Science Policy

School: Jigsaw Pupil Referral Unit

Date Approved by Management Committee: June 25

Signed by Chair: D. Hains

Headteacher: E. Rothlisberger

Review Date: June 27

POLICY FOR SCIENCE

RATIONALE

Science is a core subject in the National Curriculum. It teaches an understanding of natural phenomena and aims to stimulate a child's curiosity in finding out why things happen in the way that they do. It teaches methods of enquiry and investigation to stimulate creative thought. Pupils should learn to ask scientific questions and begin to appreciate the way in which science will affect the future on a personal, national and global level.

Jigsaw uses the national scheme of work for Science as the basis of its curriculum planning adapted to the particular circumstances of the school in that, areas of study are based the 2014 national curriculum objectives that build upon or link closely across year groups.

OBJECTIVES

During our long term planning we have identified that the following areas offer the most important teaching opportunities for our children;

- Living things and their habitats
- Life cycles including classification of animals and plants
- Anatomy, including nutrition and a healthy lifestyle
- Evolution and inheritance
- Forces
- Weather.

We also aim to;

- ask and answer scientific questions;
- plan and carry out scientific investigations, with the correct use of equipment (including computers);
- know about life processes;
- know about materials, electricity, light, sound and natural forces;
- know about the nature of the solar system, including the earth;

- know how to evaluate evidence and to present conclusions both clearly and accurately.

PLANNING

At Jigsaw Science is delivered as part of our wider creative curriculum which incorporates our topic work. Medium and long term plans have been created to support the teaching and learning of science. Scientific elements will also be covered within our wider topics such as; work on weather which links the geography and science curriculums.
All teachers will plan and deliver science lessons within each topic cycle to meet the objectives that have been identified within the long term curriculum map. Specific lesson planning will be the responsibility of each class teacher, although advice and guidance can be sought from the subject leader.

TIME ALLOCATION

Science will generally be taught as a specific lesson on a weekly basis although as previously mentioned these lessons may also be included discreetly through other sessions.

For those children who attend the unit 5 days per week additional science will also be offered several times per term. The focus of these sessions will predominantly be to promote and enhance the scientific enquiry of the pupils.

TEACHING AND LEARNING

A variety of teaching and learning styles is used in Science lessons. The principal aim is to develop pupil's knowledge, skills, and understanding. Sometimes, through whole-class teaching, while at other times, we engage the pupils in an enquiry-based research activity to fully promote scientific enquiry.

We encourage the pupils to ask, as well as answer, scientific questions. They have the opportunity to use a variety of data, such as statistics, graphs, pictures and photographs. They take part in discussions, and given opportunities to present reports to the rest of the class. They engage in a variety of problem-solving activities. Wherever possible, pupils are involved in real scientific

activities e.g. investigating a specific problem, or carrying out a practical experiment and analysing the results.

We recognise that at any given time pupils in attendance may have a wide range of scientific abilities, and we endeavour to provide suitable learning opportunities for all pupils by matching the challenge of the task to the ability of the child. We achieve this in a variety of ways:

- setting tasks which are open-ended and can have a variety of responses;
- setting tasks of increasing difficulty (we do not expect all pupils to complete all tasks);
- grouping pupils by ability in the room and setting different tasks for each ability group;
- providing resources of different complexity, matched to the ability of the child;
- using teaching assistants to support the work of individual pupils or groups of pupils.

INCLUSION

At Jigsaw Science should be taught to all full time pupils, whatever their ability and individual needs. Science forms part of the school curriculum policy to provide a broad and balanced education to all pupils. Through our Science teaching, we provide learning opportunities that enable all pupils to make good progress.
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- setting suitable learning challenges;
- responding to pupils' diverse learning needs;
- overcoming potential barriers to learning and assessment for individuals and groups of pupils

When progress falls significantly outside the expected range, the child may have special educational needs. Our assessment process looks at a range of factors – classroom organisation, teaching materials, teaching style, and differentiation – so that we can take some additional or different action to enable the child to learn more effectively.
Where pupils are to participate in activities outside the classroom (a trip to a science museum, for example), we carry out a risk assessment prior to the activity, to ensure that the activity is safe and appropriate for all pupils.

EQUAL OPPORTUNITIES

We believe that every pupil should have the opportunity to achieve the highest possible standards.
We ensure that all pupils, irrespective of their ethnicity, attainment and ability, age, disability, gender or background, have equality of access to learning.
The curriculum we offer in the school encourages pupils to develop positive attitudes about themselves as well as to people who are different from themselves. It encourages pupils to empathise with others and to begin to develop the skills of critical thinking.
We recognise that pupils have different learning styles, making appropriate provision within the curriculum to ensure each child receives the widest possible opportunity to develop their skills and abilities.
We ensure that pupils learning English as an additional language have full access to the curriculum and are supported in their learning.

RESOURCES

We have limited resources for Science teaching units in the school. *(This is an area identified for development.)*

CROSS CURRICULAR LINKS

Literacy
Science contributes significantly to the teaching of English in our school by actively promoting the skills of reading, writing, speaking and listening.
The pupils develop oral skills in Science lessons through discussions (e.g. about the environment) and through recounting their observations of scientific experiments.
They develop their writing skills through writing reports and projects and by recording information.

Numeracy
Science contributes to the teaching of Numeracy in a number of ways; many of their answers and conclusions include numbers.
When pupils use weights and measures, they are learning to use and apply number. They develop accuracy in their observation and recording of events. Through working on investigations, they learn to estimate and predict.

Spiritual, moral, social and cultural development

Science teaching offers pupils many opportunities to examine some of the fundamental questions in life e.g. the evolution of living things and how the world was created.

Through many of the amazing processes that affect living things, pupils develop a sense of awe and wonder regarding the nature of our world. Science raises many social and moral questions.

Through the teaching of Science, pupils have the opportunity to discuss, for example, the effects of smoking and the moral questions involved in this issue. We give them the chance to reflect on the way people care for the planet, and how Science can contribute to the way in which we manage the Earth's resources.

ICT

ICT enhances the teaching of Science significantly, because there are some tasks for which ICT is particularly useful. It also offers ways of impacting on learning which are not possible with conventional methods.

Programmes accessible via the internet or used on IWB are used to animate and model scientific concepts, and to allow pupils to investigate processes which it would be impracticable to do directly in the classroom.

Pupils use ICT to record, present and interpret data, to review, modify and evaluate their work, and to improve its presentation.

Databases are used to assist in the collection of data and in producing tables and graphs.

Pupils learn how to find, select, and analyse information on the Internet and on other media.

Geography

Many topics within geography naturally offer a range of cross curricular links to the science curriculum. This allows for both discreet and intended links between the two subjects. It also enables us to rely on skills that have been gained within the science curriculum to support learning within the geography curriculum.

PUPIL PROGRESS

Pupils work in Science will be assessed by making informal judgements during lessons. Written or verbal feedback is given to the child to help guide his/her

progress. More able pupils are encouraged to make judgements about how they can improve their own work.
On completion of a piece of work, the teacher assesses it and uses this assessment to plan for future learning.
At the end of a unit of work pupils are assessed against knowledge and skills assessment grids if appropriate. The school science lead will keep a list of assessments to ensure feedback to schools is correct or to assist in writing reports for the child.

POLICY REVIEW

This policy should be reviewed annually in consultation with staff and LEA Consultant. Following this review recommendations are made for the development of the subject.