



The One Planet Safari

A collection of activities to support family learning



ONE PLANET
FUTURE



Find out what you can do,
visit wwf.org.uk/oneplanetfuture

If everyone in the world consumed natural resources and generated carbon dioxide at the rate we do in the UK, we would need three planets to support us. The impacts – which include climate change, deforestation and biodiversity loss – are starting to affect us all.

WWF has a vision for a One Planet Future – a world in which people and nature thrive within their fair share of the Earth's natural resources. Our One Planet Future campaign supports individuals and businesses in reducing their footprint, while pressing governments and industry to make the changes needed for us all to lead a one planet lifestyle.

We have been born into a decisive period in human history. The choices we make today will make a world of difference to the people and species that will share this planet's future.

**ONE PLANET
FUTURE**

Introduction

One precious planet

Our beautiful planet provides us with everything we need – the water we drink, the food we eat, the clothes we wear and much more. But in many developed countries we take natural resources for granted. In fact, if everyone in the world lived as we do in the UK, we would need three planets to support us. That's how many planets would be needed to supply all the goods and services we consume, and get rid of the wastes we produce as a result. The consequences are devastating. To beat climate change, save places like the rainforests and protect our oceans – for people and wildlife – we need to reduce our impact and live within the limits of our one precious planet now! We need to change the way we think and change the way we live.

What's it all about?

WWF's 'One Planet Safari' is offered as part of the Campaign for Learning's Family Learning Festival, which takes place in October 2008 and is the largest celebration of family learning.

The 'One Planet Safari' activities are designed to help families build their understanding of how our everyday choices and actions have an impact on the natural world. The materials focus on:

- Climate change
- Palm oil and the destruction of rainforest habitats
- Marine pollution and bycatch (wildlife such as seabirds, turtles and dolphins that is caught unintentionally by fishing boats. Most bycatch is dead by the time it is returned to the water.)

In particular, the activities focus on the plight of tigers, orang-utans, polar bears and marine turtles to illustrate some of the consequences of these particular environmental issues. It should be remembered that:

- Each of these species is also threatened by a number of other environmental problems.
- Other species sharing the same habitat are also threatened.
- It's not just wildlife that's affected – these and other environmental issues affect the lives of millions of people around the world.

How do we organise a 'One Planet Safari'?

The activities in this 'One Planet Safari' resource booklet are intended for use by organisers putting on an event for their Family Learning Festival. The activities are arranged into two sections:

- Section 1 provides a set of activities that are designed to help people understand the link between our everyday lifestyle and three specific environmental issues.
- Section 2 provides brief background information which people running the activities might want to read or give to parents, to supplement their knowledge of the issues being explored.

There is also a list of fun, creative and/or practical activities that can be used to follow-on from the activities in Section 1. Organisers of the 'One Planet Safari' are invited to use the list to select a number of the activities that are most suited to their event.

Certificates to recognise and celebrate participants' efforts can be downloaded from the 'One Planet Safari' web pages at www.familylearning.org.uk/oneplanetsafari.

Following the activities, participants may wish to make an online pledge to change something they currently do, for the benefit of our global environment. Pledges can be made at individual level, at a family level, or by a class or community group. Visit the 'One Planet Safari' web pages at www.familylearning.org.uk/oneplanetsafari.

Celebrate Your Success

To celebrate your achievements WWF is sponsoring the 'Best Family Learning Festival Environmental Activity Award'. The winner will receive £100 for their organisation which will be presented with a certificate at the prestigious National Family Network Families of Our Time Conference. We will also coordinate PR to recognise your achievements. The award is free to enter and closing date for applications is 8 December. To enter visit www.familylearningweek.com and click on Awards.

Need some help?

If you have any questions about organising a Family Learning Festival event contact Gurpreet Keila 020 7766 0017 gkeila@cflearning.org.uk

1 Where In The World?

Key learning points:

- We share the planet with some amazing creatures.
- Even though they are far away, these species are linked to us in some surprising ways.

You will need:

- A world map – place it where it can be easily reached
- A copy of the **species fact sheets** from Section 2
- To print and cut out the species pictures from the **'Species images' resource sheet**, and place a dot of blu-tac on the back of each
- To make up a 'You are here' card representing the player's home
- To prepare an answer card (see below) – place this upside down near the map.
- To make a 'What to do' card

What to do:

- Place the 'You are here' card in the correct position on the map.
- Stick the species photos on the map to show where you think each lives in the wild.
- Use the answer card to reposition any misplaced images.
- Talk about how you think these species might be connected to us when their homes appear to be so far away. The organiser or parents could use information from the fact sheets to prompt the discussion. Alternatively, and depending on reading skills, each family member could be given a different fact sheet to help them contribute to the discussion.

Answers:

Orangutan – Borneo

Tiger – India, S.E. China, Russian Far East & Indonesia

Polar Bear – Arctic

Marine turtles – mainly tropical and subtropical waters

Variations:

1. One person wears a blind-fold and is directed by other members of the team. Give clues e.g. 'warmer' when the person is close to the correct position or 'cooler' when they're further away.
2. Place pieces of blu-tac in the correct positions and ask the players to stick the pictures onto them.

2 The Whole Picture

Key learning point:

- The polar bear is a magnificent creature, surviving in a challenging environment.
- The polar bear is threatened by things we do far away.
- The polar bear is a good 'indicator' of problems facing the environment.

