

Perton First School Maths Policy

Our Maths Vision

At Perton First School all of our children are given the opportunity to develop their mathematical potential through a rich, engaging curriculum. We want our children to feel confident in using and applying mathematics in a wide range of situations. In maths we aim to develop lively, enquiring minds encouraging pupils to become self-motivated, confident and capable in order to solve problems that will become an integral part of their future.

Rationale:

- Mathematics equips pupils with the uniquely powerful set of tools to understand and make sense of the world. These tools include logical reasoning, problem solving skills and the ability to think in abstract ways.
- Mathematics is important in everyday life. It 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.
- It is vital that a positive attitude towards mathematics is encouraged amongst all of our pupils in order to foster confidence and achievement in a skill that is essential in our society.

Aims of the new revised Curriculum:

- ♦ For children to become **fluent** in the fundamentals of mathematics, through varied and frequent practise with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- ♦ **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 preserving in seeking solutions.

Aims of our Maths Curriculum

- ♦ *to develop the Mathematical skills essential for life in the twenty first century;*
- ♦ *to present maths as a challenging, exciting, creative and relevant subject and in so doing, promote a positive and confident attitude;*
- ♦ *to ensure that all children achieve a high standard in mathematics to promote enjoyment and enthusiasm for learning through practical activity, exploration and discussion;*
- ♦ *to develop the ability to solve problems through decision-making and reasoning in a range of contexts;*
- ♦ *to provide opportunities to apply mathematical learning to a range of real-life contexts in mathematics and in other subjects;*
- ♦ *to promote confidence and competence with numbers and the number system;*
- ♦ *to evaluate progress and be self critical;*
- ♦ *to apply what has been learned in unfamiliar situations;*
- ♦ *to work independently or co-operatively as appropriate;*
- ♦ *to realise that mathematical problems do not always have an answer, or even a best answer;*

Principles

Planning

Planning begins from a thorough understanding of children's needs gleaned through effective and rigorous assessment and tracking, combined with high expectations and ambition for all children to achieve.

- ♦ *Long Term- Maths is a core subject in the National Curriculum, and we use Rising Stars as the basis for implementing the statutory requirements of the programmes of study for Maths;*
- ♦ *Medium Term- is carried out each half-term. Plans are based Rising Stars to ensure a balanced mathematics curriculum. Teachers adapt these plans as necessary to take account of assessment information for particular groups of children. Assessment informs future planning.*

- ♦ *Short Term- the class teacher completes the weekly plans These plans list the specific learning objectives for each lesson and are downloaded onto One Drive.*

Teaching

Our principal aim is to develop children's knowledge, skills and understanding in Maths. Children should be encouraged at all times to communicate their understanding of maths so that it clarifies their thoughts.

The school Calculation Policy should be followed.

EYFS

- *Mathematics within the EYFS is developed through purposeful, play based experiences and will be represented throughout the indoor and outdoor provision.*
- *The learning will be based on pupil's interests and current themes and will focus on the of the EYFS 2021 framework.*
- *Mathematical understanding can be developed through stories, songs, games, imaginative play, child initiated learning and structured teaching.*
- *Towards the end of the Foundation Stage, teachers aim to draw the elements of a daily mathematics lesson together so that by the time children move into Year 1 they are familiar with a 45-minute lesson.*

Key Stage 1 Maths.

- *The principal focus of mathematics teaching in key stage 1 is to ensure pupils develop confidence and mental fluency.*
- *If the subject is represented using concrete materials, pictorial representations and abstract symbols, it will allow children to visualise maths in varied ways, see connections and to independently explore and investigate a topic*
- *Practical activities and resources offer the children a deeper mathematical understanding of more complex concepts.*
- *Providing children with visual representations also offers a scaffold when developing a more robust understanding of maths. Throughout Key Stage*

1, it is important that children gain a secure knowledge of number and place value and become confident when using the four operations in both formal methods as well as problem solving where often the approach is not immediately evident.

- Alongside number work, pupils begin to identify fractions using shapes, objects and quantities and make connections to equal sharing and grouping.
- Pupils are taught to count to ten in fractions, recognise equivalent fractions and develop their understanding of fractions on a number line. At this stage, pupils will also develop their ability to recognise, describe, draw, compare and sort different shapes.
- Pupils have the opportunity to use a range of measures to describe and compare different quantities such as length, mass, capacity/volume, time and money and are expected to use related vocabulary for all topics.
- Other subjects may have strong links to some maths topics allowing cross-curricular teaching. For example, shape through art or computing, measures through science or coordinates in geography. This is to ensure we continually maximise learning opportunities for all pupils across an entire curriculum.

Key Stage 2 Maths

Lower Key Stage 2 – Years 3-4.

- The principal focus of mathematics teaching in lower Key Stage 2 is to ensure that pupils become increasingly fluent with whole numbers and the four operations, including number facts and the concept of place value. This should ensure that pupils develop efficient written and mental methods and perform calculations accurately with increasingly large whole numbers.
- At this stage, pupils should develop their ability to solve a range of problems, including with simple fractions and decimal place value.
- Teaching should also ensure that pupils draw with increasing accuracy and develop mathematical reasoning so they can analyse shapes and their properties, and confidently describe the relationships between them. It should ensure that they can use measuring instruments with accuracy

and make connections between measure and number. By the end of Year 4, pupils should have memorised their multiplication tables up to and including the 12 multiplication table and show precision and fluency in their work.

