



SS Peter & Paul RC Primary School

Mathematics Policy

At SS Peter & Paul RC Primary School we have high expectations for all of our pupils and believe that all pupils can achieve highly and become confident and skilled mathematicians. We strive for all pupils to be curious about mathematics and to understand the importance of mathematics in their everyday lives.

Since the introduction of the new Mathematics Curriculum in 2014, we are continuing to develop a Mastery Approach to Maths.

Aims

In line with the aims of the National Curriculum for mathematics we aim to ensure that our pupils gain:

- Deep and sustainable learning in mathematics which they are able to apply to a range of contexts
- An ability to build on previous knowledge
- An ability to reason about a concept and make connections
- Sound procedural and conceptual understanding
- Fluency with number
- An ability to solve complex problems by breaking them down into smaller steps and showing resilience

We want all children in our school to work towards these aims and develop an 'I Can' attitude to Mathematics.

Teaching and Learning Style

In a typical mathematics lesson you would see the following features of mathematics learning:

The large majority of pupils progress through the curriculum content at the same pace. Differentiation is achieved by emphasising deep knowledge and through individual support and intervention. The questioning and scaffolding individual pupils receive in class as they work through problems will differ and pupils who grasp concepts rapidly are challenged through more demanding problems which deepen their knowledge further.

Practise and consolidation play a central role to mathematics learning. Carefully designed variation within this builds fluency and understanding of underlying mathematical concepts in tandem.

Teachers use precise questioning in class to test conceptual and procedural knowledge, and assess pupils regularly to identify those requiring intervention so that all pupils keep up.

Teachers use the CPA approach (concrete, pictorial, abstract) approach to ensure that concepts are modelled to pupils using multiple representations. This ensures that procedural and conceptual understanding are developed simultaneously.

Pupils are seated in mixed ability groups as we believe that all pupils can attain highly in mathematics and every pupil will have different strengths and development areas. Therefore groupings within classes are flexible and pupils will work in different groups dependent on their need.

Curriculum – EYFS

Mathematics within the EYFS is developed through purposeful, play based experiences and will be represented throughout the indoor and outdoor provision. The learning will be based on pupils' interests and schemas or current themes and will focus on the expectations from Development Matters / Early Years Outcomes.

As the pupils progress through, more focus is placed on representing their mathematical knowledge through more formal experiences. Pupils will be encouraged to record their mathematical thinking when ready and this will increase throughout the year.

Curriculum – Year 1 to 6

Pupils spend far longer on key mathematical concepts in number. From Year 1 to Year 6, we incorporate the NCETM mastery activities, the N Rich problems alongside the Abacus scheme however this is flexible to meet the needs of the pupils. If a concept has not been grasped thoroughly by most pupils, there is flexibility to adapt and revisit concepts.

Those pupils who grasp concepts more rapidly are given opportunities to deepen their knowledge further and improve their reasoning skills, through rich problems, rather than accelerating on to new curriculum content.

Lesson Design

Teachers will briefly recap previous learning before then building on this previous learning by introducing the next step to the pupils. Teachers use concrete apparatus and visual representations at every opportunity to reinforce the concept and ensure deep and meaningful understanding. Pupils have the opportunity to practise the new skills using carefully crafted and varied questioning and talk will be used regularly to allow the pupils the opportunity to feedback as to how they solved problems.

During the teacher input, additional staff should be assessing and identifying those pupils who do not grasp the concept as quickly or fully as others. This information will then be passed back to the teacher so that the teacher can work directly with these pupils during independent work.

During independent learning the pupils should, as far as possible, practise the skills that they have acquired independently to avoid an over-reliance on adults, however throughout this time, additional staff should work with different pupils to support and assess learning.

Differentiation

Differentiation will be seen by pupils working on differing complexities of problems within the same objective, called 'Intelligent Practice'. More able pupils will have challenging problems to solve to ensure that they continue to make progress. There will be some pupils who are using practical equipment for longer in order to support learning.

Interventions

Using formative assessment gathered through the practise tasks, teacher questioning and other formative assessment methods, any pupils who have not grasped the concept or who have misconceptions will have intervention to ensure that they are ready for the next step of learning. Where possible, this will occur as close to the lesson as possible to ensure that gaps are rapidly plugged, ready for the next steps.

Resources

Within all lessons, teachers will utilise practical resources to ensure that concepts are represented to the pupils to gain depth of understanding. It is acknowledged that a great deal of time is required for teachers to provide the visual reinforcement and varied practise activities to facilitate intelligent practice and support the learning. We have several resources that can support teachers with this planning.

Assessment and Reporting

Teachers will use targeted questions and problems that require pupils to remember, understand, apply, analyse and evaluate their knowledge and skills. This will be highlighted for each pupil using the Mathematics Consortium Assessment and will then be used to inform the I Tracker statements to assess the pupils on an ongoing basis and a judgement about whether a pupil is on track to achieve age-related expectations will be made at the end of the term by

making a 'step' judgement. This information will all be recorded in I Track and discussed at termly Pupil Progress Meetings.

The contribution of mathematics to other curriculum areas

Maths skills should be learnt and practised across a range of subjects and real contexts to provide greater 'real life' understanding. The curriculum must be planned carefully to ensure that pupils have opportunity to learn and practise skills before being expected to independently apply it in another context. Links can be made in other curriculum areas e.g. data handling within science. Mathematics skills should be applied to other subjects and used to evidence the pupils' depth of understanding.

Policy Status and Review

September 2016