Covingham Park Primary School Maths Policy

Our vision is to provide every child with an outstanding start to their education, which equips them with the necessary skills to meet future changes and challenges throughout their life.

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Introduction

Mathematics is a powerful means of communication. It is a fundamental part of our everyday life at home and at work and is, therefore, a vital part of the curriculum for all children. We hope the children will develop a lively attitude to maths where the content of their lessons will extend their knowledge, develop their skills and stimulate them to think logically. We want children to:

- Be Numerate
- Ask questions and follow own lines of enquiry (enquiry and independence)
- Enjoy and understand the purpose/joy and wonder of maths (aspiration)

Responsibilities

This policy outlines the teaching, organisation and management of Maths learnt at Covingham Park Primary School. Maths is a core subject in the National Curriculum. The fundamental knowledge, skills and understanding of the subject are set out in the National Curriculum programmes of study. The Curriculum Map for each year group is adapted yearly by the Maths Leader in line with the gap analysis from the previous year; this shows progression across the school, and can be found in the staffroom on the Maths board.

The policy has been agreed by staff and governors. The implementation of this policy is the responsibility of all staff. Monitoring and reviewing is the responsibility of Maths subject leader. Evaluation of the policy is the responsibility of the SLT and governors.

Purpose of study

Mathematics is a creative and highly inter-connected discipline that has been developed over centuries, providing the solution to some of history's most intriguing problems. It is essential to everyday life, critical to science, technology, engineering, and is necessary for financial literacy and most forms of employment. A high-quality mathematics education therefore provides: a foundation for understanding the world; the ability to reason mathematically; an appreciation of the beauty and power of mathematics; and a sense of enjoyment and curiosity about the subject.

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.

- **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.

Links to Other Subject Areas
Throughout the whole curriculum, opportunities exist to extend and promote mathematics. Teachers seek to take advantage of all opportunities to allow children to practise their maths skills in a range of contexts and, where possible, seek to provide these in the context of their current topic.

Equal Opportunities
In line with our ***Equal Opportunities Policies*** we are committed to providing a teaching environment conducive to learning. Each child is valued, respected and challenged regardless of race, gender, religion, social background, culture or disability. All pupils are entitled to access the Maths curriculum at a level appropriate to their needs arising from race, gender, ability or disability.

Special Educational Needs
Children working below their expected age level for Mathematics will be identified and supported in a variety of ways, using the most appropriate support materials and strategies. Children with specific needs have EHCPs or action plans which identify their strengths and areas for support; these are addressed by the teachers in their planning and in the Maths lesson. These Children may also be targeted for extra support with additional TA support in the lesson or within intervention sessions.

Gifted and Talented pupils
Children showing a particular aptitude for mathematics - exceeding normal expectations for their year group - will be identified and challenged within the daily maths session and their progress monitored to ensure progress. Teachers use support resources to stretch these children and develop their mathematical thinking.

Procedures and Practice
In the National Curriculum, Mathematics is set down under the following strands:

- Number and place value
- Number: Calculating – addition, subtraction, multiplication, division

- Number: Fractions (including decimals and percentages)
- Ratio and Proportion
- Algebra
- Measurement
- Geometry: Properties of shape
- Geometry: Position and direction
- Statistics

The success of our Mathematics teaching at all levels depends upon the teacher's preparation and planning which should be thorough, build on previous learning and recognise the specific learning needs of individual children.

Procedures and Practice – Planning

Planning is undertaken in accordance with the outlines suggested in the September 2014 National Curriculum; this is to be used alongside the Covingham Park Primary Maths Curriculum Maps and Calculation Progression which identifies the skills, knowledge and understanding to be taught throughout the year.

Teachers follow Yearly Overviews set out by the Maths Leader to ensure that each strand is taught, revisited and revised throughout the year. Having referred to children's prior knowledge before teaching each unit, weekly/fortnightly plans for learning are mapped out following the objectives set out in the Curriculum Maps to ensure a progression across their Maths learning.

Short term planning will include daily lesson plans, where teachers have identified the most appropriate objectives and organised activities, strategies and the teaching of skills that the children require in order for continued progression. Short term planning will also include opportunities for teacher directed support and challenge, along with any other adult support. These plans are flexible in order to ensure that the pace and direction of the lesson can be altered to address the needs of all learners.

Procedures and Practice – Teaching

Choral counting and mental maths skills will be taught and practised every day in Key Stage 1 and at least twice a week in Key Stage 2. Mathematics will be taught everyday as a discrete subject and taught regularly as part of cross curricular work where appropriate. Maths skills are used and applied at the level appropriate to children's needs. In Foundation Stage, Maths follows the EYFS curriculum and is taught through continuous provision. In Year 1, there is one daily maths lesson. This initially follows the continuous provision model from Foundation Stage, but later in the year moves to a whole class

teaching model. From Year 2 onwards, Maths is taught twice daily: with one 30 minute session for Number, Place Value and Calculation; and one 45 minute session for Maths Topic (Geometry, Measure, Fraction etc). This is to ensure that number, place value and calculation are taught and revisited constantly throughout the year. Teachers follow the WhiteRose Small Steps Progressions and use these as a basis for mapping out the children's learning across each unit. However, teachers will always have the autonomy to spend longer or less time on any step, in line with the needs of the children. Teachers should enthuse and interest children from the outset and all children should learn during the lesson.
Children in Key Stage 2 take part in the whole school Times Table Challenge every Friday, testing their knowledge of the times tables. They work towards achieving certificates (by completing each level 3 times) and all children work at their own pace through the challenge cards.

