



Mathematics Policy

‘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 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, an appreciation of the beauty and power of mathematics, and a sense of enjoyment and curiosity about the subject.

Aims of the new national curriculum

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. ‘*

(National Curriculum July 2014)

Entitlement

All pupils of Laurel Avenue Community Primary School are entitled to a Mathematical education which is;

- *adequately and appropriately resourced*
- *engages them in practical tests, real life situations and problem solving*
- *gives them the opportunity to practise and consolidate their knowledge*
- *promotes and strives for mastery.*

Aims of Teaching Maths

The teaching of mathematics at Laurel Avenue Community Primary School is geared towards enabling each pupil to develop their learning without labelling them by ability. We endeavour to not only develop the mathematics skills and understanding required for later life, but also an enthusiasm and fascination about maths itself.

We aim to increase pupil confidence in maths so they are able to express themselves and their ideas using the language of maths with assurance.

We recognise the importance of developing factual, procedural and conceptual knowledge.

At Laurel Avenue Community Primary School we aim to:

- *promote exploration and discussion*
- *develop mathematical skills and knowledge and quick recall of basic facts in line with National Curriculum requirements*
- *promote confidence and competence with numbers and the number system*
- *develop the ability to solve problems through decision-making, reasoning and mastery in a range of contexts*
- *develop a practical understanding of the ways in which information is gathered and presented*
- *explore maths within a wide range of contexts*
- *develop an appreciation of the creative aspects of maths and awareness of its aesthetic appeal*
- *understand the importance of mathematics in everyday life.*

Planning

Planning is undertaken at three levels:

Long term planning is based on the programmes of study in the 2014 Curriculum.

Medium term planning is carried out termly. Teachers select their focused key performance indicators and objectives from the Chris Quigley's Essentials Curriculum Milestones which are matched to the 2014 National Curriculum. At Laurel Avenue Community Primary School we are building on the development of mastery in maths.

Short term planning is carried out weekly. These plans include key performance indicators, resources to be used, any differentiation, vocabulary and questions, opportunities for assessment and reflect the structure of Big Maths.

Teaching and learning style

The school uses a variety of teaching and learning styles in mathematics lessons. Our principal aim is to develop children's mathematical knowledge, skills and understanding whilst providing experience and opportunities which allow children to investigate and apply learning. We do this through a daily lesson which covers the National Curriculum 2014 requirements, through the use of Big Maths and by weaving all aspects of maths into our topics and wider curriculum.

Big Maths

Whilst not being a scheme Big Maths ensures every child has the best opportunity to become fully numerate through the progression, continuity and coverage provided within a simple framework of learning steps. Big Maths provides steps of learning rather than lessons for learning, therefore allowing teaching staff to retain creative flair and individuality. Each year group has clear progress drives with a heavy skills development and number focus in the areas of Counting, Learn-Its, It's Nothing New, Calculation and within Key Stage 2, Column Methods. All National

Curriculum 2014 objectives are fully matched to these areas and key skills and knowledge are constantly revisited and built upon. SAFE progress drives are also used to cover shape and position, fraction, measures and algebra.

'Get it, Then use it'

Children always acquire Core Knowledge before applying it to Wider Maths. This ensures children approach all problems with the skills and confidence needed to succeed. Gradually, build up a child's knowledge through the Learning Steps, challenging them with wider and deeper problems.'

(Big Maths)

Staff at Laurel Avenue Community Primary school have developed a calculation policy which supports the progress drives of Big Maths and sets out the expectations at each stage of learning (see Calculation Policy).

Parents are provided with a guide to the calculation strategies used.

Maths and the Wider Curriculum

Wherever possible, we encourage the children to use and apply their learning in everyday situations and pupils are helped to extend their skills into other subjects. In this way pupils will develop an appreciation of the application of their skills in practical uses in for example, computing, design technology, geography and science.

The use of current learning is planned into foundation subjects through careful matching of skills and contexts. Areas of the National Curriculum 2014 for Maths are identified to be taught solely outside of the daily maths lesson. These include statistics which can be built into many areas of the curriculum such as science, geography and history; Roman numerals, to be taught as part of the history topic; position and movement objectives such as rotation, reflection and turn which are covered in art and design, computing and geography.

