

wasted

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metal issue

the crown jewels of recycling



editorial

Welcome to the summer edition of Wasted!

The theme for this issue is metal – quite rightly described as the crown jewels of recycling. Inside the 4 page teachers' resource you'll find loads of ideas for stimulating metal recycling in your school, and hopefully raising some money as well! Appropriately, the brand new Cycler robots feature heavily in this issue, you can find out all about them on page 3.

You'll also find news, guest articles and reviews – all in all we think there should be something for everyone inside.

Cover image 'One's Coronation Crown' (made from mixed beer cans), by Val hHunt, recycling artist, valhunt_recycling@yahoo.co.uk

wasted is published by Waste Watch, a leading environmental organisation promoting sustainable resource use in the UK by campaigning for all areas of society to reduce resource consumption, maximise resource reuse, and increase the percentage of waste recycled.

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wasted is designed by Banjo Design and Print Ltd. and printed by Crowes of Norwich on 100% post consumer recycled paper.

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newsupdate

Mr Livingstone I presume!

Mayor of London, Ken Livingstone was delighted to see the waste reduction achieved by Bexley schools during a visit to the borough in March. Hook Lane Primary School has managed a fantastic 81% reduction in their waste since they began activities with SWAC.

Their action plan highlights how the school recycles paper in every classroom and composts all of their organic waste from fruit eaten at break times. The teachers are even collecting their old tea bags!

Hook Lane is one of twenty schools in Bexley to sign up to the Mayor's Green Procurement Code. The code is run in conjunction with London Remade and helps schools and businesses to solve the waste crisis by purchasing recycled products. Hook Lane has pledged to close the recycling loop by purchasing recycled paper. Mr Livingstone congratulated the children by



London Mayor, Ken Livingstone meets Cycler the rapping robot with children from Hook Lane Primary School in Bexley, Sarah Evans and Ben Gill, Waste Watch Education Officers.

presenting the school council with a certificate for all their hard work. "By the time these children have children of their own, London will be a much cleaner and environmentally friendly city", he commented.

The Mayor's visit included a trip to the nursery where pupils were tending their wormery and planting sunflower seeds in their own school compost. Mr Livingstone also found time to stop for a chat with Cycler the Rapping Robot!

SWAC at the summit

Pupils from SWAC schools in Essex, North Yorkshire and Norfolk have been participating in Youth Summits to discuss environmental issues.

Schools from all over **Essex** got together in March to focus on the 'think global, act local' message. The morning session of the summit looked at the global aspects of waste management, followed by a discussion of local issues in the afternoon. A number of speakers from Essex County Council and district councils were on hand to stimulate discussion.

The keynote speaker for the day was Councillor Kay Twitchen, Cabinet Member for Recycling and Waste. She commented, 'I am delighted that so many students attended our Waste Summit. Young people can make a real difference to the amount of waste we produce in our society and the summit will help them to think of ideas to reduce waste in their immediate environment.'

Further afield, pupils from primary schools in Richmondshire and Hambleton Districts in **North Yorkshire** have been demonstrating how they have become 'green citizens'. Schools who chose waste and recycling as their theme are working closely with SWAC to increase their commitment to the 3 R's.

A celebration event was held giving pupil representatives and their teachers the opportunity to come

together and discuss the green projects they are implementing at school. Participants received certificates for their commitment and hard work. The project was funded by North Yorkshire Business Education Partnership.

Students from secondary schools across **Norfolk** had the opportunity to voice their opinions at Norfolk's first Waste and Energy Youth Summit, held in May. The overall theme of the day was Sustainable Resource Use, with a particular focus on Waste and Energy. The event was attended by many of the waste and energy decision-makers within Norfolk and resulted in over 70 pledges to help 'make a difference'. Look out for more details about the event in the next edition of WastEd.

Pupils from the Stanway School with Councillor Kay Twitchen at the Essex Youth Summit.





Adults left to Right: Prof. Martin Smith, TIC, Joan Ruddock MP, Andrea White, Fund Manager – Biffaward, Rt Hon Michael Meacher MP, Minister for the Environment, Baroness Hooper, Waste Watch President, and children from Upland Junior School, Belvedere Junior School, Purleigh Primary School and Downham C of E Primary School.

