

## Science Curriculum Policy

Date	Review Date	Endorsed by	Approved by	Link Governor
Dec 2016	Dec 2017	Curriculum and Community Committee	Governing Body	Steven Lock

We at The Devonshire Hill Nursery and Primary School believe 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.' (The National Curriculum in England Framework Document (DfE) 2014)

We have a duty to ensure compliance with the revised National Curriculum and with the application of the new programmes of study and attainment targets. We understand that 'the National Curriculum provides pupils with an introduction to the core knowledge that they need to be educated citizens.'

Our well-balanced and cross-curricular programme of study promotes the spiritual, moral, cultural, mental and physical development of pupils and prepares them for the opportunities, responsibilities and experiences of later life. We will develop pupils' spoken language, reading and writing in all subjects and will develop pupils' mathematical fluency.

We work closely with our House Captains and House Representatives to hear their views and opinions as we acknowledge and support Article 12 of the United Nations Convention on the Rights of the Child that children should be encouraged to form and to express their views.

We as a school community have a commitment to promote equality. Therefore, an equality impact assessment has been undertaken and we believe this policy is in line with the Equality Act 2010.

We believe it is essential that this policy clearly identifies and outlines the roles and responsibilities of all those involved in the procedures and arrangements that is connected with this policy.

This policy is to be read in conjunction with the following documents:

- Designing and Timetabling the Primary Curriculum - a practical guide for Key Stage 1 and 2 – **Guidance A**
- National curriculum in England: Science programmes of study – **Guidance B**

### Aims

- To ensure that all pupils develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics.
- To ensure that all pupils 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.
- To ensure that all pupils are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future.
- To promote the teaching of English and Maths within all subjects.

- To share good practice within the school.
- To work with other schools to share good practice in order to improve this policy.

## **Roles and Responsibility for the Policy**

The Governing Body has:

- Appointed a member of staff to be responsible for the curriculum leadership of Science;
- Delegated powers and responsibilities to the Headteacher to ensure all school personnel and stakeholders are aware of and comply with this policy;
- Responsibility for ensuring compliance with the legal requirements of the National Curriculum;
- Responsibility for ensuring that the school complies with all equalities legislation;
- Nominated a designated Equalities governor to ensure that appropriate action will be taken to deal with all prejudice related incidents or incidents which are a breach of this policy;
- Responsibility for ensuring funding is in place to support this policy;
- Responsibility for ensuring this policy and all linked policies are maintained and updated regularly;
- Responsibility for ensuring all policies are made available to parents;
- The responsibility of involving the House Captains and House Representatives in the development, approval, implementation and review of this policy;
- Nominated a link governor to visit the school regularly, to liaise with the Headteacher and the School Leader for Science and to report back to the Governing Body;
- Responsibility for the effective implementation, monitoring and evaluation of this policy

The Headteacher and the Senior Leadership Team will:

- Ensure all school personnel are aware of and comply with this policy;
- Work closely with the School Leader for Science and the link governor;
- Ensure compliance with the legal requirements of the National Curriculum;
- Encourage parents to take an active role in curriculum development;
- Provide leadership and vision in respect of equality;
- Provide guidance, support and training to all staff;
- Monitor the effectiveness of this policy by:
  - Observing teaching and learning
  - Monitoring planning and pupils' exercise books
  - Discussions with pupils, House Captains and House Representatives
- Annually report to the Governing Body on the success and development of this policy

The Subject Leader will:

- Lead the development of this policy throughout the school;
- Work closely with the Headteacher, the nominated governor and SENCO;
- Be accountable for standards in Science;
- Monitor standards by:
  - Auditing the subject area
  - Review of the scheme of work
  - Monitoring teachers planning
  - Lesson observations
  - Scrutinising children's work
  - Discussions with pupils
  - Learning walks
- Ensure continuity and progression throughout the school;
- Devise a subject improvement plan;
- Provide guidance and support to all staff;

- Provide training for all staff on induction and when the need arises regarding;
- Attend appropriate and relevant INSET;
- Keep up to date with new developments;
- Undertake an annual audit and stock take of resources;
- Purchase new resources when required and in preparation for the new academic year;
- Manage the subject budget effectively;
- Undertake risk assessments when required;
- Annually report to the Governing Body on the success and development of this policy

The Link Governor will:

- Work closely with the Headteacher and the School Leader for Science;
- Ensure this policy and other linked policies are up to date;
- Ensure that everyone connected with the school is aware of this policy;
- Attend training related to this policy;
- Annually report to the Governing Body on the success and development of this policy

Teachers will:

