



Beckfoot Biology Department

5 hours in... Biology

Research shows that the most successful students (i.e. those that make the most progress and get the highest grades) are doing between 20 and 25 hours of independent study per week by the end of Year 13. That may seem a lot, but it's something that you would build up to over the course of your A-Levels. In Year 12, we're talking something more like 15 hours per week. This equates to roughly 5 hours of independent study per A-Level per subject.

Remember that your independent study is divided into three types – Consolidation, Reactive and Proactive.

Consolidation

The evening following a Biology lesson, you should spend 12-15 minutes (24-30 minutes for a double) rereading your notes, writing yourself a summary and making relevant flashcards e.g. for equations, definitions, facts you need to recall etc.

Reactive

This is your 'homework'. Usually this will be making notes for the next lesson, or completing questions on the current topic. It can also involve completing your booklet of practice questions and finishing off any notes from the lesson. If you find you finish your reactive work quickly, spend more time on your proactive work.

Proactive

This is the section that will broaden and deepen your overall understanding of the subject you are studying. It will not necessarily involve work that has been set by your teacher, but instead it is about you doing the extra practice questions, reading articles, watching videos, etc which may contain some of the following:

- Complete a set of practice past paper questions – **use AS only papers** that are available on the AQA website.
- Use websites to complete and add to class notes **(30 minutes)**
- Use the specification checklist to evaluate your understanding **(10 mins)**
- Answer questions from the textbook **(30 mins)**
- Practice exam questions from your Biology textbook or workbook **(30 mins)**
- "Read, Cover, Write and Check" sections of Knowledge organisers **(30 mins)**
- Complete essay plans **(20 minutes)**
- Practice writing timed essays **(30 minutes)**

Additional Reading List for A Level Biologists

Magazines, Newspapers and journals

New Scientist
Scientific American
Nature
Science
Biological Sciences Review

British Medical Journal

Any scientific articles in newspapers (eg the Guardian on Wednesday)

Websites

<http://biologymad.com/master.html?http://biologymad.com/usefulwebsites/usefulwebsites.htm> - **has links to a variety of different places you can find revision resources and study practice.**

Other places for additional reading

- <http://www.ibiblio.org/virtualcell/index.htm> – An interactive cell biology site
- <http://www.accessexcellence.org/RC/VL/GG> – A web site showing illustrations of many processes of biotechnology
- <http://www.uq.oz.au/nanoworld> – Visit the world of electron-microscopy
- <http://www.dnai.org/a/index.html> – Explore the genetic code
- <http://nobelprize.org> – Details of the history of the best scientific discoveries
- <http://nature.com> – The site of the scientific journal
- <http://royalsociety.org> – Podcasts, news and interviews with scientists about recent scientific developments
- <http://www.nhm.ac.uk> – The London Natural History Museum's website with lots of interesting educational material
- <http://www.bmj.com> – The website of the British Medical Journal
- http://www.bbc.co.uk/news/science_and_environment - The BBC news page for Science and the Environment

Books

Research these on Amazon and select a few to read:

Richard Dawkins:

The Selfish Gene

The Blind Watchmaker.

Unweaving the Rainbow
Climbing Mount Improbable
The Ancestor's Tale

Steve Jones:

Y: The Descent of Men

[In the Blood: God, Genes and Destiny](#)

[Almost Like a Whale: The 'Origin of Species' Updated](#)

The Language of the genes

Matt Ridley

[Genome: The Autobiography of a Species in 23 Chapters](#)

[The Red Queen: Sex and the Evolution of Human Nature](#)

The Language of Genes

Francis Crick: Discoverer of the Genetic Code

Nature Via Nurture: Genes, Experience and What Makes Us Human

James Watson:

DNA: The Secret of Life

The Double Helix: Personal Account of the Discovery of the Structure of DNA

Lewis Thomas:

The Lives of a Cell: Notes of a Biology Watcher.

The Medusa and the Snail: More Notes of a Biology Watcher Barry Gibb: **The Rough Guide to the Brain (Rough Guides Reference Titles)**

Charles Darwin: The origin of species

Armand Marie Leroi: Mutants: On the Form, Varieties and Errors of the Human Body

David S. Goodsell: *The Machinery of Life*

Ernst Mayr: *This Is Biology: The Science of the Living World*

George C. Williams: *Plan and Purpose in Nature*

Steve Pinker: The Language Instinct

Edward O Wilson: The Diversity of Life

Primo Levi: The Periodic Table

Richard Leaky: The Origin of Humankind

Bill Bryson: A Short History of Nearly Everything