



Building the Education Revolution

NSW Integrated Program Office

Level 10, 151 Clarence Street  
Sydney NSW 2000

# Science and Language Centres for 21<sup>st</sup> Century Secondary Schools (SLC)

## Science Centres – New Constructions

### Information for Schools



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## What's in the new Science Centre?

- Redesigned learning spaces
  - Type 1 – with a back-to back fume cupboard in the learning space
- Spacious main preparation room
- All new inclusions in the learning spaces and main preparation room



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## Science Centre Design Development

- Meets current Secondary Schools Facilities Standards
- Undertaken in consultation with Curriculum Support, current Science Head Teachers, Principals, and architects
- Trialling of aspects of the learning space models since 1985
- Current and future integration of ICTs into teaching/learning
- Promote student-centred learning and flexibility of enquiry
- A more versatile range of teaching/learning spaces supported by integrated wireless technology

## Science Centre – Type 1



## Science Centre – Type 1



## Science Centre – Type 1



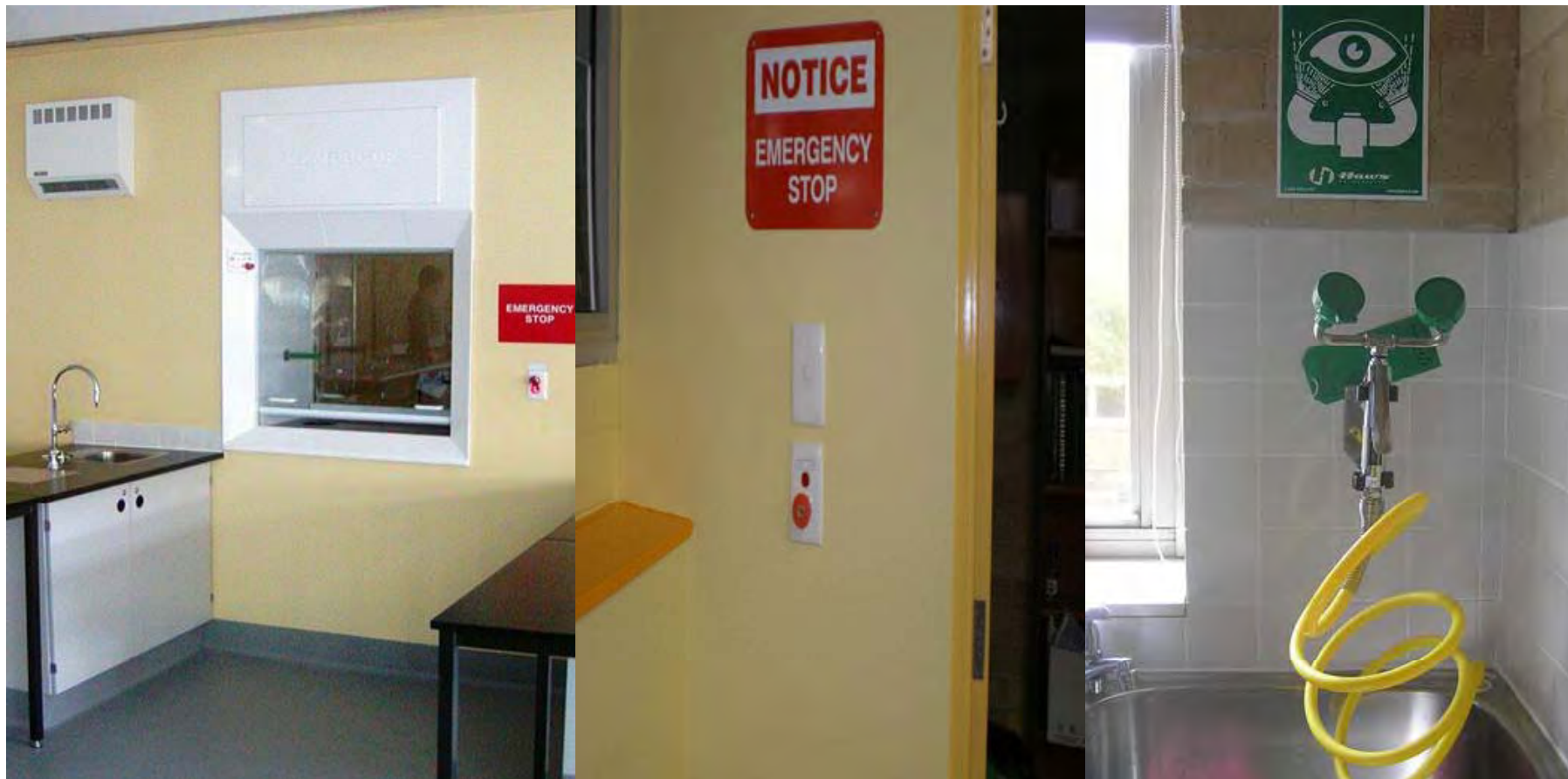
## Science Centre – Type 1



## Science Centre – Type 1



## Safety Considerations





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## Inclusions

- Capacity for wireless technology
- Infrastructure for data projectors and interactive whiteboards
- One data projector and one SMART-board in one learning space
- Fume cupboard for every pair of Type 1 learning spaces
- Science workbench for students with disabilities
- Emergency dump shower
- Projector screens & whiteboards
- Ceiling fans and energy efficient lighting
- Pin boards
- Eye wash
- Blinds
- Acoustic ceilings

