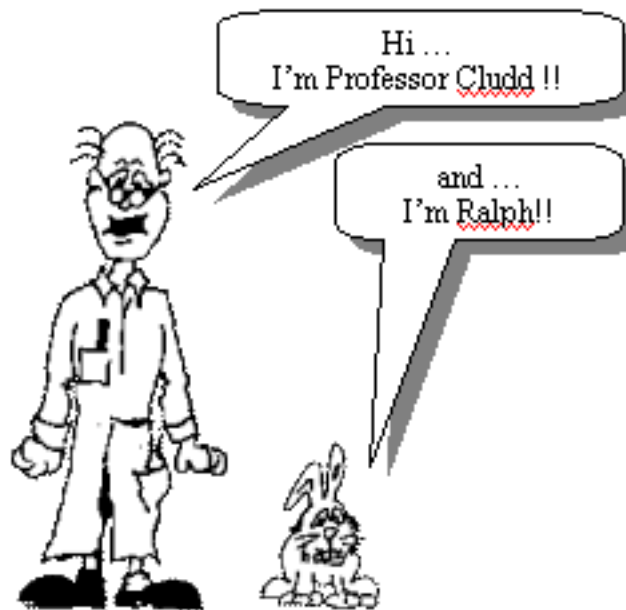


Professor Cludd

Middle Years Science Program

- *Do you have a question in science?*
- *Found any interesting facts about science?*
- *What to look up great science web sites?*

Email Professor Cludd !! ...



Middle Years Science Program:

<http://www.jpc.vic.edu.au/smp/smpindex.html>

My Email address: barb@jpc.vic.edu.au

Contact Professor Cludd: <http://questionnaires.ionline.net.au/>

Phone(direct): 9784 0229

Putting a link on for email or the web page on your class computer...

Internet Explorer

1. Type in address above.
2. Go to "Favourite", "Add to favourites".
3. Type in "Science Mentor Program"
4. For email page type in address and then 3-4.

Netscape Navigator

1. Type in address above.
2. Go to "Bookmarks", "Add to bookmarks".
3. Type in "Science Mentor Program"
4. For email page type in address and then 3-4.

Middle Years Science Program Activities

- **Activity 1 – Middle Years Science Program Website:** Contributing to the website's practical activities, assessment ideas, group management strategies or useful science websites.
- **Activity 2 – Borrowing Science Equipment:** Availability of borrowing science equipment to supplement and enhance your teaching of science concepts.
- **Activity 3 – E-Buddies Projects:** A project to encourage communication between John Paul College students and a class from a partner school to work together on a combined email science project.
- **Activity 4 – Professor Cludd Science Shows:** Presentation of science shows whereby you ring up and request a hands-on show on a topic they are studying.
- **Activity 5 – Professor Cludd Email Facility:** You organise your students to email questions related to science to Professor Cludd for response on the website.
- **Activity 6 – Extended Science PD Program:** A program that aims to stimulate and support teachers in extending and improving the ways by which they teach science.
- **Activity 7 – SciSpierience Program:** Pairs of primary staff experiencing the day-to-day workings of the science department and other aspects of science education.
- **Activity 8 – Science “Challenger”:** A new initiative to engage childrens' interest in preparing and presenting a scientific solution to a world issue or dilemma by entering a competition that is judged according to criteria gaining prizes.



**Bayside Catholic Education Cluster
Middle Years Science Program
Science Extended Professional Development Program**

Science Extended Professional Development Program 2004

In 2002, we conducted the Science Extended Professional Development Program for Primary staff and those participating found it a very worthwhile program. The program is again offered in 2004 and a proposal has been to consider running the program over a full 2 days (separated by a fortnight). The Science Extended PD Program is a program that aims to stimulate and support **Primary** teachers in extending and improving the ways by which they teach science. The course models effective PD delivery, provides scientific content, and raises issues associated with delivering science PD programs within schools.

