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Griffin Primary School

Science Policy

Reviewed By	Approved By	Date of Approval	Version Approved
Daniel Mackinder	Governors	5.5.21	1.0

Whole School Curriculum Intent

At Griffin Primary School we carefully design, plan and implement a curriculum to provide breadth, depth and balance for every child. Our broad and balanced approach to the curriculum is not at the expense of high standards in core subject areas and ensures that all children access the full curriculum. High standards and enabling all children to reach their potential is of vital importance if they are to succeed at the next stage of their education, and to go on to achieve in their chosen career path.

Through careful sequencing of the curriculum, we continue to build in opportunities to develop prior learning of knowledge, skills, vocabulary and understanding in every subject. This ensures that children are able to make links between prior learning and new learning; and gradually develop a deeper understanding of the skills and processes within subject, at their own pace and in the best way possible for each individual child.

Our curriculum ensures that every pupil at Griffin Primary School makes excellent progress academically and personally, while ensuring that every child is given the opportunity to succeed.

Subject Curriculum Intent

- The Science curriculum is designed to equip pupils with the skills and understanding to live in our world.
- Key scientific terminology and knowledge will be introduced each lesson and built on over time to lead to deeper knowledge, with links made where appropriate.
- Opportunities to work scientifically are planned regularly to develop the skills of: observing over time; identifying, classifying and grouping; pattern seeking; comparative and fair testing; research using secondary sources.
- Provide different experiences to enhance the learning, motivation and engagement of pupils which will improve retention of knowledge and encourage pupils to make links.

Subject Curriculum Implementation

The implantation of the Science curriculum is through a number of elements, outlined below:

- LTP
- MTP
- Remember when document
- National Curriculum Coverage document
- Curriculum knowledge
- Subject specific skills
- Subject specific vocabulary
- Recap of prior learning
- Finishing thinkers/challenges
- Assessment
- Teacher subject knowledge

- Resources

Subject Curriculum Impact

- Outcomes of pupils in each year group
- Pupils become aware of the world around them, finding out why things are as they are and becoming curious to find out even more
- Develop a love of learning to take superficial knowledge into deeper knowledge and understanding of the world around us
- Develop aspirations for future engineers (Science/Maths/Technology) using STEM, provide opportunities for STEM sessions and bring in STEM Ambassadors from local employers to raise the profile of careers within these areas

Curriculum Planning

Science is a core subject within the National Curriculum and as such is timetabled to be delivered to all pupils on a weekly basis for a minimum of one hour. The programmes of study for science are set out year-by-year for Key stages 1 and 2 and science is taught on a year-by-year basis.

Planning is carried out on a long-, medium- and short-term basis with both scientific vocabulary and the curriculum knowledge documents used to structure the skills and knowledge needed in each unit planned for. The curriculum is delivered through topics on a half termly basis.

The long-term plan maps out the scientific topics to be studied during each half term in each year group

Medium term plans provide a sequence of learning for each unit of study, breaking it down into individual lessons. Teachers use this document to plan a sequence of science lessons. Opportunities for working scientifically are indicated on the medium term planning. The medium term planning provides; a learning intention, key national curriculum statement, key skills, key vocabulary and sticky knowledge for each lesson.

Teachers are responsible for writing short term plans based on the medium term planning documents. These plans highlight specific learning objectives and expected outcomes for each lesson. There is no government standards or exemplification for Greater Depth in science however as a school we provide and plan for opportunities for children to deepen their understanding.

Timetables are shared with subject leaders and members of the Senior Leadership Team on a half termly basis and on occasions where timetables need to be adapted.

Science is planned to allow the children to build on prior learning. We ensure that there are opportunities for all children to develop their skills and knowledge in each unit so that they are increasingly challenged as they move through the school in order for them to know more and remember more. Teachers assess what is remembered at the start and end of science lessons by referring to the sticky knowledge planned in the medium term planning documents.

