



# Berkswell C of E Primary School

## MATHEMATICS POLICY November 2019

This policy outlines the teaching, organisation and management of mathematics at Berkswell C of E Primary School and is based on the introduction of the new Mathematics Curriculum in 2014. It has been written following discussion with all teaching staff and has been approved by the Governing Body. It is the responsibility of all teaching staff to be familiar with, and implement, this policy.

Mathematics is a core National Curriculum subject that equips pupils with vital skills and attitudes that they will use throughout their everyday lives. We recognise the importance of encouraging children to develop a range of strategies to enable them to solve problems, pose pertinent questions, draw on a range of strategies, make links with other areas of the subject and have a confident understanding of numbers of various sizes.

### Curriculum Intent Statement

At Berkswell, our vision is to deliver a maths curriculum which is creative and engaging, where all children have access to the learning in order to make progress in lessons and develop a love of mathematics.

We aim to ensure all pupils develop a conceptual understanding of the mathematics they learn, its structures and relationships, and become fluent in the fundamentals of mathematics in order to equip them with the tools to solve a variety of problems – familiar and more complex.

Children are constantly challenged to use their reasoning skills to explain why, to prove how they know, or to find all possible outcomes. We encourage them to become 'deep thinkers' and to question the maths in the world around them, transferring and applying their knowledge in different contexts.

We strive to nurture children's confidence, being supportive and fostering a sense of curiosity about the subject. The children are encouraged to aim high and enjoy developing these vital life skills, as well as being resilient when they come across greater challenges.

### Aims and Principles

The National Curriculum for Mathematics 2014 aims to ensure that all pupils:

- become **fluent** in the fundamentals of mathematics
- **reason mathematically** by developing an argument and following a line of enquiry which they can prove and justify using mathematical vocabulary
- can **solve problems** by applying their mathematics to a variety of routine and non-routine problems, including the ability to break down the problem into a series of simpler steps

We also aim to:

- deliver mathematics in line with the new National Curriculum guidelines;
- promote a positive, enthusiastic attitude to mathematics;
- promote confidence and understanding of calculation and the number system;
- promote enjoyment of learning through practical activity, exploration and discussion;
- encourage pupils to be accurate and confident in their use of mathematical vocabulary when reasoning and explaining;
- provide opportunities to develop logical thinking and independence of mind;
- develop in our pupils a broad range of skills which can be applied both within school and within their outside lives;
- challenge pupils to stretch themselves and take risks;
- enrich other areas of pupils' learning by making links, where appropriate, with other subjects;
- provide the opportunity for all pupils to experience a sense of achievement, regardless of age or ability.



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### Entitlement

#### The Early Years Foundation Stage

We teach mathematics in our Nursery and Reception classes through the mathematical area of Learning and Development. We relate the mathematical aspects of the children's work to the objectives set out in the Development Matters Statements which identify the developing knowledge, skills understanding and attitudes that children will need if they are to achieve the early learning goals by the end of the EYFS.

#### Key Stage 1 and Key Stage 2

The pupils' entitlement to the mathematics curriculum is guided by The National Curriculum 2014, which forms the content of the mathematics curriculum. All children should have access to the programme of study for mathematics at an appropriate level.

Every pupil has a right to National Curriculum mathematics. We provide equal access for all learners through curriculum balance, curriculum time and use of resources. We take all reasonable steps to meet the needs of each pupil, including those with special educational needs, those with disabilities, those with special gifts and talents and those with English as an additional language. Where applicable, children's learning is enhanced through activities that provide additional challenge and children's IEPs incorporate suitable targets from the renewed frameworks.

In line with the School's Equal Opportunities Policy, each child will have an equal entitlement to all aspects of the mathematics curriculum and to experience the full range of maths activities by providing suitable learning opportunities to enable all children to make good progress according to their needs. Therefore, in delivering maths, care will be taken to ensure that a variety of learning styles are accessed and teaching methods adopted.

#### Range of Experiences

Through our delivery of the curriculum we aim to ensure that throughout the school children are given opportunities to engage in:

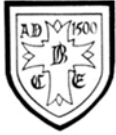
- Practical activities and mathematical games
- Problem solving, Reasoning and extended open-ended investigations
- Individual, group and whole-class work
- Working with IT as a mathematical tool
- Develop mental calculation strategies
- Develop maths language and vocabulary
- Using practical apparatus to support learning
- Use a range of calculation methods

#### Organisation of Classes

In the Foundation Stage through to Year 6, children are taught maths in mixed ability classes. Within all classes, children are grouped according to ability. This grouping is determined by the class teacher. Each class receives work differentiated for the range of abilities, ensuring maximum progress for all.

