

# STATEMENT OF INTENT FOR MATHEMATICS

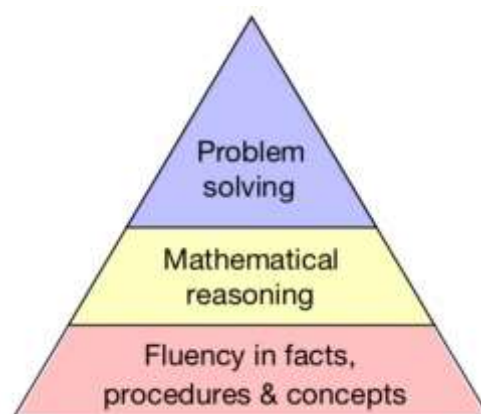
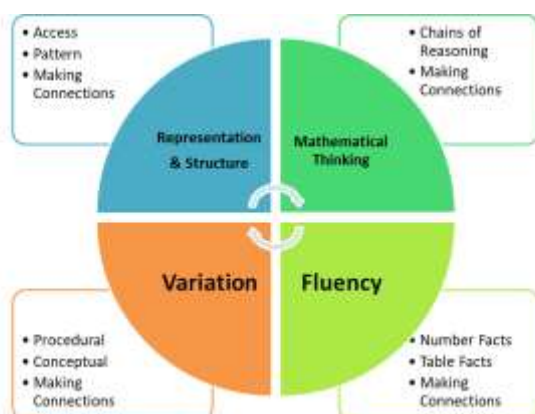
## Curriculum Intent

### *Why do we teach this? Why do we teach in the way we do?*

Mathematics plays an important part in our daily lives. It provides opportunities for developing important intellectual skills in problem solving, reasoning, creative thinking and communication. At Brabourne CEP School, we want our children to have a 'love' for maths and be motivated learners as well as have the tools and skills to equip them in their adult lives. We believe all children can achieve in Maths and teach to foster a deep, secure understanding of mathematical concepts becoming resilient learners who rise to challenges that are set for them.

It is our intent for our children that they:

- ❖ become **fluent** in the fundamentals of mathematics, through varied and frequent practice with the ability to **recall and apply** knowledge rapidly and accurately.
- ❖ develop their **conceptual understanding** through **reasoning and problem solving** 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.
- ❖ can communication, justify, argue and prove using **mathematical vocabulary**.
- ❖ develop their character, including **resilience and growth mindset**, confidence and independence, so that they contribute positively to the life of the school, their local community and the wider environment.



## Curriculum Implementation

### *What do we teach? What does this look like?*

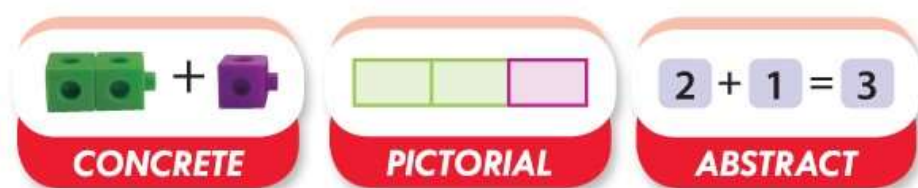
Our whole curriculum is shaped by our school vision which aims to enable all children, regardless of background, ability or additional needs, to flourish and become the very best version of themselves they can possibly be.

We teach the National Curriculum for Mathematics through the White Rose Scheme of Works. The scheme is underpinned by two key aspects. Firstly, the CPA (concrete, pictorial, abstract) approach which supports a visual approach to build a foundation for mathematical understanding and secondly, it gives opportunities for children to reason and problem solve to deepen their understanding of mathematical concepts. Alongside this, White Rose also delivers clear skills and knowledge progression through small step learning intentions which are built on year by year and sequenced appropriately to maximise learning for all children. As a school, we have gone one step further and aligned the WR small steps to suit teaching a mixed year group, but also to allow for areas of consolidation, due to missed learning and gaps during Covid and lockdown.



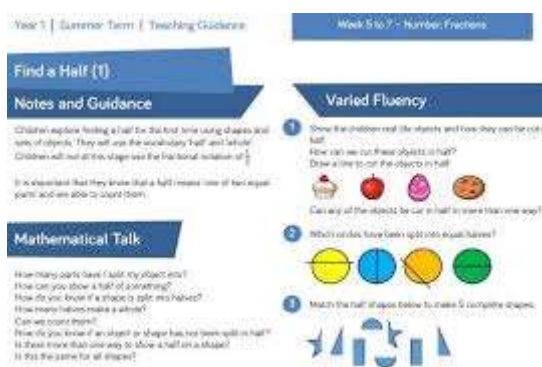
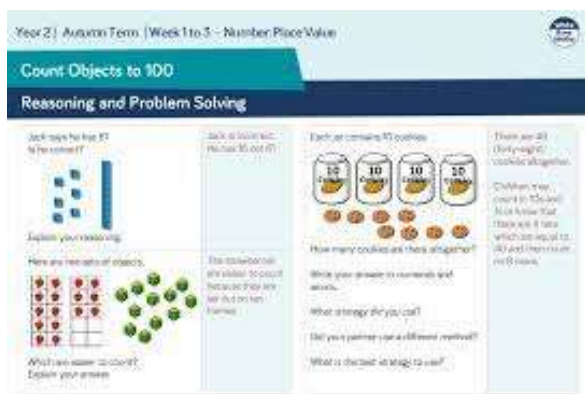
We undertake this using the following approaches:

- ❖ **Concrete, Pictorial and Abstract Learning:** Children engage with a wide and varied range of concrete manipulatives, pictorial representations and abstract methodologies within each session. Cohesive use of CPA is a fundamental part of mastery in mathematics for all learners, not just those pupils with SEND. Concrete and pictorial references scaffold and strengthen understanding and are widely used as a teaching and learning tool from Foundation Stage to Year 6.



