

LABLINES



Newsletter of the Laboratory Technicians' Association of Victoria

S3/159 Burwood Road, Suite 150, Hawthorn, Victoria 3122

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LABORATORY TECHNICIANS' ASSOCIATION OF VICTORIA



LTAV Website
www.ltav.org.au

LOOK OUT FOR OUR NEW ADDRESS!

LTAV has a new postal address as of January 2018

Laboratory Technicians' Association of Victoria
S3/159 Burwood Road,
Suite 150
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Please make your accounts department
aware of this change.



ATTENTION NEW LAB TECHS

It has long been recognised that a new technician's first year in education can be very difficult. LTAV has decided to support beginning technicians by offering

FREE first year LTAV membership

deemed to be paid by the LTAV Committee.

The following conditions apply:

- a. The payment is at the discretion of the committee and will apply for the course of each membership year,
- b. The payment is to be made only on behalf of technicians in their first year working in education.
- c. Members who are given this benefit are expected to continue their membership in subsequent years.
- d. Such members will have all the rights and obligations of ordinary members, but in accepting the payment also agree not to run for office during that same first year

Please refer all interest and enquiries to:
admin@ltav.org.au

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Deadline for next Lablines 2018

16th November 2018

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There is no responsibility taken for the results of any experiments published in "Lablines" and replicated elsewhere. Risk assessments should be carried out before attempting same.

President's Report

Suzanne Thornley

LTAV President



Hello everyone,

Welcome to the September 2018 Lablines. I think you will agree it is another fantastic read and I would like to thank Jess Boys for her amazing editing skills and everyone who has contributed to this edition.

As you are probably aware, I have

stepped into the President role as Marcia has accepted a one year contract to work in a school in the UK, my homeland. I wish her all the best, it is always a fantastic experience to live and work in another country. I have memories of the lab technician and Chemistry teacher having a quick ciggie in the prep room adjoining the lab whilst I was studying A level (VCE equivalent) Chemistry! Things have undoubtedly changed by now.

Good luck Marcia, we look forward to welcoming you back into the fold next year.

I hope you had a productive and exciting Science Week, the photos and contributions that Jess has included are an indication of the skill, dedication and enthusiasm of lab technicians all over Victoria. I hope you enjoy them.

Have you all received your LABCON brochure? Workshops fill quickly so make sure you don't miss out on your preferred sessions. I look forward to

meeting you all there, I know it's going to be another valuable and enjoyable conference.



LTAV MEMBERSHIP

Membership to LTAV is open to laboratory technical staff in all levels of educational institutions in Victoria. Registration is annual and the membership fee is \$44. Registration and payment for a full year of membership (1st January to 31st December) is due at the end of April each year.

Benefits of being a LTAV member include:

- Subscription to the quarterly Lablines Magazine
- Discounted registration fees for LABCON
- Voting rights at the Annual General Meeting at LABCON

To become an LTAV member, visit our website www.ltav.org.au to register online or download the application for membership form.

**Send enquiries to:
membership@ltav.org.au**

Marcia Rogerson



Lablines edition, the team have put together a few wonderful and creative displays of Science Week activities and morning teas

I will have started in my new role as Laboratory Manager in a central London school on September 3rd, the start of the 2019 school year for the United Kingdom. I will be very busy and know that I will find it hard to keep up to date on all the things that are happening in my Aussie Lab Tech community, but I have a small gift for you all (and me!) from the UK (picture to right)!

This poster was originally designed to improve the morale of a British populace soon to be bombed during the 'Blitz' era of World War 2. While we can't compare our Science Prep rooms to the London blitz, I think the advice is still quite apt.

Suzanne Thornley will be Acting President until the LTAV committee

By the time you receive this edition, the end of term three will not be far away.

I hope Science Week went well for you all, and some of you are already planning for next year's theme. In this



election held at LABCON 2018 in November. Please give her your overwhelming support.

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Website Address <https://assist.asta.edu.au/>

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Testing/Hygiene

Odour Testing (testing and supplying reports for Chem Storage Rooms/Cabinets etc. as evidence of unusually high odours in these areas so they can be rectified for proper ventilation)

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THANK YOU! YOU ARE AWESOME!

JULIE ERWIN

STAWELL SECONDARY COLLEGE

I would like to shout out to Julie Erwin from Stawell Secondary College for being there when I started, giving me tips, driving me to Regional Meetings and introducing me to the wonderful world of the LTAV. Donna Lavery.

DAVE NICHOLLS

MARION COLLEGE

For happily sharing materials when I am caught short, I hope I can help you out sometime. Donna Lavery.

JULIE GALANTE

WARRAGUL REGIONAL COLLEGE

I'm not being dramatic when I say I could not do my job without Julie. She is an absolute star; in setting up pracs for all year levels but she goes above and beyond for my Year 12 Chem class. The new course has brought a lot of change to practical classes and Julie has trialled any number of pracs as well as facilitating the extended investigation posters and all of the work that goes with that. On top of this she is a beautiful person who supports staff in what can often be a stressful working environment. Deb Gribben.

JACKIE HAMLET

DIAMOND VALLEY SECONDARY COLLEGE

11 years ago, after securing my job here at Healesville High School, Jackie reassured me that I would be fine and encouraged me to not only join the list-serve, but allowed me to join her region meetings, visit schools in her region and was generally the first person I called if I was unsure about anything. Even last month, Jackie came up to Healesville High and went through my chemicals and helped me to clean out 10 pages full of chemicals that were no longer needed, in excess or had 'gone off'. This was a major achievement in not only my physical lab, but my mental self too, to have such a huge task completed. I therefore would love to publicly thank Jackie and let her know how much I have appreciated her help and guidance over the years. Kerry Davies.

Ever had a Lab Tech do something super nice for you?
Ever seen a Lab Tech do something awesome, far beyond their call of duty?

This is your chance to say

THANK YOU!

and to recognise those Lab Techs who you think are

AWESOME!

Please send a sentence or short paragraph to:
boys.jessica.j@edumail.vic.gov.au

Farewell Marcia, See You Soon!

It is with mixed emotions that we say farewell to Marcia as she leaves for her adventure to London. We are so excited for what lies ahead for her in the next 12 months at School21 in Stratford, but we know the big gap that it will leave in the LTAV Committee and in the wider Lab Tech community.

It seems fitting at this time to take a moment to recognise Marcia's contribution to LTAV and her impact in our field.

Marcia joined LTAV in 2000 as Regional Representative for the Sunraysia area. She served in this role for 4 years and later became Vice President in 2013, while also taking over the Relieving Lab Tech's List, which she has diligently overseen until this year. In 2016, Marcia moved into the position of President and remained in this role up until this year. Marcia is a regular presenter at Laboratory Technician PD events including LABCON and the STAV Laboratory Technician's Conference.

Marcia,

Thank you for all your work on the committee, both as president and in your previous roles, it has been a pleasure to work with you. I like to think that we have become friends during this time.

Good luck in your new role, what an opportunity to see more of your family and experience life in the UK.

We will miss you, have a great year and see you back on the committee next year in time for LABCON 2019!

Suzanne Thornley
LTAV President

Marcia takes enthusiasm and energy wherever she goes. She commits wholeheartedly, giving her all and working diligently in whatever task she is given. Her passion for collaboration, networking and building connections has stood her in good stead in all the LTAV roles she has worked in.

