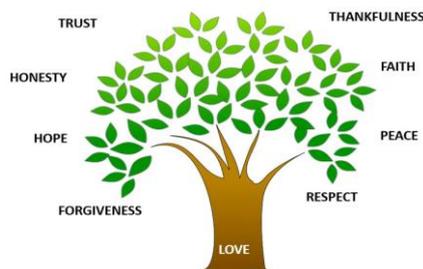




All Saints Benhilton C of E Primary School Maths Policy 2018

Mission Statement

Together, within God's love, we nurture and inspire today's minds for tomorrow's challenges.



Introduction

Mathematics is important in everyday life. It is integral to all aspects of life and with this in mind we endeavour to ensure that children develop a healthy and enthusiastic attitude towards mathematics that will stay with them.

The New National Curriculum for mathematics describes what must be taught in each key stage. We follow the curriculum guidelines, which provide detailed guidance for the implementation of the National Curriculum for mathematics. The school has recently implemented the mastery approach which works alongside the New Curriculum. In early years the curriculum is guided by the Early Years Foundation Stage Curriculum.

Rationale

Mathematics equips pupils with the uniquely powerful set of tools to understand and change the world. These tools include logical reasoning, problem solving skills and the ability to think in abstract ways. Mathematics is important in everyday life. It is integral to all aspects of life and with this in mind we endeavour to ensure that children develop a positive and enthusiastic attitude towards mathematics that will stay with them.

The National Curriculum for mathematics (2014) describes in detail what pupils must learn in each year group. Combined with our Calculation Appendices, this ensures continuity, progression and high expectations for attainment in mathematics.

It is vital that a positive attitude towards mathematics is encouraged amongst all of our pupils in order to foster confidence and achievement in a skill that is essential in our society. At All Saints Benhilton we use the National Curriculum for Mathematics (2014) as the basis of our mathematics programme. We are committed to ensuring that all pupils achieve mastery in the key concepts of mathematics, appropriate for their age group, in order that they make genuine progress and avoid gaps in their understanding that provide barriers to learning as they move through education. Assessment for Learning, an emphasis on investigation, problem solving, the development of mathematical thinking and development of teacher subject knowledge are therefore essential components of the All Saints Benhilton approach to this subject.

Aims

Although relating specifically to mathematics our aims for the subject are also in line with the school's general aims. We aim to provide the pupils with a mathematics curriculum which will produce individuals who are literate, creative, independent, inquisitive, enquiring and confident. We also aim to provide a stimulating environment and adequate resources so that pupils can develop their mathematical skills to their full potential.

Further aims:

- To foster a positive attitude to mathematics as an interesting and attractive part of the curriculum.
- To develop the ability to think clearly and logically, with confidence, flexibility and independence of thought.
- To develop a deeper understanding of mathematics through a process of enquiry and investigation.
- To develop an understanding of the connectivity of patterns and relationships within mathematics.
- To develop the ability to apply knowledge, skills and ideas in real life contexts outside the classroom, and become aware of the uses of mathematics in the wider world.
- To develop the ability to use mathematics as a means of communicating ideas.
- To develop an ability and inclination to work both alone and cooperatively to solve mathematical problems.
- To develop personal qualities such as perseverance, independent thinking, cooperation and self-confidence through a sense of achievement and success.

Principles of Teaching and Learning in a Mastery Curriculum

The school uses a variety of teaching and learning styles in mathematics lessons during each lesson. Children are taught in their classes. 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.

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 ensure that concepts are modelled to pupils using multiple representations. This ensures that procedural and conceptual understanding are developed simultaneously.

Curriculum design

Effective mastery curricular in mathematics are designed in relatively small carefully sequenced steps, which must each be mastered before pupils move to the next stage. Fundamental skills and knowledge are secured first. This often entails focusing on curriculum content in considerable depth at early stages.

Lesson design

Lessons are crafted with similar care and are often perfected over time with input from other teachers, drawing on evidence from observations of pupils in class. Lesson designs set out in detail well-tested methods to teach a given mathematical topic. They include a variety of representations needed to introduce and explore a concept effectively and also set out related teacher explanations and questions to pupils.

