Science at Norbury High

Overview

The Science Faculty is committed to ensuring that all students reach their full potential through a rigorous, broad, challenging, enjoyable, adaptable and culturally diverse curriculum. We aspire to nurture students who are skilled critical thinkers, open-minded, problem solvers, and innovators, team players, kind, caring, resilient and tenacious. We develop the minds of students by providing access to a variety of courses that will support their curiosity, creativity, communication and critical thinking. We empower our students to become confident informed citizens who are capable of comprehending, analysing and making well-reasoned judgement on global issues. We work with parents, carers and other stakeholders to achieve the best outcomes for our students. At the conclusion of their secondary education, our students will be capable of applying their scientific knowledge to current issues, making connections between scientific disciplines and pursuing post-secondary education or careers in the fields of science and engineering.

L2 Biology for Year 12

The AQA Level 2 Biology course (GCSE, Specification 8461) is a comprehensive, one-year pathway designed to build a deep foundational understanding of living organisms, human physiology, and global ecosystems.

Here is a concise breakdown of how the course is structured across its content, required practicals, and exams.

Course Structure and Content

The curriculum splits seven core topics into two logical halves, explicitly mapped to the two final exam papers:

Paper 1 Topics	Paper 2 Topics
1. **Cell Biology** (Structures, transport, and cell division)	5. **Homeostasis and Response** (The nervous system, hormones, and control)
2. **Organisation** (Human digestive/circulatory systems and plant transport)	6. **Inheritance, Variation, and Evolution** (Genetics, reproduction, and selective breeding)
3. **Infection and Response** (Communicable diseases and immunology)	7. **Ecology** (Adaptations, ecosystems, and biodiversity)
4. **Bioenergetics** (Photosynthesis and respiration)	

The 10 Required Practicals (RPs)

Rather than a separate coursework grade, practical skills are developed in class and assessed directly within the written exams, accounting for **at least 15% of the total marks**.

Paper 1 Practicals

- **RP 1 (Microscopy):** Preparing and observing plant and animal cells under a light microscope.
- **RP 2 (Microbiology):** Investigating the effects of antibiotics or antiseptics on bacterial growth.
- **RP 3 (Osmosis):** Determining the effect of different sugar/salt concentrations on plant tissue mass.
- **RP 4 (Food Tests):** Using qualitative reagents to identify carbohydrates, lipids, and proteins.
- **RP 5 (Enzymes):** Investigating how pH affects the rate of reaction of amylase.
- **RP 6 (Photosynthesis):** Measuring how light intensity affects the oxygen output of pondweed.

Paper 2 Practicals

- **RP 7 (Reaction Time):** Using the ruler-drop test to observe the effects of a factor on human reflex speed.
- **RP 8 (Plant Responses):** Investigating the effects of light or gravity on the growth of germinating seedlings.
- **RP 9 (Field Investigations):** Using quadrats and transects to measure the distribution and abundance of a species.
- **RP 10 (Decay):** Investigating how temperature affects the rate of decay of milk (by tracking pH changes).

Examination Scheme

Assessment takes place at the end of the year via two written exams. Students sit either Foundation Tier (grades 1–5) or Higher Tier (grades 4–9).

- **Paper 1**
    - **Covers:** Topics 1 to 4
    - **Format:** 1 hour 45 minutes | 100 marks | 50% of GCSE
    - **Questions:** Multiple-choice, structured, closed short-answer, and open response.
- **Paper 2**
    - **Covers:** Topics 5 to 7

- **Format:** 1 hour 45 minutes | 100 marks | 50% of GCSE
- **Questions:** Multiple-choice, structured, closed short-answer, and open response.

USEFUL RESOURCES

There are excellent resources available to help your revision. Please visit and use the websites below and also download the apps.

WEBSITES

AQA: For copies of the syllabuses, past paper questions and more information from AQA, go to: http://www.aqa.org.uk/subjects/science/gcse and follow the links to specific subjects.

BBC Bitesize: https://www.bbc.co.uk/education/levels/z98jmp3

Free Science Lessons: https://www.freesciencelessons.co.uk/

Cognito: https://cognitoedu.org/home

Physics and Maths Tutor: https://www.physicsandmathstutor.com/

Seneca: https://senecalearning.com/en-GB/

APPS

There are several good apps available for you to download including:

Revision Buddies – Large selection of multiple-choice questions to choose from

Gojimo – Excellent question-based activities

GCSE 9-1 Scholastic Revision – Excellent revision planning and questions, just choose your subject and you are good to go

Brainscape Smart Flashcards – Excellent revision flashcards