

# HILLCREST SIXTH FORM





BiologyWelcome Pack

# You're studying AS or A-level Biology, congratulations!

A fascination with animals, plants and humans, the environment, conservation, biotechnology and complex living systems are just some of the reasons why A-Level Biology should be your subject pick.

A-Level biology is one of those subjects that blends theoretical and practical understanding with analytical skills. Through this, you develop a deep understanding of the intricacies of the living world and its interaction with other systems – including its impact on us and us on it.

Biology is a dynamic field of study with some seriously cool, cutting-edge science that is changing our understanding of the way living things work as well as how we can harness them to our societal and economic advantage.

Whether you love understanding the mechanics of the natural world; you see yourself at the forefront of the exciting field of biotechnology and genetic engineering; or you're consistently blown away by the fact that something as complex as a human functions on glucose and nine amino acids (molecular biology), then A-Level biology is your foot in the door to doing great things.

Now that you're excited about your future career in biology, let's get down to some common questions:

### What kind of background is necessary to study A-level biology?

You will need a C grade or higher in GCSE biology or double science, mathematics and English. It's helpful to understand some chemistry principles too, as chemistry can feature in some experiments. Because biology is a science, you should be able to present and interpret data in the form of graphs, tables, calculations and statistics. For this reason, subjects like biology, mathematics and science all support each other. Couple these with a language subject and your career options in the scientific field expand significantly.

### What are the top seven degree courses taken by students who studied A-level Biology:

- Biology
- Psychology Sport and exercise science
- Medicine
- Anatomy
- Physiology and pathology pharmacology
- Toxicology and pharmacy chemistry.

This list is by no means exhaustive. Biology can prove useful for a wide variety of degree courses. Biologists are considered by industry to be very employable because they have to develop a wide range of transferable skills such as report writing, data analysis and problem solving.

### What is the scope of A-level biology?

Like your GCSEs, A-Level biology covers a wide range of topics, from biological molecules and cell structures and functions, to tissues, organs, biological systems, organisms, even ecosystems. This broad scope can appear like a lot, but there is a degree of overlap. Its range also means you're very likely to find a niche you'll love and want to delve into in your tertiary education. Speaking of tertiary education, A-level biology gives you access to a wide range of university courses and apprenticeships such as:

- Biomedical sciences
- Healthcare Sciences such as nursing, radiography, speech therapy, ophthalmology.
- Higher education lecturer or secondary school teacher
- Biomedical engineering
- Immunology and Virology
- Genetic engineering
- Pharmacology
- Pharmacy
- Medical sales
- Public health sciences and public relations
- Human resources
- Genetics Analytics

- Environmental sciences and conservation
- Sports science
- Veterinary sciences, veterinary nursing, theatre technician
- Marine Biology
- Climate tax specialist

### Is A Level Biology Hard?

You needn't be intimidated by A-level biology, nor any of your other A-level subjects. Yes, there is a large amount of content to get through, but the concepts are easy to understand and there's a world of resources available at your fingertips. Through platforms like A-level Biology, video tutorials and online journals, once you understand a concept it's actually pretty easy to commit it to memory and to apply your knowledge to different scenarios.

### What will be the key to A-level success in biology?

- 1. **Getting the basics right from day one** good attendance and punctuality, being well equipped, 4-6 hours per week working on this subject out of lesson time.
- 2. **Consistency** Because of the volume of work, it's important to apply yourself daily to your studies. Don't wait until the last minute to complete your assignments or study for your assessments. Letting things build up can quickly lead to feeling overwhelmed and unmotivated.
- 3. **Revision notes** Make notes in class and while studying. Ensure they work with your style of learning and including bullet points and diagrams.
- 4. **Revise with previous exam papers** This will help familiarise you with the styles of question, content typically covered and volume of questions to get through. You'll also be able to identify areas of strength and weakness so you feel confident at exam time. A-level Biology has loads of resources like past papers, mock exams and quizzes to help you consistently prepare for your exams.
- 5. **Have fun** It's really hard to concentrate and stay motivated when you're disinterested in something, it's human nature. If you find your concentration wavering, take a break and do something else. If you're struggling to find interest in a topic, use various techniques to make it more exciting, such as pictures, presenting to peers, or finding fun and informative video explainers online to add some fun to the topic.

