

YORKMEAD JI SCHOOL (NC)

SCIENCE POLICY

Rationale:

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 it is vital to the world's future prosperity, and all pupils should be taught essential aspects of the knowledge, methods and 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.

(National Curriculum 2014)

Science plays a crucial role in our understanding of the world around us. Our science teaching helps us to prepare children for life, through experiences and exploration of the world in which they live. Children discover, explain and develop skills of enquiry through working scientifically.

Aims:

- All children will have the opportunity to achieve their full potential in their knowledge, skills and understanding, through their scientific experiences
- All children will develop the ability to work independently and co-operatively in scientific activities
- All children are curious about things they observe and experience, through sensory exploration of the world around them
- All children will use their experiences to develop their understanding of key scientific ideas and make links between different phenomena
- All children will develop the skills of predicting, asking questions, making inferences, concluding and evaluating, based on evidence
- All children will develop a respect for all living things and their environments, and for their own health and safety

Curriculum & Planning:

Our school curriculum is developed from the National Curriculum 2014 programmes of study for Key Stage 1 and the EYFS Framework in the Foundation Stage.

Children in the Foundation Stage work towards achieving the Early Learning Goals in 'understanding the world'. Teachers plan specific topics and build upon and develop children's own interests and curiosity about the world they live in.

Yorkmead School is committed to the safeguarding and promoting of well-being for all children.

In Key Stages 1 and 2, teachers plan lessons that are based around the units outlined in the National Curriculum for Key Stage 1. These have been developed into 5 units to be taught over the year. Opportunities for working scientifically are identified and planned for.

Delivering the Curriculum:

In the Foundation Stage, Science (which is embedded in the learning area 'understanding the world') is delivered through a range of child-initiated and adult-initiated activities in the indoor and outdoor learning environment. It is taught alongside other areas of learning. Science in Key Stages 1 and 2 is taught through a weekly science lesson, where possible these are linked to the Creative Curriculum Topics that are taught in each year group. A range of teaching strategies and methods are used.

Continuity & Progression:

The teaching in Key Stage 1 builds upon the Early Learning Goals achieved at the end of the Foundation Stage. Our units of work for Key Stage 1 and 2 follow the progressive sequence of key scientific teaching and learning that is outlined in the National Curriculum. Therefore, taught skills, knowledge and understanding are built upon, unit on unit, year on year. Investigative skills that develop children's ability to work scientifically are fostered throughout all scientific learning.

Key skills:

Language & Literacy:

Language and literacy is a crucial part of our teaching and learning in science, in the following ways:

- Give pupils opportunities to articulate scientific concepts.
- Enable pupils to make their thinking clear to themselves and others
- Enable teachers to remedy pupils' misconceptions through discussion
- Enable pupils to communicate their ideas to a range of audiences
- Read information within secondary sources,
- Label diagrams,
- Write instructions,
- Write descriptions,
- Write evaluations,
- Write explanations,
- Read and spell scientific vocabulary consistent with their word-reading and spelling knowledge

Numeracy & Mathematics:

Our pupils apply mathematics knowledge and skills in science, in the following ways:

- Apply arithmetic fluently to problems

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- Understand and use measures
- Estimate and check their work
- Collect, present and analyse data

Health & Safety:

Activities are planned with regard to our Health and Safety policy. Risk assessments are made by individual teachers appropriate to individual tasks. When working with tools, equipment and materials in practical activities and in different environments, pupils should be taught about hazards, risks and risk control.

Assessment, Recording & Reporting:

Teacher assessments are carried out as part of every classroom activity and it is a continuous process, supported through the school's marking policy and assessment policy. These assessments inform planning and close gaps in learning. Knowledge assessments are used after a topic has been taught. These are used to inform teacher judgement.

In Key Stages 1 and 2, teachers continuously assess pupils against statements on the Science Tracker and record an assessment for science attainment, each half term. Progress in science is reported to parents at parents' evenings and in an end of year report.

Monitoring & Evaluating:

Teaching and learning is monitored through lesson observations, learning walks and work and planning scrutiny. These are led by the Senior Management Team and/or the Subject Leader.

Feedback is given to individual teachers, and patterns may be used to inform the school improvement plan or develop any action points for the Subject Leader.

Assessments are monitored by the Senior Management Team and/or the Subject Leader. Again, patterns identified from the assessment data may inform the school improvement plan or develop any action points for the Subject Leader.

Gifted and Talented

Gifted and talented pupils are supported through differentiated teaching (including higher level questioning and staggered teaching) and the resources provided for them. This is to ensure they make good progress. They should also be encouraged to take a leadership role within the classroom during science lessons.

SEN

Staff ensure that all pupils have equal access to the Science curriculum through identifying individual educational needs and catering for them through differentiated tasks, resources and support (from both other pupils and the teacher). The children's IEP targets are also taken into consideration where appropriate (particularly during written tasks) when teachers are planning for the current cohort.

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Spiritual, Moral, Social and Cultural Development:

- Collaborative lessons in which the children work in groups or pairs provided the opportunity for children to work together and develop co-operation skills
- Collaborative work also gives them the chance to show, share and discuss their ideas and feelings about their own work and the work of others in order to develop mutual respect for the abilities of others.
- Through studying different scientists from varying scientific backgrounds, they are able to develop an understanding of different times, cultures and, where appropriate, the spiritual beliefs of different people.

Monitoring and Review:

The Science Co-ordinator is responsible for monitoring the teaching of this subject. The co-ordinator supports colleagues as necessary and provides regular feedback from planning and book scrutinies as well as offering appropriate support.

The Science policy was reviewed Autumn Term 2017 by Mrs K Hall (Science and DT Co-ordinator)

The policy will be reviewed in the Autumn term of 2019.

Signed _____ (Chair of Governors)

Date: _____