



DATCHET ST.MARY'S C OF E PRIMARY ACADEMY

Maths Policy

Introduction

This document is a statement of the aims, principles and strategies for the teaching and learning of mathematics at Datchet St. Mary's.

The Nature of Mathematics and its Place in the Curriculum

Mathematics is the systematic study and knowledge of number, quantity, shape and space. It can be used to assist people in performing practical tasks and solving problems created by everyday life. It provides a means by which information may be represented, analysed and communicated. It enables people to make sense of the world about them.

It provides people with opportunities to become involved in strategic and logical thought. It creates challenge and promotes creativity.

It is also a source of enjoyment in its own right as pleasure may be gained from exploration within the subject itself.

Aims

Our aims in teaching mathematics are that all children will:

- ◆ Enjoy mathematics.
- ◆ Experience a sense of achievement and have pride in their work.
- ◆ Have a positive attitude towards the subject.
- ◆ Develop knowledge, concepts and skills, with understanding, to problem solving tasks.
- ◆ Use appropriate vocabulary and methods of representation to communicate mathematical ideas.
- ◆ Work confidently, logically and independently, when appropriate.
- ◆ Work with others co-operatively, sharing ideas and discussing issues.
- ◆ Show initiative, challenge ideas and explore.
- ◆ Develop questioning strategies.
- ◆ Show creativity in their thinking and flexibility in their approach.
- ◆ Appreciate the importance of mathematics and recognise its role in the world around us.

Adherence to the National Curriculum 2014

Mathematics is a core subject in the National Curriculum. All teachers are expected to have good knowledge of the National Curriculum for Mathematics Programmes of Study 2014 and adhere to its teaching objectives.

The subject matter predominately taught is Number. Both mental strategies and paper and pencil methods are taught and developed. With regard to this, children are encouraged to assess and select the most appropriate means of obtaining an answer.

All other mathematical topic areas have less weighting. Each of these areas receives equal attention.

The subject matter taught is in the following areas:

- Number: Place value; addition and subtraction; multiplication and division; fractions and decimals.
- Measurement: mass; length; time; money.
- Geometry: properties of shapes; movement and direction.
- Statistics: process, present and interpret data to pose and answer questions.

Using and applying is integrated throughout.

Early Years Foundation Stage

In the Early Years Foundation Stage (Nursery and Reception classes), practitioners support children in developing their understanding of problem solving, reasoning and numeracy in a broad range of contexts in which they can explore, enjoy, learn, practise and talk about their developing understanding. Teachers offer both adult led and child initiated opportunities in mathematics for these skills to be practised in order to give children competence and confidence in their use.

The EYFS classes follow the Statutory Framework for the Early Years Foundation Stage and work towards the Early learning goals in Number and Shape, Space and Measures.

Strategies for Teaching Mathematics

Organisation

Mathematical activities are taught in accordance with the National Curriculum Mathematics Programmes of Study.

Teaching Time

Five lessons of mathematics are held in each class per week. Whenever possible, lessons should take place during the morning teaching period.

Each lesson will last between 45 and 60 minutes.

Modes of Working

Direct teaching, ideally to the whole class or sometimes to a group, is the predominant mode of working in mathematics. Good quality interaction between adults and children is valued and promoted by staff whenever possible. Teachers use demonstration, explanation and questioning to develop skills and understanding. Children are encouraged to use the correct mathematical vocabulary, and provide verbal accounts. They are given opportunities to share the strategies they use, provide demonstrations and explanations for each other and verbalise thought processes. Children are encouraged to listen carefully to others and consider what has been said. Teachers promote a positive forum for discussion, where methods and answers offered by children are accepted and thought about, and ridicule is positively discouraged. Building children's confidence and celebrating mathematical achievement are considered paramount.

The skills, knowledge and concepts introduced during direct teaching times, are then reinforced further through providing opportunities for discussion, application, practise, consolidation and/or gaining practical experience, through appropriate follow up work, either individually or with in groups.

