

## Battle of the Atlantic

Discovering and Exploring When the War  
Came Home

Educational Product	
Educators	Grades 6-12





### Acknowledgement

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**Cover Photo:** Clockwise from top left: U.S. Merchant Marine recruiting poster. Courtesy of the Minnesota Historical Society; *Dixie Arrow* burning after being torpedoed by U-71. Photo: National Archives; Engine features located at the stern of the *Australia*. Photo: NOAA; Spare propeller resting on the sand at the *Ashkhabad* wreck site. Photo: NOAA

**Inside Cover Photo:** USS *Monitor* drawing, Courtesy Joe Hines



## Monitor National Marine Sanctuary Battle of the Atlantic — Discovering and Exploring When the War Came Home

### An Educator Guide with Activities in Science, Technology, Engineering, Math, and Social Studies

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#### NATIONAL MARINE SANCTUARY SYSTEM



The National Marine Sanctuary System includes a network of 13 national marine sanctuaries and Papahānaumokuākea and Rose Atoll marine national monuments. For more information, visit <http://sanctuaries.noaa.gov>.

For additional information about **Battle of the Atlantic — Exploring and Discovering When the War Came Home**, contact [monitor@noaa.gov](mailto:monitor@noaa.gov).

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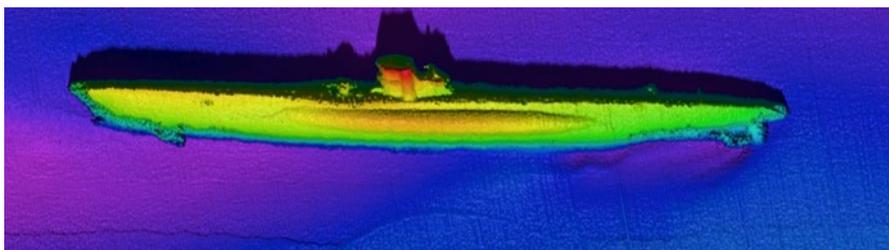
Diver photographs *Manuela*, a World War II merchant ship located off the North Carolina coast. Photo: Tane Casserley/NOAA

## PROGRAM OVERVIEW

This curriculum introduces students to World War II and the Battle of the Atlantic as it happened off the East Coast of the United States. The order of the curriculum flows sequentially from learning the causes of World War II, to understanding the importance of the Battle of the Atlantic, to determining the role North Carolina played in the battle, to exploring the home front during the war, and to wrapping the unit up by understanding how NOAA is working to protect these valuable, historic resources. After completing the curriculum, students will know the causes for World War II, have an understanding of the Battle of the Atlantic, the value of protecting maritime heritage, and NOAA's role in preserving our nation's precious underwater cultural resources.

Although, this curriculum guide has been designed to be taught as a unit, each lesson in the guide can stand on its own. Specifically, each lesson can be used independently to teach a particular objective, or lessons can be combined in multiple ways to create a plan tailored just for your students.

We hope that you find the guide an exciting way to motivate your students in learning about World War II's Battle of the Atlantic and maritime heritage. Through varied activities, your students explore the various science, technology, engineering, math, and social studies (STEMS) concepts associated with World War II and maritime heritage. Please feel free to contact us if you have any questions, and we welcome your feedback.



Sonar image of U-576. Image: NOAA

### Curriculum Outline

#### A. Introduction to NOAA

Introduction to the National Oceanic and Atmospheric Administration (NOAA), Office of National Marine Sanctuaries (ONMS), Maritime Heritage Program (MHP), and Monitor National Marine Sanctuary (MNMS)

#### B. Causes of World War II

Causation  
Treaty of Versailles  
The Rise of Hitler  
Appeasement  
League of Nations

#### C. The Battle of the Atlantic

The Happy Time  
Operation Drumbeat  
Torpedo Junction  
Allies Turn the Tide

#### D. The Merchant Seaman

U.S. Merchant Marine  
A Look at Life as a Seaman

#### E. On the Home Front

Women at War  
Women in War  
Victory Gardens  
Japanese Internment  
Life as a High School Student

#### F. NOAA's Role in Preserving Our Maritime History

Battle of the Atlantic: Early NOAA Expeditions  
Battle of the Atlantic — New Discoveries  
Ethically Speaking  
The Art of Artifacts  
Conservation and Conservators

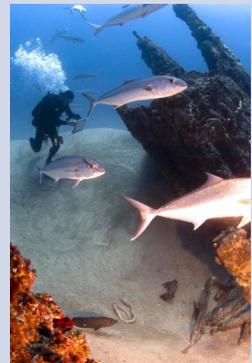
## Objectives

Throughout the unit, students will:

- Examine NOAA and our nation's National Marine Sanctuary System
- Understand the historical significance of shipwrecks and their connection to our past
- Recognize the importance of maritime archaeology
- Analyze the causes of World War II
- Discover how and when the Battle of the Atlantic came to America's shores
- Investigate the significant events of the Battle of the Atlantic
- Assess the role technology played in the Battle of the Atlantic
- Understand the importance of merchant ships carrying war supplies to Britain, Russia, and other Allied countries
- Examine the effect of German U-boats on Allied shipping
- Comprehend the difficulties in fighting a war in multiple theaters
- Explore sunken World War II shipwrecks off North Carolina's coast
- Examine why coastal North Carolina was a pivotal battleground
- Plot coordinates of World War II shipwrecks on a map and analyze map
- Explore videos and oral histories of those who experienced World War II in coastal North Carolina and Virginia
- Summarize the important points of the Battle of the Atlantic by playing a game
- Recognize the role of the merchant seaman during World War II
- Calculate the cost of the Battle of the Atlantic in ships and men
- Identify how life on the home front supported the war efforts
- Understand the changing role of women during World War II and how the government appealed to them to join the workforce
- Discover how over 350,000 women served in the Armed Forces during World War II
- Learn how and why Victory Gardens were grown
- Explore Japanese internment and analyze the Executive Order 9066, the Bill of Rights, and the Supreme Court's ruling on internment
- Recognize that students in 1942 lived similar lives to students of today and understand the great hardships created by the war
- Explore how shipwrecks are discovered
- Learn about the ethical treatment of shipwrecks
- Discover careers in science
- Analyze and interpret artifacts
- Conduct experiments to learn how artifacts are conserved

## Careers

- Attorney for maritime or cultural resource law
- Collection curator
- Conservator
- Educator
- Engineer
- Historic architects
- Historian
- Laboratory researcher
- Laboratory technician
- Maritime archaeologist
- Merchant seaman
- Museum curator
- Planner
- Policy analyst
- Vessel captain
- ROV pilot
- Sonar tech
- Scuba diver
- Scuba instructor



Diver documents U-701. Photo: Sellers (ECU), NOAA

## Suggested Implementation Strategy

1. Review the suggested curriculum outline on page 2.
2. Review the various sections of this guide and the activities in each to determine which activities work best for your students.
3. Review additional web, book, and video resources for appropriate supplemental material.
4. Once ready to begin, give the students an overview of the unit and/or activity and introduce students to NOAA, Office of National Marine Sanctuaries, Maritime Heritage Program, and Monitor National Marine Sanctuary.
5. Have students complete selected activities from the desired sections of the guide.

## Vocabulary — General

(See individual activities for specific vocabulary)

**APPEASEMENT** — A political policy of conceding to aggression by a warlike nation

**ARCHAEOLOGY** — The study of human history and prehistory through the excavation of sites and the analysis of artifacts and other physical remains

**ARTIFACT** — Any object made by humans, typically an item of cultural or historical interest

**BATTLE OF THE ATLANTIC** — Longest continuous military campaign in World War II, running from 1939 to 1945; at its core was the Allied naval blockade of Germany and Germany's subsequent counter-blockade

**CAUSATION** — The act or process of causing something to happen or exist

**CONVOY** — A group of ships traveling together, typically accompanied by warships for protection

**COORDINATES** — A number in an ordered pair that names the location of a point on the coordinate plane

**DEPTH CHARGE** — An explosive charge designed to be dropped from a ship or aircraft and to explode under water at a preset depth; used for attacking submarines

**DRAFT** — A system for selecting young men for compulsory military service, administered in the United States by the Selective Service System

**INTERMENT** — The act of confining a person in prison or other kind of detention, generally in wartime. During World War II, the American government put Japanese-Americans in internment camps fearing that they might be loyal to Japan.

**LEAGUE OF NATIONS** — An international organization established after World War I under the provisions of the Treaty of Versailles. It was the forerunner to the United Nations.

**MARITIME ARCHAEOLOGY** — A discipline within archaeology that specifically studies human interaction with the ocean, seas, lakes, and rivers through the study of physical remains

**MERCHANT MARINE** — The fleet of ships which carries imports and exports during peacetime and becomes a naval auxiliary during wartime to deliver troops and war material

**MERCHANT VESSEL** — A ship that transports cargo and is engaged in commercial trade

**MULTIBEAM SONAR** — Emitting of sound waves in a fan-shape producing a swath of soundings for broad coverage of a survey area

**NOAA** — National Oceanic and Atmospheric Administration; agency in the Department of Commerce that maps the oceans and conserves their living resources; predicts changes in the earth's environment; and provides weather data and forecasts

**ONMS** — Office of National Marine Sanctuaries; part of NOAA that manages a national system of 15 underwater protected areas

**PRIMARY SOURCE** — A source that contains raw, original, non-interpreted, and unevaluated information

**ROV** — Remotely Operated Vehicle; robot that operates underwater and is tethered to and controlled from a boat or ship by an operator

**SIDE SCAN SONAR** — A type of sonar system that is used to efficiently create an image of large areas of the seafloor

**SCUBA** — Self-contained Underwater Breathing Apparatus; a portable apparatus containing compressed air and used for breathing underwater

**TORPEDO JUNCTION** — Also known as Torpedo Alley, an area off North Carolina and is one of the ship graveyards of the Atlantic Ocean; named for the high number of attacks by German U-boats on Allied shipping

**TREATY OF VERSAILLES** — One of the peace treaties to end World War I between Germany and the Allied Powers

**U-BOAT** — A German submarine; name is derived from German word "Unterseeboot," which literally means "undersea boat"

**U. S. MERCHANT MARINE** — The United States Merchant Marine refers to either U.S. civilian mariners or to the U.S. civilian and federally owned merchant vessels

**VICTORY GARDEN** — A garden planted at private residences and public parks in the United States, United Kingdom, Canada, and Australia during World War II to help ensure adequate food for Armed Forces and civilians on the home front

## Resources\*

### Websites

#### NOAA's Office of National Marine Sanctuaries

Discover the marine life and extraordinary habitats that make up your national marine sanctuaries and learn about the continuing efforts to conserve these ocean and coastal treasures.

<http://sanctuaries.noaa.gov/>

#### NOAA's Maritime Heritage Program

Created in 2002, the program focuses on maritime heritage resources within national marine sanctuaries and promotes maritime heritage appreciation throughout the entire nation.

<http://sanctuaries.noaa.gov/maritime/aboutmhp.html>

#### Monitor National Marine Sanctuary

Visit this site to learn more about the USS *Monitor* and check out the teacher section for additional activities and lesson plans.

<http://monitor.noaa.gov>

#### NOAA Ocean Explorer

Learn about NOAA's remotely operated vehicles (ROVs) and discover how they are used. Read how ROV *Hercules* was built just for scientific research and can travel to depths of 4,000 meters!

<http://oceanexplorer.noaa.gov/technology/subs/subs.html>

#### Exploring WWII: Battle of the Atlantic Expeditions

Since 2008, NOAA and partners have documented and surveyed the various shipwrecks off the North Carolina coast associated with World War II's Battle of the Atlantic. Visit this site to learn more about the remains of German U-boats that plied America's waters and the ships they sank. Experience these shipwrecks firsthand through the divers' blogs and beautiful images.

<http://sanctuaries.noaa.gov/missions/battleoftheatlantic/archives.html>

**SEE INDIVIDUAL ACTIVITIES FOR ADDITIONAL  
WEB RESOURCES**



### Books

Babits, Lawrence E. and Hans Van Tilburg (Editors). *Maritime Archaeology: A Reader of Substantive and Theoretical Contributions*. Springer, January 31, 1998. ISBN-13: 978-030645331.

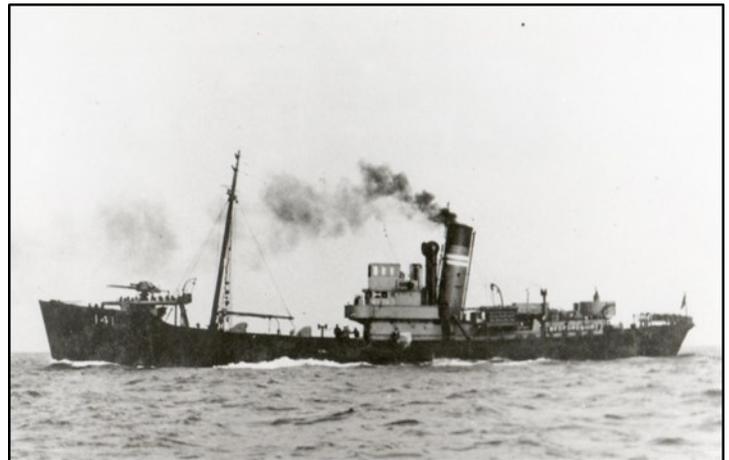
Bass, George Fletcher. *A History of Seafaring Based on Underwater Archaeology*. Book Club Associates, 1974. ASIN: B0007ATFU4.

Blair, Clay. *Hitler's U-Boat War: The Hunted, 1942-1945*. Modern Library, June 6, 2000. ISBN-13: 978-0679640332.

Boyne, John. *The Boy in the Striped Pajamas*. David Fickling Books, October 2007. ISBN-13: 978-0385751537.

Bowens, Amanda (Editor). *Underwater Archaeology: The NAS Guide to Principles and Practice*. Blackwell Publishing (2<sup>nd</sup> Edition), 2009. ISBN-13: 978-1405175913.

*\*The inclusion of links in this guide does not imply endorsement or support of any of the linked information, services, products, or providers.*



Above: HMT *Bedfordshire*, date unknown. Photo: Courtesy of *Bedfordshire Archives*, United Kingdom

Below: Photomosaic of U.S. Navy YP-389 discovered by NOAA in 2010. Photo: NOAA

Gannon, Michael. *Operation Drumbeat: The Dramatic True Story of Germany's First U-Boat Attacks Along the American Coast in World War II*. Naval Institute Press, March 2009. ISBN-13: 978-1591143024.

Hickam, Homer. *Torpedo Junction: U-Boat War Off America's East Coast, 1942*. Naval Institute Press, April 1996. ISBN-13: 978-1557503626.

Jefferis, David. *Super Subs: Exploring the Deep Sea (Megatech)*. Crabtree Publishing Company, September 1997. ISBN-10: 0778700631.

Muckelroy, Keith. *Maritime Archaeology (New Studies in Archaeology)*. Cambridge University Press, February 28, 1979. ISBN-13: 978-0521293488.

Panchyk, Richard. *World War II for Kids: A History with 21 Activities*. Chicago Review Press, September 2002. ISBN-13: 978-1556524554.

Platt, Richard. *Eyewitness: Shipwrecks*. DK Children, June 1, 2000. ISBN 10: 0789458845.

Platt, Richard. *DK Eyewitness Books: Shipwrecks*. DK Children, 2005. ISBN-13: 978-0756610890.

Smith, K.C. *Exploring for Shipwrecks (Watts Library)*. Franklin Watts, 2000. ISBN-13: 978-0531164716.

Wall, Julia. *Mapping Shipwrecks with Coordinate Planes (Real World Math: Level 5)*. Capston Press, 2011. ISBN-13 978-1429666176.

Wiggins, Melanie. *Torpedoes in the Gulf: Galveston and the U-Boats, 1942-1943*. Texas A&M University Press, March 1995. ISBN-13: 978-0890966488.

## SEE INDIVIDUAL ACTIVITIES FOR ADDITIONAL BOOK RESOURCES



*Byron D. Benson*, a merchant ship burning after being torpedoed by U-552 on April 5, 1942. Courtesy of the U.S. National Archives

## Education Standards

The following pages list an overview of educational standards for

- National Council for Social Studies (NCSS)
- Common Core (CC)
- National Geography Standards (NGS)
- National Council of Teachers of English (NCTE)
- National Science Standards (Archived Standards from NSTA)
- Next Generation Science Standards (NGSS)
- Ocean Literacy Principles (OLP)
- National Mathematics Standards (NCTM)

The following list of standards is not comprehensive, but indicates the standards that are prominent within the curriculum guide. Within each activity, the standards are listed on the first page of the activity in the left-hand blue box at the bottom. To understand the format used for citing the standards in each activity, see the key to citing listed in parenthesis next to each standard on the following pages (e.g. NCSS: US.ERA.9 for National Council of Social Studies, U.S. History, Era 9).

## Education Standards

### National Council for Social Studies

<http://www.socialstudies.org>

#### NCSS STANDARDS THEMES:

Standard I — Culture (NCSS:I)  
 Standard II — Time, Continuity and Change (NCSS:II)  
 Standard III — People, Places and Environments (NCSS:III)  
 Standard IV — Individual Development and Identity (NCSS:IV)  
 Standard V — Individuals, Groups, and Institutions (NCSS:V)  
 Standard VI — Power, Authority, and Governance (NCSS:VI)  
 Standard VII — Production, Distribution, and Consumption (NCSS:VII)  
 Standard VIII — Science, Technology and Society (NCSS:VIII)  
 Standard IX — Global Connections (NCSS:IX)  
 Standard X — Civil Ideals and Practices (NCSS:X)

#### NCSS HISTORY THINKING STANDARDS (NCSS:HT)

Standard 1 — Chronological Thinking (NCSS:HT:1)  
 Standard 2 — Historical Comprehension (NCSS:HT:2)  
 Standard 3 — Historical Analysis and Interpretation (NCSS:HT:3)  
 Standard 4 — Historical Research Capabilities (NCSS:HT:4)  
 Standard 5 — Historical Issues (NCSS:HT:5)

#### UNITED STATES HISTORY CONTENT STANDARDS FOR GRADES 5-12 (NCSS:US.ERA)

Era 7 — The Emergence of Modern America (1890-1930) (NCSS:US.ERA.7)  
 Era 8 — The Great Depression and World War II (1929-1945) (NCSS:US.ERA.8)

#### WORLD HISTORY CONTENT STANDARDS FOR GRADES 5-12

Era 8 — A Half-Century of Crisis and Achievement, 1900-1945 (NCSS:WH.ERA.8)

### Common Core

<http://www.corestandards.org/>

#### READING INFORMATIONAL TEXT GRADES 6-12 (CCSS.ELA.LIT.RI)

Key Ideas and Details (6th-8th: 1, 2, and 3); (9th-12th: 1, 2, and 3)  
 Craft and Structure (6th-8th: 4 and 6); (9th-12th: 4);  
 Integration of Knowledge and Ideas (6th: 7 and 9); (7th-8th: 8); (9th-10th: 7 and 9);  
 (11th-12th: 7 and 8)

#### WRITING GRADES 6-12 (CCSS.ELA.LIT.W)

Text Types and Purposes (6th-12th: 1, 2, and 3)  
 Research to Build and Present Knowledge (6th-12th: 7, 8, and 9)

#### HISTORY/SOCIAL STUDIES GRADES 6-12 (CCSS.ELA.LIT.RH)

Key Ideas and Details (6-10th: 1, 2, and 3); (11th-12th: 1 and 2)  
 Craft and Structure (6th-8th: 4 and 5); (9th and 10th: 4 and 6); (11th-12th: 6)  
 Integration of Knowledge and Ideas (6th-8th: 7, 8, and 9); (9th-10th: 7); (11th-12th: 7 and 9)

#### SCIENCE & TECHNICAL SUBJECTS GRADES 6-12 (CCSS.ELA.LIT.RST)

Key Ideas and Details (6th-12th: 1, 2, and 3)  
 Craft and Structure (6th-12th: 4)  
 Integration of Knowledge and Ideas (6th-12th: 7 and 8)

## Education Standards Continued

<p><b>National Geography Standards</b></p> <p><a href="http://education.nationalgeographic.com/standards/national-geography-standards/">http://education.nationalgeographic.com/standards/national-geography-standards/</a></p>	<p><b>NG: 1</b> — How to use maps and other geographical representations, geospatial technologies and spatial thinking to understand and communicate ideas</p> <p><b>NG: 2</b> — How to use mental maps to organize information about people, places...</p> <p><b>NG: 4</b> — The physical and human characteristics of places</p> <p><b>NG:10</b> — The characteristics, distribution and complexity of Earth’s cultural mosaics</p> <p><b>NG:13</b> — How the forces of cooperation and conflict among people influence...</p> <p><b>NG:17</b> — How to apply geography to interpret the past</p>
<p><b>National Council of Teachers of English</b></p> <p><a href="http://www.ncte.org/">http://www.ncte.org/</a></p>	<p><b>Standard 1</b> — Read a wide range of print and non-print texts ... <b>(NCTE:1)</b></p> <p><b>Standard 3</b> — Apply a wide range of strategies to comprehend ... <b>(NCTE:3)</b></p> <p><b>Standard 4</b> — Students adjust their use of spoken, written ... <b>(NCTE:4)</b></p> <p><b>Standard 5</b> — Employ a wide range of strategies as they write ... <b>(NCTE:5)</b></p> <p><b>Standard 6</b> — Apply knowledge of language structure ... <b>(NCTE:6)</b></p> <p><b>Standard 7</b> — Conduct research on issues and interests ... <b>(NCTE:7)</b></p> <p><b>Standard 8</b> — Use a variety of technological ... <b>(NCTE:8)</b></p>
<p><b>National Science Standards</b></p> <p>Archived PDF:</p> <p><a href="http://www.nap.edu/openbook.php?isbn=0309053269">http://www.nap.edu/openbook.php?isbn=0309053269</a></p>	<p><b>NS.5-8.E</b> — Science and Technology – Abilities of technological design; Understanding about science and technology</p> <p><b>NS.5-8.F</b> — Science in Personal and Social Perspectives – Populations, resources and environments; Science and technology in society</p> <p><b>NS.5-8.G</b> — History and Nature of Science – Science as a human endeavor; Nature of Science; History of Science</p> <p><b>NS.9-12.E</b> — Science and Technology – Abilities of technological design; Understanding about science and technology</p> <p><b>NS.9-12.G</b> — History and Nature of Science – Science as a human endeavor; Nature of scientific knowledge; Historical perspectives</p>
<p><b>Next Generation Science Standards</b></p> <p><a href="http://ngss.nsta.org/">http://ngss.nsta.org/</a></p>	<p><b>ENGINEERING DESIGN (MS-ETS1 AND HS-ETS1)</b></p> <p><b>MS-ETS1.1</b> — Crosscutting Concept A and B</p> <p><b>HS-ETS1.1, 3, and 4</b> — Crosscutting Concepts Systems and Models A and B</p>
<p><b>Ocean Literacy Principles</b></p> <p><a href="http://oceanliteracy.wp2.coexploration.org/">http://oceanliteracy.wp2.coexploration.org/</a></p>	<p><b>OL: 1</b> — The Earth has one big ocean with many features (a, e, and g)</p> <p><b>OL: 6</b> — The ocean and humans are inextricably interconnected (a, b, c, e, and g)</p> <p><b>OL: 7</b> — The ocean is largely unexplored (a, b, c, d, e, and f)</p>

## Education Standards Continued

### National Mathematics Standards

<http://www.nctm.org/>

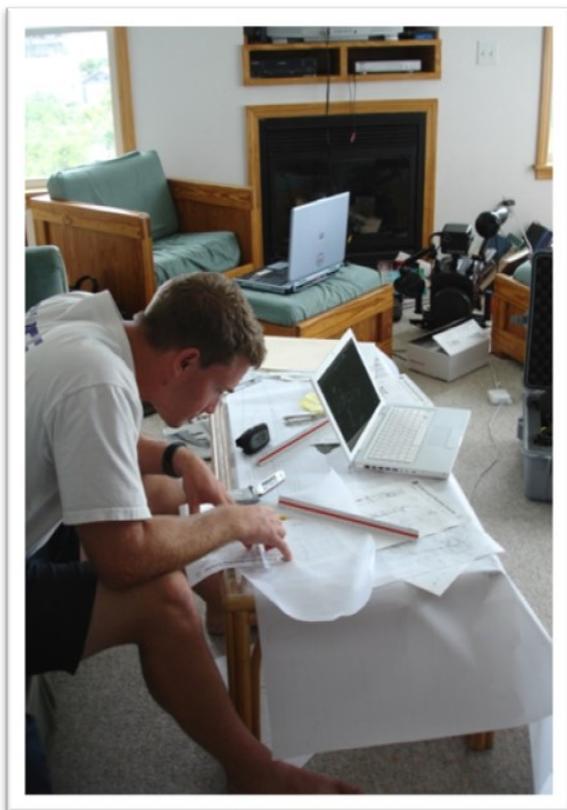
**NCTM 6-8 Geometry** — Specify locations and describe spatial relationships using coordinate geometry and other representational systems

**NCTM 6-8 Measurement Standard** — Understand measurable attributes of objects and the units, systems and process of measurement (A, B, and C)

**NCTM 9-12 Geometry** — Specify locations and describe spatial relationships using coordinate geometry and other representational systems (A and B)

**NCTM 9-12 Geometry** — Use visualization, spatial reasoning and geometric modeling to solve problems (A, B, and D)

**NCTM 9-12 Process Standards** — Problem solving; Connections; Representation



To learn about our past in order to better understand our future, maritime archaeologists document and survey shipwrecks both on land and underwater. Photos: NOAA

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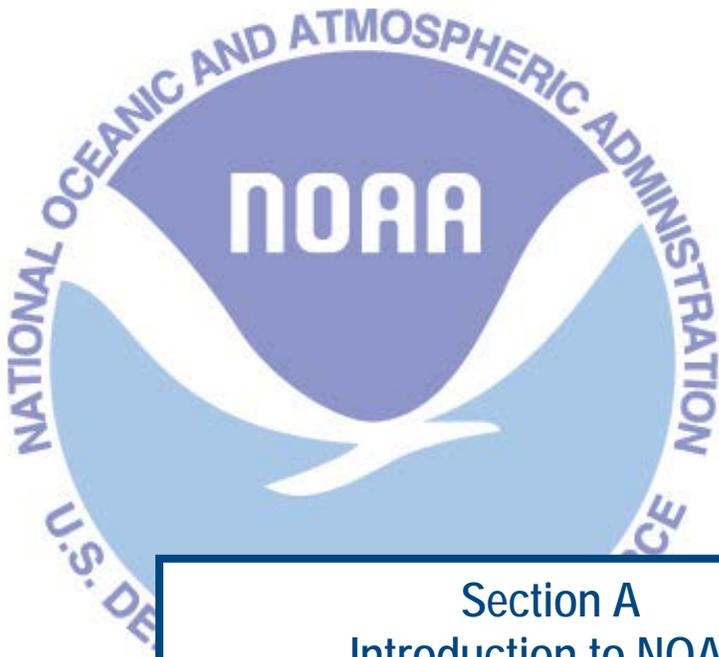
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Conduct experiments to learn how artifacts are conserved	



Section A  
Introduction to NOAA

- NOAA
- Office of National Marine Sanctuaries
- Monitor National Marine Sanctuary
- Maritime Heritage Program



NATIONAL MARINE  
SANCTUARIES

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MONITOR

## Exploring NOAA



### Grade Level

6-12

### Timeframe

1-2 hours

### Materials

- Computer with Internet access or
- Printed resources

### Activity Summary

This activity explores the many missions of NOAA, ONMS, Monitor NMS, and NOAA's Maritime Heritage Program.

### Learning Objectives

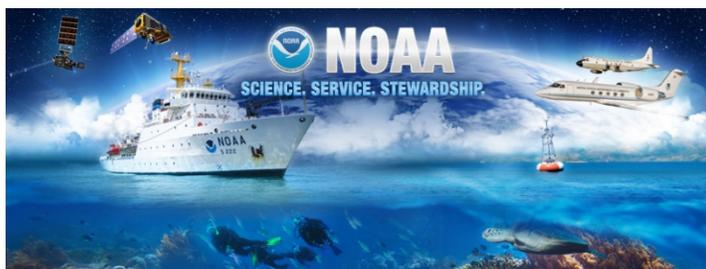
- To understand the important work that NOAA does to provide valuable information to those who need it
- To learn about our nation's first national marine sanctuary
- To realize the importance of our nation's maritime heritage

### Key Words

NOAA, ONMS, USS *Monitor*, national marine sanctuary, line office, maritime heritage

### National Standards:

NCSS:1.a; NS.5-8.F; NS.6-12.F;  
CCSS.ELA.LIT.RI.6-8.1, 11-12.1;  
NCTE:1



## Background Information

Residing under the Department of Commerce, the National Oceanic and Atmospheric Administration (NOAA) is an agency that enriches life through science. NOAA's research goes from the surface of the sun to the depths of the ocean floor as the agency works to keep citizens informed about the changing environment around them.

From daily weather forecasts, severe storm warning, and climate monitoring, to fisheries management, coastal restoration, and supporting marine commerce, NOAA's products and services support economic vitality. NOAA's dedicated scientists use cutting-edge research and high-tech instrumentation to provide citizens, planners, emergency managers, and other decision makers with the reliable information they need when they need it.

NOAA has six line offices and a Program Planning and Integration Office. Each line office is involved in a different capacity, but all work together as well. The line offices are

- National Environmental Satellite, Data, and Information Service (NESDIS): <https://www.nesdis.noaa.gov/>
- National Marine Fisheries (NMFS): <https://www.nmfs.noaa.gov/>
- National Ocean Service (NOS): <https://oceanservice.noaa.gov/>
- National Weather Service (NWS): <https://www.weather.gov/>
- Office of Marine and Aviation Operations (OMAO): <http://www.oma.noaa.gov/>
- Office of Oceanic and Atmospheric Research (OAR): <https://www.research.noaa.gov/>

Within the National Ocean Service resides the **Office of National Marine Sanctuaries** (ONMS). ONMS serves as the trustee for a network of underwater parks encompassing more than 600,000 square miles of marine and Great Lakes waters from Washington State to the Florida Keys and from Lake Huron to American Samoa. The network includes a system of 13 national marine sanctuaries and Papahānaumokuākea and Rose Atoll marine national monuments.

Our national marine sanctuaries are places of inspiration. Within their waters and along their shores are vibrant tapestries of marine life, ancient mysteries of our past, and thriving communities of men and women who have relied on the sea for generations. Sanctuaries are places where anyone can go to experience the power and beauty of the ocean and form lasting memories in spectacular natural settings, from the vibrant coral reefs of American Samoa to the towering kelp forests of Monterey Bay. These underwater treasures are

sources of national pride, and protecting them ensures they will be here for future generations.

On January 30, 1975, Monitor National Marine Sanctuary (MNMS) became our nation’s first national marine sanctuary. The sanctuary protects the USS *Monitor*, a Civil War ironclad that sank off the North Carolina coast in 1862, and was discovered in 1973.

## Activity Overview

In this activity, students will explore one of the agencies within the Department of Commerce, the National Oceanic and Atmospheric Administration (NOAA), and its six line offices. Students will conduct an internet scavenger hunt to learn how each line office supports our nation’s economy. They will also explore Monitor NMS and learn how it became our nation’s first national marine sanctuary. In the last activity, students will understand that America’s greatest museum of our past as a seafaring nation lies on the bottom of our nation’s ocean, seas, rivers, and lakes. They will learn how NOAA and the Office of National Marine Sanctuaries work together through the Maritime Heritage Program (MHP) to protect and conserve our history.

## Learning Objectives

Students will understand the important work that NOAA does to provide valuable information in support of our nation’s economic stability. They will also learn about our nation’s first national marine sanctuary, and the importance of our nation’s maritime heritage.

## Teacher Preparations and Implementation

- Review the websites indicated and bookmark them for students or create an internet binder, such as Livebinder\*. For more information visit <http://www.livebinders.com/>.
- Print copies of each activity sheet — *NOAA Who?*, *Monitor to the Rescue*, and *Museums of the Deep* (pp. 14-19).
- After students complete the scavenger hunts, discuss NOAA’s mission and why the agency’s work is important to our nation.
- Discuss the USS *Monitor* and its role in saving the Union and changing naval warfare.
- Discuss the importance of protecting and conserving our nation’s maritime heritage.

## Resources\*

### Websites

#### National Oceanic and Atmospheric Administration (NOAA)

Access this website to learn more about NOAA and the role it plays in protecting life and property and conserving and protecting natural and cultural resources.

<http://www.noaa.gov>

#### NOAA Diving Program

The program trains and certifies scientists, engineers, and technicians to perform the variety of tasks carried out underwater to support NOAA’s mission.

<http://www.ndc.noaa.gov/>

#### Office of National Marine Sanctuaries (ONMS)

ONMS is the trustee for a network of marine protected areas encompassing more than 600,000 square miles.

<http://sanctuaries.noaa.gov/>

#### Monitor National Marine Sanctuary (MNMS)

The nation’s first national marine sanctuary that protects the famed Civil War ironclad, USS *Monitor*.

<http://monitor.noaa.gov>

#### NOAA’s Maritime Heritage Program (MHP)

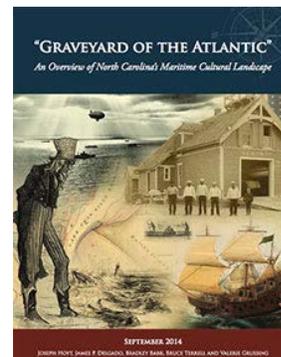
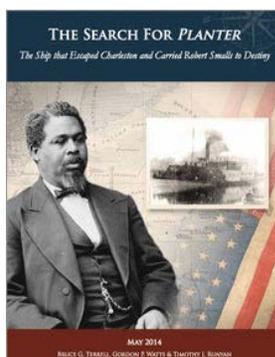
MHP works to document and survey our nation’s maritime heritage.

