WWF UK 2014

WORKING TOGETHER TO INSPIRE AND EMPOWER YOUNG PEOPLE

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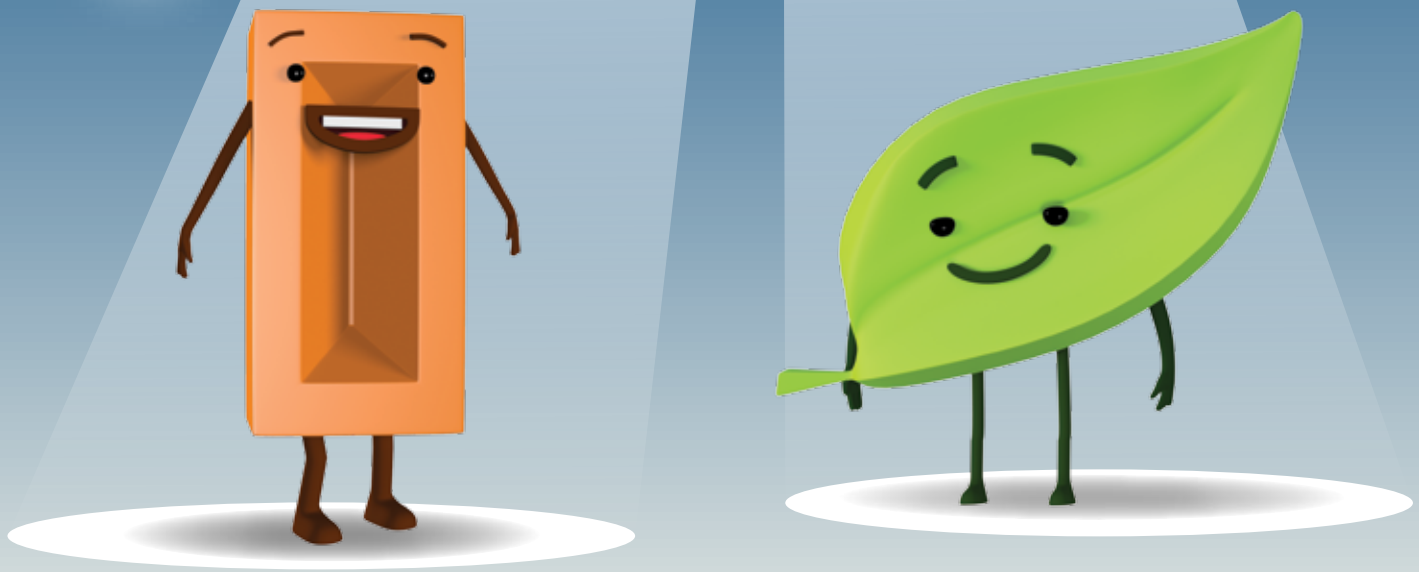


GREEN AMBASSADORS

Buildings and Grounds Activities

Welcome to the Green Ambassadors resource which gives you ideas for bringing sustainability into the classroom.

INTRODUCTION

Our planet, Earth, is our most precious resource. It gives us everything we need to survive – and it's an amazing place. It's important that we do all we can to protect it so people and nature can thrive.

There are lots of challenges. For example we're wasting energy, using too much water and destroying the world's forests and seas. What we do in our homes and schools can make a real difference. For example, cutting down on our energy use in the UK reduces our contribution to climate change. This in turn can help to save the habitat of species near the North Pole or reduce the risk to people living on islands threatened by rising sea levels.

WWF's fantastic new headquarters, The Living Planet Centre in Woking, has been built to the very latest and highest environmental standards. Tackling climate change and reducing our environmental footprint are two key aspects of WWF's work, and The Living Planet Centre will be a tangible demonstration of how this can be achieved in the built environment, which is responsible for nearly 50% of the UK's carbon emissions.

Inspired by this and our Green Ambassador character, Brick, who likes to encourage schools to make their own school buildings and grounds more sustainable, we've put together this first in a series of resources for schools, which will help you think about the environmental performance of your own school and how you could make it greener.

USING THIS RESOURCE

This resource is aimed at pupils aged 4-11 and introduces the Green Ambassador characters Brick and Leafy. The activity pack contains an assembly outline and curriculum linked activities to help pupils explore the issues relating to the focal character.

In this issue, Brick helps pupils explore issues relating to their school buildings. There are also links to Leafy whose focus on plants and animals gives pupils ideas on how to encourage nature and wildlife in their school grounds.

This weblink introduces the other Green Ambassador characters; you might like to show this short film to your pupils.
wwf.org.uk/gafilm

THE LEARNING CYCLE APPROACH

We've put the activities in this resource together using a learning cycle approach which sees motivation and understanding as key precursors to taking action, and action in turn as a way to enhance and extend (reflective) learning. However, you will know best what will suit your pupils and how the activities might fit with your teaching.

BACKGROUND INFORMATION

WHAT IS SUSTAINABILITY?

Sustainability is a way of life that allows people to meet their needs and enjoy a good quality of life while allowing nature to thrive and protecting the planet for future generations.

Being sustainable means:

- caring for yourself
- caring for each other – your family, friends, your school community and people in other countries
- caring for nature and the environment now and for the future.

Sustainability is something we should all be aiming for in order to help protect the planet. Green Ambassadors are in a great position to help spread this message

SUSTAINABILITY IN SCHOOLS - WHY IS IT IMPORTANT?

Schools play a vital role in preparing young people for the challenges and opportunities of living more sustainably. WWF's schools programme offers a range of opportunities to inspire schools and pupils to get involved with sustainability and the work of WWF.

We hope that by offering young people an education for sustainability they will be able to build their understanding of environmental and sustainability issues, explore their values and attitudes, and develop the skills they need to reduce their environmental impact now and become good environmental decision-makers in the future.

At an institutional level, currently energy and water are a major proportion of non-staff costs in schools and a major part of schools' environmental impact. Some schools will have greater scope for savings than others but, overall, more than 20% of energy is wasted, and simple good housekeeping can reduce fuel bills by 10%. See the **Department for Education's top tips** to reduce energy and water use in schools.

BACKGROUND INFORMATION

USING THE SCHOOL GROUNDS

The school grounds are a great place for pupils to explore nature and build their understanding of environmental issues, especially when the development and use of the schools grounds is connected to other parts of school life, such as classroom activities and links to the community. School grounds projects offer pupils the opportunity to research, design, construct and evaluate a hands-on project. They build a sense of ownership and pride in schools. They can be used to explore sustainability issues across the subject disciplines and can be instrumental in engaging learners who learn best by doing.

Beyond the immediate school buildings and grounds, local communities also offer many opportunities for learning about biodiversity, including parks and canals.

