Curriculum statement for the teaching and learning of Mathematics

Intent

Here at St Gregory's Primary School we believe that our maths curriculum will create enthusiastic, creative and articulate mathematicians. We follow the 'mastery' principle in that children 'master' a skill so they will be fluent enough to apply in different ways and be able to explain a concept.

We follow the National Curriculum for mathematics, which aims to ensure that all children:

- 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.
- Can 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.

Our intention is that:

- Skills are embedded within a high quality mathematics education taught from the earliest age and developed consistently over time through the delivery of an engaging and inspiring curriculum.
- We endeavour to ensure that children develop an enjoyment and enthusiasm for maths that will stay with them throughout their lives and empower them in future life. We are committed to developing children's curiosity about the subject, as well as an appreciation of the beauty and power that can be found in the methodology, sequences and patterns of mathematics.
- We believe that all children can be successful in the study of mathematics. We advocate a growth mindset and teach the skills to ensure that our children are resilient learners who are supported to discuss misconceptions.
- We recognise that the key to unlocking potential in our children is through the development of basic mathematical skills and the understanding of mathematical concepts. We therefore place great emphasis on the use of concrete resources and pictorial representations at all ages.

- Teachers promote children's enjoyment of maths and provide opportunities for them to build a deep, conceptual understanding of maths before applying their knowledge to everyday problems and challenges.

- Challenge is provided for all children, whatever their understanding. Children make rich connections across mathematical ideas to develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems. In maths lessons, children are always encouraged to delve deeper into their understanding of mathematics and how it relates to the diverse world around them.
- Children apply their mathematical knowledge to science and other subjects.
- Our expectation is that the majority of children will move through the programmes of study at broadly the same pace. However, decisions about when to progress will always be based on the security of pupils' understanding and their readiness to progress to the next stage. Pupils who grasp concepts rapidly will be challenged through being offered rich and sophisticated problems before any acceleration into new content. The learning is done in little steps and children are not moved on too quickly. They are moved deeper and broader rather than higher. Those who are not sufficiently fluent will consolidate their understanding.

Implementation

- To help structure and plan our lessons, we use White Rose Maths Hub schemes of learning to ensure firm foundations and to sequence our learning. Alongside this scheme, we use a range of rich resources to enhance our lessons and deepen understanding from websites such as NCETM and Nrich.
- Online maths tools such as Times Table Rock Stars supports pupils with their multiplication skills.
- In KS2, Maths homework is set regularly to further consolidate and grasp maths skills.
- Staff deliver the maths curriculum with a focus on the concrete, pictorial and abstract approach. By using all three, children can explore, demonstrate and deepen their mathematical learning. White Rose use 'small steps' to break down the teaching sequence into small achievable steps. These elements help to cement knowledge so that children can truly understand and internalise what they have learnt.
- When introduced to a new concept for the first time, children are encouraged to physically represent mathematical concepts. Objects and pictures are used to demonstrate and visualise abstract ideas, alongside numbers and symbols.
- Mathematics sessions include reference to vital mathematical vocabulary to encourage all children to communicate their ideas with mathematical precision and clarity.

- Regular and ongoing assessment informs teaching, as well as intervention, to support and enable the success of each child. Daily assessment is incorporated throughout the lesson through verbal feedback. We use formative assessment notes where appropriate to inform our teaching.
- Continuing Professional; Development (CPD) Staff are working on developing their understanding of mastery through ongoing work with the Great North Maths Hub. We take part in a range of training opportunities and regional networking events.
- EYFS – At St Gregory's we understand the importance of early experiences of maths. Practitioners provide creative and engaging opportunities for children to ignite their curiosity and enthusiasm for the subject. Activities and experiences are frequent and varied, and allow children to build on and apply understanding of numbers to 10. Concrete manipulatives are a key focus within sessions. Children are actively encouraged to use mathematical terminology within their understanding, with a focus on developing positive attitudes and interest in this subject.

Impact

At St Gregory's, the expectation is that the majority of pupils will move through the programmes of study at broadly the same pace. Decisions about when to progress should always be based on the security of pupils' understanding and their readiness to progress to the next stage. Pupils who grasp concepts are challenged through rich and sophisticated problems. Those who are not sufficiently fluent will consolidate their understanding before moving on.

- Teachers use formative assessment to evaluate learning during the lesson. They will ask questions to check understanding and scrutinise independent work in order to identify common misconceptions. Such assessment allows teachers the flexibility to intervene in a lesson to remind, redirect or re-teach pupils as required.
- Daily marking of independent work allows teachers greater understanding of whether or not a concept has been grasped and gives the opportunity to provide praise and feedback in order to reinforce learning. It also allows them to reflect on how successful they were in the delivery of their lesson.
- Pupil voice – through discussion and feedback, children talk enthusiastically about their maths lessons and speak about how they love learning about maths. Pupils know how and why maths is used in the outside world and in the workplace.
- Pupils use acquired vocabulary in maths lessons. They have the skills to use methods independently and working with a maths partner. They show resilience when tackling problems.
- Formal end of unit White Rose tests, used alongside termly summative assessments, allow teachers to evaluate how individuals, groups and the class as a whole are progressing compared to the national expectations. They also provide excellent opportunities to see which concepts need to be given additional time – planning will be adjusted accordingly. This gives the Maths Leader and Senior Leadership the insight to see where the strengths and

weaknesses lie, where additional support needs to be focused and what training/CPD requirements are.

- Subject monitoring – We regularly monitor the quality and impact of out mathematics curriculum through targeted learning walks, book scrutiny and pupil interviews.
- The combination of all these systems allow us to judge the impact of the maths curriculum in our school.