<http://sanctuaries.noaa.gov/maritime/welcome.html>

## Extensions

1. Have each student visit one or more of NOAA’s line offices’ websites and share with the class the overall mission and objectives of the line office.
2. Have students share one thing they found most interesting about NOAA, ONMS, MNMS, or MHP.

\*The inclusion of links in this guide does not imply endorsement or support of any of the linked information, services, products, or providers.



# NOAA Who?

The **National Oceanic and Atmospheric Administration (NOAA)** is an agency that enriches life through science. NOAA's research goes from the surface of the sun to the depths of the ocean floor as the agency works to keep citizens informed of the changing environment around them. From daily weather forecasts, severe storm warning, and climate monitoring, to fisheries management, coastal restoration, and supporting marine commerce, NOAA's products and services support economic vitality. NOAA's dedicated scientists use cutting-edge research and high-tech instrumentation to provide citizens, planners, emergency managers, and other decision makers with reliable information they need when they need it.

NOAA's roots date back to 1807, when the nation's first scientific agency, the Survey of the Coast, was established. Since then, NOAA has evolved in every state and emerged as an international leader on scientific and environmental matters. There are six line offices within NOAA: 1) National Environmental Satellite, Data and Information Service (NESDIS); 2) National Marine Fisheries Service (NMFS); 3) National Ocean Service (NOS); 4) National Weather Service (NWS); 5) Office of Marine and Aviation Operations (OMAO); and 6) Office of Oceanic and Atmospheric Research (OAR).

Within the National Ocean Service (NOS), the **Office of National Marine Sanctuaries** serves as the trustee for a network of underwater parks encompassing more than 600,000 square miles of marine and Great Lakes waters from Washington State to the Florida Keys and from Lake Huron to American Samoa. The network includes a system of 13 national marine sanctuaries and the Papahānaumokuākea and Rose Atoll marine national monuments.

Our national marine sanctuaries are places of inspiration. Within their waters and along their shores, you can find vibrant tapestries of marine life, ancient mysteries of our past, and thriving communities of men and women who have relied on the sea for generations. National marine sanctuaries are places where anyone can go to experience the power and beauty of the ocean and form lasting memories in spectacular natural settings, from the vibrant coral reefs of American Samoa to the towering kelp forests of Monterey Bay. These underwater treasures are sources of national pride, and when we take care of them, we protect part of what makes America great.



## NATIONAL MARINE SANCTUARY SYSTEM



- National Marine Sanctuary
- ▲ Marine National Monument
- Proposed National Marine Sanctuary

Scale varies in this perspective. Adapted from National Geographic Maps.

Name: \_\_\_\_\_

Date: \_\_\_\_\_

### NOAA Who?

**Purpose:** To explore the National Oceanic and Atmospheric Administration's many missions.

#### Searching for NOAA

Using *NOAA Who?* and the websites below, answer the following questions to learn more about NOAA, the National Marine Sanctuary System and the Monitor National Marine Sanctuary.

NOAA: <https://www.noaa.gov/>

NOAA Diving Program: <http://www.oma.noaa.gov/learn/diving-program>

Office of National Marine Sanctuaries (ONMS): <https://sanctuaries.noaa.gov>

1. NOAA is part of the Department of \_\_\_\_\_.
2. List one of NOAA's missions.
3. How many line offices are there in NOAA? Name one.
4. Which line office is the sole official voice of the U.S. government for issuing warnings during life-threatening weather situations?
5. How many satellites is NOAA currently flying?
6. On the NOAA Diving Program website, what is the Diving Program's mission?
7. Where is the NOAA Diving Center located?
8. Go to the Office of National Marine Sanctuaries website and click on "Multimedia." What is Earth Is Blue?
9. How many national marine sanctuaries are there? How many marine national monuments?
10. On the ONMS website, in the top navigation bar, click on "Visit." Scroll down to the sanctuaries map and click on any of the sanctuaries listed. Explain what that sanctuary protects.
11. On the ONMS website, in the top navigation bar, click on "Explore." In the drop-down menu, click on "Maritime Heritage." Click on "Projects." Click on any of the projects listed and describe it.

## Monitor to the Rescue

As our nation's first national marine sanctuary, Monitor National Marine Sanctuary (MNMS) was established to preserve and protect our nation's first Civil War ironclad, USS *Monitor*. The *Monitor* and its brave crew helped to turn the tide of the Civil War and forever changed naval warfare when it fought the Confederate ironclad, CSS *Virginia*, also known as the *Merrimack*.

As the two ships fought in the Battle of Hampton Roads on March 9, 1862, the battle also marked the first time that iron met iron and the age of the wooden ships came to an end. Another unique new invention that the *Monitor* ushered in was a rotating gun turret. The clever design gave warships more maneuverability during battle and became a standard on all future ships.

The *Monitor* did not see much action after the Battle of Hampton Roads. The ship was sent to support a small skirmish off Sewel's Point, and it also participated in the Battle at Drewry's Bluff near Richmond, Virginia. The crew, affectionately known as the *Monitor* Boys, spent most of their time in Hampton Roads, Virginia, waiting for a chance to once again battle the CSS *Virginia*.

On December 31, 1862, just 11 months after it launched from Greenpoint, Brooklyn, New York, the *Monitor* encountered a storm off Cape Hatteras, North Carolina, and sank. That night, 16 brave men made the ultimate sacrifice. The *Monitor*'s exact location remained unknown until 1973, when John G. Newton and his team from the Duke University Marine Lab, using side scan sonar, identified an unknown shipwreck that they thought was the *Monitor*. They confirmed its identity in 1974. North Carolina petitioned Congress to protect this national treasure, and on January 30, 1975, the *Monitor* became our nation's first national marine sanctuary.

In 2002, NOAA, in collaboration with the U.S. Navy, raised the iconic gun turret. As Navy divers were excavating the turret, they found the remains of a *Monitor* sailor. Once the turret was on the barge's deck, a second set of remains was found. For the 150<sup>th</sup> anniversary of the USS *Monitor*, the Secretary of the Navy authorized their interment at Arlington National Cemetery on March 8, 2013. Today, the recovered pieces of the USS *Monitor* are conserved at The Mariners' Museum in Newport News, Virginia.



Photos Clockwise: John Ericsson; Battle of Hampton Roads; *Monitor* crew on deck; *Monitor* sinking; Turret being raised on August 5, 2002; Burial at Arlington National Cemetery of two *Monitor* sailors. Photos: NOAA's *Monitor* Collection

Name: \_\_\_\_\_

Date: \_\_\_\_\_

### *Monitor to the Rescue*

**Purpose:** To explore the historical significance of the USS *Monitor* and the important role it plays as our nation's first national marine sanctuary.

#### **Searching for the *Monitor***

Using *Monitor to the Rescue* and the websites below, answer the following questions to learn more about Monitor National Marine Sanctuary.

Monitor National Marine Sanctuary (MNMS): <https://monitor.noaa.gov>

*Monitor* Legacy Site: <https://monitor.noaa.gov/150th>

1. On the MNMS website, click on "About Your Sanctuary." What act gave the authority to establish Monitor National Marine Sanctuary? When was the sanctuary established?
2. Under "About Your Sanctuary," click on "History of the *Monitor*." Who designed the USS *Monitor*? How long did it take to build the *Monitor*? When was it launched?
3. In the side bar, click on "Advisory Council." What is the role of the sanctuary advisory council?
4. In the left side bar, click on "New & Events" and then click on "Press Releases." Choose one press release and read it. Summarize the importance of the press release.
5. In the left side bar, click on "Image Gallery," and click on the link in the first paragraph "Online Image Gallery." Scroll through the images and choose your favorite. Describe the image and tell why you chose it.
6. Click on the website link above for the *Monitor* Legacy Site. Click on the top tab "Life Onboard" and then click on "Battle of Hampton Roads." Read the text and summarize the battle. Who won? What was the true significance of the battle?
7. In the top bar, click on "Life Onboard" and then click on "Sailors that Died." How many men died the night the ship sank? How many were officers? Enlisted? African-American?
8. On the home page, in the scrolling picture section, click on "First Look at the *Monitor* Crew," then click on the larger image to the left. Next, on the right side of the web page, under "Associated Press Coverage," click on "short video" and watch the video (1:24). How many human remains were found in the turret? What was the goal of creating the busts (clay facial reconstructions)?
9. Visit [https://monitor.noaa.gov/150th/feature\\_burial.html](https://monitor.noaa.gov/150th/feature_burial.html) to read about the *Monitor* sailors' interment at Arlington National Cemetery. What was significant about the date they were interred? Scroll through the pictures and summarize the events of the day by using the images.

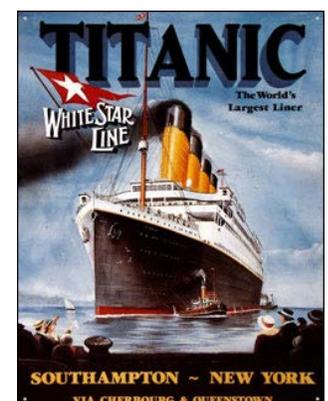
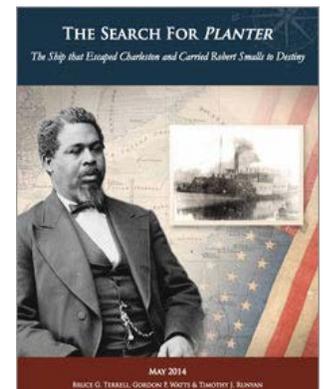
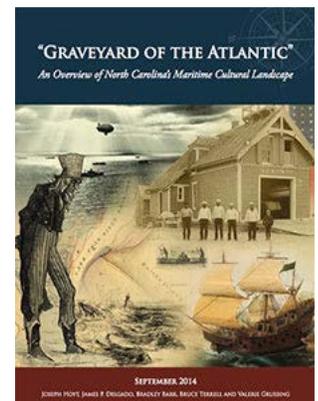
# NOAA's Maritime Heritage Program – Museums of the Deep

## Background Information

America's greatest museum of our past as a seafaring nation lies on the bottom of our nation's ocean, seas, lakes, and rivers. They are all places to explore, discover, and appreciate our country's maritime cultural heritage. That heritage is a legacy of thousands of years of settlement, exploration, immigration, harvesting the bounty of the sea, and creating coastal communities and maritime traditions. Overall, it is an important link to our past and how we developed as a nation. Through NOAA's dynamic education and outreach programs, exhibits, visitor's centers, and media, the importance of our unique heritage provides people with the knowledge they need to promote the preservation of these nonrenewable cultural resources.

In June 2000, the president recognized the need to increase ocean exploration and thus, he established the Office of Ocean Exploration and Research (OER). The office was created to coordinate the agency's exploration and research expeditions with the mission to enhance research, policy, and management decisions, to develop new lines of scientific inquiry, and to advise NOAA and the nation on critical issues. OER works with archaeologists, scientists, and oceanographers to explore the vast mysteries of our country's waterways.

Created in 2002, NOAA's Maritime Heritage Program is an initiative of the **Office of National Marine Sanctuaries (ONMS)**. Each of our thirteen national marine sanctuaries and two marine national monuments, regardless of regulation and designation purposes, contain cultural resources. However, two sanctuaries, Monitor NMS and Thunder Bay NMS, were specifically designated to protect shipwrecks. Today, through partnerships with the Office of Ocean Exploration and Research, other state and federal agencies, and academia, the program continues to focus on maritime heritage resources within the National Marine Sanctuary System and promotes maritime heritage appreciation throughout our entire nation.



Visit the website, <https://sanctuaries.noaa.gov/maritime/> to read more about our nation's maritime heritage.

NAME: \_\_\_\_\_

DATE: \_\_\_\_\_

### Museums of the Deep

**Purpose:** To explore NOAA's Maritime Heritage Program and learn how NOAA explores, protects, and conserves our cultural resources.

#### Museums of the Deep

Use the background information for Museums of the Deep and the website to learn more about how NOAA explores, protects, and conserves our nation's cultural resources.

Maritime Heritage Program (MHP): <https://sanctuaries.noaa.gov/maritime/>

1. In the grey navigation bar just below the top image, click on "About." What law is the most relevant to the Office of National Marine Sanctuaries? What does Section 106 require?
2. At the bottom of the webpage, under "More Information," click on "Projects." Click on the link for "*Duane*" under Florida Keys. What type of shipwreck is the *Duane* and where is it located? When was it built? How deep is the main deck?
3. Return to the main page, and in the grey navigation bar, click on "Projects," and then click on "*Monitor*" under Northeast. What Union ship was converted into the CSS *Virginia*? What was the diameter of the gun turret? What was the date of the Battle of Hampton Roads when the *Monitor* and *Virginia* engaged?
4. Return to main page, click on "Projects," click on "*USS Macon*" under West Coast -- Monterey Bay. What type of ship was the *USS Macon*? What was the most significant outcome of the first phase of its expedition?
5. Return to the main page, and in the grey navigation bar, click on "Research Topics." Click on "*Titanic*." When was the shipwreck discovered? Which office is the lead for dealing with the wreck of the RMS *Titanic*? Who do they work closely with to preserve the *Titanic*?
6. Return to "Research Topics," click on "Native Cultures." The Maritime Heritage Program seeks to support research into seafaring traditions and the preservation of maritime folklore and knowledge. Choose one of the sanctuaries listed and explain what native culture it helps to preserve and protect.
7. Return to "Research Topics," click on "Whaling." When was America's "golden age" of whaling?
8. Return to "Research Topics," at the bottom of the page under "More Information," click on "Preserve America." In the top navigation bar, click on "What NOAA is Doing." What are the six top objectives of NOAA in preserving our nation's heritage?
9. Return to "Research Topics," click on "Battle of the Atlantic." Click on "Mission" in the right side bar. What three primary sites were explored? Describe the intent of this expedition. Read the Blog for July 17-20, 2008. What shipwreck did they dive on July 17? July 19?
10. Go to any area of the NOAA's Maritime Heritage Program's website and list one thing that you found most interesting.

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# World War II

1939 - 1945



## Section B Exploring Causes of World War II

- Causation
- Treaty of Versailles
- The Rise of Hitler
- Appeasement
- League of Nations



## Learning Objectives

In this unit, students will be able to:

- Demonstrate the categories of causation and explain a trigger event
- Through a series of Facebook-like posts and Tweets, compare and contrast how citizens of Germany, France, Britain, and the United States felt about the Treaty of Versailles; and explain how the treaty's terms created turmoil and unrest in Europe
- Compose a persuasive speech showing how Adolf Hitler rose to power or how Chancellor Schuschnigg kept his power.
- Form an opinion on the Policy of Appeasement and outline an argument for debate; explain how the policy helped to cause World War II
- Work as a team and write five blogs that depict five aspects of the League of Nations; and compare and contrast other blogs to evaluate how the league helped to cause World War II
- Write an informative letter explaining the causes of World War II

## Teacher Preparation and Implementation

In this unit, there are six activities: Causation, Treaty of Versailles, The Rise of Hitler, Appeasement, the League of Nations, and Drawing Conclusions, as well as a Word Search. Review each activity and determine which activities students will do and what materials and resources are needed for each.

- Review all resources listed in the resource section and determine which ones to use, or use resources of your own choosing.
- If internet is available, help students concentrate on research and limit search time, by creating an internet binder, such as Livebinder, or bookmark websites. For more information on Livebinder, visit <http://www.livebinders.com/>.
- If internet is not available, print copies of web resources for each student/group.
- Make copies of each activity page for each student or group (pp. 25-39 and p. 41).
  - ◊ For the Treaty of Versailles, print one copy of the Facebook template for each student or group. They will use the template to create their own on paper or in a journal. As an alternative, have the students use a Fakebook program, such as <http://www.classtools.net/FB/home-page>.
  - ◊ For the League of Nations, print five blog pages for each team or have them create their own.

## Resources\*

### Websites

#### The Opper Project

This website uses eight political cartoons to help students become familiar with the purpose of and controversy surrounding the League of Nations.

<http://hti.osu.edu/opper/lesson-plans/league-of-nations>

#### National Endowment for the Humanities: EDSITEment!

At this site, teachers will find lessons and resources on conducting a debate on the League of Nations.

<http://edsitement.neh.gov/lesson-plan/debate-united-states-over-league-nations-league-nations-basics#sect-introduction>

#### History Channel

Read about the League of Nations and watch videos about the Treaty of Versailles, Woodrow Wilson, and more.

<http://www.history.com/this-day-in-history/league-of-nations-instituted>.

#### PBS: Wilson—A Portrait

Visit this site to learn about Woodrow Wilson, his Fourteen Points speech, and how his volatile relationship with Henry Cabot Lodge, kept the U.S. from entering the League of Nations.

[http://www.pbs.org/wgbh/amex/wilson/portrait/wp\\_league.html](http://www.pbs.org/wgbh/amex/wilson/portrait/wp_league.html)

#### Causes of World War II

WebQuest that explores the multiple causes for World War II from the perspectives of key policies, leaders, and early events leading to the war.

<http://questgarden.com/63/29/3/080328182742/index.htm>

#### National Endowment of the Humanities:EDSITEment!

Use guiding questions and lesson activities to explore the Treaty of Versailles.

<http://edsitement.neh.gov/lesson-plan/great-war-evaluating-treaty-versailles#sect-introduction>

#### Stanford History Education Group

Check out this site for lesson plans, PowerPoint, and primary source documents related to the policy of appeasement. Free registration.

<https://sheg.stanford.edu/appeasement>

#### History on the Net

Great modules for World War II.

<http://www.historyonthenet.com/ww2/ww2main.htm>

*\*The inclusion of links in this guide does not imply endorsement or support of any of the linked information, services, products, or providers.*



## Vocabulary

**ADOLF HITLER** — German political leader who rose to power and became dictator of Germany in 1934

**ANSCHLUSS** — The forced union of Austria with Nazi Germany in 1938

**APPEASEMENT** — A political policy of conceding to aggression by a warlike nation

**CAUSATION** — The act or process of causing something to happen or exist

**DISARMAMENT** — The reduction or withdrawal of military forces and weapons

**LEAGUE OF NATIONS** — An international organization established after World War I under the provisions of the Treaty of Versailles; forerunner to the United Nations

**NAZI PARTY** — A political group that ruled Germany between 1933 and 1945. In English, Nazi is the short name for the National Socialist German Workers' Party.

**REPARATION** — The making of amends for a wrong one has done by paying money to or otherwise helping those who have been wronged

**SANCTION** — A threatened penalty for disobeying a law or rule

**TREATY OF VERSAILLES** — One of the peace treaties to end World War I between Germany and the Allied Powers

## Procedure

1. For each chosen activity in the unit, have students read the background information and check for understanding.
2. Have students follow the activity directions or procedure as appropriate.

## Extensions

### Treaty of Versailles

1. Have students summarize the Facebook posts that they created into a series of tweets. Have students read other students' tweets and choose five to retweet. The student with the most retweets gets rewarded (no homework, five bonus points, etc.)
2. Listen to a recording of Henry Cabot Lodge and have students summarize his speech. <http://rs6.loc.gov/mbrs/nforum/9000004.wav>
3. Have students create an acrostic crossword using "Treaty of Versailles."

### The Rise of Hitler

1. Create a timeline of Hitler's' life and his rise to power.
2. Engage in a roundtable discussion on why Hitler rose to power and became the leader of Germany.
3. Debate what might have been different if Chancellor Schuschnigg had given a powerful speech encouraging his people to stand against Hitler.

### Anglo German Naval Treaty

1. Have students research why Britain signed this treaty with Germany even though it violated the Treaty of Versailles. Have students explain how the treaty allowed Hitler to rearm his forces and how it gave legitimacy to the rebuilding of Germany's U-boat fleet, which directly led to the Battle of the Atlantic.

## The Policy of Appeasement

1. Have students write out statements from the debates that are either pro-appeasement or against. As a class, review these statements, and sort them. Are there more statements for or against? Why?
2. Create a word search using the countries and terms involved with appeasement.

## The League of Nations

1. Find other political cartoons depicting the League of Nations and have students explain their meaning.
2. Conduct a "What if?" exercise. Ask students: What if the United States had joined the league, would it have failed? Do you think the league would have failed if there had not been a world depression? Would the league have succeeded if it had its own military? Or other questions as deemed appropriate.



German troops in Warsaw, Poland, 1939. Photos: National Archives



Name: \_\_\_\_\_

Date: \_\_\_\_\_

## Causation

### Background Information

World War II began in September 1939, when Great Britain and France declared war on Germany after Germany invaded Poland. However, the invasion of Poland was not the single event that led to the outbreak of war. There were many other factors that contributed to the beginning of World War II. Therefore, it is important to look beyond the immediate events preceding a war when looking to explain the causes of war.

When historians talk about causation, they are looking for reasons why something happened. The reasons may be many, but they are often divided into categories, such as social, economic, political, technological, or military. The reasons can also be divided by time periods: long term, medium term, and short term. Sometimes in history, there is also a trigger event that is the “final straw,” or an event that is the final cause for something else to happen.

Many different events happening throughout the world caused World War II, and in some ways, it was also a direct result of the chaos and turmoil left over from World War I. A few of the main causes for the outbreak of World War II are: 1) the harshness of the Treaty of Versailles towards Germany; 2) the rise of Adolf Hitler and the Nazi Party; 3) the rearmament of Germany under the Anglo German Naval Treaty; 4) the Policy of Appeasement and the Great Depression; and 5) the weaknesses of the League of Nations. Each reason perhaps was not significant on its own, but when combined, they triggered the outbreak of World War II.

### Activity

In this activity, you will explore causation and identify a trigger event.

### Procedure

1. Discuss with your partner a disastrous event that you recently experienced. For example, did you miss the bus and have to walk to school? Or did you lose your laptop or tablet?
2. After you each have shared your event, choose one event to illustrate and show causation by creating a cartoon outline. See Example Cartoon Outline below.
3. With your partner, come to a consensus to narrow the factors that caused the disastrous event down to four main factors.
4. In the top boxes of the blank Cartoon Outline, illustrate each of the four factors, with the factor that occurred first, second, and third. The last box is for the final “trigger” that caused the disastrous event.
5. In the second row, describe each event.
6. In the third row, determine if the event was: social, economic, political, technological, or military. Write the corresponding term for each event. Then determine if the event was long-, medium-, or short-term and write it under the first term.
7. Once you have completed the Cartoon Outline, write a story that describes the causes leading up to the trigger event.

### Example Cartoon Outline:

			
Chris needed money for a new tablet, so he started mowing lawns after school.	Chris was so tired when he got home, that he went straight to bed and forgot to set his alarm.	Chris overslept and had to rush to get out the door to catch the bus.	Chris was running too fast and slipped in the driveway making him miss his bus.
Social, Economic Long Term	Technology Short Term	Social Short Term	Trigger Event



Name: \_\_\_\_\_

Date: \_\_\_\_\_

## Treaty of Versailles

### Background Information

The Treaty of Versailles ended World War I between Germany and the Allied Powers. In 1919, the “Big Four” leaders— Prime Ministers David Lloyd George of England, Vittorio Orlando of Italy, Georges Clemenceau of France, and President Woodrow Wilson of the United States—met to discuss how Germany was to pay for the damage caused by World War I. Germany had lost the war, and most people believed that Germany should accept the responsibility of war damages suffered by the Allies. Wilson wanted a treaty based on his Fourteen Points plan, which he believed would bring peace to Europe. Clemenceau wanted revenge and to make sure that Germany could never start another war. George knew that the people of England also wanted revenge, but he personally agreed with Wilson; therefore, he tried to find a compromise.

Germany expected a treaty based on Wilson’s Fourteen Points, and they were very unhappy when they reviewed the terms of the treaty as it required Germany to pay a huge sum of money called “reparations.” Although Germany did not like the terms and thought the treaty too harsh, they had no choice but to sign it. However, Germany had no money to pay the reparations. Also, in the 1920s, the German people were very poor due to lack of jobs, and the price of food and other goods was very high. All these combined made the German people disgruntled with the government. Therefore, they voted into power a man who promised to change things and to rip up the Treaty of Versailles. His name was Adolf Hitler.

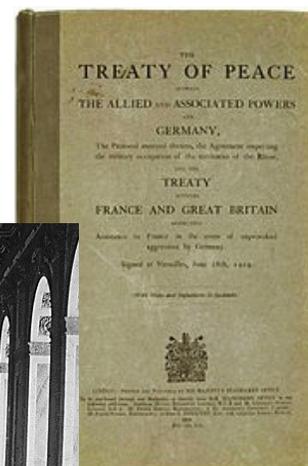
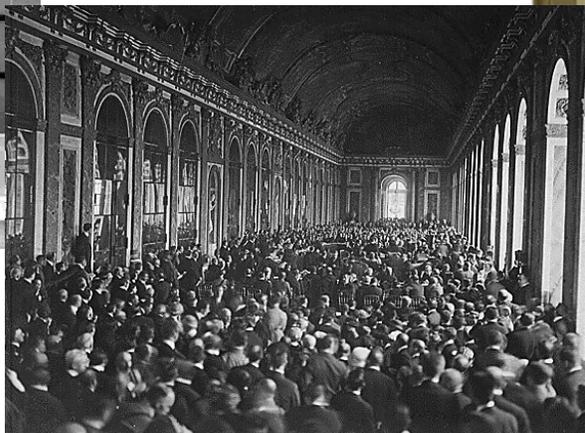
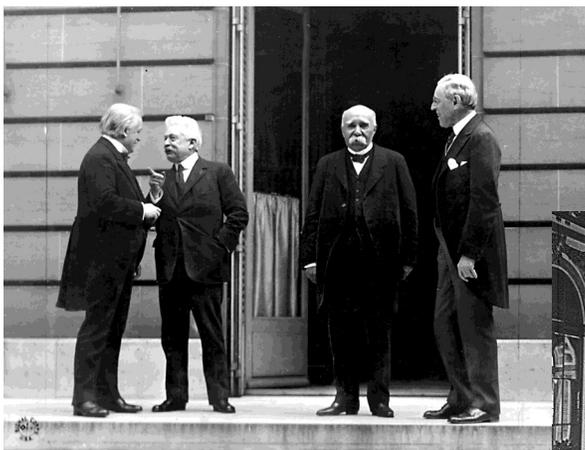
### Main Terms of the Treaty of Versailles

1. Reparations: Germany had to pay \$33 billion for the damages caused by World War I.
2. Disarmament: Germany was allowed to only have a very small army and six naval ships. The Rhineland area was to be de-militarized.
3. War Guilt Clause: Germany must accept the blame for starting World War I.
4. Territorial Clauses: Land was taken from Germany and given to other countries. A union with Austria was forbidden.

### Activity

In this activity, you will become either a citizen of Germany, France, Britain, or the United States. As a citizen of your chosen country, you will use the provided template or make one of your own to create a series of five Facebook posts that express how you feel about the Treaty of Versailles. If more space is needed, use blank paper or create another template. Once everyone has completed their posts, exchange and comment on at least five other posts: four of opposing views and one of a similar view.

To read the complete Treat of Versailles, visit the Library of Congress at <https://www.loc.gov/law/help/us-treaties/bevans/m-ust000002-0043.pdf>



Left: The Big Four: Prime Ministers David Lloyd George of England, Vittorio Orlando of Italy, Georges Clemenceau of France, and President Woodrow Wilson of the United States. Center: Signing of the treaty. Right: Treaty book. All photos UK Government, public domain

## Treaty of Versailles Continued: Facebook—Sample Template

Create your character's fictitious Social Media Profile:

Name:

Date of Birth:

Date of Death:

Work and Education:

Places Lived:

Basic Information:

Family and Relationships:

Details of Life:

Major Life Events:

Follow the template below and create a Facebook page for your fictitious character.

The image shows a Facebook profile template. At the top is a blue navigation bar with the Facebook logo, a search bar, the name "Chris", and links for "Home", "Find Friends", a profile picture icon, and a globe icon. Below the navigation bar is a large cover photo showing silhouettes of soldiers walking across a field. On the left side of the profile is a profile picture of a man in a white shirt and blue vest, holding a rolled-up document. Below the cover photo are navigation tabs: "Timeline", "About", "Friends 321", "Photos", and "More". The main content area is divided into two columns. The left column contains a bio section with four lines of text: "\*\* Bakery Shop Owner", "\*\* Studied at Oxford", "\*\* Lives in Manchester, England", and "\*\* From London, England". Below the bio is a "FRIENDS 321" section. The right column contains a post creation area with options for "Make Post", "Photo/Video Album", "Live Video", and "Life Event". Below these options is a text input field with the placeholder "What's on your mind?".

Name: \_\_\_\_\_

Date: \_\_\_\_\_

## The Rise of Hitler

### Background Information

Adolf Hitler was born in Austria and moved to Germany in 1913. He served in the German Army and received several awards for his service. In 1923, Hitler and the Nazi party attempted to overthrow the government in Munich, Germany, and to establish a new government to oversee the creation of a unified Greater German Reich, where citizenship would be based on race. The attempt came to be known as the Beer Hall Putsch, but it was unsuccessful, and Hitler, along with eight others, was arrested. After his release in 1924, Hitler began speaking out against the Treaty of Versailles. With the war, most industries in Germany were destroyed, causing chronic unemployment and poverty. The German people were desperate for someone to turn the economy around and restore their national pride. Hitler said what the people wanted to hear and gained in popularity by promoting his Nazi propaganda and denouncing international capitalism and communism as being part of a Jewish conspiracy.

Adolf Hitler became Chancellor of Germany in January 1933. Upon taking power, Hitler began a process of re-arming and expanding the German military, but because this was in violation of the Treaty of Versailles, it had to be done secretly. Hitler continued to voice his dislike for the Treaty of Versailles, and he also made it known that he did not want any further reduction in Germany's armament to be recommended by the League of Nations Disarmament Conference. In October 1933, Hitler withdrew from the conference and from the League of Nations. Hitler continued in 1934 to secretly increase the size of the army and began building warships and created a German air force. Also during that year, Hitler was proclaimed "Führer" (leader), becoming dictator of Germany and compulsory military service was introduced.

The Treaty of Versailles prohibited Germany from any activities related to submarine development or construction, however, in February 1935, Germany began to build up the submarine fleet, laying down two U-boats, U-1 and U-12. As the U-boats' construction neared completion, Germany and Britain met and negotiated a naval agreement. Throwing aside all naval limitations placed by the Treaty of Versailles, and without consulting France, Britain signed the Anglo-German Naval Agreement, which gave Germany the ability to build ships, but limited the German navy to 35 percent of the size of the British Navy. This agreement also gave Germany the power to build as many submarines as they wanted.

For many years, the Rhineland area had been a key industrial region of Germany, and had offered a natural barrier with France in the event of a war. After Germany's defeat, and as a guarantee of Germany fulfilling the terms of the Treaty of Versailles, all German territory west of the Rhine River, along with a strip of territory to the east of the river, was to be permanently demilitarized and Allied troops were allowed to occupy the area. Two other territories, Alsace and Lorraine, were also restored to French sovereignty in order "to redress the wrong done by Germany in 1871 both to the rights of France and to the wishes of the population of Alsace and Lorraine." The Saar region, which was also removed from German control through the Treaty of Versailles, was an important area for Germany to regain because of its coal production. In 1935, the region voted to reunite with Germany, thus boosting Hitler's plans to strengthen Germany and undermine the Treaty of Versailles. When the European nations did not react to this violation, Hitler was encouraged to break other terms of the treaty, and in 1936, Hitler's troops entered the Rhineland. The German army was not very strong and could have been easily defeated, but neither France nor England was prepared to start another war.

In 1936, Hitler also made two important alliances. Hitler's Germany formed an alliance with Italy known as the Rome-Berlin Axis Pact. For Italy, the alliance promised support in case of a major war and an end to its then political isolation. For Germany, the alliance meant that its southern boundary was protected, thus releasing German troops to be sent to other areas. The second alliance was called the Anti-Comintern Pact and allied Germany with Japan. Both countries



Austria 1938



Adolf Hitler. Photo: Bundesarchiv



Sudetenland 1938

Name: \_\_\_\_\_

Date: \_\_\_\_\_

## The Rise of Hitler Continued

promised to “keep each other informed concerning the activities of the Communist International,” to “confer upon the necessary measures for defense,” and to “carry out such measures in close cooperation.” A year later, Italy also signed the Anti-Comintern Pack.

Two years after the first pact alliance was formed, Hitler began steps to reclaim the land that Germany had lost in the Treaty of Versailles. On March 9, 1938, Austrian Chancellor Kurt von Schuschnigg, met with Adolf Hitler in the hopes of reasserting his country’s independence, but was instead forced into naming several top Austrian Nazis to his cabinet. Schuschnigg called for a vote to resolve the issue of annexation (Anschluss), but before it could take place, he gave into pressure from Hitler to resign. In his resignation address, under coercion from the Nazis, he pleaded with Austria forces not to resist a German advance into their country. On March 12, 1938, German troops marched into Austria forcing the Austrian leader to hold a vote asking the people whether they wanted to be a part of Germany or not. The vote was fixed and it showed that 99 percent of Austrians wanted a union with Germany (Anschluss). The Austrian leader asked Britain, France, and Italy for help, but Hitler promised that Anschluss was the end of his expansionist efforts; therefore, the other countries did nothing, as they were not ready to risk another war.

Hitler did not keep his word. Six months after gaining control of Austria, Hitler demanded that the Sudetenland region of Czechoslovakia be handed over to Germany. The Prime Minister of Britain, Neville Chamberlain, met with Hitler three times in September 1938, and tried to reach an agreement that would prevent war. From those meetings, the Munich Agreement was reached, and it stated that Hitler could have the Sudetenland region provided that Germany would not invade the rest of Czechoslovakia. However, any hope of peace was short lived, because Hitler was not a man of his word, and he invaded the rest of Czechoslovakia in March 1939.

