

‘The Aspiring Biologist’

KS4/5



**CHELTENHAM
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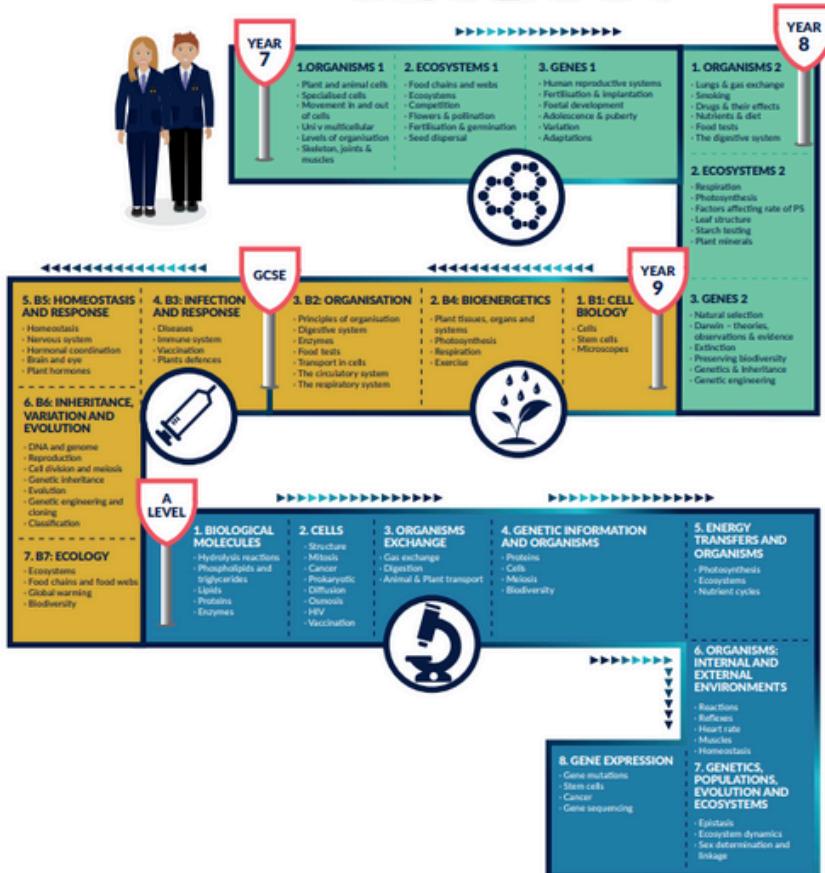


Inspiring lives through learning

'The Aspiring Biologist'



BIOLOGY



'The Aspiring Biologist'



Biology isn't just something that grows in a petri dish — it shapes every heartbeat, every ecosystem, every species, and every breakthrough that helps us understand life itself.

This booklet brings together ideas, articles, and books to expand your sense of what it really means to think like a biologist. Whether you're studying at GCSE or A level, let these pages be a starting point: each suggestion is a doorway into a new corner of the living world.

The journey into biology reaches far beyond the syllabus — it's about curiosity, connection, and the questions that make us want to explore life in all its forms.

Good luck!

Head of Biology

Reading list



The Selfish Gene - Richard Dawkins

The Selfish Gene is a 1976 book by ethologist Richard Dawkins that promotes the gene-centered view of evolution, as opposed to views focused on the organism and the group.

The Blind Watchmaker - Richard Dawkins

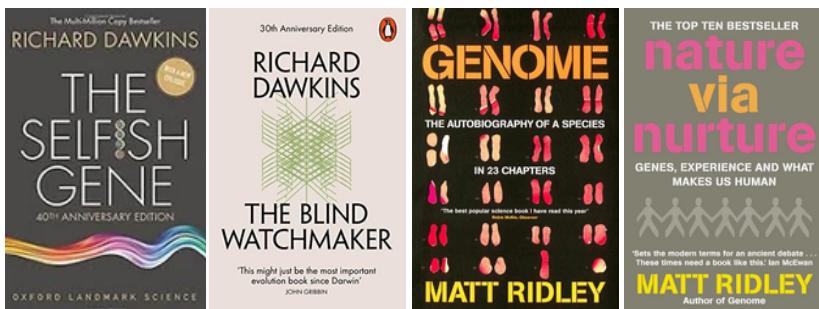
Acclaimed as the most influential work on evolution written in the last hundred years, The Blind Watchmaker offers an inspiring and accessible introduction to one of the most important scientific discoveries of all time.

Genome - Matt Ridley

The most important investigation of genetic science since The Selfish Gene, from the author of the critically acclaimed and best-selling The Red Queen and The Origins of Virtue.

Nature via Nurture - Matt Ridley

A follow up to Genome. Armed with the extraordinary new discoveries about our genes, Ridley turns his attention to the nature versus nurture debate to bring the first popular account of the roots of human behaviour. What makes us who we are?



Competitions



The British Biology Olympiad (BBO)

An online challenge with two 45-minute papers that test problem-solving using unfamiliar biological ideas. High-scoring students can progress to further training and may be selected to represent the UK at the International Biology Olympiad.

