



WWF SCHOOLS' CASE STUDIES SERIES

Working towards Education for Sustainable Development

A project on waste should always include all three 'Rs' – reduce, re-use and recycle – as part of a waste reduction strategy. Waste reduction can include choosing goods with less packaging, sharing equipment, repairing rather than replacing, composting, and – most importantly – thinking about what and why we consume.

This case study explains how the familiar Primary school theme of 'Recycling' can be transformed into an exciting and innovative project. Read on to hear how Roy Bridge Primary School approached the topic with flair and commitment, achieving a variety of learning outcomes and encouraging the whole community to adopt more sustainable lifestyles.

## Recycling in the Expressive Arts

### Rubbish alert!

Our school cleaner gave me a very suspicious look when I warned her that, during the next couple of terms, our classroom was to become the official 'Roy Bridge Recycling Centre'.

"I think it's just a way of disguising your usual rubbish," she said a trifle uncharitably, I thought, as the room began to overflow with boxes, plastic cartons and trays donated by families in response to our appeal for rubbish. Well, maybe she did have a point! But the children themselves had decided on recycling as their special project. We were now committed to using waste materials in as many imaginative and useful ways as possible. This was going to be no ordinary school recycling project. Instead we set ourselves the goal of encouraging whole families to reconsider their attitudes to waste disposal and to adopt more enlightened ways of dealing with their rubbish.

'Factbite'

Arresting global warming and environmental degradation will require a 50 per cent reduction in world-wide material consumption. This means that industrial countries need to aim for a 90 per cent reduction in their throughput of materials.

Source: Wuppertal Institute for Climate, Environment and Energy



### Community spirit

From the start there was considerable subject overlap and much co-operation from visiting teachers and parents. After expressing some doubts, our cleaner turned up trumps and produced a number of strong banana boxes that she had salvaged from the supermarket in Fort William! This community spirit and general responsiveness from all connected with our small, two teacher school was a feature of the whole project, and undoubtedly contributed to its overall success.

Sort waste left over from pupils' packed lunches. What materials are being wasted? Where have they come from? Could the waste have been reduced - eg by using re-usable containers? Could any of the remaining waste be recycled or composted?

### Making a start

The cleaner's boxes made ideal sorting centres and before long, the infant children were engrossed in separating the different types of materials into relevantly labelled boxes. Even before we began to utilise our waste, the children were developing a 'feel' for the rubbish, recognising which things were readily re-usable, and which were difficult to decompose or expensive to recycle. Perhaps though, we had not stressed that tins, bottles, etc should be washed and clean before bringing to school, but had presumed too much of our young collectors. It was, therefore, a bit of a shock when I opened one five year old's bag to find tins containing remnants of baked beans and vegetable soup that had recently been enjoyed by the family!

Having collected a wide range of materials, we began to use them in all aspects of the Expressive Arts curriculum, including music, art and PE.

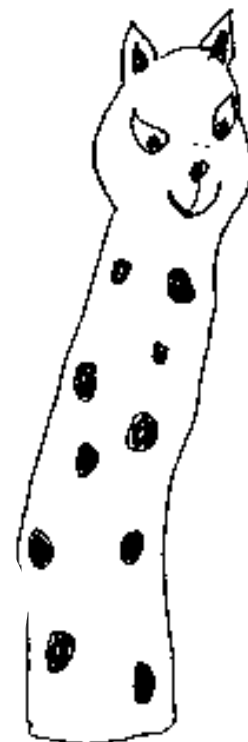
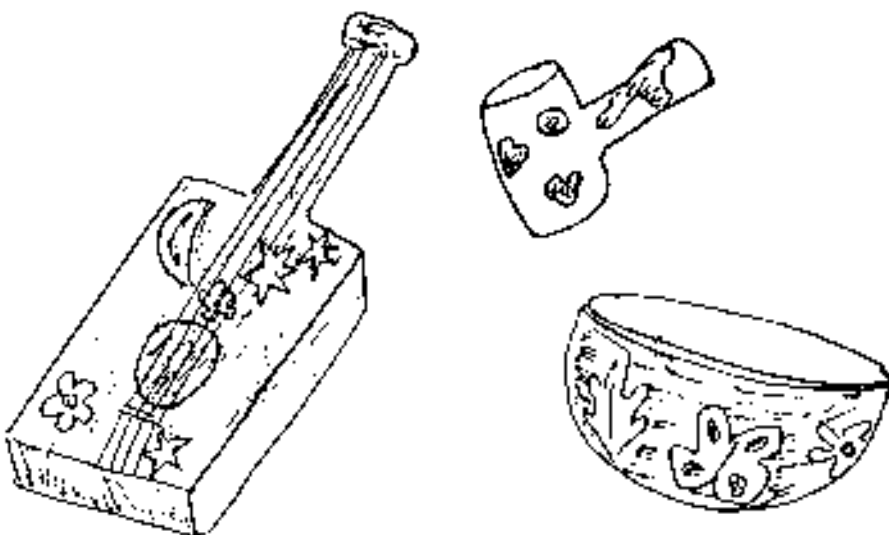


