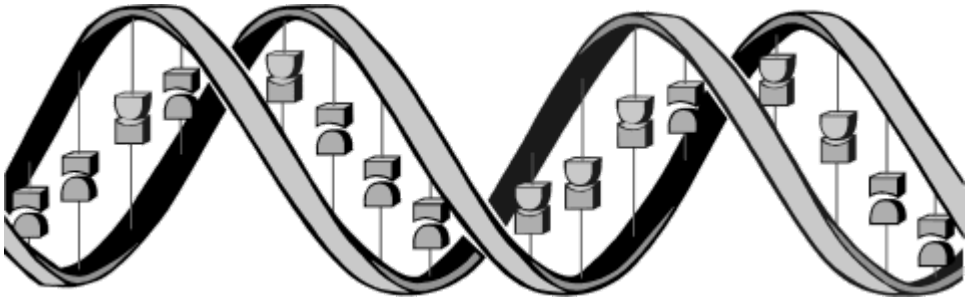
Nonsuch High School
Biology Department



Sixth Form Handbook
September 2025

Welcome to Biology!

This handbook is designed to answer any questions which you may have about your Biology course. Some of the information has come directly from the exam board (OCR), the rest has been compiled by the Biology Department at Nonsuch.

Keep hold of this handbook as you will need it at various times during both year 12 and 13!

Before you start AS Biology

The Course

To start AS biology you must have achieved a B grade or above in GCSE Biology or Core and Additional Science. The course builds on your knowledge and understanding at GCSE level and although you do not have to study AS Chemistry, the skills that you learnt at GCSE will be essential throughout your biological studies. During the course you will also be expected to handle and interpret data, often using statistical analysis, so a good understanding of Maths GCSE is essential.

How is year 12 different from GCSE?

There is now no coursework component of the A level and therefore all assessment will be through examinations. There is a focus on practical and maths skills, therefore practical lessons are more common at GCSE and you will be required to recall and apply knowledge from these experiments in the exam. You will also be required to pass the practical skills aspect of the course in order to successfully gain your A level. The A level exams will include a significant number of multiple choice questions, and there is a greater emphasis of **application of knowledge** as opposed to factual recall.

The way in which we assess you differs slightly as we will incorporate multiple choice quizzes, 6 mark mid topic assessments and practical assessments. These are designed to assess your current retrieval so you will not be given prior warning.

In what different ways are we expected to work?

You will be expected to undertake a significant amount of independent study (approximately 5 hours a week). This should include writing up additional notes on the topics covered in class, wider reading around the subject, completing all practical write ups in detail and practising past exam questions. You will be expected to participate in class discussions to help develop your own skills of independent thinking. In addition, you must catch up on any work missed and be proactive in seeking help when needed.

What do successful learners in this subject do? What are their habits?

In Biology, our successful learners have a genuine interest for the subject and are enthusiastic about learning more. They are conscientious in asking for further clarification if they do not understand a topic fully, and will catch up on any work missed. They keep a well organised folder and hand in all work on time. They add additional notes to their class work and will carry out a significant amount of wider reading. They will take an active role in lessons, both asking as well as answering questions. They are well prepared for tests, revising key words and practising their application of knowledge.

Overview

Content Overview	Assessment Overview	
Content is split into six teaching modules: • Module 1 – Development of practical skills in biology • Module 2 – Foundations in biology • Module 3 – Exchange and transport • Module 4 – Biodiversity, evolution and disease • Module 5 – Communication, homeostasis and energy • Module 6 – Genetics, evolution and ecosystems Component 01 assesses content from modules 1, 2, 3 and 5. Component 02 assesses content from modules 1, 2, 4 and 6. Component 03 assesses content from all modules (1 to 6).	Biological processes (01) 100 marks 2 hour 15 minutes written paper	**37%** of total A level
	Biological diversity (02) 100 marks 2 hour 15 minutes written paper	**37%** of total A level
	Unified biology (03) 70 marks 1 hour 30 minutes written paper	**26%** of total A level
	Practical endorsement in biology (04)* (non exam assessment)	**Reported separately**

