

Science

Matters



Term 2, 2011

Science Week

It is great to see so many Auckland Schools registered for Science Week this year. If you are one of these schools, you will have already received a resource pack loaded with ideas and activities to do within your school for May 2nd-6th. If you have not registered and would like to receive a resource pack, you can e-mail Lorraine Ashby at lorraine.m.ashby@gmail.com

Don't forget to take lots of photos during Science Week and send them in for publishing in our next newsletter. ASTA have organised a variety of FREE activities and workshops for your staff, your students and families during this week. Please see page 3 for the list of events..

The ladybird, however helps to balance out this eco-system as its nymph is carnivorous and they live on the plant helping to keep the aphid population down. The ants milk the aphids but leave behind a residue which promotes a black mould, another threat to the survival of the plant. If you see a brown aphid among the orange gang of aphids, it is because it has been impregnated with wasp eggs and the aphid acts as a carrier until the eggs are released.

Thank you Jacqui for an interesting and entertaining talk, Patsy Hindson.

Butterfly workshop a success



Jacqui Knight demonstrating the correct way to handle a monarch.

ASTA ran its first workshop this year in term one at Remuera Intermediate School. Jacqui delivered an exciting presentation demonstrating how to handle and tag the butterflies. I

was lucky enough to keep the two tagged butterflies for my class to release the following day. For more information on tagging and tracking butterflies, visit the website <http://www.sciencelearn.org.nz/Science-Stories/Butterflies/Tagging-monarch-butterflies-for-science>

Jacqui talked about the mini eco-system that lives on the milkweed, so precious to the survival of the monarch. Praying mantis, wasps, aphids, ants and ladybirds all play a part as the monarch butterfly struggles to survive. Apart from avoiding predators like the wasp and the praying mantis, the monarch is competing for its food source with aphids. These small animals breed in such huge numbers and can quickly deplete the new growth on the swan plants.



Teachers from the workshop taking home milk weed plants helping to increase the food source around Auckland for our precious monarchs.

Upcoming Events

2nd-6th May	Science Week Daily workshops for teachers, parents and students as well as regional and national competitions and the opportunity to engage in a national science investigation. Primary Science Week Website
11th May	NIWA Auckland City Science and Technology committee meeting 4.00pm at Diocesan School, First Floor, Science Building (All welcome to attend)
12th May	International Nurses Day http://www.ed4nurses.com
14th May	World Migratory Bird Day www.worldmigratorybirdday.org
TBC	ASTA Primary Science Committee Meeting 4.15pm at University of Auckland Epsom Campus (Come to main office). All welcome to attend if you wish to be involved.

FREE Professional Development

Terry Devere is available to visit your school for the whole day to show you how you can get the best out of the website 'The Science Learning Hub'.



The Science Learning Hub will pay for a FTTE relief day enabling teachers to attend this professional development opportunity.

To take him up on this special offer, please contact Terry at... t.devere@auckland.ac.nz



This publication was prepared courtesy of the Auckland Science Teachers Association.

'Science Matters' welcomes your comments and contributions. Please e-mail your correspondence to Lorraine Ashby at lorraine.m.ashby@gmail.com



Spotlight on resources

Ministry of Education provide all New Zealand schools with a range of FREE Science resources. Often, we tend to overlook them, so we have picked out some great practical activities from one of our favourites for you to try in your classroom.

If you have any special science activities or resources that you would like to share, please e-mail Lorraine at lorraine.m.ashby@gmail.com

Making Better Sense of the Material World. Science Focus: Milk



Big Ideas

- We can change milk into other products.
- These changes can be **physical changes**, for example, when making ice cream or butter, or **chemical changes**, for example, when making yoghurt or casein plastic.
- By freezing milk, we can change it into ice cream. The water in the milk changes from a liquid to a solid state. By adding air to milk, we can make butter from the fatty constituents. Making butter is an irreversible physical change.



Investigations

1. Can we get the water out of milk?

What You Need

Milk, An electric frying pan, A cold plate

What You Do

- Pour some milk into an electric frying pan to a depth of about 1 cm.
- Heat the milk very slowly.
- Hold a cold plate over the frying pan.
- What collects on the plate? What does it taste like?
- Continue heating the milk slowly until all the liquid has gone. (Take care not to burn the milk.)
- What is left in the frying pan?
- Use a mortar and pestle to grind some of the powder.
- Taste it when it is cool.

2. Making Ice Cream

What You Need

200 grams of salt, 120 millilitres of milk, 20 grams of sugar, Vanilla essence
Two clip-lock plastic bags (one large bag and one small bag), 1 kilogram of crushed ice, A 2-litre ice cream container

What You Do

- Half fill the large plastic bag with the crushed ice.
- Add the salt.
- Put the plastic bag with the ice and salt mixture into an ice cream container (in case of spills).
- Put the milk, vanilla, and sugar into the small plastic bag. Seal the bag tightly.
- Place the small bag inside the large bag that contains the ice and salt mixture. Seal this larger bag.
- Shake and move the bags about until the mixture inside the small bag turns to ice cream. This will take about 5 to 10 minutes.
- Record and draw your observations.



