

Full Experience Narrative (both in the classroom and at the museum):

The *Human Impact on the Environment Field Trip Experience* is a thematic journey through the Museum's collection that focuses on different ways humans have impacted nature. It is an exciting lesson designed for middle school students featuring a pre-visit activity that allows students to visualize human impact by researching and creating a 3D map. The tour of the museum includes works of famous artists such as Maya Lin, Winslow Homer, and Thomas Moran. It also includes a unique studio workshop using gelatin prints to depict both nature and the manmade world around them. Back in the classroom, the post-visit activity includes creating a campaign poster against changing the path of the Kissimmee River. This experience is grounded in science, social studies, and English and is sure to turn your students into budding activists!

*Descriptions of Tour and Studio at the Museum:***Artworks on the Guided Tour may include:**

Title	Artist
Town of Skowhegan	Yvonne Jacquette
Pin River Kissimmee	Maya Lin
Disappearing Bodies of Water: Arctic Ice	Maya Lin
The Trapper	Winslow Homer
View from Olana in the Snow	Frederic Edwin Church
The Great Blue Spring of the Lower Geyser Basin	Thomas Moran

Studio Workshop (optional):

Gelatin Printmaking Workshop - Inspired by the artworks seen on their tour, students will create original compositions based on nature and the man-made environment around them. They will then experiment with gelatin printmaking techniques to show the structure of an object, represent depth, texture, and add emphasis.

Description of Before and After Visit Lesson:

Before the visit, students will do a pre-visit activity that allows students to visualize human impact by researching and creating a 3D map. Back in the classroom, the post-visit activity includes creating a campaign poster against changing the path of the Kissimmee River.

Maine State Learning Results:

Grades 6-8 SCIENCE

C3 Students identify and describe the role of science and technology in addressing personal and societal challenges.

Describe how science and technology can help address societal challenges including population, natural hazards, sustainability, personal health and safety, and environmental quality.

Identify personal choices that can either positively or negatively impact society including population, ecosystem sustainability, personal health, and environmental quality.

Identify factors that influence the development and use of science and technology.

Grades 6-8 SOCIAL STUDIES

C2 Individual, Cultural, International, and Global Connections in Economics

Students understand economic aspects of unity and diversity in Maine, the United States, and various world cultures,

including Maine Native Americans.

- a. Describe factors in economic development, and how states, regions, and nations have worked together to promote economic unity and interdependence.
- b. Describe the economic aspects of diverse cultures, including Maine Native Americans, various historical and recent immigrant groups in the United States, and various cultures in the world.

D1 Geographic Knowledge, Concepts, Themes, and Patterns

Students understand the geography of the community, Maine, the United States, and various regions of the world and the geographic influences on life in the past, present, and future.

- a. Explain that geography includes the study of physical, environmental, and cultural features of the State, nation, and various regions of the world to identify consequences of geographic influences and make predictions.
- b. Use the geographic grid and a variety of types of maps to gather geographic information.
- c. Identify the major regions of the Earth and their major physical features and political boundaries using a variety of geographic tools.
- d. Describe the impact of change, including technological change, on the physical and cultural environment.

BEFORE THE VISIT

Lesson Title: How do people affect the environment?

Based on Maya Lin's "Disappearing Bodies of Water," students will work in small groups or independently to create a 3D model based on maps found online of an environmental issue of decreased area or population and then document the environmental issues causing it.

Materials needed: scissors, colored foam paper (thick enough to give dimension-found at Walmart), glue, scrap paper, maps of model to be created, computer, and a picture of Maya Lin's "Disappearing Bodies of Water" to show students an example of what they will be similarly creating. Students might be given an outline map of the area being covered to help with scale of the project.

Duration of activity: 90 minutes

Procedure: Students will create a three-dimensional map of their choice complete with a key and a description of what the map represents. They will cut out and stack their maps based on drawings found on line. They will then title their piece and give a brief description of what the map represents and why it is an issue- much like the tags found at the museum.

Ideas for maps:

Disappearing buffalo range (easiest map)

<http://motherboard.vice.com/read/how-much-roam-does-it-take-to-make-a-buffalo-feel-at-home>

Orangutan disappearance in Borneo (medium difficulty)

http://www.grida.no/graphicslib/detail/orangutan-distribution-on-borneo-indonesia-malaysia_11d2

Disappearing rainforest in Borneo (hardest map)

http://www.grida.no/graphicslib/detail/extent-of-deforestation-in-borneo-1950-2005-and-projection-towards-2020_119c

Method of Assessment: Attached rubric for project

Discussion: Do you think the map is a good representation of how to display environmental problems? Why or why not? What would be another way to tell people about issues? Do you consider this art?

Differentiation: There are three maps listed to choose from with varying degrees of difficulty. A template to trace could be drawn and a fill-in-the blank key could be provided. However, gifted and talented students may want to find their own projects. This can also be done with

insulation board found at Home Depot or Lowes for a larger, more permanent display.

Interdisciplinary Connections:

English:

CCSS.ELA-Literacy.RST.6-8.9

Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.