	Topics cover
Module 2 Foundations in Biology	Cell structur
	Biological m
	Nucleotides
	Enzymes
	Biological m
	Cell division,
Module 3 Exchange and Transport	Exchange su
	Transport in
	Transport in
Module 4 Biodiversity, evolution and disease	Communical system
	Biodiversity
	Classificatio
Module 5 Communication, homeostasis and energy	Communicat
	Excretion as
	Neuronal co
	Hormonal co
	Plant and an
	Photosynthe
	Respiration
Module 6 Genetics, evolution and ecosystems	Cellular cont
	Patterns of i
	Manipulatin
	Cloning and
	Ecosystems
	Populations

Teaching

You will have 10 periods of teaching each fortnight, delivered by two teachers. The staff involved in the A level courses are:

Mrs J. Fisher (Head of Biology)
Ms W. Gibbins
Miss K. Baker
Mrs V. Quinell
Mrs J. Marks
Mrs A. Todd
Mr T. Weigall
Dr Thomas- Cole

Expectations

A level study is very different to that at GCSE. Even the most able student has to work hard to achieve their targets and self motivation is essential.

It is expected that you will:

- keep all notes and files in order and catch up on any work which is missed (for whatever reason) – basically be organised!
- spend approximately 5 hours a week in private study for biology, including writing up additional notes using your textbook.

- complete all homework and classwork in detail, including reading and research
- hand in all work on or before the set deadline
- participate in class discussions and develop your own skills of independent thinking
- **ask if you do not understand!!**
- **Absence**: It is expected that you catch up on any work missed, this includes tests. If you miss an end of topic test, you must arrange to sit it within the first 2 days of your return to school. If you have been absent for a prolonged period of time, please discuss this with your teacher as we may be able to extend this.
- **Absence during a practical assessment**: Practical assessments are run in class. Therefore, if you are absent on the day of a practical assessment you must speak to your teacher, as soon as possible, to arrange alternative plans.

Additional reading is essential in biology to gain an all-round understanding of concepts and systems covered by the specification and in the wider biological field. To help you there are many books and journals in the library and you will be asked to research relevant news articles throughout the course.

Skill Development

During the course you will have opportunities to:

★ develop your interest in and enthusiasm for Biology, including developing an interest in further study and careers in Biology;
★ appreciate how society makes decisions about scientific issues and how the sciences contribute to the success of the economy and society
★ develop and demonstrate a deeper appreciation of the skills, knowledge and understanding of *How science works*;
★ develop essential knowledge and understanding of different areas of Biology and how they relate to each other.

The skills and knowledge gained through the AS GCE and Advanced GCE in Biology will give you a better understanding of biology and its application to and impact on your lives.

A level Biology... then?

After completing A level Biology you could go into the following areas:

Agriculture	Horticulture	Environment
Biomedicine	Healthcare	Education

Some examples of degree courses include:

Biology	Environmental science
Medicine	Nursing
Dentistry	Psychology
Pharmacology	Zoology
and many more related subjects	

UCAS handbooks, Universities and the careers advisor can give you further guidance about the wide range of courses to which you can progress.

Exam format

In addition to knowledge, there is a large emphasis of application of knowledge at A level in comparison to GCSER. These questions are designed to assess a candidates true understanding of Biological principles. Due to the termination of coursework, at least 15% of the question paper assessment covers knowledge and understanding of practical and at least 10% of the question paper assessment covers mathematical skills.

