



Blossomfield Infant & Nursery School

Maths Policy

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Intent of Curriculum

This policy contributes towards the fulfilment of Blossomfield's Curriculum intent.

At Blossomfield we endeavour to push the boundaries of children's experiences and learning to;

- *Inspire children within a creative context.*
- *Create well-rounded individuals who are enabled, through hard work, to excel.*
- *Give our children the tools to become independent thinkers, learners and communicators.*
- *Have the freedom and autonomy to learn and teach in different ways.*
- *Ultimately to be life-long learners.*

We believe that we have a responsibility to lay strong foundations that will enable children to be ready for the next stage of their educational career. We subscribe to the assertion made by the DFE in their national curriculum in England document 2014, which states that;

The curriculum should provide pupils with an introduction to the essential knowledge that they need to be educated citizens. It introduces pupils to the best that has been thought and said; and helps engender an appreciation of human creativity and achievement'. (DFE - The national curriculum in England 2014)

In designing our curriculum we have considered our school community values and the 5 ways to wellbeing, which scientific studies have shown increase happiness and emotional health and wellbeing.

We therefore strive to give the children a broad and balanced curriculum that encompasses key knowledge with tangible learning experiences that encourage them to have high aspirations, take managed risks and develop resilience and good character.

This policy outlines the teaching, organisation and management of Mathematics at Blossomfield Infant School. It has been written in consultation with Teaching staff and Senior Leaders

Maths Intent

At Blossomfield Infant School we endeavour to provide an engaging mathematics education that enables our children to:

- Become fluent mathematicians who are confident to recall and apply knowledge rapidly.*
- Acquire the mathematical vocabulary needed in order to effectively communicate their understanding and develop their ability to reason mathematically.*
- Become independent problem solvers who take risks and persevere with challenges.*
- Make connections across mathematical concepts and apply their mathematical knowledge to other subjects. e.g. Science*
- Enjoy maths and experience success.*

Implementation of Curriculum

1. Curriculum for Mathematics at Blossomfield

Knowledge Skills and Understanding

Nursery and Reception teachers plan for the objectives from the Early Years Foundation Stage Statutory Framework to be taught, in particular from the Early Learning Goal of Mathematics.

KS1 teachers plan for the objectives from the Primary Curriculum (2014) to be taught. Teachers ensure the 3 aims of the Primary Curriculum are central to sequences of lessons. These aims are:

- Problem Solving
- Reasoning
- Fluency

We aim for children to develop a positive attitude toward and sense of excitement about mathematics and support them as they progress to abstract recording, with carefully planned use of concrete materials, pictorial representations and a culture of enquiry and investigation. Children will be given opportunity to develop reasoning and problem solving skills through structured teaching sessions, and then given time to apply these skills in their day to day maths lessons.

Breadth of Study

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

- practical activities and mathematical games
- problem solving and using and applying their skills

- individual, group and whole class discussions and activities
- open and closed tasks
- a range of methods of calculating
- opportunity to deepen and make connections between their learning
- application of mathematics skills in other curriculum areas and a range of real life contexts.

2. Organisation of Mathematics at Blossomfield

Mathematics Lessons

In Key stage 1, all pupils have a minimum of four mathematics lessons each week that are taught in the mornings. Pupils in the Early Years, experience mathematics on a daily basis. Every opportunity is sought for children to apply their mathematical knowledge and skills in other curriculum areas and to enhance awareness of how mathematics contributes to everyday life and society.

We use a mastery approach across school. Lessons are rooted in context as much as possible, so children are aware of the real life applications of their maths skills. During the warm up, taught concepts are revisited and mental recall of number facts are practiced. Lessons then begin with anchor tasks (problem starters) followed by a discussion of the findings and learning in the anchor task. Often there will be concrete or pictorial representations used here, and in other parts of the lesson. The first half of a lesson will usually feature discussions, paired work and episodic teaching of small steps of maths learning. The children will then record their learning in a variety of ways including completing a maths book task and have chance to demonstrate the depth of their understanding. Teachers will use their judgment and the learning needs of the children as a starting point to adapt the lesson structure as required.

Lessons are structured with formative assessment opportunities throughout. Through effective questioning, teachers and children can evaluate what has been learnt, review success and address misconceptions. A key focus in our lessons is reflection on learning, and we seek to provide time for children to evaluate, discuss, challenge and reason about their learning throughout a lesson.

Teachers in KS1 use objectives from the Primary Curriculum 2014. They use the exemplified objectives and lesson structures from the NCETM Professional Development Spines and White Rose Planning resources (White Rose Maths Hub) as a starting point when planning a series of lessons. Teachers consider key mathematical vocabulary, resources, potential misconceptions and areas for depth/scaffold during the lesson.

KS1 children have four additional discrete ten to fifteen minute Fluency sessions each week. These sessions focus on developing solid number sense, including fluency and flexibility with number facts following the NCETM Mastering Number Programme.