The Czechoslovakian government desperately pleaded with Britain and France, but both were still very war weary and neither wanted to take military action against Germany. However, they believed that some action was necessary, and believing that Poland would be Hitler’s next invasion, both Britain and France promised to take military action against Hitler if he invaded Poland. Prime Minister Chamberlain had the false belief that the threat of war would deter Hitler and stop his aggression; he was wrong. Hitler’s troops invaded Poland on September 1, 1939, and thus began World War II.

### Activity Overview

Imagine that you are Adolf Hitler or Austrian Chancellor Kurt von Schuschnigg and write a persuasive speech that you would make to the your countrymen. If you are Hitler, the speech should denounce the Treaty of Versailles and explain to the people how you would restore Germany’s economy and national pride. If you are the Austrian Chancellor, write a speech that he might have given before Hitler pressured him to resign asking his people stand against Hitler. The speech should be powerful enough to either get you elected if you are Hitler or keep you in power if you are the Chancellor! Conduct additional research if needed.



Kurt von Schuschnigg circa 1934. Photo: Public Domain



Adolf Hitler. Photo: German Federal Archive





Name: \_\_\_\_\_

Date: \_\_\_\_\_

## Appeasement

### Background Information

Throughout the world, the period before World War II was a time of great hardship known as the Great Depression. During the 1930s, severe economic depression was world wide, but the time for each nation's downturn varied. It was the longest and most widespread depression of the 20th century. It originated in the United States after a fall in stock prices that began in September 1929 and resulted in the stock market crash on October 29, 1929, also known as Black Tuesday. The Great Depression had devastating effects in countries both rich and poor with unemployment rising to 25 percent in the U.S. and as high as 33 percent in other countries. The Great Depression created unstable governments and worldwide turmoil that helped lead to World War II. War weary countries were struggling to rebuild after World War I, and because of the turmoil and strife, many countries experienced strong fascist and communist movements, including France, Great Britain, Russia, Italy, Spain, and Germany.

During the 1930s, politicians in both France and Britain began to think that the terms of the Treaty of Versailles were unfair to Germany and the restrictions were too harsh; therefore, they saw Hitler's actions as justifiable. When Germany began to rearm itself in 1934, many politicians thought that Germany had a right to protect itself, and they argued that a stronger Germany would prevent the spread of Communism to the west.

In 1936, Hitler positioned troops in the Rhineland. He argued that because France and Russia had signed a treaty together, Germany was under a threat from both countries, and it was vital for German security that the troops be there. France was not strong enough to go to war with Germany without British help, and Britain was not ready for another war. Many people also believed that because the Rhineland was a part of Germany, German troops had every right to be stationed there.

In May 1937, Neville Chamberlain became Prime Minister of Britain. He believed that the Treaty of Versailles had wronged Germany and that the demands of the treaty needed to be changed. He also thought that giving in to Hitler's demands would prevent another war. This policy, adopted by Britain's new government, became known as the policy of Appeasement, giving in to someone provided that their demands are reasonable. Britain and other countries were ready to give in to Hitler's demands, if it meant that war would be prevented. Therefore, on March 12, 1938, when Hitler invaded Austria (Anschluss), many politicians did not argue against it. They rationalized that the area had been German before 1919, the people spoke German, and German speaking people should be together. However, not everyone in Austria was in favor of German control. In an effort to suppress any opposition to Anschluss, 70,000 people were arrested over the next month. In an attempt to bring an end to the civil unrest, a vote was held in Austria. The vote showed that 99 percent of Austrians were in favor of Anschluss. However, voters were subjected to massive amounts of propaganda, and nearly 400,000 eligible voters were not allowed to vote.

In September 1938, Hitler made demands once more. An area that bordered between Germany and Czechoslovakia had been taken from Germany by the Treaty of Versailles. Hitler demanded that this Sudetenland region of Czechoslovakia be returned to Germany. Hitler assured the Prime Ministers of Britain, France, and Italy during a meeting held in Munich on September 29, that if the Sudetenland was returned, he would make no other claims for land. They agreed and the Munich Agreement was signed by Adolf Hitler and Prime Ministers Neville Chamberlain (Britain), Edouard Daladier (France), and Benito Mussolini (Italy).

However, the Czech government felt betrayed by its former allies, Britain and France, because they had not been invited to the meeting. They protested the loss of the Sudetenland, but the Munich Agreement stood and was even triumphed as an excellent example of securing peace through negotiations, therefore, avoiding war.

Unfortunately, Hitler did not keep the agreement, and Germany invaded the rest of Czechoslovakia in March 1939. Although, politicians realized that the Munich Agreement was a failure, Britain and France were still not ready to take Germany to war. Instead, Chamberlain agreed to come to Poland's defense if Hitler invaded Poland. In just less than one year after the signing of the Munich Agreement, German troops invaded Poland on September 1, 1939.

### Activity Overview

In this activity you will take a stand on appeasement. Once you determine if you are for or against appeasement, you will outline your argument and write supporting statements for your stand. You will also make a list of possible arguments from your opponents and decide how best to counter their opposition. Next, you will debate an opponent, and may the best debater win!

## Appeasement Continued

**Procedure:**

1. After reading the Background Information, decide which side of the debate you will take by answering yes or no to the following question: *Was Britain correct to follow a policy of appeasement with Hitler in 1938?*
2. Conduct additional research if needed.
3. Use the chart below, or create a chart on your own paper.
4. Make a list of points to support your stand on appeasement and number them in order of importance with the most important as number one.
5. For each point, give an example or evidence to support the point.
6. Write a brief explanation. Add bullet points for any additional information needed to further explain each point.
7. Make a list of any possible arguments by your opponent and determine which arguments your opponent is most likely to use against your statements.
8. Decide how you will counter your opponent’s arguments against your statements and briefly write down your counter points for each argument against.
9. Debate someone with an opposing stand on appeasement. Have the class decide who won the argument.



After the meeting in Munich, British Prime Minister, Neville Chamberlain, returned to Great Britain where he declared that the Munich Agreement meant “peace for our time.” Photo: UK Government (public domain)



From left to right in front: Neville Chamberlain, Edouard Daladier, Adolf Hitler, Benito Mussolini, and Gian Ciano pictured before signing the Munich Agreement. Photo: Bundesarchiv, Bild 183-R69173 / CC-BY-SA 3.0

***Was Britain correct to follow a policy of appeasement with Hitler in 1938?***

**Yes or No**

#	Point/Argument	Supporting Example/Evidence	Explanation/Statement	Counter Argument by Opponent	How Will You Counter Opponent’s Argument?

Name: \_\_\_\_\_

Date: \_\_\_\_\_

## League of Nations

### Background Information

The United States entered World War I in 1917. The entire country and President Woodrow Wilson were horrified by the terrible slaughter of men that had taken place in a part of the world that was supposed to be civilized. As the war waged, influential voices in the United States and Britain began asking for the establishment of a permanent international organization that would help to maintain peace in the postwar world.

President Wilson became a staunch advocate of the concept, and in 1918, he included the idea in his Fourteen Points proposal to end the war. President Wilson's idea was included in the Treaty of Versailles, and it became known as the League of Nations. However, some members of the U.S. Senate disapproved of it and would not ratify it. Unfortunately, President Wilson suffered a stroke in the fall of 1919 and was unable to reach a compromise with those in the Senate who were against it. Therefore, the League of Nations proceeded without the United States and was established in Geneva, Switzerland, which had remained neutral during the war.



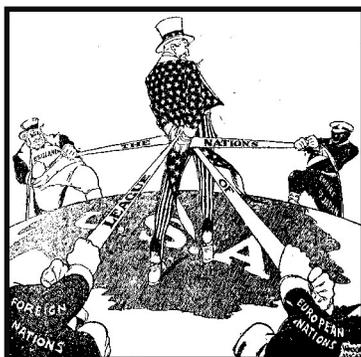
In theory, the League of Nations was a good idea. If there was a dispute between countries, under the league's covenant, it could basically do three things. First, it could call on the countries in dispute to sit down and discuss the problem in a peaceful and organized manner. The league's parliament would listen to disputes and come to a decision on how best to proceed to resolve the issue. If a nation was seen as the "offender," the league could introduce a **verbal sanction**, which is a warning to the aggressor that they need to leave the other country's territory or face the consequences.

If verbal sanctions didn't work, then the league could introduce **economic sanctions**. The purpose of economic sanctions was to financially hurt the aggressor nation. It was thought that the sanctions would hurt the aggressor's economy, forcing them into bankruptcy, and the people of the country would become angry and force the government to abide by the league's decision.

Finally, if all else failed, the league could introduce **physical sanctions**. Physical sanctions meant that military force would be used to make the aggressor abide by the league's decision. However, the problem with physical sanctions was that the league did not have a military force of its own, and under the league's terms, no member of the league was required to provide one. The only two countries in the league that could have provided military force were Britain and France. However, both countries' military had been severely depleted in World War I, and neither was in a position to finance an expanded army, as they too were financially strapped from World War I.

Unfortunately, these sanctions did not work very well. For example, in 1931, Japan was hit hard by the depression. Its people lost faith in the government and turned to the army for a solution. The army's solution was to invade Manchuria, China, for its rich minerals and resources. China appealed to the league for help, and the league told Japan to order the army out of Manchuria. The army ignored the verbal sanction and continued to take over Manchuria. Next, the league asked for economic sanctions and for all countries to stop trading with Japan. With the depression deepening around the world, most countries did not want to risk losing any trade, and therefore, did not agree. When the league once again demanded that Japan withdraw from Manchuria, Japan responded by leaving the League of Nations.

It was obvious that the League of Nations had its weaknesses, and a major weakness was that the United States was not a member, which was a very serious blow to the league. The American people at that time, did not want to be involved in other countries' problems, desiring an "isolationist" policy throughout the world. Another weakness was that Germany and Russia were not allowed to join the league, which meant that the league could not use their military strength against aggressor nations.



The idea of the League of Nations was a good one, but it was seen mostly as a failure, although it had some minor successes between 1921 and 1925. Despite its failure at a political level, it is often forgotten that the League of Nations was successful at a social level. Many of the groups today that work through the United Nations had their roots in the league. Digging fresh water wells in third world countries, campaigns to wipe out leprosy, improving the status of women and children, and an attack on drug addiction and drug smuggling were a few of the social causes that came from the League of Nations. Never before had an organization sought to inform the world of these ongoing problems faced around the world.

## League of Nations Continued

### Activity Overview

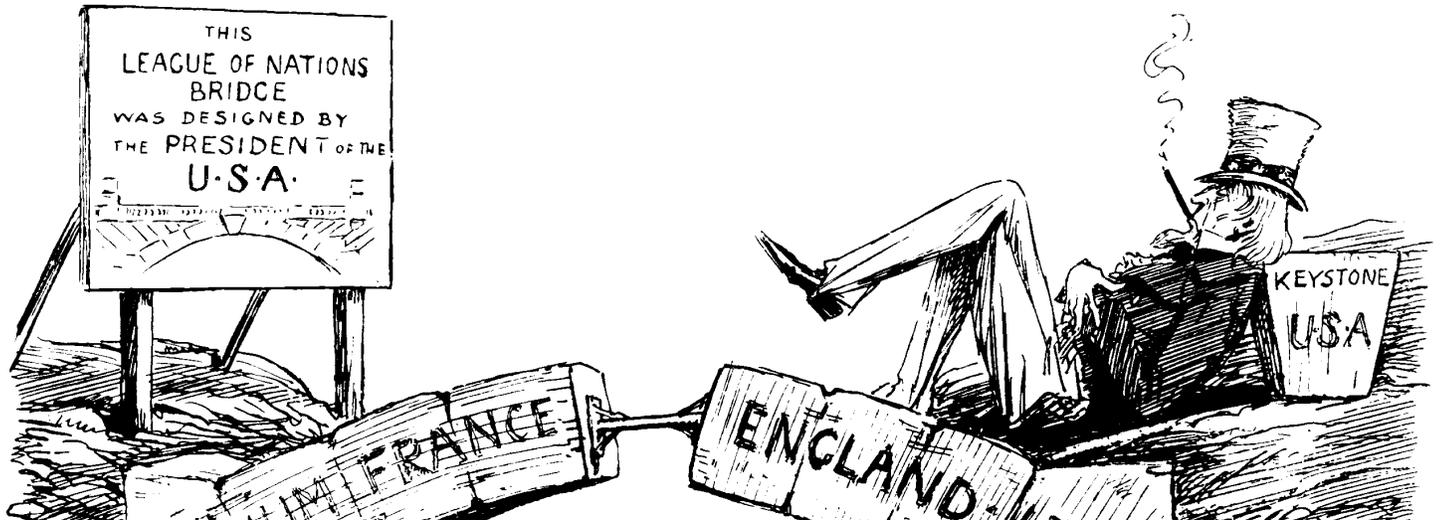
In this activity, you will work with a team to write five blogs detailing each of these five aspects of the League of Nations: 1) the formation of the League of Nations (how and why it was formed); 2) its successes (i.e. the Aaland Island, Upper Silesia, Memem, Turkey, and Greece and Bulgaria); 3) its failures (Italy, Teschen, Vilna, War between Russia and Poland, Invasion of Ruhr, and Italy and Albania); 4) its strengths compared to its weaknesses; and 5) its social call to action. Conduct additional research as needed.

### Procedure

1. As a team, brainstorm ideas for each blog. Use a KWL chart (see below) and list all the information you already know for each of the five aspects (K). Next, pose questions for additional information you want to know and that is needed to fully develop the blog for each topic (W). Determine where you need to go to find the information, and finally, write what you learned after your research (L).
2. After brainstorming, using books and/or the internet, have each team member research one or more of the questions you determined were important to complete the blogs. Remember to write the answer to each question on the KWL chart.
3. Once you have completed your research, review the KWL chart and develop an outline for your blog.
4. Search for pictures and/or images to make your blog more interesting and appealing to readers.
5. From your outline, write your blog either using a paper template or an internet template provided by your teacher.
6. After each team has completed their blog, blogs will be exchanged and read by the other teams. Each team will critique the other teams' blogs, suggest any additional information needed, note any incorrect facts/details, etc.
7. As a class, come to a consensus as to the important details of each aspect of the League of Nations.

<b>K</b>	<b>W</b>	<b>L</b>
<b>What do you think you KNOW?</b>	<b>What do you WANT to learn?</b>	<b>What did you LEARN?</b>

# The League of Nations — Blog Template



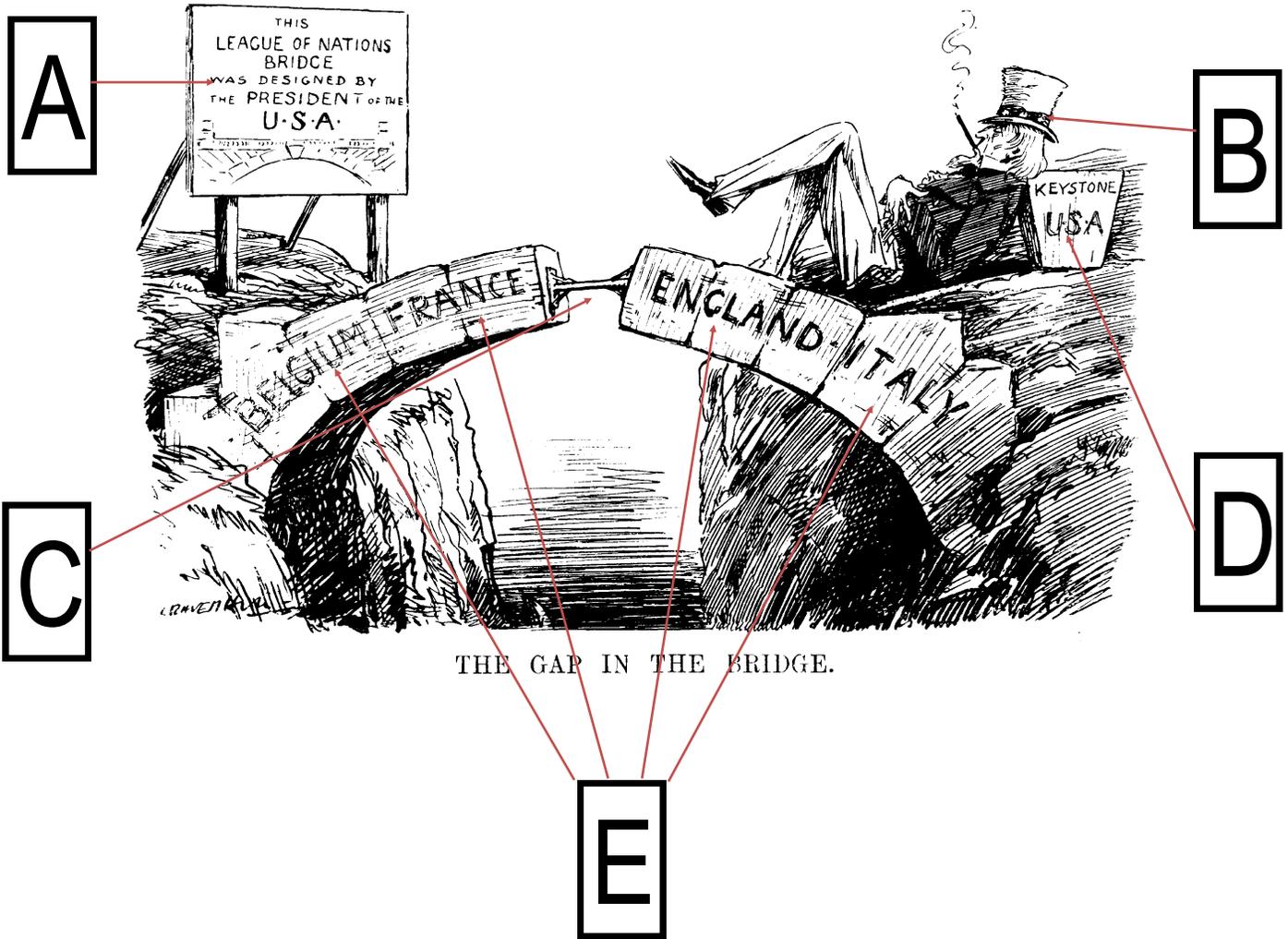
Empty rectangular box for text input.

Empty rectangular box for text input.

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Political Cartoon  
League of Nations



How does this cartoon explain the failure of the League of Nations? Explain each item denoted by letters A, B, C, D, and E.

A.

B.

C.

D.

E.

The Gap in the Bridge. Cartoon drawn by Leonard Raven-Hill, that depicts the absence of the USA from the League of Nations, depicted as the missing keystone of the arch. The cigar also symbolizes America (Uncle Sam) enjoying its wealth. Drawing: Punch Magazine, December 10, 1919.

Name: \_\_\_\_\_

Date: \_\_\_\_\_

### Searching for the Causes of World War II

T S S D Z X I Y C N D X N S Y B T N Z M  
 D W N Z N D R A W N T I X L F R S B T U  
 A E K O D A U S A G A T A E E K W Y O S  
 T Y P F I S L L N T D T R A R C G E U T  
 L R D R A T N O I E I N T X Z L Z L B N  
 X I I T E E A R P I B Y A I E E W O U E  
 B K I G T S B R I O P K T L B M W O Q M  
 N O M E G C S E A Y S I D C E E I U M E  
 N P D E R E W I P P B V D I Z N T K T S  
 A U E T B P R F O T E E D M A C I A K A  
 S S U L H C S N A N R R H O X E F H S E  
 X I Y R Y R E A R M A M E N T A R K R P  
 G E R M A N Y J N P X R E O P U A B Z P  
 C L A D D F E G O C N S P C P S N I L A  
 C M T I G S B M S T P P O E Z X C V M I  
 O V V O N P C H L T W P B S F G E M U F  
 U M F A J A C C I C A T H R E L T I H C  
 M J A Q U Q V S W N A D N E B H Q K U U  
 C K V V X N E A S C U N S T X D A P E Y  
 Y C M B R R K Q M D R A Q V G N A N B W

- |                    |                   |                    |                    |
|--------------------|-------------------|--------------------|--------------------|
| <b>ANSCHLUSS</b>   | <b>DEPRESSION</b> | <b>ITALY</b>       | <b>SUDETENLAND</b> |
| <b>APPEASEMENT</b> | <b>ECONOMIC</b>   | <b>POLAND</b>      | <b>TREATY</b>      |
| <b>BRITAIN</b>     | <b>FRANCE</b>     | <b>REARMAMENT</b>  | <b>TRIGGER</b>     |
| <b>CAUSATION</b>   | <b>GERMANY</b>    | <b>REPARATIONS</b> | <b>WILSON</b>      |
| <b>CLEMENCEAU</b>  | <b>HITLER</b>     | <b>RHINELAND</b>   |                    |

## Searching for the Causes of WWII

### Answer Key

T S S D Z X I Y C N D X N S Y B T N Z M  
 D W N Z N D R A W N T I X L F R S B T U  
 A E K O D A U S A G A T A E E K W Y O S  
 T Y P F I S L L N T D T R A R C G E U T  
 L R D R A T N O I E I N T X Z L Z L B N  
 X I I T E E A R P I B Y A I E E W O U E  
 B K I G T S B R I O P K T L B M W O Q M  
 N O M E G C S E A Y S I D C E E I U M E  
 N P D E R E W I P R B V D I Z N T K T S  
 A U E T B P R F O T E E D M A C I A K A  
 S S U L H C S N A N R R H O X E F H S E  
 X I Y R Y R E A R M A M E N T A R K R P  
 G E R M A N Y J N P X R E O P U A B Z P  
 C L A D D F E G O C N S P C P S N I L A  
 C M T I G S B M S T P P O E Z X C V M I  
 O V V O N P C H L T W P B S F G E M U F  
 U M F A J A C C I C A T H R E L T I H C  
 M J A Q U Q V S W N A D N E B H Q K U U  
 C K V V X N E A S C U N S T X D A P E Y  
 Y C M B R R K Q M D R A Q V G N A N B W

**ANSCHLUSS**

**APPEASEMENT**

**BRITAIN**

**CAUSATION**

**CLEMENCEAU**

**DEPRESSION**

**ECONOMIC**

**FRANCE**

**GERMANY**

**HITLER**

**ITALY**

**POLAND**

**REARMAMENT**

**REPARATIONS**

**RHINELAND**

**SUDETENLAND**

**TREATY**

**TRIGGER**

**WILSON**

Name: \_\_\_\_\_

Date: \_\_\_\_\_

## Drawing Conclusions

Now that you have explored some of the major causes of World War II, your final activity is to use the information you have learned and write an informative, friendly letter using the following scenario:

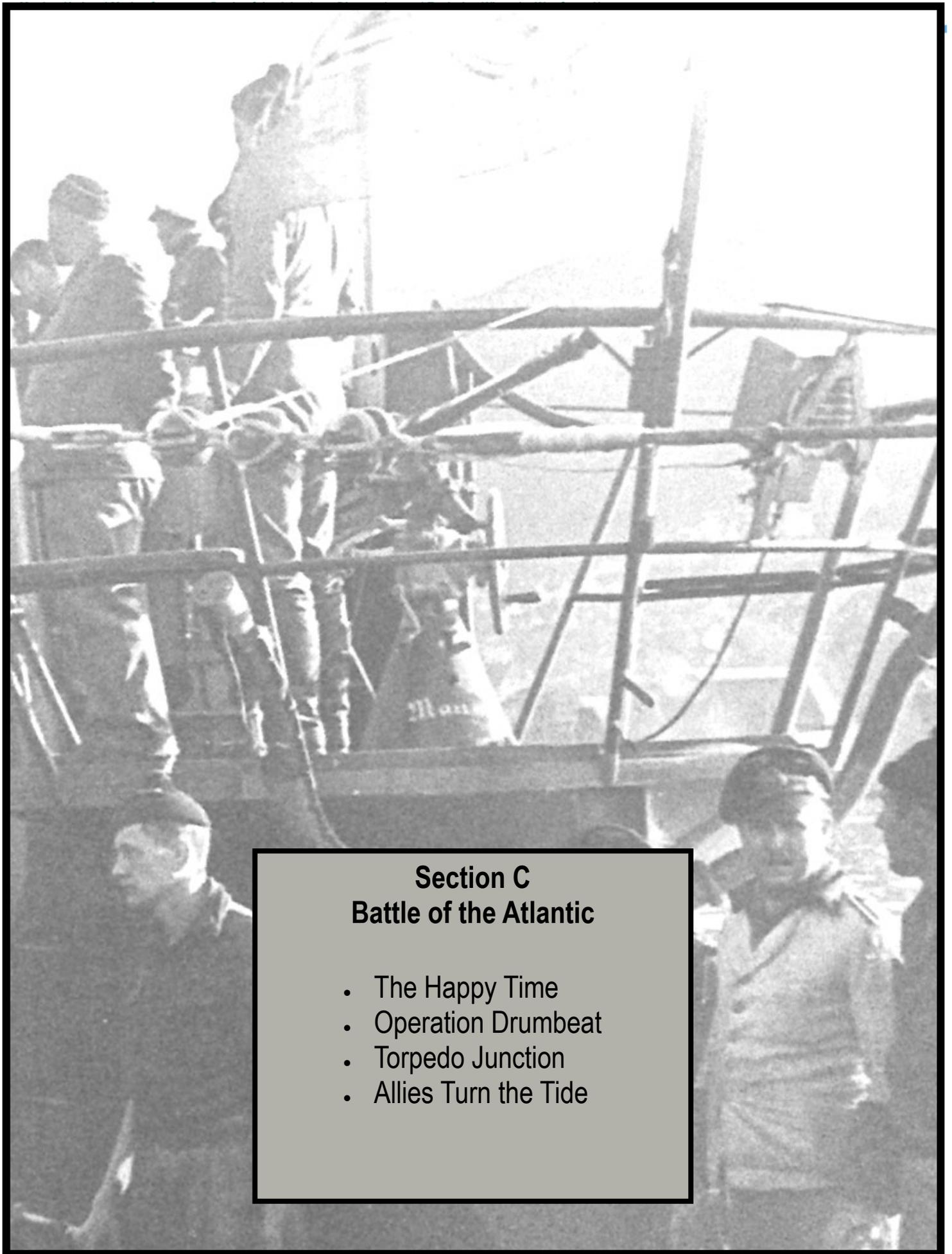
It is September 3, 1939, and you are living in Germany. You have a brother who immigrated to the United States in 1935 to attend a university. He met and married a woman while in college and recently decided not to return to Germany. Although you have written your brother over the years, you have mostly written about family and the people of the town. You have not wanted to worry your brother over the turmoil in Germany or make him feel obligated to come home. However, he recently wrote you and specifically asked what is happening in Germany and if war is imminent. He is worried about you and the other family members in Germany and wants to know about all the political unrest that has been growing. So now as you write the letter to your brother, you need to explain what is happening in Germany and why. You must explain what events and circumstances led to the declaration of war so that he fully understands what is going on in his mother country.

In your letter, be sure to include at least two major causes for the war and support each with examples of “recent” events that illustrate the cause. Also, name at least two major political leaders and how they were involved in causing the war. Review the rubric below for how your letter will be evaluated.



Criteria	4	3	2	1
<b>Salutation and Closing</b>	Salutation and closing have no errors in placement, punctuation, or capitalization.	Salutation and closing have few errors and are placed appropriately.	Salutation and closing have three or more errors. One or both not correctly placed.	Salutation and/or closing missing.
<b>Body of Letter</b>	Sentences and paragraphs are complete, well-written, varied sentence structure and vocabulary.	All sentences are complete and well written with no fragments or run-ons. Paragraphing is generally well done.	Most sentences are complete and well written. Paragraphs are unorganized.	Many sentence fragments or run on sentences. No evidence of paragraphing.
<b>Uses Basic Writing Conventions</b>	No errors in grammar or spelling in body of letter.	2-3 errors in capitalization or punctuation in body of letter that do not interfere in meaning.	Several errors in grammar or spelling in body of letter that interfere in meaning.	Many errors in spelling and/or grammar in body of letter that make the letter illegible.
<b>Neatness</b>	Legibly handwritten or typed with no distracting errors.	Legibly written, easy to read with 1-2 distracting errors.	Several distracting errors that make portions difficult to read.	Many distracting errors making it illegible.
<b>Lists and Explains Two Major Causes of World War II</b>	Listed at least two major causes of World War II and fully explained how each helped to lead to war.	Listed at least two major causes, but did not fully explain how each helped to lead to war.	Listed at least two major causes, but only explained one or partially explained both.	Did not list at least two major causes and did not fully explain.
<b>Names Two Major Political Leaders and Explains Their Roles</b>	Named two major political leaders and fully explained their roles.	Named two major political leaders, but did not fully explain their roles.	Named two political leaders, but they were not major and did not fully explain their roles.	Did not name any major political leaders.

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**Section C**  
**Battle of the Atlantic**

- The Happy Time
- Operation Drumbeat
- Torpedo Junction
- Allies Turn the Tide

# Battle of the Atlantic — Unit Overview



Kapitänleutnant Hans-Dieter Heinicke  
Photo: Courtesy of Ed Caram

## Grade Level

6-12

## Timeframe

~45 minutes per activity

## Materials

See individual activities for a list of materials needed

## Unit Summary

In this unit, the Battle of the Atlantic is divided into four activities to engage students in learning about the longest battle in history.

## Unit Learning Objectives

- Understand the importance of merchant ships reaching the Allies
- Examine the effect of German U-boats on Allied shipping
- Learn how the Allies overcame U-boat tactics
- Examine why coastal North Carolina was a pivotal battleground
- See individual activities for specific objectives

## Key Words

See individual activities for key words

## National Standards

See individual activities for a list of specific standards for each



U-576 crew on deck. Photo: Courtesy of Ed Caram

## Background Information

On September 3, 1939, Britain declared war on Germany, and the Battle of the Atlantic began. It was the longest and perhaps most bitterly fought battle of World War II. The battle spanned the Atlantic Ocean and was waged against Allied ships mostly by German submarines called U-boats, which is the abbreviation for Unterseeboot (undersea boat). U-boats roamed the seas looking for Allied convoys transporting military supplies and equipment across the Atlantic to Great Britain, the Soviet Union, Africa, the Middle East, the Mediterranean, or wherever there were Allied troops. The battle took many twists and turns over the years, and finally ended on May 5, 1945, when Grand Admiral Karl Dönitz ordered all U-boats to cease combat operations and return to Germany. Two days later, Germany surrendered.

## Unit Summary

This unit is divided into four activities: The Happy Time, Operation Drumbeat, Torpedo Junction, and Allies Turn the Tide. Each section uses a diverse activity with background information to introduce students to various phases of the Battle of the Atlantic. Each activity includes an activity summary, learning objectives, key words, and national standards specific to the individual activity.

## Unit Learning Objectives

This unit will help students understand why it was so important for supplies and U.S. aid to reach Britain and Russia in order to win the war. They will learn how Germany thought that U-boats singlehandedly could win the war, and how the Allies overcame U-boat tactics to turn the tide. In addition, students will examine how the war truly came home to the United States off the East Coast, and the role that North Carolina played in the Battle of the Atlantic.

## Teacher Preparation and Implementation

- Review each of the four activities and determine if you will use one or more of the activities as best fits your students' needs. Using all the activities gives a broader understanding of the Battle of the Atlantic, but each activity can stand alone.
- Review associated links for selected activity(ies).
- Gather materials needed for the activity(ies).

## Resources

### Books, Videos and Websites

See individual activities for a list of related resources.

### Vocabulary

See individual activities for a list of related vocabulary words.



Diver documents the U-701 shipwreck off the North Carolina coast. Photo: Sellers, NOAA



Grand Admiral Karl Dönitz, April 6, 1943; also, known as Karl Doenitz. Photo: Courtesy of German Federal Archive as part of a cooperation project (Bundesarchiv, Bild 146-1976-127-06A / CC-BY-SA 3.0)



Merchant ship *Dixie Arrow* burning after being torpedoed by U-71. Photo: U.S. National Archives



Silhouette of a typical German U-boat.



Bow section of *Dixie Arrow* as it rests today off North Carolina's coast. Photo: Hoyt, NOAA

# Battle of the Atlantic: The Happy Time



Diver explores wreck site of *E.M. Clark*. Photo: NOAA

## Grade Level

6-12

## Timeframe

90 Minutes

## Materials

- Computer with internet access
- Journal
- Rubric

## Activity Summary

Students conduct independent research on the Battle of the Atlantic, highlighting its turning point and the role technology played. They will share their findings with a group and come to a consensus of the 10 most significant events and create a timeline.

## Learning Objectives

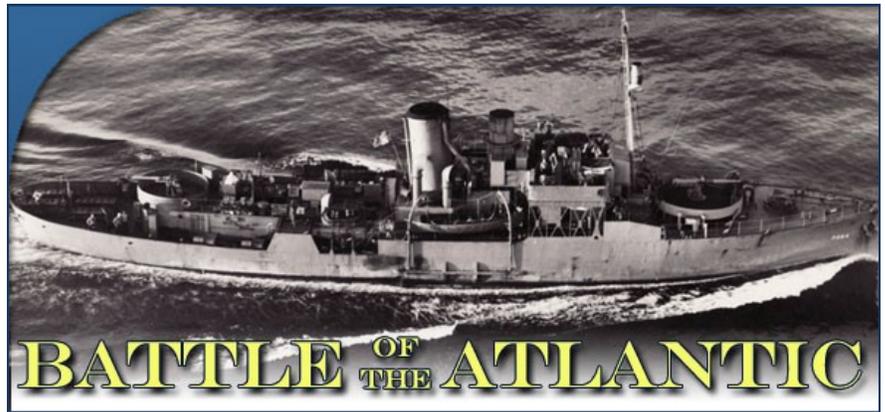
- Understand the significant events of the Battle of the Atlantic
- Learn the role technology played in the Battle of the Atlantic

## Key Words

Axis, Allies, U-boat, Battle of the Atlantic, timeline, Wolf Packs, Happy Time, sonar, merchant vessels, convoy

## National Standards

NG:1, 13 and 17; NCSS:I, II, VIII, IX, and X; NCTE:1, 3, 7, and 8;  
 NCSS:HT.1, 2, 3, and 4;  
 NCSS:WH.ERA.8; CCSS:ELA.LIT.RI.1, 2, and 3; NCSS:II, VI, IX;  
 CCSS:ELA.LIT.W.7, 8, and 9;  
 CCSS.ELA.LIT.RH.1 and 2;  
 CCSS.LEA.LIT.RST.1, 2, 3, and 4;  
 NCTM:6-8:G; NCTM:9-12:G.A, B; OL.6 and 7



## Background Information

Germany was determined to quickly win the war against Britain and thought the best way to achieve the goal was to attack its trade. Germany knew that because Britain was a besieged island, it was dependent on ships for all imports of food, oil, and U.S. aid. Therefore, Germany began a campaign against Allied shipping with the goal of cutting off Britain from all supplies. Grand Admiral Erich Raeder, commander of Germany's navy (Kriegsmarine), decided to use a mix of surface raiders and U-boats, but Vice Admiral Karl Dönitz, commander of the German submarine fleet, believed that the U-boat was the best answer. In 1940, he said that "the U-boat alone can win the war." He was almost correct.