On a more personal note, I have had the privilege of

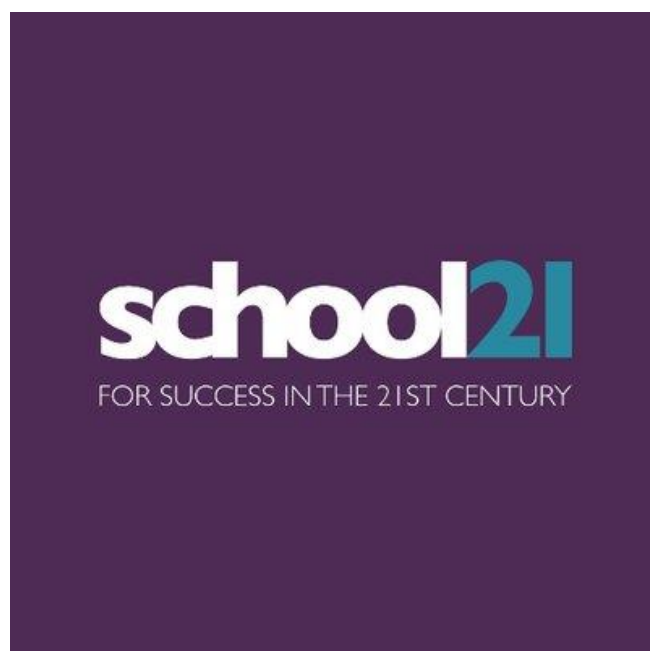


As Association Secretary, it has been a great pleasure working with Marcia over the past 18 months. We have enjoyed a very collaborative approach to administering the Association affairs and I have valued her feedback and support during this time.

Marcia has at all times had the best interest of the LTAV Members at the heart of the initiatives she has introduced. As a result, the Members now are able to enjoy Lablines in colour, a wonderful achievement along with improvements to the Website and greater support for the Regions.

I congratulate her, and wish her well in her new role as Laboratory Manager in a London School, along with the opportunity to be closer to her daughter who lives in London. I will look forward to regular updates.

Christine Nolan
LTAV Secretary



seeing Marcia in action in her role as Laboratory Technician.

From the first day of working with Marcia I was blown away by her seemingly never-ending energy, her constant stream of new ideas, the rapport she has with all the staff, the respect she has earned from the students and her genuine love for the job.

Thanks to Marcia for taking on the role of Pres. of LTAV after my resignation and in doing so going ahead with changing Lablines to a colour magazine and many other alterations to improve those of us in our profession. Also her constant willingness to communicate with anyone in our profession to help them out where she can. I wish her all the best in the next chapter of her book of life.

Wendy Hurle
LTAV Committee

Though not a teacher on paper, Marcia is a teacher at heart. Marcia has taken on countless 'lab techs in the making' who are in need of a work placement or simply need more experience in a school environment before they look for work. Marcia invests her time to pass on her knowledge and experience, before seeking out positions

that are paid, or that provide further experience, for them to slot into. Marcia's passion for making connections, as well as her role in looking after the Reliever's List, means that she always has her finger on the pulse and usually manages to find the perfect spot for them to be.

We will miss you, Marcia! Your expertise, enthusiasm and dedication makes you a valuable part of the lab tech community. We wish you an amazing adventure. We know the students and staff at School21 are going to love having you as their laboratory technician for the next 12 months, but we also cannot wait to have you back!

Jessica Boys
Lablines Editor

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In the News

False alarm! It's not aliens!

In a crazy phenomenon, archeological sites that have long been hidden are now revealing themselves in a real life equivalent of the movie Signs!

An extraordinary heat wave in the UK, has turned out to be the cause, not friendly extra-terrestrial beings requiring our help to phone home, as some of us may have been hoping. Ongoing hot and dry conditions are making it possible to see shapes of ancient structures from an aerial view.

Ancient settlements were often built with trenches surrounding their fortifications. Over time, these trenches become less noticeable however, water is still able to pool, and moisture and nutrients collect in the ditches. Plants growing in these areas are able to stay healthy and green while surrounding areas dry out and die. The contrast between dying and healthy crops can be seen beautifully from above.

Some sites that have become visible were already known to archaeologists,



PICTURE: An example of crop marks in Dorrington, England (Look right in the middle of the photo!)

however many new sites have been discovered too!

Major discoveries include a temporary Roman camp and Iron Age stone structures in Scotland, a Roman fort farm and villa in various parts of Wales and a possible new henge (stone circle) in Ireland that is expected to be 5,000 years old. Of course, further excavation will be required to confirm these initial predictions.

Smaller discoveries have included the

outline of a primary school's old WW2 air raid shelter on their property in northern England and evidence of a chapel demolished in the 18th century at Fulham Palace in London.

Archaeologists are in a race against time to map and record all crop mark sightings before the rain inevitably comes and the archaeological sites once again become a uniform shade of green.

Those that are recorded in time will require many more months to years of excavation to uncover their history and confirm their origins.

We eagerly anticipate the new discoveries that will follow, and wait patiently for new evidence of extra-terrestrial life.

Jessica Boys
Lablines Editor



PICTURE: Older crop marks near a Roman building excavation site in Gloucestershire.



LABCON 2018

*Bringing Excellence to Science Education
The Conference specifically for Laboratory Technicians*

***Something Different!
LABCON 2018 will be held over 4 days!***

Venue

Melbourne Graduate School of Education
University of Melbourne
234 Queensberry Street, Parkville 3010

Dates

Tuesday 20 November to Friday 23 November 2018

Program Outline

| Tuesday 20 November | Wednesday 21 November | Thursday 22 November | Friday 23 November |
|--------------------------------|--|---|-------------------------------|
| Chemwatch Session | Keynote Speaker Concurrent Workshops Exhibition Conference Dinner | Keynote Speaker Concurrent Workshops Exhibition Annual General Meeting | Tours |

We are now calling for workshop presenters to indicate if they are willing to present workshops at LABCON 2018. Sponsors and exhibitors are also invited to email their expression of interest.

Registration Fees for LABCON 2018

LTAV Members attending at least one day of the conference can attend one post conference tour at no charge.

| | LTAV Member | Non Member |
|--|--------------------|-------------------|
| Full Registration – Wednesday and Thursday includes dinner | \$365.00 | \$435.00 |
| Full Registration – Wednesday and Thursday excludes dinner | \$315.00 | \$385.00 |
| One day Registration includes dinner | \$305.00 | \$375.00 |
| One day Registration excludes dinner | \$255.00 | \$325.00 |
| Friday Tour or Tuesday Chemwatch Workshop | \$66.00 | \$97.00 |
| Conference Dinner (extra tickets) | \$85.00 | \$105.00 |

ALL ENQUIRIES

Marg Scarlett
LABCON CONFERENCE MANAGER
pcs@cogroup.com.au

Science Week

Game Changers and Change Makers

Ivanhoe Grammar, The Ridgeway

Cath Whelan

Laboratory Technician

We had a number of events, mainly at lunchtimes. These included a native animal show, bubble making, paper plane making, competitions for the plane which flew the longest distance and the plane which could hit a bullseye. We also had a morning tea for all staff and had a competition for staff and students to guess the number of leads in a jar.