Robot rapper in the House

The Cycler team were all on hand at the House of Commons in March, to celebrate the launch of three new state-of-the-art robots. The event was hosted by Michael Meacher MP, Minister for the Environment, and amongst the VIPs attending were Baroness Hooper – Waste Watch President, Joan Ruddock MP, and Prof. Martin Smith from the BBC's Techno Games.

"I've been a great fan of this project for a number of years", commented Michael Meacher, "these new robots are part of some very important work being done by Waste Watch to raise awareness about environmental issues".

The event was capped off with presentations by pupils from Upland Junior School in Bexley Heath, Belvedere Junior School in Bexley, Purleigh Primary School in Chelmsford, and Downham C of E Primary School in Billericay. The pupils presented Michael Meacher with a Mother's Day card to Mother Earth signed by school children from all over the UK.

The men behind the Robot

The new, improved Cycler Robots are taking schools by storm with their hi-tech design and funky new backing tracks. The robots are the product of months of work by David Buckley and Prof. Martin Smith from the Technology Innovation Centre (tic) at the University of Central England. They have designed many robots between them, a recent example being Robocop - a mobile security guard which was introduced to HRH Prince Philip on the tic's official opening during the Queen's Jubilee celebrations. The new robots feature hosts of new features; one example is the removable MP3 ROM card that stores all of Cycler's voice files and slips discretely in the robots mouth!

The rap-style backing track for Cycler was written and recorded by Marcus Spooner, an up-and-coming DJ who has recently signed to a major label under the name Lord Fader.

Right: Ben Gill holds aloft the Mothers' Day card to Mother Earth signed by children from around the UK.



Left: Michael Meacher MP, Minister for the Environment, with the new Cycler Robots



Norfolk Broads have bad hair and worms!

Pupils and teachers from Lodge Lane First School did away with their usual uniform for a sponsored 'mad hair' day to raise money for a new wormery. The whole school enthusiastically took up their hair dye and wigs for the event. The styles on show ranged from the "dye-hard" Norwich City Football Club fans in bright yellow and green wigs, to the more fashion conscious coloured tubular hair extensions.

Pupils from Lodge Lane First School show off their mad hair



Irene Wise with anonymous colleagues at the Rockingham Teachers Centre

Wise up Rotherham!

Irene Wise, the new SWAC Education Officer for Rotherham, is busy establishing links with local community groups from her base at the Rockingham Teachers' Centre. She is ideally placed to spread the news of SWAC's arrival in Rotherham through the teaching advisors and the Healthy Schools Team based at the centre. During Irene's first 6 weeks in the post, she has visited local landfill sites, attended WESP training, observed SWAC activities, and enjoyed the Education team's unique approach to meetings - in a yurt!



Dan Beenham, Rethink Rubbish Western Riverside Education Officer, loads up the electric van with a delivery of schools materials

Pollution-free deliveries

Education Officers Dan Beenham and Maree Berechree are taking the Rethink Rubbish message to the streets of the capital, without adding to the pollution normally associated with road transport.

Dan Beenham said, "We need transport to deliver our education materials. Because our eco-friendly van runs entirely on electricity we can drive to our school visits safe in the knowledge that we are not contributing to city smog".

With the recent addition of the van's logos and signage, it means the Rethink Rubbish message is seen by thousands of Londoners every day as the Education Officers travel to and from schools in the Western Riverside boroughs.

Grounds for paper recycling in school

Rethink Rubbish Western Riverside Education staff ran a 'Paper Recycling in School Grounds' workshop at the Learning Through Landscapes 'Growing Up in Greener Grounds' conference at Conway Hall, London.

Attendees made new paper from old, using paint, glitter, and coffee to decorate the finished products. They also made biodegradable plant pots in which they could grow seedlings for their school grounds.

Delegates learned about the history and properties of paper, discovered the implications of paper consumption in schools, and discussed how paper could be used in a more sustainable way.

The Rethink Rubbish paper workshop was one of eight fun and informative sessions available on the day. For more information about Learning Through Landscapes' work in schools, visit their website at www.ltl.org.uk.

Teachers make their own recycled paper at the Learning Through Landscapes conference



Pupils from Flora Gardens Primary School watch as large cranes load barges with crates of rubbish at Smugglers Way Waste Transfer Station

Where does our rubbish go?

