

Engineering Resources for Schools

(Please also refer to resource list for Physics)

Resources for students

Key stage	Resource
	Additional Reading
KS3	The Science of Stories - uses a selection of ancient classical myths as a way to ignite curiosity, develop 'science capital,' and deepen understanding of key scientific concepts.
KS5	A Very Short Introduction To- various short introductions to different aspects of engineering.
KS5	David McKay Sustainable Energy without the Hot Air A free to read book revealing the true facts about sustainable energy in a form that is both highly accessible and entertaining.
KS5	Reading Suggestions from current Engineering undergraduates at Oxford University
KS5	Chemical Engineering articles
KS5	Project Drawdown – Articles on various methods of tackling climate change.
KS5	Oxford Research: A Revolution in Solar Power Technology article
KS5	Oxford Research: Near perfect distance measurement article and videoSeries
KS5	Oxford Research: Poetry in motion- bio inspired drone technology article
KS5	Oxford Research: To the Zooniverse and beyond - how researchers have been harnessing volunteers to support their work.

KS5	Oxford Research Providing the Technology for Space Refrigerators
KS5	Oxford Research Improving Hospitals' Early Warning Systems
KS5	Oxford Research Providing Data to those Working in Disaster Zones
	Websites
KS4-5	I want to study Engineering – a website full of useful resources to assist you in making a successful application to study Engineering.
KS4-5	Engineering.com – a website full of useful resources to assist you in making a successful application to study Engineering.
KS4-5	Tomorrow's Engineers - a website full of useful resources to learn all about Engineering and potential Engineering careers.
KS4-5	Collection of resources from the Royal Academy of Engineering
KS5	Chemical Engineering Resources
KS4-5	Engineer Girl Blog
KS5	Women In Engineering at Oxford University
KS5	Women in STEM
KS4-5	Oxford University Engineering Department - resources and support for Prospective applicants
KS4-5	Royal Institution masterclasses - Mathematics, Engineering and Computer Science Masterclasses are hands-on and interactive extracurricular sessions led by top experts from academia and industry.
KS4-5	National Science Foundation Engineering Resources - video and other material
ALL	James Dyson Foundation - Engineering challenges and teaching resources
KS4-5	Collection of resources from NASA
KS4-5	Collection of resources from CERN
	Live status of the National Grid

KS4-5	isaacphysics.org – A collection of useful Physics resources.
KS4-5	Brilliant.org - Build quantitative skills in math, science, and computer science with fun and challenging interactive explorations.
KS4-5	EDT Programmes – a website full of useful resources to learn all about a variety of STEM Subjects.
KS5	jstor.org - a website full of useful resources to assist you in making a successful application to study Engineering.
KS5	rich.maths.org - a website full of useful resources to get ahead in Maths. Useful for prospective Engineering students.
KS4-5	Shell- cleaner energy and sustainability - information and resources
KS3-4	Stem Crew Challenges - Engineering challenges for students
KS2-4	Science Museum Group This site brings together resources from Museums, including activities, games and videos.
KS3-4	Oxford Sparks Engineering Teaching Resources
ALL	What if? – Answers to absurd scientific questions.
KS5	Oxford Science Blog
KS4-5	Twitter @realscientists
KS4-5	Oxford University Materials Science Outreach events
KS2-5	<p>Oxplore - explore some of the big questions that are relevant to us all such as:</p> <ul style="list-style-type: none"> • Are explosions always destructive? • Will time travel ever be possible? <p>Is a robot a person?</p>
KS1-2	Collection of resources from the Discovery Diaries arts based activities are used to engage primary school students in STEM
Radio/Podcasts/Videos/MOOCs	
KS4-5	BBC Sounds Radio programme with an engineering focus
KS4-5	BBC Radio 4 The Life Scientific