You will need:

- Drawing paper, scissors, glue, pencils, crayons
- Photos of polar bears, orang-utans, marine turtles and tigers downloaded from the following website: www.arkive.org
- A copy of the **'Polar bear' fact sheet** and the **'Changing climate' fact sheet and resource sheet**
- To prepare a copy of the 'Hotting up!' instruction card
- To prepare a 'What to do' card

What to do:

- Cut one of the photos in half. Glue one piece onto a sheet of drawing paper. Alternatively you could cut out around the outline of the bear, and glue it to the paper
- Complete the picture by drawing the missing section or background scene. Add words and other drawings to build up a 'picture' of the polar bear's life: where it lives, what it eats, what else it needs to survive, what threats it faces. One member of the family could use the information on the polar bear fact sheet to stimulate ideas.
- Hopefully someone will mention climate change or global warming under 'threats'. What do you know about climate change?
- Look at the diagram on the 'Changing climate' resource sheet. Try to put the captions below in the correct position on the diagram. (The fact sheet shows a completed version!)
- Act out a global warming scene using the 'Hotting up!' card.



2 The Whole Picture

Hotting up!

You'll need several people to do this...

- 1 in the middle as the sun giving out rays of heat;
- 1 as the earth;
- 2-3 as the earth's atmosphere, linking hands around the earth;
- 4-5 as the heat from the sun, reaching the earth – initially about 3 of these need to bounce back through the atmosphere and out into space.
- Split the rest of the group into paired 'greenhouse gases' and 'everyday folk'.

As the 'everyday folk' go about their daily lives, e.g. driving, watching the TV or playing on the computer, etc, the 'greenhouse gases' leave their partner and gather together into the atmosphere. They stop more of the heat escaping so this time only 1 or 2 people make it back into space, causing the earth to warm up like a greenhouse.

Variations:

1. Use the back of the drawing to record ideas about how wildlife is affected by the things we do and the choices we make.
2. Use the back of your drawing paper to list things that this animal likes and dislikes – you'll discover some of these as you go around the other activities (e.g. Memory game: What's on the tray?).
3. Ask family members to invent their own ways of representing climate change – e.g. covering a blow up globe with a jumper.

3 Memory Game – What's On The Tray?

Key learning point:

- Wildlife is threatened by the things we do and the choices we make – we can help them by making better choices.

You will need:

- Trays stocked with items similar to those listed below. Cover the trays with a tea towel, cloth or sheet of newspaper
- To prepare information cards for each of the trays using the information on the '**Memory game – What's on the tray?**' **resource sheet**. Stick the relevant information card onto the bottom of each tray
- To create a 'What to do' card

Tray 1:

Objects containing palm oil e.g. bread, biscuits, crisps, soap, lipstick, toy car (to represent biodiesel), cosmetics, margarine, shampoo, cereals, chocolate, cooking oil, crackers, detergent, soup and toothpaste.

Tray 2:

Objects that link orang-utans, tigers, marine turtles and polar bears to climate change, e.g. energy efficient light bulb, incandescent light bulb, toy car, toy aeroplane, items of imported and non-imported goods (e.g. food), canned meat, items of fruit or vegetable, can of drink, sheet of paper, recycled items, cup of water, clothes peg.

Tray 3:

Objects that link marine turtles to plastic pollution and fishing e.g. plastic bag, plastic ringo from drinks cans, plastic toothbrush, plastic toy, tinned fish, packaging from frozen fish, organic and non-organic fruit or vegetables, tin of paint, tin of varnish, household cleaning fluids.

What to do:

- Decide who is going to play this memory game.
- Uncover a tray for 30 seconds and then replace the cover.
- Give the player(s) one minute to list all of the items they can remember.
- At the end of the game, remove the items from the tray, turn the tray over and read the information card.
- Decide how the items on the tray are linked to this information.

Variations:

1. Simplify the game by playing with fewer objects.
2. Allow players to make picture notes whilst the tray is uncovered.
3. Give the players longer to look at the items/list the items or give them clues about the remaining items.

4 Sustainability Trail

Key learning point:

- It's important to think about the reasoning behind our actions and choices.

You will need:

- Card or paper to make 10 numbered check-points (you could create a trail map)
- Blu-tac or drawing pins
- To make up question sheets using the **'Sustainability Trail' resource sheet.**

What to do:

- Decide who will ask the questions – you'll need to carry the question sheet around the trail.
- You have to find 10 hidden check-points.
- At each check-point you will be asked a question and asked to explain your answer.
- The person with the question sheet will award one point for each correct answer and up to 10 points for each good explanation.

Variations:

1. Award points for finding the check-points.
2. Provide clues about explanations.
3. Replace the need to provide explanations with additional questions e.g. Question 1: Where do we use electricity in our home?

5 Footprints In The Snow

Key learning point:

- Knowing the most effective ways to reduce household carbon emissions helps you to target your efforts.

You will need:

- Card, string and scissors to make two to three polar bear masks – a template for the mask is available on the following website:
- www.tesco.com/assets/greenerliving/content/images/activity_sheets/Make%20a%20Polar%20Bear%20Mask_0-5topic2_2.pdf
- Copies of the **'Polar bear paw print' record sheet** for each child.
- A bank of paw prints from the same resource sheet. Just print onto paper, cut out the prints and pop blu-tac or adhesive to the reverse.
- To make a 'What to do' card

What to do:

Young people

- Write your name on your **'Polar bear paw prints' record sheet**
- Answer the questions. If you get an answer right, a polar bear paw print will be added to your record sheet

Adults

- Put on the polar bear mask and ask the questions from the sheet.
- Circle each child's answer on their **'Polar bear paw prints' record sheet.**
- Add a polar bear paw print every time they get a right answer.

Variations:

1. Allow children to ask the questions. They may require help in reading the questions.

Question Sheet Answers

Answers in **bold** are correct – give them a paw print!

1. What percentage of the heating in a house can be lost through...
The windows? Is it **20%** or 30%
The walls? Is it **25%** or 45%
The roof? Is it 15% or **33%**
2. Turning the heating down by 1 degree cuts heating bills by:
5% or **10%**
3. Which of these appliances create the **lowest** amount of greenhouse gas emissions in the average UK household?
Is it the **washing machine** or electric tumble dryer?
Is it the kettle or **gas oven**?
Is it the **gas hob** or electric hob?
Is it the standard light bulb or **low energy light bulb**?
Is it the **dishwasher** or an 'A' spec Fridge freezer?
Is it the television or **CD player**?
Is it the **vacuum cleaner** or power shower?