The expectation is for participants to attend the full two-day program consisting of 6 topic sessions. The program allows the possibility of gaining credit towards a Masters that is possible after completing all 6 sessions and some assessment from Monash University. The topics available include:

Day 1: [Common Modules]:

- ♣ Science, Learning & Teaching
- ♣ Learning Technologies in Science
- ♣ Assessment in Science

Day 2: [Primary Modules]:

- ♣ Biological Science
- ♣ Chemical Science
- ♣ Physical Science

These workshops will be conducted at John Paul College term 2, 2004. It would be advisable to have 2 participants from each of the partner primary schools.

The focus of each module will be as follows:

Module 1: Science Learning & Teaching

This module's focus is on student learning that is intellectually active and purposeful while building student interest, engagement and a need to know. It begins with introductory activities for a unit on light from upper primary to year 10. The activity concentrates on identifying existing conceptions and using these to promote discussion, debate and practical testing related to the different concepts.

The module then develops understanding of quality learning and the way students construct meaning in science. Teachers can then link appropriate teaching approaches with student learning. The activities engage students in a shared intellectual control of concept understanding. The role of student discussion and questions that effectively engage students in the learning of science.

Module 2: Learning Technologies in Science

This module's focus targets the application of learning technologies in schools. Having access to computer equipment and gadgets is one thing, but using them to "add value" to lessons and improve student learning is the issue of real importance. Participants will look at sound and image recording, digital cameras and scanners and associated software to produce multimedia elements for a selected science context. The module will examine how these recorded sound and images can be integrated into other available packages (eg. PowerPoint, Word etc) for presentation in classes.

Module 3: Assessment in Science

If the assessment of students' science works is important for evaluating the attainment of intended learning outcomes, then it is *critical* that teachers develop a rich repertoire of assessment techniques, and understand the usefulness of these techniques for their different purposes. How can we decide what are good quality assessment procedures? This module examines some of the challenges associated with assessment in science and provides participants with an opportunity to reconsider existing practices as well as adding some new approaches to their science assessment repertoire within a context.

Primary Module 4: Biological Science “Life & Living”

Teaching about ecological concepts in primary science has often focussed on descriptions and definitions. In this module, participants are introduced to a range of activities that could be used to explore children’s ideas about ecological concepts, particularly the concept of survival. A common view of science for many people is that there is a single scientifically acceptable description or definition that students need to be told. This module aims to build teachers’ confidence in exploring ecological concepts with children through the emphasis on children investigating and explaining their own ideas as a precursor to considerations of scientific explanations.

Primary Module 5: Chemical Science “Natural & Processed Materials”

Teaching the characteristic physical properties of solids, liquids and gases as rigid definitions often seems to confuse rather than assist the learning of many students. Student’s prior intuitive knowledge of the states of matter and their properties are common, so science teaching can acknowledge, build on, and challenge these ideas. This module explores science teaching whereby students’ existing views are taken seriously, with the focus on teaching and learning on strategies to modify or reconstruct students’ existing intuitive ideas. Sand flows so it must be a liquid? The activities emphasise both the development of process skills, such as observation, classification and communication, in science and an approach that advocates a learning environment that promotes active engagement. Based around learning outcome CSF level 3 (substrand material: structure, properties & uses).

Primary Module 6: Physical Science “The Physical World”

