

Science

Stretch and Challenge in Science Classrooms:

1. Challenge Boxes in each classroom; Challenge grid for end of lesson challenge
2. Triple Science taught at GCSE

Websites:

https://www.stem.org.uk/resources/stem-clubs/search?resource_query=Science&items_per_page=10

BBC Science and Environment https://www.bbc.co.uk/news/science_and_environment

BBC Nature <https://www.bbc.co.uk/programmes/b010k3j3>

Key Stage 3

Year 7 – Science Club - Discovery/Bronze Crest Award <https://www.crestawards.org/>

Year 8 and Year 9

General Interest

Virtual tour of the Science Museum in London <https://www.sciencemuseum.org.uk/virtual-tour-science-museum>

Exploring space <https://spaceplace.nasa.gov/>

Museums and science topics https://www.nhm.ac.uk/visit/virtual-museum.html?gclid=EAlaIqobChMI1ebmkNqm6gIVXoBQBh3JngKZEAYASAAEgKeBvD_BwE

ASAP science – You tube videos <https://www.youtube.com/playlist?list=PLvFsG9gYfXy-Ok43K4pQ8S7cdiK3YNX7b>

STEM https://www.stem.org.uk/resources/stem-clubs/search?resource_query=Science&items_per_page=10

KS4

Year 10 Challenge - British Physics Olympiad <https://www.bpho.org.uk/bpho/y10-challenge>

Isaac Physics <https://isaacphysics.org/gcse>

Key Stage 5

General Interest:

- New Scientist Magazine: www.newscientist.com/
- Scientific American Magazine: www.scientificamerican.com/
- Cambridge Science Podcasts: www.thenakedscientists.com/HTML/podcasts/

- Oxford Science Podcasts: <http://podcasts.ox.ac.uk/units/mathematical-physical-life-sciences-division>
- Oxford Science Blog: www.ox.ac.uk/media/science_blog/
- The Atlantic Magazine, science section: <https://www.theatlantic.com/science/>
- The Naked Scientists podcast and website: <https://www.thenakedscientists.com/>
 - STEM resources <https://www.stem.org.uk/resources/stem-clubs/search>

Biology : Books of interest:

1. *Nature* and *New Scientist* magazines
2. *The Chemistry of Life* (Steven Jones)
3. *Language of the Genes* and *Almost Like a Whale* (Steve Jones)
4. *Genome* (Matt Ridley)
5. *The Wisdom of the Genes* (Wills)
6. *Darwin's Dangerous Idea* (Daniel Dennett)
7. *The Selfish Gene* and *The Extended Phenotype* (Dawkins)
8. *Virovolution* (Ryan)
9. *Life Ascending* (Nick Lane)
10. *The Revenge of Gaia* (Lovelock)
11. *50 Genetic Ideas You Really Need to Know* (Henderson)
12. *Zoobiquity* (Horowitz & Bowers)
13. *Creation: The Origin of Life* (Rutherford)

Biological, Biomedical and Life Sciences and Zoology:

- Bio NRICH maths: <https://nrich.maths.org/6139>
- IntoBiology website: <http://intobiology.org.uk/>
- Wellcome Trust: www.wellcome.ac.uk/
- Human Genome Project: <http://genome.wellcome.ac.uk/>
- Educational resources at the Natural History Museum: www.nhm.ac.uk/education/index.html
- BBC Science and Nature programmes: www.bbc.co.uk/sn/
- Institute of Zoology: www.zsl.org/science
- Botanical Sciences at Kew: www.kew.org

Events and Public Lectures

1. Society of Biology: <http://www.societyofbiology.org/events>
2. The Linnean Society: <http://www.linnean.org/Education+Resources/student-events-and-resources/student-lecture-series>

Chemistry

Suggested reading

1. *New Scientist* magazine
2. *Chemistry* (Brock)
3. *Principles of Biochemistry* (White, Handler and Smith)
4. *Chemistry for Changing Times* (Hill, McCreary and Kolb)
5. *Materials Science* (Ramsden)
6. *The Periodic Kingdom* (Atkins)
7. *The Disappearing Spoon* (Kean)

Websites

- Chem NRICH maths: <https://nrich.maths.org/6463>
- Cambridge Chemistry Challenge: <http://www.c3l6.org/>
- Chemistry World Online: www.rsc.org/chemistryworld/
- RSC Journals: <http://pubs.rsc.org/en/Journals?key=Title&value=Current>
- RSC membership: www.rsc.org/Membership/Networking/chemnet/
- Biochemical Society: www.biochemistry.org/
- Biochemistry for schools: www.biochem4schools.org/
 - Isaac Chemistry problem solving Chemistry problems <https://isaacphysics.org/chemistry>

Lectures and Public Events

1. The Royal Society: <https://royalsociety.org/events/>
2. Royal Society of Chemistry:
<http://www.rsc.org/ConferencesAndEvents/RSCEvents/chemistry-centre/public-events.asp>

Physics

Books

- *In Search of Schrodinger's Cat* and *In Search of the Multiverse* (John Gribben)
 - *The Physics of the Impossible* (Kaku)
 - *Hyperspace* (Kahn)
 - *QED and Surely You're Joking* (Feynman)
 - *The Trouble with Physics* (Gleich)
 - *How to Teach Quantum Physics to your Dog* (Orzel)
 - *50 Physics Ideas You Really Need to Know* (Baker)
 - *About Time* (Frank)

Websites

- Phys NRICH: <https://nrich.maths.org/6465>
- Isaac Physics problem solving exercises <https://isaacphysics.org/alevel>
- Institute of Physics (including free membership for 16-19 year-olds): www.physics.org/
- British Physics Olympiad: www.physics.ox.ac.uk/olympiad/
- Oxford Astronomy site: www.galaxyzoo.org/
- Feynman lecture series: <https://www.microsoft.com/en-us/research/project/tuva-richardfeynman/?from=http%3A%2F%2Fresearch.microsoft.com%2Fapps%2Ftools%2Ftuva%2Findex.htmlsites>
- NASA General website with current news and articles on space <https://www.nasa.gov/>