



## **Pendle Community High School & College**

### **Science & Environmental Studies Policy**

#### **Document Purpose**

This policy reflects the school values and philosophy in relation to the teaching and learning of Science and Environmental Studies. The policy draws together National Curriculum guidelines and statutory requirements for Key Stages 3 and 4, but also includes elements of Key Stages 1 and 2 as well as promoting the Spiritual, Moral, Social and Cultural (SMSC) development which includes British Values.

The policy seeks to address the individual learning needs of our young people and sets out a framework within which teaching staff can operate and provides guidance on planning, teaching and assessment.

This policy should be read in conjunction with the Scheme(s) of Work for Science which sets out in detail what our learners in different Key Stages of different ability ranges will be taught.

This policy has been approved by the Governing Body following consultation with the wider teaching staff and is subject to regular annual reviews by the staff team and Governors.

#### **Audience**

This document is intended for all staff and other stakeholders with classroom responsibilities, school governors, parents, the Local Authority and Ofsted. A copy of this policy is made available for all staff within the curriculum policy file on the T Drive. A copy of this policy is also available to parents via the website.

#### **Aims**

At Pendle Community High School & College Science promotes SMSC development, enabling learners to become more self-confident, responsible and independent, within their own parameters. It also helps to give learners the knowledge, skills and understanding they need to lead healthy lives and to become informed, active, responsible citizens. Learners are encouraged to take part in a wide range of activities and experiences across and beyond the curriculum, contributing to the best of their ability, to the life of the school and the community. This is achieved through a variety of aims including:

- To understand that as individuals, we depend on family, school and society.
- To use appropriate behaviour, according to the situation.
- To relate positively to others.



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- To exercise personal responsibility and initiative.
- To enable learners to value, respect and be proud of their own cultural background and understand the traditions of other cultures.
- To recognise and challenge stereotypes and discrimination.
- For learners to develop a sense of personal worth.
- To foster learner's appreciation of the significance, awe and wonder of life.
- To be able to understand the difference between right and wrong.

The national curriculum for science aims to ensure that all pupils:

- develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics
- develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them
- are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future

### **Time Allocation / Cross-Curricular Links**

The subject of Science is allocated the appropriate amount of time, taking into account NC guidance, to provide all learners with a broad and balanced curriculum which is appropriate for their needs. For some learners the breadth and balance of the curriculum is addressed through personalised timetables.

This subject affords opportunities to link to other curriculum areas such as:

- **Literacy** (e.g. Writing up results of practical work, labelling plant labels with names and dates, fictional and non-fictional texts, writing instructions, time connectives, prediction and discussions, reading instructions from seed packets.)
- **Numeracy** (e.g. A survey on minibeasts found in the Sensory Garden and growth of bean plants over a period of time. Germination, gestation and hatching times. Use of dibbers to measure soil depth.)
- **Digital Literacy** (e.g. Creating a PowerPoint presentation linked to our tree survey. Use of digital microscope to examine small objects, use of digital labeller, use of camera and ipad to record work, time lapse photography).



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- **PSHE** (e.g. Care of living things and nutrition. Life cycles and reproduction, healthy eating, puberty, emotions and feelings, coping with loss.)
- **Cooking & Nutrition** (e.g. The Plot to Pot initiative where plants grown in the sensory garden are used in Food Technology lessons. Calorific values of foods. Healthy Eating and the classes of food, knowing the uses of plants, sorting pictures of plants and animals, nutrition, food from the sea, identification of resources and equipment, edible parts of plants, food above and below ground, sourcing food).
- **Vocational Education** (e.g. Mini Enterprise initiatives linked to Sensory Garden work; growing plants from seed e.g. vegetables and herbs)
- **Geography** (e.g. Growing plants from around the world and finding their countries of origin).
- **Art** (e.g. Light and the colours of the Spectrum, bark and leaf rubbings, use of Modroc to make leaf models)
- **RE** (e.g. Care for the environment, biblical plants, the creation)
- **History** (e.g. Season change, sequencing, life cycles of humans, evolution, observe change over longer periods of time, famous inventors and scientists, plague, black death)

### **Meeting the needs of all learners within the science Curriculum**

Our learners at Pendle Community High School & College have Moderate, Severe and / or Profound and Multiple Learning Difficulties including other associated difficulties such as Autism, Multi-Sensory, Visual & Hearing Impairment(s).

The wide range of needs of our learners holds no barrier to accessing the learning opportunities within the Science curriculum.

For pupils who have sensory impairments and/ or physical disabilities and for those who experience developmental delay, Science is based upon a multi-sensory approach, which starts from direct experience and progresses to structured activities and experiences using concrete materials.