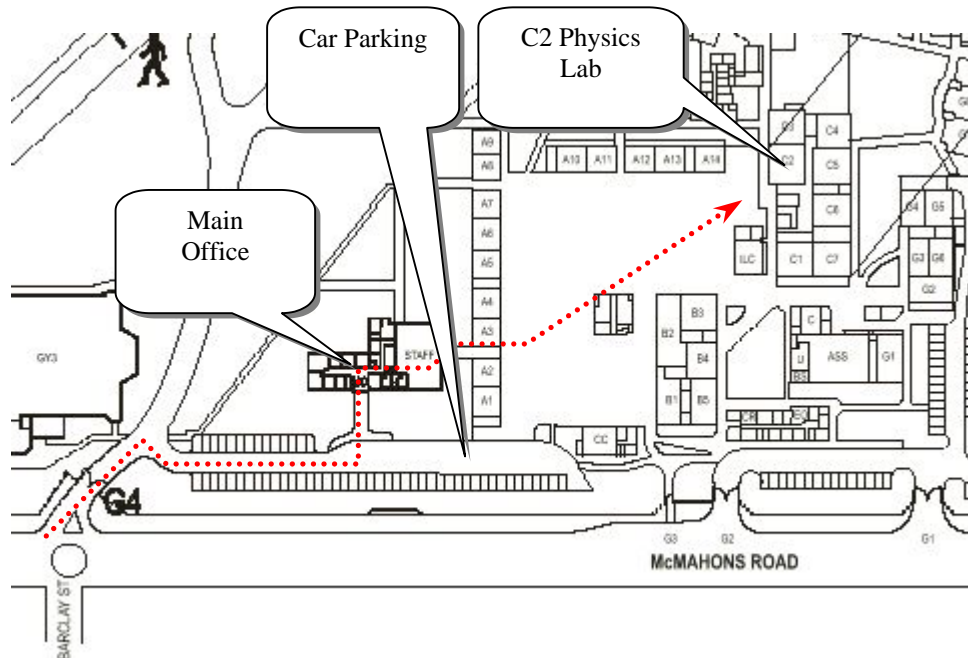
Identifying and implementing effective teaching and learning strategies is often difficult in areas of science where teachers feel they lack adequate content knowledge. The topic of Electricity often presents these difficulties for some primary teachers. This module aims to build primary teachers’ confidence in teaching electricity through a problem solving approach. It incorporates the use of children’s ideas about electricity and highlights the important role of exploration in learning. Based upon learning outcome CSF level 3 (substrand Electricity & Magnetism).

EXTENDED SCIENCE PROFESSIONAL DEVELOPMENT:

Two Days: From 8.30am to 3.30pm

Room: C2 of the Science Block

Please go to main entrance, sign in and follow the map below to the C2 Physics laboratory.



I am looking forward to working with you all.

B Barber
Science Coordinator
Middle Years Science Coordinator
John Paul College

“Science Challenger”

Welcome to “Science Challenger”!!!

A project that students in years P-9 can volunteer to enter and win prizes. If you wish to enter go to the website and fill in your details. In the comment section write down your ranking of items that you would like to enter the competition. Judging will occur at the end of term 1 next year. Good luck!!!

Website: www.jpc.vic.edu.au/smp/smpindex.htm

Email Professor Cludd: questionnaires.ionline.net.au

Example:



The screenshot shows a web form titled "Professor's Chat Room" with a blue border. The form contains the following fields and options:

- Name: Fred Flintstone
- Email address: bob@pc.vic.edu.au
- Please select your school: St Augustine's (dropdown menu)
- Please select your year level: Radio buttons for Prep, Grade 1, Grade 2, Grade 3, Grade 4, Grade 5 (selected), Grade 6, Year 7, and Year 8.
- What do you want to ask Professor Cludd?: Hello Professor Cludd: I would like to enter competition. My choices are...
Matches: 5
Food concentrate: 5
- Send button

The topic for Science Week for next year is “Space”. As part of the Science Challenger you are to fill in the sheet to explain what equipment is most useful in the following situation. Get your teacher to help...

You are a member of a space crew originally scheduled to rendezvous with a mother ship on the lighted side of the moon. Due to mechanical difficulties, however, your ship was forced to land at a spot some 200 miles from the rendezvous point.

During landing, much of the equipment aboard was damaged and since survival depends on reaching the mother ship, the most critical items available must be chosen for the 200 kilometre trip. Below are listed the 15 items left intact and undamaged after landing.

Your task is to rank them in order of importance to your crew in allowing them to reach the rendezvous point. Place the number 1 by the most important item, the number 2 by the second most important item, and so on, through number 15, the least important item.