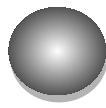


Much worthwhile discussion took place in this early stage of the project, including consideration of the problem of packaging and the purchase of items that are non-biodegradable.

### Making music

The instrument making was a wonderful opportunity for every child in the school to produce something he or she could use in a musical context, as well as giving each one a sense of ownership. The infant class concentrated on maracas, flutes and jingling johnnies, while the older ones (8-12 year olds) made a variety of instruments. The young children became expert in the use of papier mâché, skilfully sticking coat upon coat of torn newspaper and glue onto a balloon attached to a cardboard roll. We discussed what filling materials to use and parents were happy to send out-of-date lentils, pasta, dried peas and the like, to provide a variety of good sounds. The handles of the maracas were stuffed with pieces of old foam cushion before applying a final coat of paint and individual designs. Last of all came a coat of varnish and the maracas were ready to use.



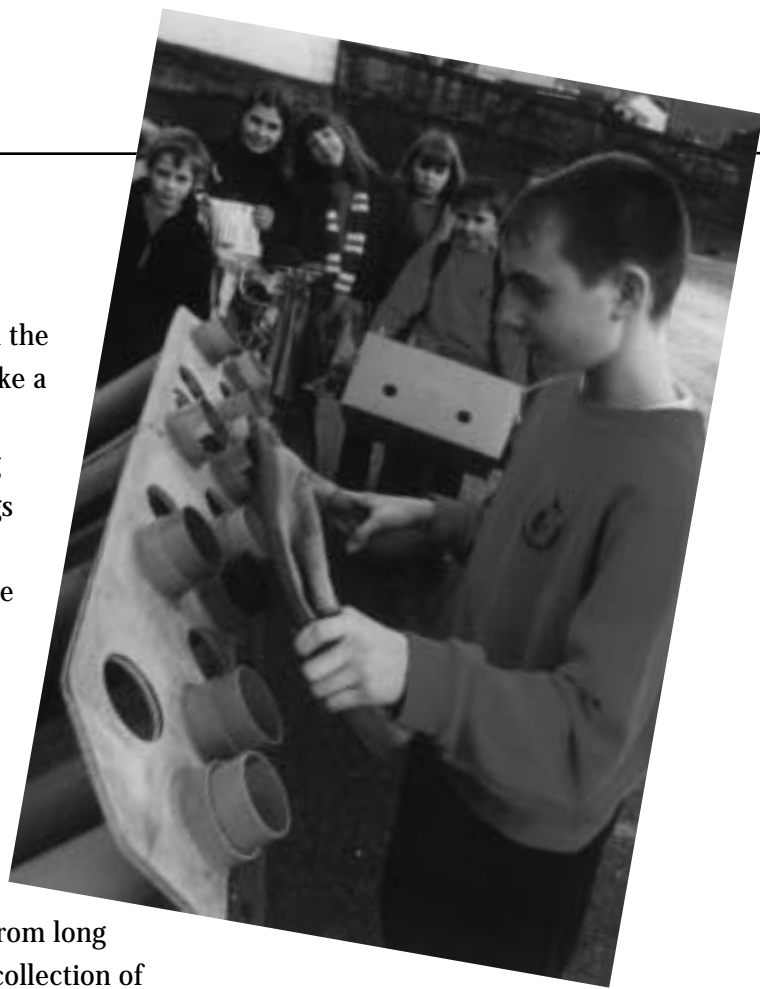


Flutes or kazoos followed, this time made from longer cardboard rolls, but painted and decorated as before with the pupils' own designs. The children had learned how to make a fascinating sound with these and are often to be heard playing tunes on them. Soon new instruments were being designed. Jamie, who lives in a local hotel, brought in bags of metal bottle tops and, after some trial and error, these were attached to pieces of dowelling (used years ago as ice axes in a play) to make convincing alternative tambourines.

