

# The Impact of War on the Environment: Hiroshima

## Lesson Summary:

Students will study the impact of human war on the natural environment. They will research the impact of Hiroshima on the natural environment. How human technology lead to this incident and the lasting impact of the bomb on the natural environment.

## Estimated Duration:

3-4 class periods of 45 minutes

## Pre-Assessment:

Study of food chains, food webs, climates and ecosystems interdependence. Also study of earth's cycles and how humans impact the natural cycles of the earth.

## Post-Assessment:

Completed picture book of the immediate impact of Hiroshima and a pictorial timeline of the recovering environment continuing into the future by 100 years of a prediction of the continual recovery or lack of recovery completed by students. Students will use drawings and pictures, food chains, food webs to show before, immediate after and the progression of the impact on the environment.

## Instructional Procedures:

PowerPoint Presentation of the history and causes of the dropping of the bomb. Students then will complete internet research on the impact to the environment and succession process of the environment to the current year. They will then make predictions of what the environment, ecosystem and food webs will look like in the next 100 years: in 25 year increments.

## Differentiated Instructional Support:

Enlarged copies for visually impaired  
hard copies of the PowerPoint and notes  
Notes completed orally on a Podcast  
Partner work for I.E.P. students

## Extension:

Accelerated classes (2) will read the fictional, futuristic novel On the Beach. I will buy 60 copies of the paperback novel with my funding so *can use it yearly*. Students will continue their investigation of the impact of war on the earth/environment/ecosystems. They will explore the possibility of human technology actually ending our existence as we know it.

## Homework Options and Home Connection:

Students can interview grandparents and great grandparents' who remember the dropping of the bomb (Hiroshima).

Students can discuss with their parents' their views and thoughts about war, nuclear and atomic bombs and discuss how it felt growing up during the "Cold War."

**Interdisciplinary Connections:**

Language Arts classes could also read On the Beach  
Social Studies classes could study the history of Hiroshima

**Materials/Resources Needed:**

Computers with internet access  
PowerPoint  
Projector/SmartBoard  
Class sets of novel  
Handouts and Discussion/research questions

**Key Vocabulary:**

uranium4,5  
nuclear  
ecosystem  
food chain  
food web  
Hiroshima  
radioactive  
persistent  
genocide  
mutations  
primary succession  
secondary succession

**Technology Connections:**

Computers with internet access

**Research Connections:**

Using internet to make reliable research

**General Tips:**

Controversial topics can occur. Proceed cautiously depending upon the level of maturity of your students.

**Attachments:**

## **Standards**

**PreK-12 Science****S01. Earth and Space Sciences**

- C. Describe interactions of matter and energy throughout the lithosphere, hydrosphere and atmosphere (e.g., water cycle, weather and pollution). (06-08)
  - 01. Explain the biogeochemical cycles which move materials between the lithosphere (land), hydrosphere (water) and atmosphere (air). (07)
  - 02. Explain that Earth's capacity to absorb and recycle materials naturally (e.g., smoke, smog and sewage) can change the environmental quality depending on the length of time involved (e.g. global warming). (07)

**S02. Life Sciences**

- C. Explain how energy entering the ecosystems as sunlight supports the life of organisms through photosynthesis and the transfer of energy through the interactions of organisms and the environment. (06-08)
  - 06. Summarize the ways that natural occurrences and human activity affect the transfer of energy in Earth's ecosystems (e.g., fire, hurricanes, roads and oil spills). (07)
- D. Explain how extinction of a species occurs when the environment changes and its adaptive characteristics are insufficient to allow survival (as seen in evidence of the fossil record). (06-08)
  - 05. Explain that some environmental changes occur slowly while others occur rapidly (e.g., forest and pond succession, fires and decomposition). (07)

**S04. Science and Technology**

- A. Give examples of how technological advances, influenced by scientific knowledge, affect the quality of life. (06-08)
  - 01. Explain how needs, attitudes and values influence the direction of technological development in various cultures. (07)
  - 02. Describe how decisions to develop and use technologies often put environmental and economic concerns in direct competition with each other. (07)
  - 03. Recognize that science can only answer some questions and technology can only solve some human problems. (07)