Cross Curricular Links

- ♦ **English:** Maths contributes significantly to the teaching of English in our school by actively promoting the skills of reading, writing, speaking and listening. For example, we encourage children to read and interpret problems in order to identify the Maths involved. Children enjoy stories and rhymes that rely on counting and sequencing, plus encounter mathematical vocabulary, graphs and charts when using non-fiction texts.
- ♦ **Spoken Language:** The National Curriculum for maths reflects the importance of spoken language in pupils' development across the whole curriculum.– Cognitively, socially and linguistically. The quality and variety of language that pupils hear and speak are key factors in developing their mathematical vocabulary and presenting a justification, argument or proof. They must be assisted in making their thinking clear to themselves as well as others and teachers should ensure that pupils build secure foundations by using discussion to probe and remedy their misconceptions.
- ♦ **Computing:** Children use and apply Maths in a variety of ways using a variety of technology.
- ♦ **Personal, social and health education (PSHE) and citizenship:** . The work that children do outside their normal lessons encourages independent study and helps them to become increasingly responsible for their own learning. The planned activities that children do within the classroom encourage them to work together and respect each other's views.
- ♦ **Science:** During science lessons, children are able to use and apply their data handling skills when creating tables and graphs of scientific measurements. Whole class discussion of data also highlights the importance of clear recording of information. Children are also able to use a wide range of measuring devices

in a real-life context.

Assessment

- *Assessment for learning should occur throughout the entire maths lesson, enabling teachers/teaching assistants to adapt their teaching/input to meet the children's needs. This feedback should be incisive and regular.*
- *Future lesson planning should depend on class success evaluated through marking and observations made during the lesson.*
- *Assessment of pupil work and progress is ongoing by the class teacher and informs future planning. Teachers mark work in maths in line with the school marking policy, giving children a chance to learn from their misconceptions or incorrect methods.*
- *Summative assessments are made termly in order to provide further understanding of the level a child is working at and to inform a more rounded judgement of their abilities. Teachers use Maths assessment sheets that can be found in the front of the children's books, gathering evidence over the course of the year. NFER termly assessments are used to highlight progress and both form part of Pupil Progress monitoring.*
- *Tracking is used in order that children who are not making good progress over time can be targeted for appropriate intervention programmes or support.*

Access to the Curriculum for all:

- *Mathematics forms part of the school curriculum policy to provide a broad and balanced education to all children, which is differentiated to enable children to understand the relevance and purpose of mathematical learning activities.*
- *Through our Maths teaching we provide learning opportunities that*

enable all pupils to make progress, resulting in a feeling of success and achievement. We do this by setting suitable learning challenges and responding to each child's different needs.

- *Our assessment process looks at a range of factors – classroom organisation, teaching materials, teaching style and differentiation – so that we can take some additional or different action to enable the child to learn more effectively. This ensures that our teaching is matched to the child's needs. Teachers use a range of strategies to meet special educational needs.*
- *Lessons have clear learning objectives and staff differentiate work appropriately, and use assessment to inform next stages of learning. We support children in a manner that acknowledges their entitlement to share the same learning experiences that their peers enjoy.*

Inclusion and Equal Opportunities:

Through all subjects we ensure that the school meets the needs of all, taking account of gender, ethnicity, culture, religion, language, sexual orientation, age, ability, disability and social circumstances. It is important that in this school we meet the diverse needs of pupils to ensure inclusion for all and that all pupils are prepared for full participation in a multi-ethnic society.

Display and Resources:

- *In the classrooms there should be, either on display or easily accessible to children, level appropriate resources, particularly concrete and pictorial apparatus to support children to grasp concepts.*
- *Mathematical vocabulary should be displayed so that children use this in the communication of their understanding.*
- *There should be maths work on display in classrooms and in other areas of the school in order to encourage a positive attitude and enthusiasm towards maths for all groups of children.*
- *A 'learning wall' (a collection of children's learning over a period of time) should be visible in class to promote the teaching and learning of mathematics, to enjoy their successes and to make links to prior learning.*

Home/School Links:

We see the relationship with parents very important in supporting their children's

maths skills. We involve the parents in their children's learning by:-

- ♦ Holding parent's evenings twice a year, giving verbal information on their child's progress and their targets for the future;*
- ♦ Providing an end of year report which outlines progress, attainment and future targets;*
- ♦ Providing meetings/workshops to inform parents on how we teach mathematics and how they can help;*
- ♦ Providing links to relevant Maths websites through our school website.*

Homework:

- Homework is given as a consolidation or extension of work covered in school through TTRS and Big Maths. We use 'J2E' to set homework activities.*

The Role of the Maths Leader:

- ♦ Take the lead in policy review and development;*
- ♦ Support colleagues*
- ♦ Keep up-to-date on local and national initiatives and disseminate information;*
- ♦ Take responsibility for the purchase and organisation of mathematical resources;*
- ♦ Take the lead in writing the mathematics section of the School Improvement Plan when applicable;*
- ♦ Encourage the professional development of staff;*

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