Meanwhile, under the guidance of our helpful art teacher, the older children produced some very attractive working models: guitars from tissue boxes, maracas from washing-up liquid containers, drums from papier mâché, and carefully decorated rainmakers from long cardboard tubes. The visiting music teacher donated his collection of empty beer bottles so that we could create our own 'bottlespiel' – a glass variant of the glockenspiel. The *piece de resistance*, though, must surely be the 'slipper pipes' – a splendid construction designed by Sandy's Dad and the older pupils, using various lengths of plastic pipe and an old, iron bedstead salvaged from his junk pile. The instrument is so-called because the sound is produced by striking the plastic pipes with a pair of slippers. In a series of science/technology workshops, the children worked out how to measure each pipe to produce the required pitch. The unusual resonating sound now adds an interesting dimension to our music-making. This provided a wonderful opportunity to link science with arts, encouraging children to take a more holistic view of their project.

#### **Art (The Birchwood Mural)...**

Work in art and craft was wide-ranging and challenging too. Outside the classroom, the children gave the main gable end a face-lift, using a colourful mural to transform the plain, mould-ridden wall into something beautiful. The mural is based on a local birchwood which is visited regularly by the children. Each child in the school designed and painted plants and creatures until the entire wall was alive with birds, other animals, flowers and trees. This particular effort has not only brightened up their environment and provided a superb educational resource, but has also given the pupils a great sense of pride.



**The 'slipper-pipes' replace the more traditional bagpipes.**



**Roy Bridge pupils bring the walls 'to life' with their birchwood mural.**

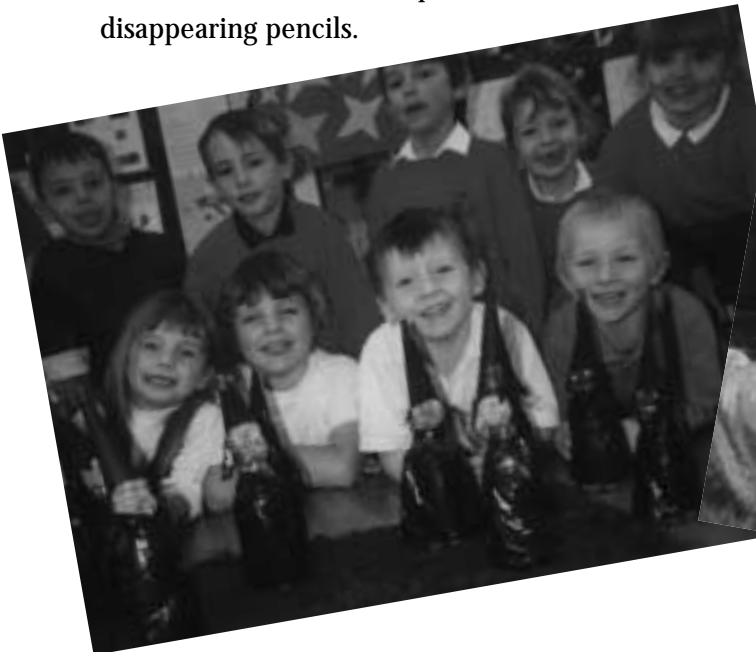
**...and craft**

Within the classroom, the rubbish was under attack again and before long some remarkable transformations had taken place.

