

Spring 2009

Fifth Issue: Environments

The *Shoreditch* *Star*

A Themed Newspaper Created by 9-11 Year-Olds in Shoreditch



Environments

★ Charles Darwin ★ More Light, More Power ★ Eco-Web

★ Climate Change ★ Building Green ★ Food

**Shoreditch
Trust**

Commissioned and developed by Shoreditch Trust
In partnership with Burbage, Randal Cremer, Queensbridge & St Monica's RC Schools

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The Building Exploratory

The Light Building

Waterhouse Restaurant

Friends of the Earth

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EDITOR'S
INTRODUCTION

Our planet Earth has been around for a very long time – around 4.5 billion years, scientists believe. Unlike all the other planets in our Solar System – and, as far as we know, in our galaxy – ours is the only planet to have developed life. It is estimated that the first life forms originated 4 billion years ago. Since then, life has evolved into countless plants and species. Many plants and species have become extinct over time, like the dinosaurs. But many others have survived – creatures like horseshoe crabs, sharks, sea-turtles and crocodiles go back hundreds of millions of years.

Human beings can trace their origins back to a species of small ape living six million years ago. But modern humans – with the bodies and the brains we have today – probably only evolved about 200,000 years ago. Humans, compared to many species, have been on the planet a very short time.

And yet humans, in this short time, have had a very big impact on the planet. We have changed landscapes. We farm animals in their billions, and hunt species to extinction. We've learned to harness resources, like oil and water, but we've also over-used them. We create so much waste that there are land-fills the size of whole countries all over the world, filled with things that won't rot away for hundreds of years. We build gigantic cities and invent ever-faster forms of transport that, while allowing us to live well and travel around the world, have also polluted the air, the earth, the waters of our rivers and seas. And now, it is believed, this human activity is contributing to a change in the overall temperature of the planet.

During its extraordinary history our planet has gone through many changes. The Earth's climate has warmed up and cooled down many times. It has gone through periods of intense volcanic activity when whole continents moved across the planet's surface. And it has experienced a series of 'ice ages' where much of the planet was covered with ice.

Today we are experiencing another climate change. When we talk about climate change (or global warming) we are talking about an overall rise in global temperature. This rise in temperature will change many things about our planet and its various environments.

This issue of the Shoreditch Star explores the theme of our environment, paying particular attention to the environments and eco-systems that make this such a diverse and beautiful planet.

Our writers have investigated climate change, finding out what is causing it and what effects it might have on our oceans, our environments, our plants and animals, and our ways of life around the world. Some delved into the work of Charles Darwin – who was born 200 years ago this year – and learned about how scientists believe the Earth and its species evolved. Others looked back into the distant past to see what we can learn from our ancestors about looking after the environment – while some children looked to the future, to see what we can all do to safeguard things for generations to come.

There are many more things we could have included in this issue, but these are sometimes complicated topics, and it required a lot of hard work to learn about them. Maybe this edition of the Shoreditch Star can provide you with a 'talking point', an opportunity to discuss some of the issues our children have raised.

Most importantly, we hope it helps you to think about the world we all share, and about how we can all play our part in making it an even better place to live. Because Planet Earth is a special place, so let's keep it like that!

Editor, Shoreditch Star

A Green Encyclopaedia

To help you understand more about some of the issues you may be talking and learning about in your workshops, we've created this Encyclopaedia.

An Encyclopaedia works like a Dictionary – it's a list of words or terms in alphabetical order. For our Encyclopaedia we've also provided helpful tips about how to find out more using the internet by providing useful web addresses.

Alternative Energy

Alternative energy means to create energy without using oil or gas or coal (which are called fossil fuels). Instead, it comes from renewable sources, such as sunlight, wind, water and steam. Even waste products can be used to create alternative energy. By using alternative energy we do not pollute the environment. Alternative energy is also called renewable energy because it can't run out – there will always be sunshine and wind and rain to power our machines and give us electricity.

FIND OUT MORE...

www.eia.doe.gov/kids for lots of easy-to-understand information on old and new sources of energy. Look up solar power, wind turbines or hydro electric power on this site – or use a search engine to find out more about them.

SEE ALSO... Fossil Fuels and Bio Fuels and Pollution

Architecture

Architecture is the design of buildings and structures, such as bridges. Somebody who designs buildings and structures is called an architect.

The design for a building begins with a simple drawing and then more detail is added until there is enough information for a builder to build it. An architect can design a building that is specific for the use of the building (like an office or housing or a museum). The use of the building is not the only thing that is important to a building. Often the owner wants to express something with their building. Architecture is very different in different countries, cultures and throughout history.

SEE ALSO... Urban Planning



Arctic Ice

The Arctic Circle is the icy region around the North Pole covering around 30 million square kilometres. The Arctic ocean has been covered with ice since the start of the last Ice Age 125,000 years ago. But during the summer months of 2008, for the first time in modern history, lots of this sea-ice disappeared. The melting of the ice is due to an increase in world temperatures because of global warming. And the more the ice melts, the more sea levels will rise around the world, therefore affecting all our coastlines. Scientists are now warning that the Arctic could become entirely ice-free during the summers from the year 2013. This could prove catastrophic for the world.

FIND OUT MORE...

Go to www.panda.org and click on 'Europe' under 'Where we work' on the left-hand bar. Then click on 'Arctic' and there's lots of information. This website is also great for information about climate change generally.

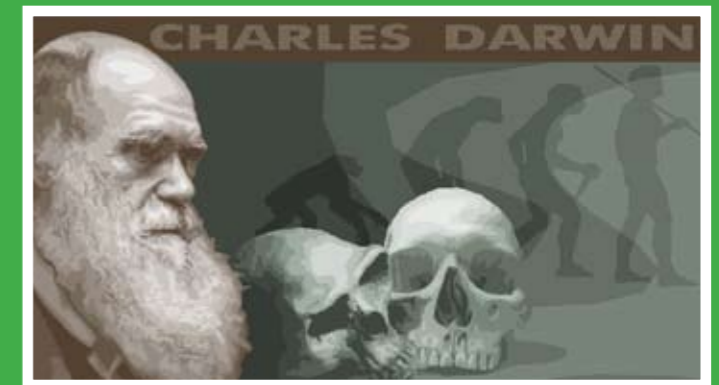
SEE ALSO... Coastal Erosion and Endangered Species and Global Warming

Bio-Fuels

Bio-fuels are fuels – like oil or gas – which are used to power things. But unlike oil or gas they come from sources such as agricultural products, including vegetable oils, soya beans and sugar cane. These fuels are less polluting to the environment. However, there is concern that in order to grow crops to produce bio-fuels large areas of forest have been

cut down and other environments damaged. Bio-fuel crops can also replace the growing of foods for people, because there is more demand for it in the world. This can lead to shortages of food for local people in some countries that are growing lots of bio-fuel crops.

SEE ALSO... Pollution and Fossil Fuels



Charles Darwin

Between 1831 and 1836 Charles Darwin voyaged to some of the remotest parts of the world collecting information about plants and species and how they had evolved. He published his theory of 'natural selection' – which was called 'The Origin of the Species' – in 1859. His book argued that all living things, including humans, have evolved from very different forms into the forms we are today. It outraged many people at the time who believed that God had created everything exactly as we see it today.

FIND OUT MORE...

Visit the Natural History Museum's website www.darwin200.org. Or go to www.nhm.ac.uk – the website for the Natural History Museum – and type 'Darwin' into the search box. Click on the first item that comes up. Then on the right-hand side click on 'Biography of Charles Darwin' to learn about his life.

SEE ALSO... Evolution

A Green Encyclopaedia



Climate

When we talk about the 'weather' we are talking about the day-to-day weather where we live. Climate is patterns of weather over long periods of time – and over large parts of the World. For instance, there is an 'Arctic climate' or a 'Tropical climate' or a 'Mediterranean climate'. But we can also talk about a general 'World climate'. When we study a climate we study rainfall and temperature, among other things. Climates do change, often over hundreds or thousands of years. When we talk about 'climate change' today we are referring to a rapid change in the Earth's climate – the temperature, the rainfall, winds and storms, etc – that appears to be happening in our lifetime.

SEE ALSO... Global Warming

Coastal Erosion

This is where beaches are worn away by the sea – because of wind, storms or rising sea levels. Because of rising sea levels caused by the effects of global warming, lots of coastlines around the world are being eroded, which affects not just coastal plants and species, but also communities who live and work beside the sea, because coastal erosion can cause disastrous flooding.

Creationism

This is the belief that the universe and all life on Earth, including human beings, were created by God. While many people who believe in god also believe in the scientific explanations about how life came to be, some strongly believe that the scientific point of view is wrong. However, in our schools we teach the scientific explanations while respecting everyone's rights to individual religious beliefs.

SEE ALSO... Charles Darwin and Evolution

Ecology & Eco-System

Ecology is the study of how plants and species interact with one another in their environment (i.e. how they help each other to live). The types of plants in an environment affect the types of species in that environment. Because there are many types of environment, each environment has its own eco-system. When something goes wrong in that eco-system – like a type of insect or fish or plant or animal disappears – it changes the balance of things and can threaten the whole eco-system. When mankind hunts or fishes or farms or builds or mines for resources too much, especially in a delicate environment, this can really disrupt an eco-system. Because of changes in temperatures caused by global warming, many eco-systems around the world are threatened because it is changing the habits of plants and species. For instance, the eco-systems of the Arctic are under enormous threat because of the melting ice, which is the habitat of seals, penguins and polar bears. Without the ice, where will they live?

FIND OUT MORE...

For a children's and teachers' site, try www.nceas.ucsb.edu/nceas-web/kids - and click on the 'Learn About Ecology' section for a good introduction – look also at 'Biomes' and 'Marine Mammals'. You could also find out about the Eden Project in Cornwall – you might want to email them if you have any questions. For more local ecological information look at www.hackneywildlife.org.uk

SEE ALSO... Arctic Ice and Endangered Species and Global Warming



Endangered Species

Endangered species are animals that are threatened with extinction – which means there are very few of them left in the world, and that one day soon they might disappear completely. There can be many causes of endangerment and extinction – almost all of them caused by man. These include: loss of habitat (where environments like forests are destroyed), pollution (where the water, air or soil is too toxic to support life), hunting (often for skins, furs or horns), competition (from other species) or disease.

FIND OUT MORE...

Check out www.kidsplanet.org for a fun (and noisy!) website and click on 'Get the Facts' – you can get children's fact-files on lots of different endangered species around the world. Also go to www.wwf.org.uk and type in 'Endangered Species' into the search box – the first result gives you the opportunity to look at lots of species as well as world environments. Also try the children's version, www.panda.org

SEE ALSO... Ecology & Eco-System and Pollution

Environment

The environment is what surrounds us where we live. It is a combination of living and non-living things – from people and plants and animals, to soil and rocks and even buildings. There are many, many types of environments around the world. They can be different because of different climates – the environments of icy, desert, jungle or coastal areas are all very different. There are also rural environments (the countryside) and urban environments (towns and cities).

Evolution

Evolution is where species – people, animals, birds, fish – change over extremely long periods of times, often because of changes in environments or eco-systems. Charles Darwin's theory of evolution introduced the idea of natural selection, which shows that species that adapt better to their environments are the ones that survive. There are many millions of species in the history of the world that became extinct because they could not adapt to changes. For instance, most of the dinosaurs became extinct – while some developed wings and feathers and evolved into birds.

SEE ALSO... Charles Darwin and Ecology & Eco-Systems

Food & Seasonal Produce

Food is the fuel that keeps us alive and provides pleasure. Food is made up of proteins and can be nutritious (good for you) or bad for you if eaten in excess. Food comes from many sources including plants, animals and fungi. Our earliest ancestors used to get their food through hunting and gathering. Today most



countries use farming and fishing to produce food. Some countries use intensive farming which means they can produce a lot of food to export all over the world. Food production and distribution contributes to global warming in many ways – including the transport of foods across the world by air, which burns lots of fossil fuels. Therefore it is better for the environment if we eat foods that are grown in our own country, or locally – or that have been frozen then transported from abroad. And it is even better if we eat produce that is seasonal – which means it is grown at that particular time of year. Next time you go to the supermarket have a look at vegetables that are grown in Britain – they will be seasonal. Shoreditch Trust owns a restaurant called Waterhouse, which is one of the first restaurants in London to only use fresh seasonal produce in its food.

FIND OUT MORE...

For all kinds of information go to www.bbc.co.uk/food and click on 'Food Matters' in the left-hand column.

A Green Encyclopaedia



Fossil Fuels

Fossil fuels are non-renewable forms of energy which we use to create electricity and power our machines and engines. Fossils are the organic remains of plants and animals that existed millions of years ago. Later the remains became covered by layers and layers of rock, which pressed down upon them and turned them into coal, oil or gas. These fossil fuels burn very well and so have been used for hundreds of years. Unfortunately, when fossil fuels are burned they produce carbon dioxide, which contributes to global warming. Many of the deposits of fossil fuels around the world are also running out. Therefore it is very important that we stop using fossil fuels, and start to use bio-fuels and alternative energy.

FIND OUT MORE...

www.home.clara.net/darvill/altenerg/index.htm gives you lots of details about different types of fuel and energy, and how they are made.