- ❖ **Varied Fluency, Reasoning and Problem Solving:** Every learning session includes the opportunity to develop fluency skills, construct chains of reasoning using relevant knowledge

alongside relevant terminology and solve increasingly complex problems in a systematic and coherent way.



- ❖ **Mathematical Vocabulary:** Sessions include explicit reference to vital mathematical vocabulary and the use of stem sentences to support and encourage all children to communicate their ideas with mathematical precision and clarity. These sentence structures often express key conceptual ideas or generalities and provide a framework to embed conceptual knowledge and build understanding
- ❖ **Fluent Recall:** We are committed to ensuring that pupils secure their knowledge of Times Tables and Related Divisional Facts by the end of Year 4. Our pupils engage in regular low stakes testing through Times Tables Rock Stars to practice fluent recall.

### **How do we teach? What does a lesson look like?**

Daily lessons at Brabourne School follow a set structure and, where possible, the following is expected:

- ✓ Maths taught daily in KS2
- ✓ Maths taught 3 x weekly in KS1 with extra provision in Independent Learning Time
- ✓ White Rose Scheme followed with adapted Overviews to ensure coverage before SATs
- ✓ White Rose Small Steps used that have been adapted by the Maths Lead to align with teaching a mixed year group and consolidation opportunities to take into account missed learning through Covid and Lockdown.
- ✓ Manipulatives are used to embed concepts
- ✓ CPA approach used for most topics taught; either within a lesson or across a block
- ✓ 1 minute mental maths each day with practise fluency and recall
- ✓ Flashback 4 questions are used every lesson, which practise fluency and previous learning; one question from the previous year, one from the previous term, one from the previous week and one from the previous day
- ✓ Rapid learners, who have acquired fluency knowledge first, are challenged through reasoning and problems solving challenges and extension tasks

- ✓ Support is given to all children, in particular children who are struggling through the use of manipulatives, TA/Teacher support and same day interventions.
- ✓ Fluency, reasoning and problem solving taught across each unit and developed through enquiry in both routine and non-routine problems
- ✓ Teachers refer to previous learning in order to address misconceptions before teaching a topic / lesson. Teachers have a deep understanding and experience at teaching each topic
- ✓ High expectations of all children
- ✓ Mathematical language is modelled and displayed on working walls
- ✓ Mathematical strategies used by White Rose are appropriately selected and modelled to children and displayed on working walls
- ✓ High level questioning used to support children's learning and understanding.

## Curriculum Impact

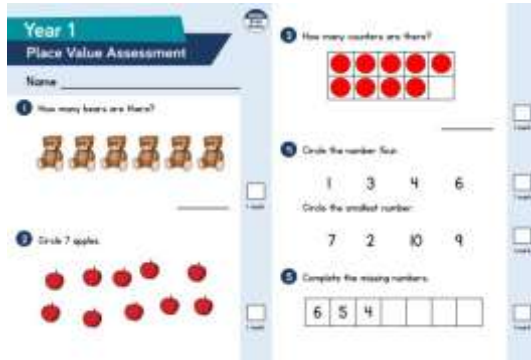
### *How do we know this has worked? What do we do to ensure impact?*

At Brabourne, the expectation is that the majority of pupils will move through the programmes of study at broadly the same pace. We aim for each child to be confident in each yearly objective and develop their ability to use this knowledge to develop a greater depth understanding to solve varied fluency problems as well as problem solving and reasoning questions. However, 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 rapidly are challenged through rich and sophisticated problems before any acceleration through new content. Those who are not sufficiently fluent with earlier material consolidate their understanding, including through additional practice, before moving on.

We assess the impact through the following:

- ❖ **Formative Assessment:** Teachers carry out formative assessment through assessment for learning in each session and feedback is given to children verbally, through self/peer assessment and through marking. Teachers then use this assessment to influence their planning. Children are rapidly identified as needing further challenge or additional support, and we ensure that this is provided in a timely manner.
- ❖ **Timely Interventions:** Teachers believe that all children can achieve in maths, and focus on whole class teaching. Where prerequisites are not secure, timely interventions will be carried out. We understand that catch-up does not work, and as a consequence our interventions are focused on Pre-Teaching and Same Day Interventions.
- ❖ **Low Stakes Quizzing and Fluent Recall:** We use a range of low stakes testing throughout the teaching cycle to assess attainment and progress. From Year 2 to Year 6, children complete regular tests in Arithmetic and Times Tables.
- ❖ **Continuous Provision:** In Early Years and KS1, children have opportunities to extend their learning through mathematical challenges within Continuous Provision both inside and outside to apply their mathematical understanding in different contexts.

- ❖ **Summative Assessments:** Children complete End of Block assessments for each phase of learning. Results are used to further inform planning and allow for tailored interventions groups to take place to ensure the objectives are secured. Our Assessment Calendar also includes 3 key dates for capturing progress and attainment against National Curriculum Objectives. Assessments are carried out in Autumn, Spring and Summer terms.



- ❖ **Subject Monitoring:** We regularly monitor the quality and impact of our mathematics curriculum through targeted learning walks, book scrutiny and pupil interviews. In addition to this, we survey our staff and pupils to identify their perception of mathematics and identify CPD.
- ❖ **Children:** The children will be able to show confidence and believe that they can achieve. They will achieve objectives (expected standard or above) for their year group. They will also show a level of pride in the presentation and understanding of the work and above all, we aim to inspire pupils and development their enjoyment of mathematics.