivered in the manner it is intended and demonstrates that it considers:

- That the curriculum approach is creative, broad and makes links to other subjects.
- That the children have access to high quality resources and tools to enable effective curriculum delivery.

IMPLEMENTATION

Teaching & Learning
Organisation and Curriculum Coverage At Barley Croft, we recognise that children need to be confident and fluent across each yearly objective. To ensure consistent coverage, teachers follow the Power Maths scheme of learning to support their planning. Power Maths is an exciting and inspiring class mastery approach, which has been recommended by the Department for Education. To further develop teachers understanding of mastery, in 2022/23 Barley Croft have started a journey as members of the East Midland Maths Hub and this will undoubtedly enhance in-house CPD. Every year group has a daily fluency lesson – KIRFs (Key instant recall Facts.) KIRFs - termly overview.docx These are designed to develop pupil's fluency and mental maths skills across the school in a carefully planned and sequenced program. KIRFs help children to learn by heart, key facts and information which they need to have instant recall of. KIRFs are designed to support the development of mental maths skills that underpin much of the maths work in our school. They are particularly useful when calculating, adding,

subtracting, multiplying or dividing. They contain number facts such as number bonds and times tables that need constant practise and rehearsal, so children can recall them quickly and accurately.

In addition, every child in KS1 and KS2 is taught the appropriate times tables (as set out in Barley Croft Times Table policy) [Timestable policy - tracker 2022.xlsx](#) along with corresponding division facts - these should be taught a minimum of three times a week either as part of the mental oral starter or at other times as appropriate in the day. Plus in KS2, every child is expected to go on TTRS (Times Tables Rock Stars) for 30 minutes a week.

Power Maths

Every Power Maths lesson is divided into sections that involve plenty of discovery, sharing, thinking together, practice and reflection. Children are encouraged to solve problems each day through the use of concrete resources, pictorial representations and abstract thinking.

At the heart of this programme is the idea that all children can be successful mathematicians with the right mind-set. Children learn alongside five character's, each with different mathematical characteristics. These characters are:



High quality resources are used in conjunction with Power Maths, such as NRICH and NCETM to support, stretch and challenge all children within the classroom. In addition, the school's calculation policy is used to ensure a coherent approach to teaching the operations across our school.

Our curriculum builds on the concrete, pictorial, abstract approach. By using all three, the children can explore and demonstrate their mathematical learning. Together, these elements help to cement knowledge so children truly understand what they have learnt. All children have access to a wide range of concrete Mathematical resources to help them build on their concrete understanding of Mathematical concepts.

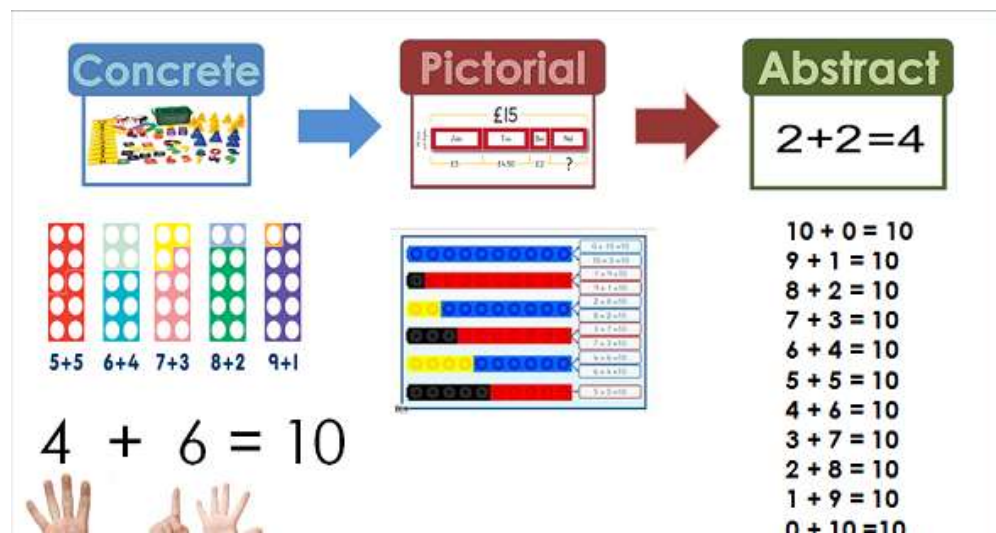
All children when introduced to a new concept for the first time are encouraged to physically represent mathematical concepts. Objects

and pictures are used to demonstrate and visualise abstract ideas, alongside numbers and symbols. Throughout Roby Park, you will see these three methods being used:

Concrete – children have the opportunity to use concrete objects and manipulatives to help them understand and explain what they are doing.