Lessons may begin with oral work and mental calculation, and finish with a plenary session. Lessons may also be taught using guided teaching, whereby the class is split and while some are being taught by the teacher before starting their work; others are working to consolidate skills or practise a skill before being taught and doing their daily work.

Calculators

Each phase has sets of calculators for whole class teaching. They are used appropriately; to provide children with opportunities to work on some investigational activities.

Classroom Support

Teaching assistants and support teachers are used, where necessary and when available, to support children with particular needs.

Commercially Available Schemes of Work

The Collins Busy Ant Mathematics Scheme is used supplemented by: Scholastic 100 lessons, Spotlight, Teaching for Mastery, Springboard, SNAP on 2 Maths and Doodle Maths. First Class at Number, Numicon, Maths Whizz and Doodle Maths – all of which are used to support children with greater needs.

Pupils with Special Needs

Children with difficulties in Mathematics receive extra support in the classroom from class teachers and, in some year groups, from teaching assistants. In addition, those identified as not working just below expected levels for their age are offered 1;1 support and group support. A booster club in Maths is available for Year 6 children who are working just below expected levels. Support materials, as provided by the above provide these children with extra reinforcement and with opportunities to revisit topics and gain skills, knowledge and concepts that may not have been acquired previously. Other materials have been provided to support pupils, particularly in Years R-2.

Children with particular ability in mathematics receive extra support from class teachers. They are extended through the use of more challenging puzzles and problems. They are given opportunities to attempt demanding tasks that may involve the use of a combination of skills. Tasks may be presented within a variety of contexts to further encourage thought, develop an understanding of what the problem actually is and then apply appropriate skills. Children are presented with investigational activities that encourage independent work and provide them with opportunities to explore what is of interest.

Resources to extend able pupils are provided in the main Maths scheme through differentiated schemes of work. Other materials such as Spotlight extension Maths, Collins Stretch and Challenge and NRich are provided to support very able pupils in all year groups. Children experiencing significant difficulties with mathematics should have Individual Educational Plans that identify the difficulties and outline the measures being taken.

Homework

Children in every year group are given activities with a mathematical focus to complete, as part of their homework each week this may be as paper activities or online through MyMaths. Parents are encouraged to take an interest in their child's mathematical development and to support their needs. Children are given opportunities to follow up work introduced in class. The home environment is valued as a resource to promote 'real-life' mathematics activities and problems solving.

Celebration of Mathematics

Mathematics is celebrated verbally during discussions. It is celebrated through written and/or verbal feedback given in response to written tasks. It is celebrated through use of display around the school. Interactive and informative displays are used to provide information, provoke thought and generate interest. Children's mathematical work is displayed to promote a sense of achievement as well as all the aforementioned attributes. Maths achievements are also celebrated through the awarding of Headteacher awards presented at Celebration assemblies and Doodle Maths certificates are awarded for Doodle Maths achievements.

Strategies for Ensuring Progress and Continuity

Planning in Mathematics:

The foundation for curricular planning is provided by the National Curriculum for Mathematics Programmes of Study 2014. The co-ordinator uses the objectives listed in the documents to provide the basis for the scheme of work. Mathematical activities that may be used to address the objectives are developed by class teachers for their year group. The activities, and the resources required, are listed by class teachers in the scheme of work. Daily/weekly lesson plans, based on the scheme of work, are drawn up by class teachers. The scheme of work is a working document that is to be amended appropriately by teachers as the year progresses. Elements such as activities, resources etc, need to be evaluated and developed, on an ongoing basis. Elements may be added, removed or improved in order to establish recorded information that most effectively supports the implementation of National Curriculum for Mathematics Programmes of Study 2014.

