

# Streatham Wells Primary School

## Mathematics Policy

### Mission Statement

We believe that children will be most successful at Mathematics when they enjoy what they are doing, when they are motivated to achieve or excel, when they experience success and understand how their work is relevant.

### Aims and Objectives

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 develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- **reason mathematically** by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language
- 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.

We aim to ensure that:

- Children are set appropriate targets and work is planned in line with their needs so that they can make progress as individuals and experience success;
- Achievement is assessed and monitored so that we can work towards raising it;
- Children learn to work independently, to persevere, to co-operate, to problem solve, to investigate, to experiment and to take risks;
- Children learn mental, visual and verbal understanding as well as proficient pencil and paper methods;
- A broad and balanced curriculum is delivered, based on the Early Years Foundation Stage and the National Curriculum;
- Children learn to choose and use equipment appropriately and to apply knowledge, to talk about and explain their work using correct vocabulary and to model in a variety of ways;
- Children's own interests and real life situations are used as starting points wherever possible;
- Parents are involved in, and understand their children's Maths work and targets as fully as possible;
- Children are given opportunities to gain new skills, concepts and knowledge and to practise what they have already learned in a variety of contexts;
- Activities are open-ended and flexibly planned where possible, inviting children to show what they know and can do;
- The curriculum is equally accessible to all children in line with the school's Inclusion Policy.

### Agreed Approaches for Early Years Foundation Stage

Mathematics is one of the *specific* areas of learning in the EYFS Curriculum and covers the following aspects:

1. Numbers
2. Shape, space and measures

Mathematics is taught through a combination of adult directed and child initiated activities. Both Nursery and Reception have Maths areas with interactive displays and independently accessible resources.

## Agreed Approaches for Key Stage 1 and 2

As directed by the National Curriculum Programmes of Study, we teach the following areas of Mathematics:

1. Number and Place Value
2. Addition and Subtraction
3. Multiplication and Division
4. Fractions
5. Ratio
6. Algebra
7. Measurement
8. Geometry: Shape
9. Geometry: Position and Direction
10. Statistics

We teach according to Singapore Maths principles and pedagogy, using a concrete-pictorial-abstract approach to achieve mastery. With an emphasis on problem solving, children are taught to visualise, to make connections and to communicate their understanding both verbally and in written form.

Topics are taught in extended blocks in order to allow sufficient time for children to practise, refine and ultimately master concepts and processes. They are carefully sequenced so that skills and knowledge are continually revisited and applied in a variety of contexts. In addition, each class has a half-termly focus on Key Instant Recall Facts e.g. multiplication and division facts, which are essential for efficient calculation, whether mental or using formal written methods.

Daily maths teaching is structured to provide opportunities for developing mental skills, for new learning, independent work and for reviewing.

- Children in KS2 may be grouped according to ability but are given planned opportunities to work in different groupings and to share and model their work;
- Children in KS1 work in mixed ability groups in order to encourage collaborative learning;
- During direct teaching the whole class works together on shared topics with added support or challenge for children, according to

their needs. Teaching Assistants provide additional support to enable all children to fully access the lesson;

- Children understand what they are learning, what they are practising, what they need to learn next and what targets they are working towards. This is made clear to them so that their efforts are focussed. Children in KS2 have their individual targets displayed in their books;
- Practical resources are used to support children's modelling, visualising, conceptualising and understanding. They enable children to develop conceptual understanding before moving to formal recording;
- Children are given opportunities to use and apply Mathematics in other areas of the curriculum and these links are made explicit;
- Mathematics displays are visible in classes and around the school. Throughout the year they aim to cover as wide a variety of concepts as possible;
- Technology is used to support mathematical work when appropriate;
- Children in Key Stage 1 and Key Stage 2 record written work on squared paper in maths books;
- Practical activities are recorded through photographs or video;
- Written methods of calculation are taught in accordance with the National Curriculum and our written calculation policy.

### Assessment and Record Keeping

#### Assessment

- During lessons, children's work is observed and monitored to ensure understanding and to correct misconceptions;
- Review questions are used during lessons to find out whether the children have achieved the learning objective for the session. Children participate in this process and assess their own work according to the school's Assessment and Marking Policies;
- Children are given regular, appropriate feedback related to the learning outcome with targets for improvement through teachers' marking. They are given time to read and respond to what is written;
- Termly Progress in Understanding Mathematics Assessment (PUMA) tests for Y2-Y6;

- Statutory End of Key Stage Assessments in Year 2 and Year 6;
- Use of Early Years Foundation Stage Profile.

### Record Keeping

- Annotated weekly plans;
- Marking which relates to learning objectives. Recorded work is preceded by the learning objective and marking will reflect whether the learning objective has been achieved and will inform assessment and future planning;
- Annotated photographic or video evidence;
- Test results.

### Home/School Links

- Children will be set homework according to the school's Homework Policy, which has been agreed in consultation with parents/carers;
- Mathematics workshops will be run for parents/carers in order to keep them informed of new initiatives when necessary;
- Information on how to help their children with Mathematics will be provided to parents/carers in each year group;
- Children's Mathematics targets will be discussed with parents during Parent/Teacher conferences;
- A summary of Mathematics topics to be covered will be communicated to parents/carers via the half-termly class newsletters and curriculum maps available on the school website;
- End of year reports will include comments on children's progress in Mathematics.

### Inclusion

- We aim to ensure that Mathematics is accessible to all children in the school. This is achieved by effective planning and appropriate organisation of resources;
- We will ensure that resources reflect the culture and background of the children at our school, that they do not reinforce stereotypes and that they present positive images to our children;
- We will provide specialist resources where appropriate to meet a variety of needs;

- We will take account of children with English as an additional language and ensure that these children have the necessary resources to fully access the curriculum;
- We will ensure that children, at all times, work with a spirit of collaboration, co-operation and respect for each other.

### Resources

- Resources are available in line with the requirements of the Early Years Foundation Stage and the National Curriculum;
- Resources that are used on a regular basis will be stored in classrooms;
- All other resources will be stored centrally, well organised and clearly labelled;
- Teachers will have access to a wide range of supporting materials to extend mathematical learning;
- Teachers are responsible for the collection and return of resources. They are also responsible for reporting lost or damaged items;
- Computers and interactive whiteboards are available in each classroom, which will be used to support Mathematics work when appropriate;
- Professional development opportunities will be made available as and when necessary.

### Monitoring

This will be undertaken by the Mathematics Subject Leader, the Deputy Head Teacher and the Headteacher.

**Autumn 2016  
Review Autumn 2018**