Doncaster Secondary College

Gaya Withana

Laboratory Technician

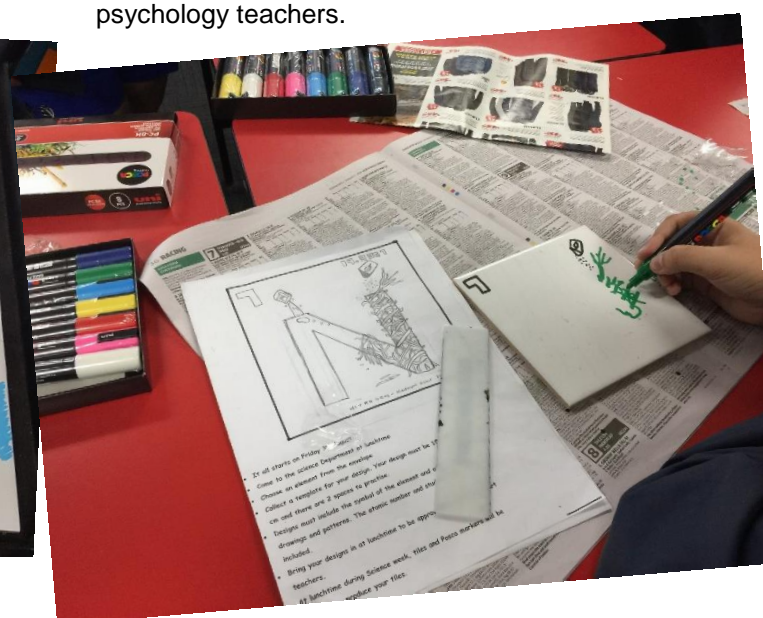
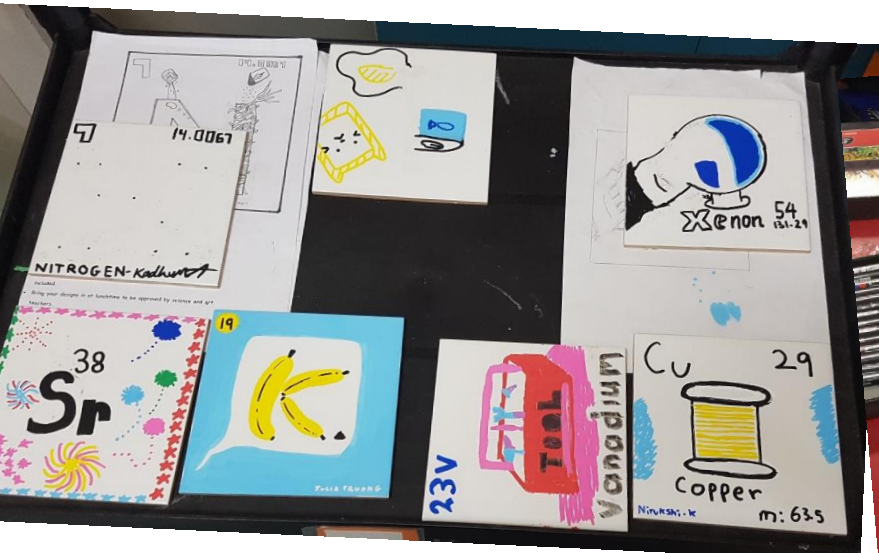


Keilor Downs College

Mary Jones

Laboratory Technician

For Science Week our kids began making individual tiles of the periodic table. The tiles will then be weather coated before being put on the building. It is all due to one of our chemistry teachers, Lyndall Boyle, who did all the hard work of chasing up funding for the project and organising the kids. All our chemistry teachers have been involved in supervising and assisting the students while they work on the tiles. So a big thank you to them too; Poppy Katsoulakos, Sofia Iqbal, and Levi Lancaster. In addition, we ran a session on visual perception, where students had to complete tasks to win neat little science prizes including balloon racers, stretchy aliens, crystal trees, balancing birds and paper craft zoos. This was organised and run by Monica Garcia-Ives, one of our psychology teachers.



Wonthaggi Secondary College

Helen Black

Laboratory Technician



Healesville High School

Kerry Davies

Laboratory Technician

At Healesville High, I organised a staff morning tea and encouraged 'science themed' food to be brought in. Out of a table filled with delights, these 5 stood out as the best: science cookies, echidna dip, cocoons/butterflies, thermometers and the layers of the earth – core, mantle and crust. As far as celebrations with the students, we had staff and students attend a 'celebrating women in science' breakfast, a bus load of kids went to Quantum today and other classes participated in online science competitions.



Christian Brothers' College

Marcia Rogerson

Laboratory Technician

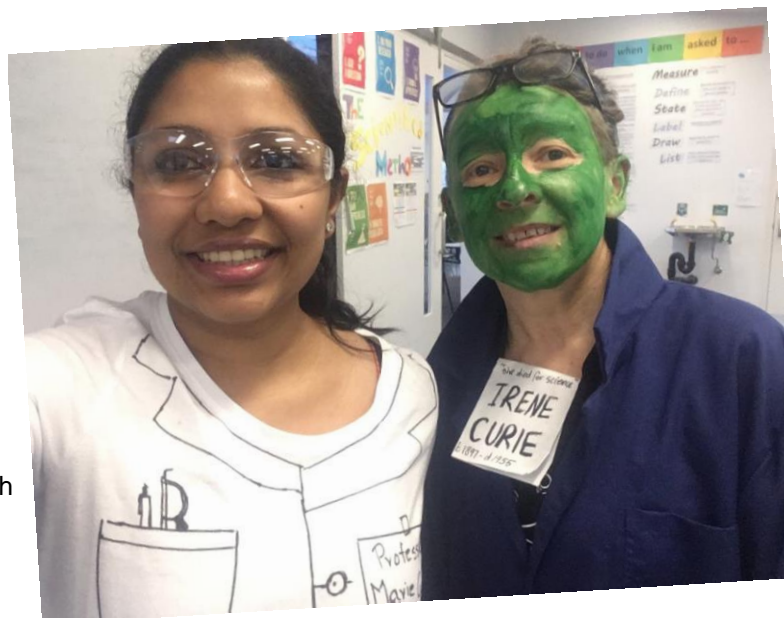
This year, for Science Week Morning Tea, we experimented with 'cake wafers'. I ordered wafers with photos of some well-known 'Game Changers and Change Makers' from history.

Cobden Technical School

Jackie Nowell

Laboratory Technician

'Prof. Marie Curie' (Science teacher, Jerin Chethalan) and 'daughter - Irene Joliot-Curie' (Labtech Jackie Nowell) - who both 'died for science' - not historically accurate, if we're going to be pedantic, but just raising awareness in a fun (and slightly silly) way.



Horsham College

Jodie Pignataro

Science Technician



PICTURE: Human Powered Vehicle display.



PICTURE: Doc Emmett Brown



PICTURE: Microscopes with Dr Karl



PICTURE: Van Der Graaf activities



PICTURE: Charles Darwin



PICTURE: DNA extraction with Rosalind Franklin

Horsham College celebrated Science week with its Annual Science Extravaganza. This year, with the theme being Game Changers and Change Makers, the science staff dressed up as many different Change Makers, both fictional and non-fictional. On the night we had Alan Turing, Isaac Newton, Ivan Pavlov, Albert Einstein, Albert Nobel, Elizabeth Loftus, David Noble, Anna Freud, Rosalind Franklin, Galilleo, Charles Darwin, Sally Ride, Dr Karl, Sherlock, Hermione and Doc Emmett Brown.

On the night we deciphered codes, extracted DNA, looked at the world through microscopes, solved a crime using forensics (Charles Darwin kidnapped our Central Bearded Dragon), attended potions class, made rotocopters, learnt about gravity and force, demonstrated why planets orbit the sun, planted cuttings and had an electrifying time with

the Van Der Graaf. There were 2 shows of Albert Nobel doing some spectacular chemical reactions outside then you could look at planets through a telescope.

