

Think Global and Act Local:

Human Impact on our Biosphere
9th Grade Eco-Project



The sun, the moon and the stars would have disappeared long ago... had they happened to be within the reach of predatory human hands.
~Havelock Ellis, *The Dance of Life*, 1923

Think Global and Act Local:

Human Impact on our Biosphere

As we take a look around us, humans have definitely made an impact on the world. We have cars, boats, trains. We have flown to the moon and back several times. We take comfort in front of the television daily, taking for granted the furniture we sit on. There is proper heating, clean water. We have an excellent system of education. We are a learned society... but are we?

Reflecting on our way of life, have we stopped to consider who pays for our little comforts? How have we impacted the world we live in? In this project, we urge you to think globally about the human footprint we leave on our biosphere, and challenge you to act locally to make a difference.

In this project you will:

- ✓ conduct research on environmental issues surrounding a threatened biome
- ✓ write an abstract
- ✓ create an collage of images on the wiki, and
- ✓ present a speech to authentic assessors about your biome research in order to share your solutions for a better future.

Project Overview

You will choose a biome in which to study. Upon researching your biome, you will have to choose between two important environmental concerns as a focal point for your project:

- 1) the fate of one endangered species in your biome **OR**
- 2) an environmental issue that threatens the health of your biome

The following table gives you suggestions of issues from which you can choose. You are not limited to the examples given on this table. If you select an endangered species or environmental issue not on the lists below, please get approval from your biology or geography instructor.

Biome	Endangered Species	Environmental Issues
Tundra	Polar bears, musk oxen, arctic fox, wolves, caribou, seals, sea lions, walruses, whales, sea birds, peregrine falcon	Carbon Emission, Overhunting, Mining and Drilling
Taiga	Snow Leopard, Siberian crane, Siberian tiger, bald eagle, grizzly bear, beavers, lynx, wood bison, whooping crane	Migratory Pattern Disruption, Pollution, Resource Extraction (logging for paper)
Temperate Forest	Giant Sequoia, giant panda, monarch butterfly, salamander	Fuel Buildup (No controlled burns); logging
Grasslands	Elephants, rhinos, pronghorn, prairie dog, bison, cheetah, burrowing owl, sandhill owl, red wolf	Poaching, introduction of non-native species
Rainforest	Jaguar, orangutan, harpy eagle, golden lion tamarind monkey, bengal tiger, toucans, parrots, gorillas, poison dart frog, chimpanzee	Deforestation and Mudslides, Slash and burn agriculture
Ocean	Sharks, yellow fin tuna, coral, brown pelican, smelt, blue whale, bowhead whale, finback whale, gray whale, humpback whale, Mediterranean monk seal, sperm whale, steller sea lion, cahow, Guam micronesian kingfisher, green sea turtle, leatherback sea turtle, steelhead, west Indian manatee, small tooth sawfish, queen conch	Reduced pH, Glacial Melting, Overfishing
Freshwater	Salmon, varied species of frogs, American alligator, sturgeon, Indus river dolphin, blackmouth shiner, okaloosa darter, shortnose sturgeon, manatee, Atlantic sturgeon, southern tessellated, suwannee bass, lake eustis pupfish, harlequin darter, key blenny, shortnose top minnow, key silversides, crystal darter, rivulus, shoal Bass	Pollution, Runoff (drilling, farming), Acid Rain
Desert	Various rare species of cacti, chuckwalla lizards, desert tortoise, pupfish, ocelot, kangaroo rat, gila monster, prairie dog, peregrine falcon, bactrian camel, dromedary camel, desert bighorn, przewaski's horse, desert cats, lappet faced vulture, gazelle	Desertification, Sandstorms, Hurricane Cycle, Habitat destruction due to human activity (off-road vehicles)

Focus Questions for your Global Research

To help you think globally about the environmental concern of your choice you will focus on the following four questions:

Choice #1: For those of you that choose to focus on an **environmental issue**:

Focus Question One: Describe your biome, including the following details in your description: weather, precipitation, temperature range, fauna, flora, abiotic factors, geographic location in latitudes, and examples of countries that contain this biome.