### What exactly will I learn in A-level biology?

This will vary from one exam board to the next, but in general, you'll cover the below topics. You'll notice as you go through it that you've covered much of this at GCSE level. What happens at A-level is adding more detail to foundations already laid in your GCSE years. More advanced material is also introduced to prepare students wanting to pursue tertiary courses after A-levels.

### Do my GCSE marks decide my A-level marks?

That's not a straightforward answer. While good marks for GCSE can suggest good marks for A-levels, it's also about the amount of effort you apply to your studies. You can achieve good results in your A-levels even if your GCSE results weren't the best by working hard, studying consistently and asking your peers and teachers for help where needed. Having said that, because GCSE lays the foundation for much of your A-level syllabus, poor GCSE marks can be an indication that you'll have a hard time at A-level. A pass for A-level is anything higher than an E, while in GCSE, a pass is 4 or a C and above.

## The Basics

### Exam board and course information

AQA AS Biology (7401). AQA A-level Biology (7402).

https://www.aga.org.uk/subjects/science/as-and-a-level/biology-7401-7402

## Equipment

Students of Biology are expected to bring the following to every lesson:

- An A4 folder, to be kept well organised by specification heading and inspected every half term
- A4 lined paper to make notes on
- Plastic wallets for handouts
- Plastic wallet/A4 envelope folder for homework assignments
- Pen, pencil, ruler (30 cm is best), protractor, compasses
- Scientific calculator

## What you can expect in this course

As biologists, you will explore the fundamental nature of living things. You will study everything from the fundamental particles that build biological molecules, to the variety of different ecosystems around the world. You will be joining a discipline where you will get to enter a world of the microscopic to the organisation of complex communities. Even if you don't decide to work in biology, studying it still develops useful and transferable skills for other careers. You'll develop research, problem solving and analytical skills, alongside teamwork and communication. Universities and business regard all of these very highly. As a biologist studying A Level Biology you will receive:

- A range of resources to help you learn effectively and stay organised
- Lots of opportunity to share your ideas and challenge each other
- Many opportunities to solve complex problems individually and as a group
- Tuition on practical skills
- Opportunity to apply practical skills in a wide variety of physical experimentation situations
- Homework tasks which help you to progress
- Excellent examination preparation

Remember: there is a directly proportional relationship between your effort and your final grade.

In short, we expect 100% commitment. You will be treated like a young adult in lessons and you are expected to behave like one: with maturity, conscientiousness, politeness and common sense.

## Subject content

The below units refer directly to the AQA specification, Sections I to 4 are designed to be covered in the first year of the A-level and cover AS subject content. Sections 5 to 8 are designed to be covered in the second year of the A-level.

### **Core content**

- I Biological molecules
- 2 Cells
- 3 Organisms exchange substances with their environment
- 4 Genetic information, variation and relationships between organisms
- 5 Energy transfers in and between organisms (A-level only)
- 6 Organisms respond to changes in their internal and external environments (A-level only)
- 7 Genetics, populations, evolution and ecosystems (A-level only)
- 8 The control of gene expression (A-level only)

Alongside learning the subject content, you will build your mathematical skills, practical skills and learn how to deploy new apparatus and techniques.

# Study Skills

You can also find detail about study skills in your study skills booklet.

You can also find detail about practical skills in your Biology practical handbook. You must review this carefully.

# Demonstrate knowledge and understanding of scientific ideas, processes, techniques and procedures

Learning and recalling knowledge is very important in Biology and is assessed in you're a-level course. Throughout the course you will need to recall prior knowledge from GCSE study and from earlier in the course.

