The Norton Knatchbull Baccalaureate – Academic

Curriculum Intent

Curriculum Vision | Biology

Biology sometimes reveals its fundamental principles through what may seem at first to be arcane and bizarre.
Elizabeth Blackburn

The Biology Curriculum at The Norton Knatchbull School aims to ensure that:

- Students develop their fascination, curiosity, scientific knowledge and conceptual understanding in Biology to fully appreciate how findings have shaped and shape our entire world and their everyday lives.
- Students build up, and confidently use specialist vocabulary to explain fundamental biological principles
- Students answer scientific questions through questioning, enquiry, observation and investigative research
- Students can competently demonstrate their Working Scientifically and practical skills, enabling further understanding of life on Earth and beyond.

- We are ambitious for, and have high expectations of, all our pupils and know that every student can experience success through obtaining a high level of knowledge and understanding around how biology impacts on our everyday lives.

- We believe that every student at NKS, regardless of prior or current attainment, has the right to an appreciation of the vast range of biological concepts such as **Ecology, pharmacology, commercial applications of plant science, medicine, microbiology, genetics, Evolution, biochemistry and physiology.**

- Our use of investigative and enquiry practices across all classes ensures all students, including those with SEND, make progress in mathematics, working scientifically, and practical investigative skills as well as problem solving skills.

- We have a fundamental belief that all children an entitled to experience the richness and difficulty of authentic material, such as when researching the advantages and disadvantages of statins, keeping pace with an ever-evolving world where new biotechnologies, discoveries and theories are developing at a fast pace.

- Our biology curriculum aims to equip our students with, problem solving skills and a logical approach to tackling the why questions of life, giving them a greater understanding of the wider world and preparing them for life beyond compulsory school age. With critical thinking skills to enable them to navigate the mire of information out there and make informed choices about very important issues such as diet, lifestyle, health and medicine, environmental issues and our ever-changing world.

- Biology empowers our students with the independent and interpersonal skills and opportunities to work in future fields as diverse as cloning, space travel, genetic engineering, genetic medicinal interventions, epigenetics, environmental engineering and Natural Sciences.

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MY BIOLOGY JOURNEY

EXAM
FINAL EXAM

Pre-release article

Year 13 PPE

Nervous system, Brain & CPAC

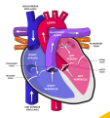
Respiration, Movement & CPAC

Year 13 PPE

Immunity, Forensics & CPAC

Ecosystems & CPAC

YEAR 13



EXAM
FINAL EXAM

YEAR 12

Lifestyle and Health & CPAC

Genes and Health & CPAC

The Genome & CPAC

Biodiversity & CPAC

Year 12 PPE

A LEVEL SELECTION

Year 11 PPE

Required Practicals

Ecology

Variation and Evolution

Year 11 PPE

Genetics

YEAR 11

YEAR 10

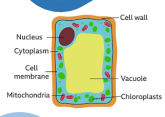
Health Matters

Coordination and Control

Required Practicals

YEAR 10 PPE

Required Practicals



Moving and changing Materials

Required Practicals

Photosynthesis

Required Practicals

Cell Biology

YEAR 9

YEAR 8

Working Scientifically Biology C

Health and Lifestyle and Biological processes

Cell Systems, Ecosystems and Ecology. Biology D

Assessment at the end of each unit

Reproduction and Inheritance

Working Scientifically Biology B

Cells and Body Systems

Working Scientifically. Biology A

Base line assessment at the start of each unit

YEAR 7

A Level

The Year 12 course starts with GCSE transition tasks and the teaching of organ systems, cells and biochemistry. This unit is continually revisited through out the two year course. We use the required practical activities to back up theoretical concepts allowing students to have an inquiry led experience.

Key Stage 4

Key topics of Cells and organisation are continually revisited, and this knowledge is built upon and skills are embedded using modelling, mathematics as well as investigative work.

Key Stage 3

The aim of KS3 curriculum is for students to master the key skills and build foundational knowledge which can be applied to challenging and unfamiliar contexts.

The KS3 curriculum is broken down into topics from each of the three specialisms. Students focus on one topic before moving onto the next, enabling students to link their learning.

In Year 9 students begin the GCSE course allowing allow students the opportunity to study Triple Sciences.