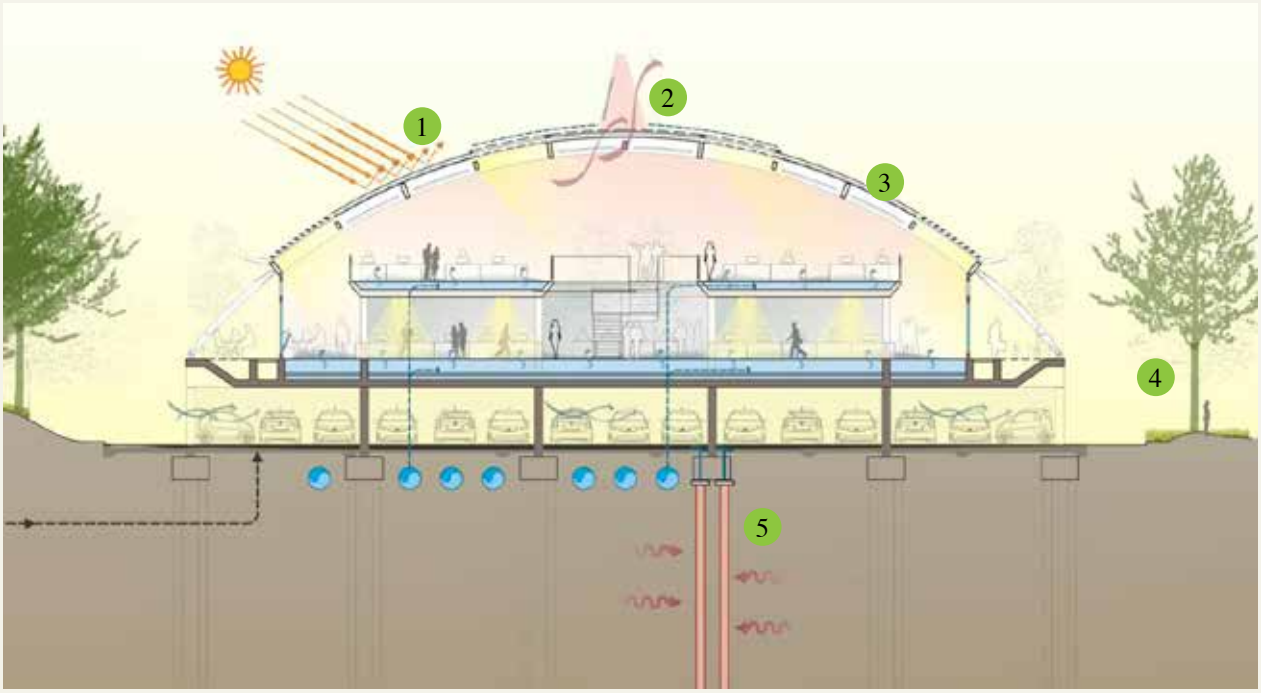
WHAT IS WWF DOING WITH ITS OWN BUILDINGS AND GROUNDS?

For over 50 years, WWF has been at the forefront of conserving the world's wildlife and habitats, and its fantastic array of natural resources. Today, of equal importance is tackling other modern-day issues such as climate change and the unsustainable use of natural resources. Our Living Planet Centre has attained the highest standards in environmental design (BREEAM Outstanding) reducing our carbon footprint, and showcasing innovative technologies.

Detailed overleaf are some of the key design features of the Living Planet Centre: we hope elements of these will inspire you to think about your own school's environmental performance and ways in which you could help to make your school greener.

BACKGROUND INFORMATION

THE DESIGN



Key

1 Photovoltaic panels on the roof capture the sun's energy using photovoltaic cells. These cells don't need direct sunlight to work; they can still generate some electricity on a cloudy day. The cells convert the sunlight into electricity, which can be used to run appliances and lighting. **ourplanet.org.uk/wind-solar-energy-schools.asp**

2 Wind cowls on the roof provide natural ventilation. As air in the building heats up it rises to the top and escapes through the wind cowls.

3 The curved timber diagrid roof at The Living Planet Centre has lots of windows to let in natural light. A special material in the roof provides thermal mass which helps to keep the building warm in the winter and cool in the summer.

4 The area surrounding the ground floor of the building and the wetland area is planted with native species. It is hoped over time the number of species that live on our site will increase.

5 Earth ducts and ground source heat pumps make use of the constant temperature below the earth's surface to heat the building in the winter and cool it in the summer. **ourplanet.org.uk/ground-source-heat-renewable-energy.asp**

BACKGROUND INFORMATION

With the help of the Living Planet Centre, WWF hopes to achieve exemplary performance in the following areas:

WATER

TRISTAN FEWINGS/WWF

FAIR TRADE

WWF-CANON/RICHARD STONEHOUSE

CARBON

GLOBAL WARMING IMAGES/ WWF-CANON

HEALTH AND WELL-BEING

BENJAMIN EALOVEGA/WWF

WASTE

BENJAMIN EALOVEGA/WWF

MATERIALS

BENJAMIN EALOVEGA/WWF

BIODIVERSITY

RICHARD STONEHOUSE/WWF

TRANSPORT

WWF-CANON/FERNANDO ZARUR

Through the WWF Green Ambassadors Scheme, your school could look into ways of being more sustainable in these areas.

BACKGROUND INFORMATION

HOLMAN LEARNING ZONE

At the Living Planet Centre we have a designated Learning Zone to enable us to expand and strengthen our schools and youth work, and we're really looking forward to welcoming schools and youth groups into our building.

From 2014 we'll be running a schools visits programme with curriculum-linked workshops for pupils' aged 7 to 11 that will help to develop young people's understanding of sustainability issues. The Learning Zone will also enable us to pilot new materials that will later be made available to schools across the UK.

If you would like more information about our schools visits programme, or on our wider youth community programme, please email **schoolvisits@wwf.org.uk**

IDEAS FOR THE CLASSROOM

SUMMARY TABLE OF ACTIVITIES

The following activities will provide some inspiring and thought-provoking ideas for your pupils covering the school buildings and grounds.

Activity name	Age range	Subject focus
Assembly: Creating a one planet future	4-11	
Shady trees	4-7	Science, English
Using stories: trees and seeds	4-7	English
What is sustainability?	7-11	Geography, citizenship/PHSE
Buildings and biodiversity 2050: scenario and story activity	7-11	Geography, citizenship/PHSE
Green space and biodiversity	7-11	Science
Planning the change	7-11	Citizenship/PHSE
Extra-curricular activities	4-11	

IDEAS FOR THE CLASSROOM

CREATING A ONE PLANET FUTURE

Learning cycle	Building knowledge
Age range:	4-11
Curriculum links:	
Time needed:	20 minutes
Group size:	Whole school
Setting:	Assembly
Key vocabulary:	North Pole, Climate change, polar bear, giant panda, WWF, reduce, reuse, recycle
Learning outcomes:	• Pupils will have a greater understanding of WWF's work and that the planet is threatened by climate change, which we can all help to reduce by not wasting energy and resources. • Pupils will learn that WWF is working to safeguard the natural world.

Preparation

Assembly leaders will need to watch the film themselves first. You may wish to find out more about WWF and the issues by looking at **wwf.org.uk** Ideally the resources below should be prepared.

Resources needed

'One Planet Future' film downloaded onto a computer

You can find the film at **www.green.tv/wwf_oneplanetfuture** It is best to download the film and run it on a mediaplayer to avoid problems of direct streaming. You also then have better control over pausing, rewinding etc. The film lasts for 6 minutes and 15 seconds.

IDEAS FOR THE CLASSROOM

ICT – computer/projector and screen, whiteboard or interactive whiteboard

You will need to run the One Planet Future film on a screen, whiteboard or interactive whiteboard

Bag of 'rubbish'

You will need to prepare a bag or sack of clean 'rubbish' containing about 10 items that could be reduced (plastic packaging), reused (a clean piece of tinfoil) or recycled (a used piece of paper or cardboard).

Signs

Large signs saying REDUCE and REUSE and RECYCLE

A large sheet or slide or whiteboard with words of the rap on.

Procedure

- Introduce yourself. Ask the children to put up their hands if they know where polar bears live. Wait for the answer 'the Arctic' or the 'North Pole'. Talk about how it's very cold and the polar bears live on the ice. They are kept warm by their thick fur.
- Do the children know what is happening to the ice at the North Pole? The ice is melting: there is less and less ice and more and more sea water; there is no land under the ice, just sea. The ice is melting as it's getting warmer at the North Pole.
- This is not good news for polar bears. They can swim, but not all the time. They depend upon the sea ice to hunt seals, their primary food source, and to travel around their range to find mates to breed but not to build dens on. They do this on more stable ground.