For the Allied powers, the Battle of the Atlantic had three main objectives: blockade of the Axis powers in Europe, security of Allied sea movements, and freedom to project military power across the seas. Early in the war, from September 1939 until the fall of France in June 1940, the Allies thought that they would meet their objectives as the coalition drove German merchant shipping from the sea and established a fairly effective long-range blockade. Also, early on Germany only had 50 U-boats, mostly short-range ships that had limited success.

In May to June 1940, the battle took a radically different turn. With the fall of France and Italy's entry into the war, Britain lost French naval support at the same time its own naval fleet had significant losses with the retreat from Norway and the evacuation from Dunkirk. Axis air power eventually barred the direct route through the Mediterranean Sea to the Suez Canal, forcing British shipping to use the long route around the Cape of Good Hope. That cut the cargo-carrying capacity in half. Germany had also begun to build additional U-boats that could sail longer distances. And they changed their tactics to concentrate on escalating U-boat attacks by attacking at night, where they could not be detected by Allied aircraft. With the escalation, U-boats began successfully sinking merchant ships.

With the fall of France, Dönitz also gained new bases from which U-boats could operate. Spreading into the Atlantic, U-boats began attacking British convoys in groups, called Wolf Packs. The packs were supported by aircraft that aided in finding Allied ships, as well as attacking them. For the remainder of 1940 and into 1941, U-boats had tremendous success

inflicting heavy losses on Allied shipping. This time period became known as the “Happy Time” among U-boat crews.

## Activity Summary

Students independently research World War II’s Battle of the Atlantic and come to a consensus as a group of the 10 most important events. They will create a timeline, using the 10 events, highlighting the turning points in the battle and the role that new technology played.

## Learning Objectives

Students will understand the significant events in the Battle of the Atlantic and explain the reasons why the battle began in favor of the Allies and then turned to the Axis’ advantage.

## Teacher Preparation and Implementation

- Review the list of suggested resources and/or conduct a search for additional resources that best meets your students’ reading levels and objectives for your class. Optional: Have the students search the internet for sites.
- Bookmark the websites that the students will use, or if internet is not available, print web pages. Optional: Use a site, such as Livebinder\* (<http://www.livebinders.com/>), to create a digital binder of websites and images to help students organize and gather the information needed to create the timeline. If using a digital binder, be sure to add an “Images” tab for drawings, painting, and photos.
- Determine how the students will create their timeline: paper/poster, digital, PowerPoint, or other media. Optional: Use a website, such as TimeToast, for students to create a digital timeline. <http://www.timetoast.com>
- If students complete the timeline using paper/poster, gather materials (poster or paper, markers, printed images, etc.) for each group.
- Print copies of Activity Page, K-W-L Chart, Map A and B, and Scoring Rubric (pp. 49-52) for each student.
- Divide students into groups of two or three.
- If needed review the difference between an observation and an inference for Engage activity.
- Determine length of time students will have to complete each part of the activity and timeline.

## Procedure

1. Explain to the students that they will be creating a timeline of the Battle of Atlantic. Optional: Review observations and inferences if necessary.
2. Give a brief overview of the battle and its importance during World War II.
3. Explain that the battle began in 1939 and ran through 1945, with significant turning points within those years.
4. Tell the students that they will conduct research independently and then bring what they learn back

to their group. Once everyone in the group has shared what they know about the Battle of the Atlantic,

- the students will come to a consensus on the 10 most significant events in the battle,
  - write summaries for each, and
  - create a timeline using those events.
  - Explain that they should note the role that changing technology played in the battle and include it in their summaries.
5. Explain that they will have a predetermined set time for research, summaries, and creation of the timeline. Suggest that one member of the group be assigned the task of “timekeeper” to keep the group on track.
  6. Give each student the activity page, Maps A and B, K-W-L Chart (explain the chart if they have never used one), and the Scoring Rubric. Review the rubric so students understand how their group will be scored.
  7. Engage the students by having them complete the Engage section (#1-7) on the activity page. This can be teacher led.

## Resources\*

### Websites

#### Naval History and Heritage Command: The Battle of the Atlantic

Great source for learning about one of the longest running battles in history. Learn about convoys, U-boat activities on the East Coast, and read primary sources, such as German U-boat war logs, download images, and more.

<https://www.history.navy.mil/browse-by-topic/wars-conflicts-and-operations/world-war-ii/1942/atlantic.html>

#### Gerald Ford Museum: World War II

Read how aircraft carriers were one of the most effective weapons against German U-boats in the Atlantic Ocean.

<https://www.fordlibrarymuseum.gov/museum/exhibits/TakingTheSeas/ww2-era.html>

#### The Library of Congress

A great place to search for images and documents pertaining to World War II and the Battle of the Atlantic.

<https://www.loc.gov/>

#### The U.S. National Archives

Research records, discover images, find primary source documents, discover tools for teaching, and more.

<https://www.archives.gov/>

*\*The inclusion of links in this guide does not imply endorsement or support of any of the linked information, services, products, or providers.*

## Vocabulary

**AXIS POWERS** — Germany, Italy, and Japan

**ALLIED POWERS** — Britain, France, the Soviet Union, and the United States

**BATTLE OF THE ATLANTIC** — Longest continuous military campaign in World War II, running from 1939 to 1945; at its core was the Allied naval blockade of Germany and Germany's subsequent counter-blockade

**CONVOY** — A group of ships traveling together, typically accompanied by warships for protection

**MERCHANT VESSEL** — A ship that transports cargo and is engaged in commercial trade

**SONAR** — A system for detection of objects under water

**TIMELINE** — A graphic representation of the passage of time as a line

**U-BOAT** — A German submarine; name is derived from German word "Unterseeboot," which literally means "undersea boat"

**WOLF PACK** — A group of submarines that make a coordinated attack on shipping; tactic not used in U.S. waters

### The German Federal Archives

Research the German archives for primary source documents, images, logs, and more on World War II. <http://www.bundesarchiv.de/index.html.de>

### BBC: Battle of the Atlantic — The U-boat Peril

This archived website tells the story of the Battle of the Atlantic from the British perspective. [http://www.bbc.co.uk/history/worldwars/wwtwo/battle\\_atlantic\\_01.shtml](http://www.bbc.co.uk/history/worldwars/wwtwo/battle_atlantic_01.shtml)

### Second World War History: Battle of the Atlantic Timeline

Timeline from September 3, 1939 to May 1, 1945, detailing the major events of the Battle of the Atlantic. <https://www.secondworldwarhistory.com/battle-of-the-atlantic.asp>

### The National WWII Museum—New Orleans

Use images to create a visual timeline of World War II. Match images, captions, and dates of 25 World War II events. This lesson is great for review. <http://www.nationalww2museum.org/learn/education/for-teachers/lesson-plans/pdfs/timeline-full-lesson.pdf>

### The National WWII Museum—New Orleans

Classroom lesson plans related to the science and technology of World War II. Use these to imbue science and math into your social studies classroom. <http://www.ww2sci-tech.org/lessons/lessons.html>

### ThoughtCo.: World War II: Battle of the Atlantic

A concise overview of the Battle of the Atlantic. <http://militaryhistory.about.com/od/worldwari1/p/World-War-II-Battle-Of-The-Atlantic.htm>

### How to Make a Timeline in Excel

<https://www.officetimeline.com/excel-timeline>

### How to Make a Timeline In Microsoft Word

<https://www.smartsheet.com/blog/how-make-timeline-microsoft-word>

### How to Make a Timeline with Smartdraw

<https://www.smartdraw.com/timeline/>

## Books

Black, Wallace B. and Jean F. Blashfield. *Battle of the Atlantic (World War II 50th Anniversary Series)*. Crestwood House, 1991. ISBN-13: 978-0896865587.

Blair, Clay. *Hitler's U-Boat War: The Hunted, 1942-1945*. Modern Library, June 6, 2000. ISBN-13: 978-0679640332.

Dimbleby, Jonathan. *The Battle of the Atlantic: How the Allies Won the War*. Oxford University Press, March 1, 2016. ISBN-13: 978-0190495855.

Gannon, Michael. *Operation Drumbeat: The Dramatic True Story of Germany's First U-Boat Attacks Along the American Coast in World War II*. Naval Institute Press, March 1, 2003 (reprint). ASIN: B000NSODE8.

Hickam, Homer. *Torpedo Junction: U-Boat War Off America's East Coast, 1942 (Bluejacket Books)*. Naval Institute Press, 1st edition, April 1996. ISBN-13: 978-1557503626.

Offley, Edward. *The Burning Shore: How Hitler's U-Boats Brought World War II to America*. Basic Books, March 2014. ISBN-13: 978-0465029617.

## Video

### National Geographic: Hitler's Secret Attack on America

This 44-minute video details World War II's Battle of Atlantic and NOAA's search for the lost German U-boat – U-576. <https://www.youtube.com/watch?v=PKXkkEPimJw>

Name \_\_\_\_\_

Date \_\_\_\_\_

### Battle of the Atlantic Timeline

#### Engage

1. In your group, view map A relating to the Battle of the Atlantic.
2. Discuss your observations of the map with your group, come to a consensus on what you can infer from the map.
3. As a group, view map B relating to the Battle of the Atlantic.
4. Discuss and come to a consensus on what can be inferred from the map.
5. How are the maps similar? How are they different?
6. As a group, create a K-W-L chart and list everything you know about the Battle of the Atlantic.
7. Develop a definition of the Battle of the Atlantic.

#### Explore

1. Review the Scoring Rubric to understand how you and your group will be scored on this assignment.
2. Using the websites and books provided, individually conduct research on the Battle of the Atlantic. Learn when it occurred, why it was important, the role new technology played, and who won the battle. Add the information to your K-W-L chart.
3. As you conduct your research, save or copy any images that help to tell the story of the Battle of the Atlantic.
4. Create a chart or concept map to help organize your information.

#### Explain

1. Once each group member has completed the Explore section, discuss as a group what you have each learned.
2. As a group, come to a consensus to determine the criteria for choosing the 10 most important events for the timeline. Use the list of criteria to score each item shared by the group.
3. As a group, come to a consensus to determine the 10 most important events in the Battle of the Atlantic.
4. Divide the events among the group and for each event, write the date of the event, an appropriate title, and a 60-word summary. The summaries may not exceed 60 words, therefore, each sentence must be well thought out and every word carefully chosen.
5. Who had control of the Atlantic early in the war? Why? When did control shift? Why?
6. In the early years, define the length of time U-boat crews considered the “Happy Time.” When did Operation Drumbeat occur? When did the U-boat war turn in the Allies’ favor? How did technology effect the Battle of the Atlantic?

#### Elaborate

1. Use the 10 events to create a timeline using either paper/poster, PowerPoint, video, or create a digital timeline with software and/or website as provided. Be sure to include the dates in chronological order, their titles, and summaries.
2. Go through all the images collected and select appropriate images for each event. Add images to the timeline.

#### Evaluate

When complete, present your group’s timeline to the class. Be ready to defend why you chose those specific events for your timeline!

#### Extend

There were many new and innovative technological advances made during World War II. Explore famous inventors of the time and any effects their inventions and innovations had on the war.



Left: German U-boat, U-352, sank on April 14, 1942, off the Beaufort, North Carolina coast, by USS *Roper*. There were no survivors. Photo: NOAA



Right: Diver on the HMT *Bedfordshire*, sunk by U-556 on May 12, 1942. No survivors. Photo: NOAA

Name \_\_\_\_\_

Date \_\_\_\_\_

**Battle of the Atlantic Timeline  
K-W-L Chart**

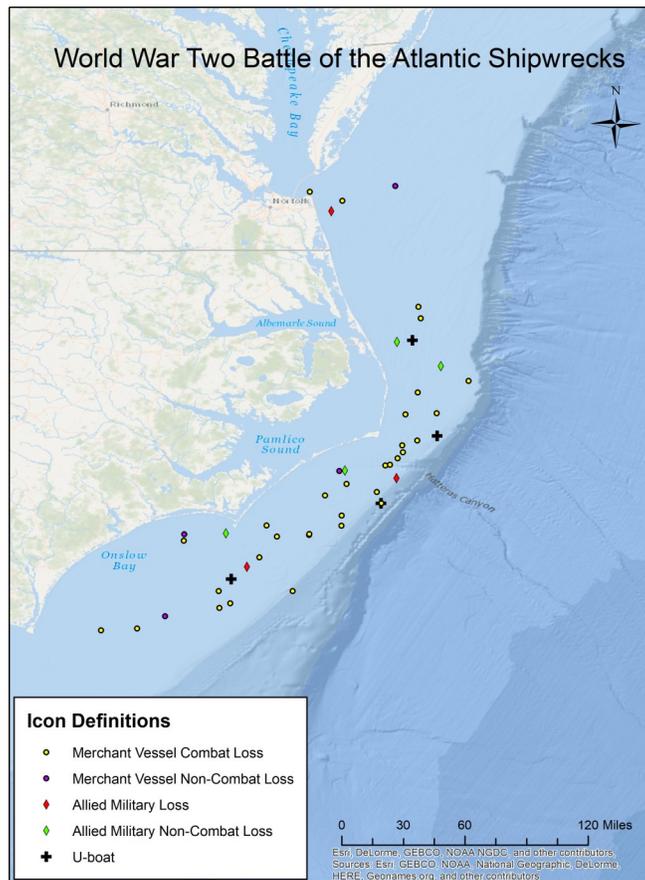
<b>K</b>	<b>W</b>	<b>L</b>
What do you think you <b>KNOW?</b>	What do you <b>WANT</b> to learn?	What did you <b>LEARN?</b>

Use additional paper if needed.

## Map A — Battle of the Atlantic



## Map B — Battle of the Atlantic



Name \_\_\_\_\_

Date \_\_\_\_\_

### Battle of the Atlantic Timeline Scoring Rubric\*

Contribution to Group	Beginning	Developing	Focused	Exemplary	Score
Is Punctual (5 pts)	Does not hand in assignments	Hands in many assignments late	Hands in most assignments on time	Hands in all assignments on time	
Researches Information (5 pts)	Does not collect information	Contributes little information	Contributes information that mainly relates	Contributes a good deal of relevant information	
Shares Information (5 pts)	Shares no information with group	Shares some information with group	Shares important information with group	Communicates and shares all information with group	
Cooperation within Group	Beginning	Developing	Focused	Exemplary	
Cooperates with Group Members (5 pts)	Never cooperates	Seldom cooperates	Usually cooperates	Always cooperates	
Listens to Group Members (5 pts)	Always talks and never allows others to speak	Talks much of the time and rarely allows others to speak	Talks too much at times, but usually is a good listener	Balances listening and speaking well	
Makes Fair Decisions (5 pts)	Always wants things his/her way	Often sides with friends and does not consider all viewpoints	Usually considers other viewpoints	Total team player	
Responsibility to Group	Beginning	Developing	Focused	Exemplary	
Fulfills Duties (5 pts)	Does not perform any duties	Performs very little in the way of duties	Performs nearly all duties	Performs all duties	
Shares Responsibility (5 pts)	Always relies on others to do the work	Rarely does work and needs constant reminding	Usually does the work and seldom needs reminding	Always does assigned work without being reminded	
Timeline	Beginning	Developing	Focused	Exemplary	
All Content Questions Answered (15 pts)	Does not answer any of the project questions	Answers some of the project questions, but missed the main points	Answers most of the project questions	Answers all project questions thoroughly and completely	
Relevant Milestones Included (15 pts)	Does not include any relevant milestones in timeline	Includes some relevant content in timeline, but missed many major milestones	Includes most of the significant milestones on the timeline	Includes all significant milestones on the timeline	
Images Used Appropriately for Each Milestone (15 pts)	Does not use any images	Uses some images, but not all were appropriate	Uses images for each milestone and most were appropriate	All milestones included images and were used appropriately	
Timeline is Presented Well (15 pts)	Uses more than 60 words, had many spelling and or grammar errors	Uses more than 60 words and/or had a few spelling and grammar errors	Uses only 60 words and had few spelling and grammar errors	Uses only 60 words and had no spelling and/or grammar errors	

Comments:

\*Adjust point values and add categories as needed.

# Battle of the Atlantic — Operation Drumbeat Begins 2nd Happy Time



Anchor of the *Ashkhabad*, a tanker sank on April 30, 1942. Photo: NOAA

## Grade Level

6-12

## Timeframe

45 Minutes

## Materials

- Activity sheets and supporting materials

## Activity Summary

Students engage in two activities to learn about the Second Happy Time during the Battle of the Atlantic and to understand the role technology played. They also explore primary source documents to learn the difficulties of fighting a war in multiple theaters.

## Learning Objectives

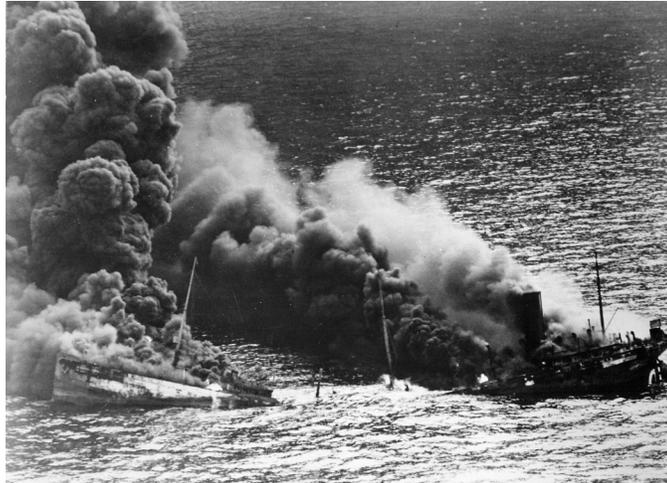
- Examine the period known by U-boat crews as the “Second Happy Time”
- Assess the role of technology in the war
- Comprehend the difficulty of fighting a war in multiple theaters

## Key Words

U-boat, Battle of the Atlantic, convoy, Happy Time, coordinate

## National Standards

NG:2, and 13; NCSS:I, II, VII, and VIII;  
 NCSS:HT.1, 2, 3, and 4;  
 NCSS:WH.ERA.8; NCSS.US.ERA.8;  
 NCTE:1, 3, 7, and 8; CCSS:ELA:LIT.RI.8;  
 CSS.ELA.LIT.W.7, 8, and 9;  
 CCSS.ELA.LIT.RH.1 and 2, and 9-10.6;  
 CCSS.ELA.LIT.RST.1, 2, and 3; OL.6



*Dixie Arrow* burning after being hit by a torpedo. Photo: U.S. National Archives

## Background Information

In mid-1940, German submarines sank over 280 Allied ships in the Atlantic Ocean totaling over 1,489,000 tons. With such success, this period was nicknamed by the U-boat crews as the “Happy Time.” Although, the British improved convoy techniques, German U-boats continued to pose a serious threat to Allied shipping throughout the Atlantic.

With the bombing of Pearl Harbor, the United States declared war on Japan on December 8, 1941, marking the official entry of the U.S. into World War II; and on December 11, Germany declared war on the U.S. With the U.S. officially in the war, German Admiral Karl Dönitz immediately planned to send submarines to strike along the East Coast of the United States. His plan was codenamed Operation Drumbeat (Paukenschlag), and five Type IX submarines departed France on December 18, 1941. British intelligence picked up signals from the U-boats and intelligence officers suspected that their destination was American coastal waters, so they sent a warning to Canada and the U.S.

With the warning, the British passed along several precautionary measures that they had learned from experience during the first two years of World War II battling German submarine warfare. First, they advised that all coastal cities black out their lights during nighttime. Second, they suggested that all ships travel in convoys and that all navigational markers and lighthouses be darkened, because the beacons could help the enemy more than the Allies. Lastly, they advised that all available sea and air forces should patrol the coast to restrict U-boat movement.

In the first several months of U.S. official involvement, none of these suggestions were taken for various reasons. The U.S. Eastern Sea Frontier Command believed that the ships were safer if they traveled alone, as they thought a convoy offered a bigger and better target for U-boats. Also, Admiral Ernest King, Commander-in-Chief of the U.S. Fleet, thought that the U.S. Navy had too few ships that could be spared to escort civilian ships. Therefore, when the British message was received, Admiral Frank Leighton of the U.S. Combined Operations and Intelligence Center passed it along to Rear Admiral Adolphus Andrews, who was in charge of coastal defense along the East Coast from Maine to North Carolina. Unfortunately,

there was little Andrews could do, because his fleet consisted of only seven U.S. Coast Guard cutters, four yachts, and several vintage World War I vessels. His request for more resources also went unanswered. Lastly, the blackout order was not mandated, but only advised to coastal boardwalk communities, and it did not include significant tourist cities, such as New York and other large cities on the East Coast. All these factors made it much easier for German U-boats to attack cargo ships of their choosing without being challenged.

Operation Drumbeat began with the first attack on January 14, 1942, when U-boat, U-123, struck just off Long Island, New York, sinking the Norwegian tanker, *Norness*. Admiral Andrews did not dispatch any of his 13 destroyers in New York harbor to investigate, and seeing no response from the U.S. emboldened U-123 to next sink the British tanker *Coimbra* off Sandy Hook, New Jersey. U-123 sank five more ships before returning to France. The other U-boats dispatched to the East Coast, U-130, U-66, U-109, and U-125, collectively sank 16 ships for a total of 23 in just a few weeks. It was later stated in a report of the German Kriegsmarine (War Navy) that merchant ships were made completely visible by the lights of the coastal communities, which made them like “sitting ducks.” With such success, Operation Drumbeat was the beginning of what became known to the German sailors as the “Second Happy Time.”

The Second Happy Time lasted for six months from January to July 1942. During that time, German U-boats sank 609 ships totaling more than 3,100,000 tons with Germany only losing 22 submarines. In April 1942, Admiral Andrews was finally able to implement a limited convoy system and had ships to only travel in daylight hours. By mid-May 1942, full convoys were in operation and the number of Allied ships sunk off the East Coast began to decrease. Admiral Dönitz noticed the change in American tactics and began to scale back his submarine operations in American waters. Also, in July 1942, British RAF Coastal Command transferred No. 53 Squadron to various bases in North America to support anti-submarine defenses. With the Allies finally tightening their defenses on the U.S. coast, and with the loss of the U-576 on July 15, 1942, Dönitz called off the campaign and ordered the U-boats to return.

## Activity Summary

Students will engage in two activities. In Activity A, students read for understanding to learn about the Second Happy Time in the Battle of the Atlantic. They use a graphic organizer to summarize an article and identify the three main points. Next, they review the tactics and technologies used in the Battle of the Atlantic to create a timeline of five major tactics and/or technologies that helped to win the Battle of the Atlantic for the Allies. In Activity B, students read for understanding the biographies of Admiral Ernest J. King and General George C. Marshall. Next, they read



German U-boat, U-85, located off the North Carolina coast. Photo: NOAA

and analyze two primary source documents written by the two men that debate which theater of war was the most important to support in 1942.

## Learning Objectives

Students will understand why the Germans referred to the first six months of 1942 as the Second Happy Time. They will understand the difficulty that the United States had fighting a war in multiple theaters.

## Teacher Preparation and Implementation

- Review Activity A and Activity B and determine if students will do one or both. Determine if students will work individually or in groups.
- For Activity A
  - \* For each student or group, print copies of Activity A, including the Graphic Organizer and Tactics and Technology pages (pp. 57-60).
- For Activity B
  - \* For each student or group, print copies of Activity B (pp. 61-62) and a class set of the biographies (pp. 63-64) and primary source documents (p. 65).
- Follow the steps in the Procedure section

## Procedure

### Activity A

1. Read aloud or have students read the Background Information. Discuss and check for understanding.
2. Have students use the graphic organizer to organize the main ideas of the Background Information.
3. Have students write a 200 word summary of the article and answer the questions.
4. Using the information learned and the Tactics and Technologies page, have students create a timeline of five major tactics and/or technologies that helped to win the war.

### Activity B

1. Have students read each biography and answer the corresponding questions.
2. If needed, review primary source documents and their importance to our understanding of history.
3. Have students read each primary source and answer the corresponding questions.

## Vocabulary

**BATTLE OF THE ATLANTIC** — Longest continuous military campaign in World War II, running from 1939 to 1945; at its core was the Allied naval blockade of Germany and Germany’s subsequent counter-blockade

**CONVOY** — A group of ships traveling together, typically accompanied by warships for protection

**COORDINATE** — A number in an ordered pair that names the location of a point on the coordinate plane

**DOLPHIN CODE** — A method of encrypted communication designed to enable submarines, submariners, and others to communicate freely

**ENIGMA MACHINE** — A machine that used a series of electro-mechanical rotor cipher machines developed and used during World War II to protect German military communication

**HF/DF** — Known as “Huff Duff” to sailors, the technology was used to find bearings on medium to low frequencies for navigation purposes

**MERCHANT VESSEL** — A ship that transports cargo and is engaged in commercial trade

**U-BOAT** — A German submarine; name is derived from German word “Unterseeboot,” which literally means “undersea boat”

**WOLF PACK** — A group of submarines that make a coordinated attack on shipping, but was not used in U.S. waters

- If needed, discuss as a class what the documents say and what King and Marshall were trying to convey concerning the importance of an increase in resources for either the European Theater or the Pacific Theater.
- Have student analyze and then choose a side. Have them present their choice and defend it as other students ask questions.

## Resources\*

### Websites

#### Emerson Kent: World War II Timelines

Visit this site to find a timeline for each year of World War II along with maps and other resources.

[http://www.emersonkent.com/history/timelines/world\\_war\\_II\\_timelines.htm](http://www.emersonkent.com/history/timelines/world_war_II_timelines.htm)

#### National Endowment for the Humanities: EDSITEMent!

Using primary source documents, students analyze the effectiveness of the German U-boat campaign during World War II from 1942-1944.

<https://edsitement.neh.gov/lesson-plan/turning-tide-europe-1942-1944#sect-activities>

#### The National WWII Museum—New Orleans

Use images to create a visual timeline of World War II. Match images, captions and dates of 25 World War II events. This lesson is great for review.

<http://www.nationalww2museum.org/learn/education-for-teachers/lesson-plans/pdfs/timeline-full-lesson.pdf>

#### Naval History and Heritage Command: CNO Cards

These downloadable cards are the Navy’s version of baseball cards with each card depicting the men who have served as the Chief of Naval Operations through the years.

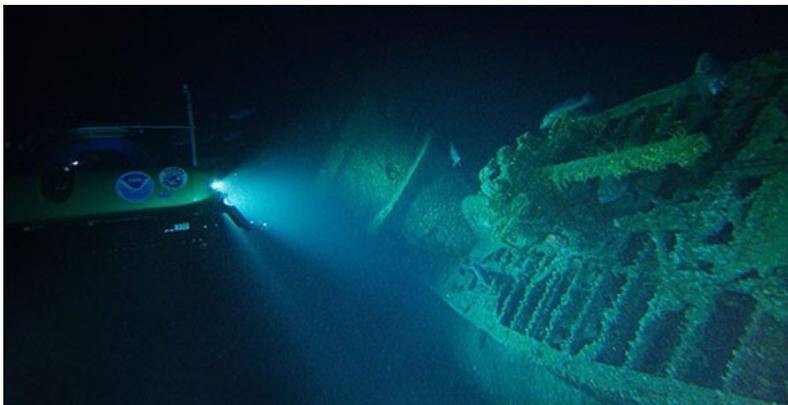
<https://www.history.navy.mil/news-and-events/multimedia-gallery/graphics/cno-cards.html>

#### NOAA Ocean Explorer: Battle of the Atlantic Expedition

Dive into 750 feet of water and see the first images of U-576 and SS *Bluefields*, discovered by NOAA and partners in 2014.

<https://oceanexplorer.noaa.gov/explorations/16battlefield/welcome.html>

*\*The inclusion of links in this guide does not imply endorsement or support of any of the linked information, services, products, or providers.*



The first look at U-576, sunk on July 15, 1942, during the Battle of KS-520. In 2014, using multibeam sonar, NOAA discovered the U-boat and the merchant ship it sank, SS *Bluefields*, lying only 240 yards apart in about 750 feet of water. In 2016, NOAA and partners took submersibles to the site to get the first glimpse of these two shipwrecks since they sank in 1942. Photo: John McCord, UNC Coastal Studies Institute—Battle of the Atlantic Expedition, NOAA

## Books

Black, Wallace B. and Jean F. Blashfield. *Battle of the Atlantic (World War II 50th Anniversary Series)*. Crestwood House, 1991. ISBN-13: 978-0896865587.

Blair, Clay. *Hitler's U-Boat War: The Hunted, 1942-1945*. Modern Library, June 6, 2000. ISBN-13: 978-0679640332.

Dimbleby, Jonathan. *The Battle of the Atlantic: How the Allies Won the War*. Oxford University Press, March 1, 2016. ISBN-13: 978-0190495855.

Gannon, Michael. *Operation Drumbeat: The Dramatic True Story of Germany's First U-Boat Attacks Along the American Coast in World War II*. Naval Institute Press, March 1, 2003 (reprint). ASIN: B000NSODE8.

Hickam, Homer. *Torpedo Junction: U-Boat War Off America's East Coast, 1942 (Bluejacket Books)*. Naval Institute Press, 1st edition, April 1996. ISBN-13: 978-1557503626.

Offley, Edward. *The Burning Shore: How Hitler's U-Boats Brought World War II to America*. Basic Books, March 2014. ISBN-13: 978-0465029617.

## Videos

### UNC Coastal Studies Institute: *Battle of the Atlantic (7:23)*

Video clip that highlights the research and tools used to document World War II shipwrecks off the North Carolina coast, while showing the beauty of the marine life living on the wrecks today.

<http://science.unctv.org/content/battle-atlantic>

### National Geographic: *Hitler's Secret Attack on America*

This 44-minute video details World War II's Battle of Atlantic and NOAA's search for the lost German U-boat – U-576.

<https://www.youtube.com/watch?v=PKXkkEPimJw>

## Extensions

Have students search the digital archives at FDR Presidential Library and Museum for other primary source documents relating to the Battle of the Atlantic.

<https://fdrlibrary.org/>



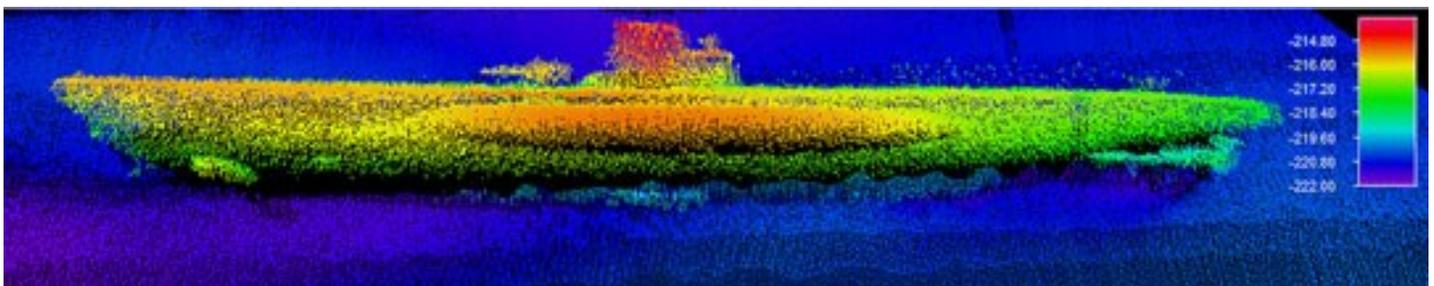
U-576 crew gathered around the conning tower. Photo: Courtesy of Ed Caram



U-576 Kapitänleutnant Hans-Dieter Heinicke. Photo: Courtesy of Ed Caram



NOAA maritime archaeologist takes the first dive and gets the first look at U-576. Photo: Robert Carmichael, Project Baseline — Battle of the Atlantic Expedition, NOAA



Sonar image (2014) of U-576. Image: NOAA

Name \_\_\_\_\_

Date \_\_\_\_\_

## Second Happy Time Activity A

### Background Information

In mid-1940, German submarines sank over 280 Allied ships in the Atlantic Ocean totaling over 1,489,000 tons. With such success, this period was nicknamed by the U-boat crews as the “Happy Time.” Although, the British improved convoy techniques, German U-boats continued to pose a serious threat to Allied shipping throughout the Atlantic.

With the bombing of Pearl Harbor, the United States declared war on Japan on December 8, 1941, marking the official entry of the U.S. into World War II; and on December 11, Germany declared war on the U.S. With the U.S. officially in the war, German Admiral Karl Dönitz immediately planned to send submarines to strike along the East Coast of the United States. His plan was codenamed Operation Drumbeat (Paukenschlag), and five Type IX submarines departed France on December 18, 1941. British intelligence picked up signals from the U-boats and intelligence officers suspected that their destination was American coastal waters, so they sent a warning to Canada and the U.S.

