

Students in Warwick Barker's agricultural/horticultural class spent a day comparing the water quality of the Waiwhakaiho River at Peters Rd near the National Park and further down at Merrilands Domain. They collected data that was examined closely back at school and some interesting conclusions were reached.



Ngaere School takes over the rock pools

An enthusiastic band of over 200 pupils, parents, grandparents and teachers from Ngaere School spent an hour uncovering life in its many forms at the Kawaroa rock pools in February. The field trip followed a staff meeting and classroom visits by the Council Education Officer, Kevin Archer. Follow-up work back at school was wide ranging and included pupils from the junior rooms asking Kevin some very penetrating questions, not all of which he was able to answer but provided further research opportunities for the pupils. Congratulations Ngaere School for involving me in what was clearly a highly successful study.



Stratford Primary in action at the Patea river

It's eyes down and looking as this focused group from Stratford Primary try to identify some of the invertebrates they found during their study of the Patea river recently. The investigation was part of an outdoor education week involving pupils from the school's middle syndicate. Other highlights were a rock pool visit to New Plymouth and an overnight stay in tents at the school.



Waitara East visits the Council



Pupils from Waitara East under the leadership of the Deputy Principal, Graeme Sands, paid a visit to the Council in March. The well behaved group was able to see a powerpoint presentation which outlines the Council's main functions, visit the pest management depot and take a look at the freshwater fish in the Council laboratory. The Council Senior Information Officer, Rusty Ritchie, makes a point to one of the interested groups of students.

Bits 'n' Pieces

Professional development

Wetlands
Thursday May 5
1.00pm-4.30pm.
See the flyer in this newsletter for details

What's the Plan Stan? - Thank you

Many thanks to the teachers from Omata, Central, St Josephs (New Plymouth), St Josephs (Waitara) and Woodleigh School who assisted the Ministry of Civil Defence and Emergency Management team assess how the resource, 'What's the Plan Stan?' is being used in Taranaki. Your information is being used as part of a report which will be issued in August.

Staff Meetings

If you would like to know more about Environmental Education for schools in Taranaki, contact Kevin Archer at the Council phone: 06 765 7127 or email: kevin.archer@trc.govt.nz.

Recycling brochure

If you would like a copy of either of these informative brochures please contact Kevin.



Assistance for teachers from page 2

- Invite Kevin to talk to your class(es) about the benefits of having a waste minimisation and recycling system in your school.
- If you have an 'environmental group' in your school, ask Kevin to talk to them about ideas tried in other schools that might be worth considering.
- Download from our website www.trc.govt.nz our unit Waste Minimisation and Recycling. Or ask Kevin to provide you with a hard copy.
- Invite Kevin to do a waste audit with your class(es). From the results you will be able to judge where improvements (if any) can be made.
- Visit your local Transfer Station or Recycling Centre. Kevin can assist you with this if needed.

Answers from page 3

Multi choice recycling quiz
1.C 2.A 3.C 4.A 5.B 6.B 7.A 8.C 9.C 10.A

For support with environmental education contact:

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SITE

Schools in the environment newsletter

There's a dusting of snow on the hill

The year got away to a flying start with a host of requests for assistance most of which I was able to honour. Unfortunately some schools missed out because their preferred dates had already been booked. Our policy of first in first served remains and is the fairest for all. In regard to field trips, I value the opportunity to visit classes on a day prior to the trip as so much important information can be given. This helps ensure a successful field trip as everyone knows what their role entails, what they are studying, where and when they are going and what they hope to achieve.

Thanks to the teachers who attended the two rocky shore professional development sessions, one at Kawaroa, the other at Rahotu. It is pleasing to see teachers follow up with a rocky shore study which is a key reason for having them. This term's workshop is on wetlands. We are spending the afternoon of Thursday 5 May visiting a number of wetland areas (see insert) all of which are suitable for class visits.

As a result of the Christchurch earthquakes the Council has reviewed the procedures for visitors to Council sites, including school visits to the Council in Stratford and to the Taranaki Emergency Management Office (TEMO) in New Plymouth. We ask that the teacher-in-charge of the visiting group 'sign in' on behalf of the group and leave a list of names of everyone in the group, including the adults. The same teacher is required to 'sign out' when the group is about to leave and collects the list at the same time. The system is working well and will be strictly enforced. Should a group arrive without a list the teacher-in-charge will be asked to write one. Thank you for your co-operation.

As winter approaches many schools will be planning their tree planting programme for this season. Once again the Council is heavily involved in the region's riparian management programme with another 300,000 plants going into the ground this winter. It is great to hear of more and more schools getting involved in planting programmes whether they be on stream banks, in sand dunes, on school grounds, on lake sides or wherever. Keep up the great work. If your school is involved this year please give me a call and I could take a lesson outlining the environmental benefits of tree planting. Make the most of your term.

