



Linton CE Infant School

Policy for:

Science curriculum

Agreed by: Curriculum & Data committee

Date: November 2020

Review Date: November 2022

Linton CE Infants where happiness and achievement go hand in hand

Linton CE Infant School: where happiness and achievement go hand in hand

The staff and governors at Linton C.E. Infant school provide an environment where children and all school members can be happy, healthy and safe and achieve their full social and intellectual potential.

We do this by:

- creating a caring, Christian environment,
- creating happy, stimulating and exciting opportunities for learning,
- developing positive relationships based on respect of self and others,
- supporting a creative approach to personal development and growth.

We work in partnership with parents and our community to fully equip children for their future

Introduction

This policy outlines the teaching, organisation and management of the Science taught and learnt at Linton CE Infants School. It reflects the school's values and ethos. The policy has been drawn up after staff consultation and has the full agreement of the governing body. The implementation of the policy is the responsibility of all the teaching staff.

Rationale

At Linton CE Infants School we believe that a high-quality science education provides the foundations for understanding the world through the specific disciplines of biology, chemistry and physics. Science has changed our lives and is vital to the world's future prosperity, and all pupils should be taught essential aspects of the knowledge, methods, processes and uses of science. Through building up a body of key foundational knowledge and concepts, pupils should be encouraged to recognise the power of rational explanation and develop a sense of excitement and curiosity about natural phenomena. They should be encouraged to understand how science can be used to explain what is occurring, predict how things will behave, and analyse causes.

Aims

At Linton CE Infants we aim to:

- Promote an enjoyment of science
- Encourage children to enquire, explore and observe the world around them
- Develop knowledge and understanding of important scientific ideas, processes and skills and relate these to everyday experiences
- Encourage children to make connections with other curriculum areas
- Learn about ways of thinking and find out about and communicate ideas
- Explore values and attitudes through science

Objectives of the Curriculum

In order to achieve our aims we will:

- Teach science in a positive, interesting and engaging way for all children
- Ensure children have the fundamental scientific knowledge needed to meet their curriculum objectives
- Provide regular opportunities for children to plan, predict, carry out and evaluate their own investigations when appropriate
- Use practical, hands on approach wherever possible using everyday materials and experiences
- Ensure continuity and progression through adherence to the key objectives outlined for Reception and Key Stage 1
- Provide opportunities for children to use skills from other curriculum areas e.g. literacy, numeracy and I.C.T. to enhance science

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By the end of each key stage, pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant programme of study.

Foundation Stage

At Linton CE Infants School science is explored both directly through teaching input and indirectly through activities that encourage children to explore, problem solve, observe, predict, think, make decisions and talk about the world around them. This will be taught as part of their topic relating to three areas of the Early Years Foundation Stage curriculum;

Understanding the World

Children explore living things, materials, places and objects in their natural environments. They also consider how environments in different places may differ from their immediate environment. They observe animals and plants, consider how they may change as they grow, and consider what seasonal changes occur throughout the year. They observe and manipulate objects and materials to identify differences and similarities. Children also learn to use their senses. They will be encouraged to ask questions about why things happen or how things work. Children will be asked questions about what they think will happen to help them plan, investigate, record and evaluate their findings.

Expressive Arts and Design

Children will explore colour, texture, shape, form and space. They will learn about sounds and how they can be changed.

Physical Development

Children will learn about changes that happen to their body when they are active. They will also learn about the importance of keeping healthy and the things that contribute to this.

Key Stage 1

In Science, the fundamental knowledge the children must have to explore scientific concepts in greater depth are taught through science lessons covering their curriculum aims. Further scientific skills and knowledge are taught with consideration for the topics being taught at the time. Cross curricular links help to enhance science learning and give children the opportunity to deepen their understanding. The areas taught for each Year Group are set out below.

Year 1

Plants

- Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees.
- Identify and describe the basic structure of a variety of common flowering plants, including trees.

Animals including humans

- Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals.
- Identify and name a variety of common animals that are carnivores, herbivores and omnivores.
- Describe and compare the structure of a variety of common animals.
- Identify, name, draw and label the basic parts of the human body and say which part of your body is associated with each sense.

Everyday Materials

- Distinguish between an object and the material from which it is made.

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- Identify and name a variety of materials, including wood, plastic, glass, metal, water and rock.
- Describe the simple physical properties of a variety of everyday materials.
- Compare and group together a variety of everyday materials on the basis of their simple physical properties.

