MATHS POLICY

Eureka Primary School

	Date	Minute No.	
Approved by Governors	July 2017		
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Eureka Primary School Maths Policy

INTRODUCTION:

This policy outlines the teaching and learning of mathematics at Eureka Primary School. The schools policy for mathematics is based on 'The 2014 National Curriculum' from Foundation Stage to Year 6. The implementation of this policy is the responsibility of all the teaching staff.

THE NATURE OF MATHEMATICS:

Mathematics is a creative and highly inter-connected discipline that has been developed over centuries, providing the solution to some of history's most intriguing problems. It is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment. A high-quality mathematics education therefore provides a foundation for understanding the world, the ability to reason mathematically, an appreciation of the beauty and power of mathematics, and a sense of enjoyment and curiosity about the subject. (National Curriculum 2014) The purpose of mathematics in our school is to develop: - a positive attitude towards mathematics and an awareness of the relevance of mathematics in the real world - competence and confidence in mathematical knowledge, concepts and skills - an ability to solve problems, to reason, to think logically and to work systematically and accurately. - initiative and an ability to work both 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 - an understanding of mathematics through a process of enquiry and experiment.

AIMS:

The national curriculum for mathematics aims to ensure that all pupils:

- become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils have conceptual understanding and are able to recall and apply their knowledge rapidly and accurately to problems, which ends in a formal method of calculation as set out in the Eureka's Calculation policy.
- reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language, practical activities, group and whole class discussions, open and closed tasks.
- can solve problems by applying their mathematics to a variety of routine and non- routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions e.g. through using the Singapore Bar Method.
- Through our creative curriculum approach we also seek to explore and utilise further opportunities to use and apply mathematics across all subject areas.

TEACHING AND LEARNING:

The curriculum will be delivered through the implementation of 'The 2014 National Curriculum' in both discrete lessons and through other subjects areas where appropriate. Teachers should teach numeracy every day through a discrete numeracy lesson, generally lasting between 45 and 60 minutes. This time will vary according to age group. However, where appropriate, some numeracy lessons may be taught in a cross curricular manner. This may either be in addition to the children's daily lesson or occasionally it may replace it. The expectation is that the majority of pupils will move through the programmes of study at broadly the same pace. However, decisions about when to progress should always be based on the security of pupils' understanding and their readiness to progress to the next stage. Pupils who grasp concepts rapidly should be challenged through being offered rich and sophisticated problems before any acceleration through new content. Those who are not sufficiently fluent with earlier material should consolidate their understanding, including through additional practice, before moving on. Lessons should:

- provide opportunities to practice mental calculation and for children to orally explain their methods and strategies
- have clear focus; children should be aware of the lesson objective (s) based upon the Objectives for the specific Year group, unless they have specific educational needs (SEN).
- be interactive and incorporate all learning styles
- include both teaching input and pupil activities and a balance between whole class, grouped, paired and individual work
- a weekly arithmetic test is given based on the year group the child is in and misconceptions addressed from this to inform future planning
- include a mental starter which reinforces learning from previous objectives, addresses misconceptions from previous learning or building upon future learning taking place in the main lesson.
- include a plenary which involves work with the whole class to address misconceptions, identity progress, to summarise key facts and ideas and what to remember, to make links to other work and to discuss next steps.
- be enjoyable and relevant, making links to previous learning and objectives covered.
- work is marked in line with the School's 'Marking Policy' and developmental marking is given to extend learning twice a week using a range of different questions such as: find the missing number, which is the odd one out?, what is the same/ different?
- pupils should be given opportunities to develop their skills, reasoning and problem-solving abilities

PLANNING:

Lessons are planned weekly using an agreed whole school planning format. Teaching should focus on calculation for most of the week and sufficient time should be given to allow pupils to consolidate a deep understanding of each concept. Weekly plans are saved on the school server. Work in mathematics will be sufficiently differentiated to enable all children to make effective progress. Work in mathematics will show the different activities being carried out by each year group in the mixed aged class. Furthermore, planning will show TA (teaching assistant) deployment with the specific guided group. EYFS planning is based on Development Matters and the Early Learning Goals (Number, Shape Space & Measure). Teachers of the EYFS ensure the children learn through a mixture of adult led activities and child initiated activities both inside and outside of the classroom. As the majority of pupils will be moving through the curriculum at the same pace, it is expected that planning will show:

- Children being supported to access the programmes of study through adult support or appropriate resourcing
- Provision for those with exceptional Special Educational Needs
- Opportunities for children to develop their reasoning and problem-solving abilities
- Use of ICT and other resources (including concrete resources to aid learning)

Homework:

This will be set in accordance with the Homework Policy.