A Level Biology A					
ASSESSMENT OVERVIEW					
Paper			**Marks**	**Duration**	**Weighting**
Paper 1	**Biological processes**		**100**	2 hr 15 min	37%
	Section A	Multiple choice	15		
	Section B	Structured questions and extended response questions covering theory and practical skills	85		
Paper 2	**Biological diversity**		**100**	2 hr 15 min	37%
	Section A	Multiple choice	15		
	Section B	Structured questions and extended response questions covering theory and practical skills	85		
Paper 3	**Unified biology**		**70**	1 hr 30 min	26%
	Structured questions and extended response questions covering theory and practical skills		**70**		
Non-exam assessment	**Practical endorsement for biology**		**Pass/Fail**	Non-exam assessment	Reported separately
	See pages 26 and 27. Teacher–assessed component common to Biology A and Biology B (Advancing Biology). Candidates complete a minimum of 12 practical activities to demonstrate practical competence. Performance reported separately from the A Level grade. Moderation details still to be confirmed by Ofqual at the time of going to press		0		

Practical Assessment

Coursework is no longer part of the Biology A level qualification and therefore, in order to assess practical skills, you will cover a variety of practical activity groups (PAGS) throughout the year. You will record when you completed each practical and what skills you developed in your PAG booklet which contains instructions for each practical you will cover. In addition to this, you will add your write up of the experiment into your PAG booklet as evidence of completing the practical.

At both levels, the course aims to provide candidates with the opportunity to:

- develop good laboratory technique;
- make and record accurate and precise measurements and observations;
- use and record the correct units for all measurements taken;
- process and present data in an appropriate format;
- construct or interpret appropriate graphs from data collected or provided;
- use a simple statistical test where appropriate;
- interpret the results of experiments and draw conclusions;
- establish whether data collected from experiments is valid and reliable;
- evaluate experimental technique and scientific method in light of practical experience;
- gain knowledge of laboratory safety and safe working.

Throughout the course your teachers will focus on the key areas above whilst developing your skills through practicals in lessons. Whilst carrying out practical tasks, you will obtain the necessary experience to be able to pass the practical endorsement aspect of the course.

Practical activity group (PAG)	Techniques/skills covered (minimum)
1 Microscopy	• use of a light microscope at high power and low power, use of a graticule1, 1.2.2 (d) • production of scientific drawings from observations with annotations2, 1.2.2 (e)
2 Dissection	• safe use of instruments for dissection of an animal or plant organ, 1.2.2(j) • use of a light microscope at high power and low power, use of a graticule[1], 1.2.2 (d) • production of scientific drawings from observations with annotations[2], 1.2.2 (e)
3 Sampling techniques	• use of sampling techniques in fieldwork, 1.2.2 (k) • production of scientific drawings from observations with annotations[2], 1.2.2 (e)
4 Rates of enzyme controlled reactions	• use of appropriate apparatus to record a range of quantitative measurements (to include mass, time, volume, temperature, length and pH)[3], 1.2.2 (a) • use of laboratory glassware apparatus for a variety of experimental techniques to include serial dilutions[4], 1.2.2 (c) • use of ICT such as computer modelling, or data logger to collect data, or use of software to process data[5], 1.2.2 (l)
5 Colorimeter OR potometer	• use of appropriate apparatus to record quantitative measurements, such as a colorimeter or potometer, 1.2.2 (b) • use of laboratory glassware apparatus for a variety of experimental techniques to include serial dilutions[4], 1.2.2 (c)
6 Chromatography OR electrophoresis	• separation of biological compounds using thin layer / paper chromatography or electrophoresis, 1.2.2 (g)
7 Microbiological techniques	• use of laboratory glassware apparatus for a variety of experimental techniques to include serial dilutions[4], 1.2.2 (c) • use of microbiological aseptic techniques, including the use of agar plates and broth, 1.2.2 (i)
8 Transport in and out of cells	• use of appropriate apparatus to record a range of quantitative measurements (to include mass, time, volume, temperature, length and pH)[3], 1.2.2 (a) • use of laboratory glassware apparatus for a variety of experimental techniques to include serial dilutions[4], 1.2.2 (c) • use of ICT such as computer modelling, or data logger to collect data, or use of software to process data[5], 1.2.2 (l)
9 Qualitative testing	• use of laboratory glassware apparatus for a variety of experimental techniques to include serial dilutions[4], 1.2.2 (c) • use of qualitative reagents to identify biological molecules, 1.2.2 (f)
10 Investigation using a data logger OR computer modelling	• use of ICT such as computer modelling, or data logger to collect data, or use of software to process data[5], 1.2.2 (l) • apply investigative approaches, 1.2.1 (a)
11 Investigation into the measurement of plant or animal responses	• safe and ethical use of organisms to measure plant or animal responses and physiological functions, 1.2.2 (h) • apply investigative approaches, 1.2.1 (a)
12 Research skills	• apply investigative approaches, 1.2.1 (a) • use online and offline research skills, 1.2.1 (h) • correctly cite sources of information, 1.2.1 (i)

