

## Engineering Resources for Schools

(Please also refer to resource list for Physics)

### Resources for students

Key stage	Resource
	<b>Additional Reading</b>
KS5	<a href="#">Chemical Engineering Articles</a>
KS5	Engineering: A Very Short Introduction – David Blockley
KS5	Flying Buttresses, Entropy and O-Rings’ – James L. Adams
KS5	The New Science of Strong Materials – JE Gordon
KS4-5	<a href="#">The New Scientist</a> – Engineering articles
KS5	<a href="#">Oxford Research Providing Data to those Working in Disaster Zones</a>
KS5	<a href="#">Oxford Research: To the Zooniverse and beyond</a> - how researchers have been harnessing volunteers to support their work.
KS5	Professor Povey’s Perplexing Problems – Thomas Povey
KS5	<a href="#">Project Drawdown</a> – Articles on various methods of tackling climate change.
KS5	<a href="#">Reading Suggestions from Engineering undergraduates</a> at Oxford University
KS3	<a href="#">The Science of Stories</a> - uses a selection of ancient classical myths as a way to ignite curiosity, develop ‘science capital,’ and deepen understanding of key scientific concepts.

KS5	Stuff Matters – Mark Miodownik
KS5	<a href="#">Sustainable Energy without the Hot Air</a> , David McKay - free to read book revealing the true facts about sustainable energy in a form that is both highly accessible and entertaining.
KS5	The Theoretical Minimum - Susskind
KS5	Think - Simon Blackburn
	<b>Websites</b>
KS4-5	<a href="#">Brilliant.org</a> - Build quantitative skills in math, science, and computer science with fun and challenging interactive explorations.
KS5	<a href="#">Chemical Engineering Resources</a>
KS4-5	<a href="#">Collection of resources from CERN</a>
KS4-5	<a href="#">Collection of resources from NASA</a>
KS1-2	<a href="#">Collection of resources from the Discovery Diaries</a> arts-based activities are used to engage primary school students in STEM
KS4-5	<a href="#">Collection of resources from the Royal Academy of Engineering</a>
KS4-5	<a href="#">EDT Programmes</a> – a website full of useful resources to learn all about a variety of STEM Subjects.
KS4-5	<a href="#">Engineer Girl Blog</a>
KS4-5	<a href="#">Engineering.com</a> – a website full of useful resources to assist you in making a successful application to study Engineering.
KS4-5	<a href="#">isaacphysics.org</a> – A collection of useful Physics resources.
KS4-5	<a href="#">I want to study Engineering</a> – a website full of useful resources to assist you in making a successful application to study Engineering.
ALL	<a href="#">James Dyson Foundation</a> - Engineering challenges and teaching resources
KS5	<a href="#">jstor.org</a> - a website full of useful resources to assist you in making a successful application to study Engineering.
ALL	<a href="#">Live status of the National Grid</a>

KS4-5	<a href="#">National Science Foundation Engineering Resources</a> - video and other material
KS5	<a href="#">nrich.maths.org</a> - a website full of useful resources to get ahead in Maths. Useful for prospective Engineering students.
KS5	<a href="#">Oxford Science Blog</a>
KS3-4	<a href="#">Oxford Sparks Engineering Teaching Resources</a>
KS4-5	<a href="#">Oxford University Engineering Department</a> - resources and support for Prospective applicants
KS4-5	<a href="#">Oxford University Materials Science Outreach events</a>
KS2-5	<p><a href="#">Explore</a> - explore some of the big questions that are relevant to us all such as:</p> <ul style="list-style-type: none"> <li>• Are explosions always destructive?</li> <li>• Will time travel ever be possible?</li> </ul> <p>Is a robot a person?</p>
KS4-5	<a href="#">Physics Lab</a> - unique physics questions that are similar to the kind of thing that might be asked at interview
KS2-4	<a href="#">Science Museum Group</a> This site brings together resources from Museums, including activities, games and videos.
KS4-5	<a href="#">Shell- cleaner energy and sustainability</a> - information and resources
KS3-4	<a href="#">Stem Crew Challenges</a> - Engineering challenges for students
KS4-5	<a href="#">Tomorrow's Engineers</a> - a website full of useful resources to learn all about Engineering and potential Engineering careers.
KS4-5	<a href="#">Twitter @realscientists</a>
ALL	<a href="#">What if?</a> – Answers to absurd scientific questions.
KS5	<a href="#">Women In Engineering at Oxford University</a>
KS5	<a href="#">Women in STEM</a>
	<b>Radio/Podcasts/Videos/MOOCs</b>
KS5	<a href="#">99% invisible podcasts</a> - look at infrastructure category