Pictorial – children then build on this concrete approach by using these pictorial representations, which can then be used to reason and solve problems.

Abstract – with the foundations firmly laid by using the concrete and pictorial methods the children can move onto an abstract approach using numbers and key concepts with confidence.



Teachers teach Maths using the online interactive tool, enabling them to model pictorial and abstract concepts which children can replicate and apply to their own learning.

Discover and Share

The main lesson begins with a 'Discover' and 'Share' task in which a contextual problem is shared for the children to discuss in partners. This helps promote discussion and ensures that mathematical ideas are introduced in a logical way to support conceptual understanding. In KS1, these problems are almost always presented with objects (concrete manipulatives) for children to use. Children may also use manipulatives in KS2. Teachers use careful questions [Reasoning frames on mat.doc](#)

to draw out children's discussions and their reasoning and the children learn from misconceptions through whole class reasoning.

Think together

Following the 'discover and share,' children are presented with a variety of similar problems which they might discuss with a partner or within a small group. At this point, scaffolding is carefully reduced to prepare children for independent practice (This is the 'Think together' part of the lesson and the children might record some of their working out in their Maths books or on a mini whiteboard. The teacher uses this part of the lesson to address any initial errors and confirm the different methods and strategies that can be used. This assessment will inform the teacher who is ready to progress to practice books or who might require some additional support.

The children are then shown a 'challenge' which promotes a greater depth of thinking. However, the problem should be assessed by the teacher before the lesson as it may not be suitable for all pupils. It may be more appropriate for your lower ability pupils to progress directly to their practice books.

Practice Books

Following 'Think Together' the 'Practice' part of the lesson, which is designed to be completed independently is undertaken. This practice uses conceptual and procedural variation to build fluency and develop greater understanding of underlying mathematical concepts. A challenge question and links to other areas of Maths encourages children to take their understanding to a greater level of depth. Children who complete this are provided with further 'rich and sophisticated' problems from the deepening tasks.

The final part of the sequence is a 'reflect' task. This is an opportunity for children to review, reason and reflect on learning and enables the teacher to gauge their depth of understanding. Pupils responses are scaffolded with our reasoning mats [Reasoning frames on mat.doc](#) to ensure that pupils responses go deep enough and clearly show their understanding.

Each child has their own Practice Book in which they answer questions and discuss their thinking with their teacher.

Delivering Power Maths – Class organisation

As long as the core units are covered in your Maths LTP staff can implement some of the following scenarios to help deliver maths effectively in their class

Whichever model you choose, be flexible in your teaching — decisions about how to deliver lessons will always depend on what you are teaching and the needs of your learners. Don't be afraid to switch things up to find out what works best for you.

Mixed Age Classes

Split teaching	Let one year group do independent work while you focus on the other learners. Then move between the groups or have your TA supporting the independent activities. This model requires planning — you'll need to build in alternating independent tasks into your lessons. E.g. Whilst one year group is being taught maths, the other year group could be accessing their : handwriting, grammar or topic.
Parallel learning	Teach all learners together to learn the same content (where possible) and then challenge older learners with greater depth.

	See mixed year plans on Power Maths > Be aware that teaching objectives do not always align. There will be sessions when you can teach the whole class and sessions where you need to teach the year groups independently.
Toggling	Divide your class into year-based groups. Then move between the groups to offer support and ask questions. Again, this model requires a fair bit of planning and coordination between groups. Ensure that pupils have suitable holding tasks so that if they finish work before you can move back to their year group they have appropriate tasks to do i.e: strengthen, deepen or power up activities. You can follow the LTP as they are or you may want to move the units from last year so that they are taught prior to similar units this year. However if you are moving Units around, don't hesitate to ask the Maths Lead for any help or advice. Also ensure any altered LTP are shared with the Maths Lead and stored in your plans folder.

Delivering Power Maths – Class organisation (Pupils working below age appropriate level)

Across the school, there are pockets of pupils who are not able to access age appropriate maths even with additional pre-teach and post-teach. Where the gaps are too large (**more than 1 year behind current age expectation**) then you will need to consider delivering them a more appropriate maths curriculum.

However, before a pupil is delivered maths from a previous year group, a discussion needs to take place with the maths lead to ensure that this is the appropriate path for the pupil and to ensure all necessary steps have been taken to support the pupil access the age appropriate curriculum.