Pupil support and differentiation

Taking a mastery approach, differentiation occurs in the *support and intervention provided* to different pupils, *not in the topics taught*, particularly at earlier stages. There is no differentiation in content taught, but the questioning and scaffolding individual pupils receive in class as they work through problems will differ, with higher attainers challenged through more demanding problems which deepen their knowledge of the same content. Pupils' difficulties and misconceptions are identified through immediate formative assessment and addressed with rapid intervention – commonly through individual or small group support later the same day: there are very few “**diminishing the difference**” strategies, because there are very few gaps to close.

Productivity and practice

Fluency comes from deep knowledge and practise. Pupils work hard and are productive. From Year 1-6, children complete daily mental calculation practice. This is important in the journey towards fluency and contributes to quick and efficient mental calculation. Practise leads to other number facts becoming second nature. The ability to recall facts from long term memory and manipulate them to work out other facts is also important.

Our pupils should:

- have a well-developed sense of the size of a number and where it fits into the number system (place value)
- know by heart number facts such as number bonds, multiplication tables, doubles and halves
- use what they know by heart to figure out numbers mentally
- calculate accurately and efficiently, both mentally and in writing and paper,
- drawing on a range of calculation strategies
- recognise when it is appropriate to use a calculator and be able to do so effectively
- make sense of number problems, including non-routine/'real' problems and identify the operations needed to solve them
- explain their methods and reasoning, using correct mathematical terms
- judge whether their answers are reasonable and have strategies for checking them where necessary
- suggest suitable units for measuring and make sensible estimates of measurements
- explain and make predictions from the numbers in graphs, diagrams, charts and tables
- develop spatial awareness and an understanding of the properties of 2D and 3D shapes

To provide adequate time for developing mathematics, maths is taught daily and discretely. However, application of skills are linked across the curriculum where appropriate.

Assessment

Formative Assessment (AfL) - (monitoring children's learning)

Assessment is an integral and continuous part of the teaching and learning process at All Saints Benhilton and much of it is done informally as part of each teacher's day to day work. Teachers integrate the use of formative assessment strategies such as: effective questioning, clear learning objectives, the use of success criteria, effective feedback and response in their teaching and marking and observing children participating in activities. Findings from these types of assessment are used to inform future planning.

Summative Assessment – (evaluating children's learning)

More formal methods are used to determine the levels of achievement of children at various times during the school year:

Assessment Weeks: We use half- termly assessments as a way of recording children's progress in objectives covered across that specific term.

EYFS

Mathematics in the EYFS is taught through focus group teaching. It is also developed through purposeful, play based experiences and will be represented throughout the indoor and outdoor provision. A maths area provides children with a range of resources with which to experiment and practise mathematical skills. All adults value and support child initiated maths.

Role of the Subject Leaders

- Ensures teachers understand the requirements of the National Curriculum and helps them to plan lessons.
- Leads by example by setting high standards in their own teaching.
- Prepares, organises and leads CPD and joint professional development.
- Works with the SENCO and SLT.
- Plan CPD with colleagues with a view to identifying the support they need.
- Discusses regularly with the Headteacher and the mathematics governor the progress of implementing the National Curriculum for Mathematics in school.
- Monitors and evaluates mathematics provision in the school by conducting regular work scrutiny, learning walks and assessment data analysis.

Resources

A bank of essential mathematics resources are kept in each classroom. Further resources relating to key whole school topics are kept in maths cupboards in the resource area.

Parental Involvement

At All Saints Benhilton C of E school we encourage parents to be involved by:

- inviting them into school twice yearly to discuss the progress of their child
- inviting parents into school in the summer term to discuss the yearly report
- inviting parents to curriculum evenings or open mornings circulating information via monthly newsletters when significant changes have been/are made to the mathematics curriculum
- inviting parents of Years 2 and 6 pupils to a meeting in the spring term on supporting their children with SATs
- holding workshops for parents focusing on areas of mathematics

Governing Body

At All Saints Benhilton C of E school we have identified governors for maths and they have the opportunity to review the curriculum as well as being invited to attend relevant school INSET. The maths governors visit the school yearly to talk with the subject coordinator and to observe some daily mathematics lessons. The maths governor reports back to the curriculum committee on a regular basis.

Moderating and review

Moderating of the standards of children's work and of the quality teaching in mathematics is the responsibility of the mathematics subject leader alongside members of the senior leadership team. The work of the mathematics subject leader also involves supporting colleagues in the teaching of mathematics, being informed about current developments in the subject, and providing a strategic lead and direction for the subject in the school.

May 2018

Review May 2021

Appendix A

Calculation documents