With the warning, the British passed along several precautionary measures that they had learned from experience during the first two years of World War II battling German submarine warfare. First, they advised that all coastal cities black out their lights during nighttime. Second, they suggested that all ships travel in convoys and that all navigational markers and lighthouses be darkened, because the beacons could help the enemy more than the Allies. Lastly, they advised that all available sea and air forces should patrol the coast to restrict U-boat movement.

In the first several months of U.S. official involvement, none of these suggestions were taken for various reasons. The U.S. Eastern Sea Frontier Command believed that the ships were safer if they traveled alone, as they thought a convoy offered a bigger and better target for U-boats. Also, Admiral Ernest King, Commander-in-Chief of the U.S. Fleet, thought that the U.S. Navy had too few ships that could be spared to escort civilian ships. Therefore, when the British message was received, Admiral Frank Leighton of the U.S. Combined Operations and Intelligence Center passed it along to Rear Admiral Adolphus Andrews, who was in charge of coastal defense along the East Coast from Maine to North Carolina. Unfortunately, there was little Andrews could do, because his fleet consisted of only seven U.S. Coast Guard cutters, four yachts, and several vintage World War I vessels. His request for more resources also went unanswered. Lastly, the blackout order was not mandated, but only advised to coastal boardwalk communities, and it did not include significant tourist cities, such as New York and other large cities on the East Coast. All these factors made it much easier for German U-boats to attack cargo ships of their choosing without being challenged.

Operation Drumbeat began with the first attack on January 14, 1942, when U-boat, U-123, struck just off Long Island, New York, sinking the Norwegian tanker, *Norness*. Admiral Andrews did not dispatch any of his 13 destroyers in New York harbor to investigate, and seeing no response from the U.S. emboldened U-123 to next sink the British tanker *Coimbra* off Sandy Hook, New Jersey. U-123 sank five more ships before returning to France. The other U-boats dispatched to the East Coast, U-130, U-66, U-109, and U-125, collectively sank 16 ships for a total of 23 in just a few



German sailors gathered around U-576's conning tower. Photo: Courtesy of Ed Caram

Name \_\_\_\_\_

Date \_\_\_\_\_

## Second Happy Time Activity A Continued

weeks. It was later stated in a report of the German Kriegsmarine (War Navy) that merchant ships were made completely visible by the lights of the coastal communities, which made them like “sitting ducks.” With such success, Operation Drumbeat was the beginning of what became known to the German sailors as the “Second Happy Time.”

The Second Happy Time lasted for six months from January to July 1942. During that time, German U-boats sank 609 ships totaling more than 3,100,000 tons with Germany only losing 22 submarines. In April 1942, Admiral Andrews was finally able to implement a limited convoy system and had ships to only travel in daylight hours. By mid-May 1942, full convoys were in operation and the number of Allied ships sunk off the East Coast began to decrease. Admiral Dönitz noticed the change in American tactics and began to scale back his submarine operations in American waters. Also, in July 1942, British RAF Coastal Command transferred No. 53 Squadron to various bases in North America to support anti-submarine defenses. With the Allies finally tightening their defenses on the U.S. coast, and with the loss of the U-576 on July 15, 1942, Dönitz called off the campaign and ordered the U-boats to return.

### Procedure

1. Read the background information.
2. After reading, write a summary of the information citing three main points. The summary may not be more than 200 words. Use the Graphic Organizer to help organize your summary.
3. Review Tactics and Technology. Conduct research if needed. Decide what were the five most important tactics or technologies (factors) that turned the tide in favor of Germany during the Second Happy Time and create a timeline.
4. Use all the information you have learned about the Battle of the Atlantic’s Second Happy Time and write a letter (less than 200 words) to a friend explaining why German U-boats were so successful from January to July of 1942. Give at least three reasons.



NOAA maritime archaeologist takes the first dive and gets the first look at U-576.  
Photo: Robert Carmichael, Project Baseline — Battle of the Atlantic Expedition, NOAA

Name \_\_\_\_\_

Date \_\_\_\_\_

**Second Happy Time — Activity A Continued  
Tactics and Technologies**

**1939 — 1940**

- Germany begins the war with 50 U-boats and has some success in North Atlantic (September 1939)
- France falls giving Germany access to bases from which to launch U-boats into the Atlantic (June 22, 1940)
- U-boat commanders use the tactic of hunting in Wolf Packs with great success (October 1940)

**1941**

- British ships capture German U-boat, U-110, and get the Enigma code machine and naval code book (May 9, 1941)
- First continuously escorted convoy (HX.129) is successfully escorted across the Atlantic Ocean (May 27, 1941)
- British code breakers crack the new “Dolphin” code allowing rapid and regular access to U-boat signal traffic in the Atlantic (June 1941)
- Attack on Pearl Harbor (Dec. 7); U.S. declares war on Japan (Dec. 8); Germany declares war on U.S. (Dec. 11).

**1942**

- Long range Type IX and modified Type VII submarines sail to U.S waters (1942)
- During Second Happy Time, U-boats sink 216 ships off the East Coast of the United States (January to March 1942)
- Germans change their code (February 1942)
- Germans introduce submarine fuel tankers enabling U-boats to stay at sea longer (mid-March 1942)
- Allies invent new radar that can detect surfaced U-boats (March 17, 1942)
- U.S. begins use of convoys and Allied losses along the East Coast decrease (May to July 1942)
- Despite U.S. Navy support, Allies sustain heavy losses in the Atlantic when German U-boats sink 117 Allied ships. (July 1942)
- U.S. Navy develops “console sonar” that can plot accurate bearings of submarines using an echo ping (1942)
- British capture a German naval code book (October 1942)

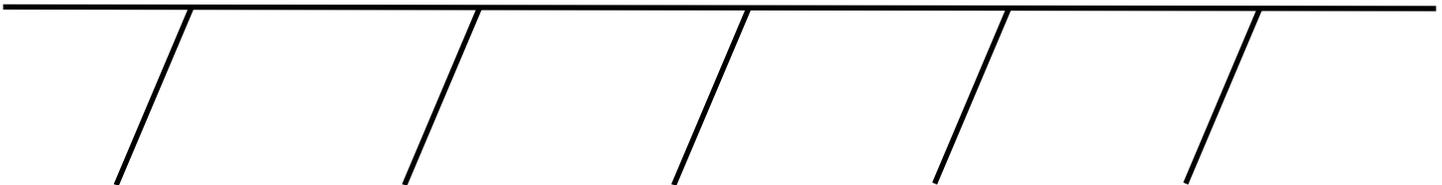
**1943**

- British develop HF/DF, enabling Allies to determine U-boat locations from their radio transmissions (May 1943)
- German U-boats hunt in Wolf Packs (March 10-16, 1943)
- Code breakers crack the German naval code (end of March 1943)
- Nazis equip U-boats with better anti-aircraft guns and invent the “Snorkel,” which allows U-boats to refresh their air without surfacing (1943)
- Using HF/DF technology, British sink 75 U-boats (June to July 1943)

**Timeline of Five Major Factors Affecting the Second Happy Time**

January 1939

August 1945





Name \_\_\_\_\_

Date \_\_\_\_\_

## The Second Happy Time Activity B

### Activity Overview

When the United States entered World War II, we had to fight on several battlegrounds, also called theaters or fronts. Two theaters were Europe and the Pacific Ocean. With limited resources in men, equipment, and supplies, there were many discussions on which theater should receive the largest buildup of resources. With various admirals, generals, and others offering advice, there were also many opinions. Fleet Admiral Ernest J. King, Chief of Naval Operations (CNO) and General George C. Marshall, Army Chief of Staff, were two highly respected military men, but they differed on how to best win the war.

In this activity, you will read a short biography for each man that discusses his military career during World War II. Next, you will read a primary source document that each wrote conveying which front was most important and why. As you work through the readings, answer the content questions, and when finished, use your analytical reasoning to answer the final question.

### Procedure:

**Section A:** Read the biography for each, and answer the following questions. Use additional paper if needed.

#### Fleet Admiral Ernest J. King

1. Prior to Pearl Harbor, when did operation command come under the Commander in Chief for the Atlantic, Pacific, and Asiatic Fleets?
2. Why did President Franklin Roosevelt order that the “Commander in Chief, U.S. Fleet” have supreme command of the operating forces?
3. What other title did King assume when he became Commander in Chief?
4. Did King think that the U.S. should have a buildup of strength in the Pacific or just in Europe?
5. What extraordinary actions did King take when German U-boats began sinking ships off America’s East Coast?
6. What led to the successful land operations that brought Hitler’s “Fortress Europe” crashing down?

#### General George C. Marshall

1. When Marshall became the Chief of Staff in 1939, what was he tasked with?
2. Did Marshall ever command troops in battle?
3. What did he excel at?
4. In September 1939, what did Marshall consider “wrong” with the U.S. Army?
5. What did Marshall think a commander was required to have in order to have success in a multi-theater coalition war?
6. Marshall was not as sure-footed in his approach when deciding when and where to employ American forces on a large scale. Although his support of a Germany-first strategy was right on the mark, what was on shaky ground? Explain.

Name \_\_\_\_\_

Date \_\_\_\_\_

### The Second Happy Time Activity B Continued

**Section B:** Next, read the two primary source documents, and Answer the questions below:

#### Memorandum from Admiral Ernest J. King to Join U.S. Chiefs of Staff

1. Why was King adamant that the Pacific Theater was most important and should be supported?
2. What was the United States' basic strategic plan in the Pacific Theater?
3. What did King think was wrong with that strategy?
4. What consequences are "self-evident?"
5. Why did King feel that supporting the Pacific Theater was more urgent?

#### General George C. Marshall to President Franklin D. Roosevelt, May 6, 1942

1. What did Marshall think was the most pressing need?
2. Why was 'Bolero' urgent?
3. If U.S. Army Air Force increased, what effect would it have?
4. Where does Marshall think that additional forces should come from? Why?
5. How does Marshall's assessment of the two fronts differ from King's assessment?

**Section C:** After completing Sections A and B, choose a side. Do you support a concentration of forces and equipment in the European Theater or in the Pacific Theater?

Drawing on the information you have learned about the Battle of the Atlantic and the stance of King and Marshal, defend your choice. Give at least three points of reasoning. Share your rationale with the class and be prepared to answer questions.

## The Second Happy Time Activity B Continued

### Fleet Admiral Ernest J. King Ninth Chief of Naval Operations

The following excerpt was taken from the Naval History and Heritage Command's website. To read the full biography, visit <https://www.history.navy.mil/browse-by-topic/people/chiefs-of-naval-operations/fleet-admiral-ernest-j--king.html>

Fleet Admiral King provided American naval leadership for World War II. Even in the darkest days immediately after the Pearl Harbor attack, King never deviated from his basic precept: "We must do all that we can with what we have." He combined an iron will, decisiveness of character, and insatiable capacity for work with high intelligence and an encyclopedic knowledge of naval subjects. Against all obstacles, these strengths and adherence to the principle of the initiative of the subordinate, carried him through the four years of war.

Prior to Pearl Harbor, the Atlantic, Pacific, and Asiatic fleets came under the operational command of Commander in Chief, U.S. Fleet only for combined operations. Faced with the problem of a "two ocean war" against the Axis powers of Europe and against Japan, President Franklin D. Roosevelt ordered that "the Commander in Chief, United States Fleet, shall have supreme command of the operating forces comprising the several fleets of the United States Navy and the operating forces of the naval coastal frontier commands, and shall be directly responsible, under the general direction of the Secretary of the Navy, to the President of the United States therefor."



Fleet Admiral King courtesy of Naval History and Heritage Command

Admiral King assumed these duties on December 30 and shifted from the flagship to Washington, D.C. Relieving Admiral Stark on March 26, 1942, he also became Chief of Naval Operations. The President directed that these duties, under the Secretary, "shall be contributory to the discharge of the paramount duties of Commander in Chief, United States Fleet."...

...Admiral King was the U.S. Navy member of the Joint Chiefs of Staff and the Allied Combined Chiefs of Staff. He participated in and left his imprint on every important war conference from Casa Blanca to Yalta. While fully supporting the basic allied strategy of defeating Germany first, King nevertheless steadfastly insisted that adequate strength go into the Pacific to keep pressure on the Japanese enemy and prevent it from consolidating earlier gains.

German U-boat sinkings, including off America's East Coast and in the Caribbean, continued to rise to the point that Britain's survival was in doubt. Admiral King took extraordinary actions. He transferred the Convoy and Routing Section of CNO to the U.S. Fleet staff in the spring of 1942. As antisubmarine activities expanded and committed forces grew, he recognized the need for overall direction of operations, new techniques and tactics, and close liaison with the Army Air Corps, the British, and the Canadians. On May 20, 1943, Admiral King established the Tenth Fleet, an antisubmarine command, to exercise direct control over all facets of the Navy's war against U-boats, and for that purpose to allocate antisubmarine forces to all commands in the Atlantic. Admiral King assumed command of the Tenth Fleet, which included a research-statistical analysis group composed of civilian scientists within its structure.

Under Admiral King's direction, the U.S. Navy became the most versatile sea force ever conceived. The U-boat was beaten in the Atlantic, and amphibious operations, unprecedented in their magnitude, led to land operations that brought Hitler's "Fortress Europe" crashing down. In the Pacific, U.S. submarines severed Japan's lifelines as powerful task forces fought their way through the island chains to Tokyo Bay, and the Japanese surrendered on board USS *Missouri* on September 2, 1945.

On October 10, 1945, the headquarters of Commander in Chief, U.S. Fleet, was dissolved, and operational command of the operating forces reverted to the Chief of Naval Operations. Fleet Admiral King turned over his responsibilities to Fleet Admiral Chester Nimitz two months later...

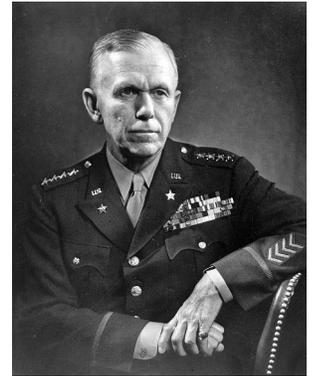
## The Second Happy Time Activity B Continued

### General George C. Marshall U.S. Army – Chief of Staff

The following is excerpted from History.com. Read the full biography at <http://www.history.com/topics/george-c-marshall>.

George C. Marshall (1880-1959) was one of the most decorated military leaders in American history. A graduate of the Virginia Military Institute, he was a World War I staff officer and later became assistant commandant at the U.S. Infantry School. Named chief of staff when World War II began in 1939, Marshall was responsible for exponentially increasing the size of the U.S. Army, and he helped devise Operation Overlord in 1944. After the war, he came out of retirement to serve as President Harry Truman's secretary of state. His economic recovery program for Europe became known as the Marshall Plan, and he was awarded the Nobel Peace Prize in 1953....

...Marshall's rise to the top in the U.S. Army followed paths opened by reforms of the early 20th century that emphasized professional military education, a new staff system to prepare for war, and closer coordination of the citizen soldiers of the National Guard with the regular army. As a staff officer in World War I, Marshall was centrally involved in the planning of offensives by the American Expeditionary Force in France. Later, as assistant commandant of the Infantry School, he left a strong imprint on the tactics that the U.S. Army was to use in World War II. Extensive work with National Guard units gave him exposure to the civilian world and experience in dealing with politicians that were unusual for officers of his time.



General Marshall, Dutch National Archives, The Hague, ANEFO

Though Marshall had never commanded a division, he became chief of staff on the day that World War II began in Europe. The U.S. Army in September 1939 had scarcely any modern weaponry and was roughly the size of the Dutch army that survived less than a week against the German blitzkrieg in 1940. By the time the U.S. Army began fighting the Wehrmacht in 1942, its effective combat strength had increased more than tenfold. Marshall was the architect of this remarkable buildup.

Marshall keenly appreciated that success in a multitheater coalition war required harmonious civil-military, interservice, and interallied relationships. He won the confidence of President Franklin Roosevelt, worked effectively with his naval counterpart, Admiral Ernest King, and ensured coordination of American and British military leadership through the Combined Chiefs of Staff and unity of command in combat theaters.

Marshall proved less sure-footed in his approach to the most important strategic choice facing the United States in World War II: when and where to employ American forces on a large scale. Marshall's support of a Germany-first strategic priority was on the mark, but his advocacy of an Anglo-American invasion of France in 1943 put him on shaky ground. Until American forces had gained more experience against the Wehrmacht, until command of the Atlantic was achieved in mid-1943, and until command of the air was secured in early 1944, an amphibious assault across the English Channel would have carried great military risk. And given that the British would have supplied the bulk of the troops for a 1943 invasion, military failure would have involved the political risk of undercutting Britain's commitment to the war effort. Franklin Roosevelt, although overruling the chief of staff on this crucial strategic issue, came to regard him as so indispensable in Washington that, when the cross-Channel assault was finally mounted in 1944, he could not let Marshall assume command of the invasion force. The general was sorely disappointed but characteristically never uttered a word of complaint...

## The Second Happy Time — Activity B Continued

### Primary Source Documents

#### Memorandum from Admiral Ernest J. King to Joint U.S. Chiefs of Staff

From the archives of FDR Presidential Library and Museum: <https://fdrlibrary.org/>

“The Pacific Theater is an area for which the United States bears full strategic responsibility. The recent Japanese successes in Burma, added to previous successes, leaves the Japanese free to choose any new line of action they see fit, including an attack in force on Australia, on the Australia-Hawaii line of communications, on Hawaii, or on Alaska. Even now they are massing strong land, sea, and air forces in the Mandate Area beyond our range of observation.

“The basic strategic plan on which we are now operating is to hold in the Pacific. I am not convinced that the forces now there or allocated to that theater are sufficient to ‘hold’ against a determined attack in force by the Japanese, an attack which they can initiate very soon. The mounting of BOLERO [the concentration of forces in Great Britain for an eventual invasion of Europe] must not be permitted to interfere with our vital needs in the Pacific. I am convinced that the Japanese are not going to allow us to ‘hold’ but are going to drive and drive hard.

“The disastrous consequences which would result if we are unable to hold the present position in the Pacific Areas are self-evident. We have already seen, in the Far East and Burma, the results of being ‘spread out too thin’; we must not commit the same error in the Pacific Ocean Areas.

“Important as the mounting of BOLERO may be, the Pacific problem is no less so, and is certainly the more urgent—it must be faced now. Quite apart from any idea of future advance in this theater, we must see to it that we are actually able to maintain our present positions. We must not permit diversion of our forces to any proposed operation in any other theater to the extent that we find ourselves unable to fulfill our obligation to implement our basic strategic plan in the Pacific Theater, which is to hold what we have against any attack that the Japanese are capable of launching against us.”

#### General George C. Marshall to President Franklin D. Roosevelt, May 6, 1942

From the archives of FDR Presidential Library and Museum: <https://fdrlibrary.org/>

“While I agree that we must hold in the Pacific, I do not concur that this is our ‘basic strategic plan.’ My view, and I understood it to be your decision prior to my visit to England, was that our major effort would be to concentrate immediately for offensive action against Germany from the British Islands. The most pressing need, in the opinion of the Army General Staff, is to sustain Russia as an active, effective participant in the war.... Every possible effort, we think, must be made to draw off German forces from the Russian front. We believe that this may be done by combined British and American operations in Western Europe. Hence, the urgency of ‘Bolero’ [the buildup of U.S. forces in Britain]. Only by a complete and whole-hearted acceptance by all concerned, British and American, and by the exertion of every practicable effort on the part of all, can ‘Bolero’ have any chance of success. The increases in U.S. Army Air Force suggested [by Admiral King] for Australia and the South Pacific Islands, if executed this summer, would have the effect of postponing, by more than two months, the initiation of an American air offensive in Western Europe. The increase of U.S. ground forces to Australia would, in effect, eliminate the U.S. from participation in the most difficult and vital phase of ‘Bolero’....

“As far as Australia and the South Pacific are concerned, it is impossible to make every point in the island chain impregnable to ‘any attack the Japanese are capable of launching.’ The enemy still retains the initiative and, because of his freedom of movement, is able to concentrate the bulk of his strength at any point of his own choosing. Moreover, our forces in the island garrisons throughout that region have no positive effect on the enemy, unless he chooses to attack them, except for heavy and medium bombers. Additional forces allotted there must come from those set up for ‘Bolero.’ All over the world we are striving now to meet our firm commitments in air equipment. Beyond this, new and urgent requests are constantly received for our air forces for the Middle East, India and Burma, and for additional strength in the British Isles. There is no reserve to draw on. The initial air forces set up for ‘Bolero’ are still undergoing organization and training.”

# Battle of the Atlantic — Torpedo Junction



Wreck of *British Splendour* that sank April 7, 1942.  
Photo: NOAA

## Grade Level

6-12

## Timeframe

45 Minutes

## Materials

- Internet or printed web pages
- Internet or download videos and audio recordings
- Activity sheets and maps

## Activity Summary

Students explore shipwrecks, watch videos, and listen to oral histories to learn how the war came home to the United States in 1942.

## Learning Objectives

- Explore sunken World War II shipwrecks off the North Carolina coast to understand why the area was a pivotal battleground in the Battle of the Atlantic
- Plot coordinates to explore shipwreck locations
- Explore videos and oral histories to learn about the Battle of the Atlantic along North Carolina's coast

## Key Words

U-boat, Battle of the Atlantic, convoy, Torpedo Junction, merchant ship

## National Standards

NG:1, 4, 13, and 17; NCSS:I, III, and IX;  
NCSS:HT.1, 2, 3, and 4; NCSS:WH.ERA.8;  
NCSS:US.ERA.8; NCTE:1, 3, 5, and 6;  
CCSS:ELA:LIT.RI:6-12.7 and 8.4;  
CCSS:EAL.LIT.W:6-12.2, 3, 7, and 8; NCTM:6-8:G; NCTM:9-12:G; OL.1, 6, and 7



During the Battle of the Atlantic in 1942, U.S. forces sunk four German U-boats. In this photo, prisoners captured from U-352 are being processed by U.S. Officials. U-352's captain, Hellmut Rathke, is second from the left.  
Photo: Courtesy of U.S. National Archives

## Background Information

By 1941, Admiral Dönitz, commander of Germany's U-boats, was wielding a significant number of Type VII U-boats that were capable of operating further distances, even threatening Allied shipping as far as the east coast of North America. Dönitz believed that if he had a fleet of 100 U-boats, he could paralyze Britain; with 300, he said he could sink 700,000 tons of shipping a month. The start of 1941 proved to be deadly for the Allies with 875 Allied ships sunk.

However in 1941, tactical advantage began to shift back towards Britain. One reason for the shift was through the 1940 Destroyers for Bases deal, in which the United States agreed to give Britain 50 World War I American destroyers in exchange for U.S. access to British bases in Newfoundland, Bermuda, and the Caribbean. The U.S. also began neutrality patrols and were fully engaged in escorting shipping in the northwest Atlantic alongside the Canadians and British. In addition, Germany had to send U-boats to the Mediterranean and the Arctic in support of Germany's war with Russia, which reduced their force in the Atlantic. By late 1941, the North Atlantic was relatively quiet.

Then on December 8, 1941, the United States declared war on Japan and on December 11, Germany declared war on the U.S. Admiral Dönitz quickly designed a plan called "Operation Drumbeat" to send five U-boats to America. They arrived off New York in mid-January and the campaign was so successful initially sinking 23 ships, that it was soon referred to by German sailors as the beginning of the Second Happy Time. Most of the U-boat success came from our own naval mistakes, such as never calling for a blackout of coastal cities and towns and for not ordering ships to sail in convoys.

One area of the United States that saw more action than any other was the area off the Outer Banks of North Carolina. The first loss off the North Carolina coast came on January 18, 1942, when the merchant tanker *Allan Jackson* sank when torpedoed by U-66. Twenty-two of the 35-man crew were lost. Due to the offshore currents, this area was perfect for German U-boats to lay in wait for merchant shipping, and even today, ships prefer to sail in currents to save time and fuel. The two currents that flow along the North Carolina coast are the Labrador Current flowing down from the north and the Gulf Stream flowing up from the south. These two currents meet at

Cape Hatteras, North Carolina; therefore, all shipping sailed through that area whether they were heading north or south, thus creating a large number of targets for U-boats to attack.

A second reason was the continental shelf. The shelf is its narrowest along the Cape Hatteras coast, making it convenient for German submarines to stealthily submerge in deep water to hide while waiting for ships to sail past. Once a U-boat spotted a target, it could fire its torpedoes and then quickly go back off the shelf to submerge deep in hopes of avoiding any depth charges dropped by the Allies. Also, in the deeper depths, water temperatures are cooler and sound travels better in colder water, increasing the chances of hearing surface traffic.

With merchant ships not sailing in convoys and with coastal lights silhouetting the ships at night, merchant ships were easy targets. From January to July 1942, 90 ships sank just off the North Carolina coast alone. Over 1,600 men died, including over 1,200 merchant seamen. This area off North Carolina had more casualties than any other area along the East Coast and became known as “Torpedo Junction.”

### Activity Summary

In this activity, students learn how in 1942 the war came home to the United States. They explore sunken U-boats, merchant vessels, and naval ships to understand why coastal North Carolina was a pivotal battleground in the Battle of the Atlantic. Students plot coordinates, research a World War II casualty, and explore videos and oral histories of those who lived where the war came home to the U.S.

### Learning Objectives

Students will examine why coastal North Carolina was a pivotal battleground in the Battle of the Atlantic. They will explore 1942 to learn about the Second Happy Time and Torpedo Junction and to calculate the high cost paid in ships and lives lost, all within six months off North Carolina’s coast. They will use a coordinate grid system to plot shipwrecks and analyze their map to better understand the Battle of the Atlantic off the U.S. coast.

### Teacher Preparation and Implementation

- This activity has three parts. Review each part and determine if students will do one, two, or all three.
- **For all Activities (A, B, and C)** print background information (p. 70) for each student or group, or you may read it to the class.
- **Activity A**
  - \* Determine if students will work individually or in groups.
  - \* Print Activity A worksheet for each group/student (p. 71).
  - \* Print Map A and B with Shipwreck Charts for each group/student (pp. 72-73).
  - \* Print Map C for each group/student (p. 74).



Divers explore *Kassandra*, a merchant shipwreck located off the North Carolina coast. Photo: NOAA

- **Activity B**
  - \* Determine if students will work individually or in groups.
  - \* Bookmark shipwreck website for each computer. Note: If internet is not available, print copies of at least five different shipwreck webpages from the website for each student or group. <https://monitor.noaa.gov/shipwrecks/>
  - \* Print Activity B worksheets (pp.76-79).
- **Activity C**
  - \* Determine if students will work individually, in groups, or as a class.
  - \* Bookmark the Outer Banks Maritime Heritage Trail website for each computer. Note: If internet is not available, download the video and audio clips and have students view them as a class. <https://monitor.noaa.gov/obxtrail/>
  - \* Print Activity C worksheet (pp. 80-81).
- Follow the steps in the Procedure section.

### Procedure

1. After determining which activities your class will conduct, read aloud or have students read the Background Information before the first activity. Discuss the information and answer all questions while checking for understanding. Note: If you print the information for each student/group and are doing multiple activities, have students save the information for future reference.
2. Activity A
  - See Answer Key on page 75.
  - After reading the Background Information for Torpedo Junction, have the students observe Map A and B and make inferences by answering the questions. Discuss answers.
  - Review the Shipwreck Chart and make note of the different sections: Allied Military Assets, German Military Assets, and Merchant Vessels.
  - Have students plot the coordinates for the German vessels and answer the questions.

## Vocabulary

**BATTLE OF THE ATLANTIC** — Longest continuous military campaign in World War II, running from 1939 to 1945; at its core was the Allied naval blockade of Germany and Germany's subsequent counter-blockade

**CONVOY** — A group of ships traveling together, typically accompanied by warships for protection

**COORDINATE** — A number in an ordered pair that names the location of a point on the coordinate plane

**DEPTH CHARGE** — An explosive charge designed to be dropped from a ship or aircraft and to explode under water at a preset depth, used for attacking submarines

**MERCHANT VESSEL** — A ship that transports cargo and is engaged in commercial trade

**U-BOAT** — A German submarine; name is derived from German word "Unterseeboot," which literally means "undersea boat"

- Have students plot the coordinates for the Allied military vessels and answer the questions.
- Have students plot the coordinates of the merchant ships that sank during March 1942, the deadliest month for merchant vessels off North Carolina's coast.
- Have students analyze their map and draw conclusions and make inferences.

### 3. Activity B

- Read or review Background Information for Torpedo Junction.
- Have students work on computers with bookmarked pages for the Monitor NMS's shipwreck website or provide printed copies of the pages for five different shipwrecks. See Resource section for website.
- Have students complete a chart for each shipwreck.
- After completing the charts, have students discuss the shipwrecks and tell at least one interesting fact or story about one of the shipwrecks.
- Have students write a newspaper article detailing one of the ship's sinking and any significant events or information about the ship. See Resource section for more information on writing a newspaper article.

### 4. Activity C

- Read or review Background Information for Torpedo Junction.
- Have students work on computers with bookmarked pages for the Outer Banks Maritime Heritage Trail. See Resource section for website.
- If a computer or internet is not available, watch the videos as a class and have students complete the focus questions for each.

- After each video, discuss and have students write at least one question that they would like answered that was not in the video. If time permits, have students research the answer.
- Have students write a short summary of each video with a main idea and three supporting details.
- Have students listen to audio clips of oral histories or listen as a class.
- For each oral history, have the students answer the questions.
- After listening to all the oral histories, have students write a story imagining what it would have been like for them as a child living in the Outer Banks during World War II.

5. *Optional:* Wrap up the unit with a discussion on the German U-boat peril along the East Coast in 1942. As a class, list all the pertinent details. Use a graphic organizer to organize the students' ideas and thoughts. Have them write a paper summarizing what they have learned.

## Resources\*

### Websites

#### Monitor NMS Shipwreck Website

Visit this site for videos, underwater and sonar images, historical information, site plans, and more on over 45 shipwrecks located in the Graveyard of the Atlantic just off North Carolina's coast.

<https://monitor.noaa.gov/shipwrecks/>

#### Outer Banks Maritime Heritage Trail

Take a trip down Highway 12 of coastal North Carolina known as the Outer Banks, and experience the maritime heritage through videos, pictures, and oral histories.

<https://monitor.noaa.gov/obxtrail/>

*\*The inclusion of links in this guide does not imply endorsement or support of any of the linked information, services, products, or providers.*

## Learn NC: When World War II was Fought Off North Carolina's Beaches

This archived site is one of several articles depicting the war along North Carolina's coast and how it affected the residents that lived there.

<http://www.learnnc.org/lp/editions/nchist-worldwar/5908>

## The National WWII Museum—New Orleans

Use images to create a visual timeline of World War II. Match images, captions, and dates of 25 World War II events. This lesson is great for review.

<http://www.nationalww2museum.org/learn/education/for-teachers/lesson-plans/pdfs/timeline-full-lesson.pdf>

## Scholastic: Writing a Newspaper Article

Teach students to turn their research and interviews into vibrant, interesting stories. (Grades 3-5 and 6-8.)

<https://www.scholastic.com/teachers/articles/teaching-content/writing-newspaper-article/>

## Books

Black, Wallace B. and Jean F. Blashfield. *Battle of the Atlantic (World War II 50th Anniversary Series)*. Crestwood House, 1991. ISBN-13: 978-0896865587.

Blair, Clay. *Hitler's U-Boat War. The Hunted, 1942-1945*. Modern Library, June 6, 2000. ISBN-13: 978-0679640332.

Dimbleby, Jonathan. *The Battle of the Atlantic: How the Allies Won the War*. Oxford University Press, March 1, 2016. ISBN-13: 978-0190495855.

Gannon, Michael. *Operation Drumbeat: The Dramatic True Story of Germany's First U-Boat Attacks Along the American Coast in World War II*. Naval Institute Press, March 1, 2003 (reprint). ASIN: B000NSODE8.

Hickahm, Homer. *Torpedo Junction: U-Boat War Off America's East Coast, 1942 (Bluejacket Books)*. Naval Institute Press, 1st edition, April 1996. ISBN-13: 978-1557503626.

Offley, Edward. *The Burning Shore: How Hitler's U-Boats Brought World War II to America*. Basic Books, March 2014. ISBN-13: 978-0465029617.

## Videos

### National Geographic: Hitler's Secret Attack on America

This 44-minute video details World War II's Battle of Atlantic and NOAA's search for the lost German U-boat – U-576.

<https://www.youtube.com/watch?v=PKXkkEPimJw>

### A German U-boat's Watery Grave off North Carolina

CBS Sunday Morning video documenting NOAA's first look at the U-576 and SS *Bluefields*.

<https://www.cbsnews.com/news/a-german-u-boats-watery-grave-off-north-carolina/>

## Extensions

Have students research the area of the Atlantic Ocean known as the "Black Pit" and detail why the area almost crippled the vital supply chain to Great Britain.

### Activity A:

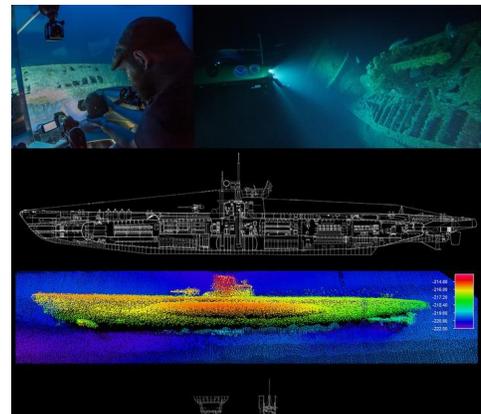
1. Plot all the ships' coordinates using different colors for different months. Analyze and make inferences based on the data. Conduct research for more information on the Battle of the Atlantic during a particular month to learn what strategies each side was using and why.

