**Human Impact on the Biosphere WebQuest**

**Instructions: Use the provided internet sites to answer questions or to provide the requested information. Do all work on a separate sheet of paper.**

**Greenhouse Effect**

[**http://climate.ncsu.edu/edu/k12/.ClimateChange**](http://climate.ncsu.edu/edu/k12/.ClimateChange)

What is the natural greenhouse effect?

Could we survive on Earth without the greenhouse effect? Explain

What are the three most influential greenhouse gases? Where does each come from?

What role did the Industrial Revolution play in changing the composition of the atmosphere?

What is the enhanced greenhouse effect? (independent research)

**Global Warming**

<http://climate.nasa.gov/causes/>

What is global warming?

How are human activities contributing to global warming?

Explain the environmental impacts potentially faced from global warming.

**Climate Change**

[**http://www.epa.gov/climatechange/basics/**](http://www.epa.gov/climatechange/basics/)

<http://whatsyourimpact.org/climate-change>

What is climate change?

What are the major types of physical evidence for climate change?

Based on the information gathered in the above sections, are global warming and climate change the same thing? Explain.

**Human Population Growth**

<http://desip.igc.org/mapanim.html>

Watch the animation then answer the following questions:

Where in the world did the human population appear to start?

What was the world population in 1985?

What is the expected world population in 2020?

<https://sites.google.com/site/humanpopulationgrowthwebquest/home/human-population-group-a>

Describe the factors that affect population growth.

What is the formula for human population change?

<https://sites.google.com/site/humanpopulationgrowthwebquest/home/human-population-group-b>

What are the characteristics of a population that is growing quickly?

<http://www.learner.org/courses/envsci/unit/text.php?unit=5&secNum=5>

What are the three major, interconnected elements to human societies impact on the environment?

What are the two major forms of impact on the environment?

What are some countries doing to try to reduce the rate of population growth?

**Invasive or Non-Native Species**

[**https://sites.google.com/site/humanpopulationgrowthwebquest/home/non-native-species**](https://sites.google.com/site/humanpopulationgrowthwebquest/home/non-native-species)

What is a non-native species?

Why are non-native species dangerous to ecosystems?

How were Zebra mussels introduced in the United States?

What impacts have the rapid growth of Zebra mussels had?

**Acid Rain**

[**http://www.clean-air-kids.org.uk/acidrain.html**](http://www.clean-air-kids.org.uk/acidrain.html)

What is acid rain?

What are the main gases that cause acid rain?

How can acid rain affect plants and trees?

How can acid rain affect organisms that live in the water?

How can acid rain affect buildings?

**Ozone Depletion**

[**http://envis.tropmet.res.in/kidscorner/ozone.htm**](http://envis.tropmet.res.in/kidscorner/ozone.htm)

What is ozone?

Why is the ozone layer important to life on Earth?

What is the difference between “bad” and “good” ozone?

What is ozone depletion?

What causes ozone depletion?

What causes the ozone hole?

How does ozone depletion impact human health?

What impact does ozone depletion have on plant and animal life?

[**http://www.smogcity.com/**](http://www.smogcity.com/)

Spend some time changing weather and population conditions.

Which factors increase unhealthy air conditions?

**Pollution**

<http://kidsresearchexpress-3.blogspot.com/2009/04/types-of-pollution.html>

Distinguish between point-source and nonpoint source pollution.

Explain how DDT does not immediately harm birds.

**Click on each of the 6 types of pollution**, summarize and discuss environmental issues

AIR:

Summary:

Environmental issues:

WATER

Summary:

Environmental issues:

SOIL

Summary:

Environmental issues:

SOLID WASTE

Summary:

Environmental issues:

HAZARDOUS WASTE

Summary:

Environmental issues:

NOISE POLLUTION

Summary:

Environmental issues:

**Deforestation**

[**http://kids.mongabay.com/lesson\_plans/lisa\_algee/deforestation.html**](http://kids.mongabay.com/lesson_plans/lisa_algee/deforestation.html)

What is deforestation?

List the causes of deforestation.

Outline the global statistics on deforestation.

What are the environmental consequences associated with deforestation?

What are the social impacts of deforestation?

List 5 ways you can help reduce deforestation.

**Over Harvesting**

[**http://ocean.nationalgeographic.com/ocean/critical-issues-overfishing/**](http://ocean.nationalgeographic.com/ocean/critical-issues-overfishing/)

What is overfishing?

Why is overfishing such a complex environmental issue?

What steps are being taken to counter the effects of overfishing?

**Oil Spills**

<https://sites.google.com/site/rhschem4dduffy/>

In what ways can oil spills happen?

List several affects oil has on animals.

When was the Exxon Valdez oil spill?

How did the Exxon Valdez spill occur?

How much oil spilled from the Valdez?

Explain the economic impact related to the clean up.

Had all organisms recovered 10 years after the spill?

When will all oil tankers have to be double hulled?

Why wasn't the Valdez double hulled?

How is oil clean from beaches?

How is oil cleaned from animals?

**Strip Mining**

<http://www.britannica.com/EBchecked/topic/569236/strip-mining>

What is strip mining?

What are the steps of strip mining?

How is strip mining harmful to the environment?

What does it mean to reclaim the strip mined land?

***To know the value of biodiversity***

<http://actionbiodiversity.org/2010/07/human-benefits-of-biodiversity/>

What is biodiversity?

How does biodiversity benefit human health?

What other ways does biodiversity help humans?

What is our economical relationship with biodiversity?

***To know current threats and preservation methods to biodiversity***

<http://dsc.discovery.com/tv-shows/curiosity/topics/10-surprising-threats-to-biodiversity.htm>

Click through the 12 slides to identify the 10 most surprising threats to biodiversity.

<http://www.biodiv.be/biodiversity/threats/>

What are the major threats to biodiversity?

<http://www.priweb.org/globalchange/bioloss/bl_06.html>

What methods are being used to preserve biodiversity

***To know the concept of ecological footprint***

<http://www.footprintnetwork.org/en/index.php/GFN/>

What is an ecological footprint?

What factors go into calculating an ecological footprint?

<http://www.earthday.net/footprint/index.html>

Measure your footprint. What are your thoughts on the result?

***To know the role of ecology in a sustainable future***

<http://www.childrensuniversity.manchester.ac.uk/interactives/science/energy/renewable/>

Answer the questions while clicking through the animation

What is a nonrenewable resource?

What is a renewable resource?

Why is the sun renewable but oil is nonrenewable?

How is fresh water both a renewable and a limited resource?

<http://www.eia.gov/energyexplained/index.cfm?page=renewable_home>

Summarize the 5 types of renewable energy listed on the main page.

What are the three energy sources most frequently consumed by the US?

Why don’t we use more renewable energy?

<http://www.iisd.org/sd/>

What is sustainable development?

How can sustainable development help minimize negative impacts of human activities?