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To enable the staff at Pendle Community High School & College to fully address the range of needs of the pupils and to enable us to show progression within the activities for the appropriate Key Stage; the Programmes of Study as outlined in the Scheme of Work for Science have been differentiated into 3 broad descriptions of learners:-

**Independent** learners are students who are able to communicate with fluency and who are able to make reasoned choices, work and act co-operatively in a small group and with varying support, work independently.

**Supported** learners are students whose learning is supported through structured patterns of communication and social activity to enable them to develop positive social behaviour.

**Experiential** learners are students whose learning needs are met primarily through experiences and activities which are multi – sensory and stimulate learning through kinaesthetic approaches and the senses of touch, hearing, taste, sight and smell. It is crucially and respectfully stated that these learners may be denied some senses due to their disability and may require a greater range of learning experiences. (Julie Hicklin and Jane Dowell, 2006)

Using this personal approach, teachers can devise activities in all areas of Science, which are planned specifically at the appropriate level of need and ability for all learners, which also allows learning outcomes, recording and assessment to be directly linked to learning objectives. (Refer to **Appendix 1: Teaching & Learning Guidance**)

At Pendle Community High School & College the *non-statutory / statutory* guidance identified in the National Curriculum Programmes of Study for Science have been adapted to ensure that coverage is appropriate for the needs of all learners. This can be found in the subject map and schemes of work for Science as found in **Appendices 2 & 3**.

## **Assessment, Recording and Reporting of Pupil Progress**

### **Introduction - Monitoring Pupil Progress and Achievement**

At Pendle Community High School & College, we have a good knowledge of the strengths and areas for development of individual learners. From this, accurate judgements can be discerned to ensure targets are sufficiently challenging to meet staff's high expectations through:

- Continuous Teacher assessment based on P Scales and B Squared.



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- External assessment leading to nationally recognised accreditation.
- The monitoring and evaluation of Individual Education Plans (IEPs) and individual objectives, target planning and recording.

In addition, summative information can be found through:

- End of Key Stage 4 & 5 Record of Achievements.
- The Annual Review of a learner Education, Health & Care Plan.
- Through the annual End of Year Report.

Additional supporting comments can be gathered through:

- Regular Parents' Evenings.
- Comments and input from parents and other professionals.

These contribute to supporting the staff team to fully monitor, evaluate and record pupil's progress.

### **Subject Development and Resources**

The whole school development of Science and purchase of resources for is planned through the annual Subject Development Planning cycle and expenditure evaluated as part of that process.

The Subject Leader is responsible for providing a regularly updated audit of resources available for their subject area which is made available to all teachers with a further copy available in the staff work room and relevant storage area.

***Most of the Science resources are kept in the storeroom which is locked. Garden equipment such as forks and rakes are stored in the shed in the Sensory Garden.***

### **Health and Safety**

The Subject Leader for Science has a general responsibility for the application of the LA and Schools Safety Policies within their subject area and is directly



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responsible to the Headteacher for the application of all health, safety and welfare measures and procedures within their own department/ area or work.

All employees working within the subject area and/ or specialist room have a responsibility to take reasonable care of their own health, safety (including suitable dress and footwear) and welfare of other persons who may be affected by their acts or omissions while at work. They also have a responsibility to co-operate with the Subject Leader so that employers can comply with their statutory duties and specific responsibilities in terms of Health and Safety as identified below:-

**The Science Room** is locked at all times when not in use. Pupils may not access the room without an adult being present. To ensure the room is located there is a key safe positioned just outside the classroom door.

**Science Store Room** is kept locked at all times and pupils are not allowed to enter. Equipment that is used on a regular basis is kept on shelves at waist height to avoid unnecessary bending and stretching. Heavier items are not stored on high shelves.

**Hazardous chemicals** are not stored in the Science room. We have an arrangement with PVC Science Department to borrow items such as weak acids etc. which are returned promptly at the end of the lesson.

The **shed** within the horticulture area is used to store horticultural equipment and is checked regularly by staff under the direction of the Subject Leader to ensure that items are stored correctly and safely.

The **plants** grown in the Sensory Garden have been checked to ensure that they do not pose any risk to the student. All students are told regularly that they can only taste/eat plants when directed by the subject teacher.

#### **Appendices:**

- 1. Teaching & Learning Guidance**
- 2. Subject Maps for Key Stages 3 & 4**
- 3. Schemes of Work**

#### **Footnote:**

**This curriculum policy for Science should be read in conjunction with the 'Whole School Policy for Curriculum, School Organisation, Curriculum Planning and Assessment Reporting & Recording'.**

Policy redrafted: November 2015



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Policy approved by Staff: 16<sup>th</sup> November 2015

Policy approved by Governors: 23<sup>rd</sup> June 2016

Review date:

Signed: \_\_\_\_\_ Date: \_\_\_\_\_  
(Chair of Curriculum Committee)

Signed: \_\_\_\_\_ Date: \_\_\_\_\_  
(Headteacher)