Landau Learner Curriculum Overview

Subject: Science **Director of Learning: DDB** **Year: 9**

Curriculum organisation

Students are taught in groups based on ability for the equivalent of 5 single session per week. Most students follow the AQA Combined Science pathway, which includes Biology, Chemistry and Physics and is the equivalent of 2 GCSEs or some students follow the AQA Separate Science pathway; resulting in 1 GCSE in each of Biology, Chemistry and Physics.

What topics will students be studying this year? Includes links to National Curriculum, Curriculum Intent and Prior Related Learning*

Term 1:

- Cell biology
- Atomic structure & Periodic table
- Energy
- Interpreting data and drawing graphs

Links: Prior learning KS3 –
Understanding of the composition of biological cells, the particle model of substances and the processes involved in energy transfer. An overview of the Periodic table and how elements are arranged.

GCSE Specification:
Combined Science – Cell biology, Atomic structure & the Periodic table, Energy
Separate Science - Cell biology, Atomic structure and the Periodic table, Energy

Curriculum Intent:
Development of knowledge, literacy, numeracy and practical skills. Students are equipped to think critically about the world around them and aware of the social, economic and ethical issues.

Term 2:

- Cell biology
- Atomic structure & Periodic table
- Energy
- Interpreting data and drawing graphs

Links: Prior learning KS3 –
Understanding of the composition of biological cells, the particle model of substances and the processes involved in energy transfer. An overview of the Periodic table and how elements are arranged.

GCSE Specification:
Combined Science – Cell biology, Atomic structure and the Periodic table, Energy
Separate Science – Cell biology, Atomic structure and the Periodic table, Energy

Curriculum Intent:
Development of knowledge, literacy, numeracy and practical skills. Students are equipped to think critically about the world around them and aware of the social, economic and ethical issues.

Term 3:

- Organisation of biological systems
- Bonding & Structure in chemicals
- Electricity
- Mathematical skills

Links: Prior learning KS3 –
Understanding of the digestive systems. Knowledge of plant structure and photosynthesis. An understanding that elements can form compounds in reactions. Knowledge of electrical components and the measurement of current and potential difference.

GCSE Specification:
Combined Science – Organisation, Bonding, structure and the properties of matter, Electricity
Separate Science – Organisation, Bonding, structure and the properties of matter, Electricity

Curriculum Intent:
Development of knowledge, literacy, numeracy and practical skills. Students are equipped to think critically about the world around them and aware of the social, economic and ethical issues.

Term 4:

- Infection & Response
- Energy changes in Chemistry
- Particle model of matter
- Working scientifically and required practicals
- Chemical analysis

Links: Prior learning KS3 –
An understanding of a variety of chemical reactions, including reactions that involve the transfer of chemical energy, Knowledge of the particle model of substances.

GCSE Specification:
Combined Science – Infection and response, Energy changes, Particle model of matter
Separate Science – Infection and response, Energy changes, Particle model of matter

Curriculum Intent:
Development of knowledge, literacy, numeracy and practical skills. Students are equipped to think critically about the world around them and aware of the social, economic and ethical issues.

Term 5:

- Infection & Response
- Energy changes in Chemistry
- Particle model of matter
- Working scientifically and required practicals
- Chemical analysis

Links: Prior learning KS3 –
An understanding of a variety of chemical reactions, including reactions that involve the transfer of chemical energy, Knowledge of the particle model of substances.

GCSE Specification:
Combined Science – Infection and response, Energy changes, Chemical analysis, Particle model of matter
Separate Science – Infection and response Energy changes, Chemical analysis, Particle model of matter

Curriculum Intent:
Development of knowledge, literacy, numeracy and practical skills. Students are equipped to think critically about the world around them and aware of the social, economic and ethical issues.

Equipment needed for sessions:

- Science exercise book.
- CGP Science revision guide (Combined Science or Biology, Chemistry and Physics).
- Their Science teacher will provide worksheets and information that are being used in session.

What can you do to support your child?

- Encourage your child to regularly read their CGP Science revision guide.
- Encourage your child to complete the homework tasks set by their Science teachers to a high standard, asking them to show you their finished work.
- Encourage your child to complete any set tasks on Educake, and encourage them to complete additional questions they can set themselves.

How will learning be assessed and progress measured?

- Trial examinations carried out at selected points during the year.
- End of topic summative assessments.
- Marking of homework/written assessments is carried out on a regular basis in line with the College marking policy.
- Regular peer and self-marking.

Extension and enrichment activities:

- Science clinic extension – every week on Monday.