

Winnington Park Primary School and Nursery

Maths Policy



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At Winnington Park Primary School we strive to ensure pupils encounter a wide range of mathematical experiences that promote enjoyment and enthusiasm for mathematics through a wide selection of practical activities, exploration and discussion. We follow a mastery approach which provides children with the opportunity to deepen their learning of a concept using the Power Maths scheme of work. This is a Department of Education approved scheme which provides high quality resources and embodies the mastery approach.

Mathematics makes a significant contribution to modern society and at Winnington Park we consider it to be vital for the life opportunities of our children. We strive to enable fascination and an excitement to discover mathematical concepts and to broaden children's knowledge and understanding of how mathematics is used in the wider world.

At Winnington Park we ensure children have transferable mathematical skills, the ability to reason and solve problems, and a well-developed vocabulary. We believe that the language of mathematics is international, the subject transcends cultural boundaries and its importance is universally recognised. We provide children with the opportunity to explore mathematics using a range of concrete, abstract and pictorial resources.

Our Curriculum Vision

At Winnington Park Community Primary School and Nursery we aim to offer a creative and inclusive Curriculum which inspires, engages and challenges and in which children are partners in their own learning.

Intent

We ensure that children are given opportunities to widen their knowledge and understanding of the world and learn and apply skills which will make them successful learners for life as well as enhancing their spiritual, moral, social and cultural development.

Children will become confident, independent and resilient learners who are willing to take risks. They will have high aspirations and be proud of their achievements. We aim to give everyone the opportunity to fulfil their highest potential, both academically and in respect of their wider interests and talents.

Our curriculum has clear end points and our lessons are sequenced so children's learning builds towards these. The children's new knowledge and skills builds on what they have been taught before and is designed for the children, families and community of Winnington Park.

Implementation

Our children learn through a knowledge based curriculum which develops children's skills. We endeavour to engage our children and completely immerse them in their learning. Topics are progressive whilst being inclusive and challenging. They provide children with the knowledge and skills needed for the next stage in their learning and later life. We use the Power Maths Scheme of Work to achieve this.

We celebrate and value all subjects and provide opportunities to apply key skills in all areas of learning. We have high expectations of achievement, progress, behaviour and presentation.

Impact

The impact of our curriculum ensures children are prepared for the next stage of learning and later life.

Children who attend Winnington Park achieve well and are equipped with the knowledge and cultural capital they need to succeed in life.

We aim that all pupils are:

- confident and competent with numbers and the number system
- fluent in a range of different calculation strategies
- able to solve problems through decision-making and reasoning in a range of contexts and have a good understanding of the ways in which information is gathered and presented
- able to explore features of shape and space, and develop measuring skills in a range of contexts
- understand the importance of mathematics in everyday life.

The National Curriculum sets out the program of study for each year group. The programmes of study ensure all pupils become:

- fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils have conceptual understanding and are able to recall and apply their knowledge rapidly and accurately to problems
- able to reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language
- able to solve problems by applying their mathematics to a variety of routine and nonroutine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

In line with the National Curriculum, it is our expectation that all pupils acquire mathematical knowledge appropriate to their age and starting points, which enables them to recall it rapidly and apply it fluently and accurately, including when calculating efficiently. The ability to calculate mentally is an important part of mathematics, as well as being able to use the most appropriate written method, therefore we encourage children to use the most appropriate and effective method for solving calculations.

To enable children to move towards effective and efficient methods of more formal written calculations, with full understanding, a step by step approach is taken and is progressive across the school (see Calculation Policy).

Decisions about when to move a child forward are based on a secure knowledge of pupils' understanding and their readiness to progress to the next stage. Pupils who grasp concepts rapidly, are challenged through rich and sophisticated problems before the learning of new content. Pupils who master concepts are given opportunities to deepen their understanding further with mastery at a greater depth. Those who are not sufficiently fluent with earlier material should consolidate their understanding through additional practice, before moving on. Manipulatives are used across the different year groups in the school. The decision to remove a manipulative is made in response to the pupils' improved knowledge and understanding, not their age.

We aim for our pupils to love the challenge of learning and to be resilient to failure. Our pupils will become curious, interested learners who seek out and use new information to develop, consolidate and deepen their knowledge, understanding and skills.

