



CORRIE PRIMARY & NURSERY SCHOOL – Mathematics Policy

Mission Statement

Corrie nurtures and encourages all children to realise their personal best and to fulfil their potential in the academic, sporting and performing opportunities provided in and out of school. Our carefully planned climate of celebration of pupil achievement includes a sense of enjoyment that childhood days will be remembered as fun. Our vision is of an environment where our children can develop the life skills necessary to become fully integrated members of society. Corrie aims to do this by providing a caring and stimulating learning environment where all are welcome, respected and encouraged to achieve the highest standards in both work and play. Through mutual respect and appreciation we aim to provide enrichment and enjoyment for everyone. By fostering support and loyalty we offer an environment in which we clearly value the contribution of each individual.

Aims and objectives

Mathematics teaches us how to make sense of the world around us through developing a child's ability to calculate, to reason and to solve problems. It enables children to understand and appreciate relationships and pattern in both number and space in their everyday lives. Through their growing knowledge and understanding, children learn to appreciate the contribution made by many cultures to the development and application of mathematics.

The aims of mathematics are:

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.

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 have conceptual understanding and are able to recall and apply their knowledge rapidly and accurately to problems
- **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.

Our scheme

We use the Pearson Power Maths scheme for teaching maths from Reception to Year 6 which follows the mastery approach to learning. This is a DFE recommended scheme.

At the heart of Power Maths is the belief that all children can achieve. It is built around a child centred lesson design that models and embeds a growth mindset approach to maths.

Power Maths is structured around a whole class interactive teaching model that focuses on helping all children to build a deep understanding of maths concepts and confidence in maths. For each year group the curriculum strands are broken down into core concepts. These are taught in blocks of lessons giving sufficient time to develop a deep and sustainable understanding of core maths concepts. Each concept is broken down into lessons. Each lesson and concept builds on prior knowledge to help children build a robust and deep understanding of the concept before moving on.

Opportunities are provided for same day intervention if necessary and also for deepening activities if pupils master the concept.

We use also use Third Space Learning '*Fluent in five*.' Fluent in Five provides a daily set of arithmetic practice, designed to help children develop and maintain fluency in both written and mental calculations. The structure of Fluent in Five is also designed to help children distinguish between written and mental calculations. It provides regular practice of mental and written arithmetic skills to keep calculation skills fresh.

Each lesson in KS1 and KS2 is divided up into:

- Fluent in Five to support fluency in all key number facts (approximately 5/10 min)
- Discover and share activity where children can share, reason and learn (approximately 20 min)
- Children then consider solutions as a class, with partners and independently (approximately 10 min)
- Children then get the chance to practice the skills learnt to build fluency and develop deeper understanding of mathematical concepts. Challenge questions link to other areas of maths and encourage children to take their understanding to a greater level of depth (approximately 15 min)
- Children review, reason and reflect on learning (approximately 5 min)

In KS2 any written Fluent in Five work and textbook work is completed in exercise books. After the textbook work children are directed to complete tasks in a Power Maths practice book.

EYFS:

The programme of study for the Foundation stage is set out in the EYFS Framework. Children learn maths through continuous provision and play. Reception follow Power Maths linked to the Early Learning Goals. It follows a similar structure to the daily KS1 and KS2 lessons but they are spread out across the week.

- Day 1: Starter and stimulus (approximately 10 minutes)
- Day 2: Discover and share (approximately 10 minutes)
- Day 3: Think together (approximately 10 minutes) and journal work.
- Day 4: Challenge (approximately 10 minutes)
- Day 5: Practical activities and reflect journal work.

The above can be completed as a whole class or in small groups as appropriate and is intended to be 'short and snappy.'

All written up Power Maths work is completed in a Reception Journal book.

Our approach:

We follow a Mastery approach to mathematics.

