# Teaching Careers in science

In science, students learn to make sense of the world around them by asking questions and conducting investigations to test those questions.

Skills used in science, such as questioning, planning, measuring, analysing are transferable to many occupations and job interest areas.

By building career-related activities into your curriculum area you are helping your students to develop the understandings, skills and attributes that they need to make positive career decisions throughout their lives.

## Activities for Year 7 upwards

* Display the Where to? posters for your subject area. You can download these [here](https://www.careers.govt.nz/resources/tools-and-activities/where-to-posters/).
* If your classroom is often used for teaching science, create a display area about careers and training in science.
* Explore with students the interactive tools on the Careers New Zealand website,
  + including Where to?
  + Subject Matcher
  + Skill Matcher
  + Jobs by Interest. <https://www.careers.govt.nz>
  + Find more information about science-related industries/jobs e.g. for homework
  + Encourage students to use the Internet to research their role models’ career paths
* Start a physical or electronic file of stories of people working in science. They could be from local newspapers or magazines. Get other teachers in your department and students to look out for stories to add to the file.
* Investigate the influence and importance of science in particular businesses, industries, or institutions.
* Identify the changes that have occurred in an industry or job as the result of new science.
* Allow students time to write in their learning and career plans about the skills they are learning in their subject.
* Encourage students to think about how scientists work together by asking questions about how they would do this, giving examples, and perhaps following up with information on sciences jobs from this website.
* Create discussion about the skills and abilities required for a range of science-related occupations.
* Encourage students to use the Internet to research their role models’ career paths.
* Use this website to find a number of science-related occupations for your class. Ask students to each pick one occupation and then research it by:
* interviewing someone they know who has studied science, and finding out about their career path
* finding information about the occupation on the Internet
* asking family/whānāu if they know a person in the occupation who would be willing to talk about their work
* texting CAREER to 434 to get a career information pack posted to them
* using newspaper and magazine articles in the library.

## Activities for Year 11 upwards

* Invite a person who works in a science-related field to speak at prize-giving or school assemblies, and/or to present the awards for achievements in science. Ask them to talk about how their school learning helped them progress into their chosen field.
* Contact previous students who are in tertiary science training and invite them to speak to students about training and study options.
* Allow for students to gain first aid and other workplace certification while at school.
* Make available in your classroom tertiary prospectuses and information on science related training, or show students where similar resources can be found.
* Work co-operatively with community groups and business enterprises when planning science projects and ways to enter competitions.
* Encourage discussion about occupations that focus on science.
* Ask students why they have chosen this subject, what skills they bring to it, and what skills they will develop. Then discuss how these skills and interests can be transferred to the outside world.
* Help students to develop people skills by encouraging them to become mentors for junior students. Get students to identify the skills they will be developing by doing this, and what occupations require these skills.
* Set homework activities involving the students interviewing people in science jobs.
* Encourage students to record their skills and achievements in their CVs using the CV 4 Me tool

## Activities for all levels

* Class visit - Science has many field trips that will bring students in contact with scientists. Make sure whenever you take them out they do talk to a scientist. You could give the students opportunities to ask the scientist questions or pre-prepare questions. It is fruitful to find out:
* what the scientist typically does in their day,
* what they like best about their job,
* how they came to be in this job (v=career path)
* Speakers
* Make a poster for the classroom wall
* Create posters of key career words and their translations for specific Science areas
* Display student work
* Commercial posters that have a science career link
* Research one relevant career - what Science knowledge, skills, & qualifications are needed
* Use career Services Career wheels to identify degrees of study and training required
* Ask students to interview someone about the impact of particular scientific developments on their work practices (eg the impact of genetic testing on police work), or about how science informs their daily work (eg a vet, doctor, council environment officer, or waste water treatment worker).
* Ask students to research occupations that require the use of particular chemicals or materials. For example, they could interview a horticulturist about how an understanding of ecology and chemicals affects their methods of pest and disease control.
* When developing research topics, try to include careers content. For example, research 10 science-related occupations that would be involved with the Commonwealth Games.
* Create a careers corner in your classroom. This could feature subject/occupation-related posters, tertiary posters, magazines and books that are related to mathematics and statistics, and newspaper articles.
* When doing out-of-classroom activities try to link careers content to each activity. For example, when visiting a work setting, have a set of questions students can ask about occupations and career pathways.
* Encourage students to text or email Careers New Zealand and ask for information on a particular industry, occupation or course of study.
* Make the most of tertiary trips. Ask students to keep a diary of their visit and present back to the rest of the class.
* Create debate topics related to the science industry. For example, is genetic engineering ethical?
* Access video content on science careers from websites such as YouTube.
* Set homework that focuses on careers, for example:
* Ask students to interview or photograph a person in any career field. This could be in the style of "A day in the life of...". Submit the best ones to your school magazine or Tearaway.
* Invite students to create a product or group of products that demonstrate their future career or business ideas.
* Encourage students to take part in Careers or uni liaison Days:
* Visit a tertiary provider to meet tutors and students in science-related courses.
* Plan visits to research career opportunities and pathways.
* Classroom discussion points - Take five minutes at the end of a lesson to have a discussion about careers, or set homework on a careers topic. Questions you could ask include:
* Which jobs can be related to science?
* How can the skills I am learning relate to job hunting?
* If I don’t want to work in the sciences, what other jobs can I think about?
* Who could you talk to if you wanted to find out about becoming a...?
* Why is a zoologist similar to an electrician? (You can use other occupation combinations.)
* What impact has science had on society, the economy, the way we use our leisure time, and employment or unemployment?