- State This is directly testing your subject knowledge.
- **Describe** This links subject knowledge from different parts of the course.

**Study tip**: Try going through your notes in intervals. Returning to previous knowledge and linking ideas as you progress through the course is essential for success.

Apply knowledge and understanding of scientific ideas, processes, techniques and procedures: in a theoretical context; in a practical context; when handling qualitative data; when handling quantitative data

Simply recalling and stating facts is not sufficient at A-level. You will need to use your knowledge to explain a variety of situations including those that are theoretical, experimental and include data. This skill will be most heavily assessed during the course.

• Explain This is where you will link your understanding and knowledge to unfamiliar situations.

• Calculate/show that This is where you will have to apply theoretical or experimental quantitative data to calculate values of interest.

**Study tip**: Practice as many examination questions as possible to familiarise yourself with as wide a variety of biological situations as possible. Practice, practice and more practice is crucial for success in Biology.

Analyse, interpret and evaluate scientific information, ideas and evidence, including in relation to issues, to: make judgements and reach conclusions; develop and refine practical design and procedures.

You will need to review information presented to you in order to make a judgement, reach a conclusion or adapt practical experimental designs. Drawing judgements from processed data is a vital skill in Biology.

- Analyse This is where you will consider data, process it and then draw a reasoned conclusion.
- Comment/suggest This is where you will have to make an adjustment to a practical design based upon analysis
  of evidence and data provided.

**Study tip**: Continue linking your practical skills to your theoretical knowledge as you progress through the course.

### **Mathematics**

Overall, at least 10% of the marks in assessments for biology will require the use of mathematical skills. These skills will be applied in the context of biology and will be at least the standard of higher tier GCSE mathematics.

The following mathematical skills could be developed or assessed in a variety of areas from the specification content. Examples are exemplified throughout the biology specification.

- Arithmetic and numerical computation
- Handling data
- Algebra
- Graphs
- Geometry and trigonometry

## How should I revise for Biology?

### **Examination Ouestion Practice**

Practice, practice, practice! You can never do too many past examination questions in Biology. These will help you to apply your knowledge in a variety of ways and become familiar with the expected responses to Physics terminology.

### Practical work

Continually review your practical notes and lab book. This will help you develop your analytical skills alongside your ability to apply experimental data in familiar and unfamiliar contexts.

### Retrieval Practice

This is a learning strategy that aims to pull information from your memory. This usually involves recalling information you have previously studied.

- Try creating flash cards from your notes
- Try regularly quizzing yourself to check your knowledge of a previous topic from a while ago

### **Revision Guides**

Your revision guide contains the basic information you need to know to pass your exams. You should learn the knowledge content in your revision guide.

- Try creating your own version of the revision guide as a revision task. This could incorporate dual coding
- Quiz yourself on key pieces of knowledge (look, say, cover, write, check)

### **Dual Coding**

Turning text into images, symbols or diagrams. These are mental aids to help your learning as you have verbal and visual information at the same time.

Try summarising your Biology notes into images and key words to help you remember the content

### Self-Quizzing

Self-quizzing means testing yourself on your subject knowledge.

- Try writing your own quizzes using your revision guide or based on your class notes
- You could swap quizzes with your classmates

### Videos and Podcasts

Visual aids can be really helpful for revision. Search YouTube, BBC iPlayer and Netflix for some helpful revision videos, documentaries and video lectures. Podcasts are easy to listen to whilst doing something you enjoy such as sport or drawing. See the 'useful resources and taking your work further' section for some recommendations.

# Scheme of Work

This is an approximate outline only.