Year 4 pupils from Flora Gardens Primary School in Hammersmith visited the Smugglers Way waste transfer station on the 25th of March to find out where their rubbish goes. The children were focussing on rubbish and recycling for their spring half term topic. The visit showed what happens to the 362,207 tonnes of household waste that gets thrown away every year in the Western Riverside Waste Authority area of London.

The pupils, who are taking part in the Rethink Rubbish at School programme with the help of Education Officer Dan Beenham, have already audited the rubbish thrown away by their school and are working on an action plan to help their school reduce, reuse and recycle as much of it as possible.

The visit included a video of the journey of rubbish and a tour of the site. The pupils watched as enormous cranes lifted the containers onto barges to be sent down the River Thames to go to a landfill site.

Teachers take on the Rethink Rubbish message

Teachers from schools in London's Western Riverside Waste Authority took part in innovative training workshops as part of the Rethink Rubbish at School initiative. The workshops demonstrated the process of environmental improvement in schools – from awareness raising, through to auditing, action planning and implementation.

The afternoon session focussed on education activities, showing how environmental action is fully compatible with the national curriculum. Activities included The Science of Composting, The Waste Loop card game and Waste Watch's famous giant floor game, The Rubbish Challenge.

The workshops were well evaluated, with over 90% of attendees rating them as good or excellent. One teacher commented "It was an excellent day all round – pacy, well organised and with great information provided."

The workshops were free and supply cover for the teachers attending was funded by Waste Watch, enabling more teachers to attend. Future workshops will be run every academic year for schools participating in the Rethink Rubbish at School programme.





A whirlwind tour of issues relating to metal waste and recycling

The figures

There are 70 different types of metals, of which the most widely used is iron.

Every citizen in the UK uses on average 240 steel cans per year.



In 2001 the UK consumed 80,000 tonnes of aluminium for drinks cans alone! Of this 40% was recycled.

The aluminium in empty drinks cans is a valuable material and can be sold for about 45p per kg. Aluminium foil is worth 30p per kg.

Recycling one aluminium can saves enough electricity to run a television for 3 hours!!

Using recycled aluminium uses 25% of the energy of extracting and using virgin aluminium.

Take action

Start collecting aluminium cans at school and sell them on to a recycler.

Use the money towards a drinking fountain – and do away with drinks cans for good!

The issues

Metals are so widely used because of their diverse properties. Metal can be stretched into thin wires, which is known as being ductile. Metals can be malleable i.e. worked into thin sheets or complex shapes. Some metals can conduct heat and electricity. Some metals are dense and heavy while others are very light.

The indiscriminate disposal of metal waste adds to the mountain of rubbish currently being buried in landfill sites.

Only rarely do metals occur in their pure form (e.g. gold and silver) usually they occur as mineral compounds such as aluminium oxide (bauxite).

Extracting the pure metal from the mineral compounds requires huge amounts of energy and raw materials. This in turn can put pressure on the earth's resources, and, in the case of energy, contribute to global warming.

Some metals present an environmental threat due to their toxicity. For example, a mercury spill in Minimata, Japan resulted in contaminated fish poisoning 18,000 people, resulting in 700 deaths.



The politics

The disposal of metal is regulated by several pieces of legislation.

The EC Directive on Packaging and Packaging Waste sets targets for EU member states to recover 50-65% of packaging waste, with a minimum recycling target of 15% for each material type (including metals).

The End of Life Vehicles Directive states that a minimum of 80% of old vehicles are reused or recycled from 2006. The directive also restricts the use of heavy metals in new car manufacture.



The Waste Electrical and Electronic Equipment (WEEE) Directive regulates the disposal of many items with metal components. Of the domestic goods, kitchen appliances ('white goods') contain the most metal – an average cooker is 85% metal while a television is only 6%. The directive requires EU member states to recover an equivalent of 4-6kg of WEEE per citizen, and to recycle 75% of the weight of these products.

The solutions

Reduce the amount of packaging you consume. Refill a bottle with squash rather than buying a fizzy drink in a can.

Reuse metal wherever you can. For example aluminium foil can be used again and again. Also, if you are throwing out an old piece of metal equipment consider whether your local charity shop could sell it on to someone who could make use of it.

