



## **Wickford Primary School** **Mathematics Policy**

### **Introduction**

This policy outlines the teaching, organisation and management of the mathematics taught and learnt at Wickford Primary School. The school's policy for mathematics is based on the 2014 Primary National Curriculum. The implementation of this policy is the responsibility of all the teaching staff.

### **Our Aims**

- To provide equal access to develop skills, knowledge and understanding.
- To provide equal opportunity for every child to experience and share in Mathematics.
- To equip children with mathematical skills and knowledge to understand and use in everyday life.

### **To encourage the development of**

- ✓ A positive attitude to mathematics so children are confident and competent in their ability to apply their skills.
- ✓ An awareness that mathematics is a powerful tool to help solve and investigate problems and ideas.
- ✓ Mathematical language as a means of communication.
- ✓ A range of mathematical skills required for furthering all children's mathematical education.
- ✓ The children's ability to take an increasing responsibility for their own mathematics learning.

### **Teaching Mathematics**

#### **Teaching time**

To provide adequate time for developing numeracy skills each class teacher will provide a daily mathematics lesson. This may vary in length but will usually last 60 minutes. Lessons will follow the aims of the National Curriculum for mathematics, which develops fluency, reasoning and problem-solving. All children are encouraged to work towards mastery of the skills they learn, broadening and deepening their understanding by applying their skills in different contexts. Links will also be made to mathematics within other subjects so pupils can develop and apply their mathematical skills.

## Planning

All year groups have access to Abacus, a maths scheme provided by ActiveLearn. It provides a short, medium and long term planning structure that can be used or adapted by teachers to meet the needs of their classes. It also provides a range of interactive teaching resources, downloadable resources, problem-solving activities, games and activities that children can work on independently, whether at home for homework, or during school to support learning in lessons. Mastery activities are built in to the programme of study which teachers can adapt so all pupils can access them appropriately. Teachers are expected to use their professional judgement when using Abacus and are free to use alternative resources. Following the long term structure of Abacus, however, will ensure coverage and progression across the school.

## Maths lessons

A typical 45 to 60-minute lesson will consist of:

- Oral work and mental calculation (about 5 to 10 minutes). This will involve whole-class work to rehearse, sharpen and develop mental and oral skills. Pupils should be given the opportunity to respond to marking in their books in this time.
- The main teaching activity (about 30 to 40 minutes). This will include both teaching input and pupil activities and a balance between whole class, grouped, paired and individual work. Mini plenaries will take place where necessary. The success criteria will be referred to ensure the learning is focussed.
- A plenary (about 10 to 15 minutes). This will involve work with the whole class to address misconceptions, identify progress, to summarise key facts and ideas and what to remember, to make links to other work and to discuss next steps. Pupil should be given the opportunity to self-assess their own work.
- Work is completed in children's books or workbooks, unless children are working collaboratively in which case white boards or large pieces of paper may be used.
- Where a lesson is practical, photographs are taken and annotated to show children's progression throughout the lesson.

In Autumn 2013 the staff agreed that good maths learning is:

- Kinesthetic
- Learner has ownership/can make choices
- Flexible
- Opportunity to use what you know
- Opportunities to learn from errors
- Opportunities for mathematical discussion
- Using and rehearsing mathematical language
- Collaborative
- Opportunities for teacher to listen to learners (afl)
- FUN
- Visual
- Opportunities for reasoning, logic and systematic thinking
- Simple

### Out-of-class work and homework

The daily mathematics lessons will provide opportunities for children to practice and consolidate their skills and knowledge, to develop and extend their techniques and strategies, and to prepare for their future learning. These will be extended through early morning work, out-of-class activities or homework. These activities will be short and focused and will be referred to and valued in future lessons. Abacus provides interactive games and worksheets that can be used for homework, but teachers are free to allocate other resources to ensure that children are offered a range of suitable activities. Abacus also provides Quick maths and Fluency Fitness activities that can be used as alternative lesson starters, early work or focus group work.

### Links between mathematics and other subjects

Mathematics contributes to many subjects within the primary curriculum and opportunities will be sought to draw mathematical experience out of a wide range of activities. This will allow children to begin to use and apply mathematics in real contexts. Maths weeks and House days are one such way to promote links.

## **School and Class Organisation**

### Class Organisation

In year 1 and year 3, mathematics is taught every day by the class teacher. There may be additional interventions during the week for children who are working below expected levels and are making little progress. They should focus initially on number sense, leading on to multiplication and division.

In other year groups, pupils will have a dedicated daily mathematics lesson in sets. There are 3 ability sets in year 2. In years 4, 5 and 6, there are 4 sets in each year group, with sets 2 and 3 being parallel middle ability. As these sets are determined by ongoing formative and summative assessments, there may be movement of children between sets to ensure their learning needs are being met. Within these lessons there will be an effective balance between whole-class work, group teaching and individual practice. All lessons are effectively differentiated to meet individual needs.