The children began to view rubbish in a completely different light. Suddenly everything had a use. Plastic food trays and jar tops were ideal for mixing paints, and old film cases made excellent individual glue pots. Margarine tubs became water containers and a whisky canister was transformed into the perfect paintbrush holder. Large plastic sweetie containers now hold corks and thread reels, while ice cream tubs have solved that old classroom problem of disappearing pencils.

**Acorns were planted in yoghurt pots donated by the school cook.**

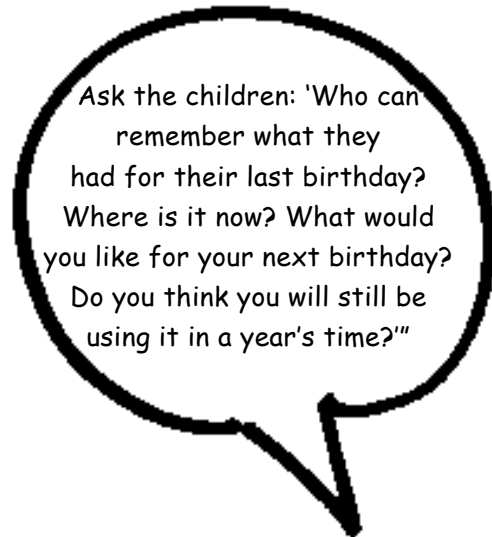
**"This is recycling, too, isn't it?" observed Jennifer, age 5.**



**Small plastic juice bottles formed the basis for model witches at Halloween. "I'll collect them every playtime," offered Grant, age 5.**

Make a collection of labels from products made from recycled materials. Unless we buy things made from waste, all our recycling efforts will only contribute to a waste mountain!





#### **A 'first glass' enterprise'**

The older pupils in P4-P7 (8-11 year olds) had decorated glass jars earlier in the term whilst studying glass recycling. When we needed a money-making idea for a stall at a Christmas coffee morning to raise money for the village hall, we thought a school effort in glass jar painting would be the perfect answer. Each child was asked to bring their own jar in, where possible with flat surfaces to make painting easier for tiny fingers. After a little help with black outlining, even the youngest child was able to produce a very attractive candle holder. The stall was very successful, many of the children eagerly queuing with a pound coin in hand to buy back their own jar! Almost £50 was raised from these throw-away jars – recycled for a cause that would benefit the whole community.

We continued to salvage rubbish to use in art work. Now the children are doing it automatically, bringing in all sorts of bits and pieces and suggesting ways to use them. One six year old boy enjoyed the glass painting so much, he received a glass painting kit for Christmas. Since then he has done some lovely designs on any transparent plastic lids he can find. These make original cards or pretty suncatchers at the window.



**Drama**

Plays and dramatic activities have always provided opportunities for recycling. The parents have realised over the years how much their help is appreciated and often send in old clothes or fabrics that they suspect could be useful in our dramatic work. This has led to our having a valuable bank of varied and accessible material that can be restored and re-used. Although storage is not easy in our leaky, flat-roofed classroom, it is worth saving items that are already the products of much time, thought and effort.

**PE/Dance**

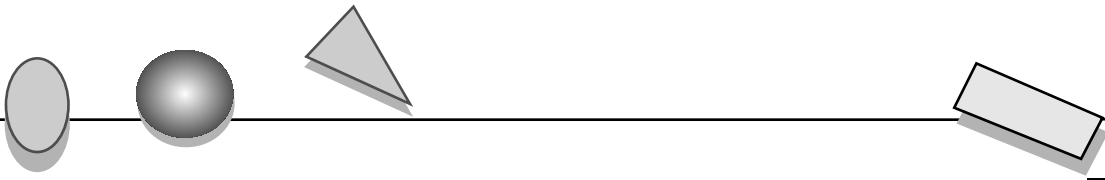
Our peripatetic PE teacher devised lots of novel activities using rubbish, including making lightweight 'balls' from plastic bags filled with newspaper, and plastic bottle skittles. One week she divided the class into two and gave one half different percussion instruments from the music trolley. They used the instruments in turn while the rest of the class moved in different ways to the various sounds. She then told them to bring in their own junk instruments the following week. They followed the same routine but with all sorts of original sound pieces. Scraping tins, shaking maracas, striking old metal tubes – all in all it turned out to be a brilliant lesson. The children realised once again that interesting sounds can be produced just as well from junk as from expensive, bought instruments.