The principles and features which characterise this approach are:

- Teachers reinforce an expectation that all pupils are capable of achieving high standards in mathematics.
- The large majority of pupils progress through the curriculum content at the same pace. Differentiation is achieved by emphasising deep knowledge and through individual support and intervention.
- Teaching is underpinned by methodical curriculum design and supported by carefully crafted lessons and resources to foster deep conceptual and procedural knowledge.
- Practice and consolidation play a central role. Carefully designed variation within this builds fluency and understanding of underlying mathematical concepts in tandem.
- Teachers use precise questioning in class to test conceptual and procedural knowledge, and assess pupils regularly to identify those requiring intervention so that all pupils keep up.

The intention of these approaches is to provide all children with full access to the curriculum, enabling them to achieve confidence and competence – 'mastery' – in mathematics, rather than many failing to develop the maths skills they need for the future.

Key features of the mastery approach:

Curriculum design

Our maths curriculum is mapped out across all phases, ensuring continuity and supporting transition. The maths curriculum is designed in relatively small carefully sequenced steps, which must each be mastered before our pupils move to the next stage. It is important that fundamental skills and knowledge are secured first. This often entails focusing on curriculum content in considerable depth at early stages.

Teaching resources

Each class is equipped with a range of maths manipulatives such as place value grids and base 10. Concrete and pictorial representations of mathematics are chosen carefully to help build procedural and conceptual knowledge together.

The focus is on the development of deep structural knowledge and the ability to make connections. Making connections in mathematics deepens knowledge of concepts and procedures, ensures what is learnt is sustained over time, and cuts down the time required to assimilate and master later concepts and techniques.

Teaching methods

Pupils work on the same tasks and engage in common discussions. Concepts are often explored together to make mathematical relationships explicit and strengthen pupils' understanding of mathematical connectivity.

Precise questioning during lessons ensures that pupils develop fluent technical proficiency and think deeply about the underpinning mathematical concepts. There is no prioritisation between technical proficiency and conceptual understanding; in successful classrooms these two key aspects of mathematical learning are developed in parallel.

Differentiation

Taking a mastery approach, differentiation occurs in the support and intervention provided to different pupils, not in the topics taught, particularly at earlier stages. There is little or no differentiation in content taught, but the questioning and scaffolding individual pupils receive in class as they work through problems will differ, with higher attainers challenged through more demanding problems which deepen their knowledge of the same content.

SEN

Children who cannot access their year group's objectives will complete objectives from another year group that they can access.

Assessment

Pupils' difficulties and misconceptions are identified through immediate formative assessment and addressed with same day intervention – commonly through individual or small group work.

In KS1 and KS2 the children will complete end of unit checks and where necessary strengthening activities or deepening activities will be put in place to support individual / groups of children. The children will also complete a self assessment at the back of their practice books using traffic light colours or numbers in UKS2 to show how confident they think they are against key learning objectives taught. Teachers will use the same colours or numbers to show children their progress of key learning objectives.

Each term the children will complete progress tests which assess all units covered up to that point within the term. Teachers will input results into their class Power Maths mark book and this will give an analysis of the result, generate a score and whether they are below, working towards age related expectations, at age related expectations, secure, working towards greater depth or greater depth.

Past national tests will also be used for years 2 and 6.

In EYFS children will be assessed through observations that is inputted on Target Tracker.

Teachers use all of their assessment to input the children's step on Target Tracker.

*See Corrie's assessment policy for more information

Monitoring and review

Monitoring of the standards of children's work and of the quality of teaching in mathematics is the responsibility of the mathematics subject leader. The work of the mathematics subject leader also involves supporting colleagues in the teaching of mathematics, being informed about current developments in the subject, and providing a strategic lead and direction for the subject in the school. The mathematics subject leader monitors planning, children's work and undertakes lesson observations of mathematics teaching across the school. The mathematics lead will also analyse data and provide the headteacher, SLT and governors with a termly report. The Curriculum and Standards committee is briefed to oversee the teaching of mathematics.

It is the responsibility of class teachers to consistently follow this policy to ensure continuity and progression. It is the head teacher's responsibility to support the strategic plan for mathematics.

Policy Review

Policy date: Spring 2022

Policy review: Spring 2024

Subject coordinator: Jacqui Faulkner