IDEAS FOR THE CLASSROOM

- Ask the children to put their hands up if they have heard of climate change. Well done, those who have. Explain that the world's climate is changing because of the way humans are living. Climate change now is happening because of the huge increase in the emissions of carbon dioxide due to our greatly increased use of fossil fuels – coal, oil and natural gas. The North Pole ice is melting because of how we live our lives. But we can change this! And we are going to find out how.
- Tell the assembly that they are going to watch a short film made with the help of children. Run the One Planet Future film on a screen or interactive whiteboard.
- After the film tell the assembly that you are going to describe an animal and that you want them to try and guess what it is. When they think they know, they should put up their hand but not call out the answer.
- Say: "there are only about 1,600 of these animals left in the wild. Between the early 1970s and the late 1900s populations declined by around 50%, due to mainly habitat loss and poaching. These animals are about 150 centimetres long from nose to rump, with a 10-15cm tail. A large adult can weigh about 100 to 150kg. They can spend over 13 hours a day feeding. The female animals often give birth to two cubs, usually only one survives. Cubs stay with their mothers for about three years. Half of all known plant species in China can be found in the forests where the animals live. What do you think this animal is?
- By now, there should be plenty of hands up. Wait for the right answer – panda or giant panda.
- Ask if anyone knows which organisation has a giant panda on its logo. If anyone replies World Wildlife Fund, or World Wide Fund for Nature, explain that now the organisation just uses the initials WWF. Ask if anyone knows what WWF does? Take a couple of answers and say that WWF believes in a future where people and nature thrives and that it's a charity which works to ensure this happens.

IDEAS FOR THE CLASSROOM

- Ask the assembly what they think the future holds for the panda and the polar bear? Take a couple of answers. If they are gloomy, say that we can take action now to change things for the future.
- Ask the assembly if they can remember some things from the film that we can do to ensure that we use fewer of the Earth's resources and that we cut down on waste. Invite some answers.
- One of the things we can do is to reduce, reuse and recycle. Produce your big bag or sack of rubbish and say that you are going to have a look and see what has been thrown away and whether it could be reduced, reused or recycled. Ask for three volunteers to come up and hold up a sign saying reduce, reuse or recycle. They should then stand in three separate places.
- Ask for volunteers to come up and have a lucky dip (reassure them that there won't be anything that wouldn't be safe to touch). As children come up and pick something out of the bag, ask them to take it to one of the three areas – reduce, reuse or recycle – and say why they have taken it there.
- If children are uncertain, you can give them some direction. Add your own comments if necessary. You might suggest that plastic packaging need not have been used in the first place and could go to the reduce area, for example.
- After all the items have been taken out and allocated, thank the volunteers and ask them to sit down.
- Ask the assembly what the benefits of 'reduce, reuse, recycle' are and take answers which you can reinforce yourself.
- To end up, you could remind the assembly of the words of the rap in the film (put up as a slide or on a flip chart) and ask everyone to join in with the rap after three – one, two, three…

IDEAS FOR THE CLASSROOM

You're cycling to school cos you think it's very cool

and that driving's very sad cos the consequence is bad

so get out of your car

cos it's not very far

and walk to your school

If you can organise it so that you can play the section of the rap from the film again, you could ask everyone to join in as it plays

Alternatively, you can get everyone to join in with 'What are we going to do?' All: 'Reduce!'. 'What are we going to do?' All: 'Reuse!'. 'What are we going to do? 'All: 'Recycle!' 'Hooray!!'

Follow-up

Teachers/activity leaders and students can carry out some of the activities suggested in the One Planet Future resource pack and may wish to take up some of the challenges on the sheets on pages 33 and 34. To request a copy of the pack please go to the **WWF website**.

Further links

There are additional ideas and resources, including details of a fantastic musical that can be performed by schools, please visit the **website** for further details.

IDEAS FOR THE CLASSROOM

SHADY TREES

Learning cycle	Building knowledge
Age range:	4-7
Curriculum links:	Science, English
Time needed:	50 to 60 minutes
Group size:	Whole class/groups
Setting:	Classroom/outside environment
Key vocabulary:	Trees, environment, school grounds
Learning outcomes:	Pupils will: • develop their observation skills • develop their questioning skills • build on their own experiences and knowledge • develop caring attitudes to their own and the wider environment • develop an appreciation of and concern for living things

Resources needed

Pupils will need a copy of the accompanying Shady trees photo sheet.

Smiley face/sad face for each pupil.


IDEAS FOR THE CLASSROOM

Evaluation

Ask pupils to talk about or complete these statements:

- I think trees are important because...
- From this activity I learnt...
- In future I will...

Photograph

1. Picnic in the park
2. Chatting under a tree

Picnic in the park

IDEAS FOR THE CLASSROOM

Procedure

Show a copy of the photo sheet to the whole class. It is helpful to start with some questions that encourage the children to make some observations about the photographs such as:

- What is happening in each photograph?
- Where do you think the photograph was taken? How can you tell?
- Can you describe the background?
- Can you describe the landscape?
- Can you describe the buildings?
- What do you like about this place?
- Would you like to live here?

Then in small groups, ask pupils to look at the photograph and think about the following questions:

- Where do you think these pictures were taken?
- What do you think the groups of people are doing?
- Why do you think they chose these places to sit?
- How many different trees can you see?
- What time of year do you think it is?
- Which tree would you like to sit under?
- Why is it important to have trees in the streets and parks?
- How old do you think these trees are?
- Who do you think looks after these trees?
- How would they need to be looked after?
- What do these trees need to keep them healthy?
- What do you think these trees would like to say to the people underneath them?

IDEAS FOR THE CLASSROOM

Similarities and differences

Still in their groups, ask pupils to describe in detail each picture and then pick out similarities and differences. Talk with them about why some aspects are the same and some are different. Does their environment affect how people carry out activities? Compare with the home locality.

Likes and dislikes

Ask pupils to have a good look at each photograph. Give each pupil a smiley face and a sad face and ask them to put them beside something in the photograph they like the best and the least. Discuss the choices with the pupils.

Extension activities

Trees in our surroundings (Year 1 and Year 2)

Use a tree in your own street or school grounds as a starting point for work on the importance of trees to the ecological balance of a locality (and of the world) and thus to us as humans. Explore the immediate environment around the school grounds. Take photographs; examine the trees, plant life and creatures. Then observe the trees regularly, monitoring birds, squirrels, insects, leaf change and the sound of the trees. How much room do they need? What happens at night? How fast do they grow? Record the results of the observations, relate results to the questions, and see if new questions need to be asked.

Make friends with a tree (Year 1 and Year 2)

Each pupil can be responsible for carrying out the observation work above for a particular tree for a period of time. Pupils can discuss what makes their own tree unique. They can take bark rubbings, draw and press leaves and observe the tree as a habitat for animals, birds and insects. They can plant seeds from their own tree.

IDEAS FOR THE CLASSROOM

The 'Giving Tree' (Reception, Year 1)

Use photographs and pictures cut from magazines and calendars and use props such as a newspaper, wooden furniture in the classroom and an old bird's nest! Draw a large picture of a tree with room for pictures to be drawn in the branches. Ask your pupils to draw and write in the things that trees give us as a way to help them understand why trees are important to people and other animals. Display and discuss.

Forest frieze (Reception, Year 1 and Year 2)

Paint or collect as many different pictures of trees as you can. Make them into a collage or frieze. Display work on trees underneath, or write poems about trees and add them to the frieze.

Visiting a nature reserve or trail (Reception, Year 1 and Year 2)

Some schools are lucky enough to have a local countryside park, nature reserve or nature trail which will organise visits for school parties. Your pupils can visit the centre where the warden will talk to them, take them for a short walk and discuss the natural environment. A visit to a woodland or forest can also be a 'magical' experience for children.