Use of ICT:

The effective use of ICT can enhance the teaching & learning of mathematics when used appropriately. When considering its use we take into account the following points:

- ICT should be used in lessons only if it supports good practice in teaching mathematics
- Any decisions about using ICT in a particular lesson or sequencing lessons must be directly related to the teaching and learning objectives for those lessons.
- ICT should be used if the teacher and/or the children can achieve something more effectively with it than without it.

The role of TAs and other adults:
Teaching Assistants need to know the teacher's objectives for the children's mathematics learning and the learning objectives that have been set for individuals or groups of children. Teaching Assistants may observe, join in children's play, support groups or individuals and provide valuable feedback to the teacher. Teaching Assistants are also advised to give children verbal feedback and encouragement as well as indicate the level of support given with each child in their books (see Marking Policy). Many mathematical interventions require TAs to teach specific objectives and these will be discussed with the SENTA regarding appropriate intervention methods.

ASSESSMENT:
At Eureka Primary School we are continually assessing our pupils and recording their progress. We see assessment as an integral part of the teaching process and endeavour to make our assessment purposeful, allowing us to match the correct level of work to the needs of the pupils, thus benefiting the pupils and ensuring progress. Assessment will take place at three connected levels: short term, medium term and long term. These assessments will be used to inform teaching in a continuous cycle of planning, teaching and assessment.
Short Term Assessment will be an informal part of every lesson to check understanding and to give the teacher information, which will help to adjust day to day lesson plans. Teachers will mark children's work, addressing misconceptions and giving next steps as appropriate. Teacher's will also use AfL (assessment for learning) and make notes on planning to inform their future planning and assessment. Pupils will be expected to respond to marking.

Medium Term Assessment will take place at the beginning and end of each set of objectives using HeadStart maths. To show progression, Test A informs teachers of formative data at the beginning of the unit, whereas Test B gives summative data. As well as this, PUMA assessment tests will take place the first week of each full term (Autumn, Spring and Summer) to use as a baseline assessment and tracking the progression through the year. Assessment collecting then takes place six times a year in the form of data submission, and/ or work scrutinies. Progress of children will be tracked using the appropriate Year Group objectives and inputted onto O-Track and Class Track. Class teachers will identify children who are below their expected progress and set up appropriate intervention.

Long Term Assessments will take place towards the end of the school year to assess and review pupils' progress and attainment. These will be made through compulsory National Curriculum Mathematics test for pupils in year 2 and 6 and supplemented by the optional tests for years 3 – 5. Teachers will also draw upon their class upon individual NC objective records and supplementary notes and knowledge about their class to produce a summative record i.e. end of year report. This report will then be given to parents and key points discussed with the child's next teacher.

Self and Peer Assessment - where possible, children should be involved in assessing their own and their peer's work; this might include a smiley face to indicate how well they have accomplished the learning objective.

TARGETS

Each child is encouraged to be aware of the objectives they are working on. Classes will display the relevant set of Year Group Objectives and pupils will have these in their books. Teachers will give children targets through next steps.

MARKING

Work is marked regularly using the schools 'Marking Policy' and pupils are given clear guidance on how to improve either verbally or in written format. There should be evidence that the children are given time to work on their next steps.

EQUALITY

Maths is taught in line with the school's 'Equality Duties'.

SPECIAL EDUCATION NEEDS

Children who require additional support are identified on the teachers' numeracy plans. Needs for these children are met through differentiated activities and adult support when appropriate, and in some cases previous year's objectives are taught instead. This can take place both during the numeracy lesson and through an additional intervention. Where possible, all children will access the relevant Year Group lessons, with support. Where required, children's IEPs incorporate suitable objectives from the New National Curriculum for Mathematics or Development Matters and teachers keep these objectives in mind when planning work.

MONITORING AND EVALUATION

Monitoring of the standards of children's work and of quality of teaching in mathematics is the responsibility of the SLT, supported by the subject leaders and governors. The numeracy subject leaders will attend regular network meetings, monitor pupils' books, talk to pupils and observe classroom practice through learning walks. In addition, the work of the subject leaders involves supporting colleagues in the teaching of mathematics and informing teachers about current developments in the subject.

GOVERNORS

Governors will monitor the implementation of the maths policy through its Curriculum Committee receiving regular reports on the curriculum from the school's senior leadership team. Link governor visits will also include maths lessons as part of their visits.

RESOURCES

There are a range of resources to support the teaching of mathematics across the school. All classrooms have a wide range of appropriate apparatus and additional equipment is stored in the mathematics resource area e.g. Base 10, Cuisenaire rods, numicon, blank number lines, counters.

A range of software is available to support maths work e.g. RM Easimaths. Teachers are encouraged to use materials from the nrich, White Rose and NCETM sites.