### Activity B:

1. Have students choose a shipwreck and conduct research to find out where the ship was coming from, heading to, cargo it was carrying, if passengers were on board, and so on. Using what they learned, have students create a blog as if they were a sailor on the ship. Have them blog the day before the sinking, the day of, and the day after telling of their experience.

### Activity C:

1. Have students remember a time in their life that something memorable happened to them. Use a recorder and have them record their oral history of the event.
2. Have students interview their parents, grandparents, or neighbors who might have had unique experiences that they want to share with others. Record their oral histories and share with the class.



Above: In 2014, NOAA and partners used sonar imaging to discover the final resting place of the U-576. The ship is located just off Cape Hatteras, North Carolina. Photo: NOAA

Left: Crew members on the deck of U-85. Photo: Courtesy of U.S. National Archives.

Name \_\_\_\_\_

Date \_\_\_\_\_

## Torpedo Junction

### Background Information

Beginning at the onset of World War II in 1939 and continuing until Germany surrendered in 1945, the Battle of the Atlantic was the war's longest military campaign. It was a battle between the Western Allies and the Axis powers for control of the Atlantic sea routes. The Axis powers, knowing that Britain was dependent upon supplies from other countries, wanted to block the Allied use of the Atlantic, thus cutting off all supply lines. The Allied powers had three main battle objectives: blockade of the Axis powers in Europe, security of Allied sea movements, and freedom to project military power across the seas. Throughout the war, both Allied and Axis powers would take turns controlling the Atlantic sea routes, but they both knew that maintaining control was pivotal in winning the battle.

Once the U.S. officially entered World War II on December 8, 1941, declaring war on Japan, Germany declared war on the U.S. on December 11, and German U-boat commander Admiral Dönitz made plans to swiftly send U-boats to American waters. The plan for the initial wave of five large U-boats was named Operation Drumbeat (Paukenschlag). The plan ended on February 6, 1942, with 25 ships sank for a total of 156,939 tons. However, over the following months, several more waves of U-boats made their way to the eastern seaboard with many of Germany's most experienced commanders.

In the first six months of 1942, the presence of U-boats was intensely felt all along the East Coast, and in particularly just off Cape Hatteras, North Carolina. Dozens of merchant ships sailed daily along the coast of the Outer Banks where German U-boats laid just waiting for the opportune time to fire their torpedoes or man their deck guns. During that time, so many ships were sunk that the area became known as "Torpedo Junction." Today off North Carolina's coast, you can find the remains of four U-boats, eight Allied naval vessels, and 78 merchant vessels.

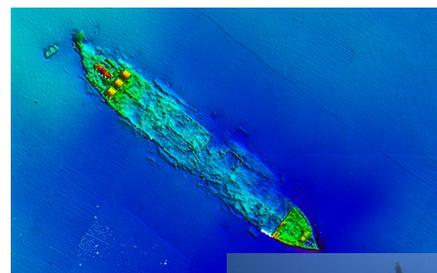
All told, 1,657 sailors, including over 1,200 merchant mariners, died off North Carolina's coast during the war with most of the casualties occurring in those first six months of 1942. Throughout the entirety of the Battle of the Atlantic, one in 26 merchant mariners serving aboard merchant ships died in the line of duty, suffering a greater percentage of war-related deaths than all other U.S. uniformed services. Each shipwreck has its own unique and heartfelt stories to tell. Stories of bravery, victory, and defeat.

Today, many of the World War II shipwrecks are well known by divers and have become popular dive sites due to their rich history and wealth of diverse marine life. But to the historian, they also offer a glimpse into the past with a plethora of information waiting to be unlocked. Since 2008, Monitor National Marine Sanctuary (MNMS) and partners have worked to document these important maritime heritage resources in order to learn more about each ship and to better understand the Battle of the Atlantic and why, in 1942, it truly came home to America. With years of data collected on over 40 sites, MNMS works to make that data available to historians, students, teachers, and anyone who is interested in learning more about the Battle of the Atlantic off North Carolina's coast. Visitors to the website can dive into Torpedo Junction without even getting their feet wet. At the site, you can select a shipwreck and view sonar images, beautiful underwater photographs, historical images, read the history of the ship, and learn of its demise.

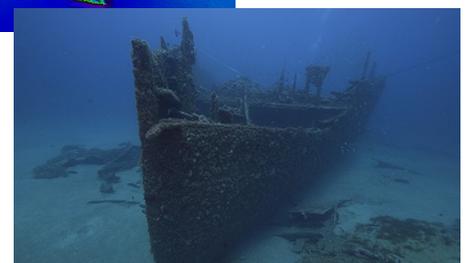
To learn more about the World War II shipwrecks off the North Carolina coast, visit <https://monitor.noaa.gov/shipwrecks/>.



Left: The merchant tanker, *Dixie Arrow* sank on March 26, 1942, when U-71 attacked. Left: *Dixie Arrow* burning after attack. Photo: U.S. National Archives.



Right Top: Multibeam sonar survey of *Dixie Arrow*. Image: NOAA.  
Right Bottom: Underwater image of the *Dixie Arrow*'s bow. Photo: NOAA



Name \_\_\_\_\_

Date \_\_\_\_\_

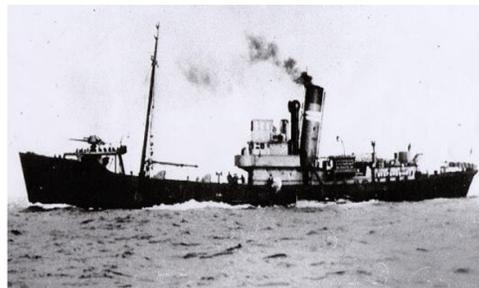
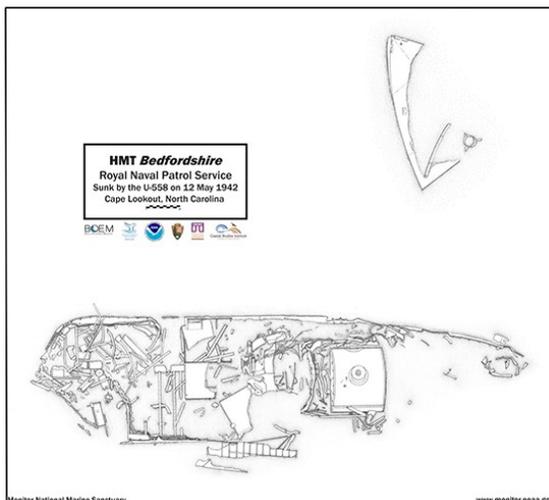
## Torpedo Junction — North Carolina 1942 Activity A

### Activity Overview

In this activity, you will explore coastal North Carolina, discover the shipwrecks of Torpedo Junction, and create a map using coordinates for known World War II shipwrecks, then analyze the map to understand why North Carolina is where the war truly came home to America.

### Procedure

1. Read Background Information for “Torpedo Junction.”
2. Observe Map A.
  - Locate the Continental Shelf. Does the shelf extend outward from the coast the same distance all along the east coast of North America? Where is it the widest? Where is it the narrowest?
  - Looking at the map inset of North Carolina, where is the continental shelf the narrowest?
  - Would the water be deeper on the shelf or off? Explain.
  - How might deep water benefit German U-boats? List at least two benefits.
  - How might a narrow continental shelf benefit German U-boats hunting for merchant ships?
3. Observe Map B
  - What two currents flow off the North Carolina coast?
  - Which current flows south? North? Which current is cold? Warm?
  - Near what cape do the two currents meet?
  - Explain how currents might affect merchant shipping.
4. Using the Shipwreck Chart and Map C, plot the coordinates for the German U-boats. How many U-boats are there off the North Carolina coast? Which U-boats sank in July 1942?
5. Continue to plot the location of the Allied military ships that sank in 1942. Which two were sunk by German U-boats?
6. Read through the list of merchant vessels that sank off North Carolina’s coast. Which month during 1942 saw the most ships sunk?
7. Plot the coordinates for the ships that sank during March 1942.
8. Look at Map C with all the coordinates plotted. Where is the highest concentration of shipwrecks? Why do you think there are more shipwrecks in that location?



Left: Site plan of the HMT *Bedfordshire*, a British convoy escort ship sunk on May 12, 1942, by U-558. Image: NOAA. Top: *Bedfordshire*, post conversion. Photo: Courtesy of *Bedfordshire* Archives, United Kingdom. Bottom: There were no survivors when the *Bedfordshire* sank. It happened so quickly that no one knew it sank until sailors washed up on shore. Four are buried on Ocracoke Island, North Carolina. Photo: NOAA

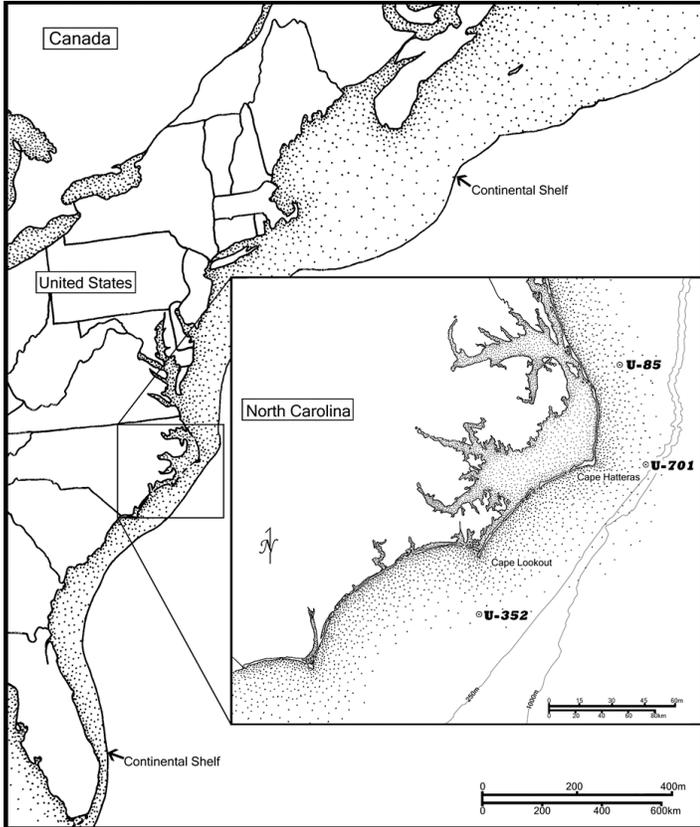


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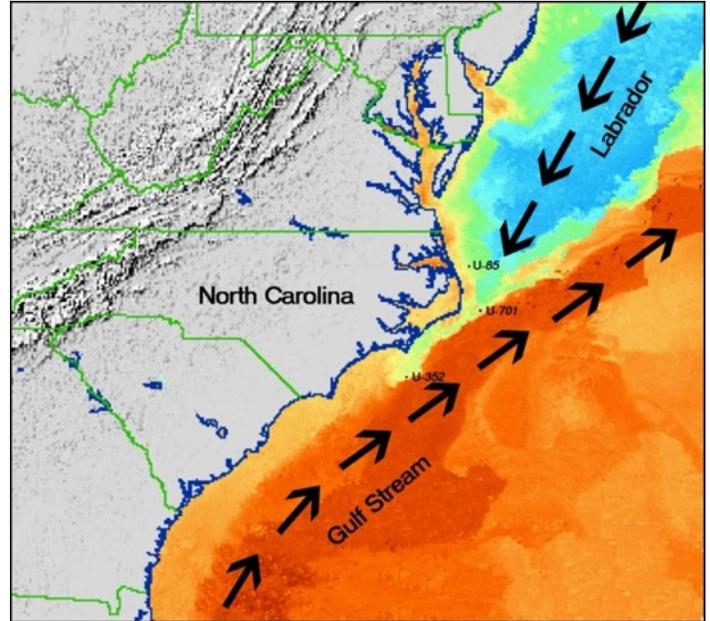
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### Torpedo Junction — North Carolina 1942 Activity A Continued

Map A



Map B



Warm Water  
 Cold Water

### Shipwreck Chart

NAME	LIVES LOST	DATE LOST	SUNK BY	LATITUDE	LONGITUDE
<b>ALLIED MILITARY ASSETS</b>					
USS YP-389	6	19-Jun-42	U-701	34°56'26.76"N	75°23'54.05"W
HMT <i>Senateur Duhamel</i>	0	6-May-42	Collision	34°33'3.32"N	76°36'4.33"W
HMT <i>Bedfordshire</i>	37	12-May-42	U-558	34°18'50.94"N	76°27'9.14"W
Tug <i>Keshena</i>	2	19-Jul-42	Friendly mine	34°59'37.51"N	75°45'43.03"W
<b>GERMAN MILITARY ASSETS</b>					
U-352	15	9-May-42	USCGC <i>Icarus</i>	34°13'40.98"N	76°33'53.64"W
U-576	45	15-Jul-42	Aircraft / SS. <i>Unicoi</i>	34°45'44.86"N	75°30'27.22"W
U-701	39	7-Jul-42	Aircraft	35°14'21.01"N	75°6'42.84"W
U-85	46	14-Apr-42	USS <i>Roper</i>	35°54'48.28"N	75°17'12.98"W

Name \_\_\_\_\_

Date \_\_\_\_\_

**Torpedo Junction — North Carolina 1942**  
**Activity A Continued**

**Shipwreck Chart Continued**

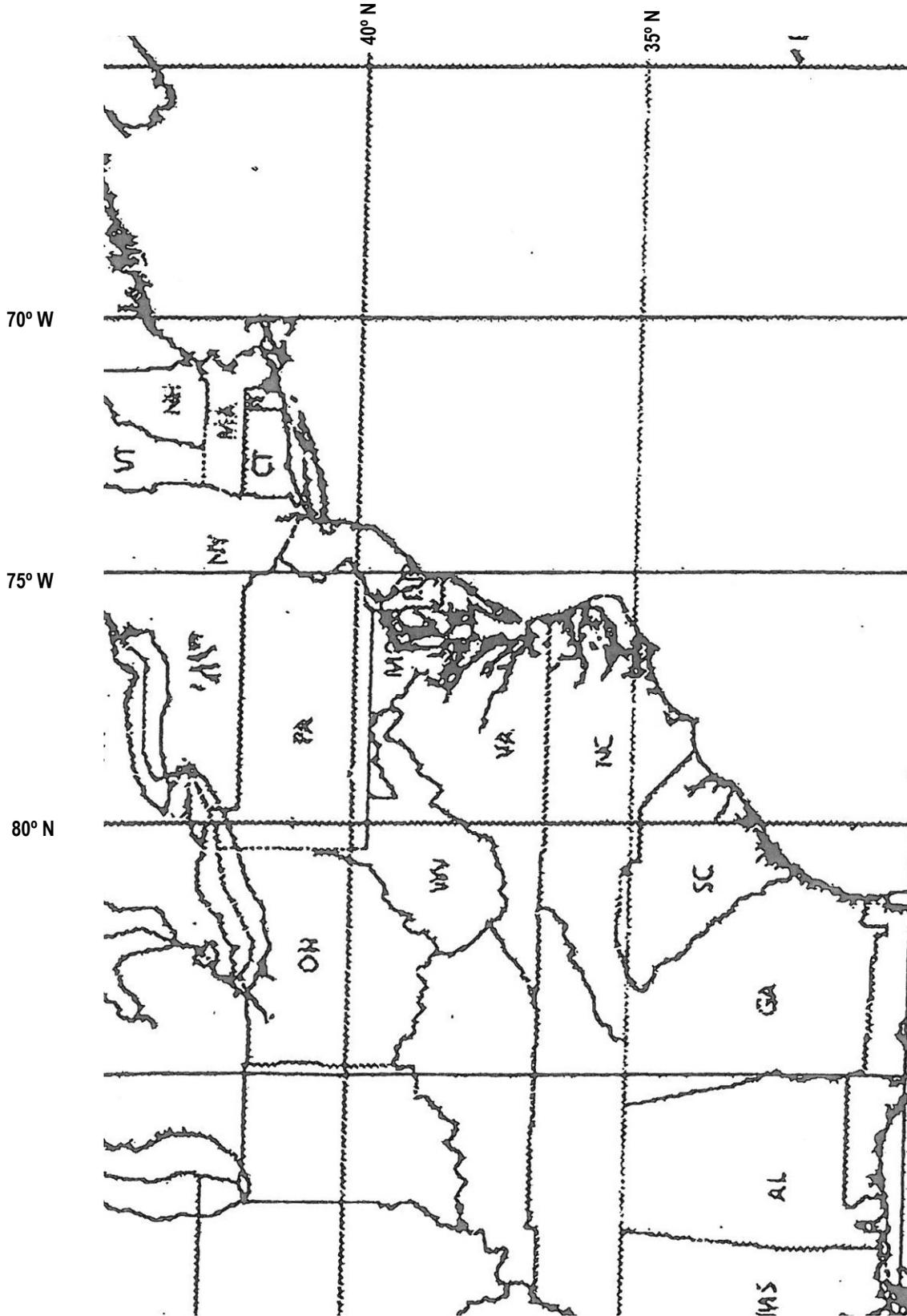
NAME	LIVES LOST	DATE LOST	SUNK BY	LATITUDE	LONGITUDE
<b>MERCHANT VESSELS</b>					
<i>Allan Jackson</i>	22	18-Jan-42	U-66	35 00'00.0"N	74.19'59.9"W
<i>Ario</i>	8	15-Mar-42	U-158	34°29'56.31"N	76°53'52.23"W
<i>Ashkhabad</i>	0	30-Apr-42	U-402	34°22'53.04"N	76°21'54.00"W
<i>Atlas</i>	2	9-Apr-42	U-552	34°31'42.02"N	76°14'31.41"W
<i>Australia</i>	4	16-Mar-42	U-332	35°7'24.85"N	75°21'12.35"W
<i>Bluefields</i>	0	15-Jul-42	U-576	34°45'43.60"N	75°30'17.86"W
<i>British Splendour</i>	12	7-Apr-42	U-552	34°49'7.54"N	75°54'10.91"W
<i>Buarque</i>	1	15-Feb-42	U-432	36°18'0.61"N	75°2'58.56"W
<i>Byron Benson</i>	10	5-Apr-42	U-552	36°8'57.77"N	75°14'41.57"W
<i>Caribsea</i>	21	11-Mar-42	U-158	34°36'24.81"N	76°18'50.86"W
<i>City of Atlanta</i>	43	19-Jan-42	U-123	35°23'26.27"N	75°20'10.43"W
<i>Dixie Arrow</i>	11	26-Mar-42	U-71	34°54'0.58"N	75°45'1.73"W
<i>E.M. Clark</i>	1	18-Mar-42	U-124	34°50'34.08"N	75°32'15.83"W
<i>Empire Gem</i>	49	24-Jan-42	U-66	35°1'49.22"N	75°28'37.81"W
<i>Equipoise</i>	41	27-Mar-42	U-160	36°36'0"N	74°45'0"W
<i>Esso Nashville</i>	0	21-Mar-42	U-124	33°52'44.76"N	77°13'36.44"W
<i>F.W. Abrams</i>	0	11-Jun-42	Friendly mine	34°59'24.42"N	75°48'3.60"W
<i>Kassandra Louloudis</i>	0	18-Mar-42	U-124	35°10'15.42"N	75°21'29.38"W
<i>Lancing</i>	1	7-Apr-42	U-552	35°2'2.69"N	75°26'40.81"W
<i>Liberator</i>	5	19-Mar-42	U-332	35°4'47.57"N	75°23'28.07"W
<i>Malchace</i>	1	9-Apr-42	U-160	34°36'15.37"N	75°47'13.31"W
<i>Manuela</i>	2	25-Jun-42	U-404	34°40'35.51"N	75°47'7.91"W
<i>Marore</i>	0	27-Feb-42	U-432	35°32'38.76"N	75°14'57.88"W
<i>Naeco</i>	24	23-Mar-42	U-124	<b>Bow Section:</b> 34° 3'27.68"N 76° 34'14.92"W	<b>Stern Section:</b> 34° 1'31.22"N 76° 38'53.05"W
<i>Norvana</i>	29	19-Jan-42	U-123	36°4'.1.96"N	75°13'38.96"W
<i>Panam</i>	2	4-May-43	U-129	34°8'39.26"N	76°7'48.22"W
<i>Papoose</i>	2	19-Mar-42	U-124	35°37'33.65"N	74°53'27.96"W
<i>San Delfino</i>	28	10-Apr-42	U-203	35°23'52.04"N	75°6'57.92"W
<i>Suloide</i>	0	26-Mar-43	Collision ( <i>Ario</i> )	34°32'41.24"N	76°53'41.96"W
<i>Tamaulipas</i>	2	10-Apr-42	U-552	<b>Bow Section</b> 34° 32'19.68"N, 76° 0'56.12"W	<b>Stern Section</b> 34° 32'48.19"N, 76° 0'50.11"W
<i>W.E. Hutton</i>	13	19-Mar-42	U-124	34°8'37.2912"N	76°39'8.4666"W

Name \_\_\_\_\_

Date \_\_\_\_\_

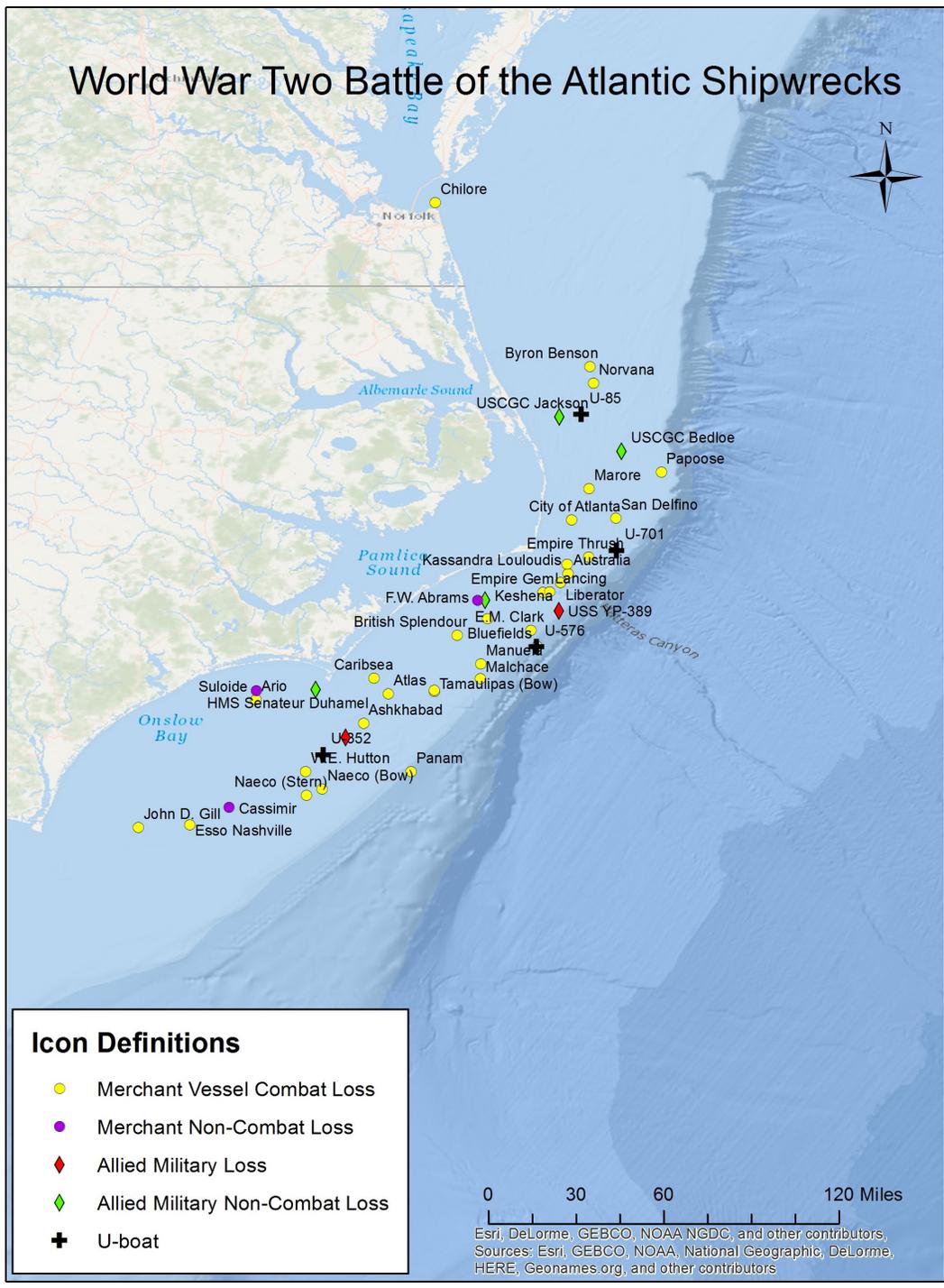
### Torpedo Junction — North Carolina 1942 Activity A Continued

Map C



## Teacher Key for Activity A

2) No, it is widest off the Canadian coast and narrowest around North Carolina; Cape Hatteras; deeper off the coast as the shelf slopes down; German U-boats could hide better in deeper water as they searched for merchant ships, U-boats used deeper water to escape depth charges; sound travels better in cold water and deeper water is usually colder; therefore, U-boats would hide until they heard ship traffic, then surface to fire torpedoes and go deep again to avoid depth charges; 3) Labrador Current (south/cold) and Gulf Stream (north/warm); Cape Hatteras, North Carolina; ships prefer to sail in currents to save time and fuel; 4) four; U-576 and U-701; 5) USS YP-389 and HMT *Bedfordshire*; 6) March 1942; 8) the highest concentration of shipwrecks is around Cape Hatteras, North Carolina. Answers will vary but primarily because of the narrow continental shelf, currents, deeper water, and water temperatures made the area the perfect hunting ground for German U-boats to sink Allied and merchant ships.



Map of World War II shipwrecks off North Carolina coast. Image NOAA

Name \_\_\_\_\_

Date \_\_\_\_\_

### Torpedo Junction — The Stories Ships Tell Activity B

Every shipwreck has a story to tell. The ships that sank during World War II tell stories of bravery, victory, and defeat. It is the stories of the brave men who sailed and fought on these ships that bring our nation’s history to life in a meaningful way and tell of the sacrifices made for our freedom.

**Procedure**

1. Prior to this activity, read the background information on Torpedo Junction.
2. To begin this activity, either use the printed copies provided or visit the shipwreck website at <https://monitor.noaa.gov/shipwrecks/>.
3. Scroll through the web pages and choose five ships of interest. Fill in the following information on the chart for each ship:
  - Ship’s name and any former names
  - Type of ship and cargo it was carrying
  - When did it sink and how?
  - How many crewmembers were on the ship when it sank? How many survived?
  - Read the Historical Background and tell what you found most interesting. Explain what story this ship told.
3. After completing the charts for all five ships, choose the shipwreck that was the most interesting to you, and write a newspaper article detailing its sinking and any significant events.

<b>Ship’s name and any former names</b>	
<b>Type of ship and the type of cargo it carried</b>	
<b>Date sank and how it sank</b>	
<b>Number of crewmembers and how many survived</b>	
<b>What did you find most interesting in the ship’s historical background information? What story did this ship tell?</b>	

Name \_\_\_\_\_

Date \_\_\_\_\_

**Torpedo Junction — The Stories Ships Tell  
Activity B Continued**

<b>Ship's name and any former names</b>	
<b>Type of ship and the type of cargo it carried</b>	
<b>Date sank and how it sank</b>	
<b>Number of crewmembers and how many survived</b>	
<b>What did you find most interesting in the ship's historical background information? What story did this ship tell?</b>	

<b>Ship's name and any former names</b>	
<b>Type of ship and the type of cargo it carried</b>	
<b>Date sank and how it sank</b>	
<b>Number of crewmembers and how many survived</b>	
<b>What did you find most interesting in the ship's historical background information? What story did this ship tell?</b>	

Name \_\_\_\_\_

Date \_\_\_\_\_

**Torpedo Junction — The Stories Ships Tell  
Activity B Continued**

<b>Ship's name and any former names</b>	
<b>Type of ship and the type of cargo it carried</b>	
<b>Date sank and how it sank</b>	
<b>Number of crewmembers and how many survived</b>	
<b>What did you find most interesting in the ship's historical background information? What story did this ship tell?</b>	

<b>Ship's name and any former names</b>	
<b>Type of ship and the type of cargo it carried</b>	
<b>Date sank and how it sank</b>	
<b>Number of crewmembers and how many survived</b>	
<b>What did you find most interesting in the ship's historical background information? What story did this ship tell?</b>	



Name \_\_\_\_\_

Date \_\_\_\_\_

**Torpedo Junction — Where the War Truly Came Home**  
**Outer Banks Maritime Heritage Trail Videos**  
**Activity C**

**Background Information**

Coastal North Carolina is an extraordinary place with strong ties to the marine environment. Surrounded by water, the Outer Banks of North Carolina is a chain of narrow barrier islands separating the Currituck, Albemarle, and Pamlico Sounds from the Atlantic Ocean. This dynamic environment has shaped the islands and its people for centuries.

Along Highway 12 are a series of iconic places and features that make the Outer Banks unique. From the lighthouses to the wildlife, to the shipwrecks offshore, the Outer Banks' culture reflects the surrounding marine environment. Through videos, pictures, and stories, we invite you to take a trip down this stretch of road and experience the rich World War II maritime heritage of the Outer Banks of North Carolina.

**Procedure**

A. Either as a class or individually, watch the following videos and answer the corresponding questions for each.

**Videos:****The Story of the U-85**

1. Why was the U-85 significant?
2. What made the U.S. Navy so sure that they were following a U-boat?
3. What did the U.S. Navy do to sink the U-85?

**WWI and WWII off the Coast of North Carolina**

1. Where was the naval threat perceived to be?
2. Why was the East Coast vulnerable?
3. Why did the Germans typically hunt around Cape Hatteras?
4. What is a submarine's best defense?

**The Story of the U-701 and the YP-389**

1. Why did the U-701 not fire a torpedo at the YP-389?
2. Who found and sank the U-701?
3. How many survivors remained after two days of drifting?
4. What happened to the survivors?

B. For each video, think of at least one question that you would like answered that was not covered in the video and write it below. Next, research the answers for each and share with your group or class.

- **The Story of the U-85**

- **WWI and WWII off the Coast of North Carolina**

- **The Story of the U-701 and the YP-389**

C. On a separate piece of paper, write a short summary for each video and show a connection between the main idea and three supporting details.

Name \_\_\_\_\_

Date \_\_\_\_\_

**Torpedo Junction — Where the War Truly Came Home**  
**Outer Banks Maritime Heritage Trail Oral Histories**  
**Activity C Continued**

The residents of the Outer Banks also have amazing stories to tell. Their lives are constantly influenced by the marine environment in which they live and their stories are as unique and dynamic as their surroundings. During World War II, many residents were witness to the Battle of the Atlantic, which occurred along the United States' East Coast. Listen to their stories as they recall their experiences with the war that was being fought right in their backyard.

For each oral history answer the following questions and use additional paper if needed

1. What was the most interesting part of the story to you?
2. What question(s) would you want to ask this person if you had the chance?
3. How did their accounts of historical events compare?
4. Summarize the story in two sentences.

**Carol Dillion (#1 and/or #2)**

**Gibb Gray**

**Anne Henry (#1 and/or #2)**

**Lorraine Hinnant**

**John Watkins**

After listening to the oral histories, imagine that you were a child during World War II and you were on the beach when a ship was torpedoed by a German submarine. Write your story on a separate piece of paper.

# Battle of the Atlantic — Allies Turn the Tide



Diver explores wreck site of the *Caribsea*. Photo: NOAA

## Grade Level

6-12

## Timeframe

45 Minutes

## Materials

- Game boards, game cards, game disks, and game ships
- Optional: 30+ small objects for game pieces and a timer
- Dice

## Activity Summary

Through playing a game, students learn about the Battle of the Atlantic, German U-boats, merchant ships, and Allied efforts to get supplies to the troops.

## Learning Objectives

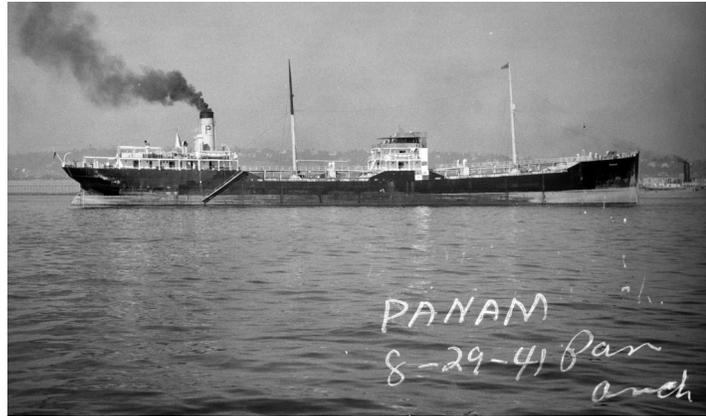
- Understand the Allies' need for supplies from other countries
- Examine German U-boats and the danger they posed to merchant shipping
- Explore how new technology helped both sides in the war

## Key Words

U-boat, Battle of the Atlantic, Wolf Packs, convoy, coordinate

## National Standards

NG:1; NCSS:I, II, and VIII; NCSS:HT.1 and 2;  
 NCSS:WH.ERA.8; NCSS:US.ERA.8  
 CCSS:ELA:LIT.RST.6-8.7; NCTM:6-8:G;  
 CCSS:ELA.LIT.RH.11-2.9, and 9-10.2;



Merchant tanker *Panam* was the last U-boat casualty off North Carolina's coast during the Battle of the Atlantic. Photo: Courtesy of The Mariners' Museum

## Background Information

When the United States finally began arranging convoys for merchant ships, ship losses started to decline. Admiral Dönitz soon realized that his U-boats were better used elsewhere, and on July 19, 1942, he ordered the last boat to withdraw from the U.S. Atlantic coast. By the end of July, Dönitz had shifted the attention back to the far North Atlantic.

