Mathematics Policy

Mathematics is an essential and central part of the Primary School curriculum. Mathematical knowledge allows children to enter the adult world with confidence. It plays a significant role in everyday life and is an important aspect in many forms of employment. Mathematics should equip pupils with a skill base which allows them to understand, interpret and explore the world around them. They should begin to develop logical and systematic ways of working, problem solving skills and the ability to think in abstract and creative ways. The ability to understand and answer practical and real-life problems is an essential element of mathematical learning and teaching.

Mathematics 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.

Objectives

Pupils should:

- Have a positive attitude to Mathematics as a fun interesting and challenging subject.
- Be able to apply skills with confidence and understanding.
- Have practical experiences in order to acquire sound mathematical concepts.
- Become independent learners
- Have regular opportunities to practise number facts such as number bonds, multiplication tables and doubles and halves.
- Be encouraged to calculate mentally as well as using pencil and paper methods.
- Be encouraged to draw upon a range of calculation strategies.
- Be able to use the language of mathematics with confidence to explain teach others what they have learned.
- Be able to explain their methods and reasoning using correct mathematical terms.
- Have the relevance of what they are learning explained to them and put into a familiar context.
- Be taught strategies that help them to solve mathematical problems and ways to record their findings.
- Be encouraged to check their answers and ask themselves whether their answer is reasonable. Be taught strategies for checking work.
- Be taught the importance of making estimates and predictions before calculations begin.
- Have equal access to the curriculum.

Delivery and Provision

We aim to provide the pupils with a learning environment that is fun and stimulating. We provide resources which allow pupils to develop their mathematical skills to their full potential.

Pupils are provided with a variety of opportunities to develop and extend their mathematical skills across each phase of their education.

Mathematics lessons include a range of:

- Group work
- Paired work
- Whole class teaching
- Independent work
- Investigations
- Real Life application

Pupils across the school engage in:

- The development of mental calculation strategies.
- Written methods.
- Practical work.
- Problem solving and investigating.
- Developing thinking skills, reflecting upon work undertaken.
- Mathematical discussion and explanation 'How did you work it out?'
- Consolidation and revision of basic skills and facts.

Teaching time guidance

Key Stage 1: Minimum of 5 sessions per week.
Key Stage 2: Minimum of 5 sessions per week.
Teachers should also look for opportunities to incorporate Maths into their Topic and Science subjects.

A typical lesson

A typical 1 hour minute lesson in Years 1 to 6 will be structured like this:

- **Flashback 4** (5 mins) Four questions related to past topics and skills
- **Oral and/or mental starter work** (about 5 to 10 minutes) whole-class work to rehearse, sharpen and develop mental and oral skills based on current topic.
- **Main teaching activity** (about 15 - 20 minutes) teaching input, modelling and pupil activities. Work as a whole class, in groups, in pairs or as individuals.
- **Independent/group tasks –** students to complete set tasks in the maths books or workbooks
- **Plenary** to round off the lesson (about 5 minutes) work with the whole class to sort out any misconceptions and to identify progress, to summarise key facts and ideas and what to remember. To make links to other work and to discuss the next steps. To give opportunities for self-assess and peer assess.
- **Vocabulary** is planned for, displayed, explained and referred to, throughout the lesson.
- **WALT** is explained sometimes as 'To…' statements and are made clear and referred to at least at the beginning and end of each lesson.
- **'To …' statements or 'WALT'** are recorded as titles

- **'Success Criteria'** are also shown or explained to children so they understand the outcomes of the lesson and what is expected. This is differentiated into Bronze, Silver and Gold.

Maths across the curriculum

Maths learning is not only developed within these specific time slots. We, as teachers, recognise and highlight to the children the use of maths across the curriculum. When measuring distances in PE or recording times, when drawing and interpreting graphs and tables in science, geography and ICT, or when adding to time lines in history, we must remind the children that maths learning is also taking place. Questioning in these circumstances should sometimes be directed towards mathematical development when other areas of the curriculum are being taught.

