



GATEWAY FEDERATION



SUBJECT STATEMENTS

MATHEMATICS

Date: February 2022

INTENT (Aims, Aspirations, Linked to school values, Linked to our 'Federation Curriculum Statement')

In the Gateway Federation, we recognise the importance of maths to everyday life and how it connects to many other school subjects; we also acknowledge that the successful teaching and acquisition of key maths skills as outlined in the National Curriculum 2014 – fluency, reasoning and problem-solving – are critical to the future careers and jobs of all of our pupils. Determined to foster and develop a real love of the subject and a thirst for knowledge in all children, we are driven by the following key drivers:

- **Curiosity** – to be eager to learn or know, and are confident to ask for information through deeper questioning.
- **Resilience** – to be quietly determined when tackling challenging work and to be able to bounce back quickly from defeats and failures
- **Aspiration** – to have the hope, desire or ambition to strive to achieve something. To be the best they can possibly be and to challenge themselves as a learner.
- **Independence** – to demonstrate a growing independence and perseverance to become resourceful problem solvers

By using the Teaching for Mastery approach (past members of the NCETM SHAW Maths Hub) as our core teaching method, we aim to:

- **Inspire** children to love maths
- **Encourage** children to take an active role in their learning
- **Ensure** that all children become secure in all key maths facts
- **Support and assess all** children so they achieve their full potential
- **Use** targeted and timely interventions as well as engaging resources
- **Plan** lessons that are inspiring, fun and logically sequenced
- **Foster a growth mindset amongst children.**

CULTURAL CAPITAL

'It is the essential knowledge that pupils need to be educated citizens, introducing them to the best that has been thought and said and helping to engender an appreciation of human creativity and achievement.'

Ofsted School Inspection Handbook 2019

With our firm belief that knowledge is transferable, our pupils are given every opportunity to participate in a wide range of learning experiences beyond their classroom. Maths is a topic that lends itself well to real life situations as we use maths all the time throughout our lives. We look at real-life topics through our maths lessons, which enhances our children's cultural capital such as: calculating with money, reading timetables, measuring and links with computing such as programming and pattern. The children use their knowledge of mathematics at Forest School and at visits to museums such as We the Curious in Bristol.

Our aim is to give children the knowledge and skills to prepare them for what comes next in their lives. This includes the relevant vocabulary needed throughout their education and the opportunity to link maths to real-world problem solving.



GATEWAY FEDERATION



SUBJECT STATEMENTS

IMPLEMENTATION (Long term Plan, Teaching approach, Wider community, Ensuring Progression, Wider Opportunities, Enrichment / Additions to the curriculum.)

Driven by the National Curriculum 2014 in Key Stage 1 & 2, we have implemented White Rose Maths as our main teaching scheme of work to support staff in the TFM approach. This is also supported by mastery materials from the NCETM and problem-solving tasks from nrich.com. In the EYFS, we use Numberblocks from the NCETM in conjunction with concrete and pictorial equipment both inside and outside the EYFS classroom. Staff are guided by the respective Key Stage maths objectives (National Curriculum 2014) when it comes to identifying what to plan and on a daily basis, the long-term overviews from White Rose are followed. Flexibility amongst how teachers plan and deliver objectives is driven by the needs of individual cohorts. Regular conversations take place amongst subject leaders and class teachers to ensure that children have full opportunities to grasp all of the curriculum.

In addition to the general TFM principles, lessons are also underpinned by:

- Targeted questioning by staff, planned prior to lessons
- The selective use of CPA manipulatives
- Regular opportunities to practise fluency skills leading to reasoning and problem-solving
- Visits to other schools to take part in maths challenges

IMPACT (Measure of Success)

Successful mathematicians at both schools are characterised by having:

- *An understanding of the important concepts and an ability to make connections within mathematics.*
- *A broad range of skills in using and applying mathematics.*
- *Fluent knowledge and solid recall of number facts and the number system.*
- *The ability to show initiative in solving problems in a wide range of contexts, including the new or unusual.*
- *The ability to think independently and to persevere when faced with challenges*
- *The ability to reason, solve problems and make sense of solutions.*
- *A wide range of mathematical vocabulary.*
- *A commitment to and love of the subject.*

Learning walks, exercise book analysis and staff discussions: Through paired learning walks –done with both our School Improvement Partner and Maths Hub Leader – we observe maths lessons regularly, analyse and discuss work that is done in class with teachers and check children’s work in exercise books. Discussions with pupils and staff also take place.

Measurement of end of Key Stage outcomes: Using the teaching resources as previously outlined, we measure the impact of the 2014 National Curriculum for maths by the following methods:

1. End of term White Rose assessments for Years 1 – 6
2. End of Key Stage 1 and 2 SATS results against the planned outcomes
3. Pupil questionnaires to gauge pupil attitudes to the subject

Positive areas for the subject. (What is working well in our schools?)

1. The implementation and use of White Rose
2. The adoption by all staff of the teaching and learning principles behind the Teaching for Mastery approach
3. Teaching staff promoted mathematical explanations from the children when answering questions



GATEWAY FEDERATION



SUBJECT STATEMENTS

Areas for development for the subject (2 or 3 points at the most)

1. Ensure there is evidence of daily reasoning in exercise books, whether it be a warmup or independent activity
2. During the lesson the teacher adopts a ping-pong question and answer style to ensure progression is made within the lesson
3. At the start of new topics, carefully consider what manipulatives the children will use to support their learning

Examples of experiences & activities children will have / do.

- Whole School Maths day
- Maths Competition at JMHS
- Inter house competitions on TT Rockstars
- TT Rockstars competition within the Gateway Federation
- Forest Schools

Recent Curriculum Training / INSET

1. Staff Meetings
2. 5 teaching staff have attended training run by the NCETM focusing on Tfm

IMPACT

- Staff more confident at teaching the mastery approach.
- Staff beginning to use CPA to teach each small step of progression.

Curriculum Training Needs / Individual training needs.

1. Provide training in NCETM PD MATERIALS to all staff across both schools
2. Train Teacher Assistants in delivering mastery maths