Sky and WWF, in partnership with the Forestry Commission, have launched a series of Discovery Trails across England and have produced a Discovery Trail Activity Pack as part of I Love Amazon Schools. I Love Amazon Schools is a free initiative that is fun, flexible and easy to deliver, and is designed to help pupils aged 5-11 explore the wonders of the Amazon rainforest and find out why rainforests are so crucial to the health of our planet. To register for I Love Amazon Schools and to download a copy of the Discovery Trail Pack, please visit **sky.com/amazonschools**.

Evaluation

Ask pupils to talk about or complete these statements:

- I think trees are important because…
- From this activity I learnt…
- In future I will…

IDEAS FOR THE CLASSROOM

SHADY TREES PHOTO SHEET

Picnic in the park

IDEAS FOR THE CLASSROOM

Chatting under a tree

IDEAS FOR THE CLASSROOM

USING STORIES: TREES AND SEEDS

Learning cycle	Motivating/making the links
Age range:	4-7
Curriculum links:	English
Time needed:	50 to 60 minutes
Group size:	Whole class
Setting:	Classroom
Key vocabulary:	Trees, planting, environment
Learning outcomes:	Pupils will: • develop their listening skills • develop their speaking skills • build on their own experiences and knowledge • develop caring attitudes to their own and the wider environment • develop an appreciation of and concern for living things

IDEAS FOR THE CLASSROOM

Resources needed

Choose one of the following recommended books

After the Storm by Nick Butterworth, published by HarperCollins

Recommended for 2 to 5 year olds

In Britain a storm is raging outside. When Percy, the park keeper, gets up the following morning he finds the old oak tree has blown down. It's a disaster for his animal friends who live there but Percy is soon devising a plan.

Tree Growers by Manorama Jafa, published by Ratna Sagar

Recommended for 2 to 5 year olds

A class of children at a school in Leh in Northern India learn to plant trees to encourage the rains. Each child has a tree to water and is proud to have made a difference to the environment.

The Cherry Tree by Ruskin Bond, published by Puffin Books

Recommended for 5 to 7 year olds

When six year old Rakhi returns home from the bazaar in Mussoorie in Kashmir in the Himalayan foothills with some bright red cherries, her grandfather suggests that she plants a cherry seed in the corner of their garden. Rakhi's young tree grows into a seedling, surviving monsoon rains and heavy snows, and Rakhi grows up as well.

IDEAS FOR THE CLASSROOM

Procedure

Read your chosen book to the class.

Retelling the story is always a useful way of encouraging pupils to think about the characters, events and message of a book. You can ask pupils to simply retell the story in their own words or do it as a role play or mini drama. You can use a few props to encourage them to have a go.

Another way of retelling the story is to ask pupils to sequence photocopies of the pages of the book in the right order telling the story in their own words when they have finished. You could also draw a timeline and ask pupils to draw or write the events of the story onto the timeline or ask them to fill in six boxes with drawings of events from the story in the right order.

Evaluation

The stories all deal with the importance and delight of planting new trees. Ask the class what they think the story told them.

- What did they enjoy about it?
- What have they learnt about the environment in another part of the world?
- Does everyone everywhere need trees and gardens?
- What do trees and gardens need to grow?
- Ask the children to draw a picture of their favourite tree or garden.

IDEAS FOR THE CLASSROOM

WHAT IS SUSTAINABILITY?

Learning cycle	Building Knowledge
Age range:	7-11
Curriculum links:	Geography, citizenship/PHSE
Time needed:	50 to 60 minutes
Group size:	In pairs/whole class
Setting:	Classroom
Key vocabulary:	Sustainability, sustainable, unsustainable, environmental, social, economic
Learning outcomes:	Pupils will: • Know that all changes have a range of consequences • Be introduced to the concept of sustainability • Know that sustainability has social, economic and environmental aspects • Know that all aspects need to be considered when making decisions about changes/developments

Preparation

Pupils will need a copy of the accompanying resource sheet 'Consequences', one sheet between two.

Procedure

1. Give out copies of the Consequences resource sheet. Read through the case study (based on a true story) together, making sure pupils understand the instructions. In pairs, ask them to complete the consequences wheel. Consequences may be positive or negative.

IDEAS FOR THE CLASSROOM

2. Ask pupils if they have heard of the word 'sustainable' – if so, can they give any examples of its use? For example, they might have heard of paper that comes from sustainable forests, or sustainable road traffic levels.

3. Brainstorm ideas of the meaning of the word 'sustainable' with pupils and record them on a flipchart. Ideas might include:
   - Something that lasts
   - Something which can carry on
   - Something which supports or provides for something else
   - Something which maintains an ecological balance
   - Something that doesn't use the Earth's resources faster than they can be replaced

4. Use the fact box information to explain the meaning of sustainable development – and its different aspects – to pupils.

5. Ask pupils to look at their consequences wheels and decide whether each consequence they identified is environmental, social or economic (or a combination). This could be done in their original pairs, using a key, or a few examples could be drawn out in a class discussion depending on age and ability.

6. Discuss with the class whether changing the school grounds to a community-use football pitch would be sustainable, using the following key questions:
   - Who/what would benefit – environmentally, socially, economically?
   - Who/what would lose out – environmentally, socially, economically?
   - Would the development be environmentally, socially, economically sustainable?
   - Should all three aspects be of equal importance? If not, why not?
   - How would everybody in the school community – pupils, teachers, support staff, parents, and local residents – be able to voice their opinion on the plan?
   - Who would decide whether to go ahead or not?
   - Can pupils come up with a creative way out of this problem with more 'wins' all round?
   - What steps would they need to take to achieve this compromise?

IDEAS FOR THE CLASSROOM

Evaluation

An evaluation element is built into the discussion under point 6, with pupils reflecting on their learning as a group.

Ask pupils to identify a change which they know about, eg. planting a tree in the school playground or the closure of a local shop, and discuss whether it is sustainable change.

Ask pupils to complete these statements:

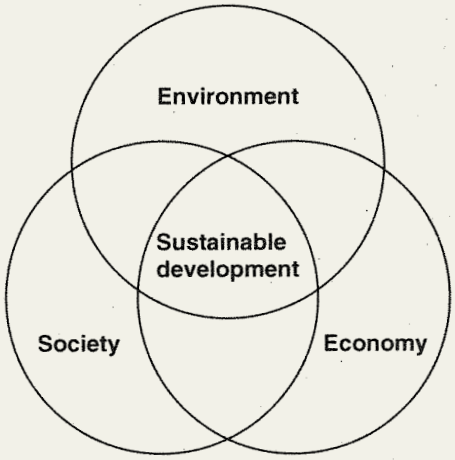
- I think 'sustainability' means...
- From this activity I learnt...
- In future I will...

! Fact box

Sustainable development

Sustainable development means improving the quality of people's lives and surroundings without destroying the life-support systems that we depend on, now and in the future.

Different aspects need to be considered when deciding whether a change or development is sustainable or unsustainable.