Planning and Resources

As a school we are following the White Rose scheme of work and the sequence of units. Teachers are to use the long term and However, teachers are encouraged to use other resources to ensure that there is challenge for all and not to just rely on this one scheme.

Classroom have a range of manipulatives that can be used to support learning. Some larger resources are stored centrally in the Maths cupboard.

Problem Solving

Problem solving is an important element of maths and should be taught on a regular basis. It should be seen as an integral part of maths learning and teaching.

Vocabulary and the explicit teaching of the vocabulary are important elements in problem solving. Explicit strategies for solving problems, needs to be taught. Children need to feel confident with their basic maths ability before they begin to tackle problems. The actual mathematics of the problem should not be too difficult for the child. Explicit teaching should also take place on how to record solutions to the problems.

Problem solving lessons should be used as part of the weekly planning. This should include discussion about methods and strategies and children should be encouraged to work collaboratively. Problem solving lessons should be fun and should motivate children to persevere.

Inclusion

All children are provided with high quality learning and teaching. Inclusion is ensured through curriculum provision, equal access to the curriculum and through guiding and helping parents to help their child.

Curriculum:

- We provide an inclusive learning environment for children from all cultures and backgrounds.
- We are aware of different learning styles (VAK) and cater for these when planning and delivering lessons.
- Teachers, Teaching Assistants and Inclusion staff provide additional support to help targeted children to achieve their full potential.

Access to the curriculum:

- **Gifted and able** pupils will be challenged by providing them with problem solving/investigational tasks which allows them to apply skills.
- **ELL** pupils are supported in KS1 by our TAs in class. In other year groups planning is differentiated to cater for a wide range of abilities. If there is a particular need for targeted teaching of ELL pupils in KS2 then Inclusion staff and teacher will provide teaching time also for these pupils.
- **SEN** pupils are supported by teachers, teaching assistants and the Inclusion Team. Work is provided for them on an achievable level.

Assessment

Assessment is regarded as an integral part of teaching and learning and is a continual process. It is the responsibility of the class teacher to assess all pupils in their class. Assessment of work is carried out in a variety of ways:

Marking of work: by the class teacher and sometimes supported by the Teaching Assistant using pink and green (see marking policy)

Pupil observation; Have they understood? Can they explain?

Short term: Topic tests are given at the beginning and at the end of each unit will allow to measure progress.

Long term: End of term assessments are given to assess pupils attainment.

Marking

Books are marked using pink and green *(See marking policy for more details)*
Teachers should also encourage the use of peer and self-assessment using purple pen.

Numerative Environment

The classroom environment is a key element in pupils' learning. It can provide amongst other things, support for understanding, models for solving problems, questions to provoke and focus discussion and key vocabulary.

Role of the Subject Leader

- Ensuring continuity and progression from Early Years to Year 6.
- Providing staff with guidelines and a scheme of work to show how the objectives are to be achieved and how the varieties of aspects of mathematics are to be taught.
- Advising staff of training which is available and support where needed.

- Advising and supporting staff in the implementation and assessment of mathematics within the school
- Analysis of assessment results and to address any issues which arise.
- Monitor teaching and learning through lesson observations, planning and book looks.
- Promote mathematics within the school.
- Maintenance and requisition of resources within the school.
- Development of and implementation of an action plan.
- Informing SLT of progress made within mathematics

Role of the class teacher

- Be aware of and implement the school mathematics policy.
- To ensure progression of mathematical skills with use of the National Curriculum for mathematics.
- To plan effectively for mathematics and to use resources effectively To deliver good quality mathematics lessons.
- To develop and update skills, knowledge and understanding of mathematics.
- To mark books regularly giving children constructive feedback.
- To inform parents of their child's progress through parents evenings and the annual report
- Analysis of class data and to forward the information to the Phase/Subject Leader so that whole school analysis can be carried out.

Parental involvement

At Pippins we encourage parents to be involved by:

- Making parents aware of the Maths Calculation policy so that they can assist their children at home.
- Holding parent's evenings to discuss progress in the Autumn and Spring terms and in the Summer term to discuss the annual report.
- Holding Maths workshops to share pedagogy and strategies that could be used at home, to support children.