**The 'Litterbug' musical**

The PE teacher also helped us work out a dance routine for our musical production, 'The Litterbug', which toured all the Primary schools in Fort William. This memorable climax brought together all the different aspects of our recycling project. All the costumes for this play were made from rubbish, as were all the many instruments. We wrote our own song and the final verse summarised the message behind the term's work, encouraging all those who heard it to respond.

"Now there's no litterbug,  
 We've taken his rubbish away.  
 Reduce, re-use, recycle  
 Remember these rules every day.  
 For if we want to save the world,  
 This message we must share  
 Reduce, re-use, recycle our waste,  
 And show we really do care!"





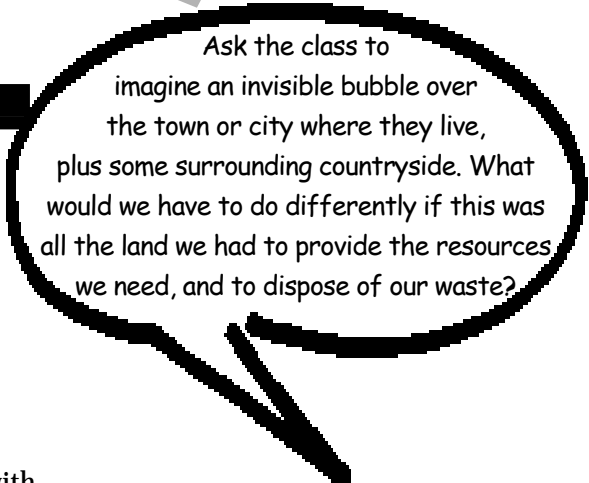
## Connections

### Local...

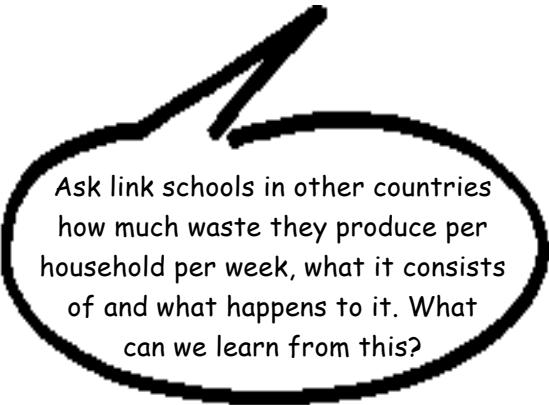
The response from pupils and teachers alike to 'The Litterbug' musical tour made clear that we already had an important role to play in helping to raise awareness of sustainability issues in local schools. We have also made contact with the recently formed Lochaber Environment Group in Fort William. We hope to continue our liaison with them in helping to develop an Education for Sustainable Development Strategy. Most importantly, conversations with parents have revealed that the local community are taking the 'Reduce, Re-use, Recycle' message seriously.

### ...and global

The school's recycling project has also had an impact on young people in other parts of the world. One of our former pupils went to Cluj Napoca, Romania to initiate a 'Music as Therapy' programme for children and adults with special needs. Anxious to become involved in this very worthwhile venture, we decided to send out some of our home made maracas to the Santa Maria Centre. The children also corresponded with children at Kakamega School in Kenya. They wrote to them requesting information on their musical instruments and the importance of recycling in their lives. They sent out a maraca and a jingling johnnie and received pictures of traditional African instruments in return.