## Main Science Prep Room



## Main Science Prep Room



## Main Science Prep Room





## Inclusions for main preparation room

- Back to back fume cupboard with Type 1 learning space
- Multi-tiered trolleys
- New cupboards, shelves & island workbench
- Energy efficient lighting & ceiling fans
- Blinds
- Emergency dump shower
- Tables and chairs

## Support for schools

- Curriculum Support website
- Laptops for learning resources
- Workshops
- Project Officers



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http://www.curriculumsupport.education.nsw.gov.au/

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Home K-6 7-12 Policies Initiatives Services


**Welcome to the Curriculum Support site**

 **Digital Education Revolution - NSW**  
A comprehensive range of support materials for teachers of all secondary subject areas

 **Literacy Teaching Guides**  
Three exciting new literacy teaching guides for teachers  
» *An introduction to quality literacy teaching*  
» *Literacy teaching guide: Phonics*  
» *Literacy teaching guide: Phonemic awareness.*

 **The National Partnership on Literacy and Numeracy** The National Partnership on Literacy and Numeracy is targeted at primary school students, and will commence in New South Wales schools at the beginning of Term 3, 2009. To view further information visit the [National Partnership on Literacy and Numeracy](#) area of this site.

 **2009 Professional Learning courses**  
90 new professional learning courses to support teachers in the digital education revolution now available. To view all events visit the [Professional Learning](#) area of Curriculum Support.

 **Integrated Learning in Stage 4**  
The *Integrated Learning* initiative being developed by Curriculum K-12 Directorate is part of the 2006-2009 Middle Years Strategy. New materials are now available that will assist schools to design integrated, cross-curriculum units of work for Stage 4 students. These materials include models for *Stage 4 Connected Outcome Groups (COGs)* which build on recent development of cross-curriculum integration in primary

**A-Z Curriculum Directorate**

- » Best Start
- » Creative Arts K-6 7-12
- » English K-6 7-12
- » Environmental Education
- » Gifted and Talented
- » HSIE K-6 7-12
- » K- 4 Initiatives
- » Languages K-6 7-12
- » Literacy
- » Mathematics K-6 7-12
- » PDHPE K-6 7-12
- » Science K-6 7-12
- » School Based Assessment and Reporting
- » School Libraries & Information Literacy
- » School Magazine
- » Technology K-6 7-12

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http://www.curriculumsupport.education.nsw.gov.au/digital\_rev/index.htm

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Science

Technology

School Libraries & Information Literacy

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**Digital Education Revolution NSW ~ Science**

**Curriculum Resources ▶▶**

Links4Learning Stage 5 Stage 6

**Professional Learning ▶▶**

Workshops Leading my faculty Teacher tips

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Stage 5 Resources - Windows Internet Explorer

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Stage 5 Resources

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### Stage 5 Resources

The following resources address a range of Stage 5 outcomes from the **Years 7-10 Science Syllabus**. Each resource will address a range of outcomes including essential content from the Prescribed Focus Areas, Knowledge and Understanding and Skills areas of the syllabus

Outcome:	A Student:	Resources:
5.6	applies models, theories and laws to situations involving energy, force and motion	<ul style="list-style-type: none"> <li><b>Electrical Circuits:</b> These activities enable students to develop an understanding of types of electrical circuits and their use.</li> </ul>
5.7	relates properties of elements, compounds and mixtures to scientific models, theories and laws	<ul style="list-style-type: none"> <li><b>The Periodic Table:</b> Use the Periodic Table Explore to compare the physical properties of a range of elements based on their atomic number.</li> </ul>
5.8	relates the structure and function of living things to models, theories and laws	<ul style="list-style-type: none"> <li><b>The eye:</b> As part of the coordination system</li> </ul>
5.9	relates the development of the universe and the dynamic structure of Earth to models, theories and laws and the influence of time	<ul style="list-style-type: none"> <li><b>Plate Tectonics:</b> A series of modelled and guided student activities on extracting information from online databases and analysing data to build deep understanding of the phenomena of plate tectonics</li> </ul>
5.10	assesses human impacts on the interaction of biotic and abiotic features of the environment	<ul style="list-style-type: none"> <li><b>Abiotic features of our environment:</b> Investigate an abiotic feature in your local environment and extract and process data from an online database.</li> </ul>
5.11	analyses the impact of human resource use on the biosphere to evaluate methods of conserving, protecting and maintaining Earth's resources	<ul style="list-style-type: none"> <li><b>The Water Cycle:</b> Students explore human impact on the water cycle and the availability of adequate fresh water supplies</li> </ul>
5.12	relates the interactions involved in using some common technologies to their underlying scientific principles	<ul style="list-style-type: none"> <li><b>Radiation:</b> These activities look at the particles released from the nuclei of atoms and their potential use as a modern technological tool.</li> </ul>

