

Lesson Plan

African Americans and Life in a Secret City



Images of Hanford Engineering Works in Washington.

Left: Aerial shot of construction camps at Hanford Engineering Works, Washington. Photo credit: Digital Photo Archive, Department of Energy (DOE), courtesy of AIP Emilio Segre Visual Archives.

Right: Photo taken during the construction days in one of the production areas at the Hanford Engineering Works in Washington. Photo Credit: Digital Photo Archive, Department of Energy (DOE), courtesy AIP Emilio Segre Visual Archives.

Grade Level(s): 9-12

Subject(s): History

In-Class Time: 50-75 min

Prep Time: 10-15 min

Materials

- Hanford Oral History Interviews (see Supplemental Materials)
- Photographs of African Americans at Hanford (see Supplemental Materials)
- Photocopies of the Discussion Questions, found in the Supplemental Materials

Objective

Students will learn about the role of African Americans in the Manhattan Project as scientists, technicians, and workers. Specifically, students will learn about African Americans who worked and lived at one of the secret cities built for the Manhattan Project in Hanford, Washington. They will read oral histories of black construction workers at Hanford, as well as examine historical photographs from the site that reveal more information about the working and living conditions there. **Note:** This lesson plan works extremely well alongside the AIP Teaching Guide: African Americans and the Manhattan

Project, which has students examine several African American scientists who worked on the Manhattan Project at various sites.

Introduction

In August 1939, famous physicists Albert Einstein and Leo Szilard wrote a letter to then President Franklin Roosevelt warning him of German attempts to create “extremely powerful bombs of a new type” and recommending that the United States counter these efforts by producing the bomb first. Thus began what was called the Manhattan Project, one of the largest scientific undertakings in United States history, lasting from 1941-1946. The Project entailed the building of three completely new and secret cities in Oak Ridge, Tennessee, Los Alamos, New Mexico and Hanford, Washington and the work of scientists at University of Chicago, University of California, and Columbia University. In all, over 400,000 individuals worked on the Manhattan Project but only a handful of those people knew what they were working toward: the construction of the atomic bomb.

The Manhattan Project had sites all across the United States.¹ Each of these sites had a different function in the ultimate project to build an atomic bomb. Hanford Engineering Works or the Hanford Site was established in 1943 as part of the Manhattan Project on almost 600-square-miles of shrub-steppe grassland. The Hanford Site was dedicated to the production of plutonium, a crucial ingredient in the creation of the atomic bomb. The site was the home of the world’s first full-scale plutonium production reactor called the “B Reactor.” The plutonium manufactured at Hanford was used in the first nuclear bomb as well as the bomb that landed on Nagasaki.

In 1943, the Washington land was acquired by the federal government to produce the first full-scale plutonium-producing reactor in the world. Plutonium that was produced at Hanford was used in the first nuclear bomb and in “Fat Man,” the atomic bomb detonated over Nagasaki, Japan which killed around 40,000 people instantly and injured around 25,000. Radiation from the explosion brought the death toll to around 70,000. The explosion of “Fat Man” at Nagasaki and “Little Boy” at Hiroshima led to Japan’s surrender and the end of World War II. When news broke that plutonium from Hanford had led to the creation of the atomic bomb, thousands of workers who lived and worked at the site were just as surprised as the American public. While they lived, worked, and raised their families on the site, very few were told that their work was contributing to national security.

In order to bring thousands of workers to the Hanford Site, the DuPont corporation recruited African Americans in the American South. According to historian Robert Bauman, the African American population of the Tri-Cities area in 1943 was twenty-seven. Over the course of the next few years, more than 15,000 African Americans followed DuPont’s promise of higher wages and jobs and arrived in the Hanford site to construct the houses and buildings of “Richland,” keep the workers at Hanford fed, or produce the plutonium that would be used to fuel the atomic bomb. These migrants were part of what is called the Great Migration in which millions of African Americans left the South following World War I. Leading up to and during World War II, African Americans, along with other Americans, flocked to places where the national defense industries were expanding, especially on the West Coast. Life at Hanford was not always easy – African American workers faced racial segregation and discrimination and

¹ For a list of Manhattan Project sites see U.S. Department of Energy – Office of History and Heritage Resources, “The Manhattan Project: An Interactive History,” <https://www.osti.gov/manhattan-project-history/Places/places.htm>.

conditions at Hanford were harsh. But for many, especially African Americans migrating from the Southeast, working at Hanford represented better opportunity. Their stories document how African Americans experienced and contributed to the famous Manhattan Project.