 Competition dates:
19th to 28th January 2026

British Biology Olympiad

Join over 18,000 students worldwide and take part in this year's online competition.

- Free for UK schools
- No extra material or revision required
- Participants rewarded with e-certificates
- Free BioNet membership of the Royal Society of Biology for participants aged 14-19
- Top-scoring students at schools in the UK have the opportunity to take part in selection for the International Biology Olympiad



 Further details can be found at: ukbiologycompetitions.org

 United Kingdom Biology Competitions, Registered Charity No. 1191027

Listen and Watch



Podcasts



New Scientist Podcast

From the evolution of intelligent life to the mysteries of consciousness, from the threat of the climate crisis to the search for dark matter, The world, the universe and us is your essential weekly dose of science and wonder in an uncertain world.



Nature Podcast

The Nature Podcast brings you the best stories from the world of science each week. We cover everything from astronomy to zoology, highlighting the most exciting research from each issue of the Nature journal. We meet the scientists behind the results and provide in-depth analysis from Nature's journalists and editors.



The Infinite Monkey Cage - BBC Podcast

Professor Brian Cox and Robin Ince host a witty, irreverent look at the world through scientists' eyes. Joined by a panel of scientists, experts and celebrity science enthusiasts they investigate life, the universe and everything in between.



Science Weekly - The Guardian

Twice a week, the Guardian brings you the latest science and environment news

Listen and Watch



Films/YouTube/TV



All David Attenborough documentaries!



My Octopus Teacher (2020) - Netflix

A documentary film directed by Pippa Ehrlich and James Reed. It documents a year spent by filmmaker Craig Foster forging a relationship with a wild common octopus in a South African kelp forest.



"How AI could generate new life-forms" by Eric Nguyen (2025):

This TED Talk discusses how AI is being used to "write" DNA sequences and entire genomes, potentially allowing for the design of new life forms and personalized medicine.



"Why building new proteins from scratch is our new superpower" by David Baker (2025)

A TED Talk where Baker explains how computer programs and AI are designing novel proteins that don't exist in nature, with functions like binding to and blocking viruses or cancer cells.

Listen and Watch



Social media

@royalsocbio

The official Instagram for the Royal Society of Biology, the membership organisation for biologists and biology enthusiasts worldwide

@bbcsciencefocus

The official Instagram page for BBC Science Focus Magazine.

@nocnews

Gaining a deeper understanding of our ocean and coastlines through ground-breaking research, collaboration and innovation! Go Deeper



@roslininstitute

Where Dolly the sheep was born! We aim to enhance the lives of animals and people through pioneering animal bioscience.

Work Experience and Events



There are many exciting work experience opportunities within the biological and life sciences sector. These placements let you step outside the classroom and see how biology is used in real workplaces.

Work experience in a biology-related setting offers:

- Practical skills – Hands-on experience with lab equipment, biological testing, or fieldwork.
- Career insight – A chance to discover which areas of biology interest you most, such as healthcare, ecology, physiology or animal science.
- Confidence and communication – Working with professionals builds teamwork, communication and problem-solving skills.
- Employability – Real-world experience strengthens university, apprenticeship and job applications.

A wide range of organisations offer valuable biology-related experience, including:

- Hospital laboratories such as phlebotomy or pathology departments
- Conservation organisations like WWT Slimbridge or Gloucestershire Wildlife Trust
- Veterinary practices
- Sports organisations, for example Gloucester Rugby, offering physiotherapy and sports science insight
- NHS departments and GP surgeries
- Environmental or ecological fieldwork teams

These opportunities help aspiring biologists gain confidence, develop practical skills and explore different career paths within the life sciences.

Work Experience and Events



VIRTUAL

**Healthcare Science
Careers: Virtual Work
Experience with NHSE**

BIAZA - British and Irish Association of Zoos and Aquariums

Find out more about working with and for wildlife via your local BIAZA zoo or aquarium.



**Gloucestershire Hospitals
NHS Foundation Trust**

Healthcare Science Careers: Virtual Work Experience with NHSE

You'll explore the key areas of healthcare science, from life sciences and physiological sciences to physical sciences, learning how these fields work together to improve patient care.

Gloucestershire Hospitals NHS Foundation trust

First-hand insight into the healthcare environment, develop essential professional skills, and explore a wide range of career paths with the county's largest employer.



Plant Science Futures

Work experience isn't necessary to get a place on a biology degree, but it can be very beneficial both for boosting your personal statement and giving you experience of working as a scientist.



Biochemical Society

The Biochemical society advertises a number of work experience placements open to KS5 students



The Careers Team at Bournside deliver regular Inspire Breakfast Lectures. Open to students in Year 10 - 13, these business-focused breakfasts invite speakers from all corners of industry to share their professional experiences and valuable insights with Bournside students over breakfast; opening our eyes to the opportunities available across many industry sectors.

[Take a look at upcoming speakers and reserve your space here.](#)



