Intent, Implementation and Impact of Mathematics at Hatch Ride

At Hatch Ride, we want all children to be excited about maths, developing skills that take them beyond the classroom and into the wider world – to embrace the mathematical magic in everyday experiences, to feel the challenge and frustration of unravelling a problem, to experience that feeling of elation upon reaching a solution and to want to strive for that feeling again and again, to develop their thinking and understanding through mathematical discussion, recognising that the process can be just as rewarding as the outcome, to question and explore and share their thinking, to try different strategies and to revisit previous work, looking at it with fresh eyes and new experiences, to try, try and try again, to develop an understanding of what went wrong and how to move on, developing resilience and perseverance and to apply these skills in everyday life.

INTENT

- To develop a curriculum which caters for the needs of each individual, supporting and building on previously acquired knowledge and skills.
- To give sustained levels of challenge through varied and high-quality activities.
- To ensure that children become fluent, reason mathematically and solve problems.
- To give children the necessary skills and knowledge for them to become successful, not just in school but in their future working lives.
- To promote the joy of mathematics and to develop our children into life-long mathematicians.

IMPLEMENTATION

Curriculum

- We use the progression maps from the NCETM as our overview.
- We use the White Rose maths scheme as the basis for our teaching sequence, ensuring coverage of the National Curriculum objectives. However, our short-term planning is based upon the individual needs of the cohort and child, looking at summative assessment, ongoing formative teaching judgements, gap analysis and pupil feedback, in order that every child gets exactly what they need.
- We are developing our Calculation Policy to ensure there is consistency in formal written methods as children progress through the school.
- Children are taught to explain their choice of methods to help develop their mathematical reasoning skills.
- We use a range of teaching resources and materials, recognising that this enables children to apply skills and knowledge in a variety of ways and contexts. (These may include, but are not limited to, White Rose, Target Your Maths, NCETM Mastery, Twinkl Diving into Mastery, NRICH, I See Reasoning/ Problem Solving and teacher-developed targeted resources).
- All children take part in a daily fluency session to ensure maths knowledge and fluency are maintained and developed. This may be at the start of the day or at the beginning of the maths lesson itself. This may be from a scheme such as Flashback 4 (WRM), 3 in 3 (Pixl), Fluent in Five (Third Space) or may be set by the teacher, targeting specific needs and skills.
- Children are explicitly taught reasoning and problem-solving skills to help build resilience when faced with challenging tasks.
- A wide range of mathematical resources are used and pupils are taught to show their workings in a concrete, pictorial and abstract form as appropriate.
- Children are encouraged to apply their mathematical knowledge across the curriculum where relevant, particularly in Science.
- We encourage children to verbalise their thinking; we want to ensure that pupils build secure foundations by using discussion to identify and remedy misconceptions and to move their thinking forward.
- To ensure children know more and remember more, we regularly review prior knowledge.

Intent, Implementation and Impact of Mathematics at Hatch Ride

Assessment and Monitoring

- Teachers use rigorous daily assessment and detailed knowledge of the children to gauge the children's understanding and plan for next steps.
- Children are encouraged to RAG rate their understanding of the learning objective at the end of each session. This feeds into the teacher's assessment.
- Children are taught to understand the difference between incorrect answers caused by making mathematical errors and by not understanding the learning objective.

Differentiation, Support and Challenge

- Teachers develop and progress learning based on the security of pupils' understanding and their readiness to progress to the next stage.
- The majority of children will move through the curriculum at roughly the same pace.
- Those who are not sufficiently fluent with earlier material consolidate their understanding, including through additional practice, before moving on.
- Pupils who grasp concepts rapidly are challenged by 'going deeper', being offered rich and more sophisticated problems in order to challenge and extend their thinking. We will also be looking to extend their mathematical language, asking them to prove their ideas and correct misconceptions.
- Teachers use a range of tools to support children in knowing more and remembering more in maths. These include working walls, WAGOLLs, vocabulary displays and 'how-to's.
- A ceiling is not put on children's learning and flexible grouping may be used, according to teacher assessment.

IMPACT

Children at Hatch Ride should develop these key mathematical strategies.

- **Fluency**

Pupils become fluent in the fundamentals of mathematics, through varied and frequent practice with increasingly complex problems over time, so that they develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.

- **Reasoning**

Pupils reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language.

- **Problem solving**

Pupils solve problems by applying their mathematics to a variety of problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

- *Leading to* **Mastery**

All children secure long-term, deep and adaptable understanding of maths which they can apply in different contexts.

Intent, Implementation and Impact of Mathematics at Hatch Ride

What will this look like at Hatch Ride?

.

- The children talk enthusiastically about maths and their mathematical learning. They see relevance in what they are doing and recognise the context in which concepts are being taught, relating them to real-life purposes.
- They relish a challenge, believing they can tackle new concepts with confidence and efficiency, making links and connections and applying previously-taught skills and knowledge.
- They reflect on their learning; celebrating success, sharing ideas and discussing errors and misconceptions, talking about how these will inform their learning in the future with a growing sense of independence.
- They recognise that struggle can be a step in the direction of new learning and show resilience and adaptability to take these steps on board and move forward.
- They explain their strategies and thinking using key mathematical vocabulary and terminology.
- Teachers share enthusiasm for the teaching and learning of maths, developing a culture of resilience where mistakes are expected and respected, discussed, investigated and resolved.