# Teaching plan Biology

## Year 1

Ref	Topic	Practical	No. of weeks
Term 1a + Topic Test 1.			
3.1	Biological molecules		7 Weeks
3.1.1	Monomers and polymers		0.2
3.1.2	Carbohydrates		
3.1.3	Lipids		0.6
3.1.4	Proteins	1. Investigation into the effect of a named variable on the rate of an enzymecontrolled reaction.	3.6
3.1.5	Nucleic acids are important information-carrying molecules	Biological molecules assessment.	1.2
3.1.6	ATP	Revise for Topic Test 2 – Nucleic acids.	0.2 - Holiday Assignment
3.1.7	Water		0.2 – Holiday Assignment
Term 1b (Topic Test 2 for HW) 7 weeks			

Ref	Topic	Practical	No. of weeks	
Term 1a Assessment	- Topic Test 2 – Nucleic acids.			
3.2	Cells		7 Weeks	
3.2.1	Cell structure		1.8	
3.2.2	All cells arise from other cells	2. Preparation of stained squashes of cells from plant root tips; setup and use of an optical microscope to identify the stages of mitosis in these stained squashes and calculation of a mitotic index.	1.8	
3.2.3	Transport across cell membranes	3. Production of a dilution series of a solute to produce a calibration curve with which to identify the water potential of plant tissue.	3.8	
Practical assessment		Completion of Lab Books for assessment.	0.4	
Term 2a + Topic Test 3.	Term 2a + Topic Test 3. 6 Weeks			
3.2.3	Transport across cell membranes	4. Investigation into the effect of a named variable on the permeability of cell-surface membranes.	3.8	

Ref	Topic	Practical	No. of weeks
3.2.4	Cell recognition and the immune system		Topic 3 Test 2.2
3.3	Organisms exchange substances with their environment		
3.3.1	Surface area to volume ratio		0.4
Holiday assignment and re	evision for Assignment 4.		
Term 2a. 7 Weeks (Term 2	a Assessment)		
3.3.2	Gas exchange		2.4 Holiday revision
3.3.4	Mass transport	5. Dissection of animal or plant respiratory system or mass transport system or of organ within such a system.	3.4
	Gas Exchange Review		
3.3.3	Digestion and absorption		1.6
Mid Year Assessment		0.2	
3.4	Genetic information, variation and relationships between organisms		
3.4.1	DNA, genes and chromosomes		0.4
3.4.2	DNA and protein synthesis		1.2
3.4.3	Genetic diversity can arise as a result of mutation or		1.2

Ref	Topic	Practical	No. of weeks	
	during meiosis			
Assignment 5.				
3.4.4	Genetic diversity and adaptation	6. Use of aseptic techniques to investigate the effect of antimicrobial substances on microbial growth.	1.6	
Term 3a Revise for mid-yea	ır test.			
3.4.5	Species and taxonomy		Topic Test 5. 0.4	
3.4.6	Biodiversity within a community		0.4	
3.4.7	Investigating diversity	Biology Field Trip	1.6 – After Exams	
Topic Test 5.				
Consolidation in preparation f	Consolidation in preparation for Y12 Exams			
Year 12 Exams:				

# A2 Teaching plan

# Year 2

Ref	Topic	Practical	No. of weeks
Term1a		(8 Weeks)	
3.5 Energy transfers in and	l between organisms		
3.5.1	Photosynthesis	7. Use of chromatography to investigate the pigments isolated from leaves of different plants, eg, leaves from shade-tolerant and shade-intolerant plants or leaves of different colours.  8. Investigation into the effect of a named factor on the rate of dehydrogenase activity in extracts of chloroplasts.	2.8
3.5.2	Respiration	9. Investigation into the effect of a named variable on the rate of respiration of cultures of single-celled organisms.	2.0
3.5.3	Energy and ecosystems		1.0
3.5.4	Nutrient cycles		1.0
Term 1b		(8 Wee	eks)
	Topic Test 5 Energy transfer.		0.2

