



St Antony's Catholic Primary School



## ***St Antony's Mathematics Curriculum Implementation***

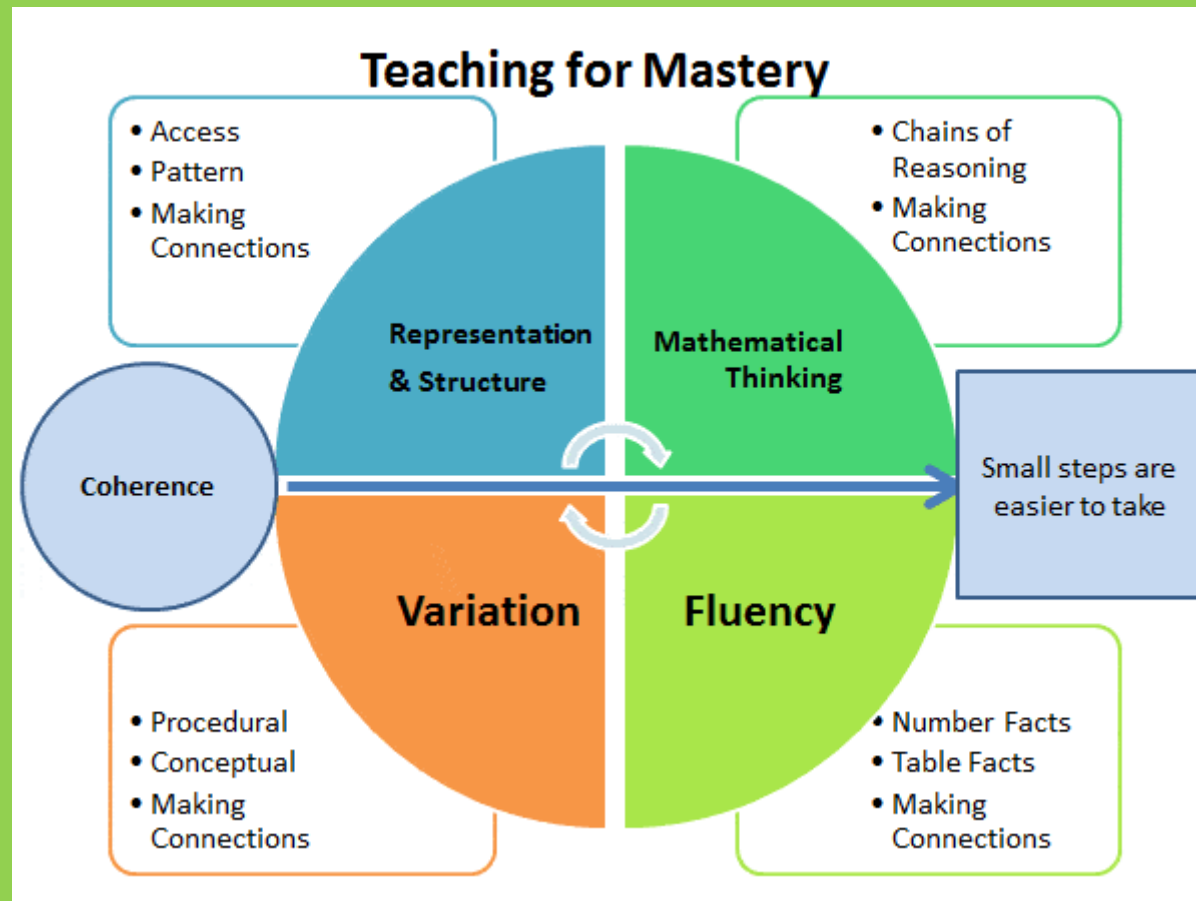
### **How We Implement Our Maths Curriculum**

All Teachers are provided with Planning, Preparation and Assessment time (PPA) weekly in pairs in their cohorts, to facilitate team planning and professional discussions in order to plan the specifics of how they will deliver their curriculum content for their individual year groups. This allows for the exchange of ideas, the sharing of professional knowledge and pedagogical skills as well as for effective evaluation and assessment to continually take place.

We teach mathematics to all children, whatever their ability or individual need. Through our quality first mathematics teaching, we provide learning opportunities that enable all pupils to make good progress. Every child has an equal right to be taught mathematics, in daily lessons of approximately 1 hour. Although, **statutorily Mathematics is to be taught for at least 5 hours per week**, it is more appropriate for classes across the Foundation Stage to be taught in shorter sessions in terms of the teacher led aspect of the maths lessons. This is then followed up with reinforcement of concepts and skills taught, being pupil led during their **'free flow'** indoor or outdoor sessions linked to their learning each day. For Key Stage 1, sessions may range from 45 -60 minutes in length with relevant activities given the major part of lessons. This is inclusive of : discussions and exploration of prior learning, linking the new with what was taught prior, modelling done by CTs/HLTAs/TAs throughout to reinforce concepts and skills taught/ being taught using relevant resources and then with children explaining and demonstrating their working. For Key Stage 2, sessions may sometimes run over an hour, broken up into focused segments of making links to prior knowledge through differentiated questioning aimed at teasing out the children's thinking and having them make links between their current and prior learning. Sessions also include exploring key vocabulary, discreet teaching with modelling, practise and exploration of concepts and skills being taught; with children explaining their thinking and working, while responding to a range of differentiated questions to sharpen and deepen thinking skills.