6 Get On Target

There are two versions of this game – one focuses on action that can be taken in schools, the other focuses on action that can be taken at home.

Key learning point:

- Knowing the most effective ways to reduce carbon emissions helps you to target your efforts.

You will need:

- To make a set of skittles – seven for each game. You could use plastic bottles, each filled with a small amount of sand or water to provide stability. Each skittle should be labelled – see below
- One ball (tennis or similar)
- To prepare 'Get on target score sheets' for each game using the resource sheet
- To make a 'What to do' card

Labels for the school action game skittles:

Heating, Electricity, Purchasing & Waste, Food & Drink, Travel & Traffic, Buildings & Grounds, Water.

Labels for the home action game skittles:

Recreation, Heating, Food, Household Appliances, Washing & Cleaning, Clothing, Travelling to Work.

What to do:

- Set out a game of skittles or seven pin bowling.
- Each skittle stands for a different source of greenhouse gas emissions.
- The largest sources are worth the most points.
- Your task is to knock over the largest sources of emissions.
- Decide who is going to score and who is going to bowl.

What to do – Bowler:

- Bowl the ball and try to knock over a skittle.
- Each skittle is worth a different number of points.
- Take a few practice goes to find out the points scored for some of the different skittles.
- Challenge: Score the largest number of points by knocking over three skittles.

What to do – Scorer:

- Allow the bowler several practice goes.
- Use the score card to tell the bowler how many points they've scored.
- Challenge: The bowler has three turns to try to score as many points as possible by knocking over three different skittles. If they knock down more than three skittles, they must choose the three that will be used to work out their score.

7 Footprint Calculator

Key learning point:

- Footprint calculators help us think about the ways our lifestyle affects the environment and help to find ways to reduce our impact.

You will need:

- A computer with online access to the WWF ecological and carbon footprint calculator at <http://footprint.wwf.org.uk> NB You do not need to enter an email address or password. The footprint calculator only allows users to enter their answers once - you'll need to open a new window for each group that uses the calculator
- To make a 'What to do' card

What to do:

- Use the footprint calculator and find out about your family's impact on the environment.
- Sign up to find out how you can reduce your carbon and ecological footprint.



Fact Sheet: Orang-utan

Description

Orang-utans – ‘people of the forest’ – are the largest tree-climbing mammal. They have a characteristic ape-like shape and shaggy reddish fur. They have grasping hands and feet, with very long arms that may reach 2m in length. Their legs are relatively short and weak, but the hands and arms are powerful. Adult males are distinguished by their large size, throat pouch and cheek pads on either side of the face. Adults measure 1.25-1.50m from head to toe; females weigh between 30-50kg and males 50-90kg. Orang-utans travel about by moving from one tree to another, avoiding climbing down to the ground. The species moves on ‘all fours’, with the clenched fist placed on the ground. At night they make a nest of vegetation to sleep in, with smaller ones made during the day to rest. They have been observed making tools to scratch themselves, using leafy branches to shelter under, and using branches for foraging, honey collection, etc.

Where they live

Orang-utans are the only great ape found in Asia. They live in tropical and subtropical moist broadleaf forests. Orang-utans once lived all the way from southern China to the foothills of the Himalayas, and south to the island of Java, Indonesia. Today, they are confined to the rapidly dwindling forests of just two islands, Sumatra and Borneo.

Threats

Most orang-utans are found in lowland areas, preferring forests in rich river valleys or floodplains. Sadly this preference is shared with humans, and the orang-utans’ tropical forest home

is fast disappearing due to logging and agriculture for rice and palm oil. An estimated one in 10 products on supermarket shelves contains palm oil. The versatility of this product is the forests’ downfall; it is used in toothpaste, crisps, biscuits, pastry, margarine, ice-cream, soap and detergents as well as bio-fuel products. Palm oil production is expected to double by 2020.

Widespread forest fires – many set deliberately to clear land for plantations – destroy vast areas and kill thousands of these slow-moving apes. Another threat is illegal hunting for food, the exotic pet trade or the entertainment industry. Just 100 years ago there were probably over 230,000 orang-utans in Bornea and Sumatra: now just over 60,000 survive. If efforts to protect the orang-utan fail, Asia’s only great ape may be lost from the wild in a few decades.

What can be done to help

The Round Table on Sustainable Palm Oil (RSPO) was set up in 2004 by WWF and several international partners. Its purpose is to ensure that the palm oil industry doesn’t use land needed by endangered wildlife or local communities. It aims to set up a certification system so that retailers and customers know whether the palm oil in the products they buy comes from sustainable plantations.

Palm oil is in so many products that a boycott would be impossible. But by writing to retailers we can put pressure on them to make sure that products containing palm oil come from sustainable sources and are clearly labelled.

Visit wwf.panda.org and search on ‘RSPO’ for more information.





Fact Sheet: Tiger

Description

The tiger is one of the most charismatic and evocative species on Earth. With a body length of 140-280cm and tail length of 60 to 95cm, the tiger is the largest of the Asian big cats. The characteristic stripe patterns differ from one individual to another and from one side of the cat's body to the other. In fact, there are no tigers with identical markings. The upper part of the animal ranges from reddish orange to ochre, and the under parts are whitish. The body has a series of black striations of black to dark grey colour. Males exhibit a characteristic ruff (lengthened hairs around the neck), which is especially marked in the Sumatran tiger.

Tigers have dens in caves, tree hollows and dense vegetation. They are mostly nocturnal but in the northern part of its range, the Siberian subspecies may also be active during the day at winter-time. Using their sight and hearing rather than smell, the tiger stalks its prey and once it has reached close proximity, attacks from the side or rear and kills by a bite to the neck or the back of the head. Tigers are typically solitary hunters and prey mainly on deer and wild pig.

