



Subject: Science

Head of Department: Mrs K Leung-Chester

Curriculum Intent

An enquiring and curious mind is vital to the world of science and at Hornchurch High, we deliver a science curriculum that is broad, progressive and ambitious. Our curriculum is rich in skills and knowledge and has been meticulously planned to allow for a smooth progression so that skills are developed early and built upon over time. We have high expectations of each pupil with appropriate levels of support and challenge put in place. Our clubs allow our students to innovate ideas, think critically and hone their research skills while nurturing the natural curiosity of each student. Our students, through their learning, leave us with a variety of transferable skills that can be applied in the workplace and prepare them well for future learning, and as active members of society.

Year 7 Topics

- Autumn Term 1 – Scientific enquiry AND Organisms
- Autumn Term 2 – Matter and Forces
- Spring Term 1 – Ecosystems
- Spring Term 2 – Chemical changes
- Summer Term 1 – Electricity
- Summer Term 2 – Reproduction

Year 8 Topics

- Autumn Term 1 – Food and Nutrition and periodic table
- Autumn Term 2 – Waves
- Spring Term 1 – Staying Healthy
- Spring Term 2 – Reactions
- Summer Term 1 – Energy
- Summer Term 2 – The Earth and Plants

Year 9 Topics

- Autumn Term 1 – Cell biology
- Autumn Term 2 – Atomic structure and the periodic table
- Spring Term 1 – Energy
- Spring Term 2 – Organisation in animals and chemical change
- Summer Term 1 – Electricity



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- Summer Term 2 – Energy and Respiration

Year 10 Topics

- Autumn Term 1 – Atomic structure and the periodic table, structure and bonding.
- Autumn Term 2 – Ecology
- Spring Term 1 – forces
- Spring Term 2 – Quantitative chemistry and chemical changes
- Summer Term 1 – Inheritance and energy changes
- Summer Term 2 – Homeostasis

Year 11 Topics

- Autumn Term 1 – Forces and chemical analysis
- Autumn Term 2 – Rates of reaction
- Spring Term 1 – chemistry of the atmosphere and using resources
- Spring Term 2 – Preparation for terminal exams
- Summer Term 1 – Exam period
- Summer Term 2 – Exam period

GCSE Specification Details and Assessment:

AQA (Combined Science: Trilogy 8464)

Or

AQA (Biology 8461, Chemistry 8462, Physics 8463)

Assessment is through terminal examinations. In Combined science all students will sit six exam papers lasting 1hr 15mins each accounting for 16.7% of the mark towards the final two GCSE grades. In Separate science, each of the three GCSEs is assessed by two 1hr 45min exams accounting for 50% of the grade.

<https://www.aqa.org.uk/subjects/science/gcse/combined-science-trilogy-8464>

<https://www.aqa.org.uk/subjects/science/gcse/biology-8461>

<https://www.aqa.org.uk/subjects/science/gcse/chemistry-8462>

<https://www.aqa.org.uk/subjects/science/gcse/physics-8463>

Spiritual, moral, social and cultural development (SMSC)



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Science is using evidence to make sense of the world. Through our lessons we encourage pupils to work together on scientific investigations and to share results (to improve reliability). Within our science lessons, pupils consider the social impact (both positive and negative) of science and technology. For example, in the ecology and environmental topics students study and discuss the impact of human beings on the environment, the problems created by industry and possible solutions. Ethical and moral decisions are an important aspect of Science. As teachers, we encourage pupils to be both open minded (generating a hypothesis) and critical (demanding evidence) when debating or discussing ethical issues in science such as cloning, genetic modification, nuclear power, climate change.

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