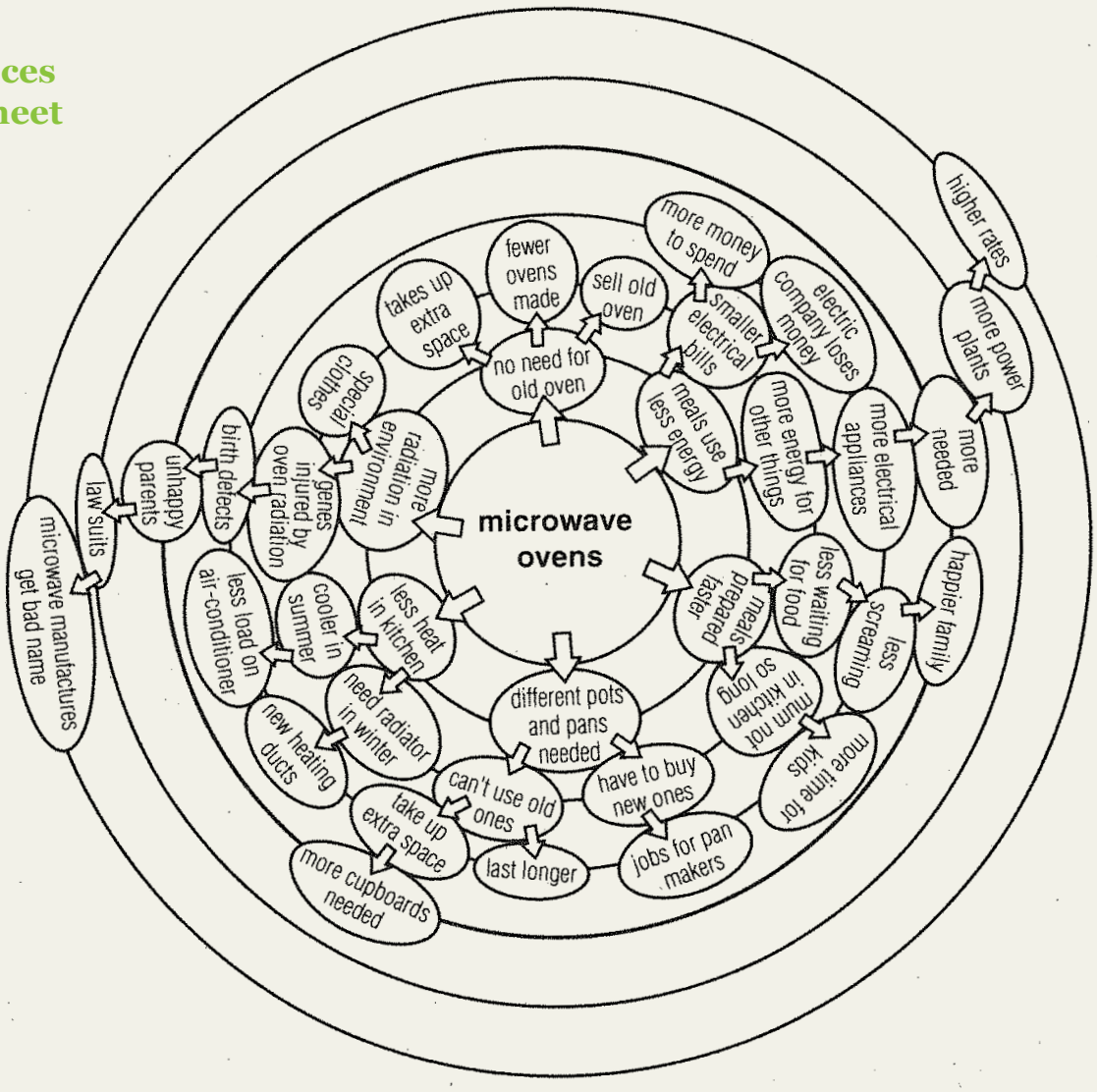
Example: Harvesting trees

	Sustainable development	Unsustainable development
Environmental aspect	New trees planted for every one cut down	No replanting leads to loss of habitat and reduced biodiversity
Social aspect	Tree planting creates a community for employees and their families	Migrant workers housed in temporary huts
Economic aspect	Provides employment and income for local people	Profits from the trees go to multinational companies

IDEAS FOR THE CLASSROOM

Consequences resource sheet

Example



Source: Consequences wheel diagram taken from
David Hicks, *Citizenship for the Future*, WWF-UK, 2001

On the consequences wheel, show the impact the pitch development would have on the children, wildlife, the school community and the wider local community.

In the first circle: Write some of the things that might happen as a result of turning the grounds into a football pitch.

In the outer circles: Write some of the things which could happen as a result of the first circle consequences.

One possible set of consequences has been done for you.

IDEAS FOR THE CLASSROOM

Case Study

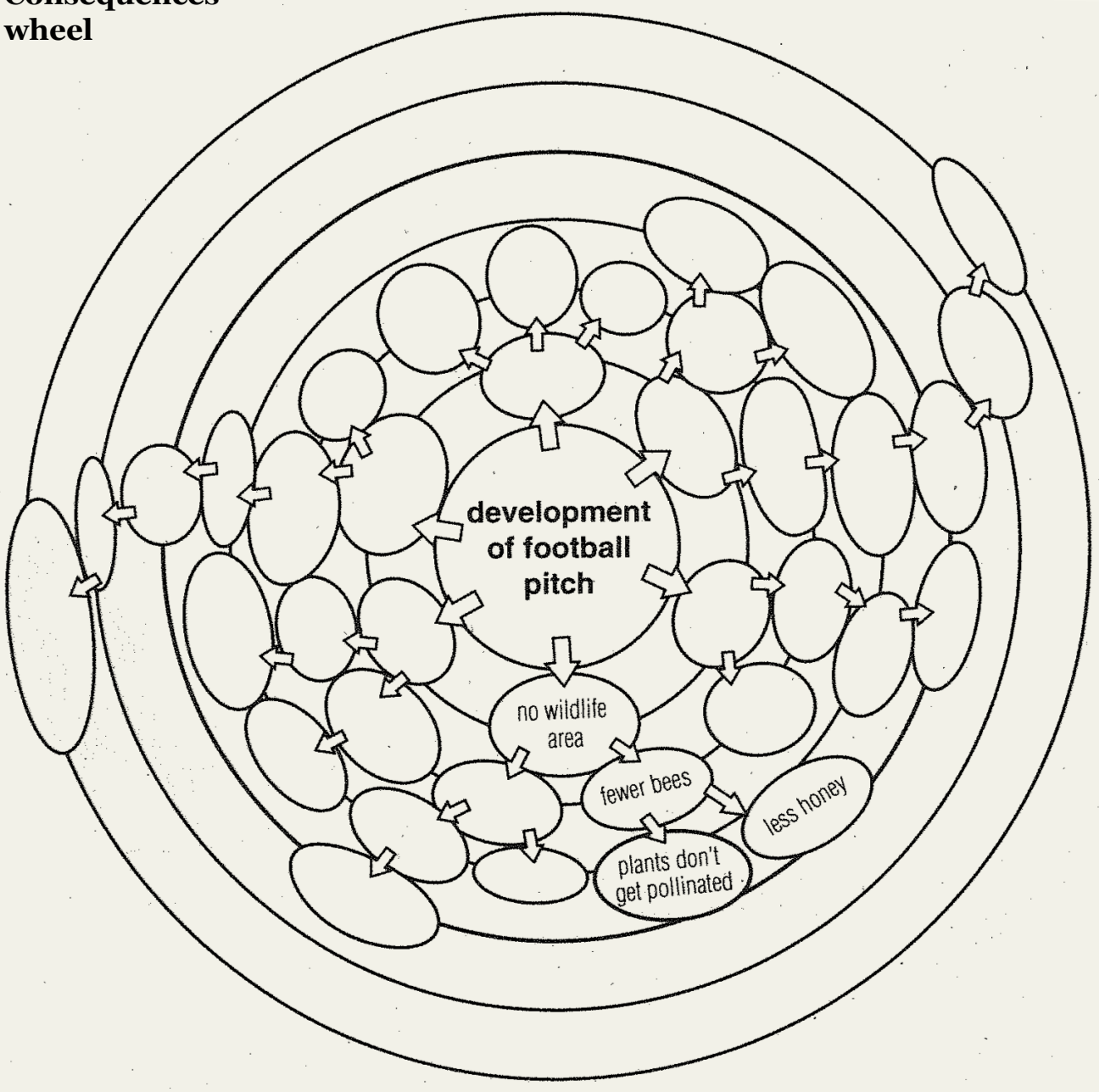
A primary school with 500 pupils in a built-up area has developed their school grounds over many years, using about half of their space for:

- a nature garden with a pond, herb beds and wildflower meadow;
- a fenced quiet area with picnic tables, shade umbrellas and mosaics made by pupils;
- raised gardening beds, one for each year group to be responsible for; a number of features including a giant sundial, sculptures designed by children working with local artists, climbing frames and painted floor games.