Where they live

Bangladesh, Bhutan, Cambodia, China, India, Indonesia (Sumatra), Lao PDR, Myanmar, Malaysia, Nepal, North Korea (few left), Russia (Far East), Thailand, Vietnam.

Tigers can be found in a wide range of habitats, from the evergreen and monsoon forests of the Indo-Malayan realm to the mixed coniferous-deciduous woodlands of the Russian Far East and the mangrove swamps of the Sundarbans, shared by India and Bangladesh.

Threats

The tiger is one of the most threatened species on Earth. Only about 4,000 remain in the wild, most in isolated pockets spread across increasingly fragmented forests stretching from India to south-eastern China and from the Russian Far East to Sumatra, Indonesia.

Across its range, this magnificent animal is disappearing. Today, tigers are poisoned, shot, trapped and snared, and the majority of these animals are sought to meet the demands of a continuing illegal wildlife trade.

Hunters, traders, and poor local residents whose main means of subsistence comes from the forest, are wiping out the tiger and the natural prey upon which it depends. While poaching for trade continues to menace the tiger's survival, perhaps the greatest long-term threats are the loss of habitat and the depletion of the tiger's natural prey. Large commercial plantations have replaced a lot of tiger habitat in several tropical range countries.

In the past century, the world has lost three of the nine tiger subspecies. The Bali, Caspian, and Javan tigers have all become extinct ... and many scientists believe the South China tiger is "functionally extinct".





Fact Sheet: Polar Bear

Description

The polar bear – *Ursus maritimus*, or “sea bear” – is the largest living land carnivore. Adult males measure 2.6m in length and weigh 400-600kg. Females are about half the size. Polar bear cubs are born in snow dens and weigh up to 0.7kg at birth. The polar bear’s coat, covering it completely except for the nose and foot pads, is superbly adapted to Arctic environments, where temperatures rarely exceed 10 °C (50 °F) in summer and typically hover around -30 °C (-22 °F) during winter. It is the reflection of light that causes the fur to appear white, or yellowish white. In fact, the fur has no white pigment. Polar bears are excellent swimmers and can sustain a pace of 10km/h by using their front paws like oars while their hind legs are held flat like a rudder. The soles of their feet have small lumps and grooves that help the bear to walk without slipping. They feed mainly on ringed seals.

Where they live

Polar bears live on the ice-covered waters of the Arctic – Canada, Norway, northern USA and Russia. They spend much of their time at or near the edge of the pack ice. This is where they are most likely to find food. As the southern edge of the Arctic ice cap melts in summer, some bears will follow the retreating ice north to stay close to seals and other prey. Other bears spend their summers on land, living off body fat stored from successful hunting in the spring and winter. When the ice returns in the fall, the bears leave land to resume life on the sea ice.

Threats

Increasing levels of carbon dioxide and other heat-trapping gases in the atmosphere from the burning of fossil fuels – oil, coal and gas – are causing global warming (see the ‘A changing climate’ fact sheet). As a result, annual sea ice in the Arctic is melting earlier in the spring and forming later in the autumn. Research funded by WWF has found that this leaves many polar bears with less time on the sea ice to hunt for food and build up their fat stores, and increased time on land where they must fast. As their icy habitat disappears, the survival of the polar bear is at risk. Although the species is not currently endangered, its future is far from certain. If current warming trends continue, scientists believe that polar bears may disappear within 100 years.

Large carnivores are sensitive indicators of ecosystem health. Polar bears are studied to gain an understanding of what is happening throughout the Arctic as a polar bear at risk is often a sign of something wrong somewhere in the Arctic marine ecosystem.





Fact Sheet: Marine Turtles

Description

Unlike tortoises and freshwater turtles, sea turtles have flippers instead of legs, are clawless and cannot withdraw their heads into their shells. There are seven known species of marine turtle: the flatback, green, leatherback, loggerhead, hawksbill, Kemp's Ridley and olive Ridley. Scientists disagree as to whether the black turtle is a further species or merely a subspecies of green turtle.

Where they live

The Pacific coast plays host to Olive Ridley, green and leatherback turtles. The Caribbean shore hosts green, hawksbill, leatherbacks and loggerheads. The leatherback is capable of travelling huge distances. Most marine turtles live in warm tropical and sub tropical seas, but the leatherback also visits cooler waters. If global warming continues, we may see more of the leatherback and other species which make occasional appearances off the British coast.

Threats

Turtles spend most of their lives at sea, but lay their eggs on land. When the hatchlings are born, they rely on reflected moonlight to guide them to the sea and safety. But as tourist development has encroached onto nesting beaches, the babies have become confused and have frequently headed towards the bright lights of discos, beach bars and cafés instead – only to collapse exhausted and be attacked by predators. However, tourism can also offer a solution, and when fishing communities and poachers realise that more money can be made from taking tourists to see turtles, and that a simple change of fishing hooks and practices can save the species, the solutions benefit all concerned. The diet of the turtle varies according to the species. Green turtles are fond of sea grasses, while leatherbacks favour jellyfish. Leatherbacks often mistake floating plastic bags for their favorite prey, with fatal consequences.

The leatherback turtle has declined by more than 95% in the last 20 years. Part of the cause is the often unintentional killing of marine turtles on hooks and nets set by fishermen. This is compounded by harvesting turtles and their eggs for food by coastal communities. The Kemp's Ridley is now critically endangered because its population has declined due to human exploitation and because it gets trapped in shrimp nets. The species is particularly vulnerable because it nests on just one stretch of beach in Mexico.



