

# **RUSKIN INFANT SCHOOL AND NURSERY**



## **MATHEMATICS POLICY**

Revised: **January 2019**

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## The Purpose of this Policy

- This policy and guidance reflects the school's values and philosophy in relation to the teaching and learning of Mathematics.
- It sets out a framework in which staff can operate and gives guidance on planning, teaching and assessment.
- This Policy and Guidance should be read in conjunction with the National Curriculum for Mathematics, the Early Years Foundation Stage and the school's Calculation Policy.

## What is Mathematics?

Mathematics is essential to everyday life. It is used to analyse and communicate information and ideas, and to tackle a range of practical tasks and real life problems. It is essential to most forms of employment. A high-quality Mathematics education therefore provides a foundation for understanding the world, the ability to reason mathematically, and a sense of enjoyment and curiosity about the subject.

## Aims of Mathematics

Our school's aims for Mathematics are that our children will:-

- Become fluent in the fundamentals of Mathematics and have a good sense of number values and facts;
- Be able to use mathematical language to think and reason mathematically;
- Be able to solve problems by applying their understanding of Mathematics;
- Have a positive attitude towards Mathematics and understand the importance of mathematical skills in everyday life;
- Become confident, resilient and take risks whilst having a sense of enjoyment and curiosity about the subject.

All children should receive their full entitlement to a Mathematics education that is broadly balanced and which develops progressively throughout their school life.

## Planning

Mathematics planning is:

- **Long Term** - Based on the Foundation Stage Learning Intentions and the Key Stage One National Curriculum. Overviews for Reception, Year One and Year Two to show coverage and how the curriculum will be taught.
- **Short Term** - Planned and Adapted weekly or daily to meet the needs of the pupils.

In our school the children will learn about:-

- Numbers and the number system
- Calculations
- Fractions
- Measures
- Shape and Space
- Statistics

The National Curriculum also aims to ensure that all pupils:-

- Become fluent in the fundamentals of mathematics;
- Reason mathematically;
- Can solve problems by applying their mathematics.

In Key Stage One and Reception the curriculum is mapped out and an overview of the year is mapped out. The children will work through units of work to ensure coverage is met. Place value and calculation is revisited regularly and developed over the year. Children will practise and apply their place value and calculating skills in other units of work.

Planning should be used to:

- Set clear learning objectives, achievable goals and success criteria;
- Ensure work is matched to the pupils' abilities and needs;
- Ensure progression, continuity and subject coverage;
- Plan for formative assessment to inform planning and learning and provide differentiated learning experiences which meet pupils' needs.
- Identify and plan for opportunities for cross-curricular links.

## **Strategies for Teaching Mathematics**

A variety of teaching methods are used by teachers depending on the intention of the lesson and the children's needs. It is important that the method chosen is given consideration each time. Teaching may be in the form of a whole class lesson or in small groups.

### **Early Years Foundation Stage**

The curriculum in the Early Years Foundation Stage should underpin all future learning by supporting, fostering, promoting and developing children's mathematics. Opportunities are given for all children to develop their understanding of number, measurement, pattern, shape and space by providing a broad range of contexts in which they can explore, enjoy, learn, practise and talk about them. The overall aim of the Foundation Stage is that children achieve the Early Learning Goals and achieve a good level of development. It is expected that all children in the Early Years Foundation Stage will receive direct teaching as a whole class, in groups, as pairs or individually. There will be adult-led learning experiences and open-ended opportunities where children will learn through their play indoors and outdoors.

### **Key Stage One**

In Key Stage One the children will use place value to support their estimating skills. They will develop their mental strategies for calculating and learn number facts, such as number bonds and doubles, and be taught to use these facts when calculating.

### **Resources**

The children are taught using a 'Concrete, Pictorial and Abstract' approach. They begin by using practical resources to develop their understanding of mathematical concepts and calculations. Next they use pictorial representations to explain their thinking and methods. These skills help them when moving on to abstract written methods. The children will have experiences using a range of resources and pictorial representations but can later choose methods which they are secure with. Staff should refer to the Calculation Policy to ensure they use methods consistently across the school and to plan for progression.

All classrooms have a range of basic mathematical resources available for children to use. Other resources less regularly used are stored in a central Mathematics cupboard. Calculators are to be used at appropriate times but should not be used so frequently that the children rely on them.

White Rose will be used to support planning for fluency, problem solving and reasoning. Commercial schemes can be used to support the teaching of Mathematics and give ideas but will not be the basis of the teaching. Other published materials and websites are also available to use.