Best wishes for a great year.
Kevin Archer



Pictured are pupils from Midhirst School who received an Environmental Award for their waste minimisation programme.

Waste minimisation and recycling

Many schools have developed school waste minimisation and recycling programmes which are working well. Others have started a programme, others have thought about it, whilst others have not quite got to that stage. This issue of SITE looks at what is happening in Taranaki and offers tips on how you can get a programme started in your school.



Rocky shore season

This card shows Education Officer Kevin Archer giving last minute instructions to the pupils, staff and parents from the Waitara Central School before they clambered down the boulders on to Kawaroa Reef during their visit in March. A great time was had by all.

With lots of fine weather in term one and many suitable tides, there was ample opportunity for schools to visit the region's rock pool areas.





What does 'waste' actually mean?

For most people the term waste means materials or substances that are no longer needed or usable, or they have lost their economic value and therefore need to be disposed of. Waste occurs in many forms, it can be solid, semi-solid, liquid or gaseous.

How are we going in Taranaki?

In Taranaki, significant progress has been made on recovering and re-using recyclables such as paper, cardboard, plastics and glass. The availability of disposal facilities such as kerbside collections, transfer stations, landfills and clean fills are essential parts of waste management. The volume of waste generated usually reflects the level of economic activity. The more activity, the more waste is produced, as well as greater consumption so more products are discarded at the end of their life. The good news in Taranaki is that we have gone against this trend as the increase in refuse volumes has dropped significantly below the increase in level of economic activity.

Waste audit time at Te Kura o Nga Ruahine Rangī

A school-wide waste audit is a quick and simple way to assess your waste management position. Many schools use an audit as the first step in setting up a waste minimisation and recycling programme. Pictured below are pupils from Te Kura o Nga Ruahine Rangī sorting their waste into various categories such as paper, food, glass, plastic and general waste. The kura conducted a similar audit three years ago and results show some encouraging progress has been made in the interim.



Waste minimisation at St Josephs in Hawera

Some years ago St Josephs in Hawera started a waste minimisation system in their school. The Council Education Officer was invited to talk to the senior class and following this a plan was developed which included:

- A class visit to the local transfer station.
- A school wide survey to assess the attitudes of students and adults towards waste minimization and recycling.
- A school-wide waste audit.

Do the 3Rs still count?

Absolutely they do. **REDUCE, REUSE and RECYCLE** are still very much the way to go.

Does composting cover the 3Rs?

Composting **reduces** the amount of waste going into a landfill, it **re-uses** kitchen and garden waste and it **recycles** nutrients into the soil thereby restoring the health and beauty of the environment.

Kerbside collection figures

In New Plymouth recyclables now represent 17% of the waste collected, whilst Stratford is doing better still with its figure being 28%. Neither of these figures include the amount collected by private companies which would push these figures even higher.

Recycling at big events in Taranaki

Recycling started at the Cliff Richard concert at New Plymouth's Bowl of Brooklands last year. It has been continued at every concert since then and at Yarrow Stadium it was available at all of last year's ITM rugby matches and the Ireland versus All Blacks test match.

What are the benefits of Recycling?

- Recycling
- provides individuals/businesses/schools with an opportunity to do something positive for their environment.
 - saves energy. Almost without exception, making recycled products uses less energy than making new products.
 - saves landfill space.
 - saves using raw materials.
 - saves the cost of packaging new products.

There is assistance available to teachers listed on page 4



Teachers visit the Colson Rd landfill during a professional development session.

Colson Rd landfill (New Plymouth)

The quantity of waste disposed of at the Colson Rd landfill in 2009 and 2010 was over 61,000 tonnes per year which seems a lot and indeed it is, but to many of us that amount is hard to visualize. When we equate it to a per person basis, it is 584 kilograms each. When we compare that figure to the rate per person in New Zealand of 790 kilograms per person we are doing pretty well. It is expected that these figures will decrease in the future through waste minimisation initiatives. This landfill services the entire Taranaki region.

Junk mail reduction

A huge source of waste that is thrown away every day arrives in your letterbox in the form of 'junk mail.'

Conduct a Junk Mail survey in your class or across your school. Think of some suitable headings to find out the number of households that:

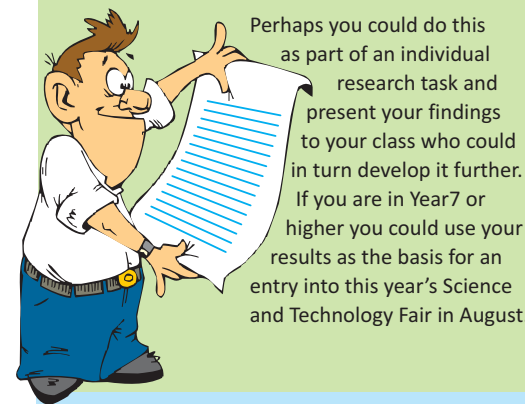
- Have a 'No Junk Mail' sign on their letterbox and never receive any.
- Have a 'No junk Mail' sign on their letterbox but still receive some.
- Receive junk mail and never read any of it.
- Receive junk mail and read some of it.
- Receive junk mail and read all or nearly all of it.

