**Mathematics Policy – October 2018**

## Opening Statement

Mathematics provides a way of viewing and making sense of the world. It is used to analyse and communicate information and ideas, and to tackle a range of practical tasks and real-life problems.

Mathematics is not only taught because it is useful. It should be a source of delight and wonder, offering pupils intellectual excitement and an appreciation of its essential creativity.

We want children to enjoy mathematics, and to see the purpose in it. Through investigating the links and networks which relate the various aspects of mathematics to each other and to other subjects, we want children to develop rational, methodical and flexible thinking. Children need to gain a wide range of skills for their future lives and mathematics helps with the process of learning, adapting and applying these skills.

At **Woodstone Community Primary School** we aim to enable children to:

- Enjoy mathematics both as a tool for problem solving and for its own sake.
- Show relational understanding of the structure of mathematics through explaining and generalizing.
- Receive a broad and balanced curriculum that includes all aspects of mathematics as well as a range of appropriate learning experiences.
- Develop the numerical and geometric skills and knowledge they will need as a foundation for studying and using mathematics across the curriculum and in everyday life.
- Use and develop a wide range of representation, including developing their own ways of representing understanding.

## Teaching and Learning Strategies

There needs to be a balance overall of the 3 aims: fluency, reasoning and problem-solving. These elements should be evident in most lessons, with one aim being the focus.

Practice and consolidation of skills are an important part of children's learning but these types of activities should not dominate. Whenever possible, a skill should be practised within an investigative / reasoning context.

Activities will be based on a common objective through the principles of mastery. From KS2, children will choose an appropriate level of challenge (bronze, silver or gold).

Children will be encouraged to notice and explain the structure within mathematics.

Mathematics should be seen as a practical subject and classroom activities should reflect this. The use of different forms of representation offers children mathematics in a concrete form from which they can develop their understanding.

Use will be made of ICT and interactive whiteboards to show representation.

Most mathematical activities will be recorded on plain paper so the children can develop their own ways of recording. Squared paper will only be used when it aids mathematical understanding / skills e.g. data handling, area, column addition…

Practical apparatus should be freely available in every class - children should be taught and encouraged to self-resource when appropriate.

Discussion through explaining and questioning with teachers and peers will form part of their learning.

Children will be encouraged to use the correct mathematical vocabulary in their responses, both verbal and written, through modelling.

Children will be encouraged to mark their own work throughout the lesson and move

on to new challenges quickly if they have grasped a concept.

Children should experience a range of activities. For example:

- Investigative work
- Problem solving
- Games
- Practice of facts and skills

There will normally be a daily maths lesson of approximately 60 minutes with children taught in mixed ability, single age classes.

Our approach to teaching mathematics is based on a mastery approach using Abacus as a starting point for planning progression, continuity and coverage with supplementation with White Rose Maths and NRich where necessary.

Pupils in Key Stage 2 will complete a weekly skills check to keep skills fresh. Pupils who are over a year below the ARE will be given a lower stage.

## The maths lesson

The Structure of a maths lesson will vary according to the learning objective and the age of the class. However, most lessons will include the following elements:
A starter – may be recapping previous learning or practising a skill needed for a subsequent lesson.
A sharing of the learning objective.
Direct teaching with modelling and short tasks.
Independent activity/ Guided teaching sessions
Reflection on learning / assessment.

## Written calculations

The emphasis must be on the range of mental and practical methods as out-lined in Abacus and our calculation policy. Children need to be introduced to the standard algorithms as outlined in our calculation policy when they are ready, with the progression being adhered to.

## FS organisation

Our Foundation stage teacher uses the EYFS curriculum to support the teaching of mathematics.
The planning is based on the Abacus scheme of work with extra activities used as needed.
The children have the opportunity to talk and communicate in a widening range of situations and to extend their vocabulary and mathematical skills.
The children explore, enjoy and learn about mathematics in a range of personalised situations.
Mathematics is planned on a weekly basis and assessed using the criteria from the ELG.
Mathematics is taught as a discrete subject and within the wider curriculum.

## Assessment and records

Assessment should form an integral part of the teaching of mathematics. EYFS and Year 1 will use Teacher Assessment judged against the Early Years Outcomes and Year 1 KPIs.

We will use the Cornerstones tests from Year 1 (when appropriate) in conjunction with teacher assessment. All year groups use the Cornerstones assessment tracker once a term to measure progress against ARE and the Early Year Outcomes.

These results are discussed at Pupil Progress meetings once a term.
We will report on progress at the end of each year.
We will measure attainment at the end of Year 2 and Year 6 through SATs.
Children on the SEN register will also have their progress monitored against targets on their Pupil Passport and small steps data recorded.

## Cross-curricular links

Because of its very progressive nature mathematics will generally be taught as a separate subject. However, when the opportunity for cross-curricular work arises with no need to compromise progression or rigor, then full advantage should be taken of the situation.

## SEN/ Intervention

Children who fall significantly below their age appropriate level in mathematics will have a Pupil Passport with targets. Pupils will have short term interventions designed to plug specific gaps. We may use Rapid Maths for this purpose plus a focus on specific KPIs.
We use a combination of post and pre teaching for all pupils so their needs are met (including rapid graspers).

## More Able learners

The needs of all learners are met through careful differentiation of a task. Rapid graspers are encouraged to deepen their understanding of a concept through reasoning and problem-solving. Tasks such as NRich activities and Abacus “Think” questions can be used for this purpose. We do not move pupils on to objectives above their year group.

## Marking

Our marking policy ensures that we quickly identify pupils that have not achieved the LO and we implement rapid intervention by post teaching in afternoon sessions. Children self-assess and mark their own work during the lesson when appropriate.

## Equal opportunities / Inclusion

Provision must be made for all children to have equal access to the mathematics curriculum regardless of differences between individuals.

## Homework

Children will practise skills at home by completing weekly maths activities. This can be an activity from Abacus or Purple Mash or an activity set by the teacher. The tasks compliment the activities taught in class and are an opportunity to consolidate or further learning.

## Parents/ Carers

We aim to have parents that understand and support our aims in learning mathematics. We do this through Parents’ Evening and parent training sessions. We expect parents to support their child’s learning with the homework tasks and to support with learning number bonds and times table facts.

## Governors

The designated maths governor will meet with the maths lead once a term to discuss issues related to mathematics. The maths governor will then write a report to follow up the visit. They make take part in lesson observations, learning walks and pupil interviews in conjunction with the maths lead/SLT.