Item	Ranking
Box of matches	
Food concentrate	
50 feet of nylon rope	
parachute silk	
two .45-calibre pistols	
one case of dehydrated milk	
two 100-pound tanks of oxygen	
stellar map (of the moon's constellations)	
life raft	
magnetic compass	
five gallons of water	
signal flares	
first aid kit containing injection needles	
solar-powered FM receiver	
portable heating unit	

“Science Challenger”

Answers

1. Two 100 pound tanks of oxygen. Oxygen to breathe would be the most pressing need for survival.
2. 5 gallons of water. Water is essential to all life.
3. Stellar map (of moon's surface) This would be your primary means of navigation.
4. Food concentrate. A good source of food and efficient way to carry food is in concentrated form.
5. Solar-powered FM receiver-transmitter. FM needs short range and line of sight. Needed to talk to mother ship.
6. 50 feet of nylon rope. This will be useful in scaling the cliffs you may cross and if they are injured it would be helpful for tying them to others or objects for transport.
7. First aid kit containing injection needle. Used for injecting vitamins through special aperture in space suit.
8. Parachute silk. Provides protection from sun's rays.
9. Life raft. CO2 bottle in raft may be used for propulsion.
10. Signal flares. Distress signal can be used when mother ship is sighted.
11. Two .45 calibre pistols. Possible means of propulsion.
12. One case dehydrated milk. duplication of food concentrate but much bulkier to carry.
13. Portable heating unit. Useless on dark side, not needed on lighted side.
14. Magnetic compass. Magnetic field on moon is not polarized, compass worthless.
15. Box of matches. No oxygen on Moon to sustain the flame, matches won't work.

“E-buddies Science Project” (Email buddies)

Interschool Student Science Mentor Project

Aim: The aim of the project is to encourage communication between John Paul College students and a partner school class to work together on a science project based around a similar theme. The form of communication is largely email but they could possibly come together at the end to do a combined experiment at John Paul College. The topics covered in first and second semester for our year 7 and 8 students include:

Year 7 Students		Year 8 Students	
Semester 1	Semester 2	Semester 1	Semester 2
“Science is...”	Solids, liquids & gases	The Bits that Matter	Chemical Reactions
Mixtures	Light & Sound	Electricity	Forces at Work
Forces	Classification	The Changing Earth	Transport Highways
	Cells	Reproduction	The Night Sky

Procedure: Over the course of a term students will have an opportunity to link up via the teacher’s email to prepare and develop a combined assignment. Students at both John Paul College and the partner school will pair up: a pair from John Paul College and a pair from the partner school work as a group of 4. The whole class works on a similar topic (eg. types of forces). Students from one school develop 2 questions related to the Science topic they are doing. They then email these questions to their teacher who will later forward them on to their E-Buddies teacher for distributing to the partner students at John Paul College. JPC students work on researching answers to these questions and the material is emailed back to their JPC teacher. Secondary to secondary can involve the sharing of practical results and research.

They then can arrange to come together at JPC in the science laboratory to help each other do a practical activity with a combined lunch together and activities. Every few weeks they will have opportunity in class to email their “E-buddies” with progress so far on their assignments.

JPC Students: John Paul College students email their teacher with their answers to their E-Buddy questions. They will include an explanation of the science explaining it in a way that their E-Buddies can understand. These email are then forwarded onto their Primary E-Buddies’ teacher. John Paul College students get assessed on how well it is explained for the Primary level it goes to. If secondary to secondary they are assessed on its merits alone. Students from both schools share the practical results and researched information.

Partner Primary students: They can be assessed a number of ways ...

1. They can make a poster of science words and their meanings that are used to describe the topic.
2. Prepare a storybook of experiences of the topic area of science we choose together. It could be a fictional story or a story from what they have experienced.
3. They can present a talk (in their pair) to the rest of their class (or their whole grade level) for a few minutes describing their topic. Tell the rest of the class about some of the science facts they covered about their topic.

A typical program could be:

E-Buddies School Visit Program of Events:

Date: Tuesday 26th November 2002

Time	Event
<i>Period 3</i>	Arrival of Grade 3-4 class at 11.30am joining 7E in C7 for regular science lesson.
<i>Period 4</i>	Continue in C7 with experiments on "Chemicals".
<i>First half lunchtime</i>	7E students and Grade 3/4 to play over behind Mathematics F block (away from general population) until 12.55. 7E students can go back to general population.
<i>Period 5</i>	In the C6 science laboratory with Grade 3/4 only doing experiments on "Air & Rockets".
<i>Period 6</i>	We go over the oval and I demonstrate the launching of a rocket.
	Grade 3-4 leave at 2.30pm.