SEE ALSO... Alternative Energy and Bio-Fuels and Global Warming



Global Warming & Greenhouse Gasses

When people talk about global warming they are referring to the fact that the average temperature of our planet's atmosphere has risen in the last 100 hundred years. Most scientists and experts predict that it will continue to rise. This rise in temperature is already rapidly changing the environments and the climates of the planet. It is caused by the over-production of greenhouse gasses. These are gasses which trap heat into the planet's atmosphere. Greenhouse gasses are essential: without them the planet would be very cold. But too much greenhouse gas can make the planet overheat. We produce greenhouse gas when we burn fossil fuels, which is why many people are trying to use alternative energy sources instead. Some of the effects of global warming include: melting Polar ice, rising sea levels, extreme weather, desertification, destruction of eco-systems and endangered species. Global warming will change the way we live on the planet.

FIND OUT MORE...

www.ace.mmu.ac.uk/kids/globalwarming.html has really good information on global warming. Click on 'Information Sheets' for more detailed information about things like the Ozone Layer. www.news.bbc.co.uk/cbbcnews has brilliant information - click on 'Extra Stuff' on the left-hand side, and then look for 'Global Warming' under 'G' in the list. Also try searching using one of the search engines in the 'Using the Internet' guide in this Workbook

SEE ALSO... Alternative Energy, Arctic Ice, Ecology & Eco Systems, Endangered Species, Fossil Fuels, Kyoto Protocol, Non-Renewable Energy and Pollution

Green Tax

Tax is a charge of money by government. A green tax is something used to encourage people to change how they do things, or what they buy, through making it more expensive to do it if it's not good for the planet.



G8

This stands for the Group of 8, which is a group of international governments made up of Canada, France, Germany, Italy, Japan, Russia, the UK and the USA. These countries are some of the richest and most populated countries in the world and they meet on a regular basis to discuss issues that are important to the whole world in order to come up with joint solutions. Such issues might include climate change, world health and terrorism. The G8 meetings are often targets for protesters who feel the governments haven't done enough to correct important world problems. The worldwide campaign 'Make Poverty History' targeted the G8 to try and improve the lives of the poorest countries in the world.

FIND OUT MORE...

Look at the Oxfam website www.oxfam.org.uk and search 'G8' - click on the first thing that comes up and look at their campaign to get the G8 leaders to tackle the big issues.

Kyoto Protocol

In December 1997 many countries in the world met in Kyoto, in Japan, to create a treaty to try and tackle global warming. But it took eleven years - until 2008 - for 182 'parties' (countries, or groups of countries like the European Union) to finally sign an agreement. The USA - which is one of the biggest producers of greenhouse gasses in the world - has not made it the law in their country, so doesn't actually have to obey it. The Kyoto Protocol requires our governments to set targets to reduce the production of greenhouse gasses that cause global warming. But many scientists believe that these targets will not be enough to slow down the pace of global warming.

SEE ALSO... Fossil Fuels and Global Warming



Organic Food

Organic foods are grown without the use of chemicals like pesticides or artificial fertilizers. Farm animals are reared without medicines or hormones. In most countries, organic produce must not be genetically modified.

Pollution & Waste

Pollution is harmful material that we put into the atmosphere or the environment - the air, rivers and oceans, the countryside, our towns and cities. It damages and destroys the atmosphere or the environment, sometimes ruining eco-systems and habitats, and endangering species. Factories and transport cause lots of pollution - but ordinary people do too. In the UK alone we produce over 300 million tonnes of waste - or rubbish - a year. Much of that waste does not rot: it pollutes the environment for hundreds of years.

FIND OUT MORE...

Your school could join a campaign to tidy your area - go to www.thebigtidyup.org to find out more.

A Green Encyclopaedia

Recycling

Recycling is where we turn old things into new ones – instead of throwing things away we re-use them. This decreases the amount of waste – like metal, glass, plastic and paper – that is left to pollute the environment. We should all be recycling materials in our homes, schools and places of work.

FIND OUT MORE...

Try www.recycle-more.co.uk and click on the 'Schools' section at the top – there's loads of helpful information on the subject



Renewable Materials & Energy

Some things used by people can be replaced, other things cannot. For example, trees cut down to make space for farming are not renewable, but where trees are replanted after logging, this is renewable. Often renewable is used when talking about energy. Coal takes millions of years to be made, so it is not renewable when it's burned. But power from the sun, wind or water can never be used up, so it is renewable.

FIND OUT MORE...

Look at www.eia.doe.gov/kids/energyfacts for lots of helpful information on the subject of both renewable and non-renewable energy.

SEE ALSO... [Alternative Energies and Fossil Fuels](#)

Sustainable & Natural Resources

Resources are things that are useful to us. natural resources are things that come from the environment that we use to survive, such as materials, water, plants and animals. Many natural resources can be replaced or easily made. These are called sustainable resources. But some resources cannot be easily replaced, and so we have to be very careful not to use them up, or they won't be available for the use of future generations.

Transport

Transport is what we use to move people and objects from one place to another, as well as the things needed to make that possible – roads, railway lines, canals, footpaths, planes, trains, boats, cars, bikes... and feet. Transport is a big environmental issue, because some forms of transport – like cars and planes – are huge polluters of the environment. Other forms, such as trains, trams and bikes are much more environmentally friendly.



FIND OUT MORE...

The Mayor of London's website for children - www.london.gov.uk/young-london/kids - has all kinds of information. Click on 'Issue Zone' at the top and look at 'Be Green' link.

Urban Planning

Urban Planning is the planning of the land where we live and work. It puts together all the important elements you need to make an urban environment. If nobody was responsible for urban planning there would be chaos. That is why governments must make plans, but also talk to everybody who has an interest in the area. Urban planning can also protect people from things like flooding or pollution, as well as look at ways to make our communities safer and more pleasant to live in.

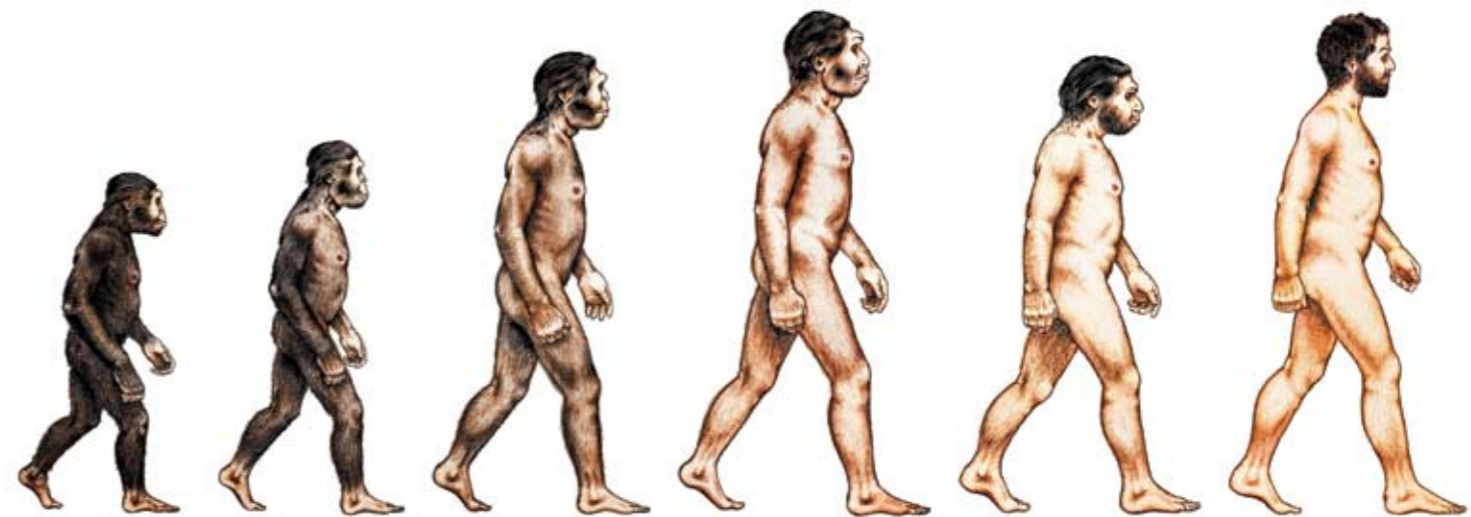


Water

Water is essential for the survival of all forms of life. Water covers about 71% of the Earth's surface, mostly in oceans and rivers. Glaciers and Polar ice caps hold about 2.4%. In many parts of the world - especially developing countries- there is a water crisis, and it is estimated that by 2025 more than half of the world population will be facing huge shortages of water. These water crises are caused by all kinds of things, many as a result of climate change and destruction of the environment.

FIND OUT MORE...

www.wateraid.org/uk is the website of an organisation that tackles issues of water shortage all over the world.



© The Natural History Museum, London

EVOLUTION!

THE THEORY OF EVOLUTION: AN INTRODUCTION

Evolution is, quite simply, 'change'. Lots of things can evolve – ideas, art-works, languages, nations, religions, landscapes. Most things evolve over long periods of time, rather than single lifetimes. The English language, for instance, has evolved – the language Shakespeare wrote in is similar but different to the language we write in today.

The Theory of Evolution is all about changes in living things throughout the long history of life on our planet. Another name for all the varieties of living things is 'species' – there are species of plants, animals, birds, fish, insects, etc. The Evolution of the Species is where biological changes are passed on from one generation of a species to another – so that, over time, that species changes.

Scientists believe that most species have changed over hundreds, thousands, and millions of years. For instance, while most dinosaurs became extinct millions of years ago, some flying species of dinosaurs evolved – over a very long time – into birds. Scientists also believe that from the first apes that appeared 25 million years ago, lots of

different species evolved, including gorillas, orangutans, chimpanzees... and, eventually, human beings.

Before Charles Darwin, (a very famous scientist who was born 200 years ago), published his 'The Origin of the Species' in 1859, most people believed that all the species had remained exactly the same since the beginning of time, just as they had been created by God. Today, many people – including people of all religions – believe in the idea that all the living things on our planet are related to one another, and that many species share common ancestors.

The Theory of Evolution can help us to appreciate how closely we are connected to the other things around us, and perhaps can help us be more considerate to our environments and the species in them. It might also help us to appreciate how climate change, and changes in our environments, might impact on the evolution – and extinction – of species in the future.

EVOLUTIONARY TIMELINE

Here is a timeline showing some of the important events in the development of life of Earth. The dates for each of these events are based on scientific studies and theories, and sometimes they will change because scientists find new evidence. But this timeline should help you begin to picture the long and complex evolution of life on our beautiful planet – with the help of some brilliant illustrations by children from year 5 at Burbage school



4.5 billion years ago
The Solar System was born

3.8 billion years ago
Bacteria appeared in water



3.7 billion years ago
Bacteria reproduced

2.6 billion years ago
Bacteria appeared on land

4.05 billion years ago
Rocks formed



4.2 billion years ago
The Oceans formed



900 million years ago
Soft-bodied worm-like creatures appeared on land



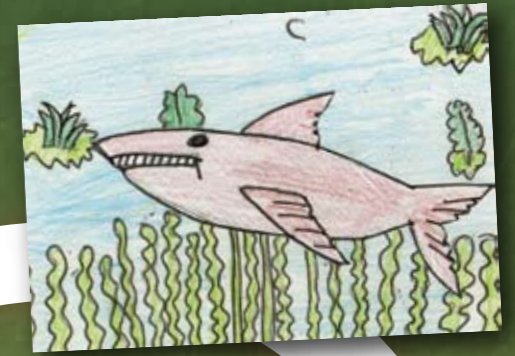
480 million years ago
The first Plants appeared on land & the first Fish appeared in the sea



540 million years ago
The oldest Arthropod creatures appeared – creatures like insects and crustaceans (crabs)



543 million years ago
The protective Ozone Layer formed around Earth's atmosphere, cooling the temperature and allowing life to flourish



450 million years ago
The first Sharks appeared in the sea

420 million years ago
Arthropods appeared on land

375 million years ago
Amphibians – which are reptiles that can live in water and breathe oxygen – appeared on land



354 million years ago
Land-dwelling Reptiles appeared



150 million years ago
Feathered Birds – which evolved from flying reptiles – appeared

220 million years ago
The first Mammals (Rodents), Dinosaurs and Crocodiles all appeared around the same time



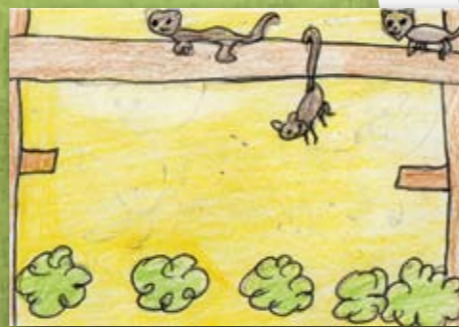
215 million years ago
Flying Reptiles – like Pterodactyls – appeared



300 million years ago
The first Trees – which were conifers – appeared and spread into forests



130 million years ago
Flowering Plants appeared



60 million years ago
The first Primates – such as Lemurs – appeared



600,000 years ago
Neanderthals – a branch of Hominids – appeared



18 million years ago
Horses appeared

5.2 million years ago
Hominids – which are human-like apes, and are the first ancestors of humans – appeared



