



Association of Science Education Technicians NSW

Supporting - Monitoring - Training - Facilitating
For Labbies by Labbies

March 2024

Term 1 Edition

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Chairperson's Report

Hello all, welcome to Term 1 2024.

I don't know about the rest of you, but Term 1 I have had to hit the ground running. The conference planning is under way yet again. Tentative dates are Monday the 4th & Tuesday the 5th of November just waiting for confirmation on availability.

If you would like to be involved in the planning or have a special skill you could present at the conference, please get in touch with one of the committee members. Your input is important & we do want to hear it.

Linda Robertson
ASET-NSW Chairperson

Treasurer's Report

The first quarter is a busy time for most technicians in the school and it is no different when managing ASET-NSW affairs.

There have been some written policies established on our website which will future proof our financial transactions, privacy and grievance policies.

Our committee is currently looking closely at event software contracts and I can start on the introduction of credit card payments once we have established new websites.

Don't forget that annual subscriptions fees are due for ASET now, and you can email me at any time if you need to obtain an invoice with a purchase order for your school.

Loretta Fincato
ASET-NSW Treasurer

What's On

17 March 2024	St Patrick's Day
21 March 2024	Harmony Day
30 March 2024	Earth Hour Day
12 April 2024	International Day of Human Space Flight

25 April 2024	Anzac Day
27 May-3 June 2024	National Reconciliation Week
5 June 2024	World Environmental Day
7-12 July 2024	NAIDOC Week
7-11 July 2024	CONASTA 71: Perspectives-Science Educators Shaping Tomorrow University of Melbourne
5-9 August 2024	Public Education Week: Proud to Belong
10-18 August 2024	National Science Week: Species Survival- More than just Sustainability
23 August 2024	Daffodil Day
12 September 2024	R U Okay Day
5 October 2024	World Teacher's Day
15 October 2024	HSC Exams begin
25 October 2024	Teacher's Day
TBA	Aussie Backyard Bird Count
TBA	ASET-NSW Annual Conference University of Technology Sydney
11-17 November 2024	National Recycling Week

My Labbie Day

Here's an entry from last year's conference.

One day our science coordinator asked me to prep a practical requiring 2 neodymium magnets. I took 2 boxes of magnets out only to find out that one of the boxes was empty.

I have searched high and low, far and wide with no luck! 😞

With so much frustration, I opened the one box containing the magnet. I looked closely at it and I realized that the two magnets were stuck together.

I've informed my Science coordinator and with so much excitement he said "Eureka! Eureka! You've found the magnet! Problem solved!..... at least for now. As for separating the 2 neodymium magnets, I left it for another day 😊

Tips and Tricks

Waste Disposals:

Schools under The Department of Education use CSIS as the main reference guide. Appendix D is where you will find the chemical disposal

For the large volume of chemicals that you want to get rid of, there is no other way of doing it but to call an expert such as Environmental Treatment Solutions or Cleanaway for proper disposal.

Some chemicals can be treated and safely disposed of in the lab

Neutralisation:

- Acids- reduce the molarity of the acid
 - Add NaHCO_3 or NaOH
 - wait for reaction to finish
 - check the pH by adding few drops of universal indicator
 - continue adding base until the desired pH balance is achieved
 - slowly pour the liquid down the sink under the running tap water

Note: Most sinks from the science area drain into a pit. This pit contains water, so it should be diluted again before it makes its way into any storm water.

Recycling

- Crystallized copper sulfate- add some H_2O to make a saturated solution. Pour the solution into a jar for future crystallization prac
- HCL waste could be used as stain remover by soaking the stained glassware overnight.

Precipitation:

- Lead nitrate-add sodium chloride on to the solution
- Wait for the solution to precipitate
- Filter out the precipitated substance that can be thrown into the rubbish bin, the clear liquid goes down the sink

Zinc Nitrate-add sodium carbonate to the solution and repeat the precipitation process

Silver residues-add sodium chloride and follow above procedures

Evaporation:

Halogenated Organic (flouro, chloro, bromo, iodo, bits of organic chemicals -usually flammable) put the chemical waste into a wide mouth beaker and place into working fume cupboard over night to evaporate.

