



IVY CHIMNEYS PRIMARY SCHOOL

MATHEMATICS POLICY

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IVY CHIMNEYS PRIMARY SCHOOL

Policy for Mathematics 2015-16

INTRODUCTION

This policy document is a statement of the aims, principles and strategies for the teaching and learning of Mathematics at Ivy Chimneys Primary School.

PRINCIPLES

Mathematics is a tool for everyday life. It is a whole network of concepts and relationships which provide a way of viewing and making sense of the world. It is used to analyse and communicate ideas and to tackle a range of practical tasks and real life problems.

Using the programmes of study from the National Curriculum, it is our aim to develop:

- A positive attitude towards mathematics by encouraging a fascination of mathematics as a subject
- Competence and confidence in mathematical knowledge, concepts, skills and how these are connected
- An ability to solve problems, to reason, to think logically and to work systematically and accurately
- An ability to work independently and in cooperation with others
- An ability to communicate mathematics
- An ability to use and apply mathematics across the curriculum and in real-life contexts
- An understanding of mathematics through a process of enquiry, experiment and reflection.

SCHOOL POLICY AND THE NATIONAL CURRICULUM

At foundation stage children are directed towards meeting their early learning goals in mathematical development. In KS1 and KS2 teachers use National Curriculum Programmes of Study for Mathematics.

Breadth of Study

Through careful planning and preparation we aim to ensure that throughout the school children are given regular opportunities to engage in:

- Practical activities, mathematical games and application of skills
- Problem solving
- Individual, group and whole class discussions and activities
- Open and closed tasks
- A range of methods of calculating e.g. mental, pencil and paper and using a calculator

Scheme of Work

At Ivy Chimneys our scheme of work is a working document and as such is composed of ongoing plans, in blocks of one or two weeks. This is developed from the National

Curriculum Programmes of Study for Maths and takes into consideration the needs of all our children.

Cross-Curricular Links

Throughout the whole curriculum, opportunities exist to extend and promote mathematics. Teachers seek to take advantage of all opportunities by, for example

- Counting dinosaur footprints and creating dinosaur patterns in the Foundation Stage
- Producing graphs of favourite fruits or measuring lengths when making puppets in Key Stage 1
- Recording results of freezing and melting experiments in Science in lower Key Stage 2
- Representing periods of time in History and producing line graphs to show temperature changes in Upper Key Stage 2.

Teachers' Planning and Organisation

Each class teacher is responsible for the mathematics in their class in consultation with phase leaders and with guidance from the mathematics team. Joint planning takes place in phase groups throughout the school.

The approach to the teaching of mathematics within the school is based on four key principles

- A mathematics lesson at least four times a week
- A clear focus on direct, instructional teaching and oral work with the whole class and/or groups
- An emphasis on mental calculation and efficient written methods
- Opportunities to apply learning in a variety of contexts

Each class organises daily lessons of between 45 and 60 minutes for mathematics.

Teachers may use a published scheme of work to support their planning of mathematics e.g. Hamilton for mixed age ranges, but this will be adapted for the needs of the children in individual classes.

Teachers of the Foundation classes base their teaching on objectives in the Framework for the Foundation Stage; this ensures that they are working towards 'Early Learning Goals for Mathematical Development'. Towards the end of Reception teachers aim to draw the elements of a daily mathematics lesson together so that by the time children move into Year 1 they are familiar with a 45-minute lesson. Children who have not met their early learning goals will continue to work towards them in Year 1.

Special Educational Needs

Children with SEN taught within the daily mathematics lesson will be provided with work that is appropriately differentiated, taking into consideration the needs of the individual. At times, it may be appropriate for children to work on objectives that are significantly different from their peers e.g. foundational concepts. This may entail small group work within, or outside of their usual classroom.

Gifted and Talented

Within the daily mathematics lesson teachers provide activities that provide appropriate challenges for children who are high attainers in mathematics. Children are invited to enter the annual Primary Maths challenge. Gifted and Talented master classes are held at St John's Secondary school for year 6 pupils and through the Local Delivery Group at the Zinc Arts Centre.

Equal Opportunities

We incorporate mathematics into a wide range of cross-curricular subjects and seek to take advantage of multi-cultural aspects of mathematics.

In the daily mathematics lesson we support children with an additional language in a variety of ways eg. repeating instructions, speaking clearly, emphasising key words, using picture clues, playing mathematical games, encouraging children to join in counting, chanting, finger games, rhymes.

Pupils' Records of Work

There are many occasions when it is quick, convenient and necessary to carry out written calculations. It is also important to record all aspects of mathematical investigations. Children are taught standard methods for recording their work and they are encouraged and helped to use the most appropriate and convenient method of recording (see calculations policy).

