

CAREERS WITH STEM

TEACHER NOTES



Years 7-12

The Careers with STEM series includes four quarterly magazines, videos, web articles and posters around careers with science, technology, engineering and maths.

Introduce today's students to the careers of tomorrow
CAREERSWITHSTEM.COM

About Careers with STEM

The Careers with STEM series includes four quarterly magazines, along with website articles, teacher resources and videos across four STEM areas: science, technology, engineering and maths. The focus is on independent inquiry and constructivist learning through the application of a range of general capabilities that can 'bridge the academic and vocational divide, providing young people with the resources to navigate the future.'*

Each magazine issue provides inspiring stories, career role models, job statistics and first step action points towards the careers of the future, and is based on the premise of discovering new areas of innovation through STEM + X – where X is another field of study, a personal passion, or a world-changing goal.

*Kate Torii and Megan O'Connell, March 2017. *Preparing young people for the future of work*. Mitchell Report 01/2017.

Who are the Notes for?

The Careers with STEM Teacher Notes are for teachers, careers advisors, parents, STEM-based institutions, or mentors who could use the guides to expose and inspire students towards STEM careers. For teachers, they are ideally suited to the Years 7–12 high school classroom.

The activities are designed specifically for students to gain insight into a variety of STEM careers across a range of topics, as well as to meet specific, content-based curriculum outcomes. In the classroom, most of the activities will allow teachers to link to industry and skills-based curriculum outcomes.

Download/read online

Read or download the magazines for free online.

CareerswithSTEM.com/read-it-here/



Discover a world of cutting-edge careers and real-life stories.

Jump online and subscribe today to receive every issue of *Careers with STEM*, delivered to your door four times a year, or order multiple copies for classes, events and clubs!

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◀ CAREERS WITH STEM ▶

> SCIENCE > MATHS > ENGINEERING > CODE

Using the Careers with STEM magazines in class

CAPABILITIES	ACTIVITY IDEAS
PERSONAL + RESILIENCE	<p>READ: <i>Make your own Luck</i>, Careers with Health p5.</p> <p>THINK/DO: Make a list of what action points Lillian Caruana took, as well as the personal skills she used, to find her dream role as a researcher at ANSTO. What does she recommend others do to help find their dream job? What do you think she means when she says people should use their resources? What were Lillian's main resources? Identify the resources you could use when going for your dream job.</p> <p>FOLLOW WITH: Use an online template such as the one found here au.hudson.com/job-seekers/career-advice/cover-letter-templates (or find one of your own) to write a cover letter for one of the Hot Jobs listed in the boxes throughout the magazine. Be sure to include a list of your personal skills and other resources that are suited to the job you are aiming for.</p>
LITERACY + SOCIAL	<p>READ: <i>Reef Obsession</i>, Careers with Science p11 as well as <i>Blue Yonder</i>, p12.</p> <p>THINK/DO: Imagine you have just completed a work placement or internship with Francesca Gissi. Write a couple of daily or weekly blogs about the activities you carried out, including how you took on a leadership role in one of these activities. You can use Jesse Hawley's blog as a researcher on the CSIRO vessel <i>RV Investigator</i> as a guide.</p> <p>FOLLOW WITH: Check and edit your blog against the tips in this video to improve it and make it more engaging: www.youtube.com/watch?v=go4wo4WenQQ</p>
CREATIVE + PROBLEM SOLVING THINKING + ICT	<p>READ: <i>VR in the ER</i>, Careers with Science p13, and <i>Top 9 Industries for Science Graduates</i> p6– 7.</p> <p>THINK/DO: Follow Weber Lui's lead for making virtual reality (VR) or augmented reality (AR) apps as educational tools by choosing one of the top nine jobs for science graduates and planning an application that showcases and teaches students about one or more aspects of that job. Complete some additional research as well as using the notes in the Careers with Science magazine.</p> <p>FOLLOW WITH: Read about some of the medical uses of AR and VR as inspiration for your own ideas and to help think about how these apps might impact on the future of health. Visit medicalfuturist.com/top-9-augmented-reality-companies-healthcare.</p>

Deep Dive Activity

Collaborative research into attitudes to robotic surgery.

Digital Technologies Curriculum Links:

Yr 7/8 ACTDIP32 - Digital Technologies Process and Production Skills; Yr 9/10 ACTDIP44 - Digital Technologies Process and Production Skills

Capabilities:

Numeracy + Teamwork + Social + Creativity + Literacy + ICT

Read:

Health and Medicine in the Future: Robots and Machine Learning will Overhaul Surgery, Careers with Health, p13

Think/Do:

As a team, plan and manage a research project that gathers and stores data online to identify how the general public feels about being operated on by a robot.

Before you start, identify how you will meet the following criteria:

CRITERIA	YOUR NOTES	COMPLETED ✓
Timeline of the project. Sketch out a working timeline at the beginning of the project that one team member can manage and update through the project's duration.		
Write your questionnaire. Draft the questionnaire as a group and then one group member can edit it and upload it for participants to respond to online.		
Carry out at least one virtual meeting during the project.		
Data storage. Store all project research, data and notes in the cloud.		
Collation, analysis and reporting of data. Use computer software such as Prezi or Powerpoint to present: <ul style="list-style-type: none"> • your project • its findings • projected consequences of your findings to an online audience. 		

Reflection

What I have learnt about careers in STEM...	What I found interesting/inspiring about careers in STEM...	What I still want to know about careers in STEM – and where I could go to find out...

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**COMPUTER SCIENCE +
MEDICINE**
SCIENCE P13

What science degree when combined with medicine could result in a virtual reality program that saves people's lives?

Weber Liu



**HEALTH +
MACHINE LEARNING**
HEALTH P10

How does a psychologist with an interest in software create a groundbreaking app that treats depression and negative thoughts?

David Bakker



**HEALTH +
NUCLEAR SCIENCE**
HEALTH P11

What potential science career started off as a networking opportunity, but ended up as a research project at Australia's only nuclear reactor?

Lillian Caruana



**SCIENCE +
ENGINEERING**
SCIENCE P19

How can you take a materials engineering degree and use it to transform a smartphone, so it can detect diseases by sampling your breath?

Noushin Nasiri

For more career profiles, information and quizzes go to
[CareerswithSTEM.com](https://careerswithstem.com)