Once you have got this data be pro-active and do something with it such as using it as a source of material for a Science Fair project as per the packaging investigation below.

Packaging investigation

Ask your mum or dad if you can accompany them to the supermarket. Have a look at the different items bought and see what kind of packaging is used to protect them.

When you get back home, try to have a quick look through the shopping before purchases are put away and see if you can identify which items use the most packaging and which use the least.



Perhaps you could do this as part of an individual research task and present your findings to your class who could in turn develop it further. If you are in Year7 or higher you could use your results as the basis for an entry into this year's Science and Technology Fair in August.

Did You Know

- That the first plastic was celluloid, invented by Alexander Parkes in 1870 and used as a substitute for ivory.
- Paper was invented in China in AD 105 by Tsai Lun, Minister of Agriculture under the Chinese Emperor, To Hi.
- About 580,000 replacement car batteries are sold each year in New Zealand.
- One recycled tin can will save enough energy to power a television for three hours.
- One recycled glass bottle will save enough energy to power a computer for 25 minutes.



Word find

See how many of the following energy words you can find.

- Light bulb
- Oil
- Save
- Gas
- Energy
- Start
- Electricity
- Earth
- Turn off
- Power
- Resource
- Circuit
- Heat
- Battery
- Unplug
- Fuel
- Switch
- Solar
- Stand by
- Waste

G O B G C U S Y T T L
A E A U H E A T M I I
S I T L W S R I A U O
C M T P T P W C E C L
A G E N A O C I E R A
E C R U O S E R T I E
Y L Y B D N A T S C A
I E S E V A S E A T H
T U R N O F F L W I T
R F V E L A O E S P R
A Y M R A L O S W U A
T L I G H T B U L B E
S S A Y R E R E W O P



Recycling quiz

1. Glass can

- A. never be recycled
- B. recycled once only
- C. recycled thousands of times



2. When compared to making new paper, making recycled paper

- A. uses less energy
- B. uses more energy
- C. uses exactly the same energy

3. What can recycled newspaper be made into

- A. new newspaper
- B. egg cartons
- C. both of these

4. Does recycling help the environment?

- A. definitely yes
- B. definitely no
- C. maybe yes and maybe no

5. 'Eday' is a day once a year when

- A. People whose first name starts with E can have an extra long sleep in
- B. A day when all unwanted computer and electrical equipment can be handed in
- C. A day when electrical usage will be monitored

6. Which of these should not be put in a recycling bag?

- A. brown cardboard
- B. broken glass
- C. office paper

7. Which of these is regarded as hazardous waste?

- A. unused paint
- B. a plastic bottle
- C. newspaper



8. Which items can be modified and used for planting seedlings

- A. plastic takeaway containers and cardboard centres of toilet rolls
- B. egg cartons, ice cream containers and plastic bottles
- C. everything in A and B

9. The world's biggest rubbish dump is in

- A. Auckland
- B. Hamilton
- C. New York

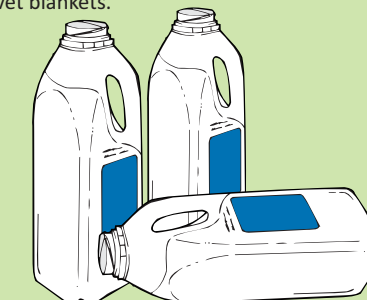
10. The 3Rs related to recycling are

- A. Reduce, re-use and recycle
- B. Reduce, reconnect and recycle
- C. Reduce, re-use and reconstruct



Not so fantastic plastic

Collect a variety of plastic bottles and check the numbers on the bottom to see which ones are recyclable and which ones are not. Currently in New Zealand only those numbered 1 and 2 are recycled. Some of the recycled bottles are used for making products such as buckets, pot plant containers, plastic packaging and inners for duvet blankets.



Make a treasure box

Create a special 'treasure' box to keep leftover art supplies, waste paper, buttons, felts, cloth pieces etc for future art projects and creations.

Graph time

These figures supplied by Waste Management in New Plymouth show the weight of waste produced at last year's Jack Johnson concert. Can you make a bar graph and a pie graph from these figures.

Type	Weight (kg)
General waste	930
Mixed recycle	760
Glass	3100