With enough U-boats to spread them across the Atlantic, the fleet operated in several Wolf Packs that attacked many different convoy routes. Convoy losses quickly increased, and in October 1942, 56 ships were sunk in the “air gap” between Greenland and Iceland, an area outside the range of Allied aircraft. However, by the fall of 1942, unprecedented merchant shipbuilding had caught up and begun to pull ahead of losses.

Although the Germans had much success that fall, the battle was not yet over. In March 1943, the Allies had a gap in intercepting and decrypting German communications for mid-ocean U-boats. During that gap, the Germans enjoyed their final major successes of the war. Every Allied convoy was sighted and over half were attacked. However, by May 1943, Germany's submarine fleet suffered major defeat due to improving spring weather, modern radar equipment, decipher of U-boat codes once again, new escort aircraft carriers, aggressive tactics, and very long-range patrol aircraft.

The Germans tried to renew their assault on Allied shipping by using acoustic homing torpedoes, but by the fall of 1943, it had failed. U-boats retreated and waged a guerilla campaign against shipping.

With the Allies' victory in the Atlantic, along with the reopening of the Mediterranean to shipping traffic later that year, shipping losses were greatly reduced. For the remainder of the war, the Allies were unchallenged in controlling the Atlantic sea lanes.

## Activity Summary

In this activity students will play the Battle of the Atlantic game to learn how Germany used U-boats to stop incoming supplies to Britain and how new technology helped both sides in their war efforts.

## Learning Objectives

Students will understand why Allies needed supplies from other countries to aid in the war effort. They will learn about Germany's effort to defeat Britain using German U-boats to sink merchant ships in order to halt the importing of supplies to Britain and Russia. Students will explore new technology developed during World War II, and discover how technology benefited both sides.

## Teacher Preparation and Implementation

- Print copies of the activity pages for each student (pp. 85-86).
- Print and cut apart the game disks and ships for each pair of players (p. 87). Optional: provide small objects, such as buttons to use as disks and/or ships.
- Print a copy of the game cards and the Allied and Axis game board for each pair of students playing the game (pp. 88-90) Optional: Print and laminate several sets for use over time.
- Follow the steps in the Procedure section.

## Procedure

1. Read aloud or have students read the Background Information.
2. Discuss why it was important for the Allies to receive supplies from other nations.
3. Discuss how and why Germany planned to stop supplies from reaching the Allies.
4. Explain that the battle that ensued to stop merchant ships and troops from reaching the Allies happened in the Atlantic Ocean and is known as the Battle of the Atlantic.
5. Explain that the students will be playing a "battle" game simulating the Battle of the Atlantic.
6. Either pair students or have them choose a partner to play the game.
7. Pass out all the game pieces and a die to each group.
8. If needed, review a coordinate grid system.
9. Go over the rules of the game.
  - \* Axis commander always goes first.
  - \* Axis and Allied commanders take turns rolling the die, moving a ship, and calling out coordinates.
  - \* When they roll the die, they move one of their ships the number of spaces that was rolled. Each square, both black and white, counts as one move.
  - \* If they land on a black square, they will take the card off the top of the card pile, read it, and follow any directions given.
  - \* If they roll a six (6), they add a new ship to their fleet.



German U-boat, U-352, sank off the North Carolina coast in 1942. Photo: NOAA

- \* After rolling the die, they call out coordinates in an attempt to fire and sink their enemy ship. The opposing commander must say "miss" or if a hit, "you sank my ship." If they sink a ship, the ship is removed.
  - \* Allies win if at least one of their ships reach Britain or they sink all the U-boats.
  - \* Axis power wins if they sink all of the Allies' ships.
  - \* If time is up, the commander with the most ships remaining on the board wins.
10. Have students begin the game. Optional: Set a timer.
  11. At the conclusion of the game, have students complete the questions and create a spider diagram.



Conning tower of the U-85, a German U-boat that sank the North Carolina coast in 1942. Photo: NOAA

## Vocabulary

**BATTLE OF THE ATLANTIC** — Longest continuous military campaign in World War II, running from 1939 to 1945; at its core was the Allied naval blockade of Germany and Germany's subsequent counter-blockade

**CONVOY** — A group of ships traveling together, typically accompanied by warships for protection

**COORDINATE** — A number in an ordered pair that names the location of a point on the coordinate plane

**MERCHANT VESSEL** — A ship that transports cargo and is engaged in commercial trade

**U-BOAT** — A German submarine; name is derived from German word "Unterseeboot," which literally means "undersea boat"

**WOLF PACK** — A group of submarines that make a coordinated attack on shipping; Wolf Packs did not operate in U.S. waters

## Resources\*

### Websites

#### Monitor NMS Shipwreck Website

Visit this site for videos, underwater and sonar images, historical information, site plans, and more on over 45 shipwrecks located in the Graveyard of the Atlantic just off North Carolina's coast.

<https://monitor.noaa.gov/shipwrecks/>

#### The National WWII Museum—New Orleans

Use images to create a visual timeline of World War II. Match images, captions, and dates of 25 World War II events. This lesson is great for review.

<http://www.nationalww2museum.org/learn/education/for-teachers/lesson-plans/pdfs/timeline-full-lesson.pdf>

#### BBC: Battle of the Atlantic — The U-boat Peril

This archived website tells the story of the Battle of the Atlantic from the British perspective.

[http://www.bbc.co.uk/history/worldwars/wwtwo/battle\\_atlantic\\_01.shtml](http://www.bbc.co.uk/history/worldwars/wwtwo/battle_atlantic_01.shtml)

#### Second World War History: Battle of the Atlantic Timeline

Timeline from September 3, 1939 to May 1, 1945 detailing the major events of the Battle of the Atlantic.

<https://www.secondworldwarhistory.com/battle-of-the-atlantic.asp>

### Books

Black, Wallace B. and Jean F. Blashfield. *Battle of the Atlantic (World War II 50th Anniversary Series)*.

Crestwood House, 1991. ISBN-13: 978-0896865587.

Blair, Clay. *Hitler's U-Boat War: The Hunted, 1942-1945*. Modern Library, June 6, 2000. ISBN-13: 978-0679640332.

Dimbleby, Jonathan. *The Battle of the Atlantic: How the Allies Won the War*. Oxford University Press, March 1, 2016. ISBN-13: 978-0190495855.

### Video

#### UNC Coastal Studies Institute: *Battle of the Atlantic (7:23)*

Video clip that highlights the research and tools used to document World War II shipwrecks off the North Carolina coast, while showing the beauty of the marine life living on wrecks today.

<http://science.unctv.org/content/battle-atlantic>

#### National Geographic: *Hitler's Secret Attack on America*

This 44-minute video details World War II's Battle of Atlantic and NOAA's search for the lost German U-boat – U-576.

<https://www.youtube.com/watch?v=PKXkkEPimJw>

\*The inclusion of links in this guide does not imply endorsement or support of any of the linked information, services, products, or providers.

### Extensions

1. Have students become sailors on either a U-boat, merchant ship, or naval Allied vessel and write a letter home to their parents detailing what they have experienced in the first six months of 1942.
2. Have students conduct further research on the Second Happy Time and create a skit, photo collage, video, PowerPoint, or other media that describes the Battle of the Atlantic and/or the Second Happy Time.



Photomosaic of U-85 created from hundreds of images taken by NOAA divers. The German U-boat was the first U-boat sank off the United States' East Coast in 1942. Photo: NOAA

Name \_\_\_\_\_

Date \_\_\_\_\_

## Allies Turn the Tide — Battle of the Atlantic Game

### Background Information

Beginning on September 3, 1939, just a few days after Britain declared war on Germany, the **Battle of the Atlantic** began. It was the longest and perhaps most bitterly fought battle of World War II. The battle spanned the Atlantic Ocean and was waged against Allied ships, mostly by German submarines called U-boats, which is the abbreviation for Unterseeboot (undersea boat). U-boats roamed the seas looking for Allied convoys transporting military supplies and equipment across the Atlantic to Great Britain, the Soviet Union, or wherever supplies were needed. For without supplies and raw materials to run its industries, Britain would be lost. The battle took many twists and turns over the years, and finally ended on May 5, 1945, when Grand Admiral Karl Dönitz ordered all U-boats to cease combat operations and return to Germany. Two days later, Germany surrendered.

### Game Overview

In this Battle of the Atlantic game, you become either an Allied or Axis commander. As an **Allied** commander, your mission is to avoid German U-boats and **safely transport your cargo to Britain** in order to aid in furnishing war supplies to the Allied troops. As an **Axis** commander, your mission is to **seek and destroy all Allied ships** carrying cargo to Britain. Although the Atlantic Ocean is a huge body of water, new technology, such as sonar, help both the Axis and Allied commanders in their mission. As you play the game, you will learn about some of the technology and turning points in the Battle of the Atlantic.

### Procedure

1. After being assigned your role as either an Axis or Allied commander, review your game board. Note the location of the United States, Canada, and Europe. The area between is the Atlantic Ocean. Note the letters and numbers along the x- and y-axis of the board. Use these to determine coordinates for finding your opponent's ships.
2. Secure your game board from your opponent's view by either using a box lid, books, or other sturdy objects that can obscure the board from view.
3. There are 20 game cards. Shuffle them and lie them face down on the table within reach of both commanders.
4. Choose your ships. Allied commander commands 10 Allied vessels (naval and merchant ships). Axis commander commands eight German U-boats.
5. Allies must place their ships on the coast of the United States and Canada. German U-boats can be placed anywhere. Determine where to place your ships, and place one disk for each ship in one square on the game board.
6. When it is your turn, you throw the die to move one of your ships either forward or sideways, but not backwards the number of spaces for the number rolled.
  - Allied ships, move closer to Europe, and Axis ships move closer to the United States or Canada.
  - If you **land on a black square, you must pick up a card**, read it, and follow any directions.
  - Finally, call out a set of coordinates in an attempt to sink your opponent's ships.
  - If you **throw a six (6), you get a new ship/U-boat**.
7. **To win the game:** Germans win if they sink all Allied ships. Allies win if they sink all U-boats **OR** at least one of the ships in the convoy crosses the Atlantic Ocean and reaches Britain. If time is up before one side wins, then whichever side has the most ships remaining on the board wins.
8. German (**Axis**) commander goes first.
  - Roll the die and move one of your U-boats either forward or sideways. Move the number of spaces that you rolled. Each square, black and white, count as one move.
  - If you land on a black square, pick up a card, read it, and follow any directions given. Remember, if you roll a six, you get a new U-boat.
  - Next, call out a set of coordinates where you think one of the Allied ships is located. If you guess correctly, the Allied commander must say "you sank my ship" and remove the ship from the board.

## Battle of the Atlantic Game Continued

9. Next, it is the **Allied** commander's turn.
  - Roll the die and move one of your ships either forward or sideways toward Britain. Move the number of spaces you rolled. Each square, black and white, count as one move.
  - If you land on a black square, pick up a card, read it, and follow any directions given. Remember, if you roll a six, you get a new merchant ship.
  - Next, call out a set of coordinates where you think one of the U-boats is located. If you guess correctly, the Axis commander must say "you sank my ship" and remove the ship from the board.
10. Repeat, alternating commanders until one of you win the game or time is up. See step 7 for how to win the game.
11. Return all materials to the appropriate place and answer the discussion questions below.

### Discussion

1. What was most challenging in trying to sink your opponent's ships?
2. Name two technologies or strategies that helped the Allies in the Battle of the Atlantic.
3. Name two technologies or strategies that helped the German U-boats during the Battle of the Atlantic.

### Create a Spider Diagram

Spider diagrams are visual tools used to organize data in a logical way. A main concept is placed in the middle of the page and lines are used to link ideas. As more ideas branch out, a graphical representation is created making the concept/idea easier to understand.

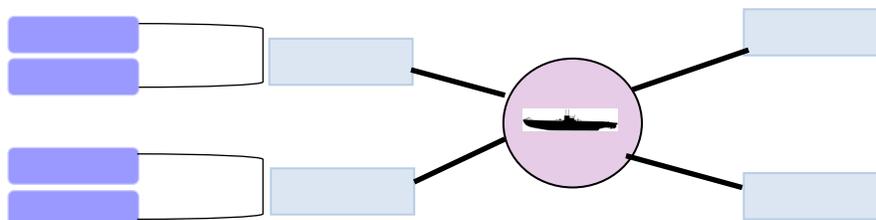
At the end of the game, use the game cards and create a spider diagram that depict the following:

- A. Factors that contributed to initial German success.
- B. Factors that contributed to Allied eventual success.

To create a spider diagram:

- Turn a blank sheet of paper to portrait mode (lengthwise).
- In the middle of the paper, draw something that characterizes the main idea of what you are trying to diagram. For example, for factors that contributed to initial German success, draw a U-boat or German officer. Make it bright, distinctive, and visual as this is the "front door" to all your thoughts.
- Read through all the cards and determine which ones helped Germany to initially succeed. Divide them into three or four categories. How you divide them does not matter, just so you do it as to how you think they should be divided. These divisions will be your branches. Make each branch radiate from the center and label them.
- Next add "twigs" to the branches. The twigs are key things that you need to know about that section. Write the key ideas and draw a symbol or small picture to each in order to help you visualize the concept.
- Create as many twigs as needed for each section and the twigs can subdivide.
- After the twigs are completed, then you can add "leaves" that go further into the details with dates, people, or anything that you consider important to the concept. Label and draw a symbol or small picture for each. As you get more detailed linking from one idea to another, the concept will begin to make sense. Fine-tune as needed.
- Conduct additional research as needed.

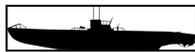
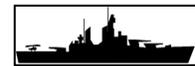
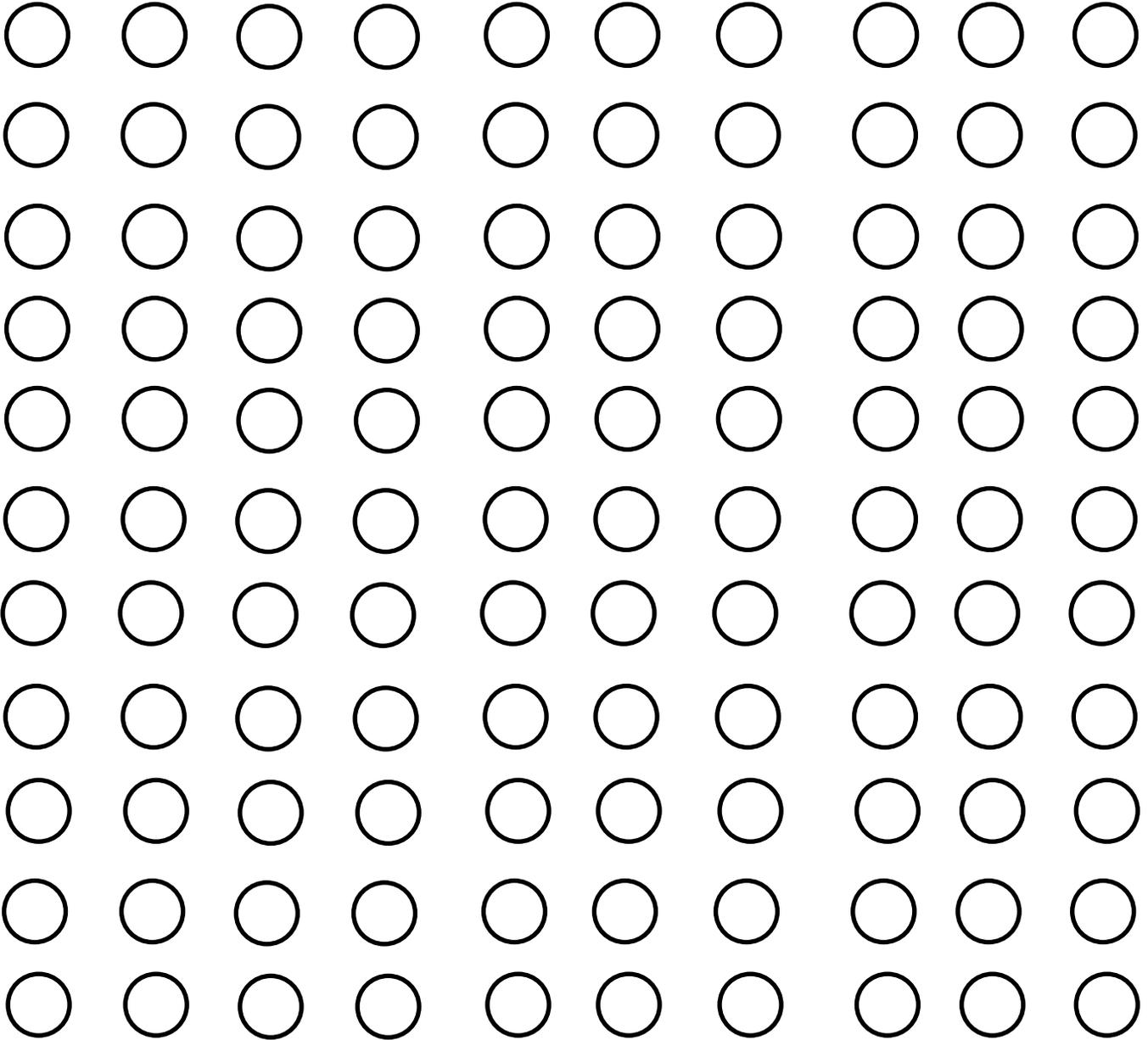
Example:



### Game Pieces — Battle of the Atlantic Game

Print and cut apart for each group.

Optional: Use buttons or other small objects for game pieces.



## Game Cards — Battle of the Atlantic Game

Print and cut apart along solid black lines; one set of cards for each group.  
Optional: Print on cardstock and laminate for reusable card sets.

<p><b>September 1939:</b> Fifty German U-boats are successful in the North Atlantic. <i>Allies must reveal the location of one ship.</i></p>	<p><b>June 1941:</b> British code breakers crack the new German 'Dolphin' code allowing rapid and regular access to U-boat signal traffic in the Atlantic. <i>Germans must reveal coordinates for one U-boat.</i></p>
<p><b>January to March 1942:</b> It is the Second Happy Time and U-boats sink 216 ships off the East Coast of the United States. <i>Allies lose a ship and a turn.</i></p>	<p><b>June to July 1943:</b> Using HF/DF technology, the British sink 75 U-boats as they leave the harbor. <i>Germans lose three U-boats.</i></p>
<p><b>June 1940:</b> France falls into German hands and German U-boats now have Atlantic bases from which to launch. <i>Allies miss a turn.</i></p>	<p><b>July to August 1940:</b> German U-boats hunt in Wolf Packs. They sink 217 merchant ships carrying essential supplies to Britain. <i>Allies lose two ships.</i></p>
<p><b>May 8, 1941:</b> British ships capture a German U-boat and get the Enigma code machine. <i>Germans lose a turn.</i></p>	<p><b>May 27, 1941:</b> The first convoy is successfully escorted the entire way across the Atlantic Ocean. <i>Allies gain two ships.</i></p>
<p><b>March 17, 1941:</b> Allies invent a new type of radar that can detect surfaced U-boats. <i>Germans must reveal coordinates for one U-boat.</i></p>	<p><b>October 1940:</b> German U-boats sink 27 ships in 24 hours. <i>Allies lose two ships.</i></p>
<p><b>July, 1942:</b> Despite U.S. Navy support, Allies sustain heavy losses in the Atlantic when German U-boats sink 117 Allied ships. <i>Allies lose two ships.</i></p>	<p><b>February 1942:</b> Germans change their code. <i>Germans get an extra turn and a new U-boat.</i></p>
<p><b>March 10—16, 1943:</b> German U-boats sink 21 ships by attacking in Wolf Packs. <i>Allies lose one ship.</i></p>	<p><b>December 1941:</b> After the attack on Pearl Harbor, the United States enters the war and now U.S. vessels are open to attack by German U-boats. <i>Allies lose one ship.</i></p>
<p><b>1942:</b> U.S. Navy develops "console sonar" that can plot accurate bearings of submarines using an echo ping. <i>Germans must reveal coordinates for one U-boat.</i></p>	<p><b>Mid-March, 1942:</b> Germans introduce submarine fuel tankers enabling U-boats to stay at sea for longer periods of time. <i>Germans have a free shot at any coordinate.</i></p>
<p><b>End of March 1943:</b> Code Breakers crack the German code. <i>Germans must reveal location of three U-boats. Allies win an extra turn.</i></p>	<p><b>1943:</b> Nazis equip U-boats with better anti-aircraft guns and invent the "Snorkel," which allows U-boats to refresh their air without surfacing. <i>Germans win an extra turn.</i></p>
<p><b>October 1942:</b> British capture a German code book. <i>Germans must reveal the coordinates of one U-boat.</i></p>	<p><b>May 1943:</b> British develop HF/DF (huff-duff), enabling Allies to figure out the location of U-boats from their radio transmissions. <i>Germans must reveal the coordinates of one U-boat.</i></p>

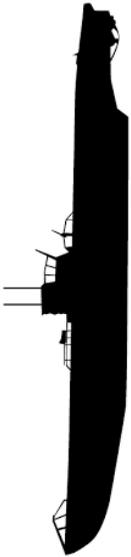


# ALLIES — Naval and Merchant

P	O	N	M	L	K	J	I	H	G	F	E	D	C	B	A	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CANADA										UNITED STATES										EUROPE															

Not to Scale

# AXIS — German U-boats



P	O	N	M	L	K	J	I	H	G	F	E	D	C	B	A	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
<div style="border: 1px solid black; border-radius: 50%; padding: 5px; display: inline-block;">                 UNITED STATES CANADA             </div>																<div style="border: 1px solid black; border-radius: 50%; padding: 5px; display: inline-block;">                 EUROPE             </div>																			

Not to Scale

# SEAMEN NEEDED

TRAIN FOR

Deck Department

Engine Department

Steward's Department

Radio Operator

Asst. Purser-Hospital Corps



## Section D Merchant Seamen

- U. S. Merchant Marine
- A Seaman Remembers

U. S. MARITIME SERVICE

# The U.S. Merchant Marine



Diver explores wreck site of *E.M. Clark*. Photo: NOAA

## Grade Level

6-12

## Timeframe

30-45 Minutes

## Materials

- Internet (Optional)
- If no internet, printed copies of two different shipwreck page for each student/group
- Student activity page

## Activity Summary

Students learn about the U.S. Merchant Marine and the role that they played in World War II. Students explore two merchant shipwrecks to learn more about merchant ships that sank off North Carolina's coast in 1942.

## Learning Objectives

- Learn the role of the U.S. Merchant Marine during World War II.
- Compare and contrast merchant ships that sank off the North Carolina coast in 1942.
- Write a descriptive paragraph in first person to give an account of a ship sinking.

## Key Words

Merchant Marine, merchant seamen, U-boat, depth charges, torpedo

## National Standards

NG:1; NCSS:1, II, III, V, VII, IX, and X; NCSS:HT.1, 2, and 4; NCSS:WH.ERA.8; NCSS:US.ERA.8; NCTE:1, 3, 5, 7 and 8; CCSS:ELA:LIT.RI.6.7, 7.3, 9-10.7, 11-12.7; CCSS:ELA:LIT.RH.6-8.3 and 7, 9-10.2 and 4, 11-12.7; CCSS:ELA:RST.9-10.7 and 6-8.7; CCSS:ELA:LIT.W.6-8.2, 3, and 7, 9-10.3 and 4, 11-12.7 and 7; OL:6



## Background Information

The United States Merchant Marine consists of the commercial, non-naval ships that carry cargo or passengers or provide maritime services. Also included are the merchant seamen, civilian crew, and officers, who sail the ships. Both the civilian mariners and the merchant ships are managed by a combination of government and private sector. They engage in commerce or transportation of goods and services in and out of U.S. waters and primarily transport cargo and passengers during peacetime. In times of war, the Merchant Marine can be an auxiliary to the U.S. Navy and can be called upon to deliver military personnel and supplies. Merchant Marine vessels include deep-sea ships, tugboats, towboats, ferries, dredges, excursion vessels, charter boats, and other waterborne craft on the ocean, the Great Lakes, rivers, canals, harbors, and other waterways.

During World War II, the ships and men of the U.S. Merchant Marine sailed across the ocean to many ports around the world transporting vast quantities of war material, supplies, equipment, and the troops needed to fight the war. The men of the U.S. Merchant Marine were civilian volunteers and prior to World War II, there were about 55,000 merchant seamen and over 1,300 cargo ships and tankers. By the end of World War II, as many as 250,000 civilians served as merchant seamen and the merchant fleet had expanded to over 4,200 vessels.

The merchant seamen faced many of the same dangers as U.S. Navy sailors, such as enemy submarines, mines, armed raiders, destroyer aircraft, and even foul weather. According to the War Shipping Administration, 1,554 merchant ships sank during World War II due to war-related conditions. Hundreds of other ships were damaged, many beyond repair. Because the U.S. Merchant Marine did not have a centralized record-keeping system during the war, estimates of casualties vary. Some estimates of the number of U.S. merchant seamen and officers lost during the war range from 5,600 to more than 9,000, with as many as 12,000 wounded and more than 600 taken as prisoners of war. One in 26 merchant mariners serving aboard merchant ships during World War II died in the line of duty, suffering a greater percentage of war-related deaths than all other U.S. uniformed services.

Whatever the actual numbers, the fact remains that hundreds of thousands civilian merchant seamen bravely served during World War II, and thousands of those sailors died in combat, without receiving the honor, respect, and recognition as did their counterparts in the uniformed military services. After World War II, merchant mariners sought through legislation to gain recognition as veterans. Legislation was introduced to provide benefits to merchant mariners as compared to those provided under the Servicemen's Readjustment Act of 1944, commonly known as the GI Bill. Their request was denied. In 1982 and 1985, applications were again put forward, but once again denied by the Secretary of the Air Force.

Following the 1985 rejection, a lawsuit was filed challenging the denial of active duty status for World War II oceangoing merchant mariners who participated in World War II invasions. The U.S. District Court for the District of Columbia ruled the application was rejected in error, and the Secretary of the Air Force was remanded to reconsider.

In 1988, following the court's decision, the Secretary of the Air Force granted active duty status for the purpose of eligibility for veterans' benefits to World II-era merchant mariners who served on vessels engaged in oceangoing service from December 7, 1941, to August 15, 1945. Therefore, with those restrictions, today only some groups of merchant mariners are considered to have served on active duty or are otherwise eligible for veterans' benefits.

Even though thousands of merchant mariners died while fighting to rid the world of tyranny during World War II, and even more were wounded, the merchant mariner continues not to be eligible to receive any of our country's service medals for courage and bravery, including the Purple Heart. As a nation, we are still identifying ways to recognize the merchant mariners of World War II, and honor these brave men for their sacrifices. Their contributions to our nation need to always be remembered and valued.

### Activity Summary

In this activity students will learn about the U.S. Merchant Marine and the role that the volunteer, civilian service played in helping to win World War II. Students will explore a website to learn more about the merchant ships that sank off the North Carolina coast in 1942.

### Learning Objectives

Students will be able to explain the role that the U.S. Merchant Marine played in World War II. They will compare and contrast two or more merchant ships and write a synopsis on how each met their demise in 1942.

### Teacher Preparation and Implementation

- Review the Shipwreck website and bookmark it for students. <http://monitor.noaa.gov/shipwrecks/>
- Determine if students will work individually or in groups.
- If internet is not available for students, then visit the website and print two different shipwreck pages for each student or group. These can be the same for all students, but best if many different shipwrecks are used among the class.
- Print the student activity pages for each student or group (pp.95-96).

### Procedure

1. Have students read the background information or read it to them. Check for understanding and discuss the role that the U.S. Merchant Marine played in World War II.
2. Have students use the computer or the printed copies of the shipwrecks to begin the activity. Go over the directions for the activity and check for understanding.
3. Once students have completed the Ship's Stats Chart, have them answer the questions below the chart.
4. Conclude with the writing activity or discussion on the dangers merchant ships faced during World War II.
5. Invite a merchant mariner currently working on a merchant ship to visit the class either in person or online to talk about what life is like today for merchant sailors.

### Vocabulary

**BATTLE OF THE ATLANTIC** — Longest continuous military campaign in World War II, running from 1939 to 1945; at its core was the Allied naval blockade of Germany and Germany's subsequent counter-blockade

**CONVOY** — A group of ships traveling together, typically accompanied by warships for protection

**COORDINATE** — A number in an ordered pair that names the location of a point on the coordinate plane

**DEPTH CHARGE** — An explosive charge designed to be dropped from a ship or aircraft and to explode underwater at a preset depth, used for attacking submarines

**MERCHANT MARINE** — The fleet of ships which carries imports and exports during peacetime and becomes a naval auxiliary during wartime to deliver troops and war material

**MERCHANT VESSEL** — A ship that transports cargo and is engaged in commercial trade

**U-BOAT** — A German submarine; name is derived from German word "Unterseeboot," which literally means "undersea boat"

## Resources\*

### Websites

#### Monitor National Marine Sanctuary — Shipwrecks

At this site, learn how the war came home to America just off the North Carolina coast. Watch videos, download dive slates and site plans for shipwrecks, and click to learn more about over 40 shipwrecks. Each shipwreck has historical and/or underwater photos and sonar images (if available).

<http://monitor.noaa.gov/shipwrecks/>

#### The Battle of the Atlantic Game

Have you got what it takes to lead a convoy across the perilous North Atlantic? Visit this BBC site to play an online game as a “Senior Officer Escort” and learn about the tactics used to outwit German U-boats and discover the strengths and weaknesses of both friend and foe.

[http://www.bbc.co.uk/history/worldwars/wwtwo/launch\\_gms\\_battle\\_atlantic.shtml](http://www.bbc.co.uk/history/worldwars/wwtwo/launch_gms_battle_atlantic.shtml)

#### U.S. Merchant Marine Academy — History

Read about the Merchant Marine Academy, learn how it all began, and discover how the academy helped to supply merchant seamen during World War II.

<https://www.usmma.edu/about/usmma-history>

#### Veterans’ Benefits: Eligibility of Merchant Mariners

Learn which merchant mariners currently have benefits, and what those benefits are. Read about the H.R. 154, the Honoring Our WWII Merchant Mariners Act of 2017, introduced in January 2017.

<https://www.everycrsreport.com/reports/R44162.html>

### Books

Black, Wallace B. and Jean F. Blashfield. *Battle of the Atlantic (World War II 50th Anniversary Series)*. Crestwood House, 1991. ISBN-13: 978-0896865587.

Bunker, John. *Heroes in Dungarees: The Story of the American Merchant Marine in World War II*. Naval Institute Press, January 15, 2013. ISBN-13: 978-1591140993.

Gillen, Michael. *Merchant Marine Survivors of World War II: Oral Histories of Cargo Carrying Under Fire*. McFarland, December 19, 2014. ISBN-13: 978-0786494675.

Herbert, Brian. *The Forgotten Heroes: The Heroic Story of the United States Merchant Marine*. Forge Books, May 1, 2004. ISBN-13: 978-0765307064.

\*The inclusion of links in this guide does not imply endorsement or support of any of the linked information, services, products, or providers.



In just six months, 78 merchant ships and over 1,200 merchant mariners were lost off the North Carolina coast. Here are four of the merchant tankers lost in 1942. Top Left: *Atlas*, after torpedoed by U-552. Courtesy of The Mariners’ Museum. Right Top: *Dixie Arrow* torpedoed by U-71. Courtesy of the National Archives. Bottom Left: *Empire Gem* following the attack by U-66. Courtesy of the National Archives. Bottom Right: *Byron D. Benson* burning after torpedoed by U-552. Courtesy of the National Archives.

Name \_\_\_\_\_

Date \_\_\_\_\_

## The U.S. Merchant Marine

### Background Information

The United States Merchant Marine consists of the commercial, non-naval ships that carry cargo or passengers or provide maritime services. Also included are the merchant seamen, civilian crew, and officers, who sail the ships. Both the civilian mariners and the merchant ships are managed by a combination of government and private sector. They engage in commerce or transportation of goods and services in and out of U.S. waters and primarily transport cargo and passengers during peacetime. In times of war, the Merchant Marine can be an auxiliary to the U.S. Navy and can be called upon to deliver military personnel and supplies. Merchant Marine vessels include deep-sea ships, tugboats, towboats, ferries, dredges, excursion vessels, charter boats, and other waterborne craft on the ocean, the Great Lakes, rivers, canals, harbors, and other waterways.

During World War II, the ships and seamen of the U.S. Merchant Marine sailed across the ocean to many ports around the world transporting vast quantities of war material, supplies, equipment, and the troops needed to fight the war. The seamen of the U.S. Merchant Marine were civilian volunteers and prior to World War II, there were about 55,000 merchant seamen and over 1,300 cargo ships and tankers. By the end of World War II, as many as 250,000 civilians served as merchant seamen and the merchant fleet had expanded to over 4,200 vessels.

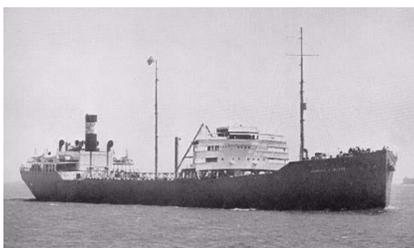
The merchant seamen faced many of the same dangers as U.S. Navy sailors, such as enemy submarines, mines, armed raiders, destroyer aircraft, and even foul weather. According to the War Shipping Administration, 1,554 merchant ships sank during World War II due to war-related conditions. Hundreds of other ships were damaged, many beyond repair. Because the U.S. Merchant Marine did not have a centralized record-keeping system during the war, estimates of casualties vary. Some estimates of the number of U.S. merchant seamen and officers lost during the war range from 5,600 to more than 9,000, with as many as 12,000 wounded and more than 600 taken as prisoners of war. One in 26 merchant mariners serving aboard merchant ships during World War II died in the line of duty, suffering a greater percentage of war-related deaths than all other U.S. uniformed services.