The school was approached by a design company who came up with a plan to level all of this space and build an all-weather football pitch. The cost of the work would be shared equally by the school and a national sports organisation because the pitch would be used by the school and by the community. Community users would pay the school for using the pitch during out of school hours and holidays.

IDEAS FOR THE CLASSROOM

Consequences wheel



IDEAS FOR THE CLASSROOM

BUILDINGS AND BIODIVERSITY 2050: SCENARIO AND STORY ACTIVITY

Learning cycle	Building Knowledge
Age range:	7-11
Curriculum links:	Geography, citizenship/PHSE
Time needed:	50 minutes each for the scenario and the story
Group size:	Small groups
Setting:	Classroom
Key vocabulary:	Sustainability, buildings, future, biodiversity
Learning outcomes:	Pupils will: • build on their own experiences and knowledge of sustainability • develop their observation and questioning skills • develop an better understanding of a future with sustainable buildings and biodiversity

Preparation

You may like to read Chapter 10, Buildings and Biodiversity from the publication *Sustainable Schools, Sustainable Futures*, David Hicks 2012 in preparation for this activity. *Sustainable Schools, Sustainable Futures* is available to download from the **WWF website**.

IDEAS FOR THE CLASSROOM

Resources needed

Each pupil will need a copy of the scenario, accompanying questions and the story.

Procedure: Scenario

The purpose of this is for pupils to explore, debate and discuss this scenario for a future with sustainable buildings and biodiversity.

Brief the class on the purpose and use of scenarios and go through the five questions that need to be answered.

Pupils work in small groups. First they individually note down their own responses to the questions and then work together to create a composite group response. Groups then take it in turns to share their response with the rest of the class. Either the group responses or a composite class response to each question should be put up for display.

Procedure: Story

The purpose is to use the story as a stimulus for discussion and debate and to link the scenario work with some of the changes that were required to bring it about. Each pupil will need a copy of the story.

The story can be read by the teacher to the whole class, by someone in each small group or individually.

Discussion then arises from consideration of the three questions given below, with pupils first individually writing down their responses and then taking it in turns to share these with the group.

A spokesperson for each group then summarises responses for the whole class. The teacher needs to stress the positive nature of such changes in the light of present dilemmas and the benefits they would bring to the children in the future.

IDEAS FOR THE CLASSROOM

Scenario questions

Look carefully at this illustration of what a more sustainable future might look like for buildings and biodiversity. Imagine that you are visiting this future with a group of friends to gather information about it. You can look around to see how things are different and also listen to what people are saying about life in the future.

1. What are the first three things you notice about this future?
2. In what ways is this future different from today?
3. What are people doing and saying that is different?
4. What are the advantages of living in this future?
5. What questions do you have about this future?

Story questions

1. What feelings did you have when you were listening to this story?
2. What questions arose for you when listening to this story?
3. What sort of story would you like to tell your own children?

Evaluation

On finishing the work you have done on buildings and biodiversity, ask pupils to spend some time on their own thinking about how they would complete the following sentences.

I have learned.....

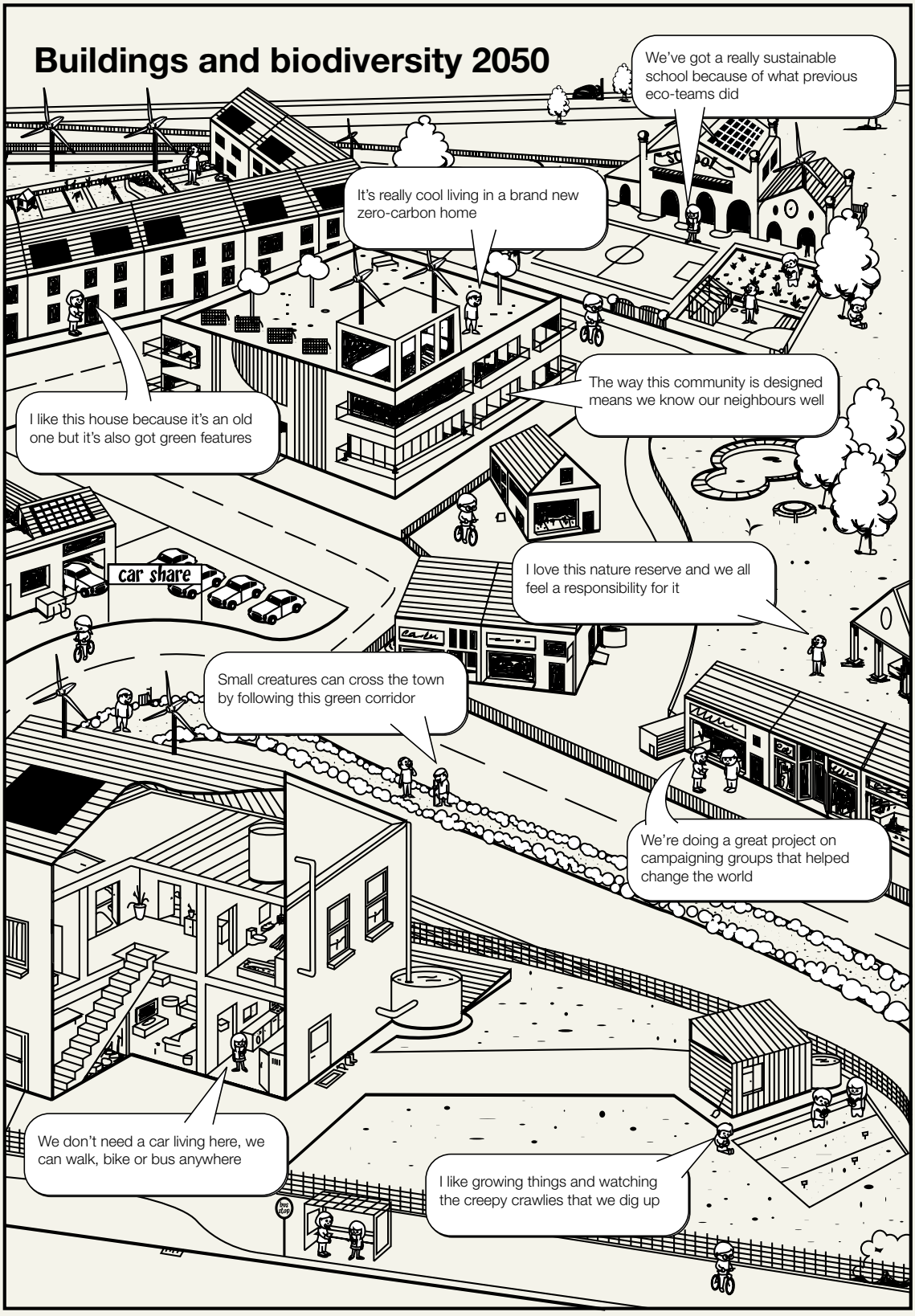
I now feel.....

I personally intend to....

With others I would like to...

I think that the school should....