Mathematics can be used in a cross-curricular approach where the children can apply and practise the skills they have learnt. For example:

English	Communicating ideas and using conjunctions for reasoning.
Science	Collected and presenting data during investigations.
Computing	Using programs on the computer to collect and present data.
Art and Design	Symmetrical artwork, patterns, shape pictures and models
History	Using timelines and identifying the time differences between events.
Geography	Position and direction of places using mathematical language.
PSHE	Working as a team and negotiating with others.
Building Learning Powers	Perseverance, revising methods, noticing patterns and relationships and reasoning.
Drama	Through Mantle of the Expert the children select the mathematics that they need for tasks whilst in role.

Technology could be used to support the teaching and learning of Mathematics. Interactive teaching programmes and Apps could be used to model strategies, ideas and concepts. It could also be used to collect evidence, particularly reasoning, through photographs and videos.

Catch up strategies will be used for children who have missed learning for absences and lateness. This could be on a one-to-one basis later that week, or recognised in following lessons or when work is revisited later in the year.

### **Equality of Opportunity**

All pupils have an entitlement to a Mathematics education. All children including those with Special Educational Needs and Disabilities (SEND) and the more able participate with the content differentiated.

Differentiation is achieved in the following ways:-

- By the level of adult support/ intervention.
- By resources provided. Practical concrete resources may continue to be used.
- By outcome and taking it to their own level.
- By ability grouping or expectations.
- By the task given. Children may work on the same objective but with resources and experiences appropriate to their own understanding and ability.
- By extension or consolidation.

Children with English as an Additional Language may need to be assessed in their home/ first language to determine their level of mathematical understanding and ability and to highlight areas where they need support.

Nationally there are gender differences in relation to mathematical attainment. As a school we ensure that there is equal access to all aspects of mathematical education. Further, any published materials should achieve a balance in terms of presenting positive role models of both genders and should reflect the richness of cultural diversity.

## **EQUALITY STATEMENT**

Ruskin Infant School and Nursery defines itself as a school free from discrimination. We will not discriminate against a pupil or prospective pupil by treating them less favourably because of their:

- sex,
- race,
- disability,
- religion or belief,
- sexual orientation,
- gender reassignment,
- pregnancy or maternity

The school, through its policies and staff practices will also not discriminate against a pupil because they are associated with a person that displays the 'protected characteristics' as listed above.

Ruskin Infant School and Nursery defines four kinds of unlawful behaviour in relation to the Equality Act 2010, as

- direct discrimination
- indirect discrimination
- harassment
- victimisation

No unlawful behaviour will be tolerated in any way.

## **Assessment, Reporting and Recording**

Assessment is used to:-

- Plan future teaching and learning;
- Provide summative information for teachers and school data;
- Provide information for parents.

All assessments are made over a period of time and based on the evidence of a range of work. Assessments will be based on a range of evidence, including children's work in books, drawings, discussions, observations and photographs.

### **Assessment Procedures in our School**

- All teachers will enter children's assessments on O-Track where attainment and progress can be monitored. Year groups will track coverage to ensure the curriculum is taught.
- The Head Teacher will hold Pupil Progress meetings that take place with all teachers to discuss the children's progress and attainment.
- At the end of Early Years Foundation Stage the teachers will judge children's attainment against the Foundation Stage Learning Goals.

- At the end of Key Stage One, Year Two children will take formal Summative Assessment Tests (SATs) which help inform teacher assessments.
- The school will carry out internal moderation and will be involved in regular town and county moderation to help teachers making judgements.
- In Key Stage One tests are available to gather information to monitor progress and identify the children's next steps for teaching and learning. Initial assessment tasks are used to identify the children's starting points with new learning and to plan for the teaching and learning to follow. It also allows individual teachers to personalise learning to their class.
- All work will be marked in accordance with the school's marking policy. Marking of work and observations provides teachers with important assessment information. It also gives children feedback on how successful they have been and their next steps. Children will be expected to review work by making corrections and responding to questions when needed. Verbal feedback will be given during lessons and opportunities given after marking for greatest impact.
- Reporting to parents will take place through parent's consultation evenings alongside written reports.
- Teachers will make use of formative assessment during lessons to inform them on the level of challenge required for pupils.

### **The Role of the Mathematics Leader**

The Maths Leader will lead a Maths team to support in the development and monitoring of Mathematics across the school. The team will be made up of a member from Year One, Year Two and EYFS.

- To disseminate key training updates to **all** staff as appropriate.
- To provide support for effective planning and teaching.
- To organise, catalogue and update resources.
- To analyse results and formal summative assessments and reporting findings to the Head Teacher and others as appropriate (e.g. Staff, Governors and parents).
- To plan for developments to support key issues in the school through an action plan.

Mathematics teaching will be monitored by the Mathematics Leader, Mathematics Lead Team, Head Teacher, and members of the Senior Leadership Team.

This will involve:-

- scrutiny of work and planning
- observation of Mathematics teaching across the school
- analysis of data
- evaluation of target setting and pupil achievement
- the use of resources
- the use made of effective cross curricular links
- the use of ICT
- the identification and sharing of good/ outstanding practice.