[1,2,3,4,5] These techniques/skills may be covered in *any* of the groups indicated.

Maths Assessment

In order to develop your skills, knowledge and understanding in A |Level Biology, learners need to have acquired competence in the appropriate areas of mathematics relevant to the subject as indicated below.

M0- Arithmetic and numerical computation	
M0.1	Recognise and make use of appropriate units in calculations.
M0.2	Recognise and use expressions in decimal and standard form
M0.3	Use ratios, fractions and percentages
M0.4	Estimate results
M0.5	Use calculators to find and use power, exponential and logarithmic functions
M1- Handling data	
M1.1	Use of an appropriate number of significant figures
M1.2	Find arithmetic means
M1.3	Construct and interpret frequency tables and diagrams, bar charts and histograms
M1.4	Understand simple probability
M1.5	Understand the principles of sampling as applied to scientific data
M1.6	Understand the terms mean, median and mode.
M1.7	Use a scatter diagram to identify a correlation between two variables
M1.8	Make order of magnitude calculations
M1.9	Select and use a statistical test.
M1.10	Understand measures of dispersion, including standard deviation and range,
M1.11	Identify uncertainties in measurements and use simple techniques to determine uncertainty when data are combined.
M2 Algebra	
M2.1	Understand and use the symbols: =,<,>,~,∞
M2.2	Change the subject of an equation
M2.3	Substitute numerical values into algebraic equations using appropriate units for physical quantities.
M2.4	Solve algebraic equations
M2.5	Use logarithms in relation to quantities that range over several orders of magnitude.
M3 Graphs	
M3.1	Translate information between graphical, numerical and algebraic forms
M3.2	Plot two variables from experimental or other data
M3.3	Understand that y=mx+c represents a linear relationship
M3.4	Determine the intercept of the graph
M3.5	Calculate rate of change from a graph showing a linear relationship
M3.6	Draw and use the slope of a tangent to a curve as a measure of rate of change
M4 Geometry and trigonometry	
M4.1	Calculate circumferences, surface areas and volumes of regular shapes.

Continuing Assessment

Throughout the year your knowledge and understanding of each topic will be assessed by your individual teachers in both classwork and homework. You will complete a literacy based homework, a maths assessment and a practical assessment in most topics. In addition you will sit regular standardised tests for each unit and along with your coursework this information will be used to inform target setting. It is expected that you will prepare thoroughly for these tests and target any problem topics in your revision. There will also be mock examinations before you go on study leave.

The marks from these tests will be recorded so that staff can track your progress throughout the year and used for target setting.

Resources

- Stationary – you are expected to provide your own lined paper as well as bring a sharp pencil, long **clear** ruler and calculator. **A lab coat will need to be brought to practical lessons.** You will also need a **whiteboard pen** for your lessons.

- Text books - you will be issued with the 'Advanced Biology for You' textbook.
  These should be in school on days when you have biology lessons, your teachers will advise you as to which books to bring to their lessons

- Biology Careers Notice Board - (Opposite S3) This is regularly updated with information and articles on careers which are linked to Biology.