- Comply with all aspects of this policy;
- Work closely with the School Leader for Science to develop this policy;
- Devise medium and short term planning;
- Develop mathematical fluency, numeracy and mathematical understanding in all subjects;
- Develop pupils' spoken language, reading, writing and vocabulary in all subjects;
- Plan and deliver good to outstanding lessons;
- Plan differentiated lessons which are interactive, engaging and of a good pace
- Have high expectations for all children and will provide work that will challenge and extend them;
- Assess, record and report on the development, progress and attainment of pupils;
- Achieve high standards;
- Celebrate the success of pupils in lessons
- Implement the school's equalities policy and schemes;
- Report and deal with all incidents of discrimination;
- Attend appropriate training sessions on equality;
- Report any concerns they have on any aspect of the school community

Pupils will:

- Be aware of and comply with this policy;
- Be encouraged to work in partnership with the school by making decisions and exercising choice in relation to their educational programme;
- Listen carefully to all instructions given by the teacher;
- Ask for further help if they do not understand;
- Participate fully in all lessons;
- Participate in discussions concerning progress and attainment;
- Treat others, their work and equipment with respect;
- Adhere to the School Rules to ensure the smooth running of the school;
- Liaise with their House Captains;
- Take part in questionnaires and surveys

The House Captains and House Representatives will be involved in:

- Determining this policy with the Governing Body;
- Discussing improvements to this policy during the school year;
- Organising surveys to gauge the thoughts of all pupils;
- Reviewing the effectiveness of this policy with the Governing Body

Parents/Carers will:

- Be aware of and comply with this policy;
- Be encouraged to take an active role in the life of the school by attending:
  - Parents' and open evenings
  - Parent-teacher consultations
  - Curriculum development workshops
- Be encouraged to work in school as volunteers;
- Be encouraged to respond to curriculum information newsletter;
- Be informed via termly newsletters of their child's topics;
- Asked to provide suggestions and ideas for improving Science;
- Be asked to take part periodic surveys conducted by the school on curriculum development;
- Be invited to make presentations to pupils on aspects of Science;
- Encourage effort and achievement;
- Encourage completion of homework and return it to school;
- Provide the right conditions for homework to take place;
- Expect their child to hand in homework on time;
- Join the school in celebrating success of their child's learning;

### **Policy Procedure**

The direction set out in this policy will be used to guide the planning, delivery and the teaching of the Science curriculum across the school.

### **Teaching and Learning Style**

We use a variety of teaching and learning styles in order to develop children's knowledge, skills and understanding. The Science programme of study is delivered through our own in-house Topic Curriculum; whereby our pupils access all areas of the Science National Curriculum through themed topics of study. Each half term a focus topic is used to provide a context within which pupils explore related areas of the Science Curriculum. The topics we teach have been selected in order to enable meaningful and creative links to be made across curriculum areas and ensure that all areas of the Science Curriculum can be covered.

At The Devonshire Hill Nursery and Primary School, we also understand the value of extended learning through educational trips, visits and experts visiting our school.

### **Curriculum Planning and Organisation**

Teachers collaborate on the planning of the subject to ensure parity in provision and to share expertise. Curriculum planning is managed in three phases namely:

#### Long Term Planning

- Details what is to be taught in each topic over the year
- Provides overall objectives for each year group for the whole year
- Is developed by the School Leader for Science in conjunction with the school's team of middle and senior leaders.

#### Medium Term Planning

- Organises the subject into half-termly sections
- Is more detailed and the objectives are more specific in nature
- Is developed by the teachers, who respond to the needs of their pupils
- Ensures a balanced distribution of work is undertaken across each term

## Short Term Planning

- Details the subject curriculum over the week
- Plans lessons in detail with specific class objectives

## Links with Computing

The use of computing technology will promote, enhance and support the teaching of Science.

## Inclusion

We believe that we are an educationally inclusive school as we are concerned about the teaching and learning, achievements, attitudes and well-being of all our pupils. We aim to provide places for all pupils who express a preference to join this school.

We work hard to offer equality of opportunity and diversity to all groups of pupils within school such as children:

- From both sexes;
- Who have Special Educational Needs;
- Who are looked after;
- From minority faiths, ethnicities, travelers, asylum seekers, refugees;
- Who are gifted and talented;
- Who are at risk of disaffection;
- Who are young carers;
- Who are sick;
- Who have behavioural, emotional and social needs;
- From families who are under stress.

We believe we have a duty to ensure that all children have equal rights to the opportunities offered by education and that all children will be encouraged to fulfil their potential in their academic, physical and creative achievements.