The Role of the Mathematics Leader

The Mathematics Leader supports teachers and helps to improve the overall quality of mathematics teaching across the school, taking the lead in policy development to ensure continuity and progression throughout the school. When non-contact time is provided, the Leader monitors teaching in mathematics across the school and ensures adherence to documentation. The Leader takes responsibility for the purchase and organisation of mathematical resources and keeps up-to-date with developments in mathematical education disseminating information to colleagues as appropriate. The Leader also has access to all mathematical assessments in both Key Stages.

Feedback to Pupils

Children receive feedback about their progress in mathematics in two ways. Teachers may provide verbal feedback to children while a task is being carried out, or once a task has been completed. They may also provide feedback through the marking of work. Feedback should be encouraging and supportive. Errors should be clearly indicated and, when appropriate, corrected.

Children may mark their own work. Through careful discussion, led by the teachers, these times may provide valuable learning experiences, as children are directly asked to consider their responses to questions.

The teacher sets appropriate targets to move the children on.

Guidance on marking written mathematical work is recorded in the Marking Policy.

Formative Assessment

Formative assessment is used to guide the progress of individual pupils in mathematics. It involves identifying each child's progress in each aspect of the subject, determining what each child has learned and what therefore should be the next stage in his/her learning. Formative assessment is mostly carried out informally by teachers in the course of their teaching. Suitable tasks for assessment include:

1. Small group discussion perhaps in the context of a practical task.
2. Short tests in which the teacher gives questions orally and pupils write answers.
3. Written tests, which will involve adult support for children with poor reading skills.
4. Specific assignments for individual pupils.

Optional Standard Assessment Tests are carried out at the end of Years 3, 4 and 5. These provide evidence of progress and attainment against year group expectations. Careful consideration of results provide the basis of discussion in progress meetings with the Headteacher.

At the end of the Early Years Foundation stage the early learning goals of Number and Shape, Space and Measure are assessed by the class teacher and results are forwarded to the RBWM Education Department.

Strategies for Recording and Reporting

Formal Summative Records

Formal summative assessment is carried out at the end of each National Curriculum Key Stage (Years 2 and 6) through the use of SATs and teacher assessment as well as the Optional SATs.

Reporting to Parents

Reports for parents are written based on the test scores and record of progress that each child achieves during a year. Reports are written in the Summer Term. Parents are sent a copy of the report and are given an opportunity to discuss their child's work.

Resources

In both Key Stages, basic resources are held in each classroom and phase area supplemented by centrally housed resources in larger, and more specific resources are kept in a designated cupboard for easier access.

Information and Communication Technology

Information and communication resources are used regularly by all children, for appropriate tasks. All children use computers. They are taught how to represent and analyse information. Computers are also used for modelling, practising skills, problem solving and investigating. The school has in place, Maths Whizz for whole class teaching in both

classroom and the ITC Suite aimed at assessing children’s ability in specific areas being taught at a given time and to promote child-centred learning which allows the child to revisit topics or mathematical concepts not fully understood or to extend their learning when confident in the basic material. Doodle Maths is designed to boost all learners; in addition, it is used to help slower learners through dedicated intervention time, it is available on all iPads.

Availability of Children’s Reading Books with a Mathematical Focus

A selection of reading books is available for children to read for their own pleasure. It is intended that these are also available for use during the Literacy Hour, thus creating cross-curricular links. Encouraging children to read and discuss both fiction and non-fiction mathematical books is considered of great importance in positively promoting mathematics and generating greater enthusiasm for the subject. It creates more opportunity for children to recognise mathematics in the world around them and further encourage them to realise that many activities they are familiar with, are actually based upon mathematical processes. Children in Years 3-6 have access to mathematical dictionaries.

Links with Other Policies

This policy is linked with the following policies:

- Calculation
- EYFS
- Science
- Geography

Health and Safety

Children are taught how to handle mathematical equipment correctly and are encouraged to work safely at all times.

Policy produced by: Sue Phillips – Maths Leader

Signed

Approved by.....

Signed.....

Chair/Headteacher/Other.....

To be reviewed.....October 2018.....