

Edinburgh Primary School

Mathematics policy

Introduction

The purpose of this policy is to outline the rationale, nature and management of mathematics teaching and learning at Edinburgh Primary School. Implementation of this policy is the responsibility of all staff and will be overseen and monitored by the numeracy leaders and senior leadership team.

Aims

Mathematics is a language of communication that needs to be explicitly taught and practised in a variety of contexts in order to develop the confidence and proficiency of learners. It requires an understanding of the number system as well as calculation methods, strategies for problem solving and practical experience of measurement and data handling activities.

Our aims in teaching mathematics are that all children will:

- become numerate and tackle mathematical problems with confidence
- develop the skills which are needed to meet the demands of adult life
- develop the ability to think logically and clearly
- use mathematical language effectively and confidently
- develop positive attitudes to mathematics, recognising that mathematics can be both useful and enjoyable
- be able to use and apply the skills in other curricular areas.

Mathematics Environment/ resources

Each class in the school has a designated numeracy area where current topics of work or learning aides are displayed. This area should have a strong focus on language as well as visual strategies to support mathematical learning. Eye catching, interactive displays are encouraged.

In KS2 classes, in particular, the mathematics area may be in the form of a working wall.

General, everyday resources such as bead strings, 100 squares, number fans and counters are kept in classes or shared year group areas. Larger resources such as trundle wheels, metre measuring sticks, scales and capacity equipment are kept in the PPA room off of the staffroom or the room leading to the music room and should be returned there after use. There is a signing in/out board on the inside of the cupboard.

Organisation and teaching of mathematics

In KS1 and KS2, mathematics lessons generally take place in the morning for between **45 to 60 minutes**. All maths lessons are taught in mixed ability classes.

Lessons in mathematics are taught with a largely group teaching focus. They consist of a mental and oral starter followed by two focused group sessions broken up by a mini plenary (pause for thought) in the middle of the session. Each lesson includes direct teaching activities with focus groups, as well as interactive or practical activities that require the involvement of all pupils. During focused group teaching time, teachers (and teaching assistants) work on specific targets linked to end of year expectations that are differentiated accordingly. Occasionally teachers may choose to be flexible with the structure of lessons and teach whole class though this should be infrequent as it does not allow for differentiation as easily.

Where possible, links are made with other areas of the curriculum.

Planning

EYFS sessions are planned using Numicon resources in conjunction with the Foundation Stage age band expectations.

In Year 1, Numicon is used to deliver all maths activities and links to the school's target system are explicitly identified in order to track progress through end of year expectations.

For years 2 to 6, key learning objectives are taken from the End of Year Expectations in the 2014 National Curriculum. Each expectation is broken down into steps on the unit overview using the Focus Education 'Step up to the challenge' booklets so that children can access and make progress towards the expectation at their own level. Differentiation is planned for in this way.

Problem solving and investigative approaches are part of all learning and there should be at least one specific application session for all children every week in order to develop skills and make sure that children are secure in their understanding.

Regular mathematical activities, such as Mathletics, are planned which include the use of ICT.

Teaching sessions can be planned on the school format or on flipcharts, showing clear learning objectives and success criteria, where relevant. Where flipcharts only are used, there should be a teacher information page with vocabulary, targets and key questions evident.

Mental maths starter sessions are planned as a two week rolling program on a separate format/ flipchart. The rolling program is reviewed and changed at least half termly and includes predominantly number targets that the class is currently working on.

In addition, each class has introduced extra counting/ basic skills sessions at least 3x a week to develop fluency and rapid recall of key facts.

Teachers evaluate lessons and adapt following work to address the needs of the pupils in their class, specifically using the target sheets as a guide.

At the beginning of each topic there is a cold task to assess children's starting points. This is followed up with an identical hot task at the end of the unit to show progress. These should be on blue and yellow paper respectively and stuck into children's books.

Pupils records of their work

There are occasions when it is not necessary to record mathematics in a permanent form, but there are also occasions when it is both quick and convenient to carry out written calculations. It is also important to record aspects of mathematical investigations. Children are taught a variety of methods for recording their work and they are encouraged and helped to use the most appropriate and convenient method of recording.

Children are encouraged to use mental strategies before resorting to a written strategy.

Recording work may involve children making rough jottings first followed by recording actual answers for the teacher's attention. All children are encouraged to work tidily and neatly following the school's presentation policy.

Any recording for mathematics should be done **in the book** assigned and there should be few, if any, worksheets evidenced, particularly from Year 2 onwards. At times, photographs of practical mathematics activities (see safeguarding policy), accompanied by notes related to task and support, may serve as recording.

Marking

Work in mathematics can generate a great deal of marking and it is recognised that it is not always necessary to mark every piece of work in detail. Teachers should adhere to the **school marking policy** when marking maths work; however an indication should be given as to next steps or worked examples shown to correct errors.

The children can sometimes mark exercises with support and guidance from the teacher however this should not be the main form of marking used. Where appropriate, children in KS2 may be encouraged to check computational exercises with a calculator. This can foster independence in the children, who can seek help if they are unable to locate and correct their errors

Homework

See homework policy.

Assessment

Children at Edinburgh are assessed in mathematics using target criteria throughout the year.

Target sheets showing the end of year expectations are kept in the front of children's books.

Teachers identify 3-4 focus targets for each child/ group, though any targets may be worked on at any time. When progress towards an expectation has been evidenced, either in a child's book or as teacher observation, a date is recorded on the sheet under the correct step's column (linked to Step up to the challenge booklet). When the skill has been judged as secure (this involves being able to apply the skill in a range of contexts), the target is highlighted across in green to show that the expectation has been achieved. Children, particularly in Key Stage 2 are encouraged to take responsibility for their learning and record in their books when they think that they have shown evidence for a particular target.

Children in Key Stage 2 are also tested using testbase materials in February and at the end of each year for years 3 to 5, while mock tests are sat 3 times a year in Year 6 in preparation for end of key stage SATs. Year 2 children undertake KS1 SATs activities in the summer term.

Management

Role of the mathematics leaders

- Teach/team teach demonstration lessons;
- Ensure teachers are familiar with the planning strategies and help them to plan lessons that develop and challenge the skills of all learners;
- Lead by example in the way they teach in their own classroom;
- Ensure that mathematics remains a high profile in the school's development work;
- Prepare, organise and lead INSET
- Observe colleagues from time to time with a view to identifying the support they need;
- Order and organise resources (identified by staff members) required for the effective teaching of mathematics;
- Inform parents of strategies used in school;
- Discuss regularly with the head teacher and mathematics governor the progress of implementing the mathematics in the school.

Written by Amanda Goodwin November 2012

Reviewed by Amanda Spencer July 2015

Reviewed by Amanda Spencer October 2016