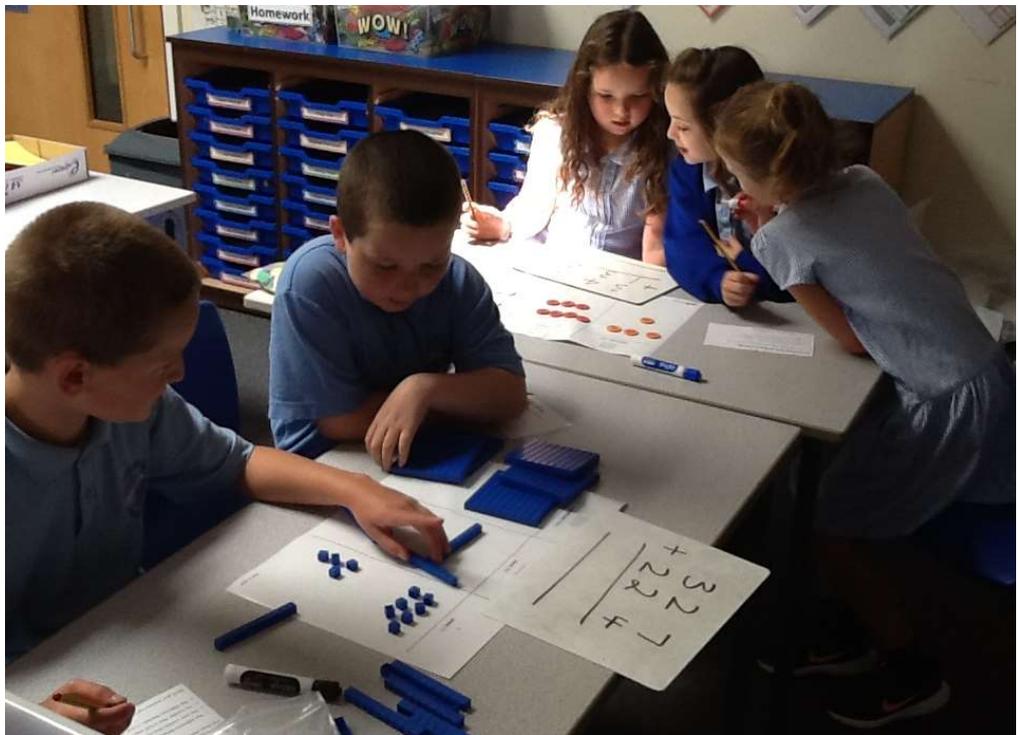




Curriculum Policy

Mathematics



Written by:

Effective From: September 2020

Date of Review: Summer 2021

Subject Coordinator 20/21:



Mathematics Policy

What is our vision?

All children develop a sound understanding of all areas of Mathematics, through fun, enjoyable and interactive lessons. All pupils are encouraged to become independent and motivated mathematicians. Our progressive curriculum enables pupils to scaffold, support and challenge their own learning equipping them with valuable numeric, reasoning and problem-solving skills for life.

Curriculum Aims:

The overarching aim of the Mathematics National Curriculum is to provide children with a high-quality mathematics education therefore providing a foundation for understanding the world, the ability to reason mathematically, an appreciation of the beauty and power of mathematics, and a sense of enjoyment and curiosity about the subject.

We aim to develop a numerate environment where mathematical risk-taking, creativity and logical thought are encouraged in order to develop independent learners.

To achieve this the aims of teaching mathematics in our school are to ensure all children:

- become fluent in the fundamentals of mathematics by instilling confidence, fluency and mastery of key number facts and in the number system through varied and frequent practise
- develop a capacity to solve problems through decision making and reasoning in a range of contexts
- develop a practical understanding of the ways in which information is gathered, presented and interpreted
- explore features of shape and space and develop measuring skills to equip them with life skills
- develop mathematical communication through speaking and listening, practical activities and recording work

How do we achieve this?

In Early Years Foundation Stage, children are given the opportunity to develop their understanding of number and pattern through a combination of short, formal teaching as well as a range of planned structured play situations where there is plenty of scope for exploration.

Children's fluency in arithmetic remains of great importance, with number facts, times table facts and various strategies for calculation taught and practiced at school with support sought from parents through homework activities.

Daily counting (forwards and backwards in many different sized steps as well as from different starting and ending points is essential) and mental strategies should be taught and practised weekly in morning tasks and mental maths lessons. Weekly use of Assertive Mentoring ensures children regularly practise key number skills.

Prior learning should be completed and assessed before a new topic/concept is taught to inform planning for groups and individual children. White Rose Maths Scheme of Learning and small steps should be followed alongside the school's Mental to Written Calculation Policy to ensure progressions of efficient written calculation is developed and applied consistently in each year-group.

Concrete/Pictorial/Abstract teaching and learning should be implemented in every classroom. Children should be active from on outset of the lesson practising skills they haven't yet mastered (recapping on targets/correcting errors or challenge in Daily Review Task) moving on to new learning or applying learning in different contexts. They should be working at a good pace and encouraged to communicate their understanding of maths.

When teaching problem solving skills across the curriculum, time (and sometimes whole lessons) should be given to each aspect of problem solving ensuring children get thorough practise at: 'preparing for problem solving', 'thinking through problems to establish what they know and don't know so far'; actually 'doing the problem solving' effectively and 'communicating the answer effectively'. They should evaluate the process.

Working Walls are used to support the children's learning.