## Teacher preparation

* Planning questions
* What occupations relate to my subject? Do I know anyone involved in these occupations who I could invite to visit students as part of my teaching programme?
* Where are the gaps in my knowledge of careers that I could work on?
* Does the school library subscribe to any publications that profile people in the field of science? What are these publications?
* What research topics could my students cover that would help them explore science-related careers?
* What unit standards could I cover using careers-related material?
* How can I make sure that I am being inclusive of Māori and Pasifika world views?
* Teacher reflection questions
* Do I know what my students’ career aspirations are?
* Are any of my students considering leaving school, and if so, do they have a plan in place?
* Do I have an up-to-date understanding of the importance and use of the skills I teach in science in the workplace? If not, how could I brush up on that knowledge?
* What combination of subjects are my students taking? What is their rationale for this? How can I better help my Year 10 students during subject choice time?
* What do parents know about career pathways related to science? How could I help parents to improve their understanding of this?
* Have I spoken to parents about any science projects I have seen their child excel in?

**Careers New Zealand**

* [Download the resources order form from the tools and activities page](https://www.careers.govt.nz/resources/tools-and-activities/#cID_896)
* [Interactive tools](https://www.careers.govt.nz/tools/)
* [Kiwi Cards - activities to help students find out about the world of work](https://www.careers.govt.nz/resources/tools-and-activities/kiwi-cards/)

**Websites:**

<http://www.agresearch.co.nz/careers/careers-in-science.aspx>

<http://www.careers.govt.nz>

<http://nzcurriculum.tki.org.nz/Careers>

<http://www.careercornerstone.org/>

<http://kids.niehs.nih.gov/labcoat.htm>

<http://www.futureintech.org.nz/>

<http://www.pbs.org/wgbh/nova/secretlife/>

[http://hs3.otago.ac.nz/cis/FMPro?-db=careers\_in\_science.fp5&-lay=data& format=index.html&-view](http://hs3.otago.ac.nz/cis/FMPro?-db=careers_in_science.fp5&-lay=data&-format=index.html&-view)

<http://www.nzifst.org.nz/careers/default.asp>

<http://www.marine.auckland.ac.nz/uoa/science/about/departments/leigh/about_leigh/careers_in_marine_science.cfm>

<http://www.esr.cri.nz/aboutus/ourpeople/Pages/forensic-careers.aspx>

<http://www.careersinscience.gov.au/>

<http://bio.waikato.ac.nz/careers/profile_sa.shtml>

<http://oceanlink.island.net/career/career2.html>

<http://www.marine-ed.org/bridge/career>

<http://vega.org.uk/video/series/10>

<http://ipersonic.com/career>

<http://science.education.nih.gov/LifeWorks>

<http://www-marine.stanford.edu/careers.htm>

<http://www.foodtechcareers.org/ifst/html/frameset.htm>

<http://www.the-aps.org/education/k-12misc/careers.htm>

<http://www.geocities.com/CapeCanaveral/Hangar/4707/hs-career.html>

<http://www.aslo.org/career/aquaticcareer.html>

<http://www.khake.com/page10.html>

<http://www.seaworld.org/career-resources/index.htm>

<http://www.accessexcellence.org/RC/CC/>

<http://www.madsci.org/FAQs/careers.html>

<http://www.botany.org/bsa/careers/>

<http://www.sciencealive.co.nz/education/ed%20pdf%27s/Careers%20Alive%20Curriculum%20Obs.pdf>

<http://www.esc.auckland.ac.nz/careers-in-engineering-science>