



Together, as God's family we are learning through love, forgiveness, respect and courage to use our unique gifts, challenging and transforming our world.

Mathematics is a sacred subject because it gives an insight into understanding the divine creation that is the universe. Mathematics is the abstract study of topics such as quantity numbers, structure, space, and change.

When mathematical structures are good models of real phenomena, then mathematical reasoning can provide insight or predictions about nature. Through the use of abstraction and logic, mathematics developed from counting, calculation, measurement, and the systematic study of the shapes and motions of physical objects. Practical mathematics has been a human activity for as far back as written records exist. The research required to solve mathematical problems can take years or even centuries of sustained inquiry.

Aims:

It is our aim for the children at St. William of York to become confident and competent mathematicians.

- Children enjoy and have a positive attitude to maths, and are led to appreciate the importance of maths in everyday life.
- Children will be given the opportunity to develop problem-solving skills by and to acquire and use a vocabulary of mathematical terminology.
- Children should develop a proficiency in mathematics which will give them a confidence and competency with numbers and measures.
- Children should develop a practical understanding of collecting and collating information, and an ability to display this information appropriately on tables, charts, diagrams and graphs.
- Children should learn to develop a high expectation of their own standards of achievement and learn to appreciate it in others. They should learn to co-operate and collaborate effectively when working together, but to develop the necessary confidence to work alone.

Provision September 2016

Maths is delivered through a variety of teaching methods and approaches.

The daily maths lesson is based on the Abacus on-line scheme of work.

The lesson is divided up into five specific parts:

Snappy Maths– A 5 minute written activity practising and refining a basic skill such as timestables.

Mental and Oral starter- A 5 to 10 minute session allowing a whole class to rehearse, sharpen and develop mental calculation and oral skills. Within this time, auditory, kinaesthetic and visual learning will take place through counting, rapid recall and refining of existing mental strategies. A variety of resources are used to stimulate children and to support their learning.

Main Teaching Input- Children are taught as a class for part of each daily lesson. Within this input, children experience new topics, consolidate previous work and extend existing knowledge and skills. They develop their mathematical vocabulary and are given the opportunity to practice using and applying concepts and

skills. Children are interactively involved through carefully planned questioning and the provision for opportunities to offer their methods and solutions for discussion.

Independent and Focus Group Work- This time allows children to practice the skills they have learnt and for them to explore and extend methods and solutions either independently, in pairs or in groups of three to five pupils through written or practical work. Focussed group work led by the teacher can also be undertaken within this time. This provides an opportunity for the teacher to support smaller structured groups of children or to extend a concept introduced within the whole class teacher input.

Plenary - This is time when children can present or explain their work and discuss and compare the efficiency of pupils' different methods of calculation. The lesson can be drawn together evaluating as a whole class what has been learnt and how we can apply this in our everyday lives. It is also an opportunity to undertake informal assessments both for groups and whole class, and to allow the children to self evaluate their own learning.

Calculations Policy

We aim to develop a numerate environment where mathematical risk taking, creativity and logical thought are encouraged in order to develop independence.

Numeracy materials, equipment and basic resources are stored in each classroom; additional resources are kept in the Numeracy cupboard and in the KS1 resource area. Teachers are aware of the location of all Numeracy resources in the school.

We provide continuity and progression in mathematics, which enables children to work confidently as they move from class to class. We emphasise the importance of developing links from pre-school to school and from primary to secondary.

We have an agreed Calculations Policy (see separate policy) which is used to ensure children at each level are using a calculation strategy which is appropriate to their ability. The Calculation's Policy is displayed in the form of posters in all classes from Year 1 to Year 6. Teacher's use the Calculation's Policy to ensure we provide a whole school approach to this essential part of mathematics. The new policy is on the school website.

Problem Solving

We believe that children should be encouraged to engage positively in problem solving activities, to enable them to 'play' with numbers and manipulate them to enhance understanding and to stimulate interest. Problem solving is used in school to help establish strong links between the 'theory' of mathematics and mathematics as we experience and use it in daily life. We also believe that this encourages children to recognise that there may be more than one way to solve a problem and that important skills include recognising that some methods are more efficient than others. Teachers plan at least one problem solving lesson during a period of 5 lessons, which means that on average children experience problem solving as a whole lesson at least once every week.

Practical Maths

We believe that children need to experience numbers, shape and space practically. Counting and sorting physically, using mental (and where appropriate written calculations) to solve practical problems is essential in establishing firm understanding of number, shape, space and time.

Assessment for Learning

Children receive a traffic light stamp next to their learning objective in their books each lesson. This is then coloured by the teacher when marking the child's work. This assessment tool aims to direct staff to children who may be finding the work too easy or too hard. Children are also able to confidently discuss the traffic light system and explain how it works.

Links with other Curriculum Areas

Mathematics is linked to work in other curriculum areas including Science, Geography, History, Design Technology and Art. Computing is closely linked with maths and is used in most daily maths lessons either supporting the teacher as a visual resource or as a teaching tool for a specific topic such as data handling. Once a week each class has allocated time in the ICT suite where suitable programs, websites and teacher guided activities are used to support learning.

Children with Special Educational Needs

Provision is made within short term planning for children with special educational needs. Differentiated activities and/or resources and adult support provide opportunities for achievement and enable confidence and understanding to develop. Progress and attainment is carefully monitored to ensure needs are being met. Interventions are planned and precision teaching used to fill any gaps.

Able, Gifted and Talented Provision

It is not always necessary for A,G&T children to participate in the introductory part of the lesson and they will instead be working on mastery and depth activities. Mastery and depth questions are used to challenge children and assess their understanding. These are stuck into books as a next step or a challenge.

Homework

Every child takes time's table's homework home each week. Children in KS2 are expected to complete one numeracy activity weekly.