



Maths Intent, Implementation and Impact

INTENT

Our Federation intends to provide a curriculum which caters for the needs of all individuals and sets them up with the necessary skills and knowledge for them to become successful in their future adventures. We aim to prepare them for a successful working life. We incorporate sustained levels of challenge through varied and high-quality activities with a focus on fluency, reasoning and problem solving.

Pupils are required to explore maths in depth, using mathematical vocabulary to reason and explain their workings. New mathematical concepts are introduced using a 'Concrete, Pictorial and Abstract' approach; enabling all children to experience hands-on learning when discovering new mathematical topics, and allows them to have clear models and images to aid their understanding.

We encourage resilience, adaptability and acceptance that struggle is often a necessary step in learning. Our curriculum allows children to better make sense of the world around them relating the pattern between mathematics and everyday life.

Underpinned By:

- **High expectations**- All children are expected to succeed and make progress from their starting points.
- **Modelling**- Teachers teach the skills needed to succeed in mathematics providing examples of good practice and having high expectations.
- **A vocabulary rich environment**- We intend to create a vocabulary rich environment, where talk for maths is a key learning tool for all pupils. Pre-teaching key vocabulary is a driver for pupil understanding and develops the confidence of pupils to explain mathematically.

IMPLEMENTATION

White Rose

As a Federation, we use the White Rose maths scheme as a foundation for our teaching and learning. Lessons may also be personalised to address the individual needs and requirements for a class but coverage is maintained.

The White Rose scheme of learning is designed to support a mastery approach, as well as to support the aims and objectives of the National Curriculum. It also provides opportunities to build fluency, reasoning and problem-solving into each lesson.

We also use a range of planning resources including those provided by the NCETM and NRICH to enrich our children's maths diet.

Concrete Pictorial Abstract (CPA)

We implement our approach through high quality teaching delivering appropriately challenging work for all individuals. To support us, we have a range of mathematical resources in classrooms including Numicon, Base10 and counters (concrete equipment). When children have grasped a concept using concrete equipment, images and diagrams are used (pictorial) prior to moving to abstract questions. Abstract maths relies on the children understanding a concept thoroughly and being able to use their knowledge and understanding to answer and solve maths without equipment or images. We also use real life contexts so children can understand the purpose for learning the maths concepts.

Children are encouraged to use manipulatives across all year groups; all abilities. They are exposed to visual representations of different kinds that helps them to make connections between the practical and the abstract.

Online Maths Tools

In order to advance individual children's maths skills in school and at home, we utilise PurpleMash for multiplication practise, application and consolidation.

In KS2, maths homework is set weekly, often using PurpleMash or tailored arithmetic questions, to revisit and revise maths concepts.

Continuing Professional Development (CPD)

We continuously strive to better ourselves and frequently share ideas and things that have been particularly effective in staff meetings. We take part in training opportunities, such as the Maths Hub work groups and regional network meetings.

Assessment

Through our teaching we continuously monitor pupils' progress against expected attainment for their age, making formative assessment notes and feedback where

appropriate. We also use the White Rose end of unit tests to identify gaps in learning and use these to inform our teaching.

Summative assessments (PUMA) are completed at the end of each term; their results form discussions in termly Pupil Progress Meetings and update our summative school tracker. The main purpose of all assessment is to always ensure that we are providing excellent provision for every child.

Interventions

We use SHINE for our Maths intervention to support children and ensure they are ready for their next Maths lesson. Children are taught through targeted differentiated small groups and mixed ability whole class lessons.

IMPACT

Pupil Voice

Through discussion and feedback, children talk enthusiastically about their maths lessons and speak about how they love learning about maths. They can articulate the context in which maths is being taught and relate this to real life purposes.

Children show confidence and believe they can learn about a new maths area and apply the knowledge and skills they already have.

Evidence in Knowledge

Mathematical concepts or skills are mastered when a child can show it in multiple ways, using the mathematical language to explain their ideas, and can independently apply the concept to new problems in unfamiliar situations.

Children demonstrate a quick recall of facts and procedures. This includes the recollection of the times table.

Evidence in Skills

Pupils use acquired vocabulary in maths lessons.

They have the skills to use methods independently and show resilience when tackling problems.

The flexibility and fluidity to move between different contexts and representations of maths.

Children show a high level of pride in the presentation and understanding of the work.

The chance to develop the ability to recognise relationships and make connections in maths lessons.

Teachers plan a range of opportunities to use maths inside and outside school.

Outcomes

Learning is tracked and monitored to ensure all children succeed and make good progress. At the end of each year we expect the children to have achieved Age Related Expectations (ARE) for their year group.

Some children will have progressed further and achieved greater depth (GD) and children who are Working Towards Age Related Expectations (WTS), receive appropriate support and intervention, and in-year progress is evident from their starting points.

Assessment & Feedback

An assessment and feedback sheet needs completing after every maths lesson. Please see the assessment and feedback policy for further details.

Addressing Misconceptions

Any misconceptions should be either addressed within the lesson or, if spotted in workbooks during marking, either looked at again with additional support or feedback the same day or the next morning.