



Science at NSG

Year 7/8

Students are taught in their Tutor Groups and have two double lessons per week.

We have developed bespoke courses for the new Key Stage 3 National Curriculum, based on the "Activate" materials in both years. Both the Year 7 and Year 8 courses have been taught for several years we have been delighted by the positive response from the students and with their progress.

Year 7 Topics

1. Working Scientifically
2. Cells
3. The Human Body
4. Reproduction
5. Particles
6. Elements
7. Chemical Reactions
8. Acids and Alkalis
9. Forces
10. Space
11. Sound
12. Light

Year 8 Topics

1. Health and Nutrition
2. Ecosystems
3. Adaptation and Inheritance
4. The Periodic Table
5. Separation Techniques
6. Metals and Acids
7. The Earth
8. Electricity and Magnetism
9. Energy
10. Pressure and Motion

Year 9

Students have two double and one single lesson each week.

There are 2 Triple Science groups in each half-year, 1 smaller group receiving additional support and 3 mixed groups.

This marks the start of the KS4 course. Students are studying the AQA (9-1) Trilogy Combined Science course.

Year 10

Students attend 3 double lessons per week.

There are 2 Triple Science groups in each half year, most of whom attained level 6 or above at the end of KS3. Students in these groups will complete AQA (9-1) Separate Science courses.

The 3 Combined Science groups in each half-year are mixed ability. There is an expectation that most will gain grade 5 or above and will attempt the Higher paper, but there will be some Foundation students in each group. Students in these groups will complete AQA (9-1) Trilogy Combined Science course.

1 group in each half-year will be submitted for OCR Entry level Science and the AQA (9-1) Trilogy Combined Science course. This is a small group of students who need additional support.

Year 11

Students attend 3 double lessons per week.

Year 11 students are grouped according to their choice of either Combined or Triple Science. There are 2 groups of Triple, as well as 4 Combined Science groups in each half year.

All labs have class sets of Hodder Education (1-9) GCSE Biology, Chemistry and Physics textbooks which contain all the material required by students studying both the Combined Science and Triple Science courses.

In all year groups, the work is run on a modular rolling programme which is clearly outlined in the prep rooms. All work schemes are differentiated with core, support and extension materials available.

There are regular end of unit tests set every 3 / 4 weeks and results are used for assessment purposes.

GCSE Units

Biology

1. Cell Biology
2. Organisation
3. Infection
4. Bioenergetics
5. Homeostasis
6. Inheritance
7. Ecology

Chemistry

1. Atomic Structure
2. Bonding
3. Quantitative Chemistry
4. Chemical Changes
5. Energy Changes
6. Rates & Equilibrium
7. Organic Chemistry
8. Chemical Analysis
9. Atmosphere
10. Resources

Physics

1. Energy
2. Electricity
3. Particle Model
4. Radioactivity
5. Forces
6. Waves
7. Magnetism
8. Space

Year 12 / 13

Post – 16 courses are thriving at NSG, with about 80 science students in Year 12 and 70 in year 13 each year. All Biology, Chemistry and Physics students study the AQA A-level courses and will be entered for their AS exams at the end of year 12 and their A-level exams at the end of year 13. A BTEC Level 3 National in Applied Science is also available for post 16 students. All students in years 12 and 13 are provided with text books and course material.

NSG Science Department – Key Stage 4 subject specifications

AQA GCSE Combined Science: Trilogy (8464)

AQA GCSE Biology (8461)

AQA GCSE Chemistry (8462)

AQA GCSE Physics (8463)

OCR Entry Level Science (R483)

NSG Science Department – Key Stage 5 subject specifications

AQA AS-Level Biology (7401)

AQA A-Level Biology (7402)

AQA AS-Level Chemistry (7404)

AQA A-Level Chemistry (7405)

AQA AS-Level Physics (7407)

AQA A-Level Physics (7408)

BTEC Level 3 Nationals in Applied Science (601/7434/1)

Accommodation

We are very lucky to have a new, modern Science block. There are 12 laboratories in the Science block, situated on 2 floors with a Prep room, staff area and computer area on each floor. Every lab has its own SMARTboard and projector with a wealth of software available for use. There is one trolley of laptops on each floor, which can be booked as required. There is also a set of laptops to use with data logging equipment.

There is workspace for each colleague in the staff areas. There is a computer and printer for staff use only in each and network points that can be used with our laptops. There is wireless internet access throughout the building.

Resources are managed by the laboratory technicians who have work areas in the prep rooms. There are 3 qualified technicians, who keep the department running smoothly.