Focus Question Two: What is the environmental issue? Describe it.

Focus Question Three: Why is this problem occurring?

Focus Question Four: What is the global impact of this problem?

Choice #2: For those of you that choose to focus on an **endangered species**:

Focus Question One: Describe your biome, including the following details in your description: weather, precipitation, temperature range, fauna, flora, abiotic factors, geographic location in latitudes, and examples of countries that contain this biome.

Focus Question Two: What is happening to the endangered species of your choice?

Focus Question Three: Why is this species endangered?

Focus Question Four: What is the global impact of losing this species?

Requirements for Global Research

You must take Cornell-style notes for your research and cite all of your sources using MLA format. Your Cornell-style notes will look something like this:

	Global Focus Question _____ _____ _____
Your MLA citations will be annotated on the left hand side	Notes will be written on the right hand Side

- ✓ Length Requirement: minimum 2 pages per focus question
- ✓ Sources: Minimum 3 sources
- ✓ Notes must be hand-written; If you wish to type your notes, your handwritten notes must be attached to typed notes
- ✓ This research will be worth 40 points in your geography class (10 points per focus question)

Focus Questions for your Local Research

To help you act locally about the environmental concern of your choice, you will focus on the following three questions:

Focus Question One: **How and why am I impacted by this environmental concern?**

Focus Question Two: **In what ways do I contribute to this problem?**

Focus Question Three: **What current special interest group or government agency is currently addressing this problem? What are they doing about the problem to help resolve the issue?**

Requirements for Local Research

You must take Cornell-style notes for your research and cite all of your sources using MLA format. Your Cornell-style notes will look something like this:

	Local Focus Question _____ _____ _____
Your MLA citations will be annotated on the left hand side	Notes will be written on the right hand Side

- ✓ Length Requirement: minimum 2 pages per focus question
- ✓ Sources: Minimum 3 sources
- ✓ Notes must be hand-written; If you wish to type your notes, your handwritten notes must be attached to typed notes
- ✓ This research will be worth 30 points in your geography class (10 points per focus question)

Publish on the Wiki

For this project, you will publish your findings on the wiki. There will be three parts to this portion of the project:

Part 1) create collage of images that will be used as a backdrop to your speech

Part 2) write an abstract that explains the collage

Part 3) create a works-cited page, using MLA formatting

Criteria for Part 1: Collage of Images

In your EDA class, you will learn how to use fireworks in order to create a collage of images that represent your research findings. Your collage must include a minimum of 10 images broken down in the following way:

- ✓ 4 images will represent the four global focus questions
- ✓ 3 images that represent the 3 local focus questions
- ✓ 3 images that represent your action plan for a better future

The Title line of your collage page should include your name, your biome, and your environmental focus.

For example if your focus is on an endangered species, your title line would read like this:
Anderson, Mika - Taiga - Endangered Species: Siberian Tiger

If your focus is an environmental issue, your title line would read something like this:
Anderson, Mika - Tundra - Environmental Issue: Global Warming

The bottom of this wiki page must include working links to your works cited and to your abstract.

Criteria for Part 2: The Abstract

In your biology class, you will learn the basics of how to write an abstract. An abstract is a concise summary of your project. In general, you will need to write 2-3 sentences that sum up the significance of each image chosen. Your abstract will be one paragraph, and between 20-25 sentences in length. The abstract should flow nicely as you write about one image to the next. Use transitions so that it does not sound disjointed. The abstract writing will be graded by your biology teachers and will be worth _____ points.

Criteria for Part 3: The Works Cited

All images that are used in your image collage must be cited using proper MLA formatting.

Act Local

Upon completing your research, you must now reflect and think about what you could do locally to improve the health of your biome. Think about your vision for a better future. Recall that you will have to include 3 images that show this vision in your wiki collage, and you must present a detailed explanation of your action steps in your speech.