#### Resources

Each class is resourced with a range of everyday items of mathematical equipment. In addition, there are large resource boxes stored in the maths room, adjoining the Year Six classroom. These resources are comprehensive and any further needs are identified and passed on to the coordinator. Teachers are encouraged to model and demonstrate with practical resources within the Maths lesson, in order to support and develop children's understanding of mental and written calculation strategies. IT programs, linked to the learning objective, are also used to support teaching and learning.



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Collins Busy Ant and Abacus textbooks are available from Years 1-6, with additional 'Challenge' material available to extend more-able pupils. Teachers use this as one of many materials available across each phase from a range of publishers and web-based materials.

The school has a subscription to [www.mymaths.co.uk](http://www.mymaths.co.uk) and [www.trockstars.com](http://www.trockstars.com) ; each child being equipped with a username and password to enable close monitoring of progress.

### Planning

Each teacher is responsible for planning the mathematics in their class in consultation and with guidance from the mathematics co-ordinator.

At Berkswell School teachers are expected to plan using the guidance and objectives set out in the 2014 National Curriculum for Mathematics. Medium term plans for each year group are available on the w:drive > Maths > National Curriculum 2014. Teachers use these to inform their short term plans in which they are expected to detail differentiation, assessment opportunities and evidence, and evaluate each day.

*Teachers in the Foundation Key Stage base their teaching on objectives from the Early Years Foundation Stage Framework.*

*Planning takes place collaboratively between the teachers and other staff involved in the Foundation Stage. These describe teaching and learning activities linked to objectives and assessment opportunities. The long term plans include the learning objectives to be covered and revisited.*

- 1) *Short-term planning allows for child initiated, independent and focused activities.*
- 2) *Focused teaching activities are differentiated according to children's abilities, where children work in ability-based groups.*
- 3) *A range of resources set out on a daily basis encourages independent learning.*
- 4) *Through play, children are given sufficient time, space and encouragement to discover, use new words and maths ideas, concepts and language during child-initiated activities.*
- 5) *Planning allows for both the indoor and outdoor environment to encourage discovery of numbers, calculating, counting and shapes, distance and measures.*

Teachers are expected to plan in detail using the school's 'Short Term Maths Planning' pro forma. This planning should be made available to the Headteacher or Assistant Head, in electronic or paper format, when requested.

Where mathematical opportunities arise within other areas of the curriculum, children will be able to use and apply their mathematics in real contexts that link to their other experiences and learning.

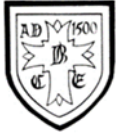
### Timing

In Key Stages 1 and 2 we aim to provide children with a 60-minute maths lesson every day.

The amount of time spent on mathematical activities in the Foundation Stage varies depending on whether whole class or focused group activities are taught. However, one mathematical activity will be completed daily.

### Pupils' Work

Children are expected to date each piece of work and include a WALT sticker, with a Success Criteria, for ease of monitoring and evaluation. This can also act as a useful tool for self-assessment. The 'Routes Through Calculation' document is included (see appendix) to show clear expectations regarding the presentation of written methods.



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### Marking

Both children and teachers are involved in assessing the 'Success Criteria'. Children will also be encouraged to self-mark where appropriate and address misconceptions. Work that is being marked by acknowledgement should refer to the learning intention/objective using a general comment which is age appropriate, e.g. Great! You can find fractions of quantities up to 32 and include a 'Next Step' where necessary.

When a piece of work is quality marked the teacher should refer to the learning intention/objective and success criteria. The teacher should use quality marking as an opportunity to 'model' best practice and corrections, or to extend the child's thinking, where appropriate with a 'Show Me' question.

### Independent and supported work

The following codes will be used to highlight whether a pupil has been supported in a task or has worked independently.

I	– Independent
GW	– Guided Work by the Teacher
TA/SSA	– Supported by a Teaching Assistant/Special Support Assistant

The children should be given opportunities to self-evaluate and peer assess. The children should be given time to read, consider and act upon feedback received.

Correct 

Incorrect 

Corrected C (should wrap around the dot where it was marked incorrect)

### Marking and Feedback in EYFS

At the start of each session the learning intention/objective (WALT) is shared with the children verbally and/or displayed on the board and referred to throughout the session. The learning outcomes (WILF or Success Criteria) are also shared verbally with the children so that they understand the success criteria. Where appropriate, these will also be copied onto a sticker to go in the children's books underneath the date.

Through the continuous observations of children and by making notes when necessary, we make professional judgements about children's achievements and decide upon the next steps in their learning. We also exchange information with other adults about how children are progressing. The majority of the marking and feedback given is as a result of observations. In Foundation Stage, marking and feedback strategies include:

- Stickers, stamps and smiley faces are used to indicate that feedback has been given by a member of the teaching team
- Written annotations, short and narrative observations (written)
- Annotation of work and photographs by staff
- Children beginning to annotate their own work and pictures
- Children are encouraged to self assess using a traffic light system/zoning, e.g. children move to an appropriate traffic light zone indicating their feelings about their own learning (Green = Zoomed, Amber = Managed and Red = Struggled)
- Oral dialogue with children about their play and work



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- Recording children's informal methods of calculation

When writing is illegible the teacher will write what the child intended underneath.

