

ABBEY PRIMARY SCHOOL POLICY STATEMENT FOR MATHEMATICS

THE NATURE OF MATHEMATICS

Mathematics is a system that investigates the relationship between numbers and other variable properties, e.g. shape and space, thereby revealing patterns from which general principles can be derived. It often involves the manipulation of abstract representation of objects by means of symbols. Proficiency in mathematics calls for the development of particular thinking and operational skills that can often be applied to solving problems.

AIMS

In order to achieve this proficiency, our aims for teaching maths should be to develop in the children :-

- i) a positive attitude to mathematics as an interesting and attractive subject
- ii) an awareness of its creative aspects and an awareness of its aesthetic appeal
- iii) an ability to work systematically and to use learned strategies to work out number problems **N.B. The numerate child uses strategies.**
- iv) an understanding of mathematics through a process of enquiry and experiment.
What happens if...?
- v) an appreciation of mathematical pattern and the ability to identify relationships
- vi) an appreciation of the nature and use of number
- vii) mathematical skills and knowledge accompanied by the quick recall of basic facts
- viii) an awareness of the uses of mathematics in the world beyond the classroom
- ix) persistence, through sustained work in maths which requires some perseverance over a period of time
- x) an ability to talk and write about their mathematics clearly and effectively with attention to speaking and listening, writing and reading skills
- xi) their information technology capability where appropriate eg. use of data bases, Logo, and to apply it
- xii) interactive skills so that they can work co-operatively on an activity that may have more than one outcome for the whole group
- xiii) an investigational, problem solving approach which allows for differentiation by outcome and which can be useful for assessment
- xiv) decision making skills relating to:

- the mathematics that needs to be used
- the resources they need to use
- how they will record their work

Aims ii) and ix) will play a part in the development of the whole child and be of use in other situations both in and out of school.

The listed aims are consistent with The Primary Framework for mathematics.

Breadth of Study

Through planning and preparation we aim to ensure that throughout the school children are given opportunities for:

- Practical activities and maths games
- Problem solving
- Individual, group and whole class discussions and activities
- Open and closed tasks
- A range of methods of calculation – e.g. mental, pencil & paper and using a calculator
- Working with computers as a mathematical tools

Scheme of Work

Our scheme of work is based on ongoing termly plans devised from the Primary Framework. Teachers create their own weekly/daily plans taking into consideration the needs of the children.

Cross-curricular Links

Throughout the whole curriculum opportunities exist to extend and promote maths. Teachers seek to take advantage of all opportunities to demonstrate what an essential tool mathematics is and how it presents itself to us in many aspects of our daily lives as well as in our studies.

Organisation and Planning

Each teacher is responsible for the maths taught in their class while referring to the Primary Framework and National Curriculum and taking into consideration the needs of the children.

The approach to teaching recommended by the Primary Framework is based on four key principles:

- a dedicated maths lessons every day;
- direct teaching and interactive oral work with the whole class and groups;

- an emphasis on mental calculation;
- controlled differentiation, with all pupils engaged in mathematics relating to a common theme.

A typical 45 to 60 minute lesson in Years 1 to 6 will be structured like this:

- **oral work and mental calculation** (about 5 to 10 minutes)
whole-class work to rehearse, sharpen and develop mental and oral skills
- **the main teaching activity** (about 30 to 40 minutes)
Teaching input and pupil activities
Work as a whole class, in groups, in pairs or as individuals
- **a plenary** to round off the lesson (about 10 to 15 minutes)
Work with the whole class to sort out misconceptions and identify progress; to summarise key facts and ideas and what to remember; to make links to other work and discuss the next steps or to set work to do at home.

However, the timings of different parts of the lesson should be used in a flexible way in order to fit the purposes of the intended focus for learning.

Special Educational Needs

Class teachers identify children with SEN through consultation with previous teachers; results in National Tests and/or from children's responses in class. In the case of children with special needs, the following steps are taken in addition to the differentiation within the class maths lessons:

- Basic skills groups (Years 3, 4, 5 and 6)
- Booster classes are held for Year 6 pupils identified as needing extra tuition to secure Level 4 in SATs.
- 1:1 after school tuition for children in Year 6.
- Short term targets are identified on IEPs for children to aim at achieving.
- Parents are informed of children's areas of difficulty and suggestions made by the class teacher about how they can help their children at home if appropriate.