Recycle your metal packaging by sorting it into steel and aluminium and placing in the correct recycling facility. Old metal goods that cannot be repaired can be passed on to scrap metal recyclers.

Investigating metals

Aim

These activities focus on two commonly encountered metals: steel and aluminium. The aim is to demonstrate why metal is such a useful material.

You will need

- 2 different types of foil and cans. Make sure there are no sharp edges on the cans. Have other types of plastic, paper and glass packaging to compare and contrast with the metal items.
- Some magnets
- A scale or balance

Activity 1

- Sort the items made of metal from other items. Discuss how to do this, considering whether a material is hard or soft, transparent or opaque, light or heavy.
- Identify whether a can is made of steel or aluminium by looking for the recycling symbols shown opposite and use these to sort the cans.
- Examine the cans in more detail. If a can has a round and shiny bottom then it is aluminium. If a can attracts a magnet then it is steel.
- Use the 'scrunch test' to identify aluminium foil. If a piece of foil is scrunched up, the aluminium foil will stay that way once released, a piece of plastic foil will try and spring back to its original shape.



Activity 2

Metals are useful because they are strong and good conductors of heat and electricity. Aluminium has specific properties that can be investigated in different ways.

Lightness – aluminium has a low density compared to other metals, for example it weighs about one third of iron. Use scales or simple balances to compare the weights of steel and aluminium drinks cans.

Easily moulded into complex shapes – aluminium is a ductile and malleable metal. Get an adult to cut open an aluminium can and a steel can. Make sure that all sharp edges are properly covered with heavy tape. Compare the malleability of each by bending and squashing the material.

Resists corrosion – aluminium resists corrosion due to a thin protective film of aluminium oxide that forms on its surface when it is in contact with the atmosphere. Bury an aluminium can, a steel can, a paper bag, and an apple core outside (remember to mark where you left them!) and compare the corrosion on each after one month. This illustrates what happens if a can is disposed of incorrectly, and will not break down naturally. Remember to wear strong rubber gloves when carrying out this experiment.

Discuss why these properties mean metal is used for so many different things.

Activity 3

Discuss the journey of an aluminium can and follow it on a map. The rock containing aluminium is mined, for example in Australia, Africa or S. America. From Australia it is then refined and transported to Scandinavia. Here the metal is extracted, using lots of electricity. The metal is transported to Germany and rolled into sheets. Then it is taken to a factory in England and rolled into thinner sheets. Then it is taken to another factory to be made into cans. Then it is filled with drink and finally taken to a shop.



Metal recycling

Aluminium

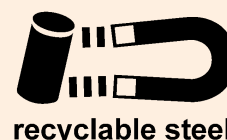
Aluminium packaging often bears this symbol. If it doesn't then aluminium cans can often be identified by their rounded and shiny bottom while aluminium foil will remain compacted if it is scrunched up. Aluminium is not magnetic, is very light, and cans are quite easily crushed. Typically used for fizzy drinks and aerosols (check with your recycling facility before putting these in).



source: Alupro

Steel

Steel cans will often bear this symbol. Steel cans are harder and heavier than aluminium ones. The so called 'tin can' refers to the extremely thin layer of tin that the can is coated in to prevent corrosion. Steel cans are magnetic.



Reusing metals

Here are some great ideas for reusing metals.

- Make a plant pot from an old tin can. Soak the can in water for a few hours and remove the paper label (remembering to recycle it of course!). Decorate the tin in any way you like. Get your teacher to punch some holes in the bottom of the tin so water can drain out. Add soil and a plant!
- Use old CDs (especially those unwanted internet CDs) to make drinks coasters. The outer coating of a CD is plastic, but inside is metal
- Collect some large tin cans from your school kitchen and make stilts. Punch two holes on either side near the bottom of the can and thread through some strong twine and tie the ends together. Turn the can over and you've got stilts!