You had a chance to explore how your brain worked, do some meditation and origami, as well as try out the sensory maze. You could try to guess what was in the touch boxes and there was sherbet to be made, and Virtual reality goggles to be tried. There was also the chance to enter our raffle to win some cool science prizes and suggest a name for our new skeleton. Our Human Powered Vehicle (HPV) team also showcased their love for speed. There was also a display of photos taken by our Yr 8 students using the smartphone microscope converters and their iPads.

Science ASSIST WE'RE BACK!!

ASTA and SETA have secured further support from the Commonwealth Department of Education and Training to 'reboot' Science ASSIST.

The Science ASSIST Advisory Service will focus wholly on school laboratory safety for teachers and technicians.

The Science ASSIST team:

- has reopened the Q&A section of the website to **answer all your questions** regarding school laboratory and science room safety.
- will continue the **development of minor technical resources** including Standard Operating Procedures (SOPs), Risk Assessments and Information sheets.

To stay up-to-date on all the latest questions and resources subscribe to the Science ASSIST E-news on the ASTA website.

Help! I'm having an OHS Audit!

Glenn Eckardt

Senior OHS Policy Advisor

Department of Education and Training

Your school has just been contacted to have an OHS audit and your first thoughts are probably, 'what now?'

Purpose

Firstly, you shouldn't lose sight of the purpose of the audits, which is to benchmark current OHS performance at your school, to understand where gaps are in systems of work and to plan to make any improvements required. Schools should not have to "prepare" for an audit other than to collate existing documentation.

You should also be mindful that safety is everyone's responsibility and that filling in paperwork should be used as a process to develop capability and understanding of the risks associated with the work that we are undertaking to avoid injuring ourselves and others. Hence why, those undertaking the tasks should be completing the relevant paperwork. Schools already have a whole lot of supporting documentation for the curriculum that they deliver. Safety needs to be considered "business as usual" with the associated paperwork integrated with other systems that already operate. In this way, it should not create additional work - it should be part of what we all do on a daily basis, not just when an auditor comes around to check every four years!

What is the OHS Audit Program in Victorian Government schools?

The Department of Education and Training (DET) has an [OHS Management System](#) (OHSMS) that is currently aligned with the Australian Standard, AS/NZS4801. All Victorian Government schools are required to have implemented relevant parts of the OHSMS to assist with effectively managing the OHS-related risks at their site(s). DET has an OHSMS Audit Program, where approximately 400 schools are audited annually to measure the effectiveness of the implementation of their system. Selection of schools for audit is based on various criteria,

including: risk profile, previous audit score and time elapsed since the previous audit. Over a four-year period, every school will receive an OHS audit.

It is important to note that the OHS audit program in Victorian Government schools is not a pass/fail exercise. The objective of the program is to see schools succeed in improving OHS performance and there is free support available to assist e.g. OHS Advisory Service and Regional OHS Support Officers (see [OHS Support Services](#)).

An [Audit Guide](#) is available, which outlines the audit process, the audit criteria that will be evaluated and relevant evidence that schools can use to demonstrate conformance with the different OHSMS elements. Following the audit, a report is provided to each school outlining the level of conformance with each element. Where a partial or non-conformance is given, a recommendation is provided on how to make improvements to achieve conformance.

Which parts of the OHSMS are most relevant to the Science area?

- Are all dangerous goods and hazardous substances in the workplace identified and recorded in a [Chemical Register](#)?
- Is a current [Safety Data Sheet](#) (SDS) available for all dangerous goods and hazardous substances in the workplace?
- Are documented [risk assessments](#) completed for all tasks involving the use of dangerous goods and/or hazardous substances and include details of risk controls?
- Are Dangerous Goods and Hazardous Substances in the workplace clearly and appropriately [labelled](#)?
- Are Dangerous Goods and Hazardous Substances in the workplace stored in appropriate [storage areas](#)?
- Is hazardous chemical waste collected and disposed of appropriately and records retained of

disposal certificates from an EPA-approved waste contractor?

- Are quarterly OHS inspections undertaken for the science area using the [Science Room and Laboratory Inspection Checklist](#)?
- Are all OHS incidents involving employees, contractors or visitors reported in [eduSafe](#)?

It should be noted that the list above is not exhaustive and other elements of the OHSMS may apply to the science area as well as other areas of the school, for example, emergency management procedures and first aid. An [implementation guide](#) is available, which provides an overview of the OHSMS.

A range of [OHS support services](#) are available to Victorian Government schools to assist with implementation of the OHSMS and other OHS-related issues.

The key message is to look on the OHS audit process as a learning opportunity and to provide assurance that systems of work are in place to effectively manage risks at your school to prevent injuries or ill health from occurring.

References

[OHS Management System](#)

<https://www.education.vic.gov.au/hrweb/safetyhw/Pages/ohsmgtsystem.aspx>

[OHS Support Services](#)

<https://www.education.vic.gov.au/hrweb/safetyhw/Pages/employeeservices.aspx>

[Audit Guide](#)

<https://www.education.vic.gov.au/hrweb/safetyhw/Pages/ohsevaluation.aspx>

[Chemical Register](#)

<https://www.education.vic.gov.au/Documents/school/principals/management/chemicalregistertemplate.xlsx>

[Safety Data Sheet](#)

<https://edugate.eduweb.vic.gov.au/Services/HR/Pages/ChemwatchMDSds.aspx>

[Risk assessments](#)

<https://www.education.vic.gov.au/Documents/school/principals/management/riskassessmenttemplate.docx>

[Labelled](#)

<https://www.education.vic.gov.au/Documents/school/principals/management/guid2danger.docx>

[Storage areas](#)

<https://www.education.vic.gov.au/Documents/school/principals/management/guid1chemst.docx>

[Science Room and Laboratory Inspection Checklist](#)

<https://www.education.vic.gov.au/hrweb/Documents/OHS/sciencelaboratoryinspection.docx>

[eduSafe](#)

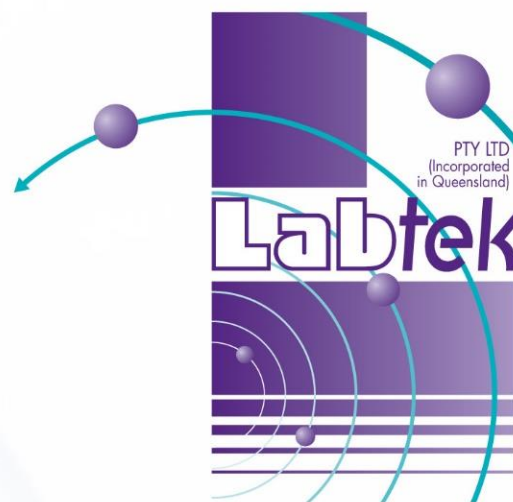
<https://www.education.vic.gov.au/edusafe>

[Implementation guide](#)

<https://www.education.vic.gov.au/hrweb/Documents/OHS/ohsmguide.docx>

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Welcome to the Wonderful World of Waste

and the School Laboratory

Part II

Michael Pola

Envirostore Chemical Consulting

mike@envirostore.com.au

This second part will deal with some of the issues that we, as waste disposers, find most at fault when collecting chemicals from school laboratories. That is, labelling your wastes and the use of incorrect containers to store the wastes.

