

Science Presentation

Sciences that are offered in 2012

Biology

Chemistry

Physics

Senior Science

Earth and Environmental Science

- Each of these courses are completely different from each other and cater for the needs of different types of students who are willing to :

- Think outside the square that you live in
- Have a keen interest in the development of technology
- Have a keen interest and care for the world in which they are living
- Are not afraid of getting their hands dirty or their feet wet
- Are not afraid to find that all questions don't necessarily have straight forward answers if any at all



The

- **Chemistry**
- **Physics**
- **Biology**
- **Senior Science**
- **EES**
- **Stage 6 course are designed for those students who have at least a:**

C grade or higher
for Biology, EES and Senior Science(*)

and

B grade or higher
for Physics and Chemistry

- It is important to note that the sciences that you do in Preliminary and HSC are not the same as those you have done in Junior years.
- Each of these subjects specialises in particular branches of science and each of them is different in the way they are taught and the way that they are learnt.

BIOLOGY



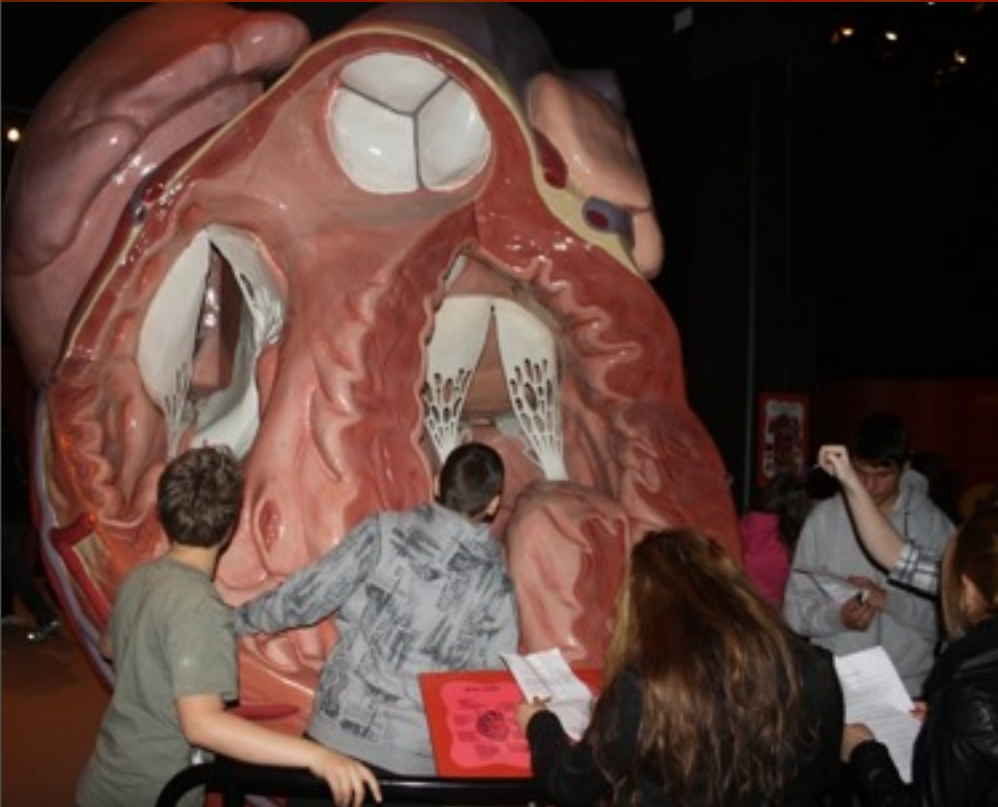
PRELIMINARY

- A Local Ecosystem
- Patterns in Nature
- Life on Earth
- Evolution of Australian Biota

BIOLOGY

HSC

- Maintaining a Balance
- Blueprint of Life
- The Search for Better Health
- ONE option



CHEMISTRY

PRELIMINARY

- The Chemical Earth (30 indicative hours)
- Metals (30 indicative hours)
- Water (30 indicative hours)
- Energy (30 indicative hours)

HSC

- The Identification and Production Of Materials (30 indicative hours)
- The Acidic Environment (30 indicative hours)
- Chemical Monitoring and Management (30 indicative hours)
- ONE option,

DISCOVERING THE ELEMENTS

10 Elements discovered at the **RI**
Can you keep up with the **song?**

The display features a periodic table with 10 elements highlighted in various colors: Hydrogen (pink), Helium (grey), Lithium (yellow), Beryllium (yellow), Boron (yellow), Carbon (yellow), Nitrogen (yellow), Oxygen (yellow), Fluorine (yellow), and Neon (yellow). The rest of the table is in shades of blue, green, and pink. A large number '10' is on the left, and the text 'Elements discovered at the RI' and 'Can you keep up with the song?' is on the right. Below the table, there are controls and a small display showing the number '5'.



EXPERIMENT

You are now in the actual place where some of the world's most important scientific discoveries have been made.

Here in these basement laboratories Faraday, Davy and others carried out experiments that were to change the way we live our lives.

For more than two centuries the Royal Institution has been at the cutting-edge of research. The exhibition on this floor reveals the ingenuity, skill and imagination of Royal Institution scientific researchers past and present.

PHYSICS Preliminary

- The World Communicates
- Electrical Energy in the Home
- Moving About
- The Cosmic Engine

HSC

- Space
- Motors and Generators
- From Ideas to Implementation
- One option





Magnetic attraction

Michael Faraday used this electromagnet in a ground-breaking experiment showing that light and gases are affected by magnetism.

He was determined to prove that all matter is magnetic, and that electricity, magnetism and light are similar kinds of phenomena. His experiment was carried out in 1845 in the former servants' hall just behind you which became known as the 'magnetic lab'. He placed a dense piece of glass on the poles of the electromagnet, and then passed polarized light through it. He found that the light that passed through the glass was not polarized in a single plane, but rather that it was in all directions through the glass.

When he turned on the electric current, the state of polarization of the light changed, confirming that both light and gases possessed magnetic properties. He wrote in his notebook, 'I had at last succeeded in... magnetizing a ray of light.' Now called the 'Faraday effect', this was a critical experiment in Faraday's development of the field theory of electro-magnetism, which is one of the cornerstones of modern physics and communication theory.



Senior Science

PRELIMINARY

- Water for Living
- Plants
- Humans at Work
- The Local Environment

HSC

- Lifestyle Chemistry
- Medical Technology — Bionics
- Information Systems
- One option



Friday, 5 August 2011

Earth and Environmental Science

PRELIMINARY

- Planet Earth and Its Environment – A Five Thousand Million Year Journey
- The Local Environment
- Water Issues
- Dynamic Earth

HSC

- Tectonic Impacts
- Environments Through Time
- Caring for the Country
- ONE option



Friday, 5 August 2011



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