CCSS.ELA-Literacy.RST.6-8.7

Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).

Resources:

<http://www.tropical-rainforest-animals.com/borneo-rainforest.html> This is a useful site with information about the deforestation in Borneo

Outline of Borneo map:

http://www.free-vector-maps.com/f_qzw4587dpm/f_borneo.pdf

Notes: Before going to the museum, review a list of vocabulary words that will be used:

Floodplain	Natural Resources
Meander	Survey
Army Corp. of Engineers	Meander
Glacier	Pueblo
Mesa vs. Butte	Plateau

AFTER THE VISIT

Lesson Title: How do people affect the environment?

Based on Maya Lin's "Pin River Kissimmee", students will create a campaign poster defending the biologists' views of not altering the flow of the river.

Materials: Supplies for making a poster (Poster paper, markers, etc.)

Duration of activity: 90 Minutes

Pre- project discussion: What is a campaign poster? What would be items found on a campaign poster? Can you think of ways to "sell" your ideas on a poster?

Procedure: Review the definition of natural resources, renewable and non-renewable resources.

After having students visit the following websites: (as a group or individually)

<https://historyengine.richmond.edu/episodes/view/5596> and

http://www.saj.usace.army.mil/Portals/44/docs/FactSheets/Kissimmee_FS_January2015.pdf

Students will work in small groups or individually to create a campaign poster by assuming they are biologists in 1968 and respond to the New York Times story, "Florida Reroutes a River to Better Fisherman's Luck."

Discussion: Think about the environmental damage done even though the intention was to benefit the environment. What kind of similar situations can you find where the intention was good but the environmental impact was negative?

Method of Assessment: Attached rubric for poster

Differentiation: Allow students who need it to type information and cut it out to place on poster. Allow students to use drawings and pictures found on line for their poster rather than draw themselves.

Interdisciplinary Connection: English

CCSS.ELA-Literacy.RST.6-8.7

Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).

Appendices: Two Rubrics

3-D project Rubric	4	3	2	1
Organization	Extremely well organized; flowed smoothly from one layer to another and cleverly conveyed; the organization enhanced the effectiveness of the project. The audience has immediate understanding	Presented in a thoughtful manner; there were signs of organization and most transitions were easy to follow, but at times ideas were unclear	Somewhat organized; layers were not presented coherently and transitions were not always smooth or in the right place, which at times distracted the audience	Choppy and confusing; format was difficult to follow; transitions of layers were in the wrong spots.
Summary	Completely accurate; all facts were precise and explicit. Spelling and punctuation is correct. Easy to read.	Mostly accurate; a few inconsistencies or errors in information. Spelling and punctuation is mostly correct. Mostly easy to read.	Somewhat accurate; more than a few inconsistencies or errors in information; few spelling and punctuation errors. Sloppy, hard to read.	Completely inaccurate; the facts in this project were misleading to the audience. Many spelling errors; illegible.
Key	Well presented; color coded; understandable and easy to follow. Contains a scale.	Accurate; easy to follow. Contains all information so the audience knows what they are seeing.	Somewhat accurate. Contains most of the information. Audience might be able to guess what is represented.	Completely inaccurate; hard to read;
Research	Went above and beyond to research information; solicited material in addition to what was provided; brought in personal ideas and information to enhance project.	Did a very good job of researching; utilized materials provided to their full potential; solicited adequate resources to enhance project	Used the material provided in an acceptable manner, but did not consult any additional resources	Did not utilize resources effectively; did little or no fact gathering on the topic
Other				"

Poster Rubric	4	3	2	1
Coverage of the Topic	Details on the poster capture the important information about the topic and increase the audience's understanding.	Details on the poster include important information but the audience may need more information to understand fully.	Details on the poster relate to the topic but are too general or incomplete. The audience needs more information to understand.	Details on the poster have little or nothing to do with main topic.
Use of Graphics	All graphics are related to the topic and make it easier to understand.	All graphics are related to the topic and most make it easier to understand.	All graphics relate to the topic.	Graphics do not relate to the topic.
Organization	Information is very organized with clear titles and subheadings.	Information is organized with titles and subheadings.	Information is organized, but titles and subheadings are missing or do not help the reader understand.	The information appears to be disorganized.
Layout and Design	All information on the poster is in focus and can be easily viewed and identified from 6 ft. away.	Most of the information on the poster is in focus and the content easily viewed and identified from 6 ft. away.	Most of the information on the poster is in focus and the content is easily viewed and identified from 4 ft. away.	Much of the information on the poster is unclear or too small.
Sources	All sources (information and graphics) are accurately documented.	All sources (information and graphics) are accurately documented, but there are a few errors in the format.	All sources (information and graphics) documented, but information is incomplete or not in the desired format.	Some sources are not accurately documented.
Mechanics	No grammatical, spelling or punctuation errors.	Almost no grammatical, spelling or punctuation errors	A few grammatical, spelling, or punctuation errors.	Many grammatical, spelling, or punctuation errors.
Other				