Aluminium - production and recycling

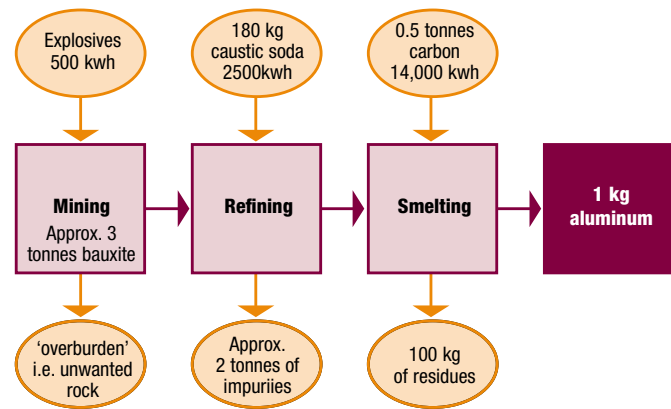
Aluminium occurs naturally in mineral compounds such as bauxite. It takes a lot of time and energy to produce the pure aluminium used in products such as drinks cans or aeroplane parts. Overall, to make one tonne of new aluminium requires about 4 tonnes of bauxite and other materials, along with 17,000 kWh of electricity. There are three main stages in the process.



Mining

The rock containing aluminium, bauxite, is mined using an opencast strip method, mainly in Australia, West Africa and the West Indies. Although the topsoil is stripped and then replaced there is considerable damage caused to the local environment by the large open mines.

Producing one kilogram of new aluminium



Refining

The Bayer process is used to produce alumina (Al_2O_3) from bauxite. First, the bauxite is washed, ground and dissolved in caustic soda (sodium hydroxide) at high pressure (30 atmospheres) and at high temperature ($240^\circ C$). The undissolved impurities are filtered out. The solution is pumped into a tank (the precipitator). Fine particles of alumina are added causing pure alumina to form and settle out as the liquor cools.

Design a can crusher

Recycling aluminium is good for the environment and can be a useful way to raise funds. By crushing and reducing the volume of an empty can, schools can lower storage space and collection costs. D & T lessons are the perfect vehicle for pupils to design and produce their own can crushers to be used in schools. Can crushers need to be:

- easy to use
- easy to clean
- tough and robust
- easy to empty
- safe

By carrying out this task pupils will achieve many of the requirements set out in the Programme of Study at Key Stage 3. These include "respond to design briefs and produce their own design specifications for products" (1b) and "test how well their products work, then evaluate them" (3b).