200,000 years ago
Modern humans appeared



25 million years ago
Apes appeared



50 million years ago
Whales appeared

57 million years ago
Rodents – mammals like rats and mice – appeared

55 million years ago
Bats appeared

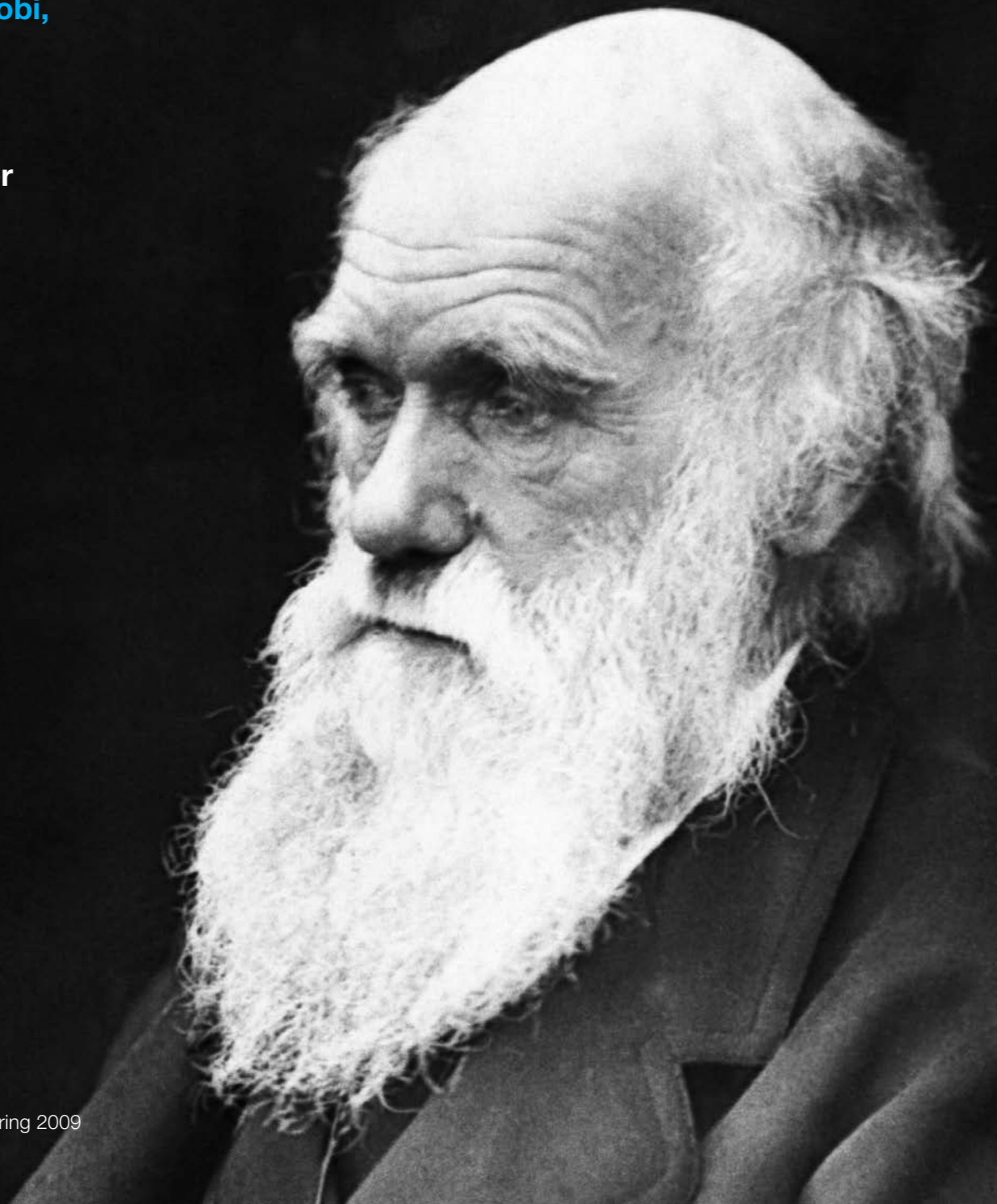
Evolutionary Timeline Illustration Credits

- 1. The Solar System by Dilara Oner
- 2. Bacteria by Dilara Oner
- 3. Worm-like Creatures by Neyazul Haque
- 4. Arthropods by Anonymous
- 5. Plants by Tyreece Tyrell
- 6. Sharks by Berivan Akpınar
- 7. Reptiles by Tyreece Tyrell
- 8. Trees by Dilara Oner & Tyreece Tyrell
- 9. Dinosaurs by Neyazul Haque
- 10. Bird by Anonymous
- 11. Lemurs by Berivan Akpınar
- 12. Monkeys by Berivan Akpınar
- 13. Human by Tyreece Tyrell & Dilara Oner

Neanderthal image © The Natural History Museum, London

Charles Darwin His Life & Work

By Samuel Adu-Yirenyi, Berivan Akpınar, Faruk Aksu, Zeynap Altunay, Amara Drummond, Tyrone Gordon, Bryan Kuyu-Tshiobi, Serkan Hassan, Neyazul Haque, Dilara Oner & Ria Wallace at Randal Cremer School with the Editor



Charles Darwin was a very important man, who was born exactly 200 years ago, in 1809. He was famous for his theory of evolution, which is the idea that species change over long periods of time.

The Darwin family were fairly rich, and he had a famous grandfather, called Erasmus Darwin. When Charles was a little boy his mother died, and he was brought up by his father.

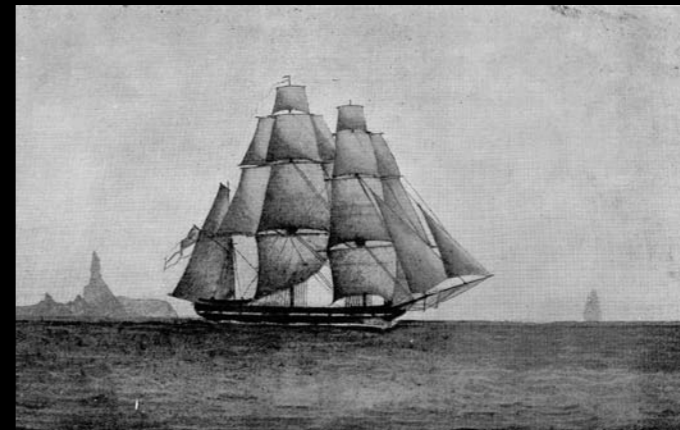
In Darwin's time it was mainly rich children who were educated. But he did not like school because he found his lessons boring, because he had to learn ancient languages like Greek and Latin (which were called the 'Classics') rather than the sciences and the arts. He wanted to be outside, studying nature, because he enjoyed hunting animals and birds, and collecting things like beetles. As he grew older he began to learn geology (the study of rocks) and botany (the study of plants), and taxidermy, which is the art of stuffing animals.

So Darwin learned more outside of school than he ever did in it. After school, his father wanted him to be a doctor, but he failed in his studies. Then he wanted him to be a priest, but again Darwin didn't want to be one. He was the type of person who wasn't happy doing something he didn't want to do.

Then one day in 1831 a letter arrived in the post for him. It was an invitation to travel on a ship called the HMS Beagle. His father wouldn't allow him to go, but his uncle convinced him it would be good for Charles, so eventually he let him.

The job of the captain of the HMS Beagle, Captain Fitzroy, was to travel round South America making maps of the coastline. Darwin's job on the voyage was to collect lots of rock, plant and animal samples so that scientists could study them and learn more about that part of the world.

So at the age of 22, Darwin left Britain on board the HMS Beagle on December 27th 1831. Life aboard ship was tough. He shared a very small room with another man. He could barely sleep and he got very sea-sick.



© The Natural History Museum, London

The voyage was meant to last just two years, but in the end the ship was away for five years. On this voyage, Darwin discovered many new creatures and species of plants that had never been seen or studied before.

First they travelled to the Cape Verde Islands off West Africa, which was Darwin's first ever experience of travelling outside England, and he wrote:

“ I first saw the glory of tropical vegetation... bananas and palms were flourishing... I trod on volcanic rocks, heard the notes of unknown birds, saw new insects fluttering about, and newer flowers. It has been for me a glorious day – like giving sight to a blind man's eyes. ”

Evolution!



© The Natural History Museum, London

Then they arrived in Brazil in February 1832, where Darwin stayed for three months. While in Brazil, he saw the brutal effects of slavery, and it made him very angry. His family had campaigned against slavery, so he was also against it.

The HMS Beagle then travelled around the coast of Argentina for two years. Here he found fossils of giant mammals – an armadillo the size of a rhino, and a sloth the size of a bear. But he'd seen these animals in South America, and they were much smaller, and he started wondering how the animals had changed from giant to their present size.

While in South America, he witnessed a volcano and experienced an earthquake. He also saw sea shells at the top of a mountain, which proved to him that the earth must have moved over millions of years. As with the fossils, Darwin began to think that the earth and species were much older than people thought they were.



© The Natural History Museum, London

But it was on the Galapagos Islands, in 1835, that he began to think about how and why the same species of birds and animals were different from one another on each of the islands. This started him thinking about the idea of evolution.

He arrived back in England in 1836, when he was 27 years old, and in 1839 he published a book about his travels called *The Voyage of the Beagle* which made him very famous. He then spent 20 years thinking about all the things he had seen on the voyage, and what they meant.

At this time people believed that the world was between 6,000 and 100,000 years old, and that the history of the world was written in the Bible. Many people believed that there were maybe 100 species of animal, and that all the animals we see today had come from Noah's Ark, the story in the Bible where Noah rescues animals from the Flood.

But in 1859 Darwin published *On the Origin of the Species*, and gave the world his theory of evolution (also called the theory of 'natural selection') – which is the idea that species have changed over time.



© The Natural History Museum, London

By the time Darwin died, in 1882 at the age of 73, he had become one of the greatest and most famous scientists in history, and his ideas changed the way people understood the history of life on Earth. Today scientists believe that the world is 4.5 billion years old, that the first life on Earth was bacteria, and that these bacterial life-forms evolved into all the millions of species that live in the world today. None of this would have been possible without the work of Charles Darwin.

CHARLES DARWIN & THE VOYAGE OF THE BEAGLE: A STORY IN PICTURES

By children in year 5 at Randal Cremer school

CREDITS

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1

When Charles Darwin was a little boy he loved being outdoors and exploring nature.



2

But he didn't enjoy going to school, where he had to learn classical Greek and Latin.



3

The young Charles Darwin was much happier studying nature than he was learning from books in the classroom.



8

Brazil is a hot and tropical country, with all kinds of plants and animals that Charles Darwin had never set eyes on before.



9

He spent three months in Brazil studying and collecting lots of animals, insects, sea creatures and plants.



4

One day, when he was 22, Charles Darwin received an invitation to join the ship HMS Beagle on an adventure to South America.



5

But first he had to convince his father - who eventually agreed that Charles Darwin could go.



10

But while in Brazil, Charles Darwin also saw many people who had been enslaved, and he became a life-long opponent of slavery.



11

While in Argentina, at the bottom of South America, Charles Darwin found fossils of ancient giant mammals that he realised were related to smaller ones he'd seen on his travels. This made him wonder how giant mammals had turned into smaller ones over time.



6

So Charles Darwin set out on his voyage in 1831. The first place they stopped were the Cape Verde islands off the coast of Africa. It was the first time Darwin had ever been abroad.



7

Then the HMS Beagle travelled to Brazil in South America.



12

In the mountains of Chile he also discovered that there were sea-shells high up in the rocks. But how had they got there? He began to think that the earth's surface had changed over millions of years.



13

He also saw a volcano, and earthquake, and the devastating effects of a tsunami during his voyage.



14

Then the HMS Beagle travelled to the Galapagos Islands.



15

Here, Charles Darwin studied all the different creatures, including the giant Galapagos tortoises. It was on the Galapagos Islands that he truly began to develop his 'theory of evolution'.



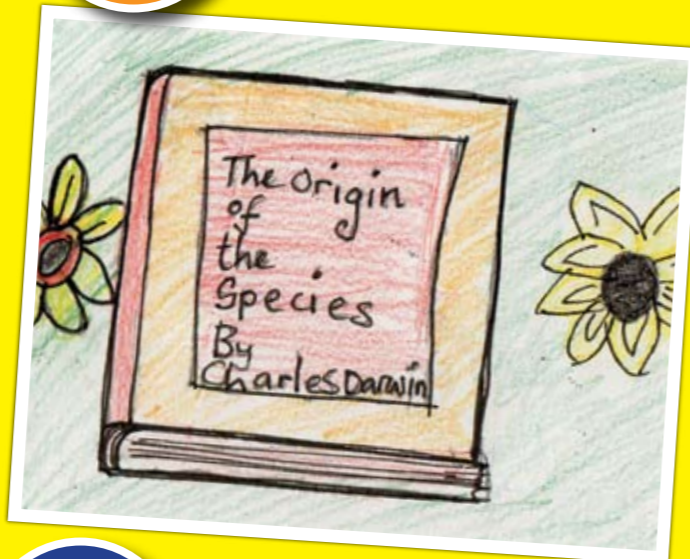
16

After five long years Charles Darwin returned home from his adventure in 1836.