Subject Provision across the School

Griffin Primary School has set out our school curriculum for science on a year-by-year basis. 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.

Units also allow for the teaching of 'Working scientifically' for all pupils in all year groups. 'Working scientifically' specifies the understanding of the nature, processes and methods of science for each year group. It should not be taught as a separate strand. It should be embedded within the content of biology, chemistry and physics, focusing on the key features of scientific enquiry, so that pupils learn to use a variety of approaches to answer relevant scientific questions. The skills taught here are crucial to the development of an enquiring mind. These types of scientific enquiry include: observing over time; pattern seeking; identifying, classifying and grouping; comparative and fair testing (controlled investigations); and researching using secondary sources.

The programmes of study for science are set out year-by-year for key stages 1 and 2 and science is taught on a year-by-year basis. However, where there is a mixed year group, it has been identified in the National Curriculum that schools are only required to teach the relevant programme of study by the end of the key stage.

Inclusion of all

At Griffin Primary School, science is taught to all children regardless of their ability and individual needs. Science is part of the broad and balanced curriculum offered to all children. Through the teaching of science, we provide learning opportunities that enable all children to make progress. We strive to meet the needs of all children with special educational needs, those with disabilities, those with special gifts and talents and those learning English as an additional language.

When progress falls significantly outside the expected range the child may have special educational needs. Factors such as classroom organisation, teaching styles and scaffolding are considered so that action may be taken to assist the child in learning more effectively. Lessons are planned to ensure that all children make progress from their individual starting points. Progress is measured against end of year expectations to help ensure that teaching is matched to the child's need.

We enable all children to have access to the full range of activities involved in the teaching and learning of science. Where children are to participate in activities outside the classroom a risk assessment would be carried out prior to the activity to ensure that the activity is safe and appropriate for all pupils.

EYFS

Science is taught in the Foundation Stage under the umbrella of Understanding the World. The early learning goals (we are an Early adopter school for the framework changes) that provide links with science are:

ELG 15 – The Natural World Explore the natural world around them, making observations and drawing pictures of animals and plants., know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class. Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.

ELG 16 - Creating with Materials Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function, share their creations, explaining the process they have used, make use of props and materials when role playing characters in narratives and stories.

The skills of enquiry are also a characteristic of effective learning as highlighted in the Early Years Foundation Stage. Science is taught as part of on-going provision within the Foundation Stage. The mud/outdoor kitchens have a scientific basis as do other areas in EYFS. Children are encouraged to explore using all senses, ask questions and identify similarities and differences and patterns and change.

Resources

There are sufficient resources within school for the delivery of an effective science curriculum. Resources are stored in a secure area of the school building. Where specific resources are required it is the responsibility of the class teacher to request them from the subject leader. The subject leader will then try to fulfil the request. The school libraries topic boxes contain a good supply of science topic books to support learning.

Assessment of Subject

Teachers will assess children's work in Science by making teacher assessment judgements during lessons.

Teachers assess each child at the end of each term and input the data into O track, using the following descriptors:

Working Towards - W - (children are starting to learn and are working towards end of year expectations)

Expected - E - (demonstrating an increasing understanding; working at the expected stage for end of year expectations)

- Marking – class teachers should refer to the school's Marking and Feedback policy for correct procedures in each year group.
- As Science is covered under the umbrella of 'Understanding the World', any mark marking/work/questions that are answered are collected on the Tapestry assessment tool which is shared with the Science subject leader.

Role of the Subject Leader

It is the responsibility of the subject leader to monitor the standards of children's work and the quality of teaching and learning in science. Monitoring may involve looking at planning, scrutinising work, lesson observations and pupil voice. Pupil

voice is valued and helps to inform the vision and aims of science across the school, discussions are held with children to gain an insight into the subject. The subject leader produces an annual action plan for the development of science and also reports termly to the governing body.

This policy will be reviewed every two years.