



Separate Biology Key Stage 4 Overview

What is my Learning Journey for Year 10 and 11?

Content – Reproduction, DNA, inheritance, inherited disorders, variation, evolution, selective breeding, genetic engineering, fossils, extinction and classification

Bigger Picture Focus – To understand how we can use our knowledge of genetics to enhance crops, develop more valuable livestock as well as appreciating how our actions have caused the loss of species



Content – Homeostasis, the nervous system, hormonal coordination, blood glucose control, menstrual cycle, infertility and contraception

Bigger Picture Focus – To understand how we can manipulate the hormonal system to prevent pregnancy or help people have children who normally would not be able to.

Exams:

-6 x 75 minute papers – 2 for biology, 2 for chemistry, 2 for physics
There is no coursework element.

Assessments:

-End of unit tests
--6 mark question practice for each unit

#realworldready

- Appreciate how scientific understanding can lead to the development of cures and treatments for diseases to save lives
- Understand how to minimise our impact on the organisms in the world around us
- Consider whether just because science allows us to manipulate organisms, should we be allowed to?
- Understand the importance of science to a wide variety of careers.

Useful websites and support

- GCSE bitesize
- GCSEpod
- Oak Academy
- Seneca
- Educake
- Savemyexams
- Physics and maths tutor

Home Learning

- Weekly interleaving quizzes and homework
- Other tasks may include:
 - 6 mark question practice for each unit
 - Past paper practice
 - Flipped learning tasks

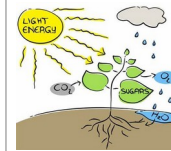
B5 Homeostasis and response



B6 Inheritance, variation and evolution

Content – Photosynthesis, rates of photosynthesis, aerobic and anaerobic respiration, responses to exercise and metabolism.

Bigger Picture Focus – To understand the role of plants in our ecosystems and how, without them, we would not be here.



B7 Ecology

Content – Interdependence, adaptation, ecosystems, recycling materials, biodiversity and human impacts.

Bigger Picture Focus – To consider the impacts our actions have on other organisms and ways we can make positive changes.



B3 Infection

Content – Levels of organisation, food, digestion, enzymes, heart and blood, cardiovascular disease, cancer, plant organs and plant transport

Bigger Picture Focus – To link how understanding how our bodies work enable scientists to develop a variety of ways of treating diseases.

B4 Bioenergetics

Content – Pathogens and the diseases they cause, human defences and the immune response, vaccination, antibiotics, drug discovery and development.

Bigger Picture Focus – To examine the different types of diseases and ways we can prevent their spread and treat them to save lives around the world.

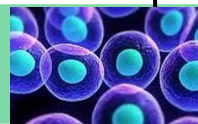
YEAR 11

Content – Cells, specialised cells, microscopy, cell division, stem cells and transport in cells.

Bigger Picture Focus – To understand how knowledge of the fundamental building blocks that make up living organisms and can lead to the development of therapies to cure diseases.

YEAR 10

B1 Cells



B2 Organisation and response



Scan this QR code to take you to the specification we study.



Recommended reading for KS4 Science



Title	Author	Year	Science Topic
The Senses	Matteo Farinella	10	Cells, Working Scientifically, Skeleton, Light and sound,
Never home alone	Rob Dunn	10	Microbes and disease, Working Scientifically, Living things and their habitats, Human Biology, Cells
Exploring the Elements	Isabel thomas	10	Working Scientifically, Elements, Chemistry, Atomic Structure
What If?	Randall Munroe	11	Working scientifically, Cells and Organisation, Health and drugs, Ecosystems, Genetics and Evolution, Particles, Atoms, Elements and compounds, The Periodic Table, Materials, Earth and the atmosphere, Energy, Motion and Forces, Waves, Electricity, Space Physics, Atomic Structure.
Lab Girl	Hope Jahren	11	Plants, Botany, Working Scientifically, Photosynthesis, Ecology, Living things and their habitats
Question Everything - 132 Science questions	Mick O'Hare	10	All Biology, Chemistry and Physics
Does anything eat wasps and 101 other questions	Mick O'Hare	10	All Biology, Chemistry and Physics
The Body - A guide for occupants	Bill Bryson	10	Biology