Copper Sulfate Waste:

Put the waste in a container, add steel wool and leave overnight. The steel wool now turned brown can go in the garbage, the clear waste can now go down the sink.



Photos are provided by Loretta Fincato

Potassium Permanganate Waste:

- Place Potassium Permanganate on hot plate with magnetic stirrer inside. Slowly add oxalic acid until clear Then wash down sink with lots of water.
- Add Sodium metabisulfite powder and stir until it is clear and then wash down the sink

Note: most practicals can be done using a minimal amount of chemical by using spotting plate for precipitation or skinny test tubes for acid reaction.

How to.....

Make crystals:

Use 1M $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$, dissolve it in hot water to aid in dissolving more solid which would make a saturated solution at room temperature. A dense salt content would result in producing lots of crystals in a shorter period.

Agar plates

Nutrient Agar comes with all the ingredients added to feed the bacteria so there is no need to add anything else when making the plates.

If Agar Agar is preferred, try sourcing it out from the health food shop which is more economic than ordering from a supplier

Acidify FeSO_4

The recipe from The Laboratory is for 0.1M: Dissolve 27.8g of Iron (II) sulphate in distilled water containing 15ml 0.1M sulphuric acid, and make up to 1L. Scaling this up, I've done 278g Iron (II) sulphate and 15ml 1M sulphuric acid. The acid is added to keep the solution from turning brown. I've got this label stuck on my bottle as well, but unfortunately can't remember where it's from: *Iron (II) sulfate - make only what's needed prior to using (days):*


*If the pH is not kept low enough, ferrous sulfate will oxidise to ferric sulfate on standing. Normally, atmospheric oxygen changes Fe^{2+} to Fe^{3+} quite readily. This reaction is reversible by lowering the pH. Below 4 or so, ferrous iron is heavily favoured over ferric, with the concentration of Fe^{3+} becoming vanishingly small at pH

Chairperson

Silly Science Jokes

Where do bad rainbows go?

Prisms

it's a light sentence and gives them time to reflect 



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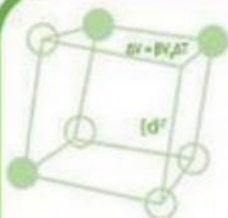
Your microscopes/ balances keep calling in sick & you have **no time** or no idea how to deal with them?

- Microscopes produce out of focus, hazy and unsharp images like the left small image
- Microscopes have loose or missing parts
- Stiff adjustments appear on your microscopes
- Balances produce inaccurate or imprecise weighing results

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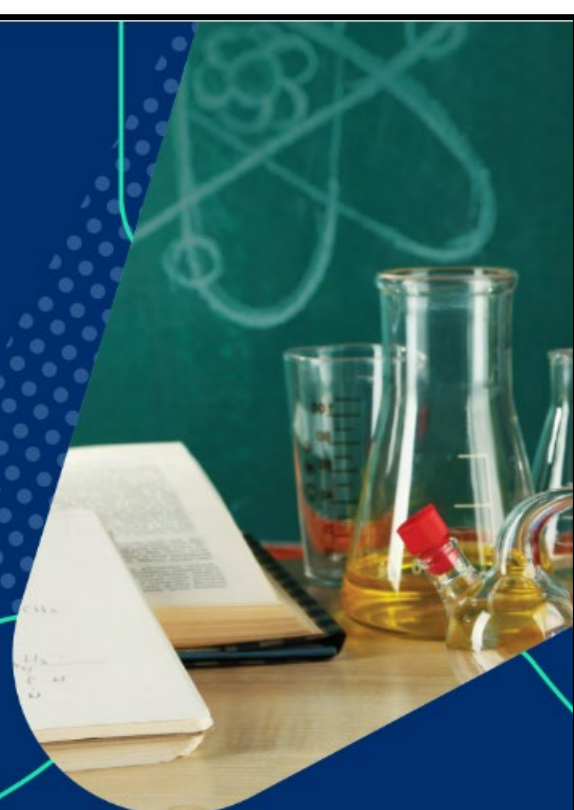
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