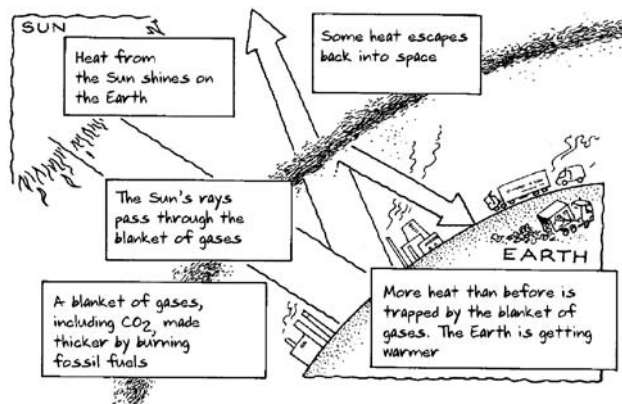


Fact Sheet: A Changing Climate

Our climate has changed many times over the history of the earth – think of the ice age and the dinosaurs! But most scientists and governments agree that human activities are making the climate change so fast, that nature can't keep up – habitats and species just can't adapt in time to survive. And people are affected too – through increased risk of extreme weather events, flooding, etc which affect livelihoods, property, food production and sometimes take lives.

What's happening?

The earth is surrounded by a blanket of gases. This blanket is important because it lets just enough heat from the sun through to the earth – and just enough heat to escape back into space – to allow life on earth to flourish. But now this blanket of gases is building up too quickly and too thickly – so more heat than before is trapped on the Earth's surface, upsetting the delicate balance. Some people call this global warming or the greenhouse effect. A more accurate description is climate change, as the effects can be variable, with some places getting hotter and drier, and others colder and wetter.



The Greenhouse Effect, David R. Wright, WWF-UK/Hodder and Stoughton, 1990

What's this got to do with us?

The houses we live in; the factories which make and the shops which sell the products we use; the cars, lorries, planes, boats and trains which transport goods around the world and which we use to get around in, and a host of other things we humans are responsible for – all use fossil fuels like petrol, diesel, gas or electricity and all help to release greenhouse gases such as carbon dioxide into the atmosphere.

How can we use less energy?

Here are some things for the unit to think about

How do we travel to our meetings – is there a better way?

Stop using so much gas and electricity in our homes and meeting place. How could we do this? Switch off lights, turn down heating, don't leave electrical goods on standby, close the curtains, wear an extra jumper

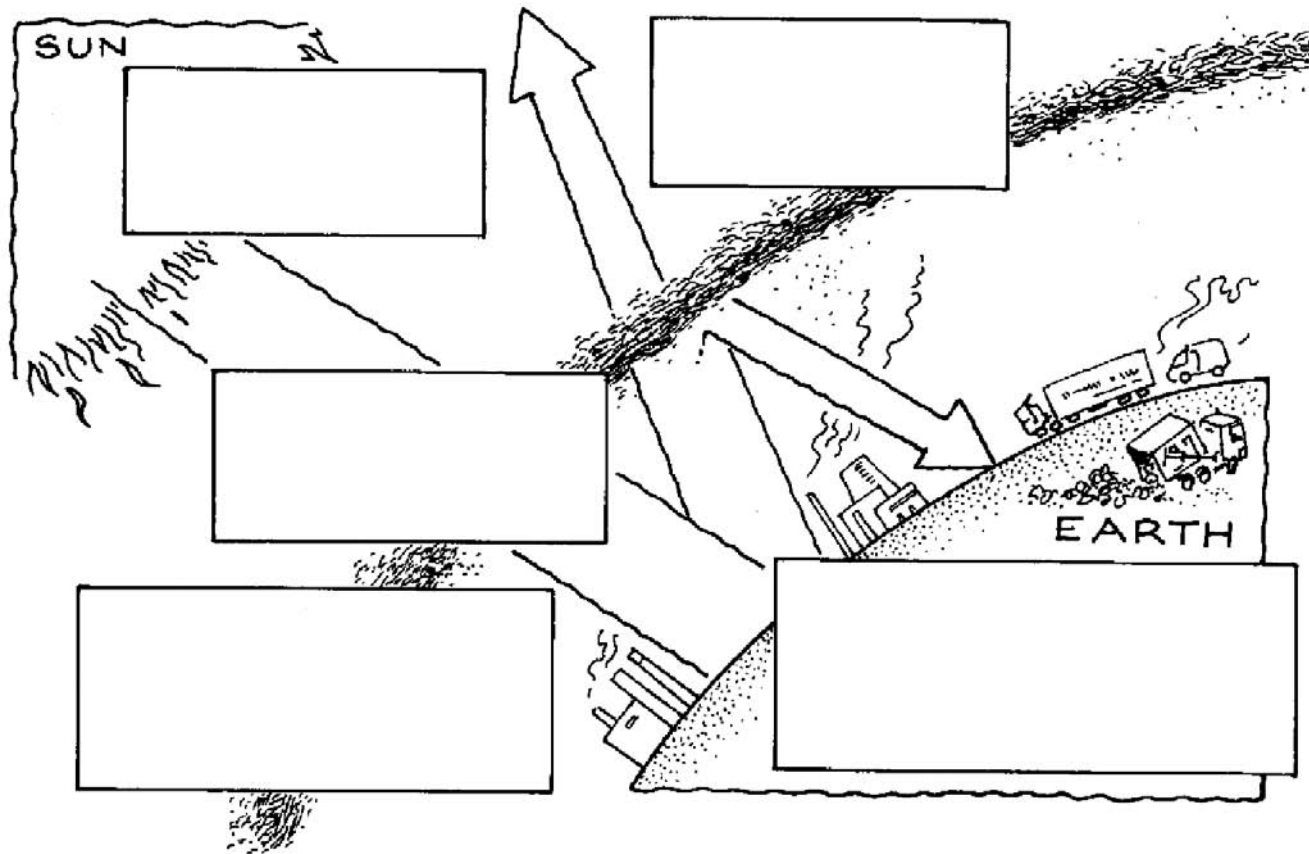
Use electricity made from the sun, or wind – this type of energy does not create large amounts of greenhouse gases.

