

Policy for Mathematics



September 2015

Review: September 2017

1. Introduction.

Mathematics is a creative and highly interconnected discipline. It is essential to everyday life, critical to science, technology and engineering, and 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 and a sense of enjoyment and curiosity about the subject.

Mathematics is an interconnected subject in which pupils need to be able to move fluently between representations of mathematical ideas. Pupils should make rich connections across mathematical ideas to develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems. They should also apply their mathematical knowledge to science and other subjects.

The National Curriculum for mathematics 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 enabling them in presenting a mathematical justification, argument or proof. Teachers should ensure that pupils build secure foundations by assisting them in making their thinking clear to themselves and to others.

2. Rationale.

We aim to provide our children with a mathematics curriculum which will allow them to become confident individuals through developing their mathematical skills to their full potential. We also aim to present maths as a challenging, exciting, creative and relevant subject in order to promote a positive and confident attitude. At [St Cuthbert's RCVA Primary School](#) we are committed to giving all of our children every opportunity to achieve the highest of standards.

3. Aims.

Our pupils should:

- Have a sense of the size of a number and where it fits into the number system.
- Know by heart and develop rapid recall of number facts such as number bonds, multiplication tables, doubles and halves. (refer to KIRF targets and Times Table Challenge)
- Use what they know by heart to figure out numbers mentally developing an understanding of number patterns and relationships.
- Calculate accurately and efficiently, both mentally and in writing, drawing on the range of strategies taught (refer to Progression in Written Calculation Policy July 2014 and Addition, Subtraction, Multiplication and Division posters displayed in classrooms.)

- Make sense of number problems and recognise the operations needed to solve them.
- Explain their methods and reasoning using correct mathematical terms.
- Judge whether their answers are reasonable and have strategies for checking them where necessary.
- Suggest suitable units for measuring and make sensible estimates of measurements.
- Collect and display data in graphs, diagrams, charts and tables and be able to explain and make predictions from these.
- Develop spatial awareness and an understanding of the properties of 2d and 3d shapes.

4. Provision

Planning objectives are taken from the National Curriculum for Mathematics and the programmes of study are accessed for the appropriate year group. Decisions about when to progress should always be based on the security of pupils' understanding and their readiness to progress to the next stage. Pupils who grasp concepts rapidly should be challenged through being offered rich and sophisticated problems before any acceleration through new content. Those who are not sufficiently fluent with earlier material should consolidate their understanding, before moving on.

In all lessons, there will be an appropriate amount of differentiation in the work to meet the needs of individual learners.

The teaching of mathematics at St Cuthbert's RCVA Primary School provides opportunities for:

- whole class teaching
- group work
- paired work
- individual work

Pupils engage in:

- the development of mental strategies
- consolidation and practise of basic skills
- instant (automatic) recall of number facts
- written methods
- practical work
- investigational work
- problem solving
- mathematical discussion
- outdoor maths

We put emphasis on the importance of establishing a secure foundation in mental calculation and recall of number facts by reviewing half termly Kirfs (KEY INSTANT RECALL of FACTS) before standard written methods are introduced, as outlined in the 'Progression in Written Methods of Calculation'. Teachers use the correct mathematical vocabulary in their teaching and encourage children to use the appropriate terminology in their verbal and written explanations.

Staff make cross curricular links where possible in order to provide meaning and context to their teaching. This will allow the children to gain an understanding of how mathematics fits in to everyday life and make connections with the real world.

We endeavour at all times to set work that is challenging, motivating and encourages the pupils to talk about what they have been doing.

5. Mathematical language

Using correct mathematical language is crucial for thinking, learning and communicating mathematically. Children may build knowledge through remembering information that they hear, but it is only when they put these ideas into their own words that it becomes clear whether concepts have been learned effectively.

Children should be introduced to the appropriate vocabulary at a time when it is relevant and required (refer to Maths Word Lists document for a list of appropriate words for each year group). Staff should ensure they give children opportunities to speak mathematical language within conversations so they can correct any misconceptions and enable children to become confident and familiar with the vocabulary. Finally, children should be expected to learn to read and write the words, ultimately spelling them correctly.

6. Assessment

At St Cuthbert's RCVA Primary School teachers are continually assessing pupils' progress. We see assessment as an integral part of the teaching process and strive to make our assessment purposeful, allowing us to match the correct level of work to the needs of the pupils, thus benefiting the pupils and ensuring confidence and progress. Information for assessment is gathered in a variety of ways:

- Talking to the children
- Observing and marking work
- Self and peer assessment
- Statutory and non-statutory formal assessments

Pupils' progress is tracked using "Classroom Monitor" and is recorded half term termly on the "Step Tracker". These are used to identify children who would benefit from additional support both in and out of the classroom, and lead to Intervention Strategies being devised for the relevant children. It also identifies those children who require additional challenge in their work. Teachers track the children's progress with mental maths targets (Kirfs and times tables) and adjust planning to match the correct work to the needs of the children.

7. Performance Indicators.

Performance Indicators are:

- KS1 results
- KS2 results
- Year group Step Trackers
- Classroom Monitor evidence
- Maths Books

- Pupil voice (enjoyment of maths and their ability to talk confidently about what they are doing)

8. Equal opportunities.

We incorporate mathematics into a wide range of cross curricular subjects.

All children have equal access to the curriculum regardless of race, social circumstance or gender. This is monitored by analysing pupil performance throughout the school to ensure that there is no disparity between groups.

Intervention strategies are specified for those pupils identified as requiring it. IEPs are used to address specific issues with relevant children.

9. Parental Involvement.

We encourage parents to be involved by:

- Striving to ensure that parents feel welcomed into our school.
- Providing information on the calculation methods we use in school (Parent's information nights)
- Giving regular mathematics homework in all classes.
- Formally inviting them into school twice yearly to discuss the progress of their child.
- Providing a full annual report in the summer term.
- Telling them about the work on our website (curriculum overview)
- Providing a curriculum overview on our website, as well as links to age related expectations. Also links to games and automaticity maths training.

Parents are encouraged to support their child at home by:

- Involving their child with everyday *real maths* such as using money, telling the time, calculating the time a cake is in the oven, using timetables or assessing the value of supermarket special offers.
- Supporting their child with the specific homework given by staff and by helping ensure that children know by heart and develop rapid recall of number facts such as number bonds, multiplication tables, doubles and halves.

10. Resources.

The school has a scheme of work (Collins Busy Ant Maths) which provides a robust approach to teaching the 2014 curriculum. Teachers use this resource to support their planning, using it as they feel suits the needs of their class. They are encouraged to use other maths resources to provide the best possible maths opportunities for the children.

Each class has practical resources for day-to-day maths lessons. These should be stored in such a way that they are easily accessible to the children and are well cared for. Each classroom is equipped with an interactive whiteboard and pupils have access to the ict suite and ipads to support their learning.

11. Policy.

This policy was written by the Mathematics Subject leader in line with the 2014 National Curriculum in October 2015. It was approved by the Head Teacher and Governors in

It is to be reviewed in October 2017.