Quality First Teaching

At Winnington Park we believe that good mathematics teaching is when teachers (and other school staff)

- Demonstrate secure subject and pedagogical knowledge in order to inspire children and build on their understanding;
- Plan lessons effectively taking children's prior learning and current assessment into account;
- Adapt their teaching in response to a variety of assessment information;

- Have a good knowledge of the common misconceptions and plan to address them;
- Introduce subject content progressively and have high expectations of the pupils;
- Provide adequate time for practice to embed the pupils' knowledge, understanding and skills securely;
- Use manipulatives appropriately with a clear rationale for why the manipulative will support pupils to understand mathematics;
- Create lessons that are designed to consolidate, build upon and deepen learning for all children;
- Emphasise the connections between different aspects of mathematics;
- Use questioning effectively to gauge and extend children's skills, knowledge and understanding and mathematical thinking;
- Orchestrate productive classroom discussions by including regular opportunities for pupils to explain their approaches to mathematical tasks to themselves, the teacher and other pupils;
- Ensure that effective support is given in order that the children make good progress;
- Identify and support any pupil who is falling behind and enable almost all to catch up;
- Use precise mathematical language when examining mathematical structures;
- Use resources effectively, including other adults, to support children's learning;
- Use technology effectively in order to support children's learning;
- Mark work, identifying successes and next steps where appropriate so that children can improve their knowledge, understanding and skills. A good balance between oral and written feedback allows the children to effectively improve their learning. A partly completed/completed triangle will show the children's level of understanding;
- Link mathematics to other areas of the curriculum where appropriate.

Curriculum Planning

The curriculum planning in maths is carried out in three phases (long-term, medium-term and short-term).

Long Term Planning

The long-term plan maps out the areas of maths covered in each term during the key stage based on the knowledge and skills outlined in the 2014 National Curriculum.

Medium Term Planning.

Our medium-term plans, which we have taken from the Power Maths Scheme, give details of each unit of work for each term. These plans define what we teach and ensure an appropriate balance and distribution of work across each term ensuring that the knowledge, skills and understanding of all areas in the long-term plans are met.

Short Term Planning

Each unit of maths is broken down into small steps in Power Maths which become individual lessons and progress through the week. These list the specific learning objectives for each lesson, give details of how the lessons are to be taught, the key vocabulary to be used and allow children to master that concept.

Teaching Time

Early Years Foundation Stage (EYFS):

Teachers and practitioners support children in developing their understanding of mathematics in a broad range of contexts in which they can explore, enjoy, learn, practise and talk about their developing understanding. This area of development includes seeking patterns, making connections, recognising relationships, working with numbers, shapes and measures, and counting, sorting and matching. Children use their knowledge and skills in these areas to solve problems, generate new questions and make connections across other areas of learning and development.

Years 1 – 6:

Teachers and practitioners provide adequate time for mastering a range of mathematical concepts and skills. Each class teacher will teach a daily mathematics lesson. This may vary in length but will usually last between 45 minutes and an hour.

Children will have a weekly challenge based on key number facts which will be recorded in Maths books.

Each class starts their day with maths before their lesson begins with an arithmetic/key number skills starter. The main lesson will include different representations and allow the children to use different manipulatives to explore the concept of maths. Reasoning will be included throughout the lesson.

Classroom Environment

At Winnington Park we aim to engage pupils further in their learning through enhancing the classroom environment. Each classroom has a maths resource area with different manipulatives for the children to use where necessary. A working wall will be updated regularly and provide good quality support prompts/ methods and guides that the children can access easily as well as examples of concrete, pictorial and abstract approaches to a concept.

Assessment

Teachers assess children's work in maths by making assessments as they observe them working during lessons. They record the progress made by children against the learning objectives for their lessons. At the end of a unit of work, teachers make a judgement as to whether the child has met, exceeded or is working towards the expectations of each individual unit. They record the information in their assessment files and use the information to plan the future work of each child. This information is also uploaded onto the school server. These records also enable the teacher to make an annual assessment of progress for each child, as part of the child's annual report to parents. The teacher passes this information on to the next teacher at the end of each year. In addition to ongoing assessment for learning, children will also complete assessments at various points in the year.

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