Ask the class to imagine an invisible bubble over the town or city where they live, plus some surrounding countryside. What would we have to do differently if this was all the land we had to provide the resources we need, and to dispose of our waste?



Ask link schools in other countries how much waste they produce per household per week, what it consists of and what happens to it. What can we learn from this?



**The pupils sent out maracas to children in Kenya.**



## What's this got to do with Education for Sustainable Development?

Some important learning outcomes achieved and built on throughout the project:

### Knowledge and understanding

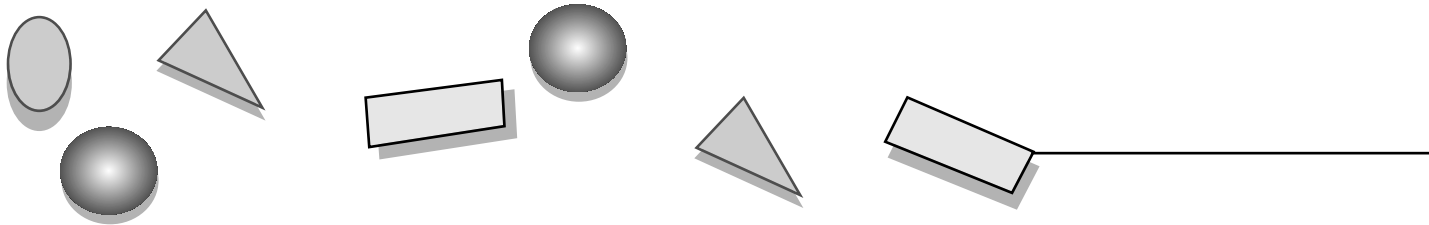
- how natural processes work
- globalisation and interdependence
- what is involved in different methods of providing for human needs and wants (energy, raw materials, human impact, environmental impact).

### Skills

- co-operation and conflict resolution
- negotiation
- informed decision-making
- creativity; an ability to envision alternatives
- a belief in a positive future.

### Values and attitudes

- a sense of identity and self-esteem
- a commitment to the well-being of all living things
- empathy and awareness of the points of view of others
- an understanding that quality of life is not just dependent on standard of living
- an understanding of the place of individual and collective rights and responsibilities
- a desire to participate
- a belief that, working with others, they can make a difference.



## Sustaining the practice

Having successfully raised the profile in a number of ways, we wondered how we could continue to remind our families and local community of the on-going need for reducing, re-using and recycling. We decided to make some laminated picture workcards that provide accurate records as well as a reference for future work. This has been both a valuable language exercise and a consolidation and evaluation process, involving all pupils from P3-P7 (7-11 year olds). The workcards are available to other local schools who may wish to bring recycling projects into the classroom.

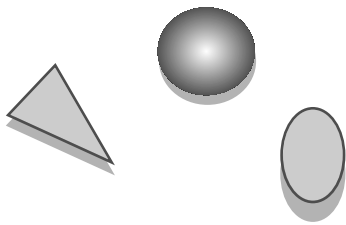
Record how much waste the school produces in a week (include office and kitchen, as well as classrooms). Could it be reduced? Does the school use goods made from recycled materials wherever possible?



A final reminder of the need for continued sustainable practice came in the form of our Generator 2000 calendar. The front depicts pictures of many of the recycling activities, together with the logo 'Reduce, Re-use, Recycle'. On the back of the calendar is the 'Family Guide to Recycling: 50 Top Tips from Roy Bridge School'. Here every pupil has contributed at least one suggestion on how families can help work towards a sustainable future. If mums, dads, sisters, brothers, grannies and friends adopt even some of these suggestions, then, in one village community at least, a real effort will have been made towards protecting and sustaining our environment. It is a small start, as much about changing attitudes as anything, but hopefully – as the saying goes – 'large oaks from little acorns will grow'.

It is important to encourage pupils to think creatively about how we can have a good quality of life without using resources wastefully. We all need to understand that our current resource use is not sustainable in the long-term. We need to put our ideas into action.





