

Maths Policy

Mathematics is both a key skill within school, as well as a life skill, to be utilised throughout every person's day to day experiences. Mathematics equips pupils with the uniquely powerful set of tools to understand and change the world. These tools include logical reasoning, problem solving skills and the ability to think in abstract ways. Mathematics is therefore not just important in our everyday lives, but integral to success in the modern world, enabling us to manage our lives effectively. At Pleasant Street we endeavour to ensure that children develop a positive and enthusiastic attitude towards mathematics that will stay with them for life. We value every pupil and the contribution they have to make.

Aims

The national curriculum for mathematics aims to ensure that all pupils:

- Become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- Progression from mental and informal methods to standard algorithms, builds upon children's developing understanding of our number system. Children are encouraged to develop 'number sense', and solve problems using a variety of methods, including the empty number line and the bar-modelling approach. Procedural methods are taught alongside these methods, with daily practice 'four a day' used to embed standard methods for all four operations.
- Reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language.
- Can solve problems by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

We aim to ensure that every child achieves success and that all are enabled to develop their skills in mathematics in accordance with their individual level of ability. To develop fluency in mathematics, children need to secure a conceptual understanding. It is important to make connections between concrete materials, models and images, mathematical language, symbolic representations and prior learning. Our approach to the teaching of mathematics ensures that these aspects of mathematics are all considered when planning an appropriate, engaging and challenging curriculum for all our pupils. We also ensure that children have opportunities to practise key skills, whilst developing the understanding and knowledge to apply these skills into more complex problems and investigations. We strongly believe that every child is a mathematician and that every child can achieve in mathematics. We aspire for our children to be confident mathematical communicators who share their mathematical ideas and knowledge in a safe and nurturing environment. We want learners to be equipped with an understanding of mathematics that will be relevant and useful not only in education but also in the wider world of work and their everyday lives.

Daily Maths Lessons

All pupils have a daily maths lesson. The structure of each lesson is flexible and will vary depending on the needs of the children and the content of the lesson. Typically, a maths lesson will include; a learning objective, activities that provide challenge for each ability group, key questions and the use of additional adults. Planning and teaching of mathematics in Pleasant Street is based on the core principles of a practical, fluency and application process. Each new topic begins with a practical approach with the use of concrete materials to help develop their understanding of the new skill being taught. Children will then be given time to develop their fluency skills before finally being able to reason and apply the new skills they have learned into different contexts. This learning will be aided by the use of a working wall display that mirrors the 3-step process. Children will also have access to a resource desk that is used to help the children become more independent learners.

4 a Day

This involves a daily practice of one of the four operations of number with an assessment of learning carried out at the end of the week. This session is performed daily as we feel it ensures that time is available for children to practice and master basic calculation skills that are fundamental in helping pupils move towards procedural efficiency.

Calculation Policy

There is an agreed whole school calculation policy. Each operation is broken up into stages or progress drives, starting with practical methods that support conceptual understanding and moving through to methods that allow children to demonstrate efficiency in procedural approaches. The calculation sequence provides an opportunity for pupils to practice the skills of calculation through a range of application activities including the use of inverse, missing boxes, word problems and investigations.

Interventions

Interventions are used to support pupils who have been identified through teacher assessment as having gaps in mathematical understanding. These include after school booster programmes and short Number Stacks interventions designed to minimise time spent outside of normal lessons. Interventions are reviewed regularly to assess impact.

Monitoring and Evaluation

Maths is monitored through book looks, lesson observations, learning walks, pupil voice and moderation meetings.

Appendix

Appendix 1 – Assessment

Appendix 2 – Presentation

Appendix 1 – Assessment

Our assessment policy is based on a continuous process of formal and informal assessment which identifies pupils' areas for development, weaknesses, achievements and their individual needs. This process is designed to help staff plan, review and develop the curriculum through what is learnt (the content), and how it is learnt (the process). It is also designed to help children by providing feedback, encouraging further progress and increasing responsibility for the children's own learning, thereby motivating the children to achieve their potential.

Baseline

Teachers will have access to children's previous years assessment levels to help understand each child's starting point for that year. The maths progression document will be used to see what objectives the children need to access to ensure effective teaching and learning takes place. Before each topic begins, a short assessment will be carried out by the children to assess whether they are ready to progress to age-related learning and to help identify any gaps in knowledge.

Formative Assessment

In Maths, effective formative assessment techniques are needed to help bring children's ideas to the surface so we can build on their strengths, uncover any misconceptions and support their levels of understanding. In order to achieve this, lessons will consist of multiple mini plenaries that will be used to help gather evidence about pupil's learning. This will be done through observing, listening, questioning, discussing and reviewing pupil work. Also, on-going quizzes and challenging starters will be used during each topic as an informal way of assessing children's understanding and retention of what has been learnt previously. It is important that these quizzes take place and therefore they should be an important cog in the planning process. They should be planned in half way through the topic and used as a gauge of how learning is taken place and how effective the teaching has been so far. The children's answers can then be reviewed and used to help future planning.

Summative Assessment

Summative assessments will take place in the penultimate week of each term using the NFER tests. These tests will be undertaken to enable teachers to assess and record pupil progress, as well as to use the outcomes to inform future planning. (For assessment of those children with special needs see school assessment policy.) All Age-Related Expectations data/test results to be recorded using the NFER Online Hub in collaboration with Classroom Monitor to support a teacher's judgement.

As these tests are only done at the end of each term, they will be supplemented with mini assessments at the end of each topic. This will allow teachers to review each child's learning from that topic and what their next steps will be.

Appendix 2 – Presentation

Pupils should be reminded to always take pride in their work.

All work must be clearly dated and include the learning objective of the lesson in the top left corner of the page. This may be written by the teacher in the case of our younger children, or for children with SEN where necessary.

Dates, titles and calculations should be clearly underlined using a pencil and ruler. Digits, decimal points and symbols should be placed in individual squares, one digit in each square. Mistakes identified should be corrected with the child present. Some children may require a written or visual model available to hand, to support correct orientation and formation of numerals.