Children who are gifted and talented in the area of mathematics are also given work appropriate to their level in order to ensure their continued motivation and learning. In addition, the following provision is made for mathematically able pupils:

- The LA Primary Strategy Team holds weekends of challenging activities.

- Gifted and talented maths days/afternoons organised by the local secondary school and private schools.

Assessing and Recording Pupils' Progress

- Teacher assessment goes on continually in the classroom. Teachers need to be aware of the range of mathematical ability within their classes and to use this knowledge to influence the level of questioning directed at particular pupils. High teacher expectation and plenty of praise can raise self esteem as well as children's own personal expectations.
- S.A.Ts. are administered to Year 2 and Year 6 pupils in May and results reported to parents with the annual School Report in July. The Year 2 SAT results are used to inform planning for Year 3 and the Year 6 results are passed on to the relevant secondary schools as part of the primary/secondary liaison.
- The Year 3, 4 and 5 tests from the Qualifications and Curriculum Authority (QCA) are also completed in May each year. Results are used along side teacher assessment to track pupil progress and to inform future planning.
- The EYFS Profile informs planning for the Reception teacher.
- APP is used in each class with 5 or 6 pupils of different abilities being tracked.
- An individual Mathematics Record is kept in each child's Record of Achievement. This is filled in annually and follows the children up through the school.
- Staff use Pupil Tracker to record children's progress and identify targets. This is filled in termly and parents receive a copy of their child's targets.
- Staff will make additional use of children's past attainment to predict the levels they might be expected to achieve at the end of the school year. Performance each term will confirm or alter the teachers' predictions.

Inclusion

It is our stated aim at The Abbey School that no child should be disadvantaged in his/her learning of maths by language/ethnic background and that we shall do all in our power to enable the mathematical learning of all the children in our school.

Pupils' Record of their Work

Mathematics can be recorded in many forms and teachers should feel able to give scope to their own and their pupils' imaginations, but for the purposes of day to day work, we might aim for the following uniformity:-

Key Stage 1

- initially on plain paper/exercise book/work sheet
- progressing to 15mm squares for number recording as and when pencil control makes it practical and in Y1
- 1cm squared exercise books in Y2

Key Stage 2

- 1cm squared paper/exercise books.

Marking

Regular marking of children's work is essential for ongoing teacher assessment of pupil understanding and in order that children are equally aware of their progress. Ideally, mistakes are discussed and re-calculated in order to lead to a clear understanding. When appropriate, Children are encouraged to assess their own work.

Resources

All classrooms are equipped with appropriate resources for at least the teaching of number. Less frequently used materials e.g. shapes and measuring equipment are stored in the maths cupboard.

I.C.T.

Each class is equipped with an interactive whiteboard and has access to the internet and school intranet. Ipads are also available and can be used by a group of children during maths lessons. Teachers use these resources on a regular basis to practise number skills and aid the teaching of other areas of the mathematics curriculum, such as handling data.

Homework and Parental Involvement

Maths is an area in which most parents are eager to see their children do well, but in which many feel insecure themselves. In KS 1, homework is seen as opportunities for parents and children to recognise the mathematics in everyday situations and to use a practical, fun approach as in the playing of games; practical money experiences; actually looking at the times of various events that mark the children's day; looking for numbers, shapes and patterns when they are out and about.

Maths is given on a weekly basis as homework in KS 2 and children are encouraged to keep up the practice of the multiplication tables. Children are encouraged to discuss their work with their parents in order to keep parents in touch with what their children are doing in school; allowing parents to gauge their children's understanding and, often, to discuss any area of difficulty with the teacher.

As well as such informal meetings, parents are given the opportunity to discuss their children's progress and targets in mathematics once every term. The year's

achievements together with suggested areas for improvement, are recorded in the end of year report to parents.

Monitoring and Evaluation

The co-ordinator reviews mathematics planning on a termly basis, which is stored on the school intranet and children's recorded work is monitored periodically.

This policy has been read and approved by staff and will be reviewed in December 2014.