The Blake CE (A) Primary School

Maths Policy

" Mathematics is essential to everyday life, critical to science, technology and engineering and necessary for financial literacy….. A high quality maths 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 of the subject." National Curriculum 2014

Introduction

This document is a statement of the aims, principles and strategies for the teaching of maths at The Blake Primary School. It should be read in conjunction with other related school policies, including the Calculation policy.

Aims

At the Blake Primary School our aims for the teaching and learning of mathematics are founded on a belief that ALL children should have equality of access to the provision of a high quality curriculum which will:

- ✓ Foster interest and increase confidence and enjoyment of mathematics.
- ✓ Extend each child to their fullest potential, building on previous experiences and recognising individual capabilities.
- ✓ Enable children to achieve a high standard in calculation and mental fact recall with the ability to apply these skills with confidence and understanding when solving problems.
- ✓ Provide opportunities to apply mathematical learning in everyday situations and enable children to use and apply their knowledge in the world outside.
- ✓ Enable children to have a sense of the size of a number and where it fits in the number system and know by heart number facts such as number bonds, multiplication facts, doubles and halves.
- ✓ Enable children to calculate accurately and efficiently, both mentally and with jottings and written methods, drawing on a range of calculation strategies and understanding of the required operations.
- ✓ Encourage children to talk mathematically when explaining their methods and reasoning
    - ✓ to develop their mathematical vocabulary using the correct terms and to judge whether their answers are reasonable using estimation and strategies for checking them.
    - ✓ Present a mathematical justification, argument or proof for their answers alongside a robust attitude to encourage perseverance and risk taking

✓ Enable children to make effective use of equipment such as number lines, numicon, number squares and calculators to support them in their learning and in building models and images of number relationships.

✓ Provide contextual challenges, in words and digits, which span the whole application of mathematics, including the use of statistics, geometry and measures.

✓ To provide opportunities for children to make use of computing to support their learning of maths and as a tool in everyday life for problem solving, and handling statistics

Organisation

Best practice for Maths planning follows the guidance of the Renewed Primary Framework for Mathematics and covers the appropriate units for each year group. This will alter throughout the year 2013-14 in order to implement the new maths curriculum by September 2014.

Teachers are expected to use a wide range of approaches and resources to support the children's progress and learning. Teachers are expected to write weekly plans which include focussed teaching and learning objectives for each day, appropriate vocabulary, key questions and differentiation. Maths is taught through a daily maths lesson with a specific learning focus that is shared with the children at the start of the lesson.

The daily maths lesson will include:

 A mental and oral starter, which can include counting, pattern or revision of key facts.

 A main teaching activity which includes direct teaching through demonstrating, modelling and discussion and an opportunity to practice and refine newly acquired skills. Teachers use a variety of visual, aural and kinaesthetic resources and mathematical language to promote understanding and good progress

 A plenary/mini plenaries – which reinforces the children's learning and highlights next steps.

Within each part of the maths lesson, there is suitable differentiation to meet the needs of the whole class, including groups, underachieving children and children exceeding expectations. Teachers and TA's should employ a range of strategies to ensure inclusion. Children are encouraged to make use of appropriate equipment to support their learning and are given easy access to suitable materials. The children are provided with models and images within maths lessons to help them understand key concepts. They are also encouraged to use the correct mathematical language and to share and discuss their knowledge and understanding.

As well as the daily maths lesson, children are given opportunities to consolidate their learning through additional mental maths practice at other times within the school day as appropriate (eg start the day activities) .

Assessment

Children are actively encouraged to participate in self-assessment of their progress in mathematics.