Ref	Topic	Practical	No. of weeks
3.6 Organisms respond to o	changes in their internal and e	xternal environments	
3.6.1	Stimuli, both internal and external, are detected and lead to a response	10. Investigation into the effect of an environmental variable on the movement of an animal using either a choice chamber or a maze.	3.2
3.6.2	Nervous coordination	Myogenic stimulation of the heart the roles of the autonomic nervous system and effectors in controlling heart rate.  The structure of a myelinated motor neurone.  The establishment of a resting potential in terms of differential membrane permeability, electrochemical gradients and the movement of sodium ions and potassium ions.	1.0
		Changes in membrane permeability lead to depolarisation and the generation of an action potential.  The all-or-nothing principle.  The passage of an action potential along non-	1.0

Ref	Topic	Practical	No. of weeks
		myelinated and myelinated axons, resulting in nerve impulses.  Saltatory conduction affects the speed of conductance.	
	Mock Examinations		December
3.6.2			2.8
		The nature and importance of the refractory period in producing discrete impulses and in limiting the frequency of impulse transmission.  Factors affecting the speed of conductance: myelination and saltatory conduction; axon diameter; temperature.  The detailed structure of a synapse  The sequence of events involved in transmission across a cholinergic synapse in sufficient detail to explain:  •unidirectionality  • temporal and	

Ref	Topic	Practical	No. of weeks	
		spatial summation  • inhibition by inhibitory		
		synapses.  The effects of specific		
		drugs on a synapse.  The detailed structure of a neuromuscular junction.		
		A comparison of transmission across a cholinergic synapse and across a neuromuscular junction.		
Consolidation Nervous Syst	Consolidation Nervous System Revision.			
	Skeletal muscles are stimulated to contract by nerves and act as effectors	1.2	1.2	
Term 2a		(6 we	eks)	
3.6.3				
3.6.4	Homeostasis is the maintenance of a stable internal environment	11. Production of a dilution series of a glucose solution and use of colorimetric techniques to produce a calibration curve with which to identify the concentration of glucose in	2.8	

Ref	Topic	Practical	No. of weeks
		an unknown 'urine' sample.	
	Topic Test 6. Organisms and their responses to changes	Consolidation/Essay	0.2
			12.2.19
Term 2b		(7 wee	ks)
3.7.1	Inheritance		2.2
3.7 Genetics, populations, e	evolution and ecosystems		
3.7.2	Populations		0.6
3.7.3	Evolution may lead to speciation		1.2
Internal Examination Review	v Paper.		
Term 3a		(4 w	eeks)
3.7.4	Populations in ecosystems	12. Investigation into the effect of a named environmental factor on the distribution of a given species.	2.8
	Topic Test 7 Genetics, populations and ecosystems.		0.2

Ref	Topic	Practical	No. of weeks		
3.8 The Control of Gene Exp	3.8 The Control of Gene Expression				
3.8.1	Alteration of the sequence of bases in DNA can alter the structure of proteins		0.2		
3.8.2	Gene expression is controlled by a number of features		2.0		
3.8.3	Using genome projects		0.4		
3.8.4	Gene technologies allow the study and alteration of gene function allowing a better understanding of organism function and the design of new industrial and medical processes		2.4		
	Topic Test 8 Control of gene expression.		0.2		
Exam dates:					
			Total: 28.6		

### Assessment

Your AS grade in this subject will come from two examinations taken at the end of year 12. You may or may not be entered for AS certification. Discuss this further with your teacher.

### 2.2 AS

### Assessments

#### Paper 1 Paper 2 What's assessed What's assessed Any content from topics 1-4, including Any content from topics 1-4, including relevant practical skills relevant practical skills Assessed Assessed written exam: 1 hour 30 minutes written exam: 1 hour 30 minutes 75 marks 75 marks 50% of AS 50% of AS Questions Questions 65 marks: short answer questions 65 marks: short answer questions 10 marks: comprehension question 10 marks: extended response questions

### A-level

Your final A-level grade in this subject will come from three examinations taken at the end of Year 13.