Teachers of the Foundation Stage plan their teaching on objectives from the Early Years Foundation Stage Statutory Framework; this ensures that they are working towards the Early Learning Goals for Mathematics (Statutory framework for the early years foundation stage 2023). Planning for the Foundation Stage is completed on a weekly pro forma, which includes all EYFS

areas of learning, including mathematics. Reception follow the NCETM Mastering Number programme.

Across the school, mathematics lessons last for approximately 1 hour in KS1 and for approximately half an hour in FKS. Children have same day catch up opportunities when needed and children with gaps in their learning are identified for intervention.

Responsibility for Mathematics

The Mathematics Leader and Early Years Maths Lead, through monitoring and evaluation, identify areas for development within the subject, and feed these into the termly and yearly action plan, which is amended and added to as appropriate. The Mathematics Leader works closely with the Early Years Maths Lead as well as the Head Teacher and Senior Leadership Team.

All class teachers are responsible for the delivery of the mathematics curriculum and to ensure they have the subject and pedagogical knowledge to teach each concept. Teachers are encouraged to ask for support from the Maths Leaders or other experienced colleagues to develop their pedagogical knowledge. ECT's and teachers who are new to school are observed by the Maths Leaders in their first term. (see Monitoring and Evaluation of Teaching and Learning in Mathematics)

Resources

All teachers have an area within the classroom dedicated to storage of mathematics resources. This area is easily accessible and clearly labelled to all children, allowing them to become familiar with resources. All KS1 classrooms have a maths working wall displaying key vocabulary, representations and common misconceptions. Children in Nursery and Reception have access to mathematics linked resources throughout each day, which they can select and use independently while in the classrooms and in the outdoor area.

To support planning, and in addition to the National Curriculum, teachers use various websites and published materials to ensure they plan motivating, purposeful and challenging learning opportunities for the children. These include:

- NCETM Professional Development Spine materials
- White Rose Mastery Planning Documents
- NRich tasks and NCETM website for guidance
- Other websites, textbooks and teacher made resources.

3. Catering for the Needs of all Children at Blossomfield

We aim to encourage every child to achieve their potential by creating a positive learning environment. To achieve this, Assessment for Learning is used to ensure children are provided with appropriate challenge or support. Children work in mixed classes and mixed prior attainment pairs. We use teacher assessment and input from the children to decide whether additional support or challenge is required. It is expected that all children within the class (with some exceptions of children working significantly below the current stage) will work on the same objectives at the same time. In line with the Primary Curriculum (2014) we do not accelerate children onto the curriculum content of a higher year group, but instead provide further challenge and help the children make deeper connections between the learning at their own year group stage.

In line with a Teaching for Mastery approach, all children will be given opportunity to deepen and

strengthen their mathematical knowledge and understanding by working at “depth”. Children who achieve understanding at depth will be identified and given further opportunities to work at “greater depth” at their National Curriculum Stage. This follows guidance from the National Centre for Excellence in Teaching Mathematics (NCETM).

Within lessons, teachers may use one or many of the different methods below, designed to support all children to make progress in mathematics.

- Intelligent Practice – children can be given a range of mini tasks to help master fluency with a mathematical concept or skill. Tasks may require higher level thinking or reasoning as they progress.
- Low threshold, high ceiling tasks - open ended activities/investigations where children can work at different levels of depth.
- Resourcing and Scaffolding –a variety of resources available to **all** children, e.g. counters, multilink, 100 squares, number lines, mirrors, Numicon, Base 10 etc. Use of concrete and pictorial approaches as a support.
Moving to abstract strategies will be carefully planned.
- Use of adults – adults may provide support for children as well as using skilful questioning to probe for and address misconceptions, or to deepen and extend thinking.

Depending on the need, sometimes children who have been identified as requiring some extra support to enable them to progress will work with a 1:1 adult, or form part of a booster or focus group with a teacher or TA. This aims to bridge the gap and enable these children to progress at a similar level to their peers.

Children with Special Educational Needs

Children with Special Educational Needs are taught within the daily mathematics lesson and their needs are catered for through use of a range of teaching strategies, resources and provision of support staff. Where a need is identified, teaching assistants or teachers work with groups or individual identified children to support them in their learning. When teachers and teaching assistants regularly work with children to provide additional support, we still encourage the children to work independently wherever appropriate. All support staff work in collaboration with the class teacher so when children are supported, their progress is monitored and used to inform evaluations, assessment and future planning.

Where applicable children’s Educational Health Care Plans incorporate suitable objectives from the Mathematics Curriculum or EYFS Statutory Framework. Teachers create individual maths plans for those children who are unable to access the National Curriculum.

Children for whom English is not their first language

We aim to link mathematics to cross-curricular subjects and topics and seek to take advantage of multi-cultural aspects of mathematics. In mathematics lessons we support children with English as an Additional Language and children with various educational needs in a variety of ways, e.g.: repeating instructions, speaking clearly, emphasising key words, using picture cues and visual representations, playing mathematical games, encouraging children to join in counting, chanting, playing finger games and use of rhymes.

