RUSKIN INFANT SCHOOL AND NURSERY

SCIENCE POLICY

Revised: **November 2019**

Revised by: **Sarah Almond (Science Subject Leader)**

To be reviewed by: **November 2020**

SCIENCE AT RUSKIN INFANT SCHOOL AND NURSERY

Intent

At Ruskin our intent is that all children will leave our school with a love of learning. They will have the skills to question and investigate to deepen their own knowledge and that of those around them. They will have the resilience to learn from challenges and reflect upon their own learning and to equip them to become independent learners.

Implementation

In order to fully equip our children we have looked at the curriculum and divided the objectives into year groups to allow for progression of skills across the school. This is followed into our Forest Schools. As a school we are committed to providing the children with a vocabulary rich curriculum in order to address the cultural capital of our children. To enhance the children's ability to be independent learners we must equip them with the vocabulary and skills to do so. All staff model and use the correct Science vocabulary and are aware of the vocabulary used in other year groups. Vocabulary is taught through experiences and reinforced by activities in class.
In Foundation Stage the Science objectives in Understanding the World, are taught through outside learning every day, provision and through teacher input. Science in Key stage 1is taught every week unless a lesson requires longer to maximise learning in which case several lessons may be taught in one week. Every other week or every three weeks (depending on how many classes per year group), each class will spend the day at Forest School.

Impact

Children will leave each year group with Scientific vocabulary that they can use in context, and are able to give the definition of. End of year data will show that more children over a 5 year cycle will achieve expected.

Areas of Knowledge

- Plants
- Everyday materials
- Living things and their habitats
- Seasonal Changes
- Animals including Humans
- Working Scientifically

Within the Foundation Stage Science is part of the area of learning called Understanding the World within a strand called 'The World'. This area has equal weighting with all the other six areas of learning. Children will develop skills to help them make sense of the world. They will find out more about the world they live in and will engage in practical activities to help them understand it. The children will be encouraged to:

- show curiosity and interest by exploring surroundings
- use all their senses to find out about the world
- identify obvious similarities and differences when exploring and observing
- look closely at patterns and change
- ask questions about why things happen and how things work

Equal opportunities - Ruskin Infant School and Nursery (including Ruskin Childcare) defines itself as a school free from discrimination. We will not discriminate against any member of the school community by treating them less favourably because of their:

- age
- 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.

AIMS OF THE POLICY

Science is a core subject within the National Curriculum. The aims of Science are to:

- enquire, explore and observe so that children can ask questions about themselves and their environment
- to investigate in order to progress towards answers to their many questions
- look for links and patterns in their science work
- record their findings as accurately as possible in appropriate ways for their age and ability
- draw conclusions of answers from their work and evaluate the evidence gathered
- promote positive attitudes towards and enthusiasm for science work in school

The teaching of Science should develop the key scientific skills of:

- asking questions
- hypothesising and predicting
- planning and carrying out investigations
- ability to select and use appropriate resources

- to consider variables, e.g. How can we make it a fair test
- careful observing and measuring
- presenting results by appropriate means including the use of ICT
- evaluating results and drawing conclusions
- classifying and identifying
- understanding the applications and implications of Science

Staffing and Organisation

THE ROLE OF THE SCIENCE CO-ORDINATOR

- To disseminate key training updates to all staff as appropriate.
- To provide support for effective planning and teaching.
- To ensure progression is clear throughout the school, and that staff are aware of what progression across the school looks like.
- To organise, catalogue and update resources.
- To monitor progress in Science teaching learning.

CURRICULUM ORGANISATION AND PLANNING

A variety of teaching methods are used by teachers depending on the intention of the lesson and the children's needs, and 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. Pupils are encouraged to develop their thinking skills and solve problems with clarity. They will be encouraged not merely to focus on end products or results, but to think carefully about how and why things may occur.

PLANNING

Planning should be used to:

a) set clear learning objectives, achievable goals and success criteria
b) ensure work is matched to pupils abilities, experiences and interests
c) ensure progression, continuity and subject coverage throughout the school
d) develop assessment procedures to provide criteria for evaluation of teaching and learning involving all staff

Curriculum planning is:

- **Long Term** (based on the Early Years Foundation Stage and the Key Stage One National Curriculum) See Appendix A – This is adaptable throughout the year depending on the needs of the children and any curriculum changes.

- **Medium Term** (developed by teachers to ensure the National Curriculum objectives are met. Where possible learning is made cross-curricular)

- **Short Term** (weekly adapted to the needs of the pupils).

Planning is the responsibility of each teacher, supported by the Science Subject Leader as and when appropriate; Formative assessment informs planning which enables teachers to provide differentiated learning experiences which meet pupil needs.

CROSS CURRICULAR LINKS

English/ Speaking and Listening	Communicating ideas, reporting and recording
Mathematics	Graphs, charts, and problem solving
Computing	Obtaining information and carrying out research, communicating ideas, reporting and recording, graphs, tables and charts
Art	Drawing diagrams
Geography	Environmental issues and variation
History	Famous scientists and scientific developments
PSHE	Communicating ideas, working in pairs or as a group
DT	Healthy Eating and Science and the world of work

ASSESSMENT, RECORDING AND RECORD KEEPING

Continuity and Progression

Continuity and progression for the children is achieved by close and careful planning of the curriculum by each year group and across the school. This has been adapted due to a change in the Science objectives split between year 1 and 2. See Appendix B

Monitoring Progress and Evaluation

The child's progress in science is continually collected and recorded by the teacher through O-Track. Some science activities are assessed informally through discussion or observation; others may be assessed more formally. In the Foundation Stage observations of independent learning will be used to reflect progress towards the Early Years Foundation Stage Profile.

Assessment

All assessments are made over a period of time and based on the evidence of more than one activity. Assessments will be based on a range of evidence, including children's work, drawings, discussions, observations and photographs. Evidence will also be used from Forest Schools.

Assessment is used to:

- provide diagnostic information about individual/groups (formative)
- plan future teaching and learning
- provide summative information for teachers
- provide information for parents
- contribute to each child's curricular needs

Children's Recording

There are numerous ways for children to record their work:

- simple charts and graphs
- recording on a tape recorder
- painting or drawing
- models
- photographs
- writing
- through the use of ICT
- floor books
- planning to share their learning with others

Teachers will also carry out observations and scribe children's comments and ideas. All of this will be evidence for teachers when Assessing Pupil Progress.

HEALTH AND SAFETY

Each member of staff must have commitment to the school's health and safety policy. Any doubts about the safety of any activity should be shared with the Science Subject Leader, the Headteacher, or the teacher responsible for health and safety.

MONITORING AND EVALUATION OF SCIENCE

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

This will involve:

- scrutiny of work
- observation of science teaching in Foundation Stage and Key Stage 1
- scrutiny of planning
- analysis of data
- evaluation pupil achievement
- the use of resources
- the use made of effective cross curricular links