Seasonal Weather and Change

- Observe changes across the four seasons.
- Observe and describe weather associated with the seasons and how day length varies.

Year 2

Living things and their habitats

- Explore and compare the differences between things that are living, dead, and things that have never been alive
- Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other
- Identify and name a variety of plants and animals in their habitats, including microhabitats
- Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food.

Plants

- Observe and describe how seeds and bulbs grow into mature plants.
- Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.

Animals including humans

- Notice that animals, including humans, have offspring that grow into adults.
- Find out about and describe the basic needs of animals, including humans, for survival (water, food and air).
- Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.

Everyday Materials

- Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.
- Find out how the shapes of solid objects made from some materials can be changed by squashing, bending twisting and stretching.

Working Scientifically

During Year 1 and 2, pupils will be taught to use the following practical scientific methods, processes and skills:

- Asking simple questions and recognising that they can be answered in different ways.
- Observing closely, using simple equipment.
- Performing simple tests, identifying and classifying.
- Using their observations and ideas to suggest answers to questions.
- Gathering and recording data to help in answering questions.

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Organisation

In lessons a variety of approaches will be used to ensure continuity and progression. Lessons will include a blend of whole class teaching, group work and individual work.

Learning activities may consist of

- Groups, usually of mixed ability or differentiated tasks
- Teacher produced work cards
- Relevant discussion at class, group and paired level
- A chance for groups to communicate findings in a variety of ways including the use of ICT

Within a class there will be a wide range of abilities, from those who are more able to those who have special educational needs. The class teacher will provide differentiated activities for the children through task, outcome and resources and the support given to meet the needs of the individual.

Planning

Planning is carried out on 3 levels

- Long term planning of topics covered shown in a curriculum web and mapped out to ensure complete curriculum coverage
- Medium Term planning
- Short Term planning

Planning is the responsibility of individual teachers and should be used to

- Set clear objectives
- Ensure work is matched to pupil's abilities and interests
- Ensure progression, continuity and subject coverage throughout the school.

Assessment and Recording

Assessment will take place at three connected levels: short term (formative) after each lesson, medium term (summative) at the end of each term and long term. These assessments will be used to inform teaching in a continuous cycle of planning, teaching and assessment. Short term assessments will be an informal part of every lesson to check pupil understanding and give information, which will help teachers to adjust day to day lesson plans.

Medium term assessments will take place at the end of each term after each topic has been completed.

Long term assessments will take place towards the end of the school year to assess and review pupil's progress and attainment. These assessments will be drawn from teacher assessment and records and medium term plan assessments. This will be passed on to the pupil's next teacher in line with the schools assessment procedure.

Recording is used to note an individual's progress and to provide guidance for future learning and teaching.

The subject will be monitored by the subject co-ordinator as outlined in the 'Monitoring and Evaluation' Policy. This includes work scrutinies, planning scrutinies, professional dialogue with teachers, reporting and evaluating resources. After these events, feedback will be given to both the Senior Leadership Team and the teaching staff.

Resources

Resources are mostly kept in the store cupboard in the library. Many resources will need to be ordered specifically for each topic. These should be ordered using the order form available from the office and authorised by the subject lead.

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Special Educational Needs and Equal Opportunities

Teachers will provide instruction and guidance on technical processes to take account of individual needs. In line with the school's equal opportunities policy, all children will have an entitlement to all aspects of the curriculum.

Linton Infants cultivates an ethos that recognises and nurtures the unique contributions that can be made by each individual child and member of staff. Our children are from a variety of religious and cultural backgrounds and are encouraged to develop positive and tolerant views of one another and those outside the school community.

We teach Science to all children, whatever their ability. It is part of the school curriculum policy to provide a broad and balanced education for all children. We provide learning opportunities that are matched to the needs of children with learning difficulties. Our work takes into account the targets set in the children's Personal Plan.

We provide learning opportunities that are matched to the needs of children who have English as an additional language (EAL) through the use of talk partners and dialoguing. Where appropriate lessons are supported by visual cues and word banks and investigative work is interactive.

We provide learning opportunities that are matched to the needs of children who are on the Gifted and Talented register through setting challenging tasks.

Review procedures

The school's science policy will be initially reviewed after 2 years, and afterwards when:

- A new coordinator is appointed
- There has been a significant change in staff or pupil intake
- There have been changes in National Curriculum requirements
- New information has been made available affecting an aspect of the policy, for example, health and safety.