Resources

Resources for the delivery of the maths curriculum are stored both centrally and in classrooms. Everyday basic equipment is kept in classrooms. Additional equipment and topic-specific items are stored in other areas.

Children have the opportunity to use a wide range of resources such as number lines, number squares, digit cards and small apparatus to support their work. They use ICT in mathematics lessons where it will enhance their learning, as in modelling ideas and methods. Practical investigations and hands on experience is used as an essential learning tool for areas such as shape and measures.

Display

We recognise the importance of displays in the teaching and learning of mathematics. Every class displays relevant mathematical information which is consistent throughout the school and reflect Big Maths principles. This is appropriate to the age of the class. These may include number lines, number grids, vocabulary and other display materials that provide a visual support for the children's mental processes.

Assessment

At Laurel Avenue Community Primary School we recognise that Assessment for learning lies at the heart of promoting learning and in raising standards of attainment. We further recognise that effective assessment for learning depends on using the information gained.

The assessment procedures within our school encompass:

- * Making ongoing assessments and responding appropriately to pupils during 'day-to-day' teaching. These 'immediate' responses are mainly verbal and are not normally recorded. The evaluation column of the short term planning form is used to make brief notes about lessons. Written feedback in books is in response to the success criteria of the lesson and pupil's work is marked in accordance with the school's marking policy (see Marking Policy)*
- * Daily targeted interventions, which are identified both during the lesson and through the marking, are aimed to be carried out the same day in order to ensure immediate action is taken for maximum impact upon learning outcomes*
- * Using knowledge of pupils drawn from ongoing pupil Assertive Mentoring records and discussions between teams of staff*
- * Use of the 'assessment for learning' and mastery questions to check learning against objectives at the end of each unit of work and adjusting planning and teaching in response to pupils' performance*
- * Weekly CLIC, Learn It's and SAFE tests are completed to allow children to maintain skills*
- * Termly formative assessments linked directly to National Curriculum 2014 for Maths*

Teachers also assess children against stages within the Chris Quigley Milestones:

- **Basic:** Following instructions, modelling, explaining, acquiring, refining, high level support*
- **Advancing:** Decision making, reminding, guiding, applying, practising, medium level of support*
- **Deep:** Multi-steps – more than one outcome, justification, coaching, probing, deepening, extending, low level of support.*

This assessment system shows both the breadth and depth of learning and is used to track children's progress and attainment.

Reporting

All parents receive an annual written report on which there is a summary of their child's effort and progress in mathematics over the year. This is led by the children who identify their own successes and challenges throughout the year. At the end of KS1 and KS2, each pupil's level of achievement against national standards is included as part of their annual written report.

All children are given individual targets during their Assertive Mentoring sessions held once a term and these are shared with parents.

Equal Opportunities

At Laurel Avenue Community primary School all children are given the opportunity to achieve their best. As a school we endeavour to maintain an awareness of, and to provide for equal opportunities for all our pupils in mathematics. We aim to take into account cultural background, gender and Special Needs, both in our teaching attitudes and in the published materials we use with our pupils.

Children with Special Educational Needs and the More Able

All children receive high quality inclusive teaching. Where possible, we aim to fully include SEN pupils in the daily mathematics lessons so that they benefit from quality first teaching as well as high levels of individual support and participating with other children in demonstrating and explaining their methods. There are high expectations for all pupils. Resources are provided to encourage children to learn independently and support their learning. Specialist resources are also used, where appropriate. When planning, teachers will address the child's needs through simplified, extended or modified tasks. Support staff are deployed effectively to support, extend and challenge children in their learning

Homework

In Reception and Key Stages 1 and 2, children receive homework each week. The amount of homework given will progress as the children move up through the school. The aim of homework is always to consolidate the learning that has been happening in the classroom.

Signed: H Walters

Coordinator

Date: June 2017

Signed: N Dixon

Chair of Learning, Teaching and Achievement Committee

Date: June 2017

Date of Policy: June 2017

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