- Assessment for Learning: This is carried out during each lesson and includes a range of strategies which enable the teacher to assess children's understanding of the lessons objectives and informs next steps
- Short term assessments, in the form of observations, questions and answers takes place during each lesson and the evaluation and marking of children's work soon afterwards. Any evaluations from this are used to inform short and medium term planning. A self-evaluation system allows children to self-assess at the beginning and end of a lesson.
- At the beginning and end of the academic year, children in KS2 complete an optional SATS test to provide a summative assessment of their progress at these key times. Years 2 and 6 monitor and assess more regularly throughout the year. This information is used to help track children's progress and identify children who are at risk of not meeting age related expectations or not those who are not making good progress.
- On-going assessment for each child is recorded using 'I can' statements linked to levels and age related expectations in the back of the maths books. These are updated on a weekly or end of unit basis. They inform mid-year assessments along with other teacher assessment tools.
- End of Key Stage Sats are undertaken by children in Years 2 and 6

Special Educational Needs

Children who have been identified as having barriers to learning maths may have these specified on I.E.Ps and will be given appropriate targets to help support their progress. Appropriate support is provided with the aid of resources and activities which match the learner's needs and Teachers may work closely with them in small guided groups, whole class or one to one situations. For further information refer to the Special Needs Policy.

Children's recording

We place great emphasis in our teaching of mathematics on the importance of discussion and the development of thinking and reasoning skills. Children will be actively encouraged to use diagrams, jottings, written methods and verbal explanations to support and show their own thinking. This will include the development of drawings, jottings, empty number lines and informal methods on route to the use of efficient methods for the four operations. They will be encouraged to record what equipment or strategy they used or found helpful.

As children progress through the school, they will be encouraged to use a range of recording formats. Children will date all work and will begin with the stated learning focus. They are encouraged to be neat and organised in layout to help make the methods they are using clear to them. They will be expected to self-assess at the end of the lesson using smiley faces by the learning focus or another method used in their year group. We plan for opportunities to extend and enhance the children's learning based upon the Using and Applying skills of the Renewed Primary Framework and real life situations.

Display

All classrooms should have a maths display including a working wall to show:

- children's achievement
- questions to promote mathematical thinking

- key vocabulary
- models and images to support children's learning

Early Years will display children's work and resources as part of their topic work.
All displays should be used as an integral part of teaching and supporting children during lessons.

Marking
Teachers will assess the children's learning against the learning focus and highlight it using the appropriate colour. Comments may include next steps or questions to further develop mathematical thinking. See Marking Policy for further details.

Resources
As an Every Child Counts school we recognise the importance of children having the skills and confidence to make use of mathematical tools and equipment to support their learning and to build the development of their mathematical understanding. Children have access to key mathematical equipment in the classroom including number squares, numicon, place value charts and number lines and tracks. Children are also taught to decide where the use of a calculator is appropriate as a method for calculating, and calculators are readily available for appropriate work in Upper KS2.

Other equipment is kept in year groups or year group pairs so that it is readily available. Resources are monitored by the Maths Subject Leader who is responsible for purchasing equipment in order of priority.

Home Learning : See relevant policy.
Parental/Carer Involvement:
Parents and carers will be kept informed of children's achievements and next steps through reports and parent consultation evenings. A booklet will be issued to parents when the new curriculum is finalised which outlines the key calculation methods and progression that the children are taught in school. This is aimed at supporting parents in helping their children at home. In addition, maths evenings will be held to advise parents on how maths is taught at school and how they can best help their children at home. With the development of number bags in KS1 parents have the opportunity to play number games linked to age related expectations in order to embed and develop their child's number sense. Parental involvement is seen as crucial to success at school.

The role of the Subject Leaders:
The mathematics Subject Leaders will work closely with teaching staff, teaching assistants, the SLT and governors to plan for and sustain improvement in the teaching and learning of mathematics.

The Subject Leaders will:
- Lead staff development using their expertise with INSET, staff meetings, support and advice.
- Take the lead in policy development and ensure progression and continuity in mathematics throughout the school.

- Support colleagues in their development of teaching plans and in assessment and record keeping activities.
- Monitor progress in mathematics and advise the headteacher , Senco and MAGT co-ordinator on action needed.
- Take the responsibility for the purchase and organisation of mathematical resources.
- Keep up to date with developments in mathematics education and disseminate information to colleagues as appropriate.