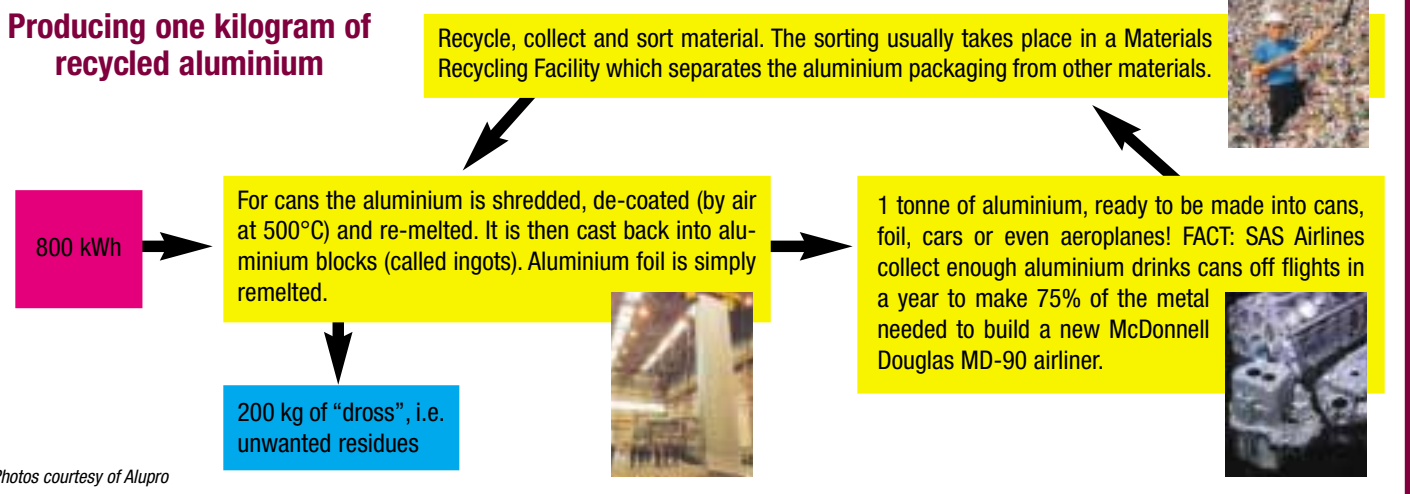
Smelting

The alumina is dissolved in cryolite (sodium aluminium fluoride), to lower its melting point, and held in a large carbon-lined container at about $980^\circ C$. Positively charged electric rods of carbon (anodes) are dipped into the molten alumina. An electric current is then passed through the alumina at low voltage (about 5 volts) but at about 150,000 amps. The molten aluminium collects at the bottom of the tank and can be siphoned off. As this process needs a lot of electricity it normally takes place in countries that have access to cheap, normally hydro, electricity. So for example the aluminium used in the UK is usually smelted in Scandinavia.

Recycling Aluminium

Recycling aluminium requires less than 25% of the energy needed to produce the metal in the first place. There is also no loss of quality as aluminium can effectively be recycled continuously. However, about 15% of the material is lost with every recycle. All of the stages in the recycling process can take place in the UK.

Producing one kilogram of recycled aluminium



Photos courtesy of Alupro

TEACHERS' RESOURCE

useful websites

All the information you need is out there on the internet – somewhere! We tell you where to look.



Ollie Recycles

www.ollierecycles.com/uk

A child friendly website full of games, puzzles and information. Ollie and his friends show you around and teach you more about the 3Rs – Reduce, Reuse and Recycle. Click on 'Recycle' in the 'Explore' section to find facts and figures about steel and aluminium, including what we use them for and how they can be recycled. There are also quizzes to test your knowledge and a curriculum checklist for teachers.



Cash for Cans

www.cashforcans.co.uk

All you need to know about aluminium recycling, including how to use this to raise money for your school. Take an interactive tour around Europe's largest aluminium can recycling plant from where you can even download video clips of the process in action. Also on the site are games, downloadable desktops and screensavers, and printable posters and information packs.

UK Aluminium Packaging Recycling Organisation

www.alupro.org.uk

A really useful website with sections on diverse aspects of aluminium recycling. There's a searchable database for finding your nearest recycling facility, education resources, downloadable images, information on how community schemes can raise money from scrap aluminium, and much, much more.

Steel Can Recycling Information Bureau

www.scrib.org

More cans, this time made of steel. Did you know that steel cans have been used for food packaging since 1810, when Nicholas Appert responded to Napoleon's challenge to invent a method of preserving food for



the French army? There is a children's zone with games and information and you can submit questions to find out more about steel can recycling.

Waste Online

www.wasteonline.org.uk

The place to go for information sheets on the recycling of aluminium, steel packaging and lots more. Good background information for teachers and also useful for research work by secondary students.

Junk to Gems

www.junktogems.org.nz

An inspirational and attractive site showing art made from junk by both

children from New Zealand and a selection of British artists, some of whose work utilises reclaimed iron, steel washing machine drums and lager cans. Why not use this site as a starting point to do a similar art project in your own school? There are also printable posters on the recycling of steel, aluminium and other materials.

Use It Again

www.useitagain.org.uk

A website designed to help make it easy for you to 'do your bit' in the battle to reduce waste. Click 'How can we do our bit?' and then 'Recover' and 'Recycle' to find a

relatively simple text, suitable for upper Key Stage 2 pupils, about steel and aluminium and how they can be recycled.

School Science

www.schoolscience.co.uk

A site about school science and its applications which contains a number of sections on copper, covering such things as its uses, the mining and extraction of copper and copper recycling.

Focus on Guinea

Location	Guinea is on the west coast of Africa
Population	7.5 million
Capital	Conakry
Geography	The majority of the country is a flat coastal plain, rising to a hilly interior.
Main river	Niger

Guinea and aluminium

A West African country and former French colony, Guinea has a rich collection of wildlife in its forests and savannah, and rich reserves of natural resources including iron ore, diamonds, gold, uranium and bauxite.



Guinea has 4 topographical regions: Lower Guinea (coastal plain with lagoons and mangroves), The Fouta Djallon Highlands (to the east where the major rivers Niger, Senegal and Gambia rise), Upper Guinea (savannahs which are home to a variety of wildlife including many monkeys, hyena, hippopotamus and poisonous snakes), and the Forest Region (tropical rainforest of teak, mahogany and ebony to the southwest).

