

# Village Infants School



## Mathematics Policy

This Policy was Agreed by the Governing Board on	4 Feb 16
The next Policy Review	4 Feb 17



# Village Infants School

## MATHEMATICS POLICY

Mathematics is the study of relationships in number, measures, space and data-handling and their application to solving problems in a variety of situations.

It provides children with a way of viewing and making sense of the world in which they live. Building on their own experience, it encourages thinking and reasoning skills, embraces natural curiosity and develops the confidence to tackle problems which arise not only in mathematics but other areas of the curriculum.

Document Adopted By Governing Body	
Date:	Jan 2015
Signed (Chair):	
Date:	Jan 2015
Print Name:	
Date of Next Review:	Jan 2016

### TEACHING AIMS

- To foster a positive attitude to maths for all children enabling them to approach mathematical activities with confidence, understanding and pleasure.

- To provide a curriculum which meets the needs of The Foundation Stage and KS1 of the National Curriculum, and the objectives of the Primary Framework for Mathematics.
- To provide a curriculum which is appropriate to the needs and learning styles of all children, and will develop enquiring, logical, investigative and problem solving approaches.
- To build upon and extend the children's previous experiences and ensure progression in the development of their understanding, knowledge and use of mathematical language.
- To inform parents of their child's progress and suggest ways they can support them in their learning.

### **MATHEMATICAL OBJECTIVES**

- Numerate children
- The ability to communicate mathematical ideas and concepts using appropriate language.
- Understanding of mathematical symbols and conventions including mathematical language.
- Appreciation of a range of recording methods.
- Ability to select and use a range of mathematical resources.
- The ability to apply what they have learnt in different situations.
- To value the process of enquiry as well as the answer and to appreciate that the definitive answer is not always possible.

### **PUPILS EXPERIENCES**

#### **Teaching approaches**

- At Village Infants School we believe that progression should be planned at an individual rate. Success is vital, but so is challenge, therefore we aim to ensure children are actively engaged both mentally and physically.
- Thus children will be given time to:-
  - use trial and adjustment approaches
  - undertake mental work
  - develop their own methods
  - discuss their methods with adults and other children.

#### **Making Connections**

- At Village Infants school we teach for understanding. In lessons we plan to link the following:

- Concrete (real physical objects eg: cubes, beanstrings, children, fingers, stones, board games, dice, Numicon/Cuisenaire etc.)
- Language (formal and abstract mathematical language, e.g. take away, subtract, equals, how many left?)
- Pictures (100 squares, number lines, number strips, sorting and matching diagrams, bar graphs.)
- Symbols (mathematical symbols, 1, 2, 3, + - = etc.)

From Haycock & Cockburn (2003)

## **EARLY YEARS**

In Early Years the organisation and management of mathematics lessons is tailored to meet the needs of the children who arrive from different settings eg. Nursery, playgroup etc, and therefore will have had different learning experiences.

The yearly teaching programme for Reception is in line with the Early Learning Goals and provides a bridge from the goals to the National Curriculum that begins in Year 1.

In Reception, a wide range of activities supports the teaching and learning of mathematics, including stories, songs, rhymes, imaginative play, board games and outdoor play. Over a week, the teaching of maths will include whole class activities eg. counting, discussion of main teaching objectives, group activities, and short plenary sessions. These are approached flexibly to accommodate the needs of the children.

## **KEY STAGE ONE**

We follow the four part lesson structure. It begins with a mental starter, teaching, consolidation and plenary. We used layered targets to ensure effective differentiation. We revisit objectives regularly and give the children opportunities to apply what they learnt in different situations.

Lessons involve the following:

- Counting, forwards, backwards in different steps.
- Mental and oral skills – quick recall and revisiting previous objectives.
- Sharing of objectives – in ‘child-speak’
- Review – including self-assessment using smiley faces. Children indicate how they felt they did.
- A balance of teacher and pupil talk.
- Use of models and images to support the learning.
- Opportunities for children to model what they know and be the teacher.
- Pupil activity – group, pair and individual work.
- Practical activities

- Progress and misconceptions are identified and next steps identified.

## **SCHEME OF WORK**

The Framework for Teaching Mathematics forms the basis for our Scheme of Work for Mathematics and its use ensures the progression in skills and concepts and full coverage of the National Curriculum Orders 2000. Use of elements of the Primary National Strategy for Mathematics ensures that areas of good practise from it are identified and used.

