

# **White Court School**

## **Policy for Mathematics**

Revised  
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# Mathematics Policy

## The Nature of Mathematics

Mathematics is a combination of concepts, facts, properties, rules, patterns and processes. It is a creative and highly inter-connected discipline. It is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment.

The teaching of Mathematics at White Court School is lively, engaging, and involves a carefully planned blend of approaches. Children are challenged to think and to become independent learners. They know that they can discuss, seek help, and use resources as and when they need to. Children should be challenged and enjoy the opportunities to practise and apply their learning. We believe that each child learns in a way that is unique for them, but that all children learn best when they are motivated and the teacher has high expectations.

Our aims in teaching Mathematics are to:-

- Make the subject enjoyable so that we can foster a love of Mathematics and curiosity about the subject.
- Ensure the children have an active involvement in the lesson, so that they develop a positive attitude towards Mathematics and become **fluent** in the fundamentals of Mathematics
  - Present Mathematics in meaningful contexts and use a range of practical activities so that the children develop confidence to **reason mathematically** by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language
- Provide opportunities for children to develop mathematical skills and strategies and apply them to everyday, real-life situations.
- Provide a broad and balanced mathematical curriculum in line with the new 2014 Curriculum incorporating:
  - Number (Number and Place Value, Addition and Subtraction, Multiplication and Division, Fractions, Algebra)
  - Measurement
  - Geometry (Properties of Shape. Position and Direction)
  - Statistics
- Provide continuity in our approaches to Mathematics and progression in children's experiences throughout the school.
- Introduce mathematical language in a planned way so that children use it with ease and understanding as a form of communication.
- Develop appropriate cross-curricular links, including regular use of ICT.

## School Policy

We recognise that children will be working at a variety of levels and therefore different activities are planned for children at appropriate levels. Children that need more support than others are identified quickly and receive early intervention to help them maintain progress. The pitch and pace of the work is sensitive to the rate at which children learn, while ensuring that expectations are kept high and progress is made by all children.

In addition to this, each year group has smaller 'set' groups which take place twice a week. An additional teacher is employed so the learning can be even more closely differentiated. Less able mathematicians work in a much smaller set group, where targeted support can be given. In Years 1 to 5, there are also weekly Mathematic's Clubs to extend the more able mathematicians and another session for the children who need an extra boost. In Year 6,

Mathematics cCub takes place during set lessons (two hours a week) where the level 6 curriculum can be explored. A booster session is held during an assembly, once a week.

Children in Early Years and Foundation Stage follow the Early Years Foundation Stage Profile. Year 1 to 6 follow the guidance given by the 2014 New Curriculum in England.

Rather than having a daily Mathematics lesson, there are 4 lessons over the course of the week, with the 5<sup>th</sup> day being used for revision and consolidation of previous work, when appropriate.

Every year group takes part in an extra Mathematics session called 'Daily Number Work' for either 3 or 4 days a week. This session can be used to revisit problem areas identified by teams or to consolidate previous learning.

When completing written methods of calculation, all year groups follow White Court's 'Policy for Written Methods of Calculation', which is also available to parents online and as paper copies.

### **Children's Mathematical Experiences**

The children have a variety of experiences which include practical activities, talking, investigating, solving problems and writing. Mathematics teaching includes:-

- Lessons where the emphasis is on technique and the teaching is quite directive
- Lessons where the directing is less evident and through carefully chosen activities and well directed questioning, the children are steered to discover the rules, patterns, or properties of numbers or shapes.
- The children working independently and in small groups to acquire, practise and use a range of skills and to develop their ability to use mathematical language precisely.
- The children using a range of resources such as computers, calculators and mathematical equipment as well as a range of books, games and other practical apparatus to explore Mathematics.
- The children having the opportunity to explore Mathematics in the outdoor environment.
- Encouraging children to talk about their work, sharing ideas and explaining their reasoning to others.
- Taking the class 'Maths Monster' home and writing about the Mathematical experiences shared over the week. Children then share with the class the word problems they have written and how the problem may be solved.

### **Assessment**

Assessment continually takes place to monitor each child's progress and to help teachers plan. A variety of assessment techniques are used. Children use a variety of Self and Peer Assessment techniques to inform teachers of their understanding. Teachers observe how children tackle everyday mathematical activities, assess children's written work and talk to them about what they have done. The outcome of this work may be used for moderation within teams and across the whole school. To aid teacher assessment, teachers in Y2 and Y6 have the National Curriculum levels broken down into thirds of a level for the academic year 2014-15. The remaining Years will be following Target Trackers scheme for Life without Levels. Following the SATs during 2015, Years 2 and 6 will then follow the rest of the school.

