



Alverthorpe St Paul's CE (VA) School 3-11 yrs

Mathematics Policy

September 2018





MISSION STATEMENT

Alverthorpe St Paul's Church of England School is built upon Christian values. We will provide the highest quality of education through an innovative and exciting curriculum. We believe that everyone should feel safe, secure, valued and respected. We aim for everyone to be the best they can be in everything they do.

CHRISTIAN VALUES

Our Christian values underpin our school ethos. We have six values that are explored in detail as part of our collective worship. They are also addressed through the curriculum and are an integral part of our behaviour policy. These values are:

- **Love**
- **Friendship**
- **Trust**
- **Courage**
- **Respect**
- **Forgiveness**

AIMS AND VISION

Mathematics teaches us how to make sense of the world around us through developing the ability to calculate, reason and solve problems. It enables learners to understand and appreciate relationships and patterns in their everyday lives.

The aims of mathematics in our school are to:

- promote confidence and competence with numbers and the number system;
- generate enjoyment and enthusiasm for learning through a carefully considered balance of practical activity, exploration, written calculation and discussion;
- develop the ability to solve problems through decision making and reasoning in a range of contexts;
- develop a clearer understanding of the ways in which information is gathered and presented;
- explore the features of shape and space and where these occur in real life;
- develop measuring skills in a range of contexts and through a range of subjects;
- use a common language within maths lessons so that children have a strong awareness of the links between the different aspects of number;
- understand the importance of mathematics in everyday life, including money and time.





THE TEACHING AND LEARNING OF MATHEMATICS

A St Paul's mathematician will:

- make connections.
- develop a broad range of skills to use and apply across other subjects.
- have brilliant recall of number facts (Learn Its).
- possess a broad mathematical vocabulary.
- show initiative in solving problems in a wide range of contexts.
- be independent and persevere with increasingly challenging problems.
- find patterns and recognise relationships in numbers and data.
- have a passion for challenge!
- learn from their mistakes and move on!

WHAT DOES MATHEMATICS TEACHING LOOK LIKE?

The school uses a *variety* of teaching and learning styles in mathematics lessons, recognising that children learn in different ways. Our principal aim is to develop children's knowledge, skills and understanding in mathematics. We do this in a daily lesson that has a mixture of whole class work and group activities. A lesson may start immediately with an independent, paired or group activity or it may begin with whole-class teaching: there is no fixed model. During lessons, we encourage children to ask as well as answer mathematical questions and they need the opportunity to explain their thinking in both verbal and recorded form. They have the opportunity to use a wide range of resources such as number lines, number squares, digit cards and small apparatus to support their work. Strategies such as bar modelling are demonstrated by the staff; children are encouraged to use these independently where appropriate, although we recognise that there is no one particular approach that suits all children when they're working independently, particularly at the older end of school.

Wherever possible, we encourage the children to apply their learning in everyday situations (e.g. money, measures, using temperature as a context for negative numbers, etc.) and opportunities for logic and reasoning should be provided on a daily basis.

TALKING ABOUT MATHEMATICS

Mathematical vocabulary must be shared regularly with children to help them to realise, for example, that the same question can be asked in different ways. There is a specific need for children to be able to provide clear, concise mathematical explanations and these can include:





- describing how they arrived at a particular answer (not just 'I did it in my head.');
- explaining how they know why an answer is right or wrong;
- justifying why a mathematical statement is either true or false (e.g. a triangle cannot have two obtuse interior angles because...);
- predicting whether or not a particular number will appear in a sequence and being able to explain why/why not.

INCLUSION

We teach mathematics to all children, whatever their ability. It is part of the school's curriculum policy to provide a broad and balanced curriculum and so we provide learning opportunities that are matched to the needs of all children. Work in mathematics takes into account the targets set for individual children who have an Individual Education Plan. Intervention takes the form of group work or one-to-one support, depending on what is appropriate to the needs of the learner.

Less able children and interventions

Interventions include one-to-one 'Catch Up Maths' provision, 'Numicon' and groups working with Teaching Assistants because they have a clearly identified need. Teachers will aim to include all pupils fully in their daily mathematics lessons, however a pupil whose difficulties are severe or complex may need to be supported with an individualised programme.

It is crucial that all children become secure with basic addition and subtraction using a common language and using resources that are consistent: Numicon, number lines and Base 10 apparatus.

Pupils who are more-able

More-able pupils will also be taught with their own class and stretched through differentiated group work and extra challenges. Children in Key Stage 2 will often be encouraged to select their own level of challenge and adjust this according to their success (either 'fast tracking' to more challenging questions or taking a step back if they need to).





CALCULATION

For a more detailed breakdown of calculation at St Paul's School refer to the separate calculation information (Appendix 1).

REASONING

Opportunities to develop reasoning skills should be embedded throughout the teaching and learning of Maths across all age phases. Problem solving is certainly not limited to worded questions (although there is an important place for this) and it doesn't necessarily involve bigger numbers but 'bigger thinking'.

The White Rose resources provide lots of examples, used by teachers, to incorporate reasoning into each strand of mathematics. The children should also have opportunities to explain their thinking, both verbally and in written form.

MONITORING AND REVIEW

Monitoring is the responsibility of the subject leader. The work of the subject leader also involves supporting colleagues, being informed about current developments in the subject and providing a strategic lead and direction for the subject in the school. The subject leader gives the headteacher an annual summary in the autumn term which includes the action plan. This report is shared with governors. There is also termly 'scrutiny of work' where the mathematics subject leader monitors standards in children's work, alongside the Headteacher and the Deputy Headteacher. Lesson observations are undertaken by the mathematics leader and Headteacher or Deputy Headteacher.

Paul Willmott

Mathematics leader

September 2018

Next review: September 2020