*Brett Barber
Middle Years Science Program Coordinator
John Paul College, Frankston*

Middle Years Science Program Professor Cludd Booking Sheet 2004

Bookings: 9784 0229



*Morning Bookings 8.30am to 11am
Afternoon Bookings 1.15pm to 3.30pm*



February

Tue Morning 10th Feb
Wed Morning 11th Feb
Thu Afternoon 12th Feb
Wed Morning 18th Feb
Thu Morning 19th Feb
Fri Afternoon 20th Feb
Fri Morning 27th Feb

March

Mon Morning 1st Mar
Tue Afternoon 2nd Mar
Tue Morning 9th Mar
Wed Morning 10th Mar
Thu Afternoon 11th Mar
Wed Morning 17th Mar
Thu Morning 18th Mar
Mon Afternoon 22nd Mar
Fri Morning 26th Mar
Mon Morning 29th Mar
Wed Afternoon 31st Mar

April

Tue Morning 20th Apr
Wed Morning 21st Apr
Thu Afternoon 22nd Apr
Wed Morning 28th Apr
Thu Morning 29th Apr
Fri Afternoon 30th Apr

May

Thu Morning 6th May
Fri Morning 7th May
Tue Afternoon 11th May
Mon Morning 17th May
Tue Morning 18th May
Wed Afternoon 19th May
Tue Morning 25th May
Wed Morning 26th May
Thu Afternoon 27th May

June

Wed Morning 2nd Jun
Thu Morning 3rd Jun
Fri Afternoon 4th Jun
Thu Morning 10th Jun
Tue Morning 15th Jun
Wed Afternoon 16th Jun
Tue Morning 22nd Jun
Wed Morning 23rd Jun
Thu Afternoon 24th Jun

July

Thu Morning 15th Jul
Fri Morning 16th Jul
Mon Afternoon 19th Jul
Fri Morning 23rd Jul
Mon Morning 26th Jul
Tue Afternoon 27th Jul

August

Mon Morning 2nd Aug
Tue Morning 3rd Aug
Wed Afternoon 4th Aug
Tue Morning 10th Aug
Wed Morning 11th Aug
Thu Afternoon 12th Aug
Thu Morning 19th Aug
Fri Morning 20th Aug
Mon Afternoon 23rd Aug
Fri Morning 27th Aug
Mon Morning 30th Aug
Tue Afternoon 31st Aug

September

Mon Morning 6th Sep
Tue Morning 7th Sep
Wed Afternoon 8th Sep
Tue Morning 14th Sep
Wed Morning 15th Sep
Thu Afternoon 16th Sep

October

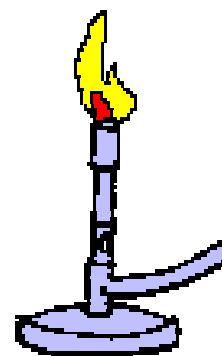
Wed Morning 6th Oct
Thu Morning 7th Oct
Fri Afternoon 8th Oct
Thu Morning 14th Oct
Fri Morning 15th Oct
Mon Afternoon 18th Oct
Mon Morning 25th Oct
Tue Morning 26th Oct
Wed Afternoon 27th Oct

November

Thu Morning 4th Nov
Fri Morning 5th Nov
Mon Afternoon 8th Nov
Fri Morning 12th Nov
Mon Morning 15th Nov
Tue Afternoon 16th Nov
Mon Morning 22nd Nov
Tue Morning 23rd Nov
Wed Afternoon 24th Nov

December

Wed Morning 1st Dec
Thu Afternoon 2nd Dec



I am available to assist in your classroom in preparing demonstrations or activities suitable to your needs in your science topic. Please notify me on 9784 0229 to tell me what you might need. Note also that Science Week falls on the 14th – 22nd August 2004.