#### A-level 2.3

### Assessments

#### Paper 2 Paper 3 Paper 1 What's assessed What's assessed What's assessed Any content from topics Any content from topics Any content from topics 1-4, including relevant 5-8, including relevant 1-8, including relevant practical skills practical skills practical skills Assessed Assessed Assessed written exam: 2 hours written exam: 2 hours written exam: 2 hours 91 marks 91 marks 78 marks 35% of A-level 35% of A-level 30% of A-level Questions Questions Questions 76 marks: a mixture of 76 marks: a mixture of 38 marks: structured short and long answer short and long answer questions, including questions questions practical techniques 15 marks: extended 15 marks: comprehension 15 marks: critical analysis response questions question of given experimental data 25 marks: one essay from a choice of two titles

### Assessment objectives

AOI	Demonstrate knowledge and understanding of scientific ideas, processes, techniques and procedures.	AOI is assessed in all exams
AO2	Apply knowledge and understanding of scientific ideas, processes, techniques and procedures:  • in a theoretical context  • in a practical context  • when handling qualitative data  • when handling quantitative data.	AO2 is assessed in all exams
AO3	Analyse, interpret and evaluate scientific information, ideas and evidence, including in relation to issues, to: • make judgements and reach conclusions • develop and refine practical design and procedures.	AO3 is assessed in all exams

## Weighting of assessment objectives for AS Biology

Assessment objectives (AOs)	Componen (approx %)	t weightings	Overall weighting (approx %)
	Paper 1	Paper 2	
AO1	47-51	33-37	35-40
AO2	35-39	41-45	40-45
AO3	13-17	21-25	20-25
Overall weighting of components	50	50	100

10% of the overall assessment of AS Biology will contain mathematical skills equivalent to Level 2 or above.

At least 15% of the overall assessment of AS Biology will assess knowledge, skills and understanding in relation to practical work.

## Assessment during course

Throughout the course, you will be assessed in the following ways:

- Weekly examined questions
- Knowledge quizzes
- Online learning assignments
- Ongoing assessment in class, including in discussions, presentations and group calculations
- During practical work via the Common Practical Assessment Criteria (CPAC) see Biology practical handbook for further information
- End of unit assessments, which will be a combination of all type of examination question

# Tracking your progress

Note on target grades: these are generated automatically by an organisation called LPUK, based on national averages about what people with similar GCSE grades to you go on to achieve in sixth form **if they push themselves**. They are **not what you will automatically get**, they are **not necessarily what you will be predicted on your UCAS or any other applications** and they are absolutely **not the maximum you can achieve**. What you achieve in sixth form will depend on **how much work you put in**. Your target grade is intended to be something for you to work towards: for you to try to do as good as or better than.

## Your LPUK target grade:

## Major assessments will be tracked here

Date	Assessment title	Mark/grade	Focus for improvement
Y12 Term I	I Biological molecules and enzymes		
	2 End of term December Mock		
	Examination		
	Required Practicals 1,2 and 3.		
YI2 Term 2	4 Cell structure and transport		
	across membranes		
	5 Immunity exchange and transport		
	systems		
	Required Practicals 4 and 5		
End of Y12	AS Biology Examination		
YI2 Term 3	6 populations in ecosystems		
	Required Practicals 6 and 12		
Y13 Term I	7 energy transfer and nutrient		
	cycles		
	Required Practicals 7, 8, 9 and 10		
	8 Mock examination Paper I and		
	Paper 2		
Y13 Term 2	9 Stimuli and responses		
	10 nervous co-ordination		
	Required practical 11		
YI3 Term 3	A-level mock examination paper 2		
	and Paper 3		
	Genetics, populations and		
	evolution		
	Gene expression and genome		
	projects		
		<u> </u>	1

# Useful resources and taking your work further

With Sixth Form studies, there is no such thing as "finished all your work". See Mr Squires' (less) important course information pack to find a variety of things to read, watch, do and listen to.

