

# Super Curricular Activities (Science)

## What are Super Curricular Activities?

**Super Curricular Activities** describe extra-curricular activities that help students to expand their general knowledge and subject knowledge. The list below has been compiled using advice given from Oxford and Cambridge universities about the resources young people could use to enhance their knowledge about the world. *The new GCSE and A Level courses are much more focused on knowledge than in previous years: students who 'read widely' will undoubtedly have an advantage because they will have a deeper understanding of topics and will have nurtured their love of learning.*

## Advice on how to use the Super Curricular Activities

**Simple: follow your interests and dip in and out of whatever catches your eye!** Learning is a life-long commitment and you should relish opportunities to explore new topics and expand your knowledge. The best way to do this is to follow your interests and to stretch yourself to find out more about new topics and ideas: the suggestions below are sources of information you could use to help you to explore any topic that interests you... *keep in mind that although Google and Wikipedia can be useful tools, they don't always have accurate information so cannot be entirely trusted!*

## Super Curricular Activities:

### BIOLOGY

#### KS5

Life Ascending: The Ten Great Inventions of Evolution by Nick Lane.

#### KS4/5

- Life story: The race for the double helix – Docu - drama about the discovery of DNA. Available on the internet. BBC Horizon.
- A short history of nearly everything by Bill Bryson.
- Origin of Species and the Tree of Life – David Attenborough.
- TED talks on a variety of topics.
- Can you rebuild my brain? – Channel 4 Documentary showing various medical interventions.
- Book trolley in S9 which is available to all students to access during lessons. Books aimed at A level and degree level.
- We subscribe to Biological Science Review which is also available to all biologists to extend their biological knowledge.
- You tube clips – Bozemann Science clips.

### PHYSICS

- Focus magazine (possible subscription?)
- Brainiac channel on YouTube: <https://www.youtube.com/channel/UCOyWqUnLknacYeSI4CvG6FA>
- SixtySymbols channel on YouTube: <https://www.youtube.com/user/sixtysymbols>
- MinutePhysics channel on YouTube: <https://www.youtube.com/user/minutephysics>
- StarTalk channel on YouTube: <https://www.youtube.com/user/startalkradio>
- DeepSkyVideos channel on YouTube: <https://www.youtube.com/user/DeepSkyVideos>
- SciShow channel on YouTube (general science): <https://www.youtube.com/user/scishow>
- SciShow Space channel on YouTube: <https://www.youtube.com/user/scishowspace>

- NASA channel on YouTube: <https://www.youtube.com/user/NASATElevision>
- Science of Stupid YouTube videos (no dedicated channel)
- BBC Bitesize Combined Science (Physics) website: <https://www.bbc.com/bitesize/topics/ztkjity>
- BBC Bitesize Triple Science (Physics) website: <https://www.bbc.com/bitesize/examspecs/zwtp6fr>
- Book suggestions (proper physics):
  - Brief History of Time – Stephen Hawking
  - Astrophysics for People in a Hurry – Neil DeGrasse Tyson
  - Hubble: Window on the Universe – Giles Sparrow
  - How to Build a Universe – Brian Cox & Robin Ince
  - Paradox: The Nine Greatest Enigmas in Physics – Jim Al-Khalili
  - Six Easy Pieces – Richard Feynman
  - The World as I See It – Albert Einstein
- Book suggestions (serious science-fiction):
  - The Gods Themselves – Isaac Asimov
  - Timescape – Gregory Benford
  - The Forever War – Joe Haldeman

## CHEMISTRY

### Visits

- Science museum – London
- Planetarium – London
- Catalyst museum – Liverpool
- <http://www.rsc.org/news-events/>
- <http://www.rigb.org/families>
- University open days (even for year 11's!)

### Websites

- 1) <http://chemrevise.org/>
- 2) <http://www.chemguide.co.uk/>
- 3) <http://a-levelchemistry.co.uk/>
- 4) <http://www.physicsandmathstutor.com/chemistry-revision/>
- 5) <http://www.scienceskool.co.uk/>
- 6) <http://alevelchem.com/>
- 7) [www.docbrown.info](http://www.docbrown.info)
- 8) <http://www.s-cool.co.uk/a-level/chemistry>
- 9) <http://www.chembook.co.uk/>
- 10) <http://www.periodicvideos.com/>
- 11) <http://www.rsc.org/learn-chemistry>
- 12) <http://www.c3i6.org/>
- 13) <http://www.rsc.org/learn-chemistry/collections/spectroscopy/> (KS5 only)
- 14) <https://www.khanacademy.org/science/chemistry>
- 15) <https://www.youtube.com/user/crashcourse>
- 16) <https://www.bbc.co.uk/programmes/b019d11b/episodes/player> (BBC inside health - good for students wanting to study medicine)
- 17) <https://www.bbc.co.uk/programmes/b036f7w2> (BBC inside science)
- 18) <https://www.bbc.co.uk/programmes/b00snr0w/episodes/player> (BBC infinite monkey cage)
- 19) <https://www.bbc.co.uk/programmes/p002vsnb> (BBC science in action)
- 20) [www.chemistryworld.com](http://www.chemistryworld.com) (podcasts of magazine etc...)
- 21) <https://www.futurelearn.com/>

## Books

- Kerboodle – Includes digital access to alternative course textbook at KS5
- Calculations in AS/A level Chemistry - [https://www.amazon.co.uk/Calculations-Level-Chemistry-Jim-Clark/dp/0582411270/ref=sr\\_1\\_1?s=books&ie=UTF8&qid=1536051882&sr=1-1&keywords=maths+for+chemistry+clark](https://www.amazon.co.uk/Calculations-Level-Chemistry-Jim-Clark/dp/0582411270/ref=sr_1_1?s=books&ie=UTF8&qid=1536051882&sr=1-1&keywords=maths+for+chemistry+clark)
- Atkins Physical Chemistry [https://www.amazon.co.uk/Atkins-Physical-Chemistry-Peter/dp/0198769865/ref=sr\\_1\\_1?ie=UTF8&qid=1536050745&sr=8-1&keywords=atkins+physical+chemistry](https://www.amazon.co.uk/Atkins-Physical-Chemistry-Peter/dp/0198769865/ref=sr_1_1?ie=UTF8&qid=1536050745&sr=8-1&keywords=atkins+physical+chemistry)
- Shriver and Atkins Inorganic [https://www.amazon.co.uk/Shriver-Atkins-Inorganic-Chemistry-Peter/dp/0199236178/ref=sr\\_1\\_1?s=books&ie=UTF8&qid=1536050893&sr=1-1&keywords=atkins+inorganic+chemistry](https://www.amazon.co.uk/Shriver-Atkins-Inorganic-Chemistry-Peter/dp/0199236178/ref=sr_1_1?s=books&ie=UTF8&qid=1536050893&sr=1-1&keywords=atkins+inorganic+chemistry)
- Sykes organic Chemistry [https://www.amazon.co.uk/Guidebook-Mechanism-Organic-Chemistry-6th/dp/0582446953/ref=sr\\_1\\_1?s=books&ie=UTF8&qid=1536050944&sr=1-1&keywords=sykes+organic+chemistry](https://www.amazon.co.uk/Guidebook-Mechanism-Organic-Chemistry-6th/dp/0582446953/ref=sr_1_1?s=books&ie=UTF8&qid=1536050944&sr=1-1&keywords=sykes+organic+chemistry)

(The last three suggested books are undergraduate year 1 books and are therefore useful to stretch KS5 students)