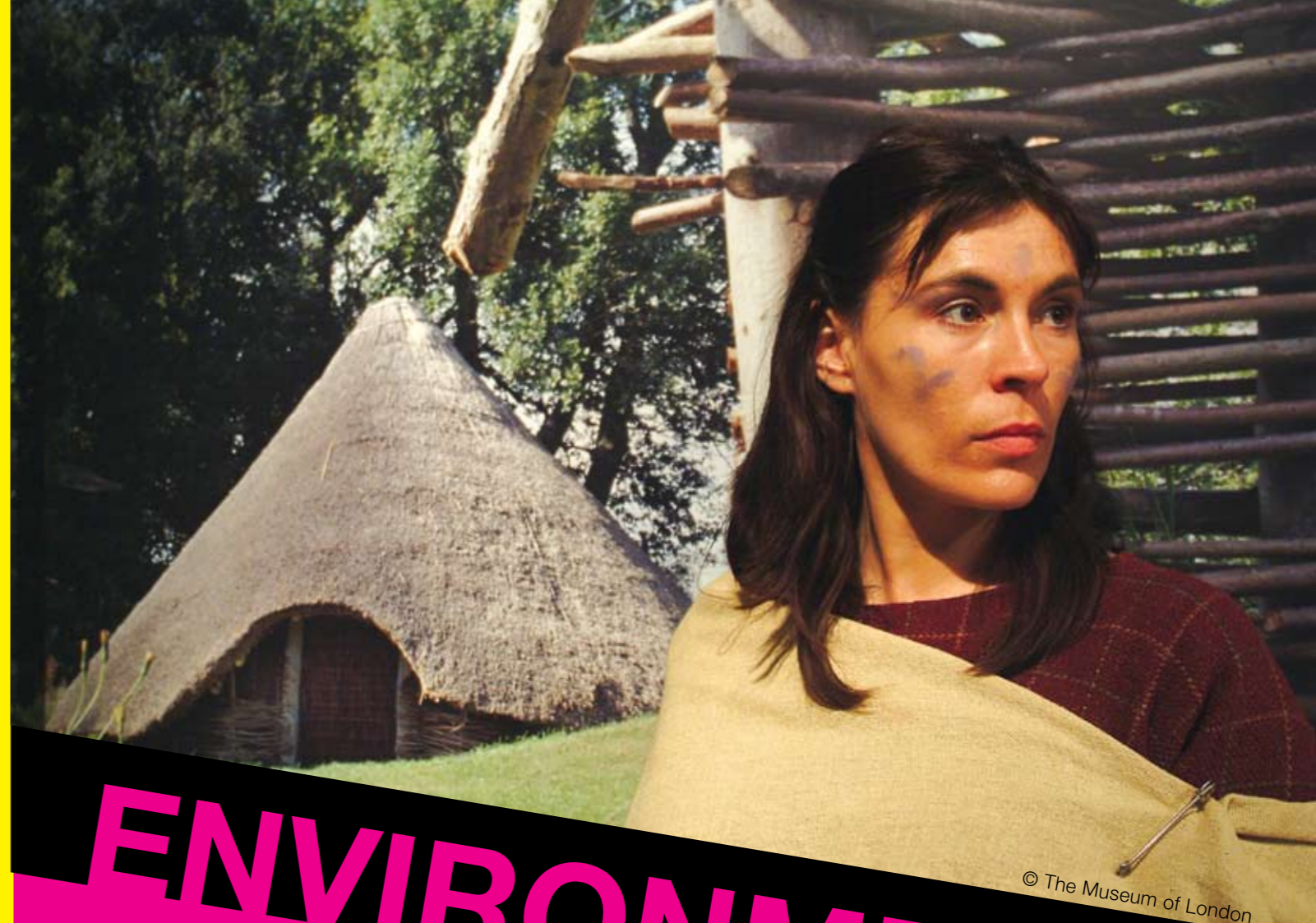
17

He spent the next 20 years thinking about his idea that all the different species in the world had evolved, over millions of years, from original life-forms. He believed that living things were all related by very ancient ancestors.



18

Finally, in 1859, Charles Darwin published On the Origin of the Species, which made his theory of evolution public. This is one of the most important scientific books ever published, and made Darwin very famous.



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ENVIRONMENTS

LEARNING FROM OUR ANCESTORS

By Oluseye Ajala, Adetomi Alade, Daneja Albert, Timothy Arneaud-Oliver, Kobi Champion, David Derogba, Chevelle El-Bazar, Akleia Louis-Frederick, Gregory Goncalves, Abisola Ipaye, John-Leslie Mensah, Saint Minganu, Kenneth Okowara, McHavis Okonoboh, Michael Oloyide-Aluko Steven Phillips

What can we learn about the past that can help us today? Children from year 6 at St Monica's school looked at Iron Age life in Britain, to see if there was anything about how Iron

Age people lived in and treated their environment that we could learn from today. And they got lots of help in their investigation from the Museum of London

The period called the Iron Age began in about 750 BCE, and ended in 44AD with the invasion of Britain by the Romans. About 2700 years ago, the Celtic people of the Iron Age settled in parts of the area that is now London, especially in the south in what is now called Southwark. They lived in settlements right near the River Thames, and the area was called Londinium.

Their way of life was very different to ours, but it was called the Iron Age because they caused a 'revolution' by mining and using iron to make tools and weapons. The climate was about two degrees warmer than ours. The landscape of Britain was covered in forests of trees, with lakes and rivers. Many wild animals lived in the Iron Age environment, such as wolves, wild boar and oxen.



Archaeologists are people who dig underground to find evidence of life from historical times. Archaeologists have found evidence of the foundations of houses in lots of places around London, but the two main areas of Iron Age settlement were Caesar's Camp – which is where Heathrow Airport is now – and in Southwark.

But an Iron Age quern – which is a round stone with a hole in it, like a doughnut, and was used to grind wheat and barley into flour – was also found in the Shoreditch area. Lots of other valuable and extraordinary things like wheat and burned seeds, bones of animals like cows and sheep, old jewellery, weapons, burnt clay and pottery have been found in these areas, and they reveal more about how Iron Age people went about their daily lives. Archaeologists look at these things from the past and they study them to find out how people lived.



There were about ten houses in each settlement or village, and their settlements were surrounded by trees and nature, living near or in the forest beside rivers.

Their house frames were made out of wood, and would have used up to 200 trees to make. They also used wattle and daub, stones and straw, as well as thatched reeds for their roofs. The houses were round (roundhouses), and families of about eight to ten people could live inside them. Families would include parents and children, grandparents, aunts and uncles. You can picture the inside of these houses: a big, warm room where a fire is burning, children are playing, a mother is cooking the dinner over the fire, and the father has brought in some food he has harvested.



A lot of people were full-time or part-time farmers, and their lives were governed by the farming year, with religious festivals to mark important times of the year. Men and women had lots of roles that they shared – both, for instance, were involved in hunting animals. When they hunted animals they used bows and

arrows and spears. Men and women would probably share farming jobs too, but women mainly cooked, made clothes and looked after children. The children didn't go to school, but they learned everything from their parents, and so they could be very smart. When they were old enough children would help on the farm and with the crops and fetching water.

They hunted animals and used their fur to make clothes. They also spun wool from sheep's wool, and they used plants to dye their clothes. The Celtic people used tartan, with patterns of checks and stripes, and they also painted their bodies with a blue dye called woad, which came from plants

In those days the River Thames was clean, with many fish and oysters living in it. Archaeologists have not found evidence that Iron Age people ate fish from the river, however – and they think this was because they buried people in the river. When someone died – like the grandmother of the family – they would place the body in the river, and they might have believed its spirit might transform into a river-creature, such as a fish.

Their religion was very different to Islam or Christianity or Judaism, because they believed in many gods. Their gods had to do with the weather and the environment, and they had river gods and tree gods. People would also kill other people to make sacrifices to their gods and goddesses.

Iron Age people respected their environment by not polluting it, and using natural resources. They made things – like clothes and houses and tools – from the things



they had around them, and they didn't hunt animals to extinction. They treated the plants and animals around them very wisely, and with respect.

From the Iron Age we can learn about how to treat the environment that we live in, and how we should re-use and recycle things after we use them. People in the past took more care of their environment than we take of ours, because we waste things and throw everything away. In the 21st century we are polluting the environment, and not caring much about it. In one hundred years time, imagine what our world will be like. Maybe people can learn from the people that lived before us, and how they treated their environment, so that we can live better with the world and the animals around us.

All images © The Museum of London

LEARNING FROM THE IRON AGE WAY OF LIFE

By Jon Cotton at the Museum of London

Many people today think of the Iron Age as a time of conflict and violence, with tribes constantly fighting amongst themselves and also against the invading Romans. The reality was very different: most people were farmers, not fighters, and lived on small farms, raising animals and growing crops in the surrounding fields. Also, although these people spoke various Celtic languages (early versions of modern Welsh or Gaelic), they probably wouldn't have thought of themselves as 'Celts' or even as 'Britons'. Instead they would have owed loyalty to close-knit local communities of no more than a handful of families.

Traces of the farms on which these people lived have been dug up by archaeologists in London from time to time. The farms usually consisted of three or four round houses and other buildings used as barns and grain stores. The houses themselves were often large and sturdy, with a single entrance that faced the rising sun.

Each house probably had a conical roof thatched with straw to throw off the rain and would have been home to an extended family of parents, children and various aunts and uncles – perhaps ten or twelve people in all. A central hearth kept everyone warm, though the inside of the house was probably quite dark and rather smoky. However, the smoke would have kept flies and mosquitoes away, and would have been useful in smoking meat and cheese hung up in the roof space. Each person would have had his or her special place within the house, with the oldest probably getting the warmest spot closest to the hearth!

Working on the farm would have been hard, because there was so much to do. Everyone would have lent a hand – even the smallest children would have been kept busy. Everything was dependent on the time of year and the weather. Spring was the season for ploughing the fields and sowing the crops, followed by lambing in late April or early May. Summer was the time for haymaking and for getting odd jobs out of the way before the busiest and most important time of the year – Autumn.

Autumn was harvest time, and if the crops weren't gathered in then people and animals would go hungry.

Enough food and fuel had to be collected to tide the farm over the long winter months. Compared to the autumn, the winter was less busy: but the short days were still used to the full to mend buildings and tools, keep the animals fed and watered, and carry out important tasks like spinning yarn and weaving cloth for clothes.

These days of course we are used to buying all our clothes ready-made; hardly anyone makes their own. Few people bother to mend broken tools or equipment either – it is easier to throw them away and buy new ones. Neither would have been an option in the Iron Age! Also, we are no longer so close to the land or so dependent on the seasons of the year as we used to be; food can be flown in from anywhere in the world at any time, not just in the autumn. In London it is sometimes even difficult to tell what time of the year it is, though the snow and cold weather we had in early February is a reminder of what winters were once like.

Everyday life on an Iron Age farm was hard work, but the close relationships people had with their families, and with the land and the environment around them, are certainly lessons that we might learn from today.

FIND OUT MORE...

Want to find out more about Iron Age London? You could visit www.museumoflondon.org.uk/English/EventsExhibitions/Permanent/LondonBeforeLondon.htm

Learning resources for teachers can also be found at http://www.museumoflondon.org.uk/English/Learning/Learningonline/features/ibl/before_london.htm

Or why not visit the Museum of London? It's on London Wall, and is open daily 10am to last admission 5.30pm. And admission is free!

More Light, More Power: Shoreditch and its Electricity Stations



Children from year 6 at St Monica's visited an old industrial building at the heart of Shoreditch to find out about the local environment 100 years ago.

The visit was made possible by the Building Exploratory'

All images © The Great Eastern Light

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We went to see one of the old Victorian buildings of Shoreditch, to find out about some of the changes in the environment of the area, and how people lived and worked in this part of London.

Daneja Albert

From a Victorian electricity power-station, to a wood and machinery workshop, to an abandoned building and then a restaurant and bar, the Light Building in Shoreditch has been through a lot of ups and downs, which you can find out about in this article.

Steven Philips

Outside 'The Light' there is an eye-catching courtyard with benches and a huge light. But by looking at the bricks you can tell that it is an old building - the doors and the windows were obviously new, but the bricks were also blackened.

Shania Glynn & Oluseye Ajala

As we went inside I knew that it had been restored or renovated – the outside looked old-fashioned, but the inside was brand new. It was really spacious and immense.

Oluseye Ajala

The old boiler room had been changed into a modern eating area and kitchen, where families and friends can relax for lunch or dinner. The former engine room is now a bar area, where people can meet and have a

drink after work. The walls are bare brick, sometimes with white paint-work which is crumbling. Upstairs is now used for private parties, with a roof terrace where you can see an excellent view of the new buildings in the City.

Shania Glynn

The restaurant is full of tables, with cups and cutlery and plates, as well as chefs and bar-staff. The bar area had tables and high chairs. And above everything, up the stairs, there was a party room with more furniture, but it had the same brick walls.

Rasheed Giwa

This newly renovated and sassy restaurant and bar has been through a lot these past 150 years.

Steven Philips

I stood in the middle of the Light Building, and tried to imagine what it was like in the past. Saint Minganu



The Light Building was built in 1893, and was used to generate electricity for Liverpool Street Station, which was the first train station in Britain to have electric lighting – which had been invented by Thomas Edison in 1882.