4. Home- School Partnerships at Blossomfield

We recognise that parents make a significant difference to children's progress in mathematics and encourage their partnership.

We ensure that parents are aware of our aims and are fully informed about the mathematical, skills, knowledge and attitudes we wish to develop. The school makes use of the following strategies to involve parents/carers with their child's learning in mathematics:

- During the year parents are invited to discuss progress with their child's class teacher at parents' consultations. At other times during the year, the Mathematics Leader and class teachers provide additional support or resources as required.
- Half termly targets are shared in Year group newsletters
- The maths objectives are shared in the weekly Year Group newsletters and suggested home activities are included.
- Curriculum leaflets detail the key maths objectives for each term on the school website
- Throughout the year, parents are invited to family workshops, where staff share information about how maths is taught and how to help support their children at home.

Impact of Mathematics Curriculum

The impact of our teaching on learning will be measured through observations of pupils' work, discussions with pupils, lesson observations and through formative and summative assessment.

5. Pupils' Work, Marking and Assessment

Pupils' Records of Their Work

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. It is important for children to be able to use multiple representations and identify the most suitable for them in different contexts. Children are also encouraged to select whether a mental or written strategy would work best for them.

Children in KS1 record in their maths books and in Reception they have a Maths Journey book, in which adult led and child initiated work is stored and annotated by staff.

Assessment

Children's progress in Mathematics at Blossomfield is assessed in the following ways:

- Short-term assessment is an informal part of every lesson. Anchor tasks at the beginning of lessons are a strong tool for assessment of children's existing knowledge and are used to determine next steps for the children during the lesson. The teacher will involve the children with discussing and shaping the learning objective lesson with the children and make sure they are clear what is being expected of them. This is a necessary part of Assessment for Learning and helps the children take ownership for their own learning. Teachers use Assessment for Learning strategies on a regular basis to assess the children's understanding and inform future planning. Questioning is an excellent tool to support and challenge and teachers will have a range of planned questions to assess and deepen learning.
- In KS1 children complete end of half term quizzes and these feed into teachers' understanding of where the children need further support and help inform our judgements of children on track to meet expectations. Children's progress in KS1 is recorded on class

attainment on Cornerstones and this is used to inform end of term assessments.

- Assessment in EYFS is an on-going and integral part of the learning and development process. The staff make systematic observations and assessments of each child's achievements, interests and learning styles. These assessments are used to identify learning priorities and plan the next stages in the learning experiences for each child. Termly assessments are used to measure progress. Assessments are recorded termly on cornerstones. These judgements inform the Early Learning Goals in the summer term and are submitted to the Local Authority via SIMs.

Tests of Mental Arithmetic/ Basic Skills

In KS1 children will complete a number facts maths quiz every half term. We focus on improving children's fact fluency and assess this each term using the year 1 and 2 addition facts. This is followed by discussion with the whole class so that any misconceptions can be put right and the merits of different methods discussed. Children also complete additional mental arithmetic quizzes during the teaching week, in or outside of the maths lesson time.

Marking

We subscribe to the initiative to reduce teacher workload. Marking is part of the assessment process and should impact on learning and the child's mathematical development.

Books are marked by teachers or teaching assistants, with the teacher being ultimately responsible for the marking of their children's work. Children can be involved with marking their own work where appropriate also.

In line with the whole school policy, books are marked using a tick for correct work and a dot for a slip and when appropriate, the teacher may encourage pupils to correct them. There is no expectation for comments.

6. Monitoring and Evaluation of Teaching and Learning in Mathematics

Monitoring and evaluation of mathematics teaching and learning is completed on a regular basis by the Mathematics Lead and Early Years Maths Lead, in collaboration with other staff and the Headteacher as appropriate.

Staff save their weekly mathematics resources and planning onto the school system where they can be accessed and looked at by the Mathematics Leaders, to ensure the objectives from National Curriculum and EYFS Framework are being covered as required. Any actions arising from this ongoing monitoring are then shared with staff.

Samples of children's books in KS1 are moderated in a phase meeting and good practice is shared. These samples are then taken to an authority meeting to moderate with other schools. Over the year the Maths Lead collects a selection of children's work and reviews this in line with planning, assessment and children's progress. Oral or written feedback is then provided to staff.

EYFS Maths evidence is moderated in Phase meetings.

Sample groups of children are interviewed, to allow them to give their opinions on how their learning is being effectively facilitated, and to allow them to suggest how they think their learning could be improved.

Data from Cornerstones and end of Key stage data is analysed and outcomes feed into the monitoring schedule and subject action plans.

Staff meetings provide opportunities for all teachers and teaching assistants to review new materials, policy and maths initiatives and to promote positive and effective mathematics teaching throughout the school.