Fun science activities to do in your classroom

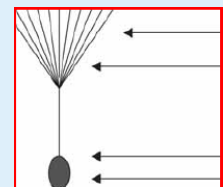
Taken from Top 20 Primary Science activities
Courtesy of Ian Milne

Fair Testing using Dandelion Parachutes

All you need here are dandelion 'clocks' full of seeds, stopwatches and scissors.



Each child or group selects one dandelion-seed 'parachute' from the clock, like the one in the diagram, and times how long it takes to fall to the ground. They can repeat this test to get an average time. Now ask them, 'How could you change the seed to make it fall faster or slower?' They might suggest removing some of the 'feathers', shortening them, cutting off the seed end, adding weight, and so on. Let them experiment with different ways of altering the parachutes (the easiest ways are cutting the 'feathers' shorter or cutting off the seed itself, as shown in the diagram). Each time, they can measure the time of fall from the same height in the same way as before. For example, you could ask them to predict what will happen if they cut the seed at the points indicated by the arrows in the diagram; they can test their predictions and then compare results with others. They can also repeat this investigation with other seeds in the autumn, from trees such as sycamore, ash and lime.



There's iron in my cereal!

You will need some cereal (Special K works well), a strong magnet, a plastic bag, a rolling pin, and a jar of warm water.



Put the cereal flakes into the plastic bag and crush well with the rolling pin (or use a pestle and mortar). Place the magnet into the bag and move it around in the ground-up cereal. When you remove the magnet, some of the fine cereal particles appear to be magnetic! This is because the cereal has been fortified with iron. A good investigation would be to see which cereal contains the most iron.

If you then mash up some more of the cereal in warm water using a plastic-coated paddle magnet, you will find that metallic iron actually sticks to the magnet, which makes it even easier to compare the iron content of different cereals.



ASTA

Subscriptions 2011

The total cost for your school to subscribe to ASTA is \$20.00

In return, you will receive information and links to Science ideas, topics and resources and your staff will be able to attend free workshops for professional development.

To subscribe to ASTA

Direct credit :account number

12 3013 0885198 00

Email: Download the form (available on the ASTA website) <http://www.nzase.org.nz/asta/index.html> and e-mail to Carolyn Haslam c.haslam@auckland.ac.nz

Cheques: Please make cheques out to "ASTA" and post cheques and form to Carolyn Haslam, Faculty of Education, The University of Auckland, Private Bag 92601, Symonds St, Auckland.

For inquiries:

Phone: 623 8899 ext 83918

Please note that ASTA is not GST registered

Information for our database
(please print clearly)

Name (of school or individual):

Contact person on staff:

School address:

Email address:

Payment method: Cheque
 Direct Credit

Science Week Workshop Timetable

In celebration of **Science Week**, a variety of FREE demonstrations and activities are scheduled in a range of venues across Auckland from 2nd May-6th May.

Please note: registration is essential for a place.

	Workshops
Monday	<p>1. Hook, Line and Thinker A hands on workshop to explore simple yet exciting activities to engage students and get them thinking about Science.</p> <p>2. Starry, Starry Night – What's Up There? This Stardome workshop will give you ideas and activities to help you to teach astronomy in your classroom.</p>
Tuesday	<p>1. Futureintech—Bridge in the Bag An introduction to the Futureintech bridge science unit.</p> <p>2. Nurturing A Sense of Wonder Exploring hands on engaging activities at MOTAT for children and their parents, that foster a sense of wonder and engagement with science.</p>
Wednesday	<p>1. What's Fishy Around Here? Find out how Kelly Tarlton's can help in the teaching of Science. 4.00-5.30pm</p> <p>2. Science in a Van An interactive science experience; from bubbles to flying rubber chickens.</p> <p>3. Growing Gardeners Activities including composting, worm farming and pricking out plants and how they can be integrated into your lessons.</p> <p>4. We are going to the Zoo Workshop on how the Zoo can help in the teaching of Science.</p>
Thursday	<p>Wonder, A Starting Point For Science Inquiry Exploring hands on engaging activities at MOTAT of natural phenomena that can be used as starters to generate authentic science investigations.</p> <p>2. Shear The Experience - Ambury Park Farm Find out what goes on at Ambury Park Farm and how you can link it to your Science programme.</p> <p>3. Science Opportunities in the Forest Experience our 'hands-on' activities that bring Science alive for students learning about our unique New Zealand forest biodiversity.</p> <p>4. Planets Rock with the APO A taste of APO's Planets concert programme involving selected parts of Gustav Holst's music and a talk on our solar system from astronomer David Britten. Slideshow courtesy of NASA.</p>
Friday	<p>1. Teaching About 'Stuff' Experience some fun, hands-on Chemistry-based activities and experiments to use in your classroom.</p>