#### Valuable resources

*Great Folk Instruments: make them and play them,*

Dennis Waring, Sterling, 2000

*Cool Cardboard Instruments to Make and Play,*

Dennis Waring, Sterling, 2001

*Art Attack 2 - Great Stuff,* Neil Buchanan, Dorling

Kindersley, 1999

*How to Paint on Glass,* Julia Bottrell, Search Press Ltd

*The Dustbin Pack,* Rob Stevenson, Waste Watch – send

a SAE and 7 First Class stamps to Waste Watch,

Europa House, 13-17 Ironmonger Row,

London EC1V 3QG

*Crafty Ideas from Junk,* Myrna Daitz & Gillian

Chapman, Exley Press, 1993

*Creative Fun with Plastic Bottles,* Nikki Connor &

Sarah-Jane Neaves, Franklin Watts, 1997

*The Usborne Book of Puppets (How to Make series),*

Ken Haines & Gill Harvey, Usborne Publishing, 1998

#### Useful web-sites

**www.wastewatch.org.uk** – for background information and tips about waste and recycling.

**www.useitagain.org** – for a child-friendly, personal waste-o-meter, environmental 'snakes and ladders' and further contacts.

#### Acknowledgements

Case study written by Joyce Gilbert, Gillian Symons and Lynnette Borradaile, based on a report written by Margaret Sargent, class teacher at Roy Bridge Primary School, Roy Bridge, Inverness-shire.

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WWF-UK  
Panda House,  
Weyside Park,  
Godalming,  
Surrey GU7 1XR  
tel: 01483 426444  
fax 01483 426409

WWF Scotland  
8 The Square, Aberfeldy,  
Perthshire PH15 2DD  
tel 01887 820449  
fax 01887 829453

General web-site [www.wwf.org.uk](http://www.wwf.org.uk)  
Education web-site [www.wwflearning.co.uk](http://www.wwflearning.co.uk)

## The school and its project

Roy Bridge Primary School is a two teacher, 33 pupil school in the Lochaber district of the Scottish Highlands. The idea of a recycling project began when pupils at Roy Bridge Primary School found a plastic milk carton on a beach at Loch Linnhe during an investigation of the seashore. The children wrote letters of concern to both the supermarket in question and the Highland Council, and invited someone from WHAM (Waste – Highland Action on Minimisation) to visit the school and talk to them about rubbish. They were encouraged to think of ways to reduce and re-use their rubbish. One of the ideas was to make musical instruments from waste materials. Two previous award-winning WWF Bright Sparks projects on the theme of 'People and Water' had adopted musical and artistic approaches wherever possible. The school decided to build on this experience, bringing together expressive arts with science. As a consequence, opportunities have developed for cross-curricular themes and activities, achieving outcomes relating to both expressive arts and Environmental Studies National Guidelines (covering science, social subjects and technology) within a context for learning about and practising more sustainable lifestyles.

This case study aims to share some insights into how a small rural Primary school has taken up the challenge of ESD – providing real world experience and relevance behind Environmental Studies. We hope that it will stimulate others to take these or other ideas forward.

*For further information on the project, contact Margaret Sargent, Roy Bridge Primary School, Roy Bridge, Inverness-shire PH31 4AG.*

## Background

This case study is one of a series published by WWF-UK. Each one describes aspects of work undertaken by schools across the UK whilst involved in WWF professional and curriculum development programmes.

In Scotland, support was provided through the Bright Sparks and Generators Award Schemes – managed by WWF-Scotland and sponsored by Scottish Hydro Electric – between 1996 and 2000. The schemes focused on the 5-14 Environmental Studies Guidelines (for those outwith Scotland, this is the curriculum context for teaching science, social subjects and technology) which provide an opportunity for integrating the principles of Education for Sustainable Development. In particular, the schemes aimed to stimulate good policy and practice, demonstrating ways to integrate the 'Developing Informed Attitudes' strand within the guidelines. This is one way in which WWF helps develop ideas for new teaching and learning approaches – equipping students for thinking and acting in ways supporting the goals of sustainable development.