We want to give all children the right to access high quality educational experiences, to take part in a broad and balanced curriculum and to be part of the social life of the school.

We recognise that within the school we have more able, gifted and talented children. We believe that:

- More able children demonstrate a higher ability to exceed age related expectations than average for the class and often require differentiated tasks and opportunities to learn through challenges;
- Gifted children are those who have the ability to exceed age related expectations in more than one subject;
- Talented children demonstrate an innate talent or skill in creative, cultural or sporting fields

We have an even greater obligation to plan and deliver well-structured lessons with appropriate assessment plus ambitious targets for pupils who have low levels of prior attainment or come from disadvantaged backgrounds.

Also, we have a duty to cater for pupils whose first language is not English by planning teaching opportunities to help them develop their English and to gain full access to the National Curriculum.

## Differentiation

Differentiation is best defined as 'the process by which differences between learners are accommodated so that all students in a group have the best possible chance of learning.' (Geoff Petty)

The main purpose of differentiation is to challenge and raise standards of learning by ensuring that curriculum objectives are accessible to all our children despite their backgrounds or abilities. We see differentiation as a form of integration and not exclusion.

Differentiation must reflect the learning objective and can be achieved in a variety of ways either by task, by support or by outcome and should be chosen by fitness for purpose.

We want all children to achieve success, therefore we will ensure they are given differentiated tasks that are matched to their level of attainment so that they can demonstrate successfully what they know, understand and can do.

The main feature of effective differentiation is good planning resulting in effective teaching and learning with children making good progress. Also we expect to see in all classes interested, well-motivated children responding to challenges, children working productively on task and being aware of their own progression.

### **Special Educational Needs**

We want pupils with identified special educational needs to have full access to all subjects of the National Curriculum with teachers planning lessons that have no barriers to pupils achieving and with appropriate targets relating to the subject.

### **Assessment for Learning**

Teachers will:

- Carry out continuous assessment;
- Use formative assessments within lessons matched to the learning objective to adjust their teaching and future planning;
- Make comments in pupil's books related to the learning objective;
- Carry out mid-term assessments to measure progress against key objectives, adjust future planning in line with pupils' curiosity and address misconceptions;
- Carry out termly assessment to assess progress against targets;
- Administer national tests and assessment in Y2 and Y6;
- Inform parents and carers of their child's progress and targets

### **Monitoring & Review of the Subject**

Monitoring of standards of children's work and the quality of teaching is the responsibility of the School Leader for Science supported by the Headteacher and the SLT.

Standards will be monitored by:

- Looking at pupil's work
- Lesson observations
- Pupil discussions
- Scrutiny of planning
- Learning Walks

### **Contribution of the Subject to other Areas of the Curriculum**

Science contributes to many subjects within the primary curriculum and every opportunity is sought to draw scientific experience out of a wide range of activities. This allows children to begin to use and apply scientific skills and knowledge in real contexts.

## **Resources**

The school has a full range of resources to support the teaching of this subject throughout all year groups. Resources are upgraded and replenished when the need arises. An annual stock take and audit is undertaken by the School Leader for Science/Learning Resource Assistant in the summer term in preparation for the next academic year.

## **Raising Awareness of this Policy**

We will raise awareness of this policy via:

- The school website
- The Staff Shared computer drive
- Meetings with parents
- School events
- Meetings with school personnel
- Communications with home such as Curriculum Statements
- Reports such annual report to parents and Headteacher reports to the Governing Body

## **Training**

All school personnel:

- Have equal chances of training, career development and promotion
- Receive training on this policy on induction which specifically covers:
  - National Curriculum programmes of study and attainment targets for all subjects
  - Teaching and learning
  - Planning
  - Assessment
  - Key skills
- Receive periodic training so that they are kept up to date with new information
- Receive equal opportunities training on induction

## **Equality Impact Assessment**

Under the Equality Act 2010 we have a duty not to discriminate against people on the basis of their age, disability, gender, gender identity, pregnancy or maternity, race, religion or belief and sexual orientation.

This policy has been equality impact assessed and we believe that it is in line with the Equality Act 2010 as it is fair, it does not prioritise or disadvantage any pupil and it helps to promote equality at this school.

## **Monitoring the Effectiveness of the Policy**

The practical application of this policy will be reviewed annually or when the need arises by the coordinator, the Headteacher and the link governor.

A statement of the policy's effectiveness and the necessary recommendations for improvement will be presented to the Governing Body for further discussion and endorsement.

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**This policy was reviewed and endorsed by the Full Governing Body of The Devonshire Hill Nursery and Primary School on Tuesday 20<sup>th</sup> December 2016.**