Kobi Champion

Below the ground floor was a furnace, where all the coal got burned. On the ground level there was an engine room and a boiler room. In what was the engine room, there is still a crane on the ceiling, which was used to lift the heavy engines.

Akleia Louis-Frederick

I stood in the middle of the Light Building, and tried to imagine what it was like in the past.

Saint Minganu

The building was not a good environment to work in. All of the workers worked long hours, and didn't get a lot of money for their hard work. In Victorian times, children worked from a very young age, so children could have been working in the Light Building too.

Akleia Louis-Frederick

I imagine it was full of hard-working people, with the noise of cart-wheels rolling against the bumpy ground, and the dark smell of coal-smoke rushing through their noses.

Chevelle El-Bazar

It would have been sweaty, merciless work, with lots of grumbling and bad smells. There would have been no rest and no leisure – no 'me-time'. It would have been really, really horrible.

David Aderogba

I can imagine workers pushing their carts of coal down the dingy tunnels, the sweat burning in their eyes, the sound of the rumbling of the boilers, and the heat of the floor.

Kobi Champion & David Meenan

I could picture people working in there. It must have been exhausting. They might have had nightmares because their jobs might have been so hard.

Hoan Tran

Soon there were three power stations in Shoreditch – one on Hoxton Street, one behind Hoxton Square, as well as the Light Building on Shoreditch High Street. This is why there's a motto on the Shoreditch Town Hall that says 'More Light, More Power!'

Shania Glynn

While coal was being burned day and night, huge clouds of smoke rose out of the chimneys into the atmosphere. Because of all the smoke and fumes, it would have been impossible to open windows in houses nearby, and lots of buildings turned black.

Akleia Louis-Frederick

London houses would have been affected by all the chimneys pouring smoke and polluting the air. It would have been a really tough time for people passing by or living in their houses, because it must have been so hard to breathe.

David Aderogba

At this time, lots of smoke was coming out of lots of power stations in Shoreditch. People would have had to keep their windows closed. The smoke sometimes made smog – and this went into people's lungs and many people died.

Saint Minganu

After fourteen years the Light building was shut down, and used for other things, because they had built a bigger and better electricity power station in Stratford.

Kobi Champion

After it was put out of business the Light building was transformed into a wood and machinery workshop. During World War II the Light building was lucky enough not to be bombed. Then in the 1960s the building was abandoned and nothing was done with it until it was transformed into a bar and restaurant.

Steven Philips & Kobi Champion

Now in the 21st century the old power station has been renovated into a modern-day restaurant. Over 100 years ago it was an unhappy place, but now it is a relaxed and happy place to eat and drink. Rather than buildings staying sad, sometimes they can be used as sociable places, places to have fun.

Shania Glynn



"I felt amazed exploring the building - I went right up to the top!"



www.buildingexploratory.org.uk

The Building Exploratory

Did you ever wonder how buildings are made? When your house was designed? Who looks after old buildings? What London will look like in 2029? Why tall buildings are needed? Where your street leads?

The Building Exploratory is an exciting local organisation that can help you find the answers to these and other puzzles about the places where you live, learn and play.

For this issue of the Shoreditch Star the Building Exploratory worked with St. Monica's and Whitmore primary schools. We helped students uncover the amazing history of The Light, E1 and conjure up a vision of the future inspired by Murray Grove – the tallest timber residential building in the world!

To find out how you can explore amazing buildings and make three dimensional and digital models, maps, shelters, animations, prints and much more, go to www.buildingexploratory.org.uk

You can come along to the Building Exploratory's family workshops on weekends and during school holidays OR ask your teacher to invite us to come and work with your class. To find out more, contact: ashley@buildingexploratory.org.uk

In the meantime try this Word Tower puzzle. By changing one letter on or more each level, can you reach from wood to wall?

Use the clues to help you.

Word Tower Puzzle

WALL

the opposite of small

a builder uses this for work

yarn used to make clothes

the sound of a barking dog

WOOD

An illustration of a forest scene. In the foreground, a brown fox is running across a green field. In the background, there are several white-barked trees with sparse green leaves. A small green bird is perched on one of the trees, and another brown bird is perched on a higher branch. The sky is a light blue color with a large, white, fluffy cloud on the left side. The overall style is simple and colorful.

ALL ABOUT ECOLOGY

Children in year 5 at Queensbridge School found out all about ecology and eco-systems, and why it's so important to look after the delicate balance of relationships between things in our environments

Ecology is a science that studies the relationships between different living things or organisms – plants and animals and the environments they live in. Ecology is important, so that we can all understand how life-forms depend on one another.

Georgie Hepburn & Nur Nur

Ecologists are the scientists who study these relationships. Ecologists also think about things like the climate (the weather and the temperature) and geology (the landscape).

Ania Bissette

An eco-system is a food-chain or a web that links all the things together inside an environment. Studying eco-systems is all about looking at how living things depend on one another for survival.

Ania Bissette & Tamika White

There are lots of different eco-systems, like an Arctic or a Rainforest or a Freshwater eco-system. There are eco-systems all over cities like London – even on the street where you live!

Nazrin Rahman

Eco-systems can be completely threatened if we destroy just one thing in it. For instance, if we pollute water, then we can destroy plankton, which all the fish depend on. If the fish have nothing to eat then they will die. And if the things that eat fish, like sea-birds, have nothing to eat, then they will die too.

Isha M Kabia

So if something goes wrong in an eco-system, then everything can go wrong. If an eco-system is all messed-up, then it can bring animals who live in it very close to extinction. We have to guard our environments to protect animals.

Honey Farah

People are part of eco-systems too. People can't survive without many things. If you take one thing away from an eco-system, then it can threaten the whole chain. And because people are part of that chain, their lives can be threatened too.

Takudzwa Edwards

There are lots of things that threaten eco-systems, many of which are caused by man. Things that threaten eco-systems include: pollution, disease, change in temperature, over-use of resources (like wood, or water), hunting, development (like buildings), flooding or other disasters, litter and waste, farming.

Nazrin Rahman & Hamish Regan

If humans pollute the soil, then the consequences will be that plants can't grow there, and all the insects and animals that live off those plants can't live there either.

Tamika White

We have to protect our world. That's why we shouldn't litter our environment. Litter can damage environments. One little action can make a difference – so don't drop litter. We have to do something about the pollution we cause.

Youssef Daoud & Jamie Noel

If we don't protect eco-systems it is terrible for our environments. Because if certain things go missing from the food-chains, then other things that depend on them might also go missing – forever. When that happens it is very bad for the environment and therefore the climate of the world.

Ania Bissette

How would you feel if you were threatened with extinction? Well, that could happen to people as well as animals if we don't protect the eco-systems we all live in.

Hamish Regan

If we don't protect eco-systems we will see the consequences. We have to learn to use things on the planet in a way that protects other living things.

Tae Punter

ECO-WEB

We often talk about eco-systems in terms of 'chains' or 'food-chains'. But eco-systems are more like webs, with lots of links between living things.

Look at all the living things in this woodland eco-system. Can you draw lines between them to show how they depend on each other to survive?

We've started you off by drawing a line between the owl and the mouse

Most drawings by Nazrin Rahman with contributions from Ania, Connor, Anita, Youssef, Tamika, Jake, Tae, Jamie & Georgie at Queensbridge school



ECOLOGY ON YOUR DOORSTEP

By Katherine Hayward at EcoActive



Plants, animals and city living

In February thousands of children were lucky enough to have a day or two off school because of the heavy snow. The local parks were full of happy people, sliding around on sledges, building snowmen and throwing snow balls, all having loads of fun. Thank goodness for these parks! Without them, where would the snowmen have lived? But it's not just snowmen that live - if only for a short time - in our parks, plenty of wildlife can be found there too.

FIND OUT MORE...

There are couple of places in Hackney where you can discover the wonders of wildlife. London Wildlife Trust has an education centre at East Reservoir. You can contact them by phone on **020 8802 4573**.

Abney Park Cemetery also has an environmental education classroom. They run nature trails where you can learn all about local wildlife and why it's important, find out more by calling **0207 275 7557**

But why should I care about wildlife?

The trees in our parks provide homes for loads of different birds and plenty of squirrels. The borders have flowers which attract lots of different insects from bees to butterflies. The woodland areas are home to worms, beetles and other bugs.

Animals such as bees and butterflies help plants to reproduce. Without bees and other pollinating insects farmers' (especially fruit farmers') crops could fail, meaning no fresh fruit in our lunch boxes.

Minibeasts like worms and beetles are really important for recycling dead plants and food waste into nutrient rich compost, which keeps soil healthy, allowing plants to grow big and strong. We need good quality soil to grow our food and if the soil is unhealthy, plants won't grow. So creatures like worms and beetles are really helpful to us.

Birds sometimes feed on insects that we may not like, such as flies and wasps. Without certain birds there would be no predators to eat these pests, meaning there would be lots of these insects around.



A CHANGING WORLD

AN EASY GUIDE TO CLIMATE CHANGE

People talk about Climate Change – or Global Warming – a lot these days, but what does it mean? In order to understand Climate Change, we have to think about the ‘chain’ of causes and effects. And these chains help us to understand the relationships between things. The relationship between plants and animals, for instance, is so important, that without one the other couldn’t survive. When these relationships are threatened it can have serious consequences for the whole planet. Below, children from year 5 at Burbage school looked at Climate Change and tried to explain it in a way that can help us all understand why we need to take it seriously and change the way we treat the environment and, most importantly, the atmosphere of our planet that keeps us all alive.

When people talk about climate change they are talking about the average temperature of the planet’s atmosphere getting higher over the last hundred years.

Blessing Ogunoshun

Scientists predict that the temperature of the planet will rise in the future, and they say that it is caused by burning fossil fuels. Fossil fuels are coal, oil and gas, and we burn them to create power.

Ronaldo Molla

We get fossil fuels from deep underground and under the sea. They are non-renewable forms of energy, which means we cannot replace them when we have used them up.

Mohamed Amrouche

Scientists hypothesise that the temperature is rapidly rising and changing the environment.

Stephen Mulonso

Therefore Climate Change is caused by fossil fuels that we burn. We burn fossil fuels when we create electricity, use factories, heat and power our houses, drive cars or fly planes. When we burn fossil fuels it releases carbon dioxide into the atmosphere.

Louise Cullen & Thu Thuy

The Earth’s atmosphere is made up of lots of gases, and it works like a shield surrounding the planet. The atmosphere is also important because it lets enough heat from the sun in – but also lets just enough heat escape. If the Earth didn’t have this atmosphere, which protects the planet, keeping it warm while keeping it from heating up too much, then there would be no life on Earth.

Charlie Brown

A greenhouse is a building with glass walls and a glass roof, and it is used to grow plants in because it traps heat from sunlight inside it.

Blessing Ogunoshun

The ‘Greenhouse Effect’ is where the atmosphere works like a greenhouse: it traps heat underneath it and doesn’t let enough heat escape. The Greenhouse Effect is caused by too much carbon dioxide being pumped into the atmosphere. If the Greenhouse Effect keeps happening it will cause the Earth’s temperature to rise, and the ice at the Arctic and Antarctic will melt, causing sea-levels to rise and flooding in some parts of the world.

Thu Thuy



The Arctic and the Antarctic – the North and South Poles – are the coldest places on Earth. If the temperature rises around the planet, then lots of the Arctic and Antarctic will melt and the area will become destroyed.

Charlie Brown

If the temperature of the Earth changes it will make living here more difficult. The temperature has already risen, and scientists say environments are already changing, and believe this is caused by the Greenhouse Effect.

Viona Fejzullahu

Animals – including humans – cannot survive without plants. This is because animals breathe oxygen, then breathe out carbon dioxide – then plants breathe in carbon dioxide and breathe out oxygen. So if there weren’t enough plants on the planet then there would not be enough oxygen for animals to breathe. But also, plants – especially big plants like trees – breathe in lots of the carbon dioxide that we make when we burn fossil fuels. So if we cut down too many forests, then that carbon dioxide will go into the atmosphere and cause more of the Greenhouse Effect.

Sainabou Bah & Cansun Uslu Huriye

People have lots of habits that are bad for the environment, like using their cars to drive to places they could easily walk or travel on public transport to. We leave our lights on and turn the heat on in our homes when we don’t need it. Many people fly a lot, because of work or vacations. When we buy things in shops and supermarkets it has lots of plastic packaging on it, which most people don’t recycle. Because plastic is made from oil, when we make plastic we keep burning fossil fuels – and when we throw it away or burn it it causes more pollution. But if we try and change our habits, if we use cars and planes less, use less electricity and heat in our homes, and buy less things with packaging and also recycle things, then we can help to stop climate change, and save fossil fuels for a time when we really will need them.

Louise Cullen & Thu Thuy



HOW CLIMATE CHANGE WORKS

What causes climate change?

Climate change or global warming is caused by **increased levels of carbon dioxide (CO₂)** and other polluting gases in our atmosphere.

The **gases trap heat** by forming a blanket around the Earth - like the glass of a greenhouse.

Once released the greenhouse gases stay **in the atmosphere** for many years. As they build up, the planet's temperature rises.