Children are also encouraged to use mental strategies where practical before resorting to a written algorithm.

Exercise books for Recording

It is the school policy that the following pattern is used:

- Foundation, Year 1 – most activities are practical. Any recording is informal, on white boards and in plain exercise books moving into squared books in Year 1.
- Year 1, 2 - 2cm squares
- Year 3, 4 - 1cm squares
- Year 5, 6 - 7mm squares

All children are encouraged to work tidily and neatly when recording their work, following the school's presentation rules. Pencil should be used at all times in maths work and rulers used to draw geometric shapes.

Marking

Effective marking takes place during maths lessons with immediate feedback where appropriate. In addition work is marked regularly by individual teachers. An indication of where an error has occurred is made, together with an explanation of what went wrong. Feed forward comments and individual challenges are also used to move children on.

Assessment and Record Keeping

Teachers are expected to make ongoing weekly informal assessments of each child's progress which are used to inform future planning. Target Tracker is used half-termly to assess the current 'step' children are working at, in terms of how far they are towards meeting the end-of-year expectations for their year group. Pupil progress meetings in phases each half term are used to identify children at risk of underachieving in Maths. Appropriate interventions are planned for these pupils to help close the gap. These may be small-group interventions, focusing on foundational concepts or targeted support in class.

Throughout Key Stage 1 practical observations are made of key areas. In Years 1-6, Rising Stars Progress Tests in Maths are used at four points during the year to assess progress towards end-of-year expectations and inform teacher planning for the next half-term. At the end of the year, the Target Tracker 'step' and gap analysis information for each child will be passed on to the next class teacher.

Children are expected to be involved in self-assessing their own attainment and progress using the year group objectives in the back of their maths books. In the younger years, this will be supported and modelled by the teacher. Children, with their teachers, select curriculum targets for each term, based on key areas for development. These targets are shared with parents.

Reporting to Parents

Termly Learning Conferences, involving the children and their parents, give children regular feedback on their progress, successes and areas for development. In addition to these, Year 5/6, Aim Higher meetings take place between Learning Conferences in the Autumn and Spring Terms.

Reports are completed before the end of the summer term and parents are given the opportunity to discuss their child's progress. Teachers use the information gathered from their ongoing assessments to help them comment on individual children's progress.

Parental Involvement

- Maths pre-teach sessions take place each week in Years 1/2, 3/4 & 5/6. These 35 minute sessions involve children and their parents. They prepare children for the key concepts that will be covered in the week ahead and allow parents to see the methods and strategies that will be taught in school
- An open evening is held once a year
- Parents are asked to support and take an interest in their children's homework tasks

Differentiation

This is incorporated into all mathematics lessons and can be achieved in various ways:

- Application tasks that are set at different levels of difficulty will always be presented using the 'Choose Your Challenge' format. These tasks will reflect teachers' high expectations of what pupils can achieve during the lesson. Children will be encouraged to access the learning objective by self-selecting a task that is at the right level of difficulty for them, in order that they stretch themselves
- Tasks which are open ended (for example investigations) may be differentiated by the degree of adult/peer support given, or the apparatus or resources provided.
- Extension activities will be available for all pupils in the class if they have completed the tasks set.

Assessment

Monitoring and Evaluation

The Maths Team and SLT carry out work scrutinies in a yearly rolling programme. The Maths Team review and evaluate the maths action plan and consider the training needs of the staff team. They take part in monitoring pupil voice relating to maths.

Staffing and Resources

Practical Resources

All teachers should organise an area within their classroom dedicated to mathematics resources. This area is easily accessible to all children and allows them to become familiar with all resources. Resources which are used less frequently are stored centrally. Mathematical displays in the classroom include large number lines and other relevant maths posters. Learning walls display the current unit of work with examples and illustrations to model success criteria.

The Governing Body

We have identified a Maths governor, who visits the school twice annually to review the maths action plan, data and observe maths being taught. This governor reports back to the curriculum committee.

Homework

It is our school policy to provide parents and carers with opportunities to work with their children at home. These activities may only be brief, but are valuable in promoting children's learning in mathematics. At Foundation level a termly newsletter is sent home with suggested activities linked to the topic.

From September 2015, children in KS1 and KS2 use the Mathletics program to complete their differentiated weekly homework, linked to the week's classwork. They have access to online concept dictionaries, themed questions in all the strands of maths (set to an age-appropriate level) and the "Live Mathletics' zone, where they can play timed arithmetic games against their peers, or other children from across the world. Children who do not have access to a computer attend a weekly club to complete their homework. Teachers monitor student's use of Mathletics and adapt the tasks set according to their results.