Labels are sources of information, not opportunities to be clever (by just using a chemical formula and nothing else), obfuscating (by using codes), unhelpful (by forgetting important bits) or minimalistic (by putting very little information). A good label will, without ambiguity, inform any reader what the container has contained therein. You can rarely put too much information on a label and the opposite is too commonly true. An incorrect label is also a big no-no and can cause chemical heartache and consternation when the waste is worked on while disposing.

The correct label will contain:

- Chemical name
- Concentration, if applicable (which it is in the case of mineral acids; dilute sulphuric and nitric acids are vastly different from concentrated versions)
- The presence of any dangerous good such as a solvent: (the best example of this is the ethanol solution of phenolphthalein which looks like a water solution)
- The date of preparation is useful, as is the initial or name of the preparer in case there are any queries
- Any dangerous goods requirements such as a diamond or UN number will be also useful since the waste is to be transported

Labelling to GHS requirements is not so important and there are exemptions when dealing with waste. Remember that labelling to the GHS is a requirement of the hazardous substances regulations which deal with the hazards of exposure while using the material. Dangerous goods rules are for transport and storage, not exposure. If you want to put GHS compliant labels on your waste, feel free but the overriding requirement will be DG diamonds because there is a transport aspect. The waste man is not looking for hazardous substances labelling, the name of the chemical is of prime importance because this will indicate if a

dangerous good is present, which in turn reveals the chemical and/or physical properties.

Mixtures of chemical wastes, such as those you consolidate in a carboy, should be labelled to show all the ingredients. There is no requirement to provide a safety data sheet (SDS) for wastes, especially for consolidated mixtures as it would need to be specifically prepared by you. Although, if the waste is a single chemical, you will probably have a SDS for it, and most times we don't need one. The exception to this is when you are disposing of commercial products which are chemical mixtures. The SDS will hopefully list the ingredients. Some waste companies may require SDSs for your wastes before they can provide a quote, however consolidated mixtures will always be difficult. You can always hand over SDSs for each ingredient. This is fairly common in industry.

A common form of waste is, of course, the unlabelled or unknown chemical. This is an excellent reason to get rid of a chemical; you don't know what it is, or its label has come off. We understand unknowns do occur so label them as just that – 'unknown chemical with lost label'. If you want to



PICTURE: An example of incorrect packaging and labelling of waste.

have an educated guess, go ahead, we must work out what it is before we can dispose of it, so any help is of use. Don't be surprised however, if a waste company won't take your unknowns - this won't happen with us!

The following is a list of unsuitable containers to hold your chemical wastes.

- Glass and plastic food containers such as milk and juice containers
- Glass jars
- Containers that can't be properly sealed, or that don't have proper closures
- Plastic bags
- Tins
- etc etc.

If you need containers, we can supply 10L dangerous goods approved carboys at no charge. You just pay for disposal of the contents once full. If 10L is too large a volume, try to use proper laboratory jars such as Schott bottles or second-hand chemical containers such as Winchester bottles, which are 2.5L volume. Don't forget to change the label, and if required, rinse out the original contents. Remember that stoppered glass bottles are not always suitable if the stopper is not a good fit.

A dangerous goods compliant container will have a series of numbers embossed on the sides or top of the container, preceded by the UN symbol.

Consolidating your liquid wastes into a 10L carboy will be cheaper than disposing of many, smaller volume containers, as the waste man won't have to get rid of the empty containers. Not all wastes can be consolidated, of course, and there are a few general rules to follow before more specific chemical advice is required.

The easiest consolidation is the flammable liquids. This includes many non-flammable organic liquids such as oils. You can add together alcohols, esters, ketones, thinners and kero, turps and other household solvents, even small volumes of chlorinated solvents such as dichloromethane and methylene chloride. Any indicator and stain solutions, even if aqueous, and organic acids, such as acetic and formic and oleic can be added. The only organic liquid to avoid is any isocyanate which is the catalyst or activator for polyurethane two-part paints. Call myself, or your waste disposal company, to check if unsure.

With regards to inorganics and aqueous liquids, our only general advice is to pH match, ie low pH with low pH and the high pH with same. Adding acid to alkali can result in heating and vigorous reaction, especially if one of the solutions is strong. Remember that the pH scale is for dilute acids and alkalis, and is not suitable for concentrated acids and alkalis.

There are a few other safe consolidations (photographic wastes is one, but now diminishing) but it is best to check with a chemist or the text books before trying, and you can always ask us.

The next article will look at special needs wastes such as

infectious and medical type, radioactive, mercury, explosives and reactive chemicals, disposal to the sink and whatever else I can think of. If there are any topics you would like discussed, please get in touch. Your comments and feedback are always welcome.

How do you prepare a manifest of your chemical waste for a disposal quote?



THE ENVIROSTORE WEB SITE WILL VERY SOON ALLOW YOU TO DIRECTLY ENTER THE DETAILS OF YOUR CHEMICAL WASTES ON A MANIFEST FORM, ON LINE.

The Envirostore.com.au web site also has a special “For Schools” section where you will find some handy downloadable materials addressing spills, banned chemicals, the GHS and more.

Don’t forget we can supply compliant containers for consolidating your liquid chemical wastes, and we pack all the chemicals for disposal ourselves and we will take everything.

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Professional Development

Around Victoria

STAV Laboratory Technician's Conference

June 2018

Cell Respiration

Report by Ros Clark, Melbourne High School

I had a great day at the STAV Laboratory Technicians Conference at Quantum Victoria in June 2018. I was able to attend a workshop facilitated by Marcia Rogerson and Doug Bail from Cider House ICT P/L describing a great experiment demonstrating Cell Respiration.

We started by removing the peas from snow peas and placing them in a jar. (Other types of fresh peas could also be used). Using a CO₂ Gas Sensor we monitored the carbon dioxide produced by the peas during cell respiration.

Peas were then placed in a plastic bag and put on ice. While they were cooling we monitored the carbon dioxide produced by dried peas, which was of course very little.

We then monitored the carbon dioxide produced by the cold peas and noticed it was less than the peas at room temperature.