Pupils who are working significantly below age expectations

Single year classes	Use the guidance on mixed-aged classes to help you deliver different year groups maths curriculums in one classroom. Always make sure that pupils have access to adults modelling methods with the teacher working with pupils at least once a week (can be a short group session) so that they can be keeping tabs on pupils progress. Pupils should be able to work with a partner and produce independent work. They will not catch up if they are left to muddle their way through a practice book on their own.
Mixed Year classes	In mixed age classes you may be able to deliver the previous year's maths curriculum to pupils who have fallen significantly behind and with pre and post-teach support used to enable them to access the curriculum. Use the ready to progress NCETM resources to help plan this https://www.ncetm.org.uk/classroom-resources/exemplification-of-ready-to-progress-criteria/

3. Legislation and guidance

This policy reflects the requirements of the [National Curriculum programmes of study](#), which all maintained schools in England must teach. It also reflects requirements for inclusion and equality as set out in the [Special Educational Needs and Disability Code of Practice 2014](#) and [Equality Act 2010](#), and refers to curriculum-related expectations of governing boards set out in the Department for Education's [Governance Handbook](#).

In addition, this policy acknowledges the requirements for promoting the learning and development of children set out in the [Early Years Foundation Stage 2020 – Early Adopters - framework](#).

4. Roles and responsibilities

4.1 The governing board

The governing board will monitor the effectiveness of this policy and hold the head teacher to account for its implementation. The governing board will also ensure that:

- A robust framework is in place for setting curriculum priorities and aspirational targets
- Enough teaching time is provided for pupils to cover the National Curriculum and other statutory requirements

- It fulfils its role in processes to disapply pupils from all or part of the National Curriculum, where appropriate, and in any subsequent appeals.

4.2 Head teacher

The head teacher is responsible for ensuring that this policy is adhered to, and that:

- All required elements of the curriculum, and those subjects which the school chooses to offer, have aims and objectives which reflect the aims of the school and indicate how the needs of individual pupils will be met
- The amount of time provided for teaching the required elements of the curriculum is adequate and is reviewed by the governing board
- Where appropriate, the individual needs of some pupils are met by permanent or temporary disapplication from all or part of the National Curriculum
- They manage requests to withdraw children from curriculum subjects, where appropriate
- The school's procedures for assessment meet all legal requirements
- The governing board is fully involved in decision-making processes that relate to the breadth and balance of the curriculum
- The governing board is advised on whole-school targets in order to make informed decisions
- Proper provision is in place for pupils with different abilities and needs, including children with SEN

4.3 Subject Leaders

Subject Leaders will ensure that their curriculum subject is implemented in accordance with this policy.

5. Inclusion

Teachers set high expectations for all pupils. They will use appropriate assessment to set ambitious targets and plan challenging work for all groups, including:

- More able pupils
- Pupils with low prior attainment
- Pupils from disadvantaged backgrounds
- Pupils with SEN
- Pupils with English as an additional language (EAL)

Teachers will plan lessons so that pupils with SEN and/or disabilities can study every National Curriculum subject, wherever possible, and ensure that there are no barriers to every pupil achieving.

Teachers will also take account of the needs of pupils whose first language is not English. Lessons will be planned so that teaching opportunities help pupils to develop their English, and to support pupils to take part in all subjects.

6. Subject Monitoring arrangements

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

- Governors monitor whether the school is complying with its funding agreement and teaching a “broad and balanced curriculum” which includes the required subjects, through planned Governor Visits, reading the end of year subject SEFs and Subject Action Plans and looking at subject data and outcomes.
- Subject Leaders monitor the way their subject is taught throughout the school by: planning scrutiny – looking at Knowledge Organisers – considering the coverage, taught knowledge, skills & vocabulary. Learning walks – which monitor the quality of teaching, ensuring this reflects the intent for the subject. The monitoring of work and outcomes – looking at the impact evidence - through the work in books, on display, and in scrapbooks, etc. Staff & pupil interviews to get the teachers and children’s opinions, which support measuring the impact.
- Subject Leaders also have responsibility for monitoring the way in which resources are stored and managed and are responsible for the ordering of new resources and managing the associated budget.
- The Head Teacher and the Subject Leader will review this policy every two years.

7. Links with other policies

This policy links to the following policies and procedures: The Assessment Policy & The Teaching & Learning Policy.

Appendix A = Progression & Skills Map for **Maths**–