Grades: 5th and 11th
Subjects: Social Studies, U.S. History, World History and Geography, and English/Language Arts
Time required: 2-3 45 minute class periods
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OVERVIEW
In 1942, the federal government launched the enormously secretive Manhattan Project. In order to safely experiment and privately expand the nation’s nuclear capabilities, five closed cities were created, one in east Tennessee: Oak Ridge.

The city’s construction changed the landscape, economy, and culture in east Tennessee during World War II. Many of those changes are still visible today when comparing Oak Ridge to its neighbors.

UNDERSTANDING GOAL
Students will use an oral history, maps, and photographs to predict why Oak Ridge was chosen as the “Secret City” and determine how the region changed because of this decision.

OBJECTIVES
The student will:
• Make inferences based on information conveyed in an oral history.
• Analyze topographical and historic maps of east Tennessee.
• Form and defend an opinion on the creation and influence of Oak Ridge.
• Analyze photographs of east Tennessee to understand changes in the region during the World War II era.

INVESTIGATIVE QUESTION
Why was Oak Ridge chosen as a Manhattan Project site? How was east Tennessee affected by the creation of the “Secret City”?

CURRICULUM STANDARDS
5th Grade Social Studies
• 5.49 Describe Tennessee’s contributions during World War I and World War II, including: the conversion of factories to wartime production, the importance of Oak Ridge, and the influence of Tennesseans (i.e., Cornelia Fort, Cordell Hull, and Alvin C. York).

U.S. History
• US.56 Describe the Manhattan Project, and explain the rationale for using the atomic bomb to end the war

World History and Geography
• W.52 Describe the development of atomic bombs, and evaluate both the decisions to use them and the impact of their use.

English/ Language Arts:
• 11-12.W.TTP.2 Write informative/explanatory texts to analyze, synthesize, and convey complex ideas, concepts, and information clearly and accurately through the effective selection and organization of content.
• 11-12.RI.KID.1 Analyze what a text says explicitly and draw inferences; support an interpretation of a text by citing and synthesizing relevant textual evidence from multiple sources.
• 11-12.RI.KI.7 Evaluate the topic or subject in multiple diverse formats and media.
Main Resources

- Robert Boggild Oral History Interview
- A preliminary agricultural map of Tennessee...
- General planning...river transport development
- National Defense Aspects of the Tennessee Valley
- Selection of The Oak Ridge Site
- Reconnaissance erosion survey...of Tennessee, [1934]
- Civil Action No. 429

Extension Activity Resources

- Ed Westcott's Camera Pass 1940s Oak Ridge
- Portrait of Ed Westcott Manhattan Project Photographer in Oak Ridge
- Air View of X-10 ORNL Oak Ridge
- Aerial View of K-25
- An aerial view of the Oak Ridge National Laboratory campus.
- J.A. Jones Brick Layers Awarded 1944 Oak Ridge
- Wheat Community 1939
- McKinney Cross-roads Store Wheat 1938
- East Fork Valley John Edmonds Family Home 1939

Extension Activity Resources

- E Apartment Oak Ridge
- Photograph of Tulip Town Market Near Oak Ridge, Tennessee
- School Buses in Barn Yard Pre Oak Ridge 1938
- Farm House – Early Oak Ridge-1942
- Model House Oak Ridge
- Signs at Graphics Department 1943 Oak Ridge
- Billboard 1944 Oak Ridge
- Billboard Oak Ridge During World War II
- Billboard posted in Oak Ridge

Materials

- Printed photographs (In “Resources”)
- Image analysis form
- Pencil/pen and paper

Model House Oak Ridge

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| Step 1 | **Introduction:**  
Your students may or may not be familiar with Oak Ridge. Use this introductory activity to get them thinking about secrecy and planning in a broad sense before narrowing in on the city.  
- While being purposefully vague and not mentioning Oak Ridge, ask students to list ways to keep a secret. This may elicit some questions, but ask students to simply brainstorm.  
- Now add that this is a very important project and in order to complete it, thousands of people must work on it. But it still has to be a secret.  
- Tell students to once again update their plans with this new information: This secret project will take years. They’ll want to provide stability and allow workers to be with their families while still keeping the project private. Have students consider what kind of place they’d like to be in or create in order to finish the project, who they would like to involve, how they will keep it secretive, etc. |
| Step 2 | Ask: How have your plans changed with the updated information? Will your plan be difficult to accomplish? How so? What stumbling blocks do you foresee occurring? |
| Step 3 | Explain that this task was a real one, faced by the federal government during the early 1940s, but on a much more serious level. President Roosevelt was warned of the possible nuclear capabilities of Nazi Germany and decided to act. Five secret cities were created, one in East Tennessee: Oak Ridge. |
### DAY 1

#### Step 4  **Background:**

Video: Show students the oral history interview clip that explains how Army veteran Bob Boggild was transferred to work in Oak Ridge, TN during WWII. *(8:30-16:20)*

- After listening to the clip, ask students what they think about Boggild’s experience. Why was this transfer so secretive? What would they have thought if they were in his shoes?
- Ask: Do you know where Oak Ridge is located? Have you ever considered why or how that location was chosen by the federal government?

#### Step 5  Provide students with a brief history of Oak Ridge:

- **Purpose:** As part of the Manhattan Project, scientists and workers at plants in Oak Ridge worked to create nuclear weapons.
- Oak Ridge was established in 1942 and between 1,500 and 2,000 people were displaced.
- Inhabitants: 75,000 workers and their families lived in the city, including scientists from all over America.
- Location: 92 sq. miles, 58,800 acres in Anderson and Roane Counties; 18 miles west/northwest of Knoxville
- The city is in close proximity to TVA’s Norris Dam (1933) and the Clinch River.

#### Step 6  **Map and Document Analysis/ Discussion:**

Next, have students look at a topographical map of Tennessee to predict why Oak Ridge was established in its present location.

- Ask: What do you notice about East Tennessee? (Mountains, Cumberland Plateau, other cities, the Clinch River, rural areas, etc.)

#### Step 7  Switch to the map depicting river transportation and have students analyze the National Defense Aspects of the Tennessee Valley map as well.

- Ask: Why might the federal government have chosen Anderson/Roane County to create The Secret City? What role did TVA play in this decision?
- Point out the Norris Dam, as well as the natural landscape which provided seclusion for the city.

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A preliminary agricultural map of Tennessee based on the distribution of geological formations.
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| Step 8 | **Map and Document Analysis/Discussion (Cont’d):**  
As a class, review the letter from Major General Thomas Robins to Mr. Clapp, TVA’s General Manager in Knoxville. Display the document on the screen or provide copies for students to pinpoint reasons why Oak Ridge was chosen as a Manhattan Project site. The letter should provide confirmation for the reasons students predicted while viewing the maps such as: isolation, transportation, access to water, electricity, and a labor source. |
| Step 9 | Display the 1934 **Reconnaissance erosion survey** map. Have students pinpoint the communities of Wheat and Scarboro located in between Kingston and Knoxville. Explain that these communities were displaced in 1942 before asking a student to read the **Civil Action No. 429** document aloud. This notice informs a family in Anderson County that they must vacate their property.  
- Ask students to consider what local people who were displaced during the creation of Oak Ridge must have felt when they received these letters.  
- Discuss: The notice is quite vague. How come? Do you think this caused distrust toward the government among citizens? Do you think the government was justified in the land seizure? Why or why not? |
| Step 10 | **Writing Assignment:**  
Have students consider how and why Oak Ridge was chosen as a Manhattan Project site by choosing to answer one of the following questions in a thoughtfully-written paragraph. If time allows, students could begin writing in class, or finish for homework.  
- Was east Tennessee a good choice for the establishment of Oak Ridge? Give reasons to support your answer.  
- Was the federal government justified in taking land from citizens in order to construct the city of Oak Ridge? If you agree that it was justified, defend your claim. If you think this plan was unjust, describe how the government could have handled things differently while trying to achieve their nuclear goals. |

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| Step 11 | **Extension Activity/Photo Analysis:**  
Have students analyze photographs from the Department of Energy, paying special attention to the changes which occurred after the creation of Oak Ridge.  
- Note: The set of photographs includes pictures of Wheat, a pre-Oak Ridge farming community that was displaced in 1942. Ask students to compare the before and after photos to understand how east Tennessee transformed because of Oak Ridge.  
- Use the **Image Analysis Form** to encourage students to look closely at the photographs. Depending on time constraints, students could share their findings with the class, views the photos in a group, or work individually. Viewing the Library of Congress’s **Teacher’s Guide: Analyzing Photographs & Prints** resource beforehand may be useful. |
DAY 2

Step 12  **Discussion:**

Ask: What did you notice about the collection of pictures? What about the dates? How did the existing community of Wheat appear to change because of Oak Ridge? What was new in Oak Ridge?

Potential Topics for Discussion:

- Remind students that the site had to be: secluded from large population centers, safe from air attack but accessible by railway, large enough for several plants and a town to house workers, naturally “insulated” in case of accidents, and situated by sources of water and electric power. What proof of this can be seen in the photographs? Ask students to share examples they found.

- Morale was an important aspect of life in Oak Ridge. In order to keep spirits high, the **Recreation and Welfare Association of Oak Ridge** provided 30+ organized activities for employees and their families including: badminton tournaments, outdoor basketball, trampoline and tumbling, miniature golf, model aircraft, croquet, archery, riding club, a soccer league, and 26 touch football teams. Ask students to predict how social life was different in the communities which preceded Oak Ridge.

- When Oak Ridge was created, the surrounding areas changed seemingly overnight and many of these changes are still noticeable today. For instance, Oak Ridge has one of the top performing school districts in the state, the West Knoxville area is known for entrepreneurship, and the Y-12 National Security Complex is still moving forward with its "**primary mission of nuclear weapons production.**” How can these modern characteristics of Oak Ridge be linked to World War II era changes in the area?

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**EVALUATION**

- **Discussion Participation** – Day 1 – 15 pts.
- **Writing Assignment** – 50 pts.
- **Photo analysis** – 20 pts.
- **Discussion Participation** – Day 2 – 15 pts.

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**Civil Action No. 429, 1942**