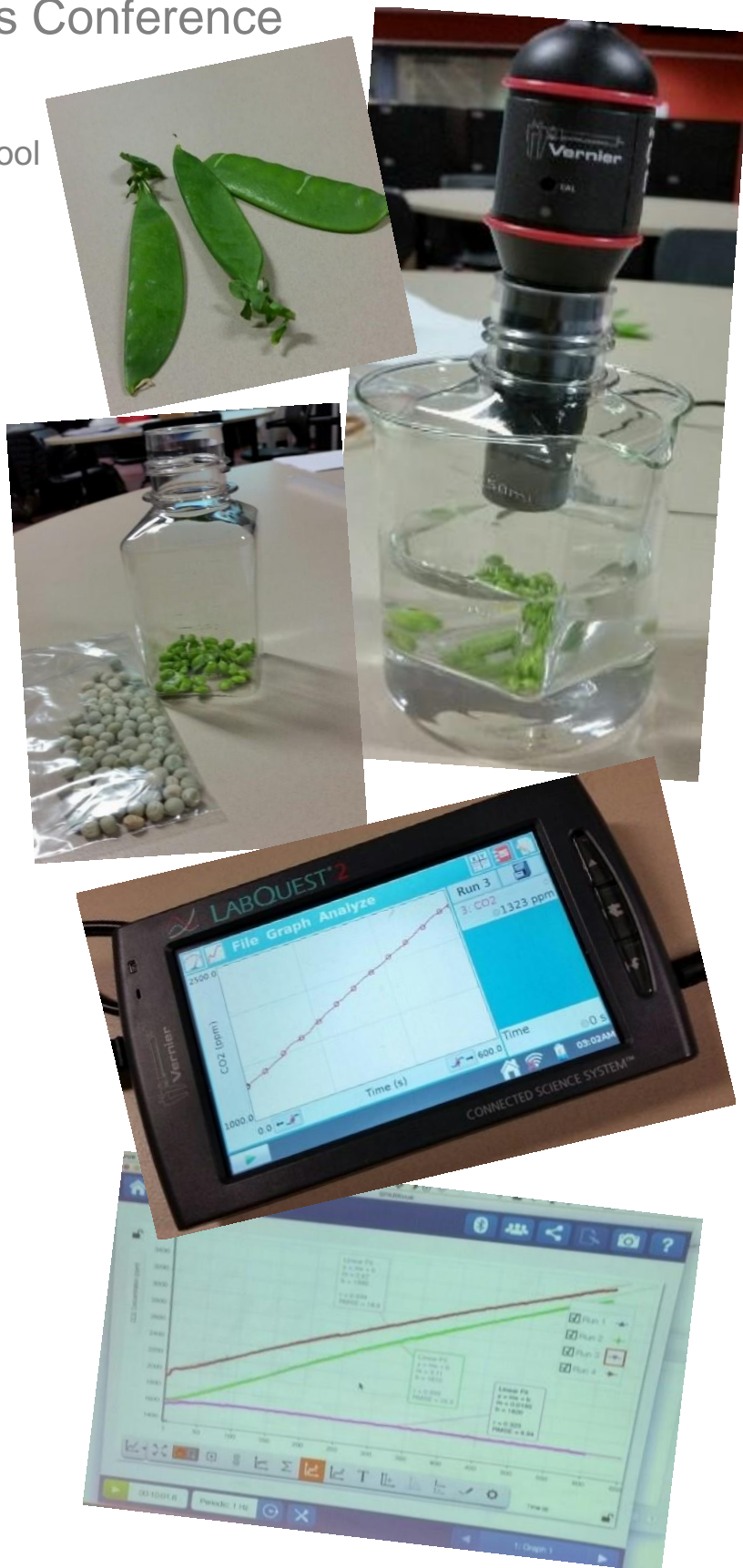
We used several types of CO₂ Gas Sensors from Pasco and Vernier and compared the results obtained for each type of peas. We were able to compare the rate of respiration by looking at the slope of each graph.

This experiment could be used for Year 11 or 12 Biology under topics such as:

- Unit 1 Area of Study 1 "How do organisms function?" Outcome 1 - Energy Transformations
- Unit 3 Area of Study 1 "How do cellular processes work?" Outcome 1 - Cellular Respiration.

This could also be used for the Practical Investigation and expanded to test fresh peas that had been warmed to various temperatures, dried peas that had been soaked overnight or frozen peas.

I thoroughly enjoyed the day and would recommend the STAV Laboratory Technicians Conference to all. Thanks to Marcia, Doug and staff from CBC St Kilda for the workshop.



LTAV Hanging Rock PD

June 2018

LTAV North Metro and North West Metro Regions

Report by Mary L. Jones

LTAV North Metro and North West Metro Co-regional Representative



PICTURE: The group, not including Andy Baful and Mary L. Jones.

On June 25th, LTAV North Metro and North West Metro braved our fresh winter days to have our PD day at Hanging Rock. We ended up with 23 brave labbies facing 6°C. The Ranger that lead us around on the tour of Hanging Rock was named Alan and a lovely gentleman with a great knowledge of the national park and the local history. The first thing he mentioned was that most accidents that happen at Hanging Rock are due to inappropriate footwear and was impressed we were all wearing proper shoes.

The main year levels that they cover at Hanging Rock for excursions are year 7 and year 8. A detailed discussion of the environment, animals, and geology was given during the tour. Hanging Rock also offers night tours to see the animals, when they are active. These must be booked as there are limited numbers to the tours.

A special thanks to Andy Baful for doing the discussions with the shire and rangers to organise the day for us and to Janusz Grochocki who drove the bus for us. We arrived at Hanging Rock early and also enjoyed morning tea. As a part of the theme, a special treat was prepared that was nicknamed "Geodes". They were candy slices as one of the topics of the trip was geology.

Point of interest, if you are looking for a holiday, this may be a day trip option. The only fee involved is \$10.00 per car for entry. Tours will cost additional.



PICTURE: 'Ranger Alan'



PICTURE: 'Geode' treats



PICTURE: Janusz the Bus driver



PICTURE (Above): The trek up



PICTURE (Above): The trek up



PICTURE (Above): Andy Baful in front of the water that the Ranger Alan showed us. He stated it was some of the cleanest due to the natural filtration of the mosses that grow on the rocks.



PICTURE (Above): The tour took a bit more than two hours. This is some of our members enjoying the view after opting to take the steep ascent to the top.



PICTURE (Above): Ranger Alan telling the tour about the sights that you can see from the top.



PICTURE (Above): Most attending the PD opted to enjoy lunch in the Café on site. It offered a variety of yummy treats to full on meals and had a fire to warm up in as the top temperature, while we were there was hovering around 6°C. Being a coffee person, I can say it was an excellent cuppa and well worth the cost.

PICTURE (Left): After warming up we had our meeting back at the hut outdoors, where the group photo was taken, and had a couple of cheeky visitors drop by.



PICTURE (Above): A view of how the water flowed at "Gravity Hill".

The presentation that followed was on Activities, Excursions and Incursions that you could do with your students and ranged from topics at year 7 to VCE. It was based on the fact that we are in a unique area. One of Australia's fifteen biodiversity hotspots is in Victoria and is the Victorian Volcanic Plains. Key information on the plains and how they are critically endangered was given in the presentation. This information was followed with activities that could be done at your school, excursions and incursions mostly in and around Melbourne for schools. To make it as beneficial as possible, the presentation covered a range of topics. Physics as well as chemistry got mentions, as well as biology and geology. The main point that the presentation was trying to get across is that Melbourne has wonderful learning opportunities for our students.

Upon departing Hanging Rock, we took a slight detour to "Gravity Hill" as a surprise bonus and discovered the mysteries first hand.

It is important to mention, as it was at the meeting, that our PD day was made possible due to funding the region receives from LTAV. LTAV is a non-profit organization. Our financial membership provides the funding that LTAV uses for regional PD days, LABCON, LABLINES, and scholarships that we offer to our members. The membership fee is only \$44.00 a year from January to December and is tax deductible.

Southern Biological

June 2018

North East Victoria and Albury-Wodonga

Report by Claire Stock, Hume Regional Representative

Southern Biological recently presented a full-day regional workshop in Wangaratta to science lab techs and staff from across North East Victoria and Albury-Wodonga area. Such sessions are particularly appreciated by regional lab techs, who often operate in greater isolation than their city counterparts. As well as the informative training that Peter Ball and Katrina Billington from Southern Biological provided, everyone had a splendid time catching up with and meeting new colleagues plus sharing advice, stories and encouragement.