Don't waste water; electricity made from fossil fuels is used to pump water to your tap – using water means using energy.

Buy things that are grown or made close to where you live – less fuel is used to bring these things to you.

Reduce, reuse and recycle – lots of greenhouse gases come from the farms, mines, factories, and transport that make and carry the things we buy. Buying fewer things, looking after the things we have, finding new uses for some of the things we no longer need and recycling other things we no longer need all help to reduce greenhouse gas emissions. It takes less energy to make things like a glass bottles, paper and aluminium cans from old cans, paper and bottles than it does when you make them from new. **Saving energy helps to save the planet for polar bears and people.**

Changing Climate



The Sun's rays pass through the blanket of gases

Some heat escapes back into space

Heat from the Sun shines on the Earth

A blanket of gases, including CO₂, made thicker by burning fossil fuels

More heat than before is trapped by the blanket of gases. The Earth is getting warmer

The Greenhouse Effect, David R. Wright, WWF-UK/Hodder and Stoughton, 1990



Species Images





Memory Game – What's On The Tray?

Tray 1

Information card:

- Orang-utans may become extinct in the wild within the next 20 years.
- Over the past 100 years, the population of orang-utans has fallen by 91%.
- There were about 1,000 Sumatran tigers in 1978 and fewer than 400 today.
- The tiger and orang-utan's rainforest habitat is being destroyed to grow palm oil.
- Palm oil is used in one in 10 of the items sold in supermarkets.
- Palm oil is also used to make biodiesel.
- Products rarely include the words 'palm oil' in the list of ingredients – it's called 'vegetable oil' or 'blended vegetable oil'

Tray 2

Information card:

- Polar bears, tigers, marine turtles and orang-utans are threatened by climate change which is destroying their habitats.
- Polar bear numbers may fall by some 30% in the next 50 years as a direct result of climate change. They could become extinct within 100 years.
- Greenhouse gases cause climate change.
- We create these gases when we use gas or electricity or travel by car.
- Greenhouse gases are created by the manufacture, transport and disposal of the things we buy.
- Meat and dairy farming creates more greenhouse gases than arable farming (i.e. farms growing corn, fruit or vegetables).
- Using water creates greenhouse gases because energy is used for pumping and purification.
- Greenhouse gases are created by the ships, planes and lorries that are used to transport our food.

Tray 3

Information card:

- Six of the seven species of marine turtles are listed as Endangered or Critically Endangered.
- Turtles choke or starve after eating plastic litter.
- Chemical pesticides used in farming end up in the oceans.
- Chemical pollutants poison turtles or make them vulnerable to diseases.
- Each year, about 250,000 turtles are drowned when they become trapped in fishing nets or hooked on longlines.



Sustainability Trail Question Sheet

Award points for answers given in blue

- 1 We should use more/less gas, oil, electricity, petrol and diesel**
Because **a) they're fossil fuels and they cause climate change b) they cost a lot of money to buy c) the planet has limited supplies of these fuels.**
- 2 Greenhouse gasses from fossil fuels are good/bad for the environment**
Because **a) they trap heat in the atmosphere and cause changes in the climate b) they're poisonous c) they stop us from freezing.**
- 3 Brush your teeth with the taps turned on/off**
Because a) it saves water for people in other countries **b) it saves energy – it takes lots of energy to treat and pump water c) it stops pollution.**
- 4 Try to travel to school by bike/car/on foot**
Because a) most car engines create greenhouse gases **b) walking and cycling keep you fit c) travelling by car helps the environment.**
- 5 Close/open the curtains at night**
Because a) curtains keep greenhouse gases in the room b) curtains stop the darkness getting into the room **c) curtains keep the warm air in the room – the heating system does less work and so uses less energy.**
- 6 Turn the TV off/leave it on stand-by when you're not using it**
Because **a) machines left on stand-by use lots of electricity b) it takes more electricity to switch things on again c) most electricity is made from fossil fuels.**
- 7 Product labels should/shouldn't tell us if the things we buy contain palm oil**
Because a) we might not like the taste **b) we need to be able to make choices about what we buy c) the people who make the things we buy will be more careful about what they put into their products.**
- 8 Eat more local/imported foods**
Because **a) transporting foods uses more fossil fuels and leads to climate change b) local foods taste better c) local foods cost less money.**
- 9 Reusable shopping bags are intended to protect/destroy the environment**
Because **a) making throw-away plastic bags wastes energy b) plastic litter is a danger to marine turtles c) they reduce the amount of waste we create.**
- 10 It's better to spend time/money together**
Because a) buying nice things is the best way to show someone that you care about them b) shopping makes everybody feel better **c) it takes energy to make and transport the things we buy.**



Polar Bear Paw Prints Record Sheet

My name:

1. What percentage of the heating in a house can be lost through?

The windows?	20%	30%
---------------------	-----	-----

The walls?	25%	45%
-------------------	-----	-----

The roof?	15%	33%
------------------	-----	-----

2. Turning the heating down by 1 degree cuts heating bills by:

5%	10%
----	-----

3. Which of these appliances create the lowest amount of greenhouse gas emissions in the average UK household?

washing machine	electric tumble dryer
-----------------	-----------------------

kettle	gas oven
--------	----------

gas hob	electric hob
---------	--------------

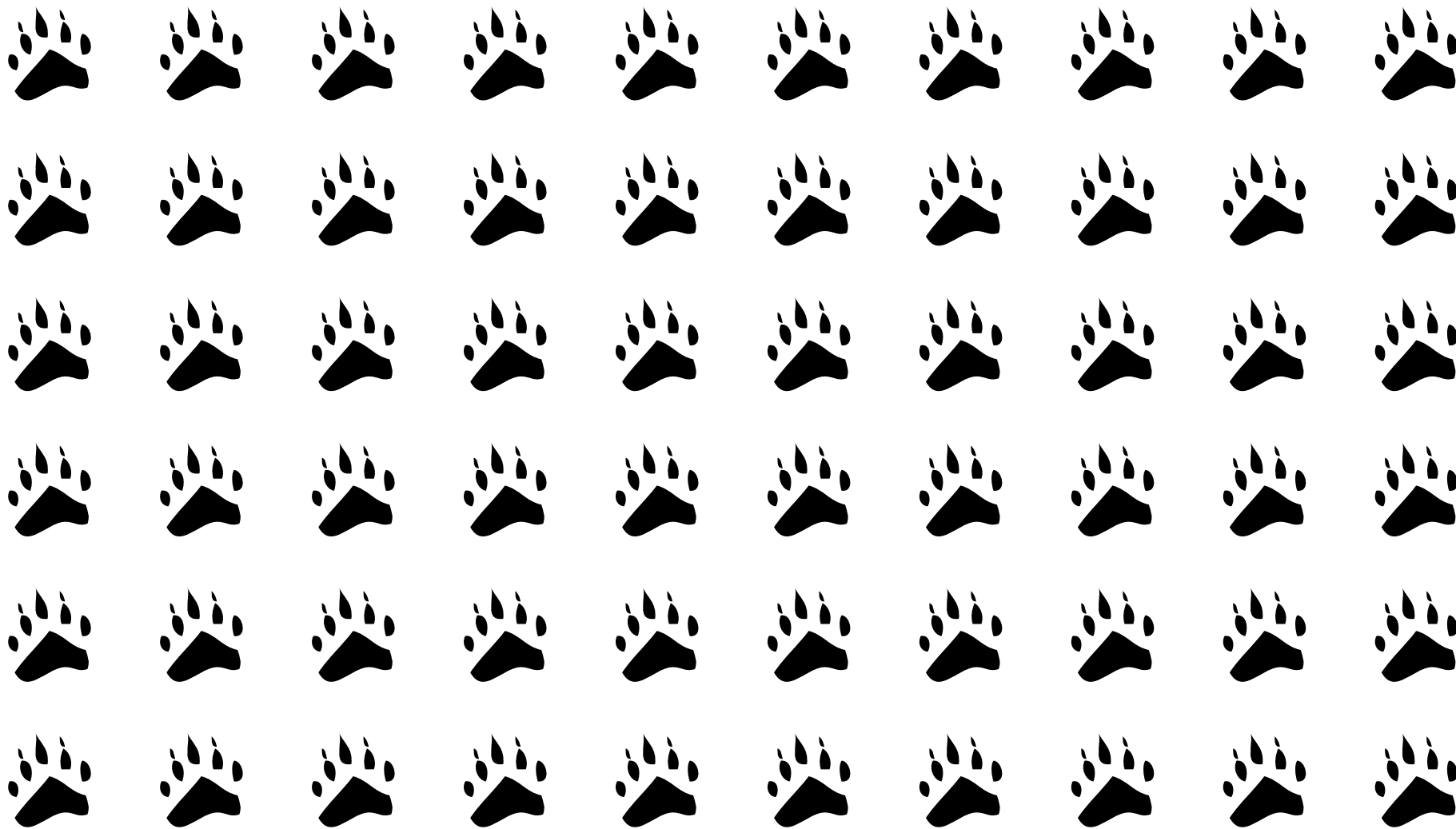
standard light bulb	low energy light bulb
---------------------	-----------------------

dishwasher	'A' spec Fridge freezer
------------	-------------------------

television	CD player
------------	-----------

vacuum cleaner	power shower
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Polar Bear Paw Prints





Get On Target Score Card

Important note: the points are different for Primary and Secondary schools – players should decide which points system they are using.

Primary schools

Heating – 15
Electricity – 20
Purchasing & Waste – 32
Food & Drink – 25
Travel & Traffic – 7
Buildings & Grounds – 0.5
Water – 0.5
Maximum score: $32 + 25 + 20 = 77$

Secondary schools

Heating – 27
Electricity – 22
Purchasing & Waste – 23
Food & Drink – 19
Travel & Traffic – 8
Buildings & Grounds – 0.5
Water – 0.5
Maximum score: $27 + 23 + 22 = 72$

Average UK household

Recreation – 20
Heating – 15
Food – 14
Household Appliances – 13
Washing & Cleaning – 12
Clothing – 1
Travelling to Work – 1
Maximum score: $20 + 15 + 14 = 49$

The numbers represent the percentage of carbon dioxide emissions created by that sector in the average UK household. So, for example, recreation (holidays, days out, trips to the cinema, etc) accounts for about 20% of the carbon dioxide emissions from UK households.

Useful Links

The links below offer follow-up ideas to the activities in Section 1. Organisers should select the ones that are best suited to their event bearing in mind issues such as space, time, material resources and the availability of people to support the activities.

The activities have been selected because they're enjoyable, creative and practical. The following symbols are used to indicate the purpose of each activity:



Celebration of the wildlife featured in Section 1.



Practical way to address an environmental issue.

For many of the ideas, we've also flagged up what the activity has to do with sustainable living.

Finding out more about the featured animals



Build your own marine turtle

Equipment: See website:

www.seaturtleinc.com/lessonplans/buildyourownseaturtle.htm



Make an origami polar bear

Equipment: See website:

www.youtube.com/watch?v=4uG3__QaGOA



Make a sock puppet

Equipment: See website:

www.nickjr.co.uk/activities/dotogethers/sockPuppets.aspx



Make an orang-utan puppet

Equipment: plastic bags, old socks, newspaper, masking tape, felt pens or paint. What to do: Stuff plastic bags with crumpled newspaper to make the head and body. Stuff crumpled newspaper into socks to make the arms and legs. Masking tape can be used to join the body parts and to provide a surface that can be decorated.



