

# Sixth Form Wider Reading and Discovery Lists for A-Level Sciences

## *Going Beyond the Classroom: Super-Curricular Learning*

One of the best ways you stand out during your Sixth Form studies is through the amount of independent study you undertake outside of the classroom. Regardless of your future plans, the ability to extend yourself and research independently into your interests is an invaluable skill – this will support your university applications and/or future job applications and interviews. All universities expect more than just classroom knowledge, which is where super-curricular activities come in; these are academic enrichment tasks that show you are interested in your studies beyond what is on the school syllabus.

This 'Discovery List' has been put together to help you develop your interests not only in your chosen fields of study, but also in the wider world around you.

### Podcasts

[www.bbcearth.com/news/the-best-nature-science-and-technology-podcasts](http://www.bbcearth.com/news/the-best-nature-science-and-technology-podcasts)

### Details of the history of the best scientific discoveries

[www.nobelprize.org](http://www.nobelprize.org)

### The site of the scientific journal

[www.nature.com](http://www.nature.com)

### Podcasts, news and interviews with scientists about recent scientific developments

[www.royalsociety.org](http://www.royalsociety.org)

### New Scientist News

[www.newscientist.com/section/news](http://www.newscientist.com/section/news)

# BIOLOGY

## Books

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

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

Richard Leaky: The Origin of Humankind

Bill Bryson: A Short History of Nearly Everything

Bill Bryson: The Body: A guide for occupants

Adam Kay: This is going to hurt

Henry Marsh: Do no harm

Peter Godfrey-Smith: The octopus and the evolution of intelligent life

## Websites

[www.ibiblio.org/virtualcell/index.htm](http://www.ibiblio.org/virtualcell/index.htm)

An interactive cell biology site

[www.accessexcellence.org/RC/VL/GG](http://www.accessexcellence.org/RC/VL/GG)

A web site showing illustrations of many processes of biotechnology

[www.uq.oz.au/nanoworld](http://www.uq.oz.au/nanoworld)

Visit the world of electron-microscopy

[www.dnai.org/a/index.html](http://www.dnai.org/a/index.html)

Explore the genetic code

[www.nhm.ac.uk](http://www.nhm.ac.uk)

The London Natural History Museum's website with lots of interesting educational material

[www.bmj.com](http://www.bmj.com)

The website of the British Medical Journal

[www.bbc.co.uk/news/science\\_and\\_environment](http://www.bbc.co.uk/news/science_and_environment)

The BBC news page for Science and the Environment

# CHEMISTRY

## Books

The Pleasure of Finding Things Out - Richard Feynman

Periodic Tales - Hugh Aldersey-Williams

The Disappearing Spoon - Sam Kean

Uncle Tungsten - Oliver Sachs

The Shocking History of Phosphorus: A Biography of the Devil's Element - John Emsley

## **Magazine/Journals**

Scientific American

New Scientist

The Mole

## **Places of Interest**

Royal Society of Chemistry - Burlington Arcade, Regents Street Londong

Science Museum, London

Museum of the Hlstory of Science, Oxford

Curie Museum, Paris

## **Websites**

Periodic Table of Videos by Martyn Poliakoff

[www.youtube.com](http://www.youtube.com)

Royal Society of Chemistry

[www.rsc.org.uk](http://www.rsc.org.uk)

Institution of Chemical Engineers

[www.icheme.org](http://www.icheme.org)

Compoundchemistry

[www.compoundchem.com](http://www.compoundchem.com)

Chemguide

[www.chemguide.co.uk](http://www.chemguide.co.uk)

IFLScience

[www.iflscience.com](http://www.iflscience.com)

# PHYSICS

## Books

- A short History of Nearly Everything - Bill Bryson
- Why don't penguins' feet freeze? – NewScientist
- The Grand Design – Stephen Hawkin and Leonard Mlodinow
- Newton – Peter Ackroyd
- The Quantum Universe: Everything that can happen does happen – Brian Cox and Jeff Forshaw

## Magazines/journals

- *Physics World*
- *Scientific American*
- *New Scientist*

## Places of Interest-London

- Science Museum
- Imperial war museum
- The planetarium
- Greenwich observatory
- The space museum (Washington DC)

## Websites

[www.iop.org](http://www.iop.org)

[www.sixtysymbols.com](http://www.sixtysymbols.com)

[www.physicsworld.com](http://www.physicsworld.com)

<http://home.web.cern.ch/topics/large-hadron-collider>