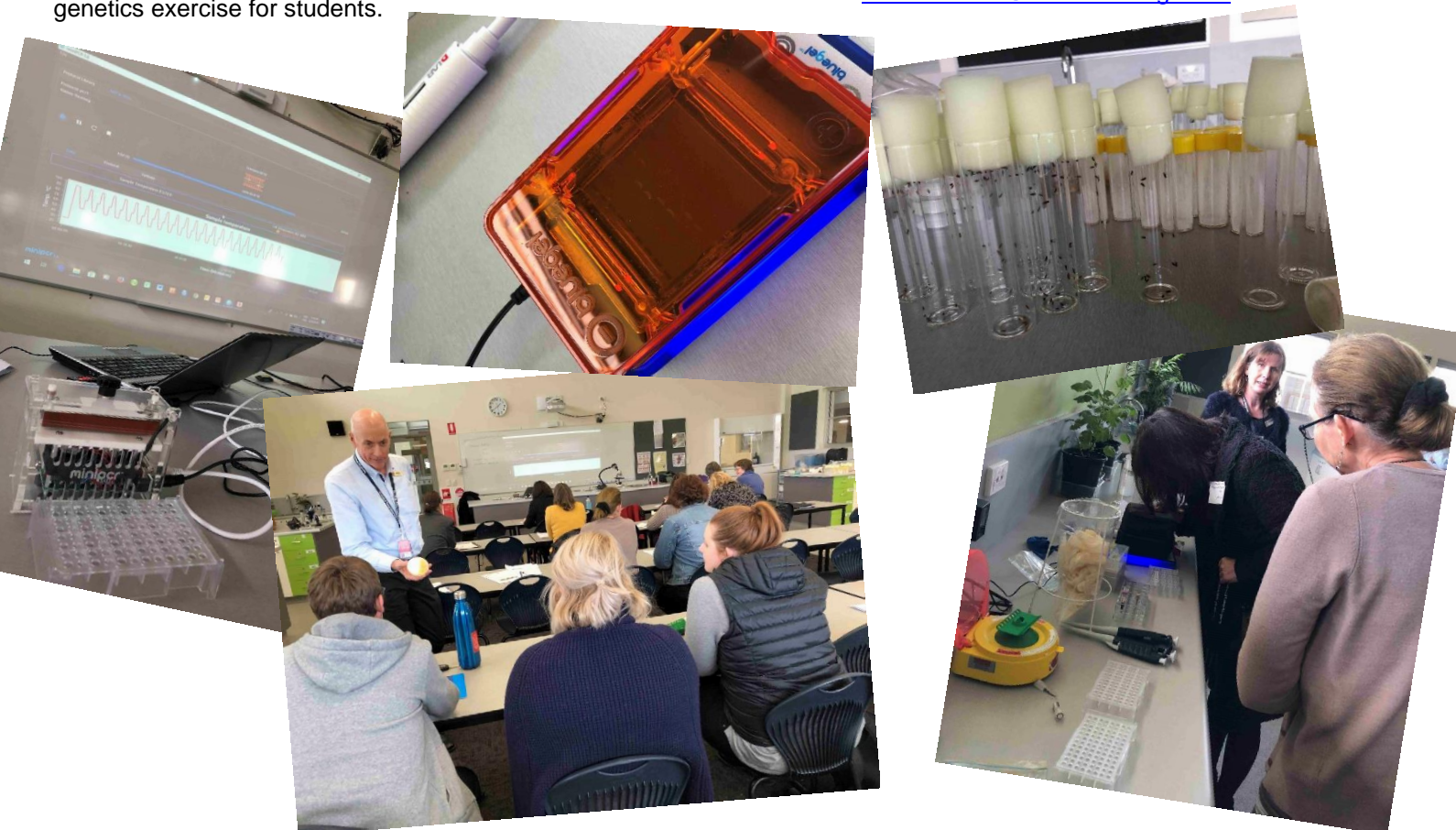
The three workshops for the day were highly instructional. Katrina started with Introduction to PCR (Polymerase Chain Reactions), which involves replicating segments of DNA. Participants prepared samples of Lambda phage DNA and a mastermix (including forward and reverse primers). These were placed in a thermocycler for thirty heating-cooling cycles to break then extend the DNA strands, with the product transferred to a gel electrophoresis unit for viewing.

Learning and hands-on activity continued in the second session on *Drosophila* genetics presented by Peter. Tips were shared on how to care for and breed specimens, and how to plan for this activity during the school year. Everyone practiced transferring live *Drosophila* flies between vials and, after the flies were anaesthetised, how to identify females and males when viewed through a microscope. As always, the care that lab techs take preparing experiments was emphasised for this engaging genetics exercise for students.

The afternoon workshop was a snapshot of assorted Primary Science activities, which were still relevant for those who work with older students. Tips for growing and viewing slime mould were shown, and also clever techniques for sterile seed germination and preparing algal balls. Participants were impressed with ideas during soil science, such as making soil paint with PVA glue and water, and the fascinating things that can be found inside a regurgitated owl pellet.

Thank you to Southern Biological staff, Peter and Katrina, who travelled several hours from Melbourne to expertly deliver the workshops plus the generous equipment and samples they provided. Therese Graham and Carolyn Trethowan from host school, Cathedral College, Wangaratta, were exceptional. As well as the many hours preparing for and clearing up after the event, they also gave a tour of their four shiny new laboratories and workspaces, which everyone enjoyed. In addition to morning and afternoon tea provided by Southern Biological, LTAV generously covered the luncheon. The warm quiche and lasagna options (as well as Therese's homemade pumpkin soup) were delicious and most appreciated on a chilly but sunny winter's day.

Hume Region lab techs endeavour to organise local training and networking opportunities once or twice per year. If you would like to share information with or join the network, please contact the Hume Region LTAV rep Claire Stock via stock.claire.c@edumail.vic.gov.au



A Week in the Life of a Lab Tech

Tane Bragg

Science Laboratory Technician
Wheelers Hill Secondary College

If you are looking for a dynamic, full time job, nothing quite compares to a school Laboratory Technician position.

No singular week at work is ever the same. Even if you are preparing a dirty water EEI for 6 year 7 classes that will repeat tests over 3 sessions, you will still end up with requests from individual students that will differ from the norm. This is because every class is made up of individuals who look at problems from a different point of view, for example, can we use the laboratory still or centrifuge to separate dirty water sample?

When year 7 classes cover the states of matter topic, teachers will usually book in dry ice demonstrations.



This demonstration is one of my personal favourites. Both teachers and students love this demo and usually learn something from this experiment. It is also relatively safe, with no chemical waste and minimal risk when conducted properly.

Wednesday mornings our lab is open to school tours for prospective students. Science is one of the most organised domains within the school, and planning for tours includes preparing the stick insect enclosure and a wide range of house keeping duties in all 3 classrooms.

As part of my professional development goals I requested a digital display be installed to showcase student work or pictures taken during experiments. This has been very successful as it allows tours to see highlights from a year in the science lab. Students also benefit from this, as they

tend to take pride when they see themselves or their work displayed.