IDEAS FOR THE CLASSROOM



IDEAS FOR THE CLASSROOM

THE STORY: BUILDINGS AND BIODIVERSITY 2050

How things have changed

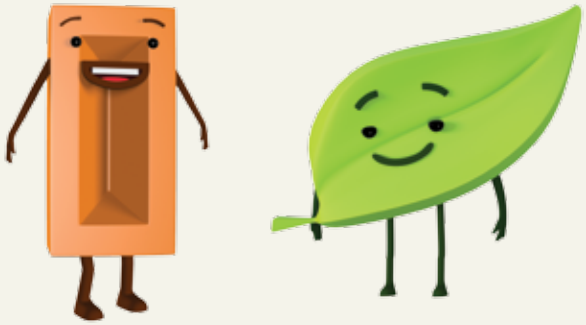
'Things have changed a lot here as you can see, although some things still look the same. The older buildings don't look very different from the outside, but they're very different inside. They are properly insulated, energy-efficient and use much less water – the same as the newer houses do. If you look, you can see that they have solar PV panels on the roof in order to produce their own electricity. Some people like these homes best because they combine many of the nice things about old houses with sustainable technology. The newer houses were designed to be sustainable right from the start and so they look rather different. Some people prefer these and others don't mind which sort of house they live in!

'At first, people thought sustainable houses were just about using less energy and water, but other people realised it was about more than that. Sustainability isn't about changing just some bits in life; it's about how everything is joined up to everything else. This is why some planners built brand new eco-communities where everything is linked up. Much of the community's electricity and heating comes from what's called a combined heat and power plant (CHP) which runs on local waste wood. The community works together to produce as little waste as possible and it also has a car share scheme to limit the number of cars. Most people can walk, bike and bus to the places they need to go to. The town really works better now because everything about it, including the buildings, works in a sustainable way.

IDEAS FOR THE CLASSROOM

'As you can see, our town also has lots of open spaces and it's easy to get into the country too. In our school grounds we learn all about plants, crops and trees, as well as the local animal and birds. They are part of our community too. We understand now that town and country go together and that biodiversity needs to be protected. That means looking after all the creatures – from butterflies to birds and flowers to woods. So whether it is our local nature reserve, farmland or wilder countryside we always look carefully to find out what lives there and how it can be protected. We learn about all sorts of habitats in school and everyone has their favourite.
Some like the parks and green spaces in towns, others like the coastline, hills, woods or mountains. I like visiting all of them because they are so much fun when you have learned in school about how interesting they are.

'We don't learn just about habitats in this country but also about what is happening in other parts of the world. We also learn about how things used to be before the great change came about. It was only because lots of people who worried about doing things in an unsustainable way got together that this happened. Once, people caught too many fish from the sea until nearly none were left. Other people kept cutting down trees and forests, although most people knew this was not a good idea. They were the people who helped change things because governments and big organisations just had to listen. Today we feel very grateful for everything they did.'



IDEAS FOR THE CLASSROOM

GREEN SPACE AND BIODIVERSITY

Learning cycle	Building Knowledge
Age range:	7-11
Curriculum links:	Science
Time needed:	50 - 60 minutes
Group size:	Whole class/small groups
Setting:	Classroom
Key vocabulary:	Species, habitat and biodiversity
Learning outcomes:	Pupils will: • know that species diversity is dependent on habitat characteristics • know that biodiversity can be enhanced by habitat management

IDEAS FOR THE CLASSROOM

Preparation

Find two areas with contrasting characteristics and a variety of habitats in order to compare significant differences in biodiversity. The school grounds offer a starting point, unless they are completely paved. If possible, use a staffed local environment resource for your comparative area so that part of the session can include asking questions about the way the area is managed.

Definition of biodiversity: Biodiversity is the interaction between living and non-living organisms, their differences and how they relate to one another in their natural habitat.

Resources needed

- a copy of the accompanying Green space and biodiversity resource sheet for each group
- large scale OS map of the area immediately around the school
- species collection pots and trays, magnifiers, sweep nets
- plant and animal identification charts/books
- quadrats and transects
- binoculars for birdlife
- pond dipping equipment if appropriate

Procedure

1. Carry out fieldwork and species surveys to compare the biodiversity of the two areas. If appropriate for science work, use quadrats and transects to quantify population of different species. Pupils record their findings through tick charts, lists, drawings etc. Following the fieldwork sessions, compare the biodiversity with the range and type of habitats in each, guiding discussion with the following key questions:

    - Which site had a wider range of habitats?
    - Which site had greater biodiversity?
    - How does management of each survey site affect biodiversity?
    - Who decides how to manage these sites?
    - Would it matter if these sites were built on?
    - Is there anything YOU can do to protect or enhance biodiversity in these sites?

IDEAS FOR THE CLASSROOM

2. Divide pupils into small groups and give each group copies of the Green space and biodiversity resource sheet. Ask the groups to make notes on the connections between green spaces and wildlife, and to feed back to the whole class.
3. Ask pupils to colour in all the green spaces, including gardens, on a large scale OS map of the area around the school. Discuss the finished maps using these questions:
   - Can they estimate the total percentage of green space?
   - How is the land without any green space being used?
   - Are there any continuous green corridors which might be unnoticed from the streets?
   - How would improvement of gardens, wasteland, parks etc. impact on wildlife?
4. Hold a whole class brainstorm on ideas for improving access to green spaces for wildlife in their locality.

Evaluation

Ask pupils to complete these statements:

- I think 'biodiversity' means...
- From this activity I learnt...
- I think the key issues about biodiversity and habitats are...

IDEAS FOR THE CLASSROOM

GREEN SPACE AND BIODIVERSITY RESOURCE SHEET

No place to run, no place to hide

Fact box

Features of the urban environment, such as roads and buildings, break up green areas and limit the size of the habitat which plants and animals live in.

Parks, pieces of waste ground, gardens and built planting areas are therefore vitally important for wildlife. The total area of the back gardens of a street of terraced houses makes an enclosed habitat of considerable size, allowing a wider range of species to thrive than might be found in a municipal park with large areas of clipped grass.

Railway lines, river/canal banks and roadside verges create 'green chains or corridors' which provide space for species to range over a larger area, increasing their ability to survive.

Case study

Summer 2004 – California: a mountain lion was sighted in the State Park where the Hollywood sign is situated. The park is enclosed by heavily used freeways and no one knows how the animal managed to get through the traffic safely. Once in, it had to risk the traffic again to get out, or remain trapped with insufficient space and prey to hunt and no chance of finding a mate. Its only hope for survival was intervention by park rangers to tranquilize the animal and transport it to a more suitable habitat.

IDEAS FOR THE CLASSROOM

PLANNING THE CHANGE

Learning cycle	Building Knowledge
Age range:	7-11
Curriculum links:	Citizenship/PHSE
Time needed:	50 minutes
Group size:	Whole class/small groups
Setting:	Classroom
Key vocabulary:	Sustainability, water, energy, school building, waste, green ambassadors, school grounds, food, transport
Learning outcomes:	Pupils will: • be introduced to the concept of sustainability and how the different elements are interlinked • build on their own experiences and knowledge • develop caring attitudes to their own and the wider environment

IDEAS FOR THE CLASSROOM

Resources needed

1 sheet of paper per group

Mind map template – one per group

Coloured pens

Procedure

1. In groups, ask pupils to discuss ways in which they could make their school greener and to write these down on the sheet of paper provided. You might like to give pupils a few ideas to get them started.
2. As a class discuss further the ideas raised by pupils.
3. Introduce the mind map to the class.
4. In groups, ask pupils to add their ideas onto the mind map linking them to the relevant Green Ambassador character; they can make their mind maps as colourful as they like using different coloured pens. Pupils will begin to see how the different elements that the Green Ambassadors characters represent, link up, showing how the school can become a sustainable school.
5. The mind maps could then be displayed in the classroom or shared with other Green Ambassador schools on the Green Ambassadors School Zone website **wwf.org.uk/greenambassadorshq**
6. As a class, develop an action plan of the key ideas that could be presented to the schools green team to take forward within the school.

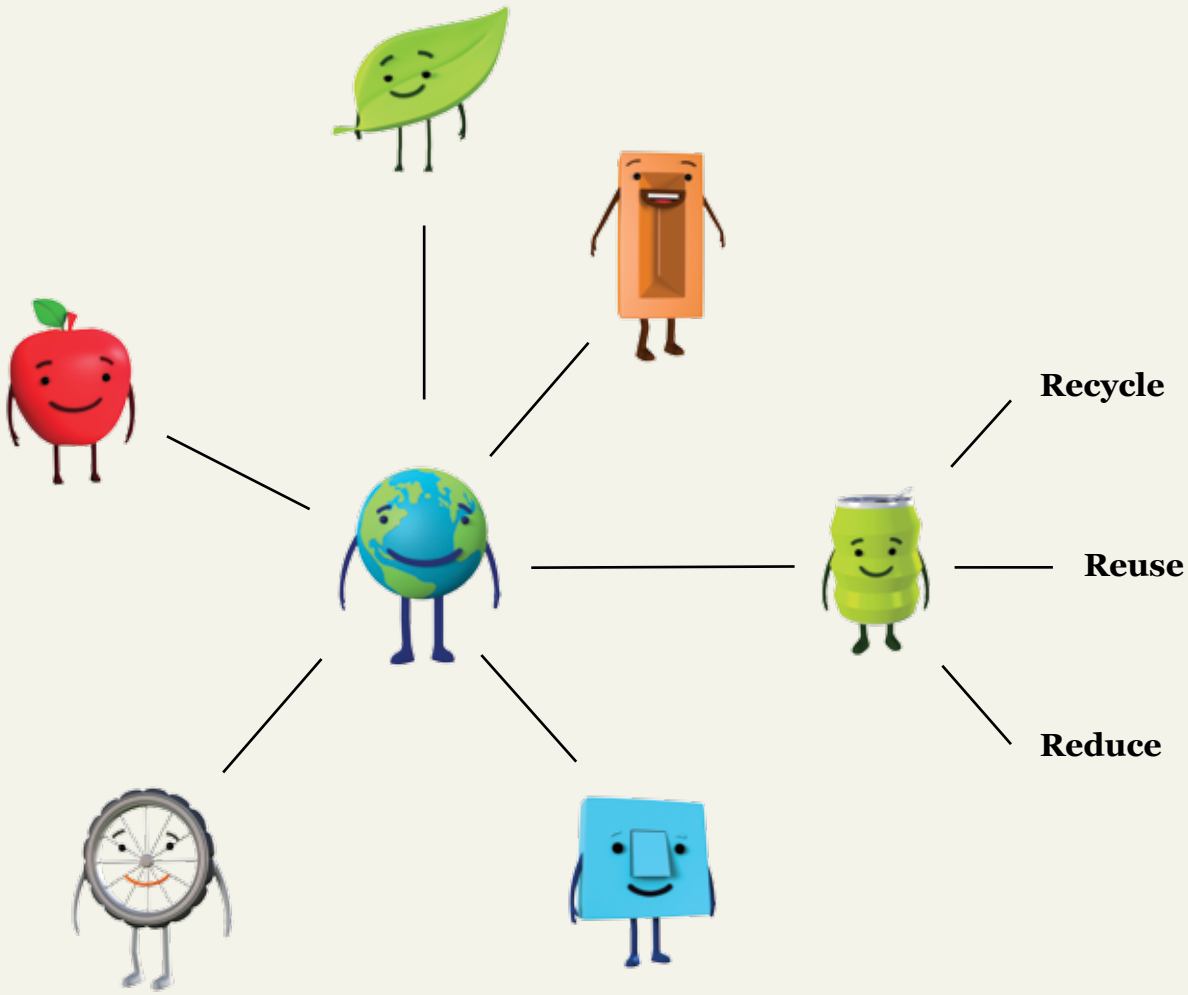
Evaluation

Ask pupils to answer the following questions:

- I think sustainability/making our school greener is important because…
- From this activity I learnt…
- In future I will…

IDEAS FOR THE CLASSROOM

Planning the change mind map template



IDEAS FOR THE CLASSROOM

EXTRA-CURRICULAR ACTIVITIES

Here are a few other activities that you might like to do with your pupils.

Let's get outside

Autumn walk and others

1. The ideas below could take place in the school grounds or alternatively in a local wood. To find a local wood go to **http://visitwoods.org.uk/en/visit-woods/pages/search-result.aspx**
2. Photography competition while you walk – pick a theme or word and ask for the very best photo image to represent it – you could use words such as caring; nature; brown etc or ask pupils to imagine they are taking photos from different creatures' eye view – beetle cam, blackbird cam…
3. Pupils could do a watercolour painting either individually or in small groups. Pupils will need a piece of board to lean on;
4. Photo scavenger walk, find and take pictures of natural items which spell out a word of your choosing;
5. Egg box walk, for younger pupils. Each pupil is given an egg box with words written in the bottom of each indent – smooth, sharp, fluffy, hard etc., and then follows a route collecting items that relate to the words. On their return, pupils can share their findings and keep the mementoes of their walk.

IDEAS FOR THE CLASSROOM

Lashed nature frame
What you will need:

- Piece of fallen wood, max diameter of 2.5 inches works well
- String for lashing the corners – square and triangle shapes work well
- Coloured wood for creating the woven support
- Natural objects to decorate and celebrate the season, items to be collected by pupils whilst out walking

1. The idea for this is to create a frame to show off your pupil's collection of natural objects whilst using traditional lashing skills.
2. Whilst out walking ask pupils to collect natural objects such as leaves, conkers, acorns, sycamore flyers, flowers, grasses – anything of interest which can be collected responsibly is great.
3. Lash a frame together, any size or shape, squares or triangles work well but it will depend on the wood that is available and where you intend to hang it.
4. Wrap wool around the frame creating a lattice of threads. Decorate the frame with the natural objects collected by your pupils and hang the frame up for everyone to see!
5. Your pupils might like to share their photos and paintings on the Green Ambassadors School Zone website
   wwf.org.uk/greenambassadorshq

USEFUL WEBSITES

Below are links to some websites which you may find useful in finding out more information about sustainable buildings and using the outside environment.

Creative Star Learning Company: I'm a teacher get me OUTSIDE here!

Earth Restoration Service

Learning through Landscapes

National Trust: Natural Childhood Report

National Trust: 50 things to do before you're 11 3/4

Sustainable Development Foundation

Sustainable Development Foundation: Leading sustainable school building projects (research report)

The Crystal: A Sustainable Cities Initiative

The Woodland Trust

WWF The Living Planet Centre

WWF Green Ambassadors Scheme

Share your stories with other schools

We would love to hear about the sustainability work that you are doing in your school. Why not share this with other schools on the Green Ambassadors School Zone **wwf.org.uk/greenambassadorshq** an area for Green Ambassador schools to share their stories and photos and to also learn what other Green Ambassador schools are doing to introduce sustainability into their schools.

YOUR FEEDBACK

Next issue

Look out for the next issue which with the help of Switch, will be focussing on energy with ideas and activities that will help your pupils explore ways of saving energy.

Feedback

We'd welcome your feedback on this resource and what you would like to see featured in future issues to help you make your school more sustainable.

Please email **greenambassadors@wwf.org.uk**

100% RECYCLED

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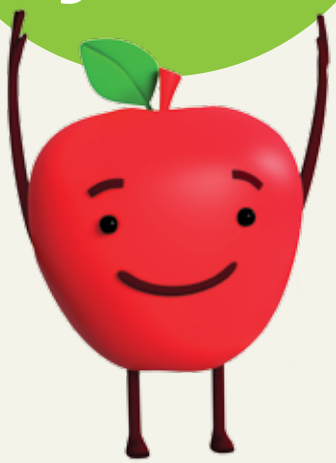
Thank you!



WWF

Why we are here

To stop the degradation of the plane t's natural e nvironment and to build a future in which humans liv e in har mony with nature.

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