

the tree

When a series of single events follow on from each other and get back to where it all started, we call it a 'cycle'. The tree in the picture uses the *carbon dioxide* that the boy breathes out to make *oxygen*, which he breathes in; oxygen is essential to all living things. And the leaves which fall from the tree in the autumn rot down to provide food for the tree.

In a similar way, when we use valuable natural resources to make things we use everyday, we need to recycle them. This means that we save natural resources, and save energy. For example, making an aluminium drinks can from its raw material, bauxite, uses 18 times more energy than when we recycle it to use again. So let's get recycling !

www.alupro.org.uk

Teacher's notes

This is one of a series of activity cards which encourage children to recycle useful things instead of throwing them away. It is linked to the **Trees for the UK/Trees for Africa** programme sponsored by not-for-profit organisation, Alupro, which promises to grow a tree in the UK or Africa for every tonne of aluminium cans and foil recycled until September 2006. The aim is to grow 50,000 native trees - just by getting the recycling habit !

The Activity Cards are *Lifecycles*, *Recycling in the UK* and *Recycle for Africa*. The cards may be photocopied so that pupils can colour them in during the lesson, and then take them home to discuss with their parents. The cards may be used in any order, but preferably in the order listed.

The picture on the Lifecycles card shows children at the centre of two environmental cycles which are important to the maintenance of a balanced eco-system.

The illustration places material recycling into the context of the natural world, and clearly demonstrates to children how making a decision to recycle and re-use discarded items can make a positive impact on the environment.

There are opportunities to extend the classroom activity into topics of other Lifecycles and Energy saving (see information box), while retaining the key message to get recycling and help look after the natural world.

Suggested lesson plan

1. Introduction: the process of recycling and renewal is part of the natural world, with millions of different lifecycles finely balanced to make up the planet's ecosystem.
2. We use the earth's resources every day to make our lives easier and better. Think about the things we throw away which could be used again, saving the energy needed to make new items, as well as the natural resources themselves.
3. Using the illustration, see how the material recycling loop for aluminium links with cycles in nature, and how the decisions we make can influence the balance of nature. Tell the class that a tree is going to be grown for every tonne of aluminium cans and foil recycled this year - the more we recycle, the more trees will be planted. (Link to *Recycle for Africa* card. The *Recycling in the UK* card tackles the litter issue, in the context of a woodland walk and picnic)

Let's make sure we all get recycling !

Curriculum links Key Stage 2

- Sc1: Scientific enquiry 1(a)(b); 2(a)
Sc2: Life processes and living things 1(b)(c); 3(a)(b)(c); 4(c); 5(a)(b)(c)
Sc3: Materials and their properties 1(a); 2(b)(d)(e); 3(b)

INFORMATION BOX

Life cycle

The term 'life cycle' refers to the series of changes which occur in the life of an **animal** (such as frogspawn/tadpole/frog **or** larva/chrysalis/butterfly) **or plant** (such as the leaf cycle of a deciduous tree in the illustration given, or apple cores helping make compost at home).

An example of another natural cycle is the water cycle: (sea/water vapour/clouds/ mountains/rainfall/rivers/sea)

Manufactured materials and objects can also have a cycle of use which can be called a 'life cycle'. Where these cycles of use can be achieved by organising collection and distribution, we help save natural resources, and also the energy used to manufacture the item.

- In some cases this can be through re-using an item (such as when the clothes or furniture we discard are used by others)
- Or it can be through a recycling process (such as when an aluminium can is recycled into another aluminium can, using only a tiny proportion (5%) of the energy needed to make a new one from the raw material, bauxite (see illustration).

These beneficial life cycles for manufactured materials and objects depend on our involvement. We all have a responsibility to give materials for re-use or recycling.

Energy saving

Some facts !

- When you recycle aluminium you use only a tiny proportion (5%) of the energy needed to make it from the natural resource, bauxite
- Aluminium foil is recycled into lightweight car engine parts - lighter cars save more energy !
- When you recycle an aluminium drinks cans you have saved enough energy to run a TV for 3 hours
- A can you put into a recycling collection box today may be recycled, made into a new can, filled with liquid and put back on sale within six weeks. This process goes on over and over again, making huge energy savings every time - be part of it !

Alupro is a not for profit organisation sponsored by the aluminium packaging and recycling industries. www.alupro.org.uk

Alupro is working with Bristol-based charity TREE AID on the African project. www.treeaid.org.uk

This activity is funded by aluminium PRN revenue to encourage recycling