

Adeyfield School: Foundation Subjects

Yr 7: Geography

Extended Learning Project:

HIGHER: LEVELS 5 to 8

DUE IN week beginning 31st January 2012

THE ENVIRONMENT



Name: _____

Form: _____

Background: Some experts say that humans are putting our environment in danger through the way we use the earth's natural resources and through the pollution that we produce. This project is designed to improve your understanding of the causes and effects of pollution. It should also help you to understand more about some of the ways we try to protect our planet from the dangers of pollution.

You should attempt all the tasks. This work represents 10 to 15 hours of study over a period of three weeks.

You should do all the work on A4 loose leaf paper. It can be word processed or hand written.

Remember to ask your geography teacher if there is anything you don't understand.

The Environment: Our Planet at Risk?

TASK 1: What is a pollution issue?

Below are some news headlines about pollution issues

Shade the 'bad news' headlines in RED, and the 'good news' in GREEN (Cut out and stick into your project folder)



TASK 2: How are environmental stories reported?

Do your own research to find 2 'good news' and 2 'bad news' stories on the environment by looking in newspapers, magazines or the internet.

For each story about the environment: say where it is, how the environment was being affected, who was affecting it and what, if anything, was being done about it.

TASK 3: What resources do we use everyday?

Make a list of all the different **resources** that you use in a typical day. Start from when you get up to when you go to bed. **Try to think of 10 resources (including those below).** e.g. Clean **Water** to wash your face and brush your teeth.

Cotton and **wool** that are worn

Electricity to make

Petrol or **diesel**

Paper

Food

TASK 4: How do we use resources?

Copy and complete the sentences on how electricity is made in a power station:

e.g. Electricity is made in a power station that uses fossil
The fuel is burnt to produce This heat is used to make
This drives a turbine which in turn works a
The electricity that is produced is sent around the country by the
It reaches our home / school by

Choose 2 of the other resources from task 3 that you use.

Find out how these resources are produced and write a paragraph on how they are made and reach your home. (you could include a diagram as well)

TASK 5: How does the environment get polluted?

Read the poem. It is a conversation between a little girl and her mother.

'Mummy, Oh Mummy'

'Mummy, Oh Mummy, what's this pollution
That everyone's talking about?'
'Pollution's the mess that the country is in,
That we'd all be far better without.
It's factories belching their fumes in the air,
And the beaches all covered with tar,
Now throw all those sweet papers into the bushes
Before we get back into the car.'

'Mummy, Oh Mummy, who makes this pollution,
and why don't they stop if it's bad?'
"Cos people like that just don't think about others,
they don't think at all, I might add.
They spray all the crops and they poison the
flowers,
And wipe out the birds and the bees,
Now there's a good place we could dump that old
mattress
Right out of sight in the trees.'

'Mummy, Oh Mummy, what's going to happen
If all the pollution goes on?'
'Well the world will end up like a second-hand
junkyard,
With all of its treasures quite gone.
The fields will be littered with plastics and tins,
The streams will be covered with foam,
Now throw those two pop bottles over the hedge,
Save us from carting them home.'

'But Mummy, Oh Mummy, if I throw the bottles,
Won't that be polluting the wood?'
'Nonsense! That isn't the same thing at all,
You just shut up and be good.
If you're going to start getting silly ideas
I'm taking you home right away,
'Cos pollution is something that other folk do,
We're just enjoying our day.'

Anon

Do the following questions/tasks about the poem

- Write a paragraph explaining what the poem is about.
- What should the mother be teaching her daughter?
- Write your own poem or story** about the environment.

TASK:

Talk to your family about Recycling in your home

What recycling do they do?
How are your items for recycling stored in your home?
How easy or difficult is it to recycle? Give reasons.
What other ways are there to recycle?
Why is recycling a good idea?

TASK 6: How can the sea be damaged by pollution ?

The North Sea has always been very important to people, and yet it is one of the dirtiest and most polluted of all the seas in the world.

Waste water and sewage from cities and towns containing detergents and chemicals, fertilisers, crop sprays and farmyard waste drain into rivers and, in turn, this flows into the North Sea.



1 Study the list below which shows the sources of pollutants that pollute the North Sea.

Source of pollutants

Ships burn waste at sea.	Toxic waste dumped at sea.
Pollution from spoil tips and landfill sites.	Liquid seeping from disused mines.
Waste material dumped from other ships.	Untreated sewage.
Pesticides.	Abandoned oil and gas rigs.
Salt used to clear ice from roads.	Debris carried by floods.
Litter and rubbish left on beaches.	Sewage from animal rearing.
Contaminated soil.	Waste from mines and quarries.
Shipwrecks.	Wrecked oil tankers.
Factory cooling towers located on the coast.	Farm slurry.
Domestic waste fed through sewers into the sea.	Factory effluent.
Pollution from ship-to-ship transfer at sea.	Fertiliser from farms.

TASK: Draw a table like the one below and complete the table by choosing the sources of pollutants from the box above. Put them in the correct section:

<p>FARMING</p> <p>.....</p> <p>.....</p> <p>.....</p>	<p>HUMAN WASTE</p> <p>.....</p> <p>.....</p> <p>.....</p>
<p>FACTORIES</p> <p>.....</p> <p>.....</p> <p>.....</p>	<p>MINING</p> <p>.....</p> <p>.....</p> <p>.....</p>
<p>TRANSPORT</p> <p>.....</p> <p>.....</p> <p>.....</p>	<p>ENERGY</p> <p>.....</p> <p>.....</p> <p>.....</p>

TASK:

Complete a **research report** of up to 2 sides in length on the state of the sea around the coast of Britain. You can use writing, statistics, graphs, pictures and diagrams.