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The screenshot shows a Windows Internet Explorer browser window with the address bar displaying <http://www.curriculumsupport.education.nsw.gov.au/secondary/science/index.htm>. The page title is "Science 7 -12". The main content area features a header for the "NSW Department of Education and Training" with a search bar. Below the header is a navigation menu with links for Home, K-6, 7-12, Policies, Initiatives, and Services. The "7-12" link is selected. The main heading is "Science 7 -12". A welcome message states: "Welcome to the Science 7-12 support site. The Science Unit supports the teaching and learning of science in NSW government schools. The Science Unit provides advice to assist schools with syllabus implementation and advice to the Department and the Government on issues relating to science education. The Science Unit actively seeks to increase the availability of quality science teaching and learning resources to NSW public schools that build system capacity." Below this is a grid of six resource boxes: "2009 Professional Learning Workshops", "Rediscovering Science with NSW scientists", "New Stage 5 Electricity Resource" (with EnergyAustralia logo), "New Stage 4 to 6 Resources sponsored by AIFST", "Building Better Schools Science Facilities Upgrade", and "Science Expose". A "WHAT'S NEW" button is centered below the grid. At the bottom, there is a copyright notice: "© State of New South Wales through the Department of Education and Training, 1999 - 2009. All rights reserved." and the NEALS logo. Links for "Conditions of use", "Help", and "Contact us" are provided, along with a link to report incorrect information. The browser status bar at the bottom shows "Internet | Protected Mode: On" and a zoom level of 100%.



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Professional Learning support page - Windows Internet Explorer

http://www.curriculumsupport.education.nsw.gov.au/secondary/science/prolearn/index.htm

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Science home  
Investigating scientifically  
Stages 4-5  
Stage 6  
Learning spaces, equipment and safety  
Digital Education Revolution NSW  
Science downloads  
**Professional learning**  
Professional learning programs  
Archived workshop materials  
Faculty management  
Beginning and early career teachers  
Research  
State and National Reports  
Professional networks  
Awards, opportunities and recognition  
Cross curriculum  
What's new  
Science and Technology K-6  
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### Professional Learning support page

2009 Professional Learning Workshops	Access the complete list of all Professional Learning workshops being offered by the Science Unit in 2009 and register online
<a href="#">Laptops for Learning in Science Professional Learning Workshops</a>	<p><b>1 day</b> professional learning workshops will be held on during semester 2 - 2009 to support teachers with the implementation of laptops in the science classroom. These will be a repeat of the same workshop each time. They will be suitable for teachers with a range of levels of technology expertise.</p> <p>The workshop will explore strategies for integrating the use of student and teacher netbooks/laptops into teaching and learning in Science.</p> <p>The focus of the workshop is on pedagogies that support quality learning through the use of laptops as an effective tool for teaching and learning in science. The workshop will explore applications relevant to developing knowledge and understanding and addressing the practical demands of the NSW Science syllabuses.</p> <p>During the workshop teachers will also be given guidance and opportunities to explore the power of MS OneNote, Excel and Word.</p>

[Past Curriculum Support articles - 'Extended Web versions'](#)

<b>Non - DET Professional Learning Opportunities</b>	A range of professional learning events are offered by other providers. Some up-coming events are listed below soon. Registration and further details will be available by clicking on the title of the event.
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Many professional learning events are available on the [Professional Learning Exchange](#). Events are constantly being updated on this site.

[NSW Institute of Teachers](#) provides information relevant to professional learning. This included a policy for [Professional development](#).

The [Professional Teaching Standards](#) provide guidelines on professional practice for teachers. An important aspect of those guidelines is element 6 dealing with teachers continually improving their professional knowledge and practice.

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## Prior and during construction consider:

- Storage requirements
- Access to equipment
- Alternative delivery of practical activities
- Flexible use of the remaining science laboratories
- A spring clean

## Benefits of the program:

- New, modern facilities
- Flexibility of the teaching and learning space to improve student outcomes
- Integration of ICTs into the learning process
- Improved community perception
- Maximise other programs – Laptop roll out; Connected Classroom
- Curriculum Support team and a Project Officer will help you take full advantage of these modern learning spaces

## Contact

### **Geoff Dodds**

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# Questions