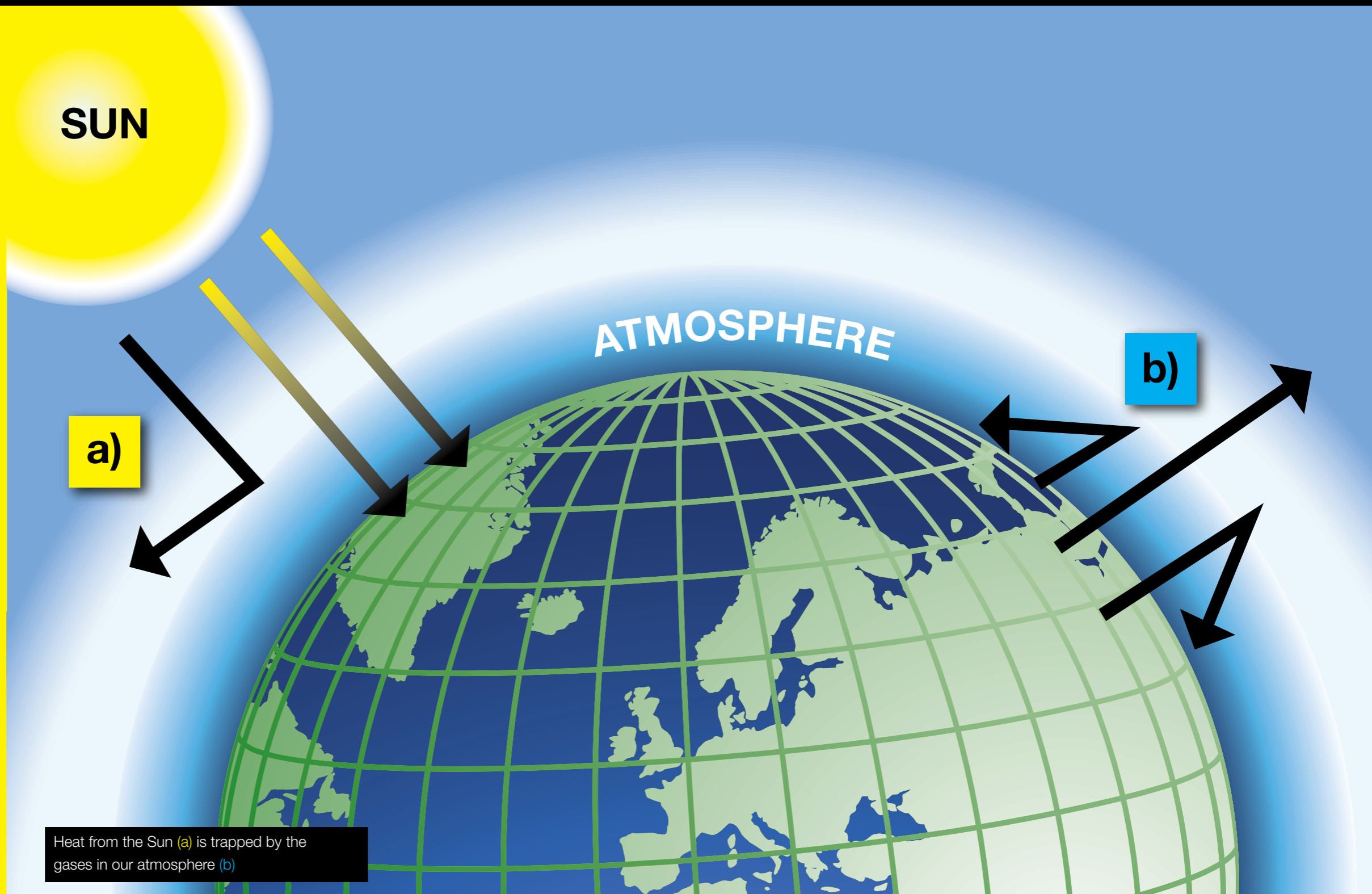
Greenhouse gases are released by burning fossil fuels - **coal, oil and gas** - and by cutting down forests.

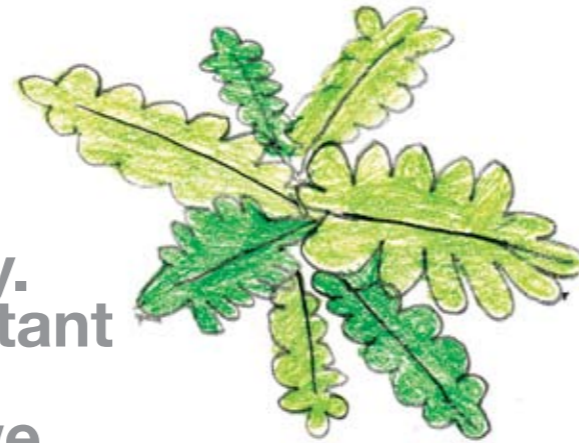
The text and diagram for these pages were provided by Friends of the Earth.

FIND OUT MORE...

Take a look at the Friends of the Earth learning site, which includes resources for primary school.

Go to www.foe.co.uk/learning for free downloads and lesson plans on Climate Change.





Children from year 5 at Whitmore school found out about resources and energy. These two topics are important in learning about climate change, because the way we use some resources and forms of energy are part of the causes of global warming. But there are other resources and forms of energy – sustainable resources, and renewable energy – which are much better for the environment.

SUSTAINABLE RESOURCES... WHAT'S THAT?

By Ilyes Chaibi, Feyike Misalako, Ephanie Neto, Kasim Osman & Bradleigh Webb

When you sustain something you look after it, and make sure it never runs out or falls apart or dies. A resource is something that you use to make something with – for example, we use sand to make glass or concrete. So a sustainable resource means that it is preserved or maintained, and that it will not run out if we're careful not to use too much. It means using something without causing lots of destruction. If we don't destroy forests completely,

then wood can be sustainable. Non-sustainable resources are things that we use that can't be replaced and will one day run out.

We think that...

"We should make more things out of wood because you can grow more trees again."

Abdihamed Ahmed

"It's important to use sustainable resources when we build buildings because it means less pollution of the environment."

Tyrek Campbell

BUILDING GREEN

By Kayode Alufeyisan, Kassim Osman, Berkay Sahin, Aurelia Tshibangu & Bradleigh Webb

We went to the Building Exploratory in Hackney to learn about how to design and build 'green' buildings, and look at the way buildings are designed and the materials we use to build them. We learned about how buildings can affect the environment. We also had a go at designing our own 'green' buildings. Green buildings are ones that are 'environmentally-friendly' – which means they are kinder to the environment – and that use sustainable resources and renewable energy.

At the Building Exploratory we worked with a lady called Claire, and looked at a model which showed us how electricity gets from the generating station into our homes, and how many things we use electricity for in houses. And we looked at how some resources – building materials – are better for the environment than others, and this taught us how environmentally-friendly architecture can make our city a less polluted place to live.

Then we interviewed an architect called . An architect is the designer of a building, and Andrew had helped design the tallest building in the world made of wood – where even the lift is made out of wood! It is a residential building in Murray Grove, and it has nine floors and twenty-nine apartments. Wood is a sustainable resource, but wood also absorbs carbon dioxide in the atmosphere so it helps clean up polluted air.

After interviewing Andrew we designed our own green buildings, using wind and solar power to create electricity, instead of using oil, coal or gas. The whole experience was really good. The highlight was learning all about our homes and how the way we live affects the environment. And now we know that there are better ways to make resourceful and sustainable buildings.



BUILDING GREEN



AN INTERVIEW WITH ARCHITECT ANDREW WAUGH

Andrew Waugh was involved in designing the tallest wooden residential building in the world, in Murray Grove in Shoreditch. Children from year 5 at Whitmore school interviewed him to find out about why it's important to build 'green' buildings.



Q: What is your favourite building in London and why?

A: The Lloyds building, because I saw it when I visited London at the age of 14, and it inspired me to want to become an architect.

Q: What is your favourite building in the world and why?

A: I have so many favourite buildings! When you study buildings it's hard to choose. I could tell you my favourite school building in the world – it's in Como, in Italy, because it's all built on one level and it has lots of windows to let light in.

Q: Why is it important that we build more environmentally-friendly buildings?

A: Because it's important that we use less energy in the world – and environmentally-friendly buildings use up much less energy than other buildings.

Q: What will happen if we don't use more sustainable resources for our buildings?

A: Then we will not be able to help stop climate change, because using sustainable resources to build buildings means we can look after our planet better and be more respectful to the environment.

Q: What will buildings be like in the future?

A: They will be very different from now. In Victorian times they used bricks, and in the 20th century it was all about concrete and steel. In the 21st century we will use much more wood. Wood is good during different seasons, because it is warmer in the winter and cooler in the summer.

Q: Are any countries better at building environmentally-friendly buildings than others?

A: Britain is very good, and lots of new environmentally-friendly building practices are being developed here.

Q: Is it more expensive to build with sustainable resources?

A: It is more expensive at present, because sustainable resources are more expensive. But the more we use them the cheaper they will become.

Q: Where should we get energy from to power our buildings?

A: The sea, the tide, the rivers, the wind, the sun.

Q: How can architects do their best to help stop climate change?

A: Always make better buildings than the ones they build today, to help improve the way we live.

Q: Why did you want to be an architect?

A: I used to play with Lego and make buildings with it. And being an architect can sometimes be a lot like playing with Lego!



RENEWABLE ENERGY... WHAT'S THAT?

By
Tyrek Campbell,
Kayode Oluteyisan
& the Editor

Today we use mostly non-renewable energy. Non-renewable means that it can run out because we can't replace it. Things like oil and coal and gas. This type of energy also creates pollution by producing carbon dioxide. We use energy to power things – like transport or all the electrical things in our homes and schools. We burn energy all the time: when we watch TV, turn on the light, open the fridge, cook food, put on the heating. Since we use so much energy in our lives, it would be better to use renewable energy. Renewable means something that can be replaced – so renewable energy is energy that won't run out. The main sources of renewable energy are water, wind and sunlight – all these things can be used to power transport and create all the electricity we use. So it's time we switched to renewable energy!

We think that...

"If we don't use more renewable energy then we will have a bad atmosphere as a consequence of burning coal or oil, and the world will get hotter"

Kayode Oluteyisan

"If the world gets hotter then the snows on the mountains and at the Arctic will melt, causing rivers to flood and seas to rise."

Aaliyah Destouche

"If it gets hotter lots of water might evaporate. We waste water all the time, but we all need it, so it mustn't run out."

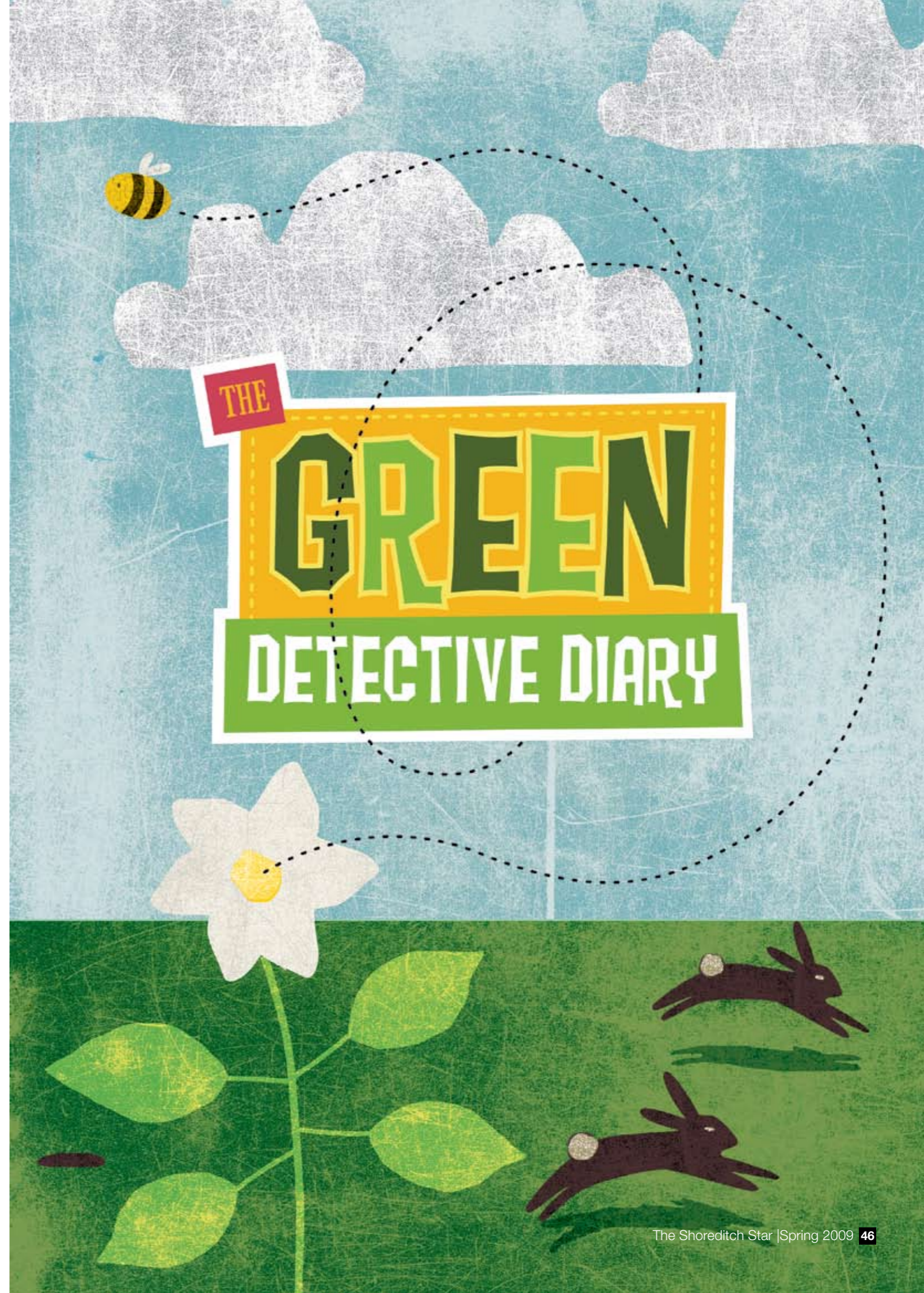
Abdihamid Ahmed

"Also the things that we need will run out, and we won't have the things we need to live on."