- Library - The Sixth Form area of the library also has the following reference books:

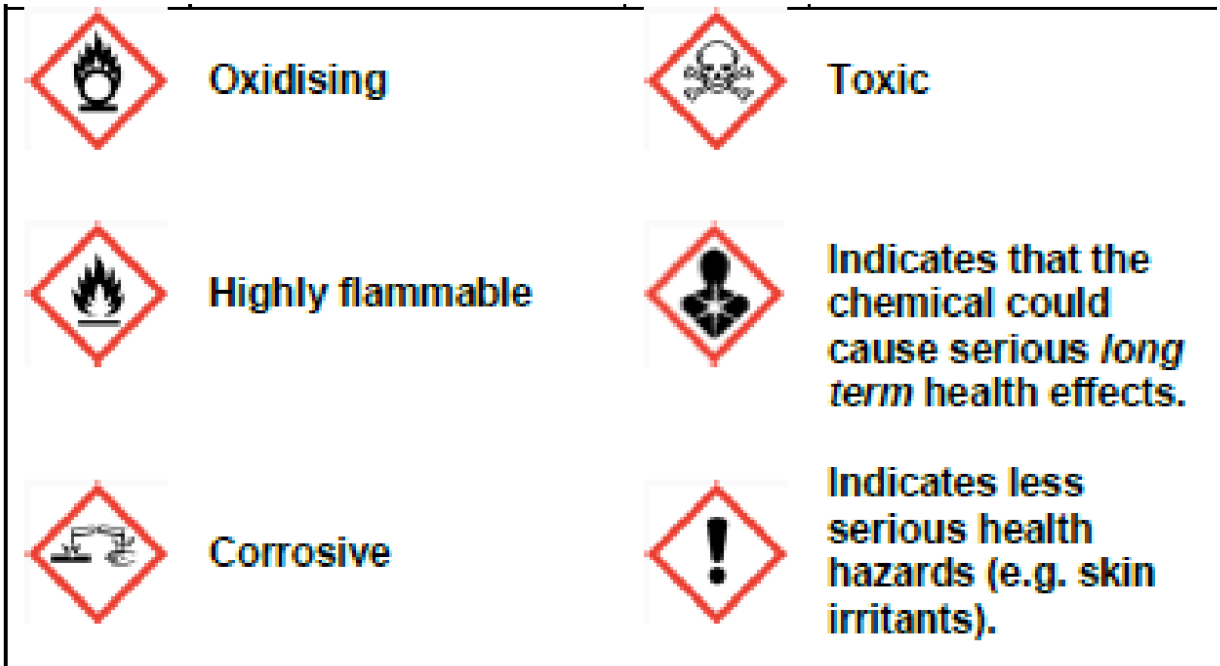
Essential Cell Biology	B. Alberts
AS level biology	P. Bradfield
Advanced Biology Principles and Applications Study guide	C.J. Clegg
Advanced Biology Principles and Applications	C.J. Clegg
Data and Data Handling for AS level Biology	B. Indge
Introduction to Advanced Biology	C.J.Clegg
Advanced Biology 1 (2002)	T. Greenwood (ed.)
Advanced Biology 1 (2001)	T. Greenwood (ed.)
Advanced Biology 2 (2001)	T. Greenwood (ed.)
Advanced Biology 1 (2002) Model Answers	T. Greenwood (ed.)
Advanced Biology	M. Roberts
Essential AS Biology	G. Toole

New Understanding: Biology for Advanced Level	G. Toole
Molecular Biology	P.C. Turner
Genetics and Evolution: Illustrated Advanced Biology	C.J. Clegg
The Essentials of Genetics	R.N. Jones
Essentials of Human Anatomy and Physiology	E.N. Maries
Understanding Advance Human Biology	J. Vellacott

Health and Safety

It is important that you follow normal Laboratory Safety procedures during all lessons held in laboratories. These rules are clearly displayed in all laboratories but below are the key points:

- ★ **Eating** – there will be no eating or drinking at any time in laboratories
- ★ **Lab doors** – these will be kept locked when lessons are not being taught, no students should enter the labs without being given permission to do so.
- ★ **Lab coats** – students should provide their own lab white lab coats for all practical work. These should always be in school
- ★ **Eye protection** – goggles should be worn whilst heating with a Bunsen burner and handling all chemicals
- ★ **Hazcards** – these are founding every lab and all students should read the health & safety information relevant to the chemical that they are handling.
- ★ **Risk assessments** – as part of your AS coursework you will need to include a thorough risk assessment for your investigation. You will therefore be asked to start including them in class practical write-ups.
- ★ **It is expected that you are familiar with the following symbols**



Glossary of terms used by OCR

Analyse Separate information into components and identify their characteristics.
Annotate To provide notes of explanation.
Apply Put into effect in a recognised way.
Assess Make an informed judgement.
Calculate Generate a numerical answer, with working shown.
Comment Present an informed opinion or infer points of interest relevant to the context of the question.
Compare Identify similarities.
Complete Write the information required.
Consider Review and respond to information provided.
Contrast Identify differences.
Deduce Draw conclusions from information provided.
Define Specify meaning of the word or term.
Demonstrate Provide clear evidence.
Describe Provide a detailed account (using diagrams/data from figures or tables where appropriate). The depth of the answer should be judged from the marks allocated for the question.
Determine The quantity cannot be measured directly but can be obtained by calculation. A value can be obtained by following a specific procedure or substituting values into a formula.
Discuss Give a detailed account that addresses a range of ideas and arguments.
Distinguish Recognise and identify difference(s).
Draw Produce a diagram or to infer.
Estimate Assign an approximate value.
Evaluate Judge from available evidence.
Examine Investigate closely.
Explain Set out reasons or purposes using biological background. The depth of treatment should be judged from the marks allocated for the question.
Identify Recognise or select relevant characteristics.
Illustrate Make clear by using examples or provide diagrams.
Interpret Translate information provided.
Justify Present a reasoned case.
Label To indicate (by using a straight line).
List Provide a number of points with no elaboration. If you are asked for two points then give only two!
Measure Establish a value using a suitable measuring instrument.
Name To provide appropriate word(s) or term(s).
Outline Restrict the outline to essential detail only.
Plot Mark out points on a graph or illustrate by use of a suitable graph.
Predict Suggest possible outcome(s).
Recall Repeat knowledge from prior learning.
Recognise To identify.
Record Report or note.
Relate Make interconnections.

Sketch Produce a simple, freehand drawing. A single clear sharp line should be used. In the context of a graph, the general shape of the curve would be sufficient.
State Produce a concise answer with no supporting argument.
Suggest Apply your biological knowledge and understanding to a situation which you may not have covered in the specification.
Summarise Present main points in outline only.
Use Apply the information provided or apply prior learning.

Glossary of useful terms for practical activities

Accuracy is a measure of the closeness of agreement between an individual test result and the true value. If a test result is **accurate**, it is in close agreement with the true value. An accepted reference value may be used as the true value, though in practice the true value is usually not known.

Anomaly (outlier) is a value in a set of results that is judged not to be part of the inherent variation.

Confidence is a qualitative judgement expressing the extent to which a conclusion is justified by the quality of the evidence.

Error (of measurement) is the difference between an individual measurement and the true value (or accepted reference value) of the quantity being measured.

Precision is the closeness of agreement between independent measurements obtained under the same conditions. It depends only on the distribution of random errors (*i.e.* the spread of measurements) and does not relate to the true value.

Repeatability is the precision obtained when measurement results are produced over a short timescale by one person (or the same group) using the same equipment in the same place.

Reproducibility is the precision obtained when measurement results are produced over a wider timescale by different people using equivalent equipment in different (but equivalent) places.

Resolution is the smallest change in the quantity being measured that can be detected by an instrument.

Uncertainty is an estimate attached to a measurement which characterises the range of values within which the true value is asserted to lie. This is normally expressed as a range of values such as 44.0 ± 0.4.

Validity can apply to an individual measurement or a whole investigation. A measurement is valid if it measures what it is supposed to be measuring. An investigative procedure is valid if it is suitable to answer the question being asked. Validity will be reduced, for example, if no negative control is included in an investigation into the efficacy of a therapeutic drug.