Cross Curricular Mathematics – All strands can be supported using cross-curricular links to topic work (especially Statistics and Problem Solving). Teachers should identify cross-curricular work on medium term planning documents.

At Marus Bridge we recognise that parents make a significant difference to children's progress in Mathematics and encourage this partnership. The homework policy will offer further guidance. Children are encourage to use Times Tables Rockstars at home as well as other online maths games and are rewarded with certificates in assemblies.

Scheme of Work:

Teachers follow the White Rose Maths Scheme of Learning and small steps alongside the Mental to Written Calculation Policy supported by resources outlined below.

Resources:

Maths Resources on the staff shared server:

- White Rose Schemes of Learning
- Calculation policies
- Mental Calculation policy
- Number facts
- Assertive Mentoring
- Fluent in Five
- I see Reasoning
- Number games/maths songs/maths videos
- Maths vocabulary and definitions

Other resources:

- Practical resources are found in classrooms. Larger resources and games are found in the cupboard opposite the Year 5 classrooms.
- White Rose Maths resources (<https://resources.whiterosemaths.com/> - see Claire Bibby for log on details)
- CGP Workbooks - one in each classroom for that year group.
- Classroom Secrets (<https://classroomsecrets.co.uk/> - see Claire Bibby for log on details)
- Times Tables Rockstars (<https://ttrockstars.com/> - see Claire Bibby for log on details)

- PiXL website (<https://www.pixl.org.uk/> – see Suzanne Carver for log in details)
- Insight Tracker (<https://app.insighttracking.com/login> – see Danny Hutton for log in details)

Assessment – How do we assess skills and understanding?

Formative assessment:

- Teachers use a short prior learning assessment before each unit of work to inform planning and use pre-teaching if required.
- Teachers use daily formative assessment to inform lesson planning and necessary differentiation. Pupils' work is marked in line with the school Feedback Policy, modelling how corrections are made and giving children a chance to learn from their misconceptions or incorrect methods – this may occur during daily review time or at point of need.
- Mental maths Assertive Mentoring worksheets used and scores tracked weekly.
- Times-Table Challenge - Times Table Rockstars certificates to be awarded in assembly, alongside white, red and blue times tables bands to celebrate children knowing their times tables. (White - 2,5,10, Red - 3,4,8, Blue - 6,7,9,11,12) Children should be tested on a regular basis by the class teacher on their times tables knowledge.
- Weekly homework will be used as an assessment tool to assess whether children have understood the weekly work in school and can complete it independent at home.

Summative assessment:

- In Reception, children are assessed against the Early Learning Goals for Mathematics that forms part of the Foundation Stage Profile.
- From Year 1 - 6 Teachers use PiXL assessments for arithmetic, reasoning and problem solving following the PiXL assessments calendar. (See Pixl lead/School calendar for dates.)

These assessments can be requested to be printed by the school office with a minimum 3 weeks' notice. These are marked by teachers and then a QLA spreadsheet is completed by TAs (time off timetable is negotiated with teachers). QLA spreadsheets need to be uploaded to the PiXL website by the QLA deadline. When Implication for Teaching Reports are released, teachers consider how QLA gap-analysis will inform future teaching using PiXL resources to support.

Teachers allocate a PiXL grade to children for reading and writing based on their performance in assessments and in class. (See Appendix 1.) These are entered onto the school's Insight Tracker.

- Year 6 to use previous years SAT papers to track progress.
- Number fact assessment takes place every half term.

Health and Safety

When using practical resources ensure all children use them safely and they are carefully tidied up afterwards. Younger children should be monitored by an adult if the teacher feels it is necessary when working with small objects.

Inclusion and Safeguarding Considerations

The class teacher meets the needs of the Most Able and SEN by differentiating Mathematic lessons through levels of support provided and adopting a mastery approach. Children identified as having additional Special Educational Needs may need greater differentiation of materials and tasks consistent with that child's I.E.P. (Individual Education Plan). More able children will be challenged and motivated by greater differentiation of challenge. The class teacher also aims to identify those children who may be gifted in Mathematics and provide them with appropriate learning opportunities. All children will be given opportunities to participate on equal terms in all Mathematics activities and due consideration will be given to the principles of Inclusion.

Other Points/Considerations:

If additional intervention is required outside of school hours this needs to be discussed with subject lead, phase leader and SLT prior to it taking place. Timetabling of intervention during the school day needs to be agreed with all year groups.

Monitoring and Review:

Mathematics is monitored by the subject lead, who provides regular support and feedback to colleagues. Monitoring includes lesson drop ins, reviews of working walls, environment walks and book scrutiny.

Internal observations will take place annually by phase lead/SLT/subject lead to monitor teaching and learning.

Internal moderation of books will take place annually. Year 2 and Year 6 external moderation with other schools to be considered if felt necessary.

Appendix 1 – PiXL Language of Assessment

PiXL Grades	Definition
A1	Based on current rate of progress, will secure Above Expected Standard
A2	<p>Above Expected Key Marginal</p> <p>Based on current rate of progress, will securely achieve Expected Standard. With the right forensic support, has the potential to achieve Above Expected Standard</p>
E1	Based on current rate of progress, will secure Expected Standard
E2	Based on current rate of progress and using some intervention will achieve Expected Standard
B1	<p>PiXL Key Marginal</p> <p>Based on current rate of progress, will not achieve Expected Standard but with the right forensic support and targeted intervention, has the potential to do so.</p>
B2	Not expected to achieve Expected Standard