



Science Policy

Schedule for Development, Monitoring and Review	
Approved by governors on:	16 th June 2022
Implementation monitored by:	Jude Colver
Review arrangements:	Annually unless any further changes
Reviewed:	2022
The next review of this policy:	2023

SCIENCE POLICY

GENERIC AIMS

The aim of this policy is to inform all stakeholders of the teaching and learning within the subject of Science for KS3 and KS4 students who are part of Leicester Partnership School.

The purpose of the Science curriculum is to provide students with the foundations for understanding the world through specific disciplines of Biology, Chemistry and Physics. The students are taught essential aspects of the knowledge, methods, processes and uses of Science. Our aim is to create scientifically literate citizens who can engage in an informed way with scientific issues that affect them and society. In addition to this grounding of subject specific knowledge, we want students to be able to apply their knowledge to new and varied situations and to utilise the methodologies of scientific enquiry and competency in practical skills in order to ask further questions about the natural world.

KS3

AIMS

The principal focus of Science teaching in KS3 is to develop a deeper understanding of a range of scientific ideas in the subjects of Biology, Chemistry and Physics.

Students will begin to see the connections between these subjects and become aware of some of the big ideas underpinning scientific knowledge and understanding.

The order of the units has been chosen by thinking deeply about the connections between topics in each subject area of Biology, Chemistry or Physics.

Working Scientifically

Throughout the Schemes of Work students are taught:

- Scientific attitudes
- Experimental skills
- Analysis
- Evaluation
- Measurement skills

In addition, at the end of each half-term there are a set of lessons where students have an opportunity to practise these key skills through set practical investigations which can be separately assessed with progress being measured across the year.

CURRICULUM COMPONENTS

Science helps students to develop the following:

- Practical skills
- Team work
- Appreciation of how to work safely and the importance of following instructions
- Scientific literacy
- Numerical skills
- Graphical skills
- Accurate analysis and interpretation of results
- Evaluation of experimental methods.

PROGRAMMES OF STUDY

1. Laboratory Induction
2. Health and Safety in Science
3. Using Bunsen Burners
4. Health and Exercise
5. Acids and Alkalis
6. Energy
7. The Human Body
8. Particles and reactions
9. Electrical circuits
10. Reproduction
11. The Solar System
12. The Periodic Table
13. The Five kingdoms
14. Food chains and Food webs

Embedded in all these topic areas are practical investigations

Link to the Programme of study from the Dept. of Education: National Curriculum

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/335174/SECONDARY_national_curriculum_-_Science_220714.pdf

As there are learners of different ability, Schemes of Work are adapted from Key Stage 2 & 3.

Links to the Schemes of Work: STEM Learning

<https://www.stem.org.uk/elibrary/resource/29140>

<https://www.stem.org.uk/elibrary/resource/29139>

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ASSESSMENT

The method of assessment at KS3 is ipsitive where students identify what they already know prior to a topic and then compare this with what they know after the topic has been taught. Work produced in topic answer booklets is used to assess progress and identify how students might improve.

KS4

AIMS

The overall aim of Science at KS4 is for students to gain a BTEC Level 1/Level 2 First Award in Principles of Applied Science.

COURSE COMPONENTS

There are four Units to this course:

Unit 1 is 25% and exam based

Units 2-4 is coursework based- 75 %.

PROGRAMMES OF STUDY

UNIT 1- Principles of Science

- Exploring cells, organs and genes
- Exploring the roles of the nervous and endocrine systems in homeostasis and communication
- Exploring atomic structure and the periodic table
- Exploring substances and chemical reactions
- Exploring the importance of energy stores, energy transfers and energy transformations
- Exploring the properties and applications of waves in the electromagnetic spectrum.

Unit 2: Chemistry and Our Earth: Coursework

- Investigate chemical reactivity and bonding
- Investigate how the uses of chemical substances depend on their chemical and physical properties
- Investigate the factors involved in the rate of chemical reactions D understand the factors that are affecting the Earth and its environment.

Unit 3: Energy and our Universe: Coursework

- Understand ionising radiation, its uses and sources

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- Know how electrical energy produced from different sources can be transferred through the National Grid to homes and industry
- Know the components of the Solar System, the way the Universe is changing and the methods we use to explore space.

Unit 4: Biology and our environment: Coursework

- Investigate the relationships that different organisms have with each other and with their environment
- Demonstrate an understanding of the effects of human activity on the environment and how these effects can be measured
- Explore the factors that affect human health

ASSESSMENT

The BTEC in Science qualification has assessment criteria from the examination board that the assessor and moderators adhere to.

Link to the specification

https://qualifications.pearson.com/content/dam/pdf/BTEC-Firsts/Applied-Science/2012/Specification-and-sample-assessments/9781446937259_BTECFIRST_L12_AWD_POAS_Iss2.pdf

Unit 1- Externally Assessed- 30 Guided Learning Hours

Unit 2- Internally Assessed- 30 Guided Learning Hours

Unit 3- Internally Assessed- 30 Guided Learning Hours

Unit 4- Internally Assessed- 30 Guided Learning Hours

ACHIEVEMENT AT KS4

BTEC Principles of Applied Science has four achievement levels

Level 1

Level 2 Pass

Level 2 MERIT

Level 2 Distinction

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MONITORING AND EVALUATION

The monitoring and evaluation of this policy takes place through the following:

- Lesson Observations
- Learning Walks
- Work Scrutinies
- Marking Scrutinies
- Assessment Data Tracking
- Performance Management
- Appraisals
- Staff Meetings