Under the 2014 New Curriculum in England, 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 should always be based on the security of pupils' understanding and their readiness to progress to the next stage. Pupils who grasp concepts rapidly should be challenged through being offered rich and sophisticated problems before any acceleration through new content. Those who are not sufficiently fluent with earlier material should consolidate their

understanding, including through additional practice, before moving on. In order to track the progress of groups of children, a tracking file (showing their current level) is updated termly in Year 2 and Year 6, whilst the remaining Years' tracking file will show the new Target Tracker Bands which will be updated termly.

Teachers keep records of the experiences and achievements of individual children, small groups and whole classes. Photographs may be taken of practical activities and placed in the 'Class Learning Journals'. Daily Plans are highlighted and/or annotated to show work covered. Achievements are recorded on Yearly Assessment sheets for a low ability child, an average ability child and a more able child, which are passed onto the next year's teacher. Less formal assessments are recorded on the Pupil Profile sheets which are used to inform parents of their child's progress during termly parents' evenings.

Each term, Target Tracker is used by Year Managers and class teachers to track the progress of individuals and groups of children. These are used to identify groups of children which are making expected progress and those who need extra support or intervention to make the required progress. They are also used to inform the process of setting children's predicted levels.

When marking children's work, teachers write constructive comments in which they clearly state the child's next steps in learning. This is to make the children aware of how they can improve their own work.

### **Children Recording their work**

Children are encouraged to record their findings in a variety of written forms. They do this in order to:-

- Help clarify their own thinking through the use of jottings.
- Remember what they have done and think again about their work at a later time.
- Communicate with others.
- Be able to reflect on their achievements.

### **Cross-Curricular Links**

Where appropriate, we integrate mathematics into class topics, with teachers capitalising on the many and varied opportunities that a topic presents. We also provide opportunities for children to develop mathematical skills and strategies and apply them to everyday, real-life situations.

However, we also present Mathematics as a subject in its own right, recognising that it is not possible to develop skills in all aspects of the subject through an integrated approach. We take care to demonstrate to children the links between aspects of Mathematics such as 'area' and 'multiplication.'

### **Resources**

Individual teachers should consult the Mathematics Curriculum Co-ordinators for advice on resources and activities. Each classroom is equipped with a wide range of mathematical equipment, as well as Math's games. Larger and less frequently required items are available and stored in the Math's resource area. Reference and Activity books are kept in the Mathematics section of the staff room.

## **Classroom Management**

Children are grouped in a variety of ways so that they work with others of similar ability or in mixed ability groups, according to what they are being asked to do. They know where resources are kept in the classroom and are encouraged to select and organise the materials they need to support their thinking or complete a task.

Throughout the school, each year group 'sets' for Mathematics twice a week. There are 4/5 set classes for each year group (as opposed to the usual 3 classes per year group), which includes an additional teacher/s during this time.

## **Information Technology**

Children use (*remove* - calculators and) computers to develop their mathematical skills and ideas, to help them solve problems, collate and classify information, explore ideas and model situations. Calculators should not be used as a substitute for good written and mental arithmetic. They will therefore only be introduced near the end of key stage 2 to support pupils' conceptual understanding and exploration of more complex number problems, once written and Mental Arithmetic are secure. Smartboards, Computers and Laptops are used in the classroom to enhance mathematical learning during introductions, group activities, plenaries and during Daily Number Work.

## **Equal Opportunities**

We aim to ensure that children achieve their full potential regardless of ethnicity, religion, gender or social grouping. The materials we use in class reflect a multi-cultural society of women and men so that children see Mathematics as relevant and interesting to everyone including themselves. Teachers ensure that no particular group or gender dominates the use of equipment or other aspects of teaching and learning situations. Whilst monitoring children's progress on Target Tracker, we highlight and annotate how these groups are performing.

## **Special Needs**

We recognise that children have different needs in their Mathematical learning, and cater for that by planning a variety of approaches. Children's progress is carefully monitored to ensure that suitably challenging work is given to individuals and groups. We encourage children, regardless of ability, to gain confidence in using their Mathematics in contexts which are meaningful to the children themselves.

This Policy was reviewed in October 2014 and will be reviewed annually

Signed \_\_\_\_\_

Date \_\_\_\_\_