

Resources

Supporting teaching in STEM



A collection of web links that support the teaching of Science, Technology, Engineering and Mathematics in schools (K-12).



[AAMT \(Australian Association of Mathematics Teachers\)](#)

The national professional association for teachers of mathematics. Includes a number of online resources that assist teachers to improve their teaching.



[ABC Splash](#)

4000+ educational games, videos and teaching resources for schools and students. Free Primary and Secondary resources covering most school subjects. Easy search engine.



[AMSI Schools](#) (Mathematics)

Modules cover all areas of the Australian Curriculum: Number & Algebra; Measurement & Geometry; Statistics & Probability. Check out the [MathsTalk](#) teacher's podcast too!



[ASSIST \(Australian School Science Information Support for Teachers\)](#)

A new and innovative national online advisory service for school science educators and technicians. Includes an advanced search for resources.



[ASTA \(Australian Science Teachers Association\)](#)

The national professional association for teachers of science. Produces and distributes a range of resources to assist, inspire and educate science teachers.



[Australian STEM Video Game Challenge](#)

A free competition for Australian students in Years 5-12. Students are invited to design, build and submit an original educational video game.



[Careers with STEM](#)

The Careers with STEM magazines offer inspiration to young Australians to get involved in STEM and explore future careers.



[Code Club Australia](#)

Supports the running of after-school coding clubs, as well as free curriculum and training for teachers in schools across Australia.



[Code Camp](#)

Code Camp World enables students to learn a variety of coding disciplines from drag & drop to JavaScript. Students can build websites in HTML & CSS and stunning games too.

Phone (02) 4921 7319

Email challenge@newcastle.edu.au

www.newcastle.edu.au/challenge



Science and Engineering Challenge



@sciengchallenge



The Science and Engineering Challenge



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[CoderDojo](#)

CoderDojo is a global movement of free, open, volunteer-led coding clubs (Dojos) where young people aged 7–17 (Ninjas) can explore digital technology



[Cool Australia – Learn for Life](#)

Cool Australia is a leading not-for-profit organisation dedicated to supporting teachers with high quality teaching tools, resources and professional development courses.



[CSIRO](#)

A suite of teaching resources including online professional development, learning activities, ebooks, PowerPoints and Wikispaces.



[CSER Digital Technologies MOOCs](#)

A number of free, open online courses designed to assist teachers in preparing for the new Digital Technologies learning area.



[CS Unplugged](#)

CS Unplugged is a collection of free learning activities that teach Computer Science through engaging games and puzzles that use cards, string, crayons and movement.



[Digital Technologies Hub](#)

Unpack the Digital Technologies Curriculum one step at a time. Find great lesson ideas linked to the curriculum and explore strategies and advice from other teachers.



[Dr Karl](#)

The official Dr Karl website with links to articles, videos, podcasts, Triple J science questions and Sleek Geeks.



[eGFI: Dream Up the Future](#)

Promotes engineering education with K-12 lesson plans, activities and links to web resources.



[EngQuest](#)

EngQuest is an initiative of Engineers Australia and provides curriculum appropriate engineering projects for lower primary to middle school students.



[Exploratorium](#)

Learn about life science through various websites, hands-on activities and videos on the Exploratorium website.



[F1 in Schools](#)

The world's largest secondary school technology program where students as young as 10 design, make and test miniature F1 cars.



[FIRST Robotics](#)

An international robotics competition. Each year teams of high school students, coaches and mentors work during a six-week period to build game-playing robots.

THE GiST

[Girls in STEM Toolkit \(The GiST\)](#)

The GiST provides resources to inspire and inform girls, schools and families in STEM. Explore activities, resources, case studies, lessons, study pathways and careers.



[GO-LAB](#)

The largest collection of online labs and interactive inquiry apps to share with students. Resources come from scientific organisations, universities and research institutions.



[Grow with Google](#)

Google's Education programs are designed to aid teachers to engage and help students get the skills they need to prepare for today's jobs.



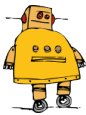
[HHMI BioInteractive](#)

Explore the array of free educational materials offered by HHMI for science teachers and students, including interactive multimedia, virtual labs, videos and animations.



[In2Science](#)

Examples of student activity and teacher resource cards can be found on their website, as well as a helpful collection of websites for school STEM subjects.



