

UNIT 2: MIDDLE SCHOOL – WASHINGTON STATE HISTORY

NEW TECHNOLOGIES AND INDUSTRIES: HANFORD NUCLEAR RESERVATION'S EFFECTS ON INDIAN COUNTRY

Level 3

Instructional Support Materials

[Humans and the Environment CBA](#)

[CBA Graphic Organizer](#)

[Paul Beeson Peace Award](#)

Learning Goals

Students will complete the [Humans and the Environment CBA](#) in which they are required to:

- State a position on two groups' uses of the environment that includes an analysis of how the two groups' uses are similar or different
 - Provide background on your position by:
 - Explaining one or more plausible alternatives to the groups' uses of the environment that addresses costs and benefits.
 - Provide reason(s) for your position that include:
 - An analysis of **one** or more significant similarities or differences related to groups' uses of the environment
 - Make explicit references within the paper or presentation to three or more credible sources that provide relevant information AND cite sources within the paper, presentation, or bibliography
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Time: Approximately 5 class periods

Teacher Preparation

- Take time to explore the OSPI CBA page for [Humans and the Environment CBA](#).
 - Make copies of the provided rubric and graphic organizer and make yourself familiar with the materials on the OSPI site.
 - Note: The Pacific Northwest National Laboratory publishes a yearly study of Hanford. The report is part of the student recourse page. This report has a large amount of useful data; however, it is a challenging read for students. It is advised that you read the report prior to your students and help them process information.
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Learning Activities

1. Complete Level 1 and 2 activities.
 2. Since we all depend on the health of the environment, responsible citizens need to understand how humans affect and are affected by the environment. You will choose and study two groups of people living in the same or similar environments, and compare and contrast how those groups interact with their environment.
 3. Students will use the information they gathered in their group research project to formulate a personal essay incorporating prior knowledge.
 4. Students should then use the resources to explore the impact of the Hanford Nuclear Reservation on the Northwest Tribes whose homelands lie on or near the Hanford site.
 5. Students should have a printed or digital copy of OSPI's [Humans and the Environment CBA](#) and use the provided questions to create their presentation or paper. Additionally, students should use the *CBA Guide and Graphic Organizer* presented here to formulate their paper.
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Resources

There are many resources on the Hanford Nuclear Reservation available. Below are the resources used in the Level 2 lesson. Have students review the information to be included in their paper.

Internet Resources:

Hanford's History

- [Hanford Super Fund Site History](https://www.hanford.gov/page.cfm/hanfordhistory)
(<https://www.hanford.gov/page.cfm/hanfordhistory>)
- [Pacific Northwest National Laboratory - Hanford Report](https://www.pnnl.gov/about/environmental_reports/2016_SiteAnnualEnvironmentalReport.pdf)
(https://www.pnnl.gov/about/environmental_reports/2016_SiteAnnualEnvironmentalReport.pdf)
(http://www.pnnl.gov/about/environment_reports/)
- [Department of Energy Website for Hanford](https://www.hanford.gov/)
(<https://www.hanford.gov/>)
- [Hanford Site Overview](https://en.wikipedia.org/wiki/Hanford_Site)
(https://en.wikipedia.org/wiki/Hanford_Site)

Tribal Perspectives

- [Oregon.gov - Nuclear Safety](https://www.oregon.gov/energy/facilities-safety/safety/Pages/About-Hanford.aspx)
- <https://www.oregon.gov/energy/facilities-safety/safety/Pages/About-Hanford.aspx>
- [High Country News Article – Fishing](https://www.hcn.org/issues/169/5454?searchterm=Hanford%2C+India)
(<https://www.hcn.org/issues/169/5454?searchterm=Hanford%2C+India>)
- [Nez Perce - Environmental Restoration and Waste Management Website](#)

- (<http://www.nezperce.org/~erwm/hanford.html>)
- [Hanford Tribal Stewardship](http://www2.clarku.edu/mtafund/prodlib/nez_perce/Hanford_Tribal_Stewardship.pdf)
(http://www2.clarku.edu/mtafund/prodlib/nez_perce/Hanford_Tribal_Stewardship.pdf)
- [Yakima Indian Nation - 1855 Treaty Information](http://www.ohwy.com/wa/y/yakamana.htm)
(<http://www.ohwy.com/wa/y/yakamana.htm>)

Hanford's Land and Wildlife

- [Nature Conservancy Magazine](https://www.nature.org/media/washington/tnc_fall_winter2009magweb.pdf)
(https://www.nature.org/media/washington/tnc_fall_winter2009magweb.pdf)
- [US Fish and Wildlife – Hanford Reach](https://www.fws.gov/refuge/hanford_reach/)
(https://www.fws.gov/refuge/hanford_reach/)
- [Pacific Northwest National Laboratory - Hanford Report](https://www.pnnl.gov/about/environmental_reports/2016_SiteAnnualEnvironmentalReport.pdf)
(https://www.pnnl.gov/about/environmental_reports/2016_SiteAnnualEnvironmentalReport.pdf)
- https://www.pnnl.gov/about/environmental_reports/
- [High Country News Article](https://www.hcn.org/issues/238/13514)
(<https://www.hcn.org/issues/238/13514>)

Effects of Hanford's Nuclear Waste on Humans

- [Centers for Disease Control and Prevention](https://www.cdc.gov/nceh/radiation/hanford/htdsweb/guide/history.htm)
 - <https://www.cdc.gov/nceh/radiation/hanford/htdsweb/guide/history.htm>
 - [Washington Department of Health](https://www.doh.wa.gov/CommunityandEnvironment/Radiation/RadiationTopics/HanfordandPublicHealth)
 - <https://www.doh.wa.gov/CommunityandEnvironment/Radiation/RadiationTopics/HanfordandPublicHealth>
 - [Hanford Downwinders Information Site - Overview of Hanford and Radiation Health Effects](http://www.geocities.ws/irradiated45rems/2page1.html)
 - <http://www.geocities.ws/irradiated45rems/2page1.html>
 - [New Scientist – Article](https://www.newscientist.com/article/mg19926642.900-contaminated-us-site-faces-catastrophic-nuclear-leak/?full=true&print=true)
 - <https://www.newscientist.com/article/mg19926642.900-contaminated-us-site-faces-catastrophic-nuclear-leak/?full=true&print=true>
 - [Seattle Daily Journal of Commerce – Downwinders](http://www.djc.com/special/enviro98/10043971.htm)
 - <http://www.djc.com/special/enviro98/10043971.htm>
 - [New York Times Article on Hanford and Tribes](https://www.nytimes.com/1990/09/03/us/washington-nuclear-plant-poses-risk-for-indians.html)
 - <https://www.nytimes.com/1990/09/03/us/washington-nuclear-plant-poses-risk-for-indians.html>
 - [Hanford Challenge Website](http://www.hanfordchallenge.org/)
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