One significant lesson I have learnt over the last few years is that it is important to engage students with questions during a demonstration rather than trying to impart as much information as possible prior to conducting the demonstration. This enables them to practice active learning, and connect theories with practical and tangible results. During a distillation demonstration, I witnessed this teaching style being used for the first time. The teacher

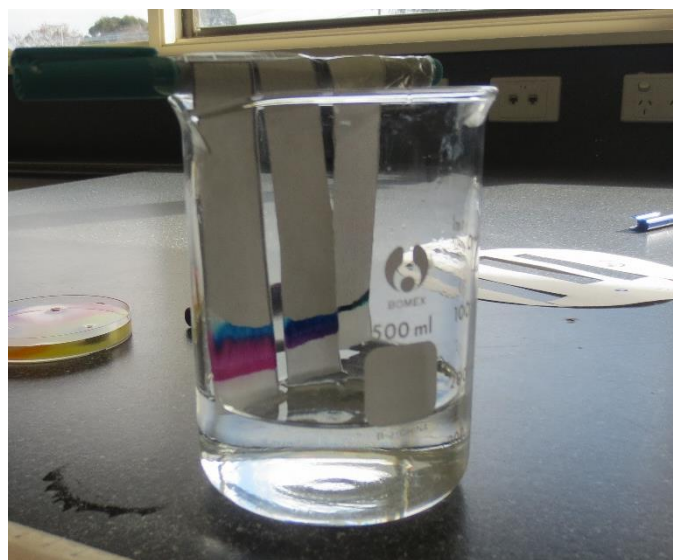




asked the class as many questions as possible. Students seemed to enjoy forming creative hypotheses, and even students that would usually not contribute became involved. While there are standard weekly tasks such as purchasing resources and setting up experiments, there are occasionally some strange discoveries in the week of a laboratory technician. Nymph stick insect crawling on a wall mounted telephone cable while a teacher is on a call, or the discovery of a pack of soft plastic worms (fishing tackle) mixed in with the classroom set of glassware. Daily discoveries like these become normal in our profession.

To successfully carry out this job I believe that certain attributes are required; patience, diligence, attention to

detail, the ability to complete tasks based in order of priority and multi-tasking. During a recent professional development session, new research revealed the detrimental impacts of multi-tasking. However, as with any education-based role I believe it is hard to fulfill this job without a small degree of multi-tasking.



It is extremely rewarding to see students become more knowledgeable and comfortable in the lab, and develop a passion for science.



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How to Save Time in the Laboratory – Ten Tips



Highly Successful laboratory personnel know that time is a precious commodity in the day to day operation of a lab. There is nothing more valuable than time – whilst money can be lost and made again, time can never be reclaimed!

Here are 10 tips that could help you regain time in your laboratory:

Measure your time in Minutes

Most people measure time in hour blocks – successful persons measure a day as 1440 minutes. Make the most of every minute, organise your day in 15 minute intervals, engender a culture of time management amongst your peers - you will be surprised how much can be achieved in a day.

Important or Urgent

Work on your most important tasks, not just the urgent ones. Block time at the start of each day while your mind is refreshed to tackle those tasks you keep putting off that could save you time in the long run.

Write it down

Use a note book – write everything down that you need to remember, this clears your mind and ensures that nothing gets overlooked.

Don't get distracted

Process your emails only a few times a day, don't get distracted from your core goals by those incessant emails, social media feeds or interesting articles that you just must read...they can wait!

Handle it once only

Touch things only once if possible, handle that piece of paper, or that email once and move on. File items in an easy to retrieve spot should you need to refer to them later.

A clean workspace = An efficient workplace

Keep your workspace tidy and uncluttered. Each night before you go home, organise your papers, emails and notes so that you are ready for action first thing in the morning. Invest in lab storage systems such as Gratnells and train your team in their use. You will be surprised how well-organised storage can increase efficiencies in the lab.

Have a Smart To-Do list

Start you day with a Smart to-do list. Prioritise your tasks – what will give you the best long-term yield? This will help you reduce feeling overwhelmed and will focus your efforts.

Collaboration leads to Innovation

Collaboration, Delegation and Communication – talk to your team, share successes and ideas, this will ensure you get external input and waste as little time as possible on dead end projects. A daily stand up huddle meeting goes a long way towards delegating out the tasks that need to be completed in a day and ensures that there is a clear flow of communication.

Avoid too many meetings

Keep meetings short and to the point – make them regular rather than drawn out irregular meetings. Have a clear set of action points (not too many) and appoint a follow up manager.

Finish the day On Time

Have a daily routine and always make it home for dinner!



Article contributed by Westlab

List Laughs and Life Hacks

The LTAV list-serv is provided to all LTAV members and is an amazing resource for laboratory technicians working in educational institutions. Whether you have a question that needs to be answered, or just need a laugh every now and then, sign up to the list-serv forum and meet a bunch of fun, friendly and helpful lab techs, just like yourself! Go to www.ltav.org.au and click 'Join the LTAV List'.

Sender: Kerry Davies

Subject: [LTAVlist] DIY Double Helix Creation

Date: 15 June 2018

I finally completed my Double Helix and wanted to show it off.

I have an amazing maintenance man who built me a base from old chair and the sides are copper pipes with plastic conduit up the middle.

I then built the rest with pool noodles and cable ties. It stands 10 ft tall and is lightweight and easily moveable.

Now I need to find some more fun, science themed decorations to add to the department...



Extra notes: I wanted to make a large model of the double helix as it really does say 'Science' to me, so I googled various images online.

I was thinking of a floating one tied to the roof in our science building, but kept wondering how to maintain the circular profile, so I enlisted the technical knowledge of our maintenance man (Shane Martin) and together we came up with the chair base and he found some copper pipes that he bent into shape. All equipment was recycled from 'the sheds'. The pool noodles were \$3 each and long cable ties hold it all together.



Sender: Tamara Leabeter

Subject: [LTAVlist] Mitosis, garlic root tip

Date: 25 July 2018

Here is my attempt at growing garlic roots. I chilled the cloves overnight, then set up as shown (found a use for those tiny crucibles at last). Roots appeared within one day.

Thanks to all for the handy discussion of techniques.

WANTED URGENTLY RELIEF LABORATORY TECHNICIANS

If you work part time or you know someone who has school laboratory experience and would like to earn some extra money.

Please contact Mary Jones

jones.mary.1@edumail.vic.gov.au

Your name will be added to the Laboratory Technician Relief list for the Melbourne Region.

Brain Break

10 of the Best

1. What colourless gas is essential in the production of light bulbs?
2. Which planet has the most moons?
3. What is a meteor called when it reaches Earth's surface?
4. Which animal has the longest tongue relative to its total size?
5. What is the first organism to grow back after a fire?
6. What does 'SPF' stand for on sunscreen containers?
7. True or False? Armadillos spend approximately 80% of their lives sleeping.
8. What is the chemical formula for ozone?
9. True or False? An octopus has 3 hearts.
10. Which two elements on the periodic table are liquids at room temperature?

(Answers page 28)

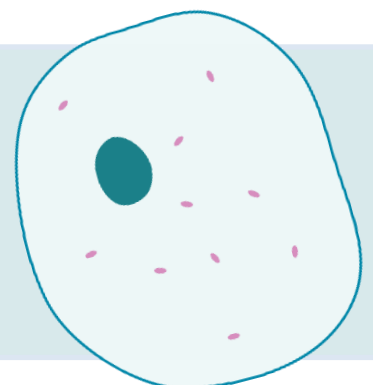
Riddle Me This

What can you hold in
your right hand, but not
in your left?

(Answer page 28)

DID YOU KNOW?

The longest living cells in the body are brain cells, which can last an entire lifetime.



How many words of four letters or more can you make from the letters in the grid below?

Each word must contain the centre letter and proper nouns are not allowed. See if you can figure out the 9 letter word!

Average: 16

Good: 21

Excellent: 27

Genius: 32

| | | |
|---|---|---|
| A | R | Y |
| H | N | D |
| S | O | U |

9 Letter Word: _____

Parallel lines have so much in common; it's a shame they'll...

Unscramble the science related words below and rearrange the shaded letters to finish the sentence.

T E R R A F C

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!

Riddle Me This Answer

Your left hand.

10 of the Best Answers

1 Nitrogen 2 Jupiter 3 Meteorite 4 Chameleon 5 Moss 6 Sun Protection Factor 7 True 8 O₃ 9 True 10 Mercury and Bromine