Useful website: 'Surfers against Sewage'

TASK 7: What types of energy resources are there?

Energy resources can be divided into two types: **NON-RENEWABLE** and **RENEWABLE**.

- a. Use a dictionary to write definitions for both of these types of energy.
- b. Draw a table like the one below and put the following energy resources under the correct heading in the table below:

Hydro-electric Tidal energy Oil Solar energy Coal
 Geothermal Wood Nuclear Wind power Wave energy

Non- renewable	Renewable
.....
.....

- c. Find out which of these ways that Britain uses to meet its (electricity) needs. Present your findings in a graph.
- d. Which type of energy does Britain mainly rely on for its electricity? Why do you think we use this type of energy?

TASK 8: OIL and the ENVIRONMENT

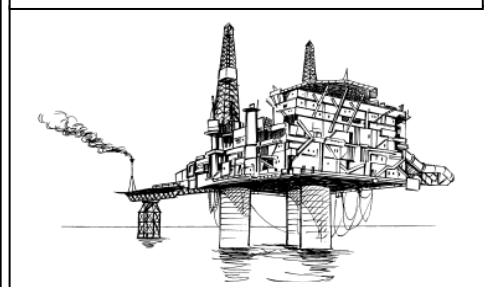
Oil is a **non-renewable resource** that is produced by drilling underground or under the sea bed.

WEB ACTIVITY: Use a search engine (Google etc.) to research an oil tanker disaster, where a ship carrying a large amount of oil spilled its cargo.

Produce a report of about 2 sides on the effects that the disaster had on wildlife and the environment. Include information on what was done to clean up the oil spillage.

TASK: Choose 3 of the following 10 statements linked to oil and the environment and explain how they help to protect the environment in different ways.

- A When the oil is used up, the land is returned to its original use.
- B Once pipelines are laid, the ground is restored.
- C Refineries can be painted green or dark brown to blend in with the environment.
- D Shipping routes for oil tankers are carefully chosen.
- E Before drilling begins, a study is made of wildlife.
- F Muffles are put on refinery machines to reduce noise.
- G Drilling sites on land are lined with concrete.
- H Sites at sea are surrounded by booms to trap any oil spills.
- I Refineries are screened behind trees.
- J Routes for pipelines are chosen carefully so as to avoid wildlife habitats and attractive scenery.



TASK 9: Wind Energy: A renewable energy source for the future?

The wind has been used for thousands of years as a power source for sailing ships and windmills. Nowadays, huge wind turbines can generate electricity from the power of the wind. A wind farm is an area with lots of wind turbines in it.

Read about the advantages and disadvantages of wind power below.

The UK is one of the windiest countries in the world.

Often sited in areas of outstanding natural beauty or National Parks.

Fast-moving blades kill migrating birds.

Electricity generated during storms cannot be stored for use during calm weather.

Can produce income for farmers whose land they are on.

Can be ideal for isolated islands where it is difficult to get electricity.

Wind could generate 10% of the UK's electricity.

Land underneath wind turbines can still be farmed.

Are cheaper than nuclear power and safer.

No fuel to transport or to store.

Can be removed with no permanent scarring of the landscape.

The UK has many suitable sites for wind farms, both on land and offshore.

No carbon dioxide or greenhouse gases are given off because nothing gets burnt.

Wind is unreliable, so turbines cannot be turned on when demand for power is highest.

Does not contribute to global warming.

Are the most energy-efficient of all the electricity-generating technologies.

7,000 turbines are needed to produce the same amount of electricity as one nuclear power station.

A large wind farm is expensive to build.

Does not cause air pollution or give off any gases that can lead to acid rain.

Generating electricity using wind power is still expensive.

Visitors can be put off popular tourist areas where wind farms are located.

Can generate electricity close to people who need it.

Onshore wind power is very ineffective in comparison with offshore power.

Coldest weather is often during calm weather.

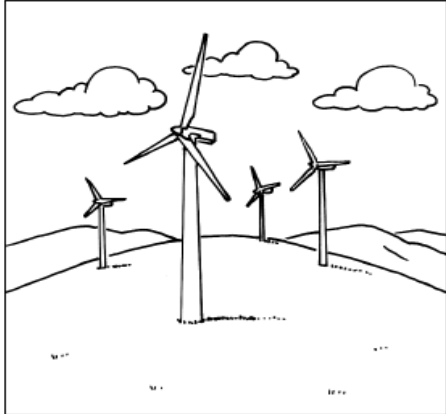
To be exposed to the greatest wind, wind farms have to be located on high land, making them visible for a great distance.

Turbines are noisy and can interrupt TV and radio transmission.

Winds are strongest in winter when demand for electricity is highest.

Wind does not blow all the time.

Wind power is getting cheaper to develop.



TASK: Shade the statements by colouring them as follows:

The **ADVANTAGES** of wind power in **GREEN**
The **DISADVANTAGES** of wind power in **RED**

TASK 10: BUILDING A WIND FARM

<http://www.bbc.co.uk/news/uk-scotland-highlands-islands-14544217>

Read online about the '**Huge Wind Farm Plan for Scotland**' (and other related articles like '**Eagles killed by Wind Turbines**').

Produce a report (about 2 sides of A4) on the plans to build 181 giant turbines on the Isle of Lewis, North West Scotland. Include details on the arguments **FOR** and **AGAINST** building the wind farm.

Write your own conclusion on what you think should be done: Should the plan go ahead or not? Give reasons for your choice.

Extended Learning Project: Assessment

Pupil Self-Assessment:

What did you enjoy the most and why? _____

What do you think you have learnt? _____

What did you find difficult and why? _____

Teacher Assessment:

.....

.....

.....

Your Target:

.....

.....

