



CSIRO

The Fabulous Physics show

Program A: Suitability Year 7-10 Duration 50 min

This show explores the wonderful science that lies around the house in everyday appliances. Students will be surprised by some unexpected results exploring topics including sound and vibration, rotational dynamics, density, air pressure, gravity, vacuums, force and pressure.

The singing chimney – Hot air, vibrations and sound waves are explored.

The big gyroscope - find out how spinning forces affect bike riding and turning spaceships

Bernoulli's hairdryer - Differences in air pressure and the consequences of fast moving air.

Sink Plungers and Vacuums – Test your strength against the force of air pressure.

Fast falling feathers and Slow motion juggling - Was Galileo right? Or do heavy things fall faster?
Explore gravity and air resistance and how to make that feather fall without air resistance.

Sinking soft drinks - Discover density and buoyancy with soft drink cans which float and sink.

Microwaves and fluoro tubes - Different forms of energy and how to excite atoms in a microwave.

Light Bulbs and nail beds - Learn about forces and pressure. Test the amazing strength of light bulbs by standing on them and challenge the bed of nails

Bells, Vibrations and Vacuums - Listen to the bell in a vacuum, making vibrations without sound.

Making movies and persistence of vision - Projecting images in mid air! Using persistence of vision to play tricks with our eyes, and how does a stroboscope help to freeze motion?

Requirements

A room with space for 90 students to sit either on chairs or the floor.
2 tables and a power point at front of room
Set up 40 minutes, pack up 60 minutes.

Forensic Frenzy Workshop

Program B: Suitability Year 7-10 Duration 75 minutes

Forensic Frenzy is a 'hands on' workshop in which students assume the role of forensic scientists to solve the Blackmail and Robbery at the Nomel Estate. Students will be supplied the Police Report which describes the crime that has been committed including photographs and details of the 4 suspects. Students work through up to 12 different activities in groups. During the workshop students will use forensic techniques to examine evidence including chromatography of inks, blood stains, facial identification, comparing hair fibres, comparing soil samples, fingerprinting, comparing fluorescent oils under UV and ballistic scoring marks.

At the close of the workshop, the teacher will be provided with a complete list of all the evidence/clues that were possible to identify, and a suggested scenario of the events that may have occurred.

Requirements

We require a room with 14 tables or equivalent bench space, 3 power points, a sink with running water close by (in the room is preferable). Space for up to 35 students to sit comfortably.
A laboratory is ideal but not essential. Set up time 30 minutes, pack up 30 minutes.

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| HANDS-ON WORKSHOP COST: \$8.00 per student | PERFORMANCE COST: \$4.00 per student |
| - Minimum cost per day of \$800 (gst n/a) | -CSIRO will issue an invoice on the day |
| Timetable: Maximum of 3 sessions per day with any combination of program A or program B. | |
| - Appropriate set up & pack up time required. | |

Young Australia Workshop

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CSIRO

TOURING SCIENCE EDUCATION PROGRAM

SCIENCE

CSIRO's travelling science programs are on the road again in 2010 with two of their most popular secondary programs. Touring is limited and demand is very high so we suggest you book early.



The Fabulous Physics Show

Using everyday household appliances students explore topics including sound and vibration, rotational dynamics, density, air pressure, gravity, vacuums, force and pressure.

Forensic Frenzy workshop

Students assume the role of forensic scientists to solve the blackmail and robbery at the Nomel Estate. Supplied with the Police report students use forensic techniques to examine evidence and solve the crime.

Programmes are presented in an educational and entertaining format designed to address the NSW secondary science syllabus with all programmes accredited by the NSW Department of Education and Training.

Teacher's Comments

"Great for students to be able to see the relevance of science in their lives"

"The program ensured that there was maximum involvement at all times"

"The programs focus on the syllabus requirements producing a range of student investigations within a particular context"

"A very hands-on experience – the students talked about it for days. See you again next year"

"Fantastic presentation – the students retained a lot of information thank you"

"Excellent as a skills activity, for careers in science and for use of equipment we can not access, as a bonus the students think it is great fun"