Berkay Sahin

"We have to make things last longer so people in the future – children like me and you – can have a better life when we're grown up."

Clayton Lucey



GREEN DETECTIVE DIARY

We've provided a Green Diary - created by Dr Nicola Dempsey of Oxford Brookes University - for you and your classmates to use to investigate how much energy, waste and water your home and school generate in a single day. We piloted this project with children from Whitmore - take a look at our conclusions to their findings. Perhaps you can turn this into a classroom or school-wide project - we'd love to hear about it if you do!

INSTRUCTIONS:

- * For one day, you are a super sleuth. It is your mission to find out about energy, water and recycling at home at school.
- * You should keep this diary with you for one whole day.
- * Try and include everything that you do during that day.
- * You will be asked to tick boxes, put circles around words and write in the diary.
- * You will have to do some counting, thinking and remembering about what you do during the day.
- * For some of the questions, you will have to ask other people for the answers - parent/ teacher/ head teacher/caretaker/ dinner lady. Listen to their answers and write them in the diary yourself.
- * Keep the diary safe and take it in to school to hand in when you have finished.
- * So, Green Detective, get ready to INVESTIGATE!

THIS MORNING - AT HOME BEFORE SCHOOL

Did you (please tick):

- 1 Brush your teeth?
- 2 Wash your face?
- 3 Wash your hair?
- 4 Have a shower?

5 Leave the tap running at any time?

6 How many lights are on in the morning?
(write number here)

Did you (please tick):

- 7 Watch TV this morning?
- 8 Listen to the radio?

9 Use anything electrical?
(give details e.g. hairdryer, electric toothbrush?)

10 How many things which run on electricity are used in in the morning (e.g. toaster/ radio/ TV/ Kettle...)?
(write number here)

Is your home heated by (please circle):

- 11 Central heating through your home?.... **Yes/ No**
- 12 Heaters (that can be moved around)?.... **Yes/ No**
- 13 How many hours is the heating on during one day?
(Ask an adult and write number here).....hours

14 For breakfast, did you eat:

- Something cold?
- Something hot?

15 What did you have? (e.g. toast with butter? cereal with milk?)

YOUR JOURNEY TO SCHOOL

16 How did you travel to school today?
(please circle)

Walk Bus Bike Tube Car Other

17 How long does it take to walk to school?
.....minutes

18 Is there any traffic on your way to school?
(please tick)

A lot Some A bit None

19 Did you eat or drink anything on your way to school? (give details)

AT SCHOOL - MORNING

In the morning, do spot checks
(write in numbers):

20 How many lights are on throughout the school?

21 How many lights are on in empty rooms?

22 Ask a teacher if it is normal for lights to be left on in empty rooms. What is their opinion on this?

Write their answer here.....

23 Are there recycling facilities in school?

Yes/ No

24 What is recycled in school? (please tick)

Glass Paper
Cardboard Cans Plastic

25 What other things do you think could be recycled in school?

LUNCHTIME

26 If you had packed lunch would you take it to school in:

Clingfilm? Foil? Sandwich box?

27 Which do you think is best for the environment? Why?

28 How many pupils have school dinners?

29 What happens to food that is not finished? Where does it go?

(ask the canteen staff)

30 Does school have a compost bin/ heap?

Yes/ No

- 31 Should school have a compost bin/ heap?
.....Yes/ No
- 32 Do the canteen staff agree?.....Yes/ No
- 33 Does your headteacher agree?.....Yes/ No

AT SCHOOL - AFTERNOON

In the afternoon, do more spot checks:

- 34 Straight after lunch, is there rubbish in the playground?

A lot Some A bit None

- 35 Who tidies up the rubbish?
.....
.....

- 36 How many bags of rubbish are thrown in the bin everyday?

(ask the caretaker)
.....
.....

- 37 Do you think this is too much?.....Yes/ No

- 38 Does the caretaker agree?.....Yes/ No

- 39 Does your headteacher agree?.....Yes/ No

AT HOME - AFTER SCHOOL

- 40 How long did you watch TV for?hours

- 41 How long did you play on computer games for?.....hours

- 42 What did you eat for dinner?
.....
.....

- 43 How was this cooked?

(oven/ microwave/ in pan)
.....
.....

END OF THE DAY

- 44 All day, how many times did you go to the toilet?.....times

- 45 Finally, what time did you go to bed?.....

ANYTHING ELSE TO ADD?

- 46 Is there anything else that you found out about and recycling at home?
.....
.....

- 47 Is there anything else that you found out about recycling at school?
.....
.....



Results of our pilot project at Whitmore School by Dr Nicola Dempsey

How much water do you use in a day? How much energy is used if lights in empty rooms are not switched off? What happens to all the rubbish that goes into the bin? Do you know the answers to these questions? Do you want to find out? Here is one way to find out a bit more information about recycling, energy use and saving water.

Pupils at Whitmore Primary School were Green Detectives for a day. They kept a diary for 24 hours to take a close look at how much energy was used at home but mainly at school. They filled out questions about all sorts of things that involved water, electricity, gas and the waste or rubbish that was produced.

Here are some of the results.

DID YOU TAKE A SHOWER OR BATH TODAY?



On average, 80 litres of water is used in a bath and 35 litres for a normal shower. So, you could have 2 normal showers and still use less water than one bath!

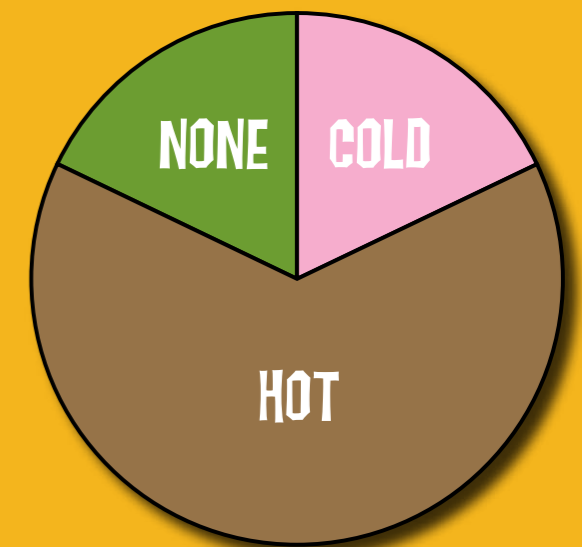
TEETH BRUSHING

With the tap on or off?

If the tap is left on, this uses 5 litres of water. If the tap is turned off, this uses 1 litre of water. 40% of our Green Detectives left the water running when they brushed their teeth.

If you brush your teeth 3 times a day, that is 105 litres of water used every week with the tap on and only 35 litres a week with the tap off.

DID YOU HAVE A HOT OR COLD BREAKFAST THIS MORNING?



Most of the Detectives had a hot breakfast. All of the Green Detectives used electricity in the morning: for things like watching TV, playing PSP, listening to the radio and straightening hair! What is switched on in the morning before you go out to school?

The Detectives and their families used between 2 and 5 electrical appliances in the morning. Almost all of the Detectives lived in homes with central heating which was switched on during the day they kept the diary.



THE **GREEN**
DETECTIVE DIARY

GETTING TO SCHOOL

On the day of the diary, nearly all of the Detectives walked to school (80%). It took them between 2 and 10 minutes to walk to school. Walking is the best and most sustainable way of getting around because it's free, it's good for you and the only energy used is your own!! No-one cycled to school and 20% of the Detectives went to school by car. Most of the Detectives reported that there was some traffic and 40% said that there was a lot of traffic. So if you are walking to school, watch out for the traffic!

AT SCHOOL?

When the Green Detectives got to school they did some investigating. They found that there were between 160 and 182

They did some counting and adding up and worked out that between 22 and a whopping 87 light bulbs were on in empty classrooms.

HERE'S A BRIGHT IDEA: Here's a bright idea. If normal light bulbs are switched to energy-saving light bulbs, energy wasted reduces by 75%! This is because a normal light bulb lasts for 1,000 hours while energy-saving ones last for at least 6,000 hours and the really energy-efficient bulbs last up

to 60,000 hours each. According to a government website, if every home in the UK changed just 3 light bulbs, enough energy would be saved to light ALL the UK's street lamps. And this saves money as well: changing one normal light bulb to an energy-saving can save £9 on your electricity bill. Count the number of light bulbs at home and you do the maths to work out how much you can save!!

DOES YOUR SCHOOL RECYCLE

Our detectives found out that there was recycling at their school, but not everything was recycled.

IS IT RECYCLED	
Glass	N
Paper	Y
Cardboard	Y
Plastic	Y
Cans	N

They thought that glass, cans and wood should be recycled. What other things can be recycled - or re-used? Or given to the charity shop? If someone else



THE **GREEN**
DETECTIVE DIARY



can use it, then don't throw it away! Here are some ideas...

- If you get a new pair of glasses, can someone else use your old pair?
- Toys can be given to other smaller children or to the charity shop.
- If you have read a book and don't want to keep it, pass it on to someone who hasn't read it yet! It's the same for CDs and computer games.
- You may have got too big for your boots or outgrown your trousers - but they might be still good enough to wear...pass them on!

LUNCHTIME

The Detectives interviewed the canteen staff at school and found out that a massive 246 school dinners were served on the day they kept their diaries. They followed the food and found out that any food that was not finished went into the bin. The Detectives found out that 45 bags of rubbish were thrown away in one day at school.

SO HERE'S ANOTHER IDEA: Can any of the food that goes into the bin go into a compost bin?

First of all we need to know: what is a compost bin and what can go into a compost bin?

What can go into a compost bin? (tick which ones you think can go into the compost bin and check the answers at the bottom)

CAN IT GO INTO A COMPOST BIN	YES/NO
Vegetable peelings?	Y
Fruit peelings?	N
Tea bags?	Y
Coffee grounds?	N
Egg shells?	Y

Answers: (All of these things can go into a compost bin. Meat cannot be put into a compost bin as the smell will attract animals. Other things that can go into a compost bin include: grass cuttings, weeds, hair (yes, your hair, animal hair...no problem), paper and cardboard, leaves and even dust from the vacuum cleaner).

AFTER SCHOOL

After a busy day at school, our Detectives liked to relax and watch the TV or play computer games. They spent between one and six hours a day doing these things. On average our Detectives were awake for about 14 hours a day which means that they spend up to around 40% of their time watching TV or playing computer games - think about how long you spend at school: it's about 6 hours! How much time do you spend watching TV after school? Or do you play computer games?

And what did our Green Detectives do after their busy days? Well, what would you do? They went to bed and fell asleep!!

So do you have the energy to be a **Green Detective?**

THE
GREEN
DETECTIVE DIARY

RECYCLE!



If you look closely at things being thrown away in your house, you'll find that they are made of all different kinds of materials.

If we throw all our rubbish into the bins outside our homes, it gets collected and taken away by Hackney Council Waste Service trucks to a huge incinerator in Edmonton where it gets burned.

When they burn the rubbish, it turns to smoke and ashes. The smoke can pollute the air, and the ashes have to be taken many miles out of London to a big hole in the ground called a landfill site, where they are buried.

Have you got a green recycling box or recycling banks near your home?

So much of our rubbish need not go in the ordinary bins and end up at the incinerator, because it can be RECYCLED, which means that the material our rubbish is made of can be used again.

All these materials can be recycled in Hackney:

Paper & Cardboard

Glass

Metal

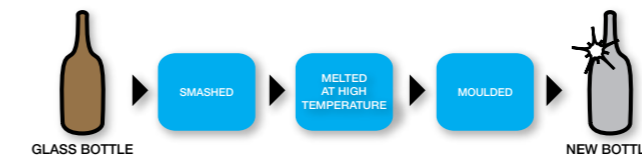
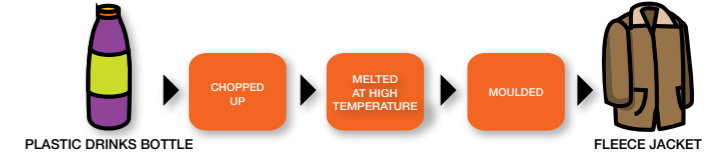
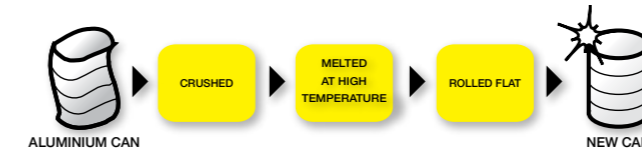
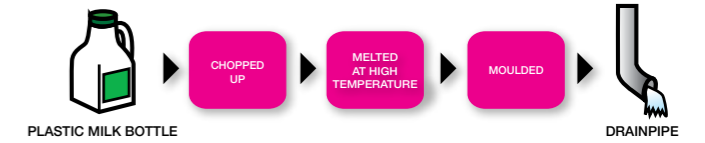
Plastic bottles

Organic waste (from food and gardens)

Textiles (clothes, shoes, bed linen etc.)