Clarify misconceptions flagged up while applying AFL is routinely done by teachers- followed by peer, group or self-assessment and where relevant a maths question to challenge pupils may be thrown in at the end to consolidate the children's learning.

Our Maths Mastery Approach To Teaching Includes :



Ensuring our children are confident with using and applying their number and times table facts, making connections across different topics through thinking and reasoning mathematically. The Curriculum taught is geared at ensuring that the learning is progressive and coherent from EYFS to Year 6 so they are building on their knowledge and skills

year on year. We try to ensure that the curriculum is delivered step-by-step while helping our children to identify patterns and make connections which will aid with their chains of reasoning and problem solving skills.

We aim for children to master the key areas and domains in Mathematics, narrowing the gap between our most and least able learners. The expectation is that the majority of pupils will move through the programmes of study at broadly the same pace. However, decisions about when to progress will always be down to teacher judgements based on the security of pupils' knowledge, understanding and skills and their individual readiness to progress to the next stage. Pupils who grasp concepts rapidly will be challenged to deepen their understanding by being offered more challenging problem solving and reasoning tasks related to the topics being taught to stretch them consolidating and securing their learning- building competence.

Mathematics is a symbolic, abstract language. To decode this language, symbols need to come alive and speak so clearly to children so that it becomes as easy to understand as reading a story. We believe that all children, when introduced to a key new concepts, should have the opportunity to build competency and sound understanding in each new topic by teachers taking the approach of going from the **concrete** to the **pictorial** to the **abstract** approach

- **Concrete** – students should have the opportunity to use concrete objects and manipulatives to help them understand what they are doing. The school has invested in a good range of resources inclusive of manipulatives such as :2D and 3D shapes, counters, Blocks, 100 squares (large and small), clocks, scales, thermometers, number lines and rulers
- **Pictorial** – students should build on this concrete approach by using pictorial representations. These representations can then be used to reason and solve problems using number and array cards, pictures of block models

- **Abstract** – with the foundations firmly laid, students should be able to move to an abstract approach using numbers and key concepts with confidence including a range print rich books and Interactive white boards for use in maths lessons.

All classrooms have some concrete resources that can be used in the teaching of mathematics stored close to hand. While some more topic specific resources such as scales, trundle wheels, thermometers are centrally store.

During our daily lessons across EYFS, KS1 and lower KS2 we encourage children to count aloud, practice fluency, problem solving and reasoning skills and ask mathematical questions. We develop their ability to independently select and use appropriate concrete apparatus to support their conceptual understanding and build procedural fluency. They have the opportunity to independently access and use a wide range of resources to support their work. We develop the children's ability to represent problems using visualisation skills, including jottings and pictorial representations. ICT is used in mathematics lessons for modelling ideas and methods. Wherever possible, we provide meaningful contexts and encourage the children to apply their learning to everyday situations. Although mathematics is best taught discretely, it presents many opportunities for making cross-curricular links. Teachers use opportunities in other subjects to reinforce skills in specific context- for example in Geography with the conversion of scales in map work and in science with measures and statistics. Mathematics involves developing confidence and competence in number work, geometry, measures and statistics and the using and applying of these skills in problem solving and reasoning.

Our Early Years Foundation Stage Curriculum is directly linked to the National Curriculum. As good practice teachers make use of cross- curricular links to enable children to use their learning in a real life context. Therefore, pupils are given plenty of opportunities within teacher led and pupil led sessions to use and apply the mathematical skills, vocabulary and concepts they have or are learning.

All classrooms have a display area specifically for mathematics. Sometimes this is used as a working wall and will display items that children need to support and develop the unit they are learning or it will feature central concepts and content. For example, key vocabulary, success criteria, models, key questions. In the Early Years' Foundation Stage there are also specific mathematical areas for children to access maths resources in their everyday learning.

### **Health and Safety**

Mathematical equipment will be used safely and appropriately. For Example:

- Short pencils on compasses in upper KS2
- Pupils will not be asked to lift heavy objects or multiple weights in excess of 5kg to avoid strain to back muscles.

**Teachers are offered on going CPD** through Insets, bespoke training such as those offered through the Maths Hub and through staff meetings. Where needed, teachers who are new to year groups or to the school, as well as ECTs are supported to understand the mastery approach to mathematics used across the school.

### **Special Educational Needs Disability (SEND) / Pupil Premium / Higher Attainers**

All children will have Quality First Teaching. Any children with identified SEND or who are in receipt of pupil premium funding may have work additional to if they are more able, or different from their peers via bespoke interventions if they fall among those with high needs in order to support them with better access to the curriculum dependent upon their individual needs. As well as this, our school offers a demanding and varied curriculum, providing children with a range of opportunities in order for them to reach their fullest individual potential with a view to consistently supporting each to achieve to the highest each possibly can from their starting points by the end of the academic year.