### **Pupil Records**

Teachers maintain an up-to-date record of attainment for each pupil using the school's tracking system – INSIGHT. This is used as an on-going live assessment tool online where teachers can record the progress and attainment of each child against objectives for their year group.

The assessment coordinator, maths coordinator and phase leaders monitor progress and attainment at least once a term. Half termly pupil-progress meetings, conducted with the Headteacher or Assistant Head, allow for further scrutiny regarding children's levels of attainment. Teachers are expected to use the tracking system, classroom observations and test results, along with details of intervention groups to give a detailed update of their class.

### **Reporting to Parents**

Feedback to parents is conducted at parents' evenings twice a year, and a detailed report is sent home at the end of each academic year. Parents are invited to discuss their child's progress at a consultation evening after reports have been sent.

### **Parental links**

Parents are encouraged to work with their children at home on the key objectives for their year. Curriculum evenings are put on to inform parents of the importance of maths, and to teach new methods. Information about maths at Berkswell is provided on our school website and also extended opportunities for parents are available on our Twitter feed. Literature is sent home if relevant to children's needs.

### **Governors**

Informal meetings are held with the Maths governor to discuss progress and new initiatives. The Link Governor for Maths is invited to attend Curriculum evenings and, when possible, has the opportunity to observe maths lessons. Reports are written for the governing body detailing developments and standards across the whole of the school.

### **Assessment**

At Berkswell School we understand that assessment must be integrated into all planning, and cannot be solely addressed through periodic, isolated assessment lessons. As such, teachers are expected to identify (and plan for) opportunities to assess children in a variety of ways throughout each unit of work.

EYFS profile assessments take place through observations of day to day activities. These are based on individual children's abilities, skills and knowledge within the three areas of numbers as labels, counting calculating and shape, space and measures within problem solving, reasoning and numeracy. These observations then inform the children's individual profiles and their next steps for learning.

As well as this on-going formative assessment, children are tested at the end of every term in Key Stage 1 and 2 using the NFER tests.

Teachers are required to plan for daily opportunities to assess pupils using the marking policy and INSIGHT objectives. These assessments are then used to make a judgement as to which level children are performing at, and whether they are considered a 0, 1, 2 or 3 in that particular objective.

Teachers have the opportunity each term to moderate their Teacher Assessment judgements with colleagues and regularly attend external moderation sessions with the local authority.



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### Equal Opportunities

The teaching of Mathematics is in accordance with the present policy for Equal Opportunities. Where children have Special Education Needs, they are supported through differentiated resources and activities, as well through extra group or individual adult support. More able pupils are supported to remain challenged within the daily maths lesson by providing suitable extension work, usually of an investigative nature and through taking part in collaborative AGT events across the year.

### Staff Development

Teachers are regularly updated on the current initiatives within mathematics through INSET, and the maths coordinator attends all relevant courses and subject-leader conferences. An open-door policy is promoted to all staff who require assistance with any aspect of their mathematical teaching, and this is replicated by the local authority, who are available to give help and advice.

### Teaching Assistants

Teaching assistants are expected to take part in each part of the maths lesson, and this will be planned for by the teacher. This may involve sitting with specific children during the whole-class section of the lesson, giving advice during a mental/oral, or taking a guided group while others are doing their independent work. Teaching assistants are invited to attend maths-specific INSET, and attend training as necessary.

### Target Setting

It is the responsibility of the class teacher to set maths targets for each pupil at the beginning of the year. They will monitor, review and change these as appropriate, twice yearly as a minimum using objectives from the tracking system. Targets are displayed prominently as a reminder to children, either in classrooms, exercise books, or both.

### Homework

It is our school policy to provide parents and carers with meaningful opportunities to work with their children at home. These activities are valuable in promoting children's mathematical learning in a wider arena than school and in showing children the relevance of maths in every day life.

Activities are sent home on a regular basis (see the separate school Homework Policy) and take the form of practical activities and number games for younger children, with the inclusion of more formal exercises by Year 3. 'MyMaths' and 'TTRockstars' homework is also used to support learning.

Teachers ensure that children receive acknowledgement on all homework that is returned to school.

### Monitoring

It is the responsibility of the Senior Leadership Team and the Maths Co-ordinator to monitor the provision of mathematics at Berkswell school. In accordance with the school's self-evaluation schedule, lesson observations, book and planning trawls, pupil interviews and data analysis are timetabled in throughout the year. All year groups will be monitored, with lesson observations split to assist practical arrangements. Teachers will be observed at least 3 times a year. The Headteacher will be present at one of these, with paired members of staff observing depending on the position of the SEE cycle. Informal observations of planning, books and children's attitudes to maths are monitored more regularly by the maths co-ordinator.