All we have to do is separate things made of these materials from our rubbish and put them into a recycling bin, which will be collected by Hackney Council Recycling Service.

These valuable materials are then sent to factories to be processed into new products.



Here's some examples of how materials are transformed...

A REALLY important fact!

We all need to try and make sure that we separate materials for recycling properly, because the less contaminated they are, the more money they are worth and the better they can be made into new products.

Why recycle?

Here's some good reasons for recycling. Read them to a class-mate or family member and ask them what they think is the most important reason.

- To save on energy used to make new products**
- To reduce the amount of waste going to the incinerator**
- To make money by selling the recyclable materials to make new products**
- To reduce air pollution from the incinerator**
- To save natural resources, e.g. trees to make paper, oil to make plastics**
- To create jobs for people in reuse and recycling industries.**

Other things we can do to reduce our waste

- 1 Don't buy things we don't need**
- 2 Buy things with less packaging**
- 3 Take our own bags to carry shopping and say 'Thank you, but I don't need a plastic bag' to shopkeepers**
- 4 Compost organic waste from the kitchen and garden**
- 5 Take things we can't use any more (eg clothes, toys, books) to charity shops or give them to a friend**
- 6 Refill plastic bottles to take drinks for packed lunches or picnics**
- 7 Put used batteries in household green boxes**
- 8 Call Hackney Wasteline 020 8356 6688 to collect unwanted furniture, cookers and fridges**
- 9 Call Hackney's Recycling Hotline 020 8356 6688 with any questions about what, where, how to recycle different items.**
- 10 Share this newspaper article with friends and family**

F O O D!



Children in year 5 at Queensbridge school, after finding out all about ecology and eco-systems, went on to discover all kinds of things about the food we eat. After visiting the Waterhouse Restaurant in Shoreditch, they learned about organic and seasonal foods, and began to think about where our foods come from –and how the food we choose to eat can affect not just the environment, but also make our bodies healthier.



Visiting Waterhouse Restaurant

We went to Waterhouse Restaurant because we wanted to find out a bit about where food comes from, as well as learn about organic and seasonal food. Waterhouse is a restaurant that cooks food mainly using ingredients that are grown in this country. It also cooks British meat. They do use food from around the world, but only if it is in a tin or dried. This is because if you transport fresh food here it has to come by aeroplane, and aeroplanes really damage the environment. Waterhouse use electric vans to transport lots of food to the restaurant, which is better for the environment. All the food is organic, which means farmers haven't used horrible chemicals to grow it.

Jeremiah Cann & Meggy Carra

Food and Where it Comes From

Food is the fuel that keeps us alive, giving us proteins and nutrients, and it provides us with pleasure. But do you know where your food comes from? You should find out more about it, so that when you go shopping you can buy more healthier foods, and foods that are good on the environment.

Tamika White & Youssef Daoud

Waterhouse Restaurant use food from other countries, because they need ingredients for international recipes. But they get fresh food locally because it is fresher, and it arrives there quicker, and uses transport that is less polluting.

Hamish Regan

Local food is food that can be grown and bought in or near London, so that it doesn't need to travel far to get to your shop.

Takudzwa Edwards

When trucks and vans and cars transport food they also burn fossil fuels, which pollute the air with carbon dioxide. Many of the deposits of fossil fuels are also running out, so it's good to find ways not to use them. Local foods are not

transported so much. Though most transport pollutes the environment, bicycles and electric cars and vans don't, so it is good to get food transported by them.

Youssef Daoud & Tae Punter

But many families come from different parts of the world, and they want to use lots of ingredients and fresh foods from their countries, so that they can make meals which might be special for them. Food from other countries travels by aeroplane. Aeroplanes pollute the air with a gas called carbon dioxide, and it is part of what is causing global warming.

Tamika White

People like to explore different foods from different parts of the world, and many people in London come from other countries, so they like food that isn't from the UK.

Youssef Daoud

Things like spices and exotic fruits come from far away countries, but spices are dried so they can come here by boat – and fresh fruit is not dried, so that has to come here by aeroplane.

Honey Farah

But if you don't know where your food comes from, then you don't always know what you're eating, which is a good thing to know. Always remember to read the label, and think before you buy!

Takudzwa Edwards

I really enjoyed learning about where food comes from. For example I didn't know that chopped tomatoes come from Italy, or coffee from Colombia. It's interesting, because if children can really learn about this then it will be really useful for them, and they can help to look after the environment.

Youssef Daoud

Some foods that are grown in the UK

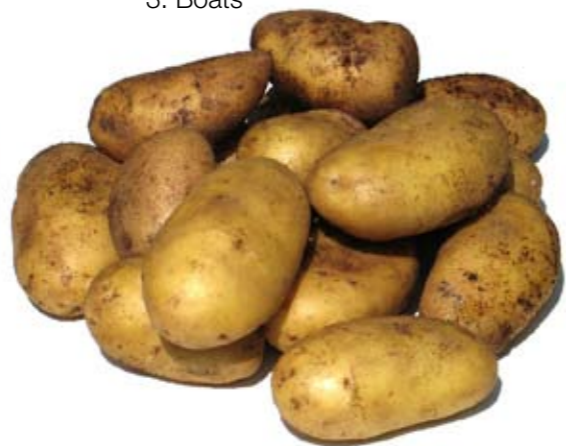
Pumpkin, Celery, Carrots, Mushrooms, Beetroot, Cabbage, Lettuce, Butternut Squash, Spinach, Tomatoes, Potatoes, Leeks, Salt, Apples, Pears

Some Foods that are not grown in the UK

Bananas, Coffee, Cocoa, Chilli Peppers, Yams, Plantains, Mangoes, Pineapples, Blueberries, Oranges, Lemons

Ways we transport food from other countries

- Aeroplanes
- Boats
- Trucks & Vans & Cars
- Trains
- Bicycles



The most polluting forms of transport are...

1. Aeroplane
2. Trucks & Vans & Cars
3. Trains

The least polluting forms of transport are...

1. Bicycles
2. Electric Vans & Cars
3. Boats

Here are some seasonal British foods

Spring Carrots, Peppers, Potatoes, Lettuce, Cucumber

Summer Strawberries, Raspberries

Autumn Apples, Pumpkins, Squashes, Beetroot

Winter Leeks, Potatoes

Seasonal food is produce that is grown at different times of the year. Some foods can be grown throughout the year, but others only in particular months or seasons. So eating seasonally means eating food that is grown at that time of year, like Spring vegetables in the Spring, and Autumn vegetables in the Autumn. These foods can be good for us at these times of years, and can help us not get ill.



Organic foods are foods that are grown or farmed without chemicals. Non-organic farms use chemicals like pesticides and fertilizers to grow their crops and vegetables, and use lots of other chemicals on their animals, too. Seasonal and organic food is better for the environment and good for your body.

Aaishah Coleman

Seasonal and organic foods are also good for the environment, because farmers will grow lots of different types of crops and vegetables through the year, and this will help support lots of different eco-systems.

Lamar McKend

Non-organic farms mostly concentrate on one or two crops, which isn't so good for the environment and the eco-system.

Ania Bisette

Organic and seasonal foods can also taste much better – especially meats like chicken. This is because it does not need lots of chemicals, and hasn't been stored or had to travel very far.

Georgie Hepburn

Eating organic and seasonal foods can have a better effect on your body because they are cleaner and packed with more vitamins and minerals. Non-organic food is less beneficial to your body.

Ania Bisette

It is good to eat organic and seasonal food, but it can be expensive, and if you live in poverty it would cost you too much.

Tamika White

Organic meats like chicken are much better for you than non-organic ones. A farm which keeps battery chickens has the chickens all cooped up too close together, and when a chicken catches a disease all the others get it. So the farmer has to give them loads of chemicals to keep them well. When you eat that chicken you are eating all the chemicals that it has eaten.

Tae Punter

If you buy normal bananas then you will actually be eating food with lots of chemicals in it. But if you eat organic ones then it won't have those chemicals. However, bananas are transported around the world whether they are organic or not, therefore they can do more damage to the world's environment than they can to your body!

Honey Farah

Just by eating a banana from the Caribbean, which has been brought here by transport that causes pollution, you are helping to damage the environment!

Nur Nur

THE JOURNEY OF A BANANA



Have you ever wondered how a banana got into your fruit bowl? Because it certainly wasn't grown in London! Here, children from year 5 at Queensbridge school show you the journey every banana makes from the Caribbean to the UK. Can you count how many forms of transport are used in getting bananas from the Caribbean to the UK?



1. Bananas grow in trees in bunches in hot countries. We get lots of our bananas from the Windward Islands in the Caribbean.



2. Bananas get picked by banana-pickers. They pick them in bunches when they are still green.



3. The bananas are sorted. Bad bananas get thrown away.



4. The crates of bananas then go in another truck to a warehouse.



5. At the warehouse they are packed into crates.



6. Then they are loaded onto a ship and transported across the Atlantic Ocean to the UK.



7. After travelling on another truck they arrive at your supermarket or greengrocer, where you buy them. You may even travel by car or bus to take them home.



Here's some delicious and healthy recipes from Waterhouse Restaurant especially for readers of the Shoreditch Star. Have fun!

WATERHOUSE RECIPES

Purple Carousel To serve 6 people

Ingredients

200 grams butternut squash
600 grams red cabbage
1big shallot
1 tablespoon cumin powder
120ml single cream
6 slices pancetta
Some chopped coriander
Some pine nuts

- 1 Peel the butternut squash, then with a spoon take out the seeds (you can keep them to grow them in your garden or toast them to make a snack.) Then cut it in cubes, slice the red cabbage, peel and chop the shallot.
- 2 Stir the shallot in a small amount of oil (olive oil is the best). When they start to colour, add the butternut squash, cabbage and pour some water till it is covered (it will give you a blue stock!).
- 3 Simmer for 20 minutes or till the butternut squash is cooked soft. Drain the vegetables but keep the stock! Blend the vegetables and add some stock till it's the consistency you want.
- 4 To finish add the cumin, cream, salt and pepper and mix.
- 5 To serve: Grill the pancetta and toast the pine nuts, top your bowl of soup with it and sprinkle some coriander.

TAKE CARE IN THE KITCHEN AND MAKE SURE AN ADULT IS AROUND TO HELP YOU

A Sundae to Die For

Ingredients

1litre vanilla ice cream
100 grams bitter chocolate
100 ml milk
20 grams butter
40 grams caster sugar
1 tablespoon double cream
4 pears
1 full hand toasted almond flakes

- 1 To make the chocolate sauce: Melt 100 gr bitter chocolate in Bain marie with 100ml of milk and 20 gr of butter. When the mixture is smooth, add 40 gr caster sugar and a spoon of double cream. Stir until smooth then remove at once from the heat. Let it cool down (You can use that chocolate sauce on many things as fruit salad, cakes...)
- 2 Peel the pears and cut into small cubes. If you want, you can also drop the pears in melted bitter chocolate to confit them. Let them cool and use them for your sundae.
- 3 To make the many layers of the sundae:
- 4 Put at the bottom of your sundae glass some vanilla ice cream, top it with some pear cubes then with chocolate.
- 5 Repeat the process once more and top your sundae with the almonds.
- 6 You can also whip some double cream with icing sugar to make a Chantilly (or cocoa for a chocolate Chantilly) to go with your sundae!

PROTECTING THE ENVIRONMENT THROUGH THE FOOD THAT WE EAT

By Katherine Hayward at EcoActive

All the food we eat and many of the clothes we wear either come from plants or rely on plants. For example a chicken is fed on grain and grain comes from a plant. So it is important to look after the soil used to grow these plants and there are many ways to do this.



Special plant food, known as artificial fertiliser can be made using chemicals in a factory. These factories can make lots of fertiliser, which is used to cover large fields. This means plenty of plants can be grown at the same time. Unfortunately, pollution from making the fertiliser or adding too much fertiliser to the soil can cause problems. For instance, fertiliser can leak into ponds and streams. Sometimes farmers use other chemicals on their land. They might use some known as herbicides to prevent too many weeds growing or use chemicals to kill insects and other minibeasts that attack their crops.

Organic Food

Some people choose not to eat food that is grown using chemicals. Food grown this way is called organic food, but it is more expensive to buy than food grown using chemicals. Growing food without using chemicals is more difficult than growing food with the help of chemicals, but many people think that it is better for the environment and that the food tastes better.

Seasonal Food

Buying organic food may not be possible for everyone because it is more expensive than other food. Buying food grown in season is a good way of looking after the environment as well as saving money. It is cheaper to buy broccoli grown at a local farm than to buy broccoli grown in a different country and flown by aeroplane to Britain. It is also better for the environment because transporting food from country to country causes pollution.



