



The Southfield Trust

The Lindfield School

Curriculum Policy for

Science

The Lindfield School strives to provide a positive, safe and caring community where students are happy, confident and successful.

We recognise and respect each student as an individual, celebrate their successes, raise their self esteem and prepare them for their future by building on their strengths.

We aim to develop students' independence and empower them to become responsible young adults with the ambition to be lifelong achievers.



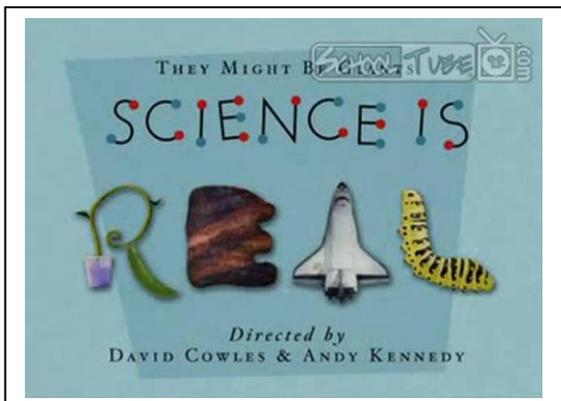
'Science is an integral part of modern culture. It stretches the imagination and creativity of young people. Its challenges are quite enormous.'

Professor Malcolm Longair, CBE, FRS, FRSE. Emeritus Jacksonian Professor of Natural Philosophy



'Somewhere, something incredible is waiting to be known'

Dr Carl Sagan, astronomer and author



'The proof is with Science, the truth is with Science, Science is REAL!'

They Might Be Giants (music group)

Core Values of the Lindfield School

To give students the skills to:

- pursue a love of learning into adult life
- communicate confidently and effectively
- develop their independence in order to succeed in adult life
- form and maintain appropriate positive relationships
- promote their own physical and emotional health & well-being

Subject Aims

At The Lindfield School, we put a great emphasis on the student as an individual and addressing every students needs in order for them to make progress in social understanding and communication. In the science department our aims are to inspire students to work together on these key skills, but we also justify the special place our subject has in the curriculum by pointing to the extra benefits our subject brings:

- Real experience of the world around us
- The ability to make sense of the world through science
- The opportunity to engage with a world that is increasingly driven by science and technology

An understanding of science and scientific processes will, we hope, enable our students to become citizens who can form independent opinions about key issues (such as climate change, producing electricity, endangered species etc) and effect events around them, rather than being passive passengers through life. This is not just for their time at school, but for the rest of their lives.

We aim to provide all students with a broad, balanced science education that:

- Is suitable for all abilities at the Lindfield School, ensuring that all students fulfill their potential
- Covers all areas of the 2014 Science National Curriculum
- Meets the sensory needs of all students, giving them opportunities to learn through a range of different experiences
- Strives to ensure that all students have a recognised qualification/award at the end of their science studies at the Lindfield School wherever possible

However, we feel that over-riding all this is the will to provide them with rich experiences in the science lab that will spark all their senses and imaginations to leave them with life long memories of a happy purposeful atmosphere.

Most of all.....we want our students to learn about science through having **FUN!**

Outline of Curriculum

Key Stage 3:

The KS3 scheme of work has been arranged into 12 units – 4 each from Biology, Chemistry and Physics. These units contain the content from Curriculum 2014, but students will be taught to a level that is appropriate for their ability. There is one unit taught per academic term in Years 7 & 8.

Key Stage 4:

The KS4 Curriculum is based around:

- *Pearson Edexcel Entry Level Certificate in Science (NSC0)*
- *Pearson Edexcel Entry Level Certificate in Further Science (NSF0)*

These two entry levels each have 6 topics (2 biology, 2 Chemistry and 2 Physics) and the students spend 1 ½ terms on each topic throughout years 9, 10 and 11.

The content covered has been designed to overlap with the GCSE course:

- *Pearson Edexcel Level 1/Level 2 GCSE (9 - 1) in Combined Science (1SC0)*

More able students will be entered for this Double award GCSE during Year 11.