### How we cater for pupils who are more able:

Where possible, more able pupils will be taught within their own class and stretched through questioning, differentiated group work, extra challenges, investigations and problem-solving to maintain their involvement. Very occasionally special arrangements will be made for an exceptionally gifted pupil e.g. they may be taught with children from a higher age range or may follow an individualised programme with more challenging problems to tackle e.g. 1 to 1 tuition.

### How we cater for pupils with particular or special educational needs:

The daily mathematics lesson is appropriate for almost all pupils. Teachers will involve all pupils through differentiation, adaptation of resources (e.g. printing questions on coloured backgrounds or enlarging sheets) and provision of practical resources for additional support. However, a pupil whose difficulties are severe or complex will need to be supported with an individualised programme in the main part of the lesson. LSAs will receive CPD in order to ensure they are familiar with current practice and approaches.

## Classroom organisation

- All classrooms should have the focus for the week displayed.
- All classrooms should display a visible hundred square and number line. A counting stick should be regularly accessed.
- All classrooms should have a maths 'working wall'. Staff have been supported in implementing this. It should be updated on a regular basis to reflect the learning that is taking place in the classroom. The maths leader can provide support for this if needed.
- Copies of support materials for staff and resources for practical activities are located in the maths cupboard.
- All classrooms have a 'Maths resource box' which includes an assortment of practical resources that can be used to support all children.
- All classes have a copy of the Abacus text books for their year group; one for each term. These may be copied for use as required.
- If any additional resources are required, staff should pass their request to the maths leader who will place an order. (Depending on available funding).

## Information and Communication Technology

This includes interactive whiteboards, laptops and iPads as well as a variety of programs and resources for the computer, which can be used in various ways to support teaching and motivate learning by using relevant software and internet links. For example,

- To explore describe and explain number patterns and practise and consolidate number skills
- To explore and explain patterns in data, by producing various graphs.
- To estimate and measure length or distance, angle or time by using a floor robot

Abacus provides a wealth of interactive teaching slides, animations and videos in addition to the activities already mentioned, which can be used in various ways to support teaching and motivate children's learning. Activities can be allocated for children to access on iPads and laptops so could be used within lessons if desired and if it is an efficient and effective way of meeting the lesson objectives. The maths subject leader will work closely with the ICT leader to ensure new technologies are being fully utilised e.g. the use of apps with iPads.

## Homework

Please refer to the homework policy.

## Assessment

A range of evidence is collected periodically, which is used to inform us about an individual child's progress and planning next steps in learning. These could be any of the following:

- Annotated plans
- Responses to next step marking
- Precision teaching activities (may be recorded by CT or LSA)
- LSA records
- Pupil perceptions
- Whiteboard work
- Photos
- Videos
- Voice recording
- Memory
- Cross-curricular opportunities

## Summative assessment

Abacus provides half-termly assessments in arithmetic and problem-solving and reasoning, where pupils' attainment of the objectives covered during a half term can be assessed and analysed so that gaps in the children's learning can be identified. Class teachers are responsible for this analysis and to adapt planning in order to close those gaps. There is time built into the Abacus program to allow for this. Scores and analysis of these tests will be recorded to track pupil progress through the 'beginning', 'working within' and 'secure' stages of the band appropriate to each year group. In years 1, 3, 4 & 5 these results will be passed on at the end of the year to the next class teacher. The end of foundation stage profile will be passed on to KS1 teachers.

In May each year, Year 2 and Year 6 pupils will complete SATS National Curriculum tests which assess arithmetic skills the use and application of those skills to mathematical reasoning and problem solving. Years 1, 3, 4 & 5 will complete an end of year test to assess all the skills learnt throughout the year.

## **Management of Mathematics**

### **Role of the Coordinator**

- Prepare, organise and lead INSET, with the support of the Headteacher
- Ensure teachers are familiar with the written and mental methods policy and provide support in their implementation
- Lead by example in the way they teach in their own classroom
- Work co-operatively with the SENCO and assessment leader
- Liaise with lower school maths leader regarding changes to policies or teaching practice.
- Observe colleagues from with a view to identifying the support they need
- Attend LA-run subject leader update meetings regularly to keep abreast of local and national changes.
- Inform parents about changes in assessment or teaching of mathematics
- Provide regular updates on assessment and expectations on the teaching and learning of mathematics for staff, SMT and governors
- Prepare a termly update for the governors.
- Monitor the teaching of mathematics and learning behaviour of children through regular lesson observations
- Monitor the quality marking and feedback in maths through regular book checks
- Regular monitoring of planning to check effective deployment of adult support, precision teaching and ongoing AfL

### **Role of the Headteacher**

- Lead, manage and monitor the implementation of the new curriculum, including monitoring teaching plans and the quality of teaching in classrooms
- Keep the governing body informed about the progress of the Maths.
- Ensure that mathematics remains a high profile in the school's development work
- Deploy support staff to maximise support for the Maths.

**L Griffiths October 2018**

**Date for Review: September 2019**