Following World War II, nuclear technology became increasingly popular and the Hanford Site was expanded to encompass nine nuclear reactors and five plutonium processing complexes. It provided the plutonium that fueled tens of thousands of weapons. Many of the environmental protections and safety measures we have in place today were not used while the Hanford Site was in operation, which would have restricted the site from releasing nuclear waste into the air and rivers. At the end of the Cold War, the Hanford Site was decommissioned. By that time, it had become the most contaminated nuclear site in the United States. The history of Hanford continues as the site of the nation’s largest contamination clean-up.

Instructions/Activities

Engage: 5-10 Minutes

Teachers will begin by introducing students to the various sites of the Manhattan Project using the Manhattan Voices Project map. They will conclude by focusing on Hanford, the site this lesson plan is centered on.

What is the teacher doing?

Introduce the students to the various sites of the Manhattan Project. Teachers may use the U.S. Department of Energy’s “Places of the Manhattan Project” Map, to see a list of Project sites and a map of some of the major ones:
<https://www.osti.gov/manhattan-project-history/Places/places.htm>.

After discussing several sites, end by focusing on Hanford. Give the students some background information about Hanford (see Introduction). Some historical context can also be given about the signing of Executive Order 8802, which prohibited racial discrimination in America’s defense industries in 1941. This order allowed African Americans to gain employment in these industries, during war time.

What are the students doing?

Observe the teacher’s introduction to the sites of the Manhattan Project.

As the teacher shifts the focus to Hanford, observe its significance to the Manhattan Project, and note the experience of African Americans at the site.

Explore: 20-30 Minutes

Students will divide into small groups. Teachers will provide these groups with copies of the interview transcripts found in the Supplemental Materials. Students will read the transcripts and answer the Discussion Questions (also found in the Supplemental Materials).

What is the teacher doing?

Divide students into small groups. Provide each group with a copy of Willie Daniels’ and Luzell Johnson’s interview transcripts (see Supplemental Materials).

What are the students doing?

Divide into small groups. Receive copies of Willie Daniels’ and Luzell Johnson’s interview transcripts.

Receive Discussion Questions, and work in groups

Provide students with the Discussion Questions, and have students work in groups to use the materials to answer them. If desired, collect answers for evaluation.	to evaluate the provided historical materials and answer them. If assigned, submit the answers to the Discussion Questions individually or as a group for evaluation.
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Explain: 10-15 Minutes

Students will exit small groups. Teachers will lead a discussion in which the students explain and compare answers to the Discussion Questions as a class.	
What is the teacher doing? Have students exit small groups. Once the class has reconvened, have students explain their answers to the Discussion Questions. Encourage them to discuss similarities and differences among their answers.	What are the students doing? Exit small groups, then participate in a discussion in which student answers to the Discussion Questions are explained. Contemplate with peers the reasons for differences or similarities among the answers.

Elaborate: 15-20 Minutes

Now that students have a more complete understanding of some African Americans' experience at the Hanford site, teachers will provide the class with copies of the series of historical photographs from the Hanford site. They will then lead the students in discussing what new information can be gleaned from these images, and how this information relates to that obtained from the oral history transcripts.	
What is the teacher doing? Provide students with copies of the historical photograph series from Hanford (found in the Supplemental Materials). Lead a discussion in which students are encouraged to contemplate each photo and what it can tell them. What new stories emerge? Ask them to consider how the stories told in the photos either corroborate or contradict what was revealed through the oral history transcripts.	What are the students doing? Receive copies of the historical photograph series from Hanford. Contemplate each photo individually, considering what each one reveals. Consider how the stories that emerge from the photographs either agree or disagree with what was learned from the oral history transcripts. Discuss as a class.

Evaluate:

The main opportunity for evaluation occurs during the exploration section of the lesson plan, as teachers could instruct students to submit their Discussion Question answers for teacher evaluation (either individually or as groups).
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Required/Recommended Reading and Resources

- Hanford Oral History Interviews (see Supplemental Materials)
- Photographs African American Life at Hanford (see Supplemental Materials)

Discussion Questions

1. How did African Americans hear about job opportunities at Hanford Engineering Works? Why did many decide to migrate to Washington?
2. Why do you think DuPont decided to recruit African Americans from the South even though the site was across the country in Washington state?
3. What was life like for African Americans at Hanford?
4. How did segregation affect their daily lives? What parts of Hanford life were segregated? What parts weren't?

Further Reading and Additional Resources

Further Reading:

- S. L. Sanger and Craig Wollner, *Working on the Bomb: an Oral History of WWII Hanford* (Portland, OR: Portland State University Continuing Education Press, 1995).
- Robert Bauman, "Jim Crow in the Tri-Cities, 1943-1950," *The Pacific Northwest Quarterly* vol. 96, no. 3 (Summer 2005): 124-131.
- Findlay, John M. and Bruce Hevly. *Atomic Frontier Days: Hanford and the American West*. Seattle: University of Washington Press, 2011.
- "Northwest Black Pioneers: A Centennial Tribute, a Century of Success." Tri-Cities, Wash: Northwest Black Pioneers Centennial Tribute Committee, 1990.

Other Resources:

- The National World War II Museum has an interactive timeline on the history of the Manhattan Project that includes many primary sources such as Einstein's 1939 letter to Roosevelt, <http://www.ww2sci-tech.org/timeline/timeline.html>.
- "Safe as Mother's Milk: The Hanford Project" includes a Hanford site map, timeline, declassified photographs, news reels, and other materials related to the history of Hanford Engineer Works, <http://www.hanfordproject.com/manhattan.html>.
- The Atomic Heritage Foundation "Life at Hanford" includes five short audio segments with accompanying photographs and illustrations on life at Hanford, http://www.atomicheritage.org/tour-stop/life-hanford#.U9_UJWOJbmh.
- Sites of the Manhattan Project, Manhattan Voices Project: <http://manhattanprojectvoices.org/locations/>. The Manhattan Voices Project has created an interactive map documenting the locations of various sites of the Manhattan Project.
- American Institute of Physics, "The Discovery of Fission Teachers Guide," <http://www.aip.org/history/mod/fission/fission2/fission-teachersguide.pdf>. A teacher's guide which accompanies an exhibit created by the American Institute of Physics on the discovery of nuclear fission.

Extensions

Related AIP Teacher's Guides on Women and Minorities in the Physical Sciences:

- African Americans and the Manhattan Project
- Women and the Manhattan Project

Common Core Standards

For more information on Common Core Standards, visit <http://www.corestandards.org/>.

Speaking & Listening	
<u>CCSS.ELA-LITERACY.SL.9-10.1</u>	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9-10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.
<u>CCSS.ELA-LITERACY.SL.9-10.2</u>	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
<u>CCSS.ELA-LITERACY.SL.9-10.4</u>	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
<u>CCSS.ELA-LITERACY.SL.11-12.1</u>	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11-12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.
<u>CCSS.ELA-LITERACY.SL.11-12.4</u>	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
History/Social Studies	
<u>CCSS.ELA-LITERACY.RH.9-10.1</u>	Cite specific textual evidence to support analysis of primary and secondary sources, attending to such features as the date and origin of the information.
<u>CCSS.ELA-LITERACY.RH.9-10.2</u>	Determine the central ideas or information of a primary or secondary source; provide an accurate summary of how key events or ideas develop over the course of the text.
<u>CCSS.ELA-LITERACY.RH.9-10.6</u>	Compare the point of view of two or more authors for how they treat the same or similar topics, including which details they include and emphasize in their respective accounts.
<u>CCSS.ELA-LITERACY.RH.9-10.9</u>	Compare and contrast treatments of the same topic in several primary and secondary sources.
<u>CCSS.ELA-LITERACY.RH.11-12.1</u>	Cite specific textual evidence to support analysis of primary and secondary sources, connecting insights gained from specific details to an understanding of the text as a whole.
<u>CCSS.ELA-LITERACY.RH.11-12.2</u>	Determine the central ideas or information of a primary or secondary source; provide an accurate summary that makes clear the relationships among the key details and ideas.
<u>CCSS.ELA-LITERACY.RH.11-12.6</u>	Evaluate authors' differing points of view on the same historical event or issue by assessing the authors' claims, reasoning, and evidence.

<u>CCSS.ELA-LITERACY.RH.11-12.7</u>	Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, as well as in words) in order to address a question or solve a problem.
<u>CCSS.ELA-LITERACY.RH.11-12.9</u>	Integrate information from diverse sources, both primary and secondary, into a coherent understanding of an idea or event, noting discrepancies among sources.
Science & Technical Subjects	
<u>CCSS.ELA-LITERACY.RST.9-10.6</u>	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, defining the question the author seeks to address.
<u>CCSS.ELA-LITERACY.RST.11-12.2</u>	Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.

Next Generation Science Standards

For more information on the Next Generation Science Standards, visit <http://www.nextgenscience.org/>.
N/A

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