[Instructables](#)

A website that specialises in user-created and uploaded do-it-yourself projects for K-12, which other users can comment on and rate for quality.



[Intel Education](#)

Resources designed to help passionate teachers integrate technology effectively into their curriculum, including professional development.



[Inspiring Australia](#)

Sponsorship Grants for Student Science Engagement and International Competitions, which assists Australian students to participate in STEM activities or events.



[Kahoot](#)

Kahoot is a game-based learning platform that makes it fun to learn any subject, in any language on any device. For all ages.



[Kinetic City](#)

A collection of science experiments, games, activities and challenges for students in years 3-5.



[NASA](#)

Lesson plans and teaching materials to support STEM teaching. Search hundreds of resources by subject, grade level, type and keyword.



[National Schools Poster Competition \(NSPC\)](#)

The NSPC is a project-based learning activity which encourages school students from Stage 2 – 6 to creatively investigate and report upon any topic of interest to them.

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Science and Engineering Challenge



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[National Science Teachers Association](#)

Access podcasts, webinars, courses, online tutorials, press resources and online communities to sharpen your science teaching skills.



[National Science Week](#)

National Science Week is an annual festival of science that usually takes place in August each year. There are over 1000 events across Australia to get involved in.



[Queensland Museum Network](#)

The Queensland Museum has produces high quality classroom resources that contain teacher notes, student activities and curriculum links.



[Questacon](#)

Questacon provides [Teacher Resources](#) and [Activity Sheets](#) for a wide range of STEM topics online, spanning years K-12.



[RiAus \(Australia's Science Channel\)](#)

A wealth of free tools and resources from trending subject content published on Australia's Science Channel by leading talents working in STEM. Mapped to curriculum.



[RoboCup Junior](#)

A project-oriented educational initiative that supports local, regional and international robotic events for young students.



[SA Teachers & Leaders Resource \(Australian Curriculum\)](#)

This site contains resources relating to Teaching for Effective Learning, Learning Design templates, assessment practices, improving student engagement and so much more.



[Scholastic](#)

Thousands of grab-and-go lesson plans, unit plans, discussion guides, extension activities and other teaching ideas.



[Science Buddies](#)

Find hands-on activities designed for the classroom, STEM classroom guides and Google Classroom resources (designed around the US curriculum).



[Scitech](#)

Perth's science museum provides a collection of instructions for science experiments for kids that encourage exploration, questions, and learning.



[Scootle](#)

A national repository that provides Australian schools with more than 20,000 digital resources aligned to the Australian Curriculum.



[Scope TV](#)

Scope is a fast, funny and informative children's science show, aimed at kids 8-14 and produced in association with the CSIRO.





Scratch

A free programming, language and online community where you can create your own interactive stories, games and animations.



Smithsonian

A wealth of digital tools that support inquiry-based learning and active engagement to spark creativity and curiosity.



STARportal

The STARportal is Australia's first centralised national portal that connects parents, students and teachers with their local and online STEM activities in real time.



STELR (Science and Technology Education Leveraging Relevance)

STELR teaching modules target highly relevant issues affecting all students (Years 5 – 10). There are 12 modules with curriculum resources for teachers and students included.



STEM Collaborative

Four interactive online learning adventures for middle school classrooms. Students will enjoy these brain-boosting explorations that use digital media in creative ways.



Surfing Scientist (ABC)

Ruben Meerman has an arsenal of science tricks up his sleeve, including demos (with PDF and full instructions), lesson plans and videos.



TeachEngineering

STEM based lesson plans, with accompanying activity sheets, videos, and challenges (based on US curriculum).



Tech Girls Movement

Promoting positive role models to encourage and raise awareness of information technology careers for girls. Includes competitions and workshops for schools.



TEDEd

Build a lesson around any TED-Ed Original, TED talk or YouTube video. With a growing library of lessons you can also use, tweak or completely re-do any lessons featured.



Thingiverse

Find 3D-printer designs for your wildest imagination!



Tinkercad

A simple, online 3D design and 3D printing app that can be used by designers, hobbyists, teachers and kids to make prototypes. No design experience required.



twinkl

Primary school resources up to Years 5-6 on a range of STEM topics. Must sign up for a free account to access free lessons, games, worksheets and activities.