KS4-5	BBC Radio 4 Inside Science
KS4-5	BBC Radio 4 In Our time
KS4-5	BBC Radio 4 - Behind the Stats
KS4-5	Born to be an Engineer Podcasts
KS4-5	Engineering Matters podcasts
KS5	99% invisible podcasts - look at infrastructure category
KS4-5	The Infinite Monkey Cage - Scientific Podcasts
KS4-5	startalkradio.net Podcasts
KS4-5	The Naked Scientist - Award-winning science podcasts and science radio shows.
KS5	Flashforward Podcasts on the future
KS4-5	BBC Science in Action
KS5	YouTube - An introduction to chemical engineering
KS5	YouTube - Oxford Research: the global race for biofuels
KS5	YouTube - Oxford Research: fuel cells inspired by nature
KS5	YouTube - Air Pollution from vehicles
KS5	Oxford University Research driverless cars
KS5	YouTube - Oxford Quantum Materials Channel
KS5	YouTube - Lecture What's so super about superconductors?
KS5	YouTube - Lecture Nuclear Magnetic Resonance
KS5	YouTube- Lecture Introductory Engineering Video Probabilistic robots
KS5	YouTube - Can an arch stand up?
KS5	YouTube - Oxford Research: The surprising use of Silk

KS5	Oxford University Research delivery drugs better
KS4-5	YouTube - Bio medically-engineered bubbles
KS4-5	You Tube- Real Engineering
KS4-5	YouTube - Lecture Probabilistic robots
KS4-5	YouTube - Lecture Communicating Climate Change
KS4-5	Balliol College, Engineering Science Video - 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	Cambridge Streaming Media Service – Media items provided by the university of Cambridge for prospective Engineering students.
All	The Royal Society YouTube Channel
KS5	EdX Engineering MOOCs
KS5	Yale Biomedical Engineering MOOCs
KS5	Coursera Engineering Moocs
KS5	Harvard Engineering Moocs
KS5	Crash Course in Engineering - shorts video on different topics
KS5	Arkwright Engineering Scholarships
	Magazines and Journals
KS5	JESTECH - 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	European Journal of Computational Mechanics - 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	Journal for Engineering Education - aims to promote knowledge and scholarly research in the field of engineering education.

KS5	Engineering Magazine - researches and reports on the latest manufacturing techniques, information technology, product development and management strategies.
KS5	Ingenia - Aerospace engineering
KS5	The Chemical Engineer
KS5	Electrical Engineering and Electronics
KS5	M.I.T News- electrical engineering
KS5	Institute of Mechanical Engineers Magazine
KS5	Science Daily various articles relating to different aspects of engineering
KS5	Particle magazine
KS5	Scientific American Magazine - Physics, Maths and space exploration
KS5	The New Scientist Magazine
KS5	The Scientist Magazine
KS5	Aeon Magazine
KS5	Scientific American Magazine
KS5	The Young Scientists Journal
KS4-5	The Oxford Scientist a student run science magazine for Oxford University. Browse news, articles and more.
	Competitions
Age 9-25	Green Power Trust - Young people around the world are given a unique challenge: to design, build and race an electric car.
KS4-5	British Physics Olympiad
ALL	F1 in Schools
	Unsung Heroes of Science - video competition challenging teenagers to celebrate the stories of those unsung heroes of science who deserve wider recognition.
KS4-5	Oxford University School Science Writing Competition

	Events
KS5	UNIQ - Four-night, five-day residential courses in either spring or summer, you can discover student life for yourself.
KS4	Uncover Engineering- Female students - hands-on workshops across a range of engineering disciplines for female students aged 14-16.
KS4-5	Oxford University International Day for Women in Engineering

Resources for teachers

Resource	Notes
E- trust Programmes	A nationwide educational charity engaging young people through STE(A)M focused experience days, projects and placements.
Science Experiments for Kids	Fun and educational science experiments.
STEM crew	STEM Crew provides free teaching resources covering real world science, technology, engineering and maths for key stage 3 and 4.
Royal Institution masterclasses - Mathematics, Engineering and Computer Science Masterclasses	Hands-on and interactive extracurricular sessions led by top experts from academia and industry.
James Dyson Foundation	Various challenges for students of different ages and learning resources
Bloodhound land Speed record	Projects and activities connected to breaking the land speed record