Guinea's economy is highly dependent upon mining, especially iron ore and bauxite, the raw material for aluminium production. Guinea is the world's second largest producer of bauxite, after Australia, and this accounts for 12% of the country's GNP, more than 90% of its exports. However, only a small percentage of the population are employed in the mining sector, with 80% of Guinea's workforce employed in agriculture.

The preferred mining method is strip mining (or open cast) where covering vegetation is removed and after explosive charges are used to loosen the seams of bauxite, the ore is extracted by mechanical diggers.

This mining technique can be extremely disruptive to the existing wildlife, and poses a threat to the habitats of rare monkeys and birds that inhabit Guinea's forests.

Three conglomerate companies dominate the bauxite mining. Each of these conglomerates is made up of multi-national mining companies. A lesser proportion is controlled by Guinea itself.

Source: Encyclopedia Britannica; United Nations Third World Forum; New Internationalist.

WESP life



Making compost in a bottle

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Above: The WESP team gather for their 2nd training session

The Waste Education Support Programme (WESP) enjoyed its second three day training event in early April. The programme is designed to pass on Waste Watch's education expertise to organisations wishing to provide a high quality schools programme in their area. With the Dustbin Assemblies and Waste Audits well under way from the first training in January, the focus was on the school action plan as the final 'core activity' in the Waste Watch waste education programme.

Ros Bray from Encams was a guest speaker during day two; she provided an excellent introduction to the national Eco Schools programme. The Waste Watch education activities provide a useful route for schools registered on the Eco Schools programme to achieve the requirements for both the bronze and silver awards.

The emphasis then moved onto additional education activities – these support the school waste action plan and re-emphasise the 3Rs message. The problems of over packaging were highlighted during the 'Waste Free Lunch' session and opportunities to divert the organic elements of school waste were tackled during a hands-on session covering worms and composting. The group got up close to a plate of worms, made compost in a bottle and finished the session off with Compost Bingo. Full resource sets were provided to support all the activities.

The participants in the WESP programme come from all over the country. For more information about waste education in a specific area please contact them directly.

Below: Training included the use of worms in the classroom



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Source – Alupro

Alu-collection in schools

Aluminium is the second most commonly used metal in the world, after steel, and it is worth ten times more when it is sold for recycling. So setting up a successful aluminium can and foil collection within a school can provide an ideal way of raising funds while providing a focus for many areas of curriculum work such as citizenship and environmental awareness.

When planning a schools collection, which can be either teacher or pupil led, it is important to make the whole school feel it is part of the project. Communicate to all of the school explaining how everyone can take part, and encourage every pupil to involve their families and friends to collect aluminium cans and foil for the collection. The more collectors the more successful the recycling collection will be!

Ask pupils to design their own recycling posters, and recycling bins. Setting up an environment club with monitors taking on responsibility for collecting and sorting the drinks cans and foil, can help the project run smoothly. Set an achievable target that your school can reach and regularly update everyone on their achievements to keep them motivated. When contacting your local alu-can and foil recycling centre, try and negotiate the best deal for the sale of your recyclables.

For information about your nearest Cash for Cans site call Alucan (Aluminium Can Recycling) on their free phone number 0800 262465.

Useful contacts to help set up an aluminium can and foil collection: The Aluminium Packaging Recycling Organisation (Alupro) 01527 587757

www.alupro.org.uk

Waste Watch Edu



SWAC North Yorkshire

Nick Lishman 01609 761818
nick@wastewatch.org.uk

- A new full-time education officer will be starting work in N Yorks at the end of June.



SWAC Rotherham

Irene Wise 01709 559910
irene@wastewatch.org.uk

- The eighth SWAC has just been launched. Schools wishing to participate should contact Irene Wise, the new SWAC education officer.



SWAC Cheshire

Martin Allman & Sally Starborg
 01928 788 746
martin@wastewatch.org.uk (secondary)
sally@wastewatch.org.uk (primary)



SWAC Nottinghamshire

A new SWAC officer will be starting work in Nottinghamshire in September.