Reliability will no longer be used. *"The word 'reliability' has posed particular difficulties because it has an everyday usage and had been used in school science to describe raw data, data patterns and conclusions, as well as information sources. On the strong advice of the UK metrology institutes, we avoid using the word 'reliability' because of its ambiguity. For data the terms 'repeatable' and*

'reproducible' are clear and therefore better. For conclusions from an experiment, evaluative statements can mention 'confidence' in the quality of the evidence.

Top Tips for Success!

You will be reminded of these as the course progresses, trust us - they really help!

1. **Do you understand the topic?**
   - ✔ Ask for help if you do not. Check your understanding frequently so your revision is manageable
2. **Have you covered all of the specification?**
   - ✔ Use the topic specification sheets as a tick list to help you
3. **Write all answers in blue/black ink within the lines of the boxes provided**
   - ✔ All answers are now being scanned into computers and marked online so it is important not to use pencil in your written answers and do not "overflow" the lines
4. **Answer the set questions – not what you think they are!**
   - ✔ An easy way to loose marks – which could put you the wrong side of the grade boundary! If it helps, underline the key words in the question
5. **Use the mark allocations when planning your answer**
   - ✔ Do not just fill up the space talking about one point!
   - ✔ Use sentences or bullet points to answer giving the correct number of points for the value of the question
6. **Calculations**
   - ✔ You will need a ruler and calculator for **every** test and exam that you take
   - ✔ You will need to be competent at several calculations - % change, rates, scales of magnification. Units are still important.
7. **Graphs**
   - ✔ You need to describe trends and patterns
   - ✔ Use correct terminology such as linear relationship, constant rate etc**.**
   - ✔ Literally describe the shape of the graph or patterns in data, quoting changes in figures
8. **Read the question!**
   - ✔ Use the terminology list to make sure you are answering the set question
9. **Manipulate figures?**
   - ? Do no just quote figures
   - ✔ Easiest thing to do is calculate differences
10. **Select accurate scientific terminology**
    - ? Do not be sloppy, precision is the key!
    - ? Avoid simply repeating the terminology used in the question
    - ? Avoid using words such as "about" and "it"
    - ? Avoid GCSE level answers by using AS level terminology

11. Know your practicals

- ✔ You need to know all of the experiments that you cover during the course.
- ✔ You should be able to describe the experiment so the examiner could repeat it
- ✔ Ensure you know how to control all of the variables and how to interpret the results
- ✔ Accuracy or reliability? Make sure you are clear on the difference

12. Use all the information given to you

- ✔ Tables and graphs etc are not just added to make the question look pretty, they contain vital clues to help you answer the question so use them in your answers

13. Practice!

- ✔ Make use of the past paper booklets to practice your exam technique (mark schemes will be available in the library); there are revision questions on the website; and revision software on the school network

14. Multiple choice questions

- ✔ Many students make mistakes by not reading them through properly and choosing too quickly. These questions are not easy and designed to trick you. Read the question and then work out the answer BEFORE reading the options. If stuck, try and use a process of elimination.

Enrichment and super curricular opportunities

In order to support your learning we recommend that you engage in activities from all of the sections below to help widen your interest in the subject as well as begin to introduce you to the kind of independent learning activities we encourage you to engage with during A level study.

Olympiads: We usually arrange two opportunities for you to complete an Olympiad- one in Y12 and another in Y13. This is an excellent opportunity to challenge yourself as well as practice multiple choice questions!

Subject Reading List

Our recommendation is that you read at least one book from this list prior to beginning the course in September.

