

Adeyfield School: Foundation Subjects

Yr 7: Geography

Extended Learning Project:

FOUNDATION LEVEL: Levels 3 -5

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 two 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 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 between 5 and 10 resources.

e.g. Clean **Water** to wash your face and brush your teeth.

Cotton and **wool** worn as clothes to stay warm.

Electricity to make

Petrol or diesel

Paper

Food

TASK 3: 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 one of the other resources from task 2 above

Find out how this resource is produced and how it reaches your home.

TASK 4: 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

Now, **answer 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 5: How can the sea be damaged?

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 5 (continued): Complete the table by choosing the 'Source of pollutants' from the box above. Put them in the correct section (2 in each section)

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

TASK 6: 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
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.....
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.....
.....
.....
.....

TASK 7: 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.

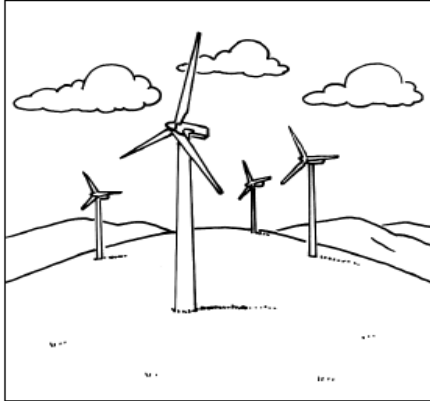
Produce a newspaper front page on the effects that the disaster had on wildlife and the environment. Include information on what was done to clean up the oil spillage.



TASK 8: 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.

1 Read about the advantages and disadvantages of wind power below.



Advantages:

- Often sited in areas of outstanding natural beauty or National Parks.
- Can be ideal for isolated islands where it is difficult to get electricity.
- Are cheaper than nuclear power and safer.
- Can be removed with no permanent scarring of the landscape.
- No carbon dioxide or greenhouse gases are given off because nothing gets burnt.
- Does not contribute to global warming.
- Does not cause air pollution or give off any gases that can lead to acid rain.
- Can generate electricity close to people who need it.
- To be exposed to the greatest wind, wind farms have to be located on high land, making them visible for a great distance.
- Wind could generate 10% of the UK's electricity.
- Fast-moving blades kill migrating birds.
- Electricity generated during storms cannot be stored for use during calm weather.
- The UK is one of the windiest countries in the world.
- Can produce income for farmers whose land they are on.
- Land underneath wind turbines can still be farmed.
- No fuel to transport or to store.
- The UK has many suitable sites for wind farms, both on land and offshore.
- Wind is unreliable, so turbines cannot be turned on when demand for power is highest.
- A large wind farm is expensive to build.
- Visitors can be put off popular tourist areas where wind farms are located.
- Coldest weather is often during calm weather.
- Wind does not blow all the time.
- Wind power is getting cheaper to develop.

Disadvantages:

- Generating electricity using wind power is still expensive.
- Onshore wind power is very ineffective in comparison with offshore power.
- Turbines are noisy and can interrupt TV and radio transmission.
- Winds are strongest in winter when demand for electricity is highest.
- 7,000 turbines are needed to produce the same amount of electricity as one nuclear power station.

TASK: Colour the boxes as follows:

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

Website: <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 (1 to 2 sides of A4) on the plans to build 181 giant wind turbines on the Isle of Lewis, North West Scotland.

Include details on the arguments FOR and AGAINST building the wind farm.

You should also include your own opinions on what should be done.

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:

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Your Target:

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