Other programs for teachers and students:

Double Helix Science Club

Discover the Double Helix experience with Scientriffic and The Helix, CSIRO's science magazines for primary and high-school-aged students. Big savings on bulk subscriptions for schools and free teacher's guides are available online.

Double Helix also offers a range of engaging, hands-on science events and activities from this centre.
www.csiro.au/helixschools
www.csiro.au/helixevents

Scientists in Schools (SiS) Mathematicians in Schools (MiS)

The SiS program and its sub-program MiS create and support long-term partnerships between scientists or mathematicians, and teachers in primary and secondary schools across Australia. The partnerships are supported by resources, emails, phone calls and face-to-face events. Register for free online.
www.scientistsinschools.edu.au
www.mathematiciansinschools.edu.au

CREST - CREativity in Science and Technology

CREST is a non-competitive awards program. It encourages and supports primary and secondary school students to choose, organise and undertake their own practical science or technology project. CREST aligns with the Australian Curriculum and can be used for individual students, classes, year groups or a whole school activity.
For more information and online registration:
www.csiro.au/crest

What do teachers think?

95% of teachers find programs related well to the curriculum and are likely to have a lasting positive impact on students.

"The students haven't stopped talking about what a great morning they had - thanks!"

"Interactive, educational and extremely relevant to our current unit".

"Students get to participate hands-on to learn new things and confirm and share existing knowledge."

"Really great experience, very valuable! Thank you!"

CSIRO Education's nine education centres see over 380 000 students and teachers annually and over 6 million have completed our programs.

CSIRO Education operates in every state and territory.

Want more teaching resources?

FREE ACTIVITIES:
www.csiro.au/sciencemail
www.csiro.au/diy

AWARDS PROGRAMS:
http://scienceawards.bhpbilliton.com
www.csiro.au/crest
www.csiro.au/carbonkids

CSIRO SHOP:
www.csiroshop.com

BOOKINGS / CONTACT US
t 07 4753 8632
f 07 4725 7888
e education.nqld@csiro.au
w www.csiro.au/educationnqld

CSIRO Education
James Cook University,
Townsville, QLD 4811
(Building 054, opposite Engineering)

CSIRO EDUCATION
www.csiro.au

CSIRO Education
North Queensland
2013 Secondary school programs

Hands-on science programs linked to the Australian Curriculum and QSA senior science syllabuses. Available as either incursions or excursions.

A PARTNERSHIP WITH:

James Cook University Australia
Queensland Government

Robotics - NXT Generation

Yr 8-10 | 90

A robotics program designed to test the logical thinking and problem-solving skills of students. Using NXT robotics, students program their own robots to perform a series of challenges. Students will learn how to use various sensors and how to start their robots remotely.

Simple Machines

Yr 8 | 90

Students are introduced to the concepts of structures, forces, levers, gears and pulleys. The program includes hands-on explorative investigations using Lego™ kits and problem-solving activities.

Electronics

Yr 8-10 | 90

Students use novel wireless circuit boards to understand series and parallel circuits, resistors, capacitors, transistors and diodes. Students then build circuits with real-life applications including door minders, sirens, timer switches and bike flashers.

Eco Enigma

Yr 8-12 | 90

Students become a team of scientists asked to provide an environmental impact report to a community with environmental problems. They measure heavy metals in shellfish, analyse river silt, explore why fish stocks are declining and recommend an action plan.

Rocks to Rockets – *NEW!*

Available Term 2

Yr 8 | 90

Students investigate the rock cycle and analyse rocks and minerals to determine their properties. They investigate mining and mineral processing technology with particular reference to local industries.

Energy and Change

Yr 8 | 90

Students engage in hands-on activities showcasing different forms of energy and investigate devices that transfer or transform energy.

Costs & general info

SCHOOL YEAR SUITABILITY

MINUTES PER SESSION

PROGRAM CAN TRAVEL TO YOUR SCHOOL

Sessions are offered in-centre and *Lab-on-Legs* (travel to your school) with 30 students maximum per session. Unless noted, programs are available all year subject to bookings.

Prices GST free and valid until 2013. Booking cancellation fees may apply for late cancellations.

In-Centre
$6.00 per student (minimum session fee $120)

Lab on Legs (in your school)
Zone 1 (<30 km radius from NQSEC) $170 per session.

Zone 2 (30-150 km from Townsville) $220 per session.

Minimum 2 sessions of same program.

Zone 3 (>150 km from Townsville requiring overnight stay) $260 per session.

Minimum tour days apply depending on distance. Minimum daily session fee $540 per presenter. Concurrent sessions can be run including sessions for secondary students.

Curriculum links: All our programs support the Australian Curriculum. For further details, please request our teacher information for individual programs.

TURN OVER FOR BOOKING AND CONTACT DETAILS

Attention HEPP schools in North Queensland!!!

As part of our relationship with JCU's Social Inclusion Unit, we are able to provide FREE science enrichment programs for your school. The visit will be accompanied by a JCU Student Ambassador who can discuss education aspirations with your students and relate their own journeys studying at University. Please contact us for more details.

Forensics - A Cattle Duffing Scenario

Yr 8-12 | 90

When 50 suspect head of cattle are seized from a sales yard, the 'Stock Squad' launches a full scale investigation. Students work in small teams to examine and analyse evidence ranging from rifling marks, dental impressions, entomology specimens, blood, fibre and glass fragments, and ink marks. Equipment such as a colorimeter, UV lamp and microscopes will be used.

Industrial Chemistry

Available on request in Terms 2, 3.

Yr 10-12 | 120

Students conduct laboratory-scale experiments which demonstrate an industrial copper production process used in North Queensland. Students extract and refine copper by carrying out leaching, solvent extraction and electrowinning procedures. Students monitor their copper concentrations using titrations and spectroscopy.

NEW! Ask about organising a visit to Queensland Nickel Pty Ltd or the copper refinery to complement your next CSIRO Education visit.

Nanotechnology

Yr 9-10 | 90

Students will gain an appreciation of processes at the nanoscale, and learn from first hand experience that nanomaterials have different properties compared to bulk materials. They will become more aware of the innovations nanotechnology has brought to areas such as health and medicine, consumer products, energy and the environment. **Limited dates available.**

Bodyworks

Available Term 4

Yr 8-9 | 90

Explore the many aspects of the human body- everything from cells, tissues, organs and systems to digestion, bones and joints. Students discover how diet, exercise and lifestyle affect our total well being.

Cool Chemistry

Yr 8 | 90

Students work on a series of hands-on experiments demonstrating reversible and irreversible chemical changes and use a variety of techniques to separate chemicals.

Telescope viewing with Starlab – *NEW!*

Available Term 4

Yr 10 | 90

Students observe features of our solar system, stars and galaxies in real life through use of a telescope and/or virtually in a mobile planetarium. Contact us for sessions costs and details.

DNA to the MAX

Yr 9-12 | 90

CSIRO's BARLEYmax™ is a premium grain much sought after because of its health benefits. However, in this world of sham and deceit, food adulteration is commonplace. In this hands-on workshop students perform a DNA extraction and then use gel electrophoresis to separate and identify different DNA samples to determine whether cereal products sold are really BARLEYmax™.

Can be combined with 'Jumping Jelly Genes' for a complete genetics program!

Jumping Jelly Genes

Yr 11-12 | 90

Genetically engineer a bacterium with a jellyfish gene which glows under ultra-violet light! Bacterial agar plates are taken back to class for further culturing to identify the success of the bacterial transformation.