✔ **Evolutionary biology**

The Ancestor's Tale: A Pilgrimage to the Dawn of Life, **Richard Dawkins**
Bully for Brontosaurus (or any of his collections of essays!) ***Steven Jay Gould***
Trilobite; eyewitness to evolution, ***Richard Fortey***

✔ **Ecology**

The Song of the Dodo, **David Quammen**
Why Big Fierce Animals are rare, **Paul Colinvaux**
*Collapse****, Jared Diamond***

✔ **Cells**

How we live and why we die: the secret lives of cells, ***Lewis Wolpert***
*Power, Sex, Suicide: Mitochondria and the Meaning of Life***, Nick Lane**

✔ **Genetics**

Genome, ***Matt Ridley***
The language of the Genes, **Steven Jones**
*The Selfish Gene***, Richard Dawkins**
The Double Helix, **James Watson**

✔ **Behaviour**

The Naked Ape, **Desmond Morris**

✔ ***Others***

Darwin's Ghosts by Rebecca Stott (2012)
Bad Science by Ben Goldacre (2008)
Leviathan or, The Whale by Philip Hoare (2008)
The Elements of Murder: A History of Poison by John Emsley (2006)
An Inconvenient Truth by Al Gore (2006)
The Double Helix by James Watson (1968)
Silent Spring by Rachel Carson (1962)
On the Origin of Species by Charles Darwin (1859)
The epigenetic evolution by nessa carey (yr 13)
The selfish gene Richard Dawkins, 1976

Genome, Matt Ridley

Links

Reading articles is a good way of developing an understanding of the many different fields within biology and to read around the subject.
http://intobiology.org.uk/how-to-read-around-the-subject/

1. **Cells Alive.** Animations, images and interactives about cell biology. http://www.cellsalive.com
2. **DNA Interactive.** Video footage and animations that bring our understanding of DNA replication and expression to life. http://www.dnai.org/
3. **Learn.Genetics**. Animations and interactives that bring genetics, bioscience and health to life. http://learn.genetics.utah.edu/

Resources that can help you to keep up to date with current biological research

1. **New Scientist** This is a weekly science magazine that keeps you up to date with what's new in science. If you wish to become a subscriber, you will have to pay, but your school or college may already subscribe. Ask your teacher or learning resource manager. http://www.newscientist.com/
2. **Nature**. This is an international weekly journal of science. http://www.nature.com/
3. **BBC Science and Environment news.** Keep up to date with science and environment news as it happens. http://www.bbc.co.uk/news/science_and_environment or via the BBC News phone App.
4. **BBC Health news**. This provides breaking news from the world of human health and can also be found on the BBC News App. http://www.bbc.co.uk/news/health

On starting your A Level course you will be issued with the 'Advanced Biology for You' textbook.
Some students like to also use this textbook linked to the exam specification that can be accessed using the following website:
https://www.pearsonschoolsandfecolleges.co.uk/secondary/Science/16Chemistry/OCR-A-level-Science-2015/ISBN/Student-Books/OCRASAlevelBiologyAStudentBook1ActiveBook.aspx

Future Learn Courses

This is a brilliant website for you to undertake a mini module in Biology before starting in September. The modules are free.

https://www.futurelearn.com/courses

Biochemistry: the Molecules of Life
Explore the impact of biochemistry on bioenergy and health, discovering why graduates are in demand; with the Biochemical Society.
3 weeks. 3 hours per week.
Available now
Image Analysis Methods for Biologists
Get an introduction to image acquisition and analysis for biologists – from basic techniques to the future of image analysis.
4 weeks. 3 hours per week
Available now
How Does the Body Use DNA as a Blueprint?
Get an introduction to the basics of molecular biology, and how DNA code works.
3 weeks 4 hours per week
Available now

What Drives the Body?

Get an introduction to the different components and systems in the body that keep us alive and healthy.
3 weeks. 4 hours per week
Available now

Other Opportunities

As well as learning about the subject, it is always exciting to join in with real, current scientific experiments and surveys. You can join in and submit you own data. Find out more at:
http://www.bbc.co.uk/breathingplaces/wildlife_survey/
OR https://www.opalexplorenature.org/surveys

The Royal Society of Biology Photography Competition is now open for entries! Find more information here: *https://my.rsb.org.uk/item.php?competitionid=36*