KS5	<a href="#">Arkwright Engineering Scholarships</a>
KS4-5	<a href="#">Balliol College, Engineering Science Video</a> - Professor James Kwan (Associate Professor and Tutorial Fellow in Engineering Science) answers questions about preparing for tutorials, how he explores ideas with students and what he enjoys about conversations with them.
KS4-5	<a href="#">BBC Radio 4 - Behind the Stats</a>
KS4-5	<a href="#">BBC Radio 4 In Our time</a>
KS4-5	<a href="#">BBC Radio 4 Inside Science</a>
KS4-5	<a href="#">BBC Radio 4 The Life Scientific</a>
KS4-5	<a href="#">BBC Science in Action</a>
KS4-5	<a href="#">BBC Sounds</a> Radio programme with an engineering focus
KS4-5	<a href="#">Born to be an Engineer Podcasts</a>
KS4-5	<a href="#">Cambridge Streaming Media Service</a> – Media items provided by the university of Cambridge for prospective Engineering students.
KS5	<a href="#">Coursera Engineering Moocs</a>
KS5	<a href="#">Crash Course in Engineering</a> - short video on different topics
KS5	<a href="#">EdX Engineering MOOCs</a>
KS4-5	<a href="#">Engineering Matters podcasts</a>
KS4-5	<a href="#">The Engineering Student Experience Podcast</a>
KS5	<a href="#">Flashforward Podcasts on the future</a>
KS5	<a href="#">Harvard Engineering Moocs</a>
KS4-5	<a href="#">The Infinite Monkey Cage - Scientific Podcasts</a>
KS4-5	<a href="#">The Naked Scientist</a> - Award-winning science podcasts and science radio shows.
KS5	<a href="#">Oxford University Research - deliver drugs better</a>

KS5	<a href="#">Oxford University Research - driverless cars</a>
KS4-5	<a href="#">Springboard - The Physics of Wind Turbines</a>
KS4-5	<a href="#">Springboard - Logic in Mathematics</a>
KS4-5	<a href="#">startalkradio.net - Podcasts</a>
All	<a href="#">The Royal Society YouTube Channel</a>
KS4-5	<a href="#">Twenty Days - Amy Johnson</a> - Audio diaries of Amy Johnson, the first woman to fly solo from England to Australia.
KS5	<a href="#">Yale Biomedical Engineering MOOCs</a>
KS4-5	<a href="#">You Tube- Real Engineering</a>
KS5	<a href="#">YouTube - Air Pollution from vehicles</a>
KS5	<a href="#">YouTube - An introduction to chemical engineering</a>
KS4-5	<a href="#">YouTube - Bio medically-engineered bubbles</a>
KS5	<a href="#">YouTube - Can an arch stand up?</a>
KS4-5	<a href="#">YouTube - Lecture Communicating Climate Change</a>
KS5	<a href="#">YouTube - Lecture Nuclear Magnetic Resonance</a>
KS4-5	<a href="#">YouTube - Lecture Probabilistic robots</a>
KS5	<a href="#">YouTube - Lecture What's so super about superconductors?</a>
KS5	<a href="#">YouTube - Oxford Quantum Materials Channel</a>
KS5	<a href="#">YouTube - Oxford Research: fuel cells inspired by nature</a>
KS5	<a href="#">YouTube - Oxford Research: the global race for biofuels</a>
KS5	<a href="#">YouTube - Oxford Research: The surprising use of Silk</a>
KS5	<a href="#">YouTube - Lecture Introductory Engineering Video</a> Probabilistic robots
	<b>Magazines and Journals</b>

KS5	<a href="#">The Chemical Engineer</a>
KS5	<a href="#">Electrical Engineering and Electronics</a>
KS5	<a href="#">Engineering Magazine</a> - researches and reports on the latest manufacturing techniques, information technology, product development and management strategies.
KS5	<a href="#">European Journal of Computational Mechanics</a> - publishes research studies related to numerical methods as well as their application to simulations of problems related to engineering in materials, structures, fluids, and solids.
KS5	<a href="#">Ingenia</a> - Aerospace engineering
KS5	<a href="#">Institute of Mechanical Engineers Magazine</a>
KS5	<a href="#">JESTECH</a> - The main themes or subjects that this journal includes are Electrical Engineering, Computer Science Engineering, Electronics Engineering, Civil and Mechanical Engineering, Material and Metallurgical Engineering.
KS5	<a href="#">Journal for Engineering Education</a> - aims to promote knowledge and scholarly research in the field of engineering education.
KS5	<a href="#">M.I.T News - electrical engineering</a>
KS5	<a href="#">The New Scientist Magazine</a>
KS4-5	<a href="#">The Oxford Scientist</a> a student run science magazine for Oxford University. Browse news, articles and more.
KS5	<a href="#">Particle magazine</a>
KS5	<a href="#">Science Daily</a> various articles relating to different aspects of engineering
KS5	<a href="#">Scientific American Magazine</a> - Physics, Maths and space exploration
KS5	<a href="#">The Scientist Magazine</a>
KS5	<a href="#">The Young Scientists Journal</a>
	<b>Competitions</b>
KS4-5	<a href="#">British Physics Olympiad</a>
ALL	<a href="#">F1 in Schools</a>

Age 9-25	<a href="#">Green Power Trust</a> - Young people around the world are given a unique challenge: to design, build and race an electric car.
KS4-5	<a href="#">Oxford University School Science Writing Competition</a>
KS5	<a href="#">Unsung Heroes of Science</a> - video competition challenging teenagers to celebrate the stories of those unsung heroes of science who deserve wider recognition.
<b>Events</b>	
KS5	<a href="#">UNIQ</a> - Four-night, five-day residential courses in either spring or summer, you can discover student life for yourself.

## Resources for teachers

Resource	Notes
<a href="#">Bloodhound land Speed record</a>	Projects and activities connected to breaking the land speed record
<a href="#">E- trust Programmes</a>	A nationwide educational charity engaging young people through STE(A)M focused experience days, projects and placements.
<a href="#">James Dyson Foundation</a>	Various challenges for students of different ages and learning resources
<a href="#">Science Experiments for Kids</a>	Fun and educational science experiments.
<a href="#">STEM crew</a>	STEM Crew provides free teaching resources covering real world science, technology, engineering and maths for key stage 3 and 4.