Contact
 0114 258 4080
paulm@wastewatch.org.uk
wastewatch.org.uk



Waste Watch is funded by DEFRA



Recyclerbility

To book a visit from Cycler, the Rapping Robot, please complete the form on the education page of the Waste Watch website

www.wastewatch.org.uk



National projects

WESP The Waste Education Support Programme

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Education Projects



SWAC Lincolnshire

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North Kesteven DC, South Kesteven DC, South Holland DC,
Boston Borough DC, West Lindsey DC, East Lindsey DC,
Lincoln City Council



SWAC Norfolk

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■ Visit Norfolk Schools' Environment Awards 2002-03 web site for information, support, contacts and grant news. The site celebrates environmental and sustainable development projects and help pages include categories such as waste, transport and energy. www.norfolkesinet.org.uk/envedu



Breckland DC, Great Yarmouth BC, North Norfolk DC,
Norwich City Council, South Norfolk DC, West Norfolk &
Kings Lynn BC, Broadland DC

SWAC Essex

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■ Many thanks to Cory Environmental for funding SWAC Essex over the past 3 years.



SWAC Bexley

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For details call

■ Many thanks to Cory Environmental for funding SWAC Bexley over the past 3 years.



Rethink Rubbish Western Riverside

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Teachers' Resources

Recycling Matters



Every issue we review an education resource. Here Emma Appleton, Education Officer SWAC Lincolnshire takes a look at a teachers' pack dealing with steel recycling. *Recycling Matters* is produced by the Steel Can Recycling Information Bureau and is designed for use at Keystages 1 & 2.

The format

The teacher's pack is in the form of an attractive folder with five teachers resource cards and an extra sheet detailing the national curriculum links covered by the pack. Each of the five cards provides information and amazing facts on recycling and steel cans. Each has examples of different activities and an idea for an extension project that puts all the information given into practice. The pack also has a section filled with useful addresses. The cards are grouped into various themes, for example one details the history of packaging.

The history of packaging

A chronological account of the events leading to increased packaging use. National Curriculum Links - History, sequence events and objects using dates. Maths/IT, collect, collate and record information using IT.

A load of rubbish

The resource card looks at the contents of an average household dustbin using pie charts and fun cartoons. The different materials are investigated in more detail on the back of the card and activities looking into decomposition rates are suggested. National Curriculum Links - Science AT3, predication and classification of materials according to their properties, surveying. Eng AT3, presenting environmental messages, opinions and ideas.

Where does our rubbish go?

What happens to our household rubbish after it has been put in the dustbin? This card details the different waste management options available for waste disposal and recovery. National Curriculum links - Eng AT1, explore issues through discussion. Maths AT4, collate and represent data. IT, display information in graphical form.

How can we help?

An action file giving inspiring ideas of how to save the environment by reducing reusing and recycling waste in the household and school, and encouraging others to do the same. National Curriculum links - Eng AT1/3, research and present ideas and opinions.

The steel cycle

A look at the lifecycle of a can - from the shop, through recycling and back into the home. Provides useful information on how the recycling system works.

National Curriculum links - Science, classify material according to properties. Eng, write in non-fiction to convey opinions and ideas.

For more details contact the Steel Can Information Bureau (SCRIB), PO Box 42, Port Talbot, SA13 2NG, 01639 87 26 26, www.scrib.org

Dates for your diary

14-22 June

Bike week gets the summer off to a flying start, encouraging everyone to see the sense of pedal power. Events are being organised all over the UK so get involved. www.bikeweek.org.uk



5-13 July

National mammal week promotes the interests of our furry friends.

1-31 Aug

A month long awareness raising campaign from the rubbish conscious people at Encams, to highlight the increasing rodent problem brought on by fast food litter. www.encams.org

2-4 Sept

The Recycling and Waste Management exhibition returns, bigger and better, to the NEC in Birmingham. All the movers and shakers from the waste industry will be strutting their stuff - including Waste Watch! www.rwmexhibition.com

13-21 Sept

Red Squirrel week is being organised by the Wildlife Trust to promote the protection of our rarer bushy tailed mammal. Nuts! www.wildlifetrusts.org

20 & 21 Sept

Beachwatch 2003 will see thousands of volunteers from all across the UK visit their chosen beach, remove all the litter from it and record what they find. Through these efforts, The Marine Conservation Society monitors litter on Britain's beaches, raises awareness of the issue of marine debris, and encourages action to reduce marine pollution at source. Great work and great fun. www.mcsuk.org