In order to help you with this task, you will submit an outline to your biology teacher. This outline will be worth ____ points, and must include the following components:

I. Goal for Action Plan:

Set a goal of what you would ideally like to accomplish. For example, a goal can be to raise awareness of the plight of the polar bears in the tundra. Another example can be to raise money for the government agency that works to improve your environmental concern.

II. Specific action steps to accomplish the goal:

Make a list of all the things you must do in order to accomplish your goals.

III. Specific problems That Must be Overcome

Brainstorm some problems that you may encounter that would prevent you from accomplishing your goal. Then come up with a list of ways that you can overcome this problem.

IV. Your Vision:

Describe your vision of a better future. What would our biosphere be like should you succeed with your conservational efforts? How would your efforts affect the situation globally?

Project Speech Presentation

In your final presentation, you will be asked to write and deliver a 10-minute speech about your research findings and solutions. Your speech should be broken down in the manner given below.

- 30 seconds – 1 minute: Provide an overview of your biome
- 3 minutes: Discuss your findings from your global research.
- 3 minutes: Discuss your findings from your local research.
- 3 minutes: Discuss your solutions for a better future.

You will be expected to wear formal attire for your speech. You must wear business professional attire, which means no jeans, flip-flops, ball-caps, tank tops, exposed underwear or stomachs. Shirts should be tucked in. Ties are recommended for gentlemen and ladies should be dressed in business-type attire. Skirts should be mid-thigh length or longer. Alternatively, dress pants may be worn.

Your WIKI pages will be displayed in the background as you speak so that the images you pick correlate with your speech. You will be expected to refer to these images throughout your presentation.

Speech Rubric

Name:	Distinguished Exceeds requirements	Commendable Meets MOST or ALL requirements	Adequate Meets SOME requirements	Needs Development Meets FEW requirements	Absent Does not Address Requirement
<u>Content</u> <ul style="list-style-type: none"> • Hook and solid introduction • Description of biome • Detailed description of global issues and concerns • Detailed description of local issues and concerns • Provides a well thought-out solution for the environmental issue 	60	52	46	38	0
<u>Delivery</u> <ul style="list-style-type: none"> • Makes consistent eye contact with entire audience-does not read from cards • Speaks slowly and clearly • Varies tone • Uses hand gestures where appropriate • Student does NOT use fillers such as “like” “um” “you know” • Student confidently and knowledgably answers questions 	60	52	46	38	0
<u>Wiki Collages</u> <ul style="list-style-type: none"> • Professional • Images are workplace appropriate • Skilled technical design • Includes both research and reflective components 	15	12.5	11	9	0
<u>Attire and Time management</u> <ul style="list-style-type: none"> • 9-10 minutes • Work place attire - no jeans, flip-flops, ball-caps, tank tops, exposed underwear or stomachs. Shirts should be tucked in. • Ties recommended for gentlemen • Ladies should be dressed in business type attire. Skirts should be mid-thigh length or longer, or dress pants may be worn. 	15	12.5	11	9	0
TOTAL	/150				

Project Timeline and Deadlines

October 8th	Project Launch in Spirito Hall
October 13 th	Finalize Research Topic in Biology
October 14 th – 15 th	Research Time in Geography
October 28 th – 29 th	Research Time in EDA
October 30 th – 31 st	Global Research due in Geography
November 4 th – 5 th	Begin Building Image Collage on WIKI in EDA
November 13 th – 14 th	Local Research due in Geography
November 15 th – 20 th	Work on adding to your wiki collage images from your local research. Also begin outlining your plan for local action so that you can choose images for your collage. Begin to write abstract.
November 21 st	WIKI Collage and Works Cited due and checked by EDA for technical design and required skills
November 24 th – December 12 th	Work on your speech, your abstract, and your outline for local action.
December 4 th - 5 th	Outline for local action due in biology
December 10 th	Abstract due on wiki and checked by biology
December 15 th	Project Presentation Day – presentation day points awarded in biology