Teaching & Learning

The teaching of science should:

- ensure that every student is actively engaged and enthusiastic about their studies within the subject
- give students a balanced curriculum that covers all areas of science at an appropriate level
- allow students to develop communication skills by providing opportunities for sharing thoughts and ideas with staff and peers.
- give the students opportunities for hands-on science learning through practical investigation wherever possible.
- help students think about topics in a scientific and logical way and gain real experience of the science in the world around them.
- provide learning experiences that have a balance between investigative work, practical problem solving and recording scientific activities

Assessment

In KS3 & KS4 assessment of student' learning will take four forms:

1. Each lesson, work will be marked in front of the student. This will provide instant verbal feedback; a 'spiral' code; and a keyword for improvement.
2. Each time a learning objective is covered the student will assess their own understanding and fill out the self-assessment in their folders
3. Each week the teacher will review the books or folders to assess progress on keywords given and provide an overview of the week's learning.
4. At the end of each term, the folders will be used to update classroom monitor online.

In addition to this, KS4 students will have externally-set tests at the end of each topic. These are administered and marked by the school and moderated by Pearson. There is no set time for how long the student takes to complete each test, but they typically take around 15 minutes. Each test makes up 16.67% of the qualification



Marking & Feedback

Each student has a folder to act as a record of their learning.

At the beginning of each term, a sheet with the Learning Objectives for that term is put into each folder – this will provide a day to day record of their progress towards each objective.

Assessment of student' learning will take four forms:

1. Each lesson work will be **marked** and **verbal feedback** given to student.
2. Each time a Learning Objective will be encouraged to reflect on their own learning and make a **Self-Assessment** of their understanding.
3. Each week the teacher will **review** the books or folders and provide more detailed **written feedback** if necessary.
4. At the end of each term, the folders will be used to update **Classroom monitor** online.

Equality & Diversity within the subject

We provide an equal opportunities curriculum in which no student is discriminated against as a consequence of ethnicity, social background, special needs, in line with our equality and diversity policies.

ASD

Students with ASD may show strengths in science as it is a logical and visual subject. Students' sensory needs are taken into account by removing or modifying external inputs. We use visual examples to demonstrate the end result and show the process involved to reduce anxiety and clarify learning intentions.

For students who may become obsessive or anxious about how to complete a task, we support their learning stage by stage using demonstrations and steps to success. Students can become overly concerned with health and safety aspects of projects and are given clear rules and reassurance.

Speech and Language Difficulties

New scientific vocabulary is introduced and rehearsed as appropriate. Students are given social targets and are encouraged to discuss their ideas in small groups.

Physical difficulties/Dyspraxia

Students may have difficulty handling tools and equipment and are supported in this. The aim is for students to develop fine and gross motor skills and use tools independently.

Dyslexia/Dyscalculia

Students who struggle with written instructions are supported with signing and communication in print where necessary. Tasks are broken down into smaller steps.

Sensory Needs

The sensory needs of all students are taken into account, giving them opportunities to learn through a range of different experiences. Students who are sensitive to noise and odours are warned before they occur.

Behaviour

Students with complex behavioural needs are supported with strategies to help them access the curriculum fully. Poor behaviour is dealt with in line with the behaviour and rewards policy.

Links to SMCS

- **Spiritual:** Awe and wonder in understanding nature and phenomena
- **Moral:** Environmental issues and Eco education; Safety;
- **Cultural:** Scientists and inventors around the world
- **Social:** Healthy living; Careers in science and engineering, Global citizenship

Links to Children's Rights

Article 24

I have the right to good quality health care, clean water and good food

- Clean Water and sanitation (in KS4 Chemistry topic)
- Importance of nutritious food (in KS3 Healthy Eating and KS3 Health and disease)
- Importance of good quality healthcare (in KS4 Health and disease)
- Importance of a clean environment (in KS4 Health and disease)

Article 33

The Government should make sure I know about dangerous drugs and what they do and that I am protected from coming into contact with them

- The types of drug and their dangers (in KS4 Health and disease)

Links to investors in Careers

Careers in Animal care have been our main focus during careers week – with focus on the needs and rights of the animals.

Other careers are highlighted as they come up e.g. Electricians during the electricity and magnetism topic; Dieticians during the healthy eating topics; Healthcare professionals during the Health and disease topics.

Links to LOtC

Use of the habitat around the school and local area to study flora and fauna.

Trips to Herstmonceux Science Centre, Druscilla's Zoo and Legoland to take advantage of workshops and facilities.