Below details resources which may be useful to you during your studies:

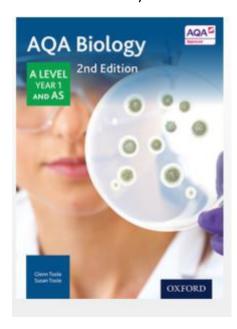
### **AOA** Website

The AQA website is a great place to start. The Biology webpages are aimed at teachers, but you may find them useful too <a href="https://www.aqa.org.uk/subjects/science/as-and-a-level/biology-7401-7402">https://www.aqa.org.uk/subjects/science/as-and-a-level/biology-7401-7402</a> Information includes:

- The specification this explains exactly what you need to learn for your exams <a href="https://filestore.aqa.org.uk/resources/biology/specifications/AQA-7401-7402-SP-2015.PDF">https://filestore.aqa.org.uk/resources/biology/specifications/AQA-7401-7402-SP-2015.PDF</a>
- Practice exam papers https://www.aqa.org.uk/subjects/science/as-and-a-level/biology-7401-7402/assessment-resources
- Lists of command words and subject specific vocabulary so you understand the words to use in exams <a href="https://www.aqa.org.uk/resources/science/as-and-a-level/biology-7401-7402/teach/command-words">https://www.aqa.org.uk/resources/science/as-and-a-level/biology-7401-7402/teach/command-words</a>
- Practical handbooks explain the practical work you need to know https://filestore.aqa.org.uk/resources/biology/AQA-7401-7402-PHBK.PDF
- Past papers from the old specification. Some questions won't be relevant to the new AS and A-level, so please check with your teacher.
- Maths skills support.

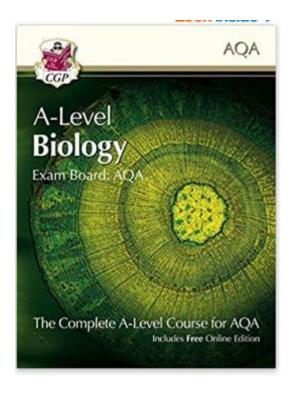
### Textbooks & workbooks

AQA approved textbooks are published by Collins, Hodder and Oxford University Press. I recommend the following textbook for AS and year I of A-level:

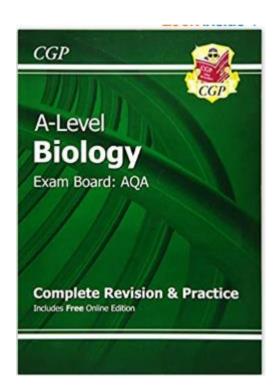


A Level Sciences for AQA AQA Biology Year 1 and AS

Is available for free electronically via Kerboodle.



A-Level Biology for AQA: Year 1 & 2 Student Book with Online Edition (CGP A-Level Biology) Paperback



A-Level Biology: AQA Year 1 & 2 Complete Revision & Practice with Online Edition (CGP A-Level Biology)



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AQA A-level Biology Student Guide: Practical Biology (Aqa Student Guides) by Jo Ormisher | 30 Jun 2017

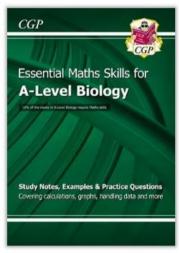
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Write a review

Q Take a Look

### Revision guides

These are great if you want a quick overview of the course when you're revising for your exams. Remember to use other tools as well, as these aren't detailed enough on their own.

### YouTube

YouTube has thousands of Biology videos. Just be careful to look at who produced the video and why because some videos distort the facts. Check the author, date and comments – these help indicate whether the clip is reliable. If in doubt, ask me.

### **Magazines**

New Scientist or Philip Allan updates can help you put the biology you're learning in context.

### The Student Room

Join the A-level Biology forums and share thoughts and ideas with other students if you're stuck with your homework. Just be very careful not to share any details about your assessments, there are very serious consequences if you're caught cheating. Visit <a href="https://www.thestudentroom.co.uk/">https://www.thestudentroom.co.uk/</a>