Procedures and Practice – Learning
The learning in books for the Maths Topic session follows the structure of "Do it! Twist it! Stretch it!"
Do it! is a range of 6 – 8 fluency questions, ensuring that all children can demonstrate the basic learning of the lesson.
Twist it! is always a worded problem. Teachers ensure that the subject of the questions varies so children understand how the maths relates to real-life situations.
Stretch it! is either an open-ended problem, where children have to demonstrate finding all possibilities, or an opportunity to reason verbally in a "convince me" style answer.
Learning in the Number, Place Value and Calculation session may take many forms not just limited to work in books, but also including choral counting, timestables games and activities (including time using the TimesTable RockStars app on iPads), and practical activities.
There are also opportunities for practical activities, mathematical investigations, problem solving and reasoning activities, learning through mathematical games, and individual, group and whole class discussion. Teacher should intersperse these activities within the WhiteRose lesson progressions to provide opportunities where children can apply their learning. Children's prior learning is taken into account and built upon in order for children to understand and master new concepts or methods. Correct mathematical vocabulary and terminology is modelled and discussed throughout lessons and is encouraged and expected in children's responses.

Procedures and Practice – Assessment
Assessing progress and record-keeping are closely linked to planning and teaching. Teachers use Target Tracker to both assess children's progress and plan for gaps in children's knowledge. Assessment is carried out in a

variety of ways for a variety of purposes. As with planning, assessment will take place at three connected levels:

Short Term and Marking
Short term assessments are for staff's immediate attention and may be recorded onto their daily lesson plans in order for the adapting of subsequent lesson plans to take place and active intervention groups to be identified. Teaching Assistants may also be asked to make notes and comment on specific children's progress which is discussed with the class teacher. Children will be made aware of their achievements and next steps through marking and verbal feedback.
Teachers and Teaching Assistants will "mark on the move"; children should only move on to the next section once their work has been checked by an adult. Initially, an adult will tell a child that their answer is incorrect and give them the opportunity to try again. If the answer is still wrong after a second attempt, immediate intervention would happen, and the adult would discuss any misconceptions with the child and work together to find the correct answer and avoid a misconception becoming embedded.

Medium Term
At the end of each unit of work, children will complete a "Prove it!" session, where they answer a range of fluency and reasoning problems covering the objectives from the unit they have just completed without any teacher input. These are marked and used by teachers to complete Target Tracker for the relevant objectives.
This ongoing tracking system allows teachers to recognise areas of strength and weakness within the different strands of maths and plan more effectively as a result of the information gathered.

Long Term
Children's progress is reviewed and reported onto Target Tracker three times a year and checked against individual and age-related targets. Progress and attainment is discussed with the Head teacher during progress meetings, and relayed to the Maths Leader. During these meetings, whole class and individual progress is discussed in detail and additional intervention is put in place where required. Biannual Assessment Weeks allow for summative assessment to both track progress and inform future planning. An end of year report to parents/carers will summarise pupils' skills, knowledge and understanding in maths.

The role of the maths leader is to:
- support colleagues in planning and teaching subject content and skills;
- support colleagues in assessing pupil attainment and progress;

- monitor progress and attainment across school;
- audit current practice, write, implement and evaluate action plans;
- use the budget effectively to renew and update resources to deliver the curriculum;
- keep abreast of developments in Maths education, review policy and procedure and disseminate information accordingly.

Resources

Each classroom has an allocation of maths resources (Enable Table), which is clearly labelled and easily accessible for the children, so they are able to become independent in their selection of the correct tool for the problem in hand.

Within our school, resources and equipment are continually being developed and extended. Each Key Stage has a general maths resource area containing a range of appropriate, shared resources. In addition to this, a range of software is available for use on the interactive whiteboards and iPads. The school has a WhiteRose subscription which provides a range of interactive teaching tools and Smart Board resources to support the teaching of Maths. Each year group has an allocation of appropriate problem-solving resources and staff are signposted to online resources to support the planning and teaching of problem solving lessons.

Health and Safety

This needs to be read alongside our ***Health and Safety Policy*** and ***Educational Visits Policy***.

Monitoring and Evaluation

This policy will be monitored and its effectiveness evaluated through:

- Co-planning, team-teaching, observing/giving feedback
- Monitoring teachers' short-term planning
- Evaluating whether work in Maths is securely linked to age-related expectations and demonstrates progress against prior attainment
- Regular discussion with the Headteacher and (if applicable) the Maths Link governor or Maths consultants.