## **MARKING IN KEY STAGE ONE**

We are presently developing a marking system based on success and improvement. This involves smiley faces for self-assessment and a marking code which is the front of every child's book.

- yellow highlighter for achieved
- post-it comments about children's reasoning. Tell/write an improvement prompt to enable the child to close the gap between current and desired performance.

### **Marking Code**

u/a – unaided

w/h – with help

G/W – guided work

c – cubes/numicon

f – fingers

mm – mental methods

100 – 100 square

p/m – peer/partner marking

sh/m – shared marking

s/m – self marking

o/f - oral feedback

I – improvement

Ch – challenge

## **ASSESSMENT AND TARGET SETTING**

We use clouds to identify targets for the children and these go in the back of their books. In January 2015 we are introducing a list of 'I can...' statements to go in the front of Maths books. In Y1 these are linked to the new curriculum. Teachers will use these to inform planning and to identify children's individual targets. There are three levels, bronze, silver and gold. Gold is the expected level. We are producing a Platinum levels for Y2 for higher achievers.

## **RECORDING AND PRESENTATION**

Children should not be encouraged to move too quickly to written work. In the early stages mental, oral and practical work take precedence. As children develop, they are encouraged to record their work in a variety of ways, develop personal methods of recording, compare and discuss alternate methods, refine and practise useful methods. These will vary according to the type of activity. They may include symbolic, statistical, diagrammatic, pictorial, verbal reporting or the construction of a model. As children become more involved in investigative activities the onus is on them to decide the most appropriate methods of recording.

### **PLANNING**

The Nursery teacher plans on her own but involves the Nursery Team. All other teachers plan together.

**Long term** – Planning ensures coverage of the Early Learning Goals in the Foundation Stage. The Framework for mathematics has been used to plan the long term teaching of mathematics in Year 1 and Year 2.

**Medium term** – Half termly overviews are used throughout the school to plan children's mathematical development.

**Short term** – Detailed plans for each class showing mental and oral and lesson objectives, whole class teaching and differentiated independent and teacher focus group activities.

### **EQUAL OPPORTUNITIES**

In line with our equal opportunities policy we aim to provide a balanced mathematical education for all children irrespective of gender race or ability.

We will endeavour to use material which values the diversity of cultural and linguistic backgrounds.

### **SPECIAL EDUCATIONAL NEEDS**

Through our assessment procedures we aim to identify children with special needs to enable all children to achieve their full potential. Those children who are experiencing difficulties are given extra support either from the class teacher or through liaison with outside agencies, and those who are very able mathematically are provided with challenges and support.

### **CATCH-UP PROVISION**

In January this year we have started a Teacher Assistant catch-up programme called Championship Maths. This is for children who are underachieving and need additional support to reach the expected level.

## **GIFTED AND TALENTED**

Able children are challenged in mathematics through:

- Planning of particular activities to ensure progression and challenge within a lesson, including extension activities and with reference to the objectives of the next year group where applicable.
- Questions particularly directed at these children in whole class sessions.
- Assessments both formal and informal are reflected in planning.
- Number Club – this takes place fortnightly and is led by the class teachers.

## **EVERY CHILD MATTERS**

We support the Governments vision for Child Services through the teaching of Mathematics in school. We approach our teaching in order that children will be able to engage, enjoy and achieve. We aim to prepare them for further education and achieving economic well-being in the future.

## **SUBJECT LEADER'S ROLE**

- To work collaboratively with staff to promote continuity and progression.
- To attend relevant INSET courses, and encourage and support staff where possible.
- To organise staff training.
- Monitoring and organization of centrally held resources.
- Purchase of resources in consultation with staff.
- To facilitate the development of mathematics identified in the School Development Plan.
- To review Maths Policy periodically.

## **AREAS FOR DEVELOPMENT**

- To embed Championship Maths and implement in Y1 Spring 2015.
- To review resources and minimum kit in each classroom, including displays.
- To develop an effective way of sharing assessment from Early Years to KS1.
- To identify and train a new Maths Subject Leader
- To ensure all teachers are teaching the new curriculum – Y2 from September 2015.
- To investigate the possibility of bringing in a commercial scheme that is linked to the new curriculum to help ensure continuity and progression across the school.