Mask-making

Equipment: Paper plates, card, felt pens, scissors, wool or string, templates downloaded from the following websites:

Orangutan: www.wwf.org.uk/walk/maskb_w.pdf

Polar bear: www.tesco.com/assets/greenerliving/content/images/activity_sheets/Make%20a%20Polar%20Bear%20Mask_0-5topic2_2.pdf

Tiger: www.dltk-kids.com/animals/metiger.html

Marine turtle: www.gbrmpa.gov.au/_data/assets/pdf_file/0006/16899/End._Species_Mask_Kit.pdf

Useful Links

Finding out more about the issues



Bicycle maintenance session

Equipment: Bicycle and tools.

What to do: Encourage cycling by offering a range of hands-on activities e.g. puncture repair, fitting a bell, fitting lights, putting chain back on.

What's this got to do with sustainable living? Cycling reduces carbon footprint.



Build a cotton reel car

www.instructables.com/id/S063BECF3AQ3707/

What's this got to do with sustainable living? An opportunity to think about alternative sources of energy.



Build a table out of newspaper

http://pbskids.org/designsquad/projects/paper_table.html

What's this got to do with sustainable living? An opportunity to think about materials and the way things are made.



Grow a tree from seed

Equipment: See website:

www.bbc.co.uk/gardening/gardening_with_children/homegrownprojects_tree.shtml

What's this got to do with sustainable living? Trees and plants help to reduce the amount of carbon dioxide in the atmosphere.



Grow indoor lettuce

www.urbanext.uiuc.edu/gpe/case1/c1a.html

What's this got to do with sustainable living? Locally grown food helps to reduce carbon footprint.



Knitting and crocheting

<http://www.learn2knit.co.uk/>

What's this got to do with sustainable living? An introduction to a pastime with a low carbon footprint.



Make a bag for life

Equipment: See websites:

www.greengrocer.co.uk/media/downloads/instructions.pdf

or

www.abolishplasticbags.org.uk/?q=make_your_own_bag

What's this got to do with sustainable living? Reducing your carbon footprint, waste and plastic pollution.



Make a bug box or bee home

Equipment: See website:

www.rspb.org.uk/wildlife/wildlifegarden/atoz/b/bugbox.asp
www.bbc.co.uk/breathingplaces/doingthings/simple/bee_home.shtml

What's this got to do with sustainable living? Protecting local wildlife.



Make clothes out of newspaper or old clothes

Equipment: newspapers, scissors, glue or sticky tape

What's this got to do with sustainable living? An opportunity to think about the ways things are made, and encourage people to re-use, mend and create their own clothes.



Make a draught excluder

Equipment: See website.

www.abc.net.au/creaturefeatures/make/doorsnake.htm

What's this got to do with sustainable living? Reducing your carbon footprint.



Make a recycled bird feeder

Equipment: See website:

www.rspb.org.uk/youth/makeanddo/activities/birdfeeder.asp

What's this got to do with sustainable living? Protecting local wildlife.



Make a woven paper basket

Equipment: See website:

www.jamboree.freedom-in-education.co.uk/w's%20craft%20corner/paper_woven_basket.htm

What's this got to do with sustainable living? Reducing your carbon footprint, waste and plastic pollution.

Useful Links



One Planet Future food tasting session

Equipment: Selection of relevant foods e.g. locally produced, organic, vegetarian, home-made, vegan, fair trade.

What to do: Invite people to taste the food and talk about the environmental impact of different types of food.

What's this got to do with sustainable living? Making better food choices.



One Planet Futures map

Equipment: Large map of the local area, paper, pens, wool, pins.

What to do: Invite people to help to create a map that shows places that are relevant to One Planet lifestyles e.g. allotments, a recycling bank, a good cycling route, a library, a great place to play)

What's this got to do with sustainable living? Valuing the local environment.



One Planet Future technology show

Equipment: a range of items e.g. wind up torches/radios, low energy light bulbs, water saving devices, rainwater harvesting devices, LED bike light, clothes peg, fair trade coffee, organic carrot.

What to do: Invite people to look at the items, talk about what they do and how they contribute towards a One Planet Future.

What's this got to do with sustainable living? Using appropriate/ environmentally friendly technology.



Palm oil information collage

Equipment: Photos of rainforests, palm oil plantations, wildlife such as orang-utans and Sumatran tigers, packaging from items containing palm oil, information from the Roundtable on Sustainable Palm Oil (RSPO)

website: www.rspo.org/About_Sustainable_Palm_Oil.aspx

What to do: Invite people to help create a large collage based on the theme of palm oil.

What's this got to do with sustainable living? Raising awareness of the destruction of habitats through palm oil plantations.



Palm oil postcards

Equipment: Card, pens, pencils, crayons, addresses of local shops and MPs.

What to do: Ask people to design, create, write and send postcards with messages about the issue of palm oil.

What's this got to do with sustainable living? Taking action against destruction of habitats.



Quilting

Equipment: See website

What to do: Invite people to help create a One Planet Future quilt.

<http://www.thecraftstudio.com/qwc/>

What's this got to do with sustainable living? An opportunity to take part in a community project.



Rag rug making

<http://www.netw.com/~rafter4/rugtype.html>

What's this got to do with sustainable living? Re-using materials.



Stop junk mail deliveries

Equipment: Information.

What to do: Invite people to register with the Mailing Preference Service.

You can register with the MPS online at www.mpsonline.org.uk.

You can also register by calling 08457 034 599,

by emailing mps@dma.org.uk,

or by writing to Freepost 29, LON 20771, London W1E 0ZT.

What's this got to do with sustainable living? Cutting waste helps to reduce carbon footprints.

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- conserving the world's biological diversity
- ensuring that the use of renewable natural resources is sustainable
- reducing pollution and wasteful consumption.

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