Whatever the actual numbers, the fact remains that many thousands of civilian merchant seamen bravely served during World War II and thousands of those sailors died in combat, without receiving the honor, respect, and recognition as did the uniformed military services. In 1988, only a select groups of merchant mariners, who served during World War II and met certain criteria, were finally officially recognized as veterans, but there remains thousands who are not.

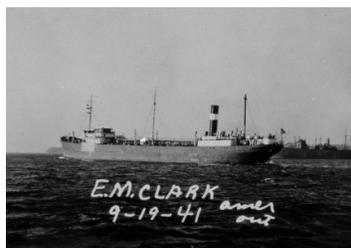
### Activity

In this activity, you will explore two merchant ships. Either use the printed resources provided by your teacher or visit Monitor National Marine Sanctuary's shipwreck website at <http://monitor.noaa.gov/shipwrecks/>.

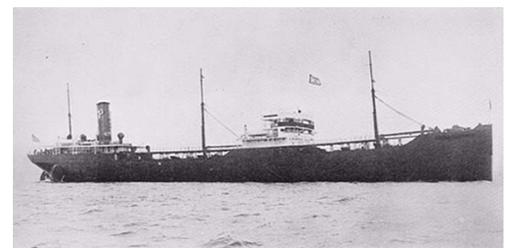
1. If using the website, scroll down to the "Merchant Ships" section.
2. Look through the various ships and choose two for the assignment.
3. Read the information for the first ship and complete the Ship Stats Chart, filling in the correct information.
4. Repeat step 2 and 3 for a second ship.
5. Answer the questions for each ship.
6. Complete the writing activity as if you were a merchant seaman on one of the ships you chose.
7. Explore the U.S. Merchant Marine Academy to learn more about the academic programs offered and what merchant seamen do today. <https://www.usmma.edu/>



Venore



E.M. Clark



Allan Jackson

## The U.S. Merchant Marine Continued

### Ship's Stats Chart

<b>Stats</b>	<b>Ship's Name:</b>	<b>Ship's Name:</b>
<b>Location</b>		
<b>Depth</b>		
<b>Vessel Type</b>		
<b>Cargo</b>		
<b>Owner</b>		
<b>Date Lost</b>		
<b>Sunk By</b>		
<b>Survivors</b>		
<b>Significance</b>		

**Use the Background Information to answer the following questions:**

1. What is the U.S. Merchant Marine's role during peace time?
2. What role did the U.S. Merchant Marine play during World War II?
3. How many merchant ships sank during World War II? How many human casualties?
4. When did some merchant seamen finally receive status as veterans?

**Answer the following questions for each of the ships you chose:**

1. Describe how the ship sank.
2. Was the ship traveling alone or with an escort?
3. Were there any survivors? If so, how many and how did they escape?
4. Has the shipwreck site been discovered? If so, describe the site today.
5. Compare the two ships. How are they similar? Both tankers, carrying same cargo, lost same number of men, etc.
6. How were they different?

**Writing Activity**

Choose one of the ships and imagine yourself on that ship when it began to sink. Using your own paper, write a descriptive paragraph in the first person, detailing what you might have experienced. Illustrate your writing.

## U.S. Merchant Marine — A Seaman Remembers



Submersible makes the first dive on U-576. Photo: NOAA

### Grade Level

6-12

### Timeframe

45 Minutes

### Materials

- Internet or printed resources
- Student activity page

### Activity Summary

Students learn about merchant mariners during World War II and read the story of Louis Segal, U.S. Merchant Marine Academy. They demonstrate understanding by creating a fictitious mariner and telling his story.

### Learning Objectives

- Explain the role of merchant mariners during WWII
- Read for understanding
- Extrapolate information to create a fictitious story of a WWII seaman

### Key Words

U.S. Merchant Marine Academy, merchant seaman, Battle of the Atlantic, U-boats, belligerent, Neutrality Act, Lend Lease Agreement

### National Standards

NG:1; NCSS:I, II, IX, and X; NCSS:HT.1, 2, and 4; NCSS:WH.ERA.8; NCSS:US.ERA.8; NCTE:1, 5, and 8; CCSS:ELA:LIT.RI.6.7, 7.3, 9-10.7, 11-12.7; CCSS:ELA:LIT.RH.6-8.3 and 7, 9-10.2 and 4, 11-12.7; CCSS:ELA:RST.9-10.7 and 6-8.7; CCSS:ELA:LIT.W.6-8.2, 3, and 7, 9-10.3 and 4, 11-12.7 and 7; OL:6



In 2016, World War II veteran and merchant mariner Louis Segal observed operations aboard the research vessel *Baseline Explorer*. Image Courtesy of John McCord, UNC Coastal Studies Institute.

### Background

In September 1939, when war broke out in Europe, Americans were divided about offering military aid, and the debate over the U.S. joining the war was even more heated. President Franklin Roosevelt knew that the U.S. wanted to remain neutral, but he also knew that if the Allies were to win the war, they would need a helping hand because they lacked the supplies needed to fight the Germans. Great Britain in particular, desperately needed help as they were short of hard currency to pay for military goods, food, and raw materials needed from the U.S. Roosevelt wanted to provide assistance to the British, but both public fears and American law blocked the way. The Neutrality Act of 1939 allowed “belligerents” to purchase war material from the U.S., but only on a “cash and carry” basis, and the Johnson Act of 1934, further prohibited the extension of credit to countries that had not repaid U.S. loans from World War I — which included Great Britain.

Bounded by the neutrality acts, but desiring to offer aid to the Allies, President Roosevelt signed a Destroyers for Bases agreement on September 2, 1940, transferring 50 World War I vintage destroyers to England in exchange for 99-year leases to seven British air and naval bases. He was able to justify it because outlying bases would help to keep invaders from reaching America’s shores.

The following December, Roosevelt also proposed a new initiative known as Lend-Lease that would set up a system allowing the U.S. to lend or lease war supplies to any nation deemed “vital to the defense of the United States.” It was signed into law on March 11, 1941, and the U.S. began providing significant military supplies and assistance to the Allies—more than a year prior to the U.S. entering the war in December 1941. Over the course of World War II, more than 30 countries contracted Lend-Lease agreements with the U.S., dispensing more than \$50 billion in assistance.

Merchant ships were needed to carry those supplies to Britain and other countries, and they became the supply line providing virtually everything the Allied armies needed as they fought on foreign battlefields. Merchant ships were operated by civilian volunteers with the U.S. Merchant

## Vocabulary

**BATTLE OF THE ATLANTIC** — Longest continuous military campaign in World War II, running from 1939 to 1945; at its core was the Allied naval blockade of Germany and Germany's subsequent counter-blockade

**BELLIGERENT** — A nation or person engaged in war or conflict, as recognized by international law

**CONVOY** — A group of ships traveling together, typically accompanied by warships for protection

**MERCHANT VESSEL** — A ship that transports cargo and is engaged in commercial trade

**U-BOAT** — A German submarine; name is derived from German word “Unterseeboot,” which literally means “undersea boat”

**U. S. MERCHANT MARINE** — The United States Merchant Marine refers to either U.S. civilian mariners or to the U.S. civilian and federally owned merchant vessels

Marine. The seamen on these ships were not military, and they were deplored by some Navy leaders for refusing to bend to military discipline. Others complained the mariner's wartime bonuses raised their pay higher than that of military men, while ignoring the fact that mariners received no military standing or government benefits. However, many, including President Roosevelt, praised mariners because they possessed an unusual variety of courage and gave their lives for their country as valiantly as those did in the armed forces. The *New York Times* characterized the merchant mariners as the war's unsung heroes.

The U.S. Merchant Marine suffered a higher casualty rate than any branch of the military, about 9,300 men. Many mariners were lost in 1942, when the majority of merchant ships sailed in U.S. waters with little or no protection from German U-boats. Alone in March 1942, 27 ships from six Allied nations were sunk off U.S. shores. Statistically, America's coastal waters were the most dangerous and the scene of half the world's sinkings.

After years of struggle for recognition as veterans, some groups of merchant mariners that met specific criteria were granted veteran status in 1988. The designation entitled the merchant seamen who qualified to obtain military service discharge certificates, which in turn made them eligible for veterans benefits, such as the use of Veterans Administration hospitals and burial in national cemeteries. However, today there remains thousands of merchant mariners who never received benefits, and none of the mariners are eligible for any of our country's service medals, not even the Purple Heart.

As of 2018, more than 70 years after World War II ended, most of the mariners who sailed against the U-boats are gone. There are only few thousand who remain, and one of those is Mr. Louis Segal, a merchant mariner who attended the U.S. Merchant Marine Academy from 1942—1944. In September 2016, at the age of 92, Mr. Segal joined NOAA's Battle of the Atlantic Expedition off the coast of Cape Hatteras, North Carolina, to take the first look at the German U-boat, U-576, and the ship it sank, SS *Bluefields*.

## Activity Summary

In this activity, students first learn about the importance of merchant ships and the men who sailed them during World War II. Next, they read a story written about Louis Segal, who began his naval career in 1942, as a merchant seaman at the U.S. Merchant Marine Academy, and who later transferred to the U.S. Navy as a lieutenant serving for 12 years. Students will summarize Mr. Segal's story and then construct a profile of a fictitious merchant seaman. Finally, they will write a fictitious story of their seaman's experiences during World War II sailing on merchant ships.

## Learning Objectives

Students will understand and be able to explain the role that the U.S. Merchant Marine played in World War II. They will read for understanding and summarize the story of a World War II merchant seaman. They will demonstrate understanding of the merchant mariner's role during World War II by creating a fictitious merchant seaman and summarizing his life during World War II.

## Teacher Preparation and Implementation

- Review the NOAA story, *The Adventurous Life of Louis Segal* at <http://oceanexplorer.noaa.gov/explorations/16battlefield/logs/sept6/sept6.html>
- Determine if students will work individually or in groups.
- Bookmark page on student computers or make a copy of the article for each student or group.
- Print copies of student activity page for each student or group (pp. 100-101).

## Procedure

1. Have students read the background information (or read it to them) and answer the questions.
2. Check for understanding and discuss the role that the U.S. Merchant Marine played in World War II.
3. Have students use the computer or the printed copies of the Louis Segal article.
4. Go over the directions for the activity and check for understanding.

- Once students have completed summarizing Louis Segal's story, have them brainstorm ideas for their own fictitious seamen and the story he will tell.
- Conclude the writing activity, and discuss why merchant mariners of World War II are often called "unsung heroes."

## Resources\*

### Websites

#### NOAA Ocean Explorer — *The Adventurous Life of Louis Segal*

Read the heartwarming story of Louis Segal, World War II veteran, who at the age of 92, ventured from San Diego, California to the shores of Cape Hatteras, North Carolina, to board a research vessel to get the first look at the German U-boat, U-576 and the ship it sank in 1942, SS *Bluefields*.

<http://oceanexplorer.noaa.gov/explorations/16battlefield/logs/sept6/sept6.html>

#### Monitor National Marine Sanctuary — Shipwrecks

At this site, learn how the war came home to America just off the North Carolina coast. Watch videos, download dive slates and site plans for shipwrecks, and click to learn more about over 40 shipwrecks. Each shipwreck has historical and/or underwater photos and sonar images (as available).

<http://monitor.noaa.gov/shipwrecks/>

#### U.S. Merchant Marine Academy — History

Read about the Merchant Marine Academy, learn how it all began, and discover how the academy helped to supply merchant seamen during World War II.

<https://www.usmma.edu/about/usmma-history>

#### The New York Times — *Wartime Merchant Seamen to Get Veterans' Status*

Read this article from January 21, 1988, detailing how some merchant mariners finally received veteran status.

<http://www.nytimes.com/1988/01/21/us/wartime-merchant-seamen-to-get-veterans-status.html>

#### Smithsonian — The Merchant Marine Were the Unsung Heroes of World War II

Read how these daring seamen kept the Allied troops armed and fed while at the mercy of German U-boats.

<http://www.smithsonianmag.com/history/merchant-marine-were-unsung-heroes-world-war-ii-180959253/>

#### Digital History — Neutrality Act of 1939

Digital copy of the Neutrality Act of 1939.

[http://www.digitalhistory.uh.edu/disp\\_textbook.cfm?smtID=3&psid=4074](http://www.digitalhistory.uh.edu/disp_textbook.cfm?smtID=3&psid=4074)

\*The inclusion of links in this guide does not imply endorsement or support of any of the linked information, services, products, or providers.

## Books

Bunker, John. *Heroes in Dungarees: The Story of the America Merchant Marine in World War II*. Naval Institute Press, 2012. ISBN-13: 978-1591140993.

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## Video

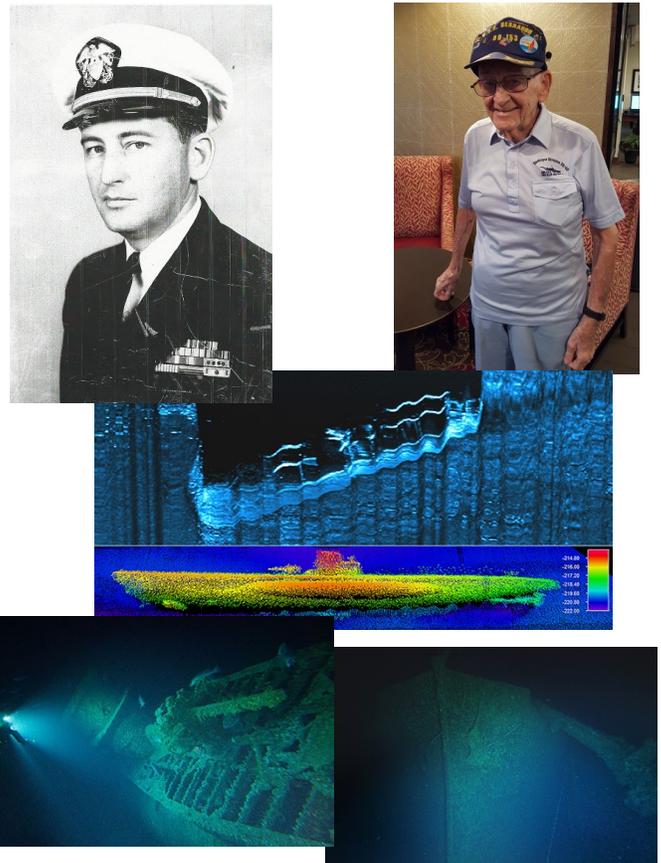
#### A German U-boat's Watery Grave off North Carolina

CBS Sunday Morning video documenting NOAA's first look at the U-576 and SS *Bluefields*. Video includes Louis Segal.

<https://www.cbsnews.com/news/a-german-u-boats-watery-grave-off-north-carolina/>

## Extension

Have students visit <http://monitor.noaa.gov/shipwrecks/#merchant> to read the historical background section of several merchant ships featured on the webpage. Have them choose one ship and research more information about any survivors and share their findings with the class through video, PowerPoint, essay, posters, or other medium.



Top to bottom: Louis Segal in the U.S. Navy, ca. 1949. Courtesy of Louis Segal; Louis Segal in August 2016 as he arrives to join the Battle of the Atlantic Expedition. NOAA; Sonar images discovering the location of the U-576 and *Bluefields* off Cape Hatteras, North Carolina. NOAA; First image of the U-576. NOAA.; First image of the *Bluefields'* bow. NOAA

Name \_\_\_\_\_

Date \_\_\_\_\_

## Making It Personal

### Background Information

In September 1939, when war broke out in Europe, Americans were divided about offering military aid, and the debate over the U.S. joining the war was even more heated. President Franklin Roosevelt knew that the U.S. wanted to remain neutral, but he also knew that if the Allies were to win the war, they would need a helping hand because they lacked the supplies needed to fight the Germans. Great Britain in particular, desperately needed help as they were short of hard currency to pay for military goods, food, and raw materials needed from the U.S. Roosevelt wanted to provide assistance to the British, but both public fears and American law blocked the way. The Neutrality Act of 1939 allowed “belligerents” to purchase war material from the U.S., but only on a “cash and carry” basis, and the Johnson Act of 1934, further prohibited the extension of credit to countries that had not repaid U.S. loans from World War I — which included Great Britain.

President Roosevelt signed a Destroyers for Bases agreement on September 2, 1940, transferring 50 World War I vintage destroyers to England in exchange for 99-year leases to seven British air and naval bases. The following December, he proposed a new initiative known as Lend-Lease. It was signed into law on March 11, 1941, and the U.S. began providing significant military supplies and assistance to the Allies—more than a year prior to the U.S. entering the war in December 1941. Over the course of World War II, more than 30 countries contracted Lend-Lease agreements with the U.S., dispensing more than \$50 billion in assistance.

Merchant ships were needed to carry the supplies to Britain and the other countries, and they became the supply line providing virtually everything the Allied armies needed as they fought on foreign battlefields. Merchant ships were operated by civilian volunteers with the U.S. Merchant Marine. The seamen on these ships were not military and were deplored by some Navy leaders for refusing to bend to military discipline. Others complained the mariners’ wartime bonuses raised their pay higher than that of military men, while ignoring the fact that mariners received no military standing or government benefits. However, many, including President Roosevelt, praised mariners because they possessed an unusual variety of courage and gave their lives for their country as valiantly as those in the armed forces did. The *New York Times* characterized the merchant mariners as the war’s unsung heroes.

Serving as a merchant mariner, was extremely dangerous. The Merchant Marine suffered a higher casualty rate than any branch of the military, losing 9,300 men. Over 1,200 men were lost in 1942, when the majority of merchant ships sailed in U.S. waters with little or no protection from German U-boats. In March 1942 alone, 27 ships from six Allied nations were sunk off U.S. shores. Statistically, America’s coastal waters were the most dangerous and the scene of half the world’s sinkings.

After years of struggle for recognition as veterans, a select group of merchant mariners who met certain criteria were granted veteran status in 1988. The designation entitled those merchant seamen who qualified to obtain military service discharge certificates, which in turn made them eligible for veterans’ benefits, such as the use of Veterans Administration hospitals and burial in national cemeteries. However, thousands of merchant mariners remain unrecognized.

As of 2018, more than 70 years after World War II ended, most of the mariners who sailed against the U-boats are gone. There are only few thousand who remain, and one of those is Mr. Louis Segal, a merchant mariner who attended the U.S. Merchant Marine Academy from 1942—1944. In September 2016, at the age of 92, Mr. Segal joined NOAA’s Battle of the Atlantic Expedition off the coast of Cape Hatteras, North Carolina, to take the first look at the German U-boat, U-576 and the ship it sank, SS *Bluefields*.

### Check for Understanding

After reading the Background Information, use your own paper and answer the following questions:

1. After World War I, Americans did not want to be involved in another war, and there was a desire to be “isolated” from the rest of the world. However, they wanted to help the British. Why? What would the U.S. gain by helping the Allies?
2. Why were merchant ships needed to carry supplies? Why were these ships not run by the military?
3. In 1942, more merchant ships were sunk off the U.S. coast than any other year during World War II. Why? What are some possible reasons that the U.S. Navy was unable to protect the merchant ships during that time?
4. Why was it so dangerous to be a merchant mariner during World War II? Should they have received veteran status during the war?

Name \_\_\_\_\_

Date \_\_\_\_\_

### Making It Personal Continued

#### **The Adventurous Life of Louis Segal — Introduction**

At the age of 17, Louis Segal wanted to join the U.S. Navy and fight in World War II, but when he applied, the Navy turned him down because he was too skinny. Disappointed, Louis went to work at Kraft Manufacturing making \$8 a week. After 18 months, he had succeeded in putting on some weight, and although his salary had increased to \$16 a week, he still had the notion of going to sea and traveling the world. Therefore, at the age of 18, in September 1942, Louis applied to the United States Merchant Marine Academy, and just to make sure he didn't get turned down, he ate five bananas right before going through the physical exam, and he passed!

To read the article, visit <http://oceanexplorer.noaa.gov/explorations/16battlefield/logs/sept6/sept6.html>.

#### **Activity**

In this activity, you will read the complete NOAA Ocean Explorer article, *The Adventurous Life of Louis Segal* and summarize it. You will then use the summary and what you have learned about merchant mariners to create a fictitious mariner and write his story.

Remember the purpose of a summary is to accurately describe the main point and the important details of the article. When summarizing, you are describing what the essay is about as if to someone who has not read the article. While summarizing is generally fairly short, it is not easy. A good summary incorporates all of the important aspects so that a reader who has not read the story can understand what it is about. Therefore, the most important element of a good summary is the ability to accurately depict what is in the original article.

1. Read the story about Louis Segal using either a printed copy or visit the website listed above. Read the article as many times as necessary to fully understand it.
2. Create an outline of the story using the outline below or one of your own.

I. WWII veteran Louis Segal joins the 2016 Battle of the Atlantic Expedition

- A. \_\_\_\_\_
- B. \_\_\_\_\_
- C. \_\_\_\_\_

II. Military Career

- A. \_\_\_\_\_
- B. \_\_\_\_\_
- C. \_\_\_\_\_

III. Personal Life

- A. \_\_\_\_\_
- B. \_\_\_\_\_
- C. \_\_\_\_\_

IV. Life after the Navy

- A. \_\_\_\_\_
- B. \_\_\_\_\_
- C. \_\_\_\_\_



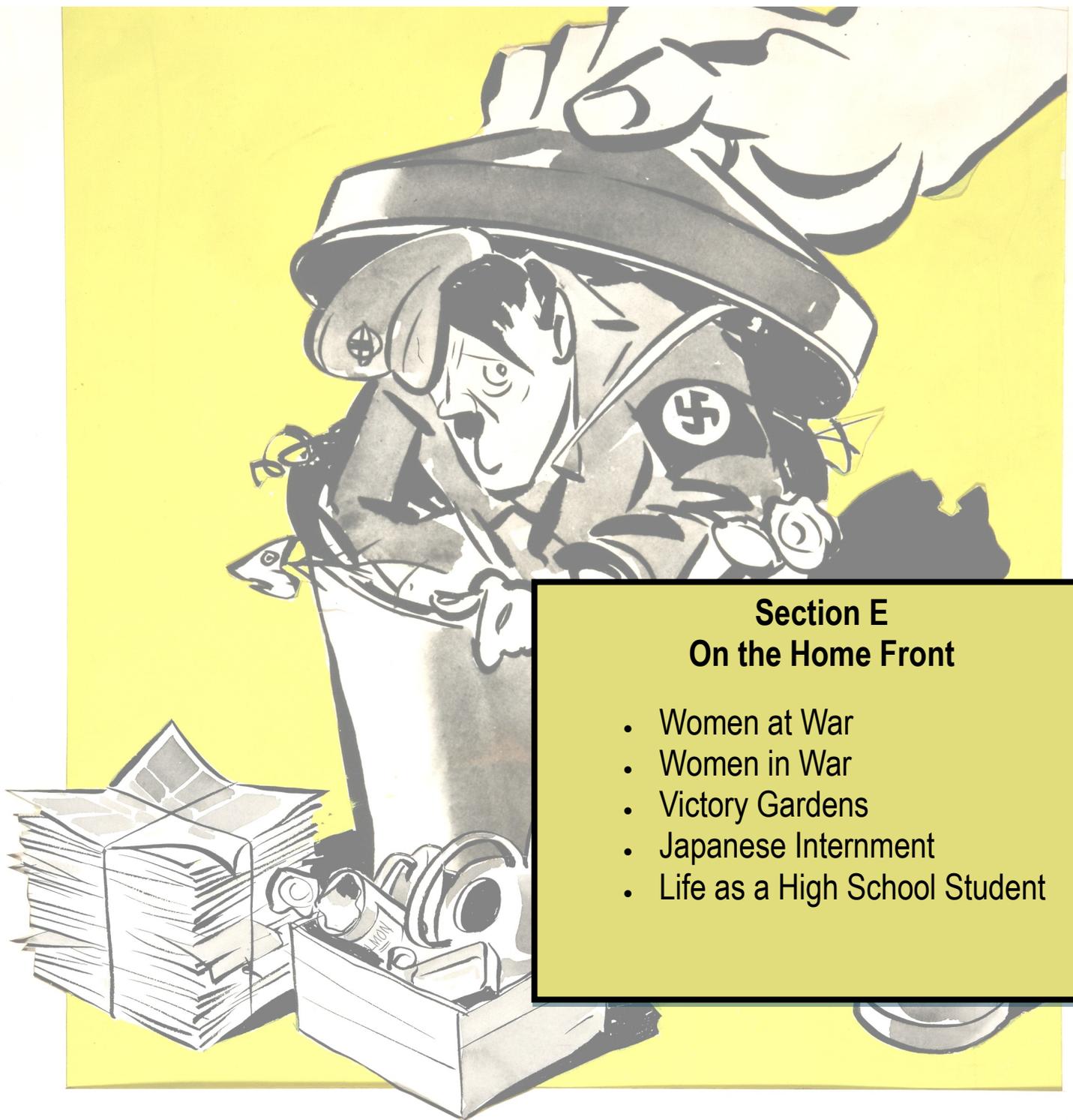
Louis Segal on board R/V *Baseline Explorer*, 2016. Photo: UNC Coastal Studies Institute

3. Summarize the life and career of Louis Segal in not more than two paragraphs.
4. What was the main point of the story?

#### **Writing Activity**

If you had been a merchant seaman in 1942, what would your life story tell us today? Create a story describing 1) who you were in 1942; 2) why you wanted to be a merchant seaman; 3) what ship(s) you worked on, if any sank and if so, describe how; 4) any great adventures that you had; and 5) what happened to you after the war ended? Share your story with the class using PowerPoint, poster, written essay, video or another medium of your choosing. After everyone's presentation, discuss the various lives described and vote for the one that is most interesting.

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**Section E**  
**On the Home Front**

- Women at War
- Women in War
- Victory Gardens
- Japanese Internment
- Life as a High School Student

**Help put the lid on Hitler**  
**BY SAVING YOUR**  
**OLD METAL AND PAPER**

## Women at War



Eastine Cowner at work on the SS *George Washington Carver*, 1943. Seventeen Liberty ships were named for outstanding African-Americans. Photo: Courtesy of the Library of Congress

### Grade Level

6-12

### Timeframe

~60 Minutes

### Materials

- Student worksheets
- Internet or download video clips

### Activity Summary

In Activity A, students watch a video to understand how and why women's roles changed during World War II. In Activity B, students analyze posters recruiting women during World War II and contrast how women would be recruited today. In Activity C, students compare and contrast posters of Rosie the Riveter and watch a video to better understand the symbolism used in each.

### Learning Objectives

- To understand the changing role of women during World War II
- To understand how and why the government appealed to women to join the workforce

### Key Words

Rivet, riveter, Rosie the Riveter

### National Standards

NCSS:I, II, IV, V, VII, X; NCSS:HT.1, 3 and 4; NCSS:WH.ERA.8; NCSS:US.ERA.8; NCTE:1, 3, 7 and 8; CCSS:ELA:LIT.RI.6-12.7; CCSS:ELA:LIT.W.6-10.1; CCSS:ELA:LIT.RH.6-12.7



Women welders at Ingalls Shipbuilding Corp., Pascagoula, Mississippi, in 1943. Courtesy of U.S. National Archives

## Background Information

When Japan bombed Pearl Harbor on December 7, 1941, men rushed to enlist to fight against tyranny. With so many men joining the Armed Forces, many jobs traditionally done by males were left vacant. At the same time, in order to supply the growing military and wartime needs, the U.S. government and industry expanded dramatically to build new ships, airplanes, tanks, and other military equipment, greatly increasing the need for workers. To answer the call, America's "secret weapon," women from around the country, voluntarily mobilized to meet those challenges of war.

A woman's place in 1941 was traditionally in the home as a wife and mother. Many jobs outside the home were thought unsuitable for women, but entry into the war changed everything. However, with society's perception of working women, it was necessary for the government to first change society's attitudes towards women working outside the home before they could recruit them into the work force. The federal government, along with businesses, began an intense courtship of women to convince them it was their patriotic duty to go to work. They also appealed to their intellect by offering women higher pay and new challenges than ever before. The campaign worked, and soon women began working in new jobs, developing new skills, and exploring new opportunities to work as shipbuilders, chemists, engineers, riveters, code breakers, spies, war correspondents, truck drivers, secretaries, pilots, nurses, aircraft workers, factor workers, streetcar conductors, and many others. Six million women entered the workforce between 1941 and 1945.

At the end of the war, many women quit their jobs to return to the home. Some were fired so that their jobs could be filled by men returning from the war. However, many women continued to work. They wanted more out of life. They had experienced doing meaningful jobs, getting paid a good wage, and making a contribution to society. Therefore, the number of working women remained higher after the war than prewar numbers and for some, this was the impetus of the 1960s women's movement for equal rights.

## Activity Summary

In Activity A, students watch a video clip and answer focus questions to learn how and why women's roles changed during World War II. Students review World War II recruitment posters in Activity B to evaluate their effectiveness in getting women to join the workforce.

Next, they discuss how similar posters would be received today and create a new poster for today's women. In Activity C, students compare and contrast two posters that are well known today as Rosie the Riveter. Next, they watch a video that explains how and why the posters were created and the symbolism behind the details.

## Learning Objectives

Students will understand the changing role of women during World War II and how the government appealed to them to join the workforce to help win the war. Students compare and contrast two campaign posters created to encourage women to work and boost morale.

## Teacher Preparation and Implementation

- Review each activity and determine if your students will do one, two, or all three activities.
- Preview each of the videos and either bookmark their location or download to computer.
- Print copies of activity pages for each student (pp. 107, 108, and 111).
- For Activity B, print copies of the recruiting posters (pp.109-110) for each student or group, or download similar posters from Internet.
- For Activity C, use the links below to download an image of each poster. If a projector is available, you can show the images to the class as a whole group. If not, then print copies of each image for each student or group (p. 112)
  - **Norman Rockwell painting:**  
<http://www.saturdayeveningpost.com/2013/07/01/art-entertainment/norman-rockwell-art-entertainment/rosie-the-riveter.html>
  - **J. Howard Miller poster:**  
[https://upload.wikimedia.org/wikipedia/commons/1/12/We\\_Can\\_Do\\_It%21.jpg](https://upload.wikimedia.org/wikipedia/commons/1/12/We_Can_Do_It%21.jpg)

## Procedure

### Activity A:

1. Either have students read the background information or read it as a class. Check for understanding.
2. As a class or individually, have students watch the video, *Beyond the Story: American Women During World War II*.
3. Have students answer the focus questions while watching the video and discuss.

### Activity B:

1. Either have students read the background information or read it as a class. Check for understanding.
2. Have students review the recruitment posters and in their group or as a class, discuss the posters and their effectiveness then and now. Use the focus questions as a discussion guide.
3. Have each student or group design a poster that would appeal to women today to do their part if there was a war.

### Activity C:

1. Either have students read the background information or read it as a class. Check for understanding.
2. Have students observe the two “Rosie the Riveter” posters and write a summary of the overall message of each poster. Ask them to explain any details that helped them form their opinion.
3. Compare and contrast the two posters.
4. Have students watch the video, *Rosie the Riveter: Real Women Workers in World War II* (see Videos section in this guide for link) and answer the focus questions.
5. Discuss answers and help students understand that posters were created to encourage women to join the workforce and to boost morale during World War II.

## Resources\*

### Websites

#### Rosie the Riveter (Saturday Evening Post)

The Saturday Evening Post looks back at the woman who posed for Rosie the Riveter.  
<http://www.saturdayeveningpost.com/2013/07/01/art-entertainment/norman-rockwell-art-entertainment/rosie-the-riveter.html>

### Books

Colman, Penny. *Rosie the Riveter: Women Working on the Home Front in World War II*. Yearling, February 10, 1998. ISBN-13: 978-0517885673.

Mullenbach, Cheryl. *Double Victory. How African American Women Broke Race and Gender Barriers to Help Win World War II*. Chicago Review Press; Reprint edition February 1, 2017, ISBN-13: 978-1613735237.

Weatherford, Doris. *American Women and World War II (History of Women in America)*. Castle Books, February 11, 2009. ISBN-13: 978-0785824909.

*\*The inclusion of links in this guide does not imply endorsement or support of any of the linked information, services, products, or providers.*

## Vocabulary

**RIVET** — A short metal pin or bolt for holding together two plates of metal, its headless end being beaten down or pressed down when in place; a permanent mechanical fastener

**RIVETER** — A person whose job is to rivet

**ROSIE THE RIVETER** — Star of a government campaign aimed at recruiting female workers for the munitions industry; became perhaps the most iconic image of working women during the war

Yellen, Emily. *Our Mothers' War: American Women at Home and at the Front During World War II*. Free Press, March 7, 2005. ISBN-13: 978-0743245166.

## Videos

### Library of Congress: Rosie the Riveter: Real Women Workers in World War II (14:18)

Video explores the evolution of “Rosie the Riveter” and discusses the lives of real women in World War II. <https://www.youtube.com/watch?v=04VNBM1PqR8>

### Scholastic: Beyond the Story: American Women During World War II (4:38)

Powerful nonfiction video explores how and why the role of American women changed during World War II. <https://www.youtube.com/watch?v=nxDdVoiLHcg>

### Women Fill Men’s Factory Jobs During World War II (4:51)

A look at the various jobs women filled during the war, the challenges they faced, and the pride they felt. <https://www.youtube.com/watch?v=IX107VHMB1Q>

### History.com: Rosie the Riveter (2:41)

Short video clip that explains the evolution of Rosie the Riveter as the icon for American women during World War II. <http://www.history.com/topics/world-war-ii/rosie-the-riveter>

### History.com: The U.S. Homefront During WWII (3:01)

Short video clip that describes how Americans pitched in to support World War II and how life changed. <http://www.history.com/topics/world-war-ii/rosie-the-riveter/videos/the-u-s-homefront-during-wwii>



## Extensions

1. Have students research and list jobs held by women during World War II. Have them choose one job and research what the job entailed. Next, have them pretend to be a woman working in that job in 1944 and write a journal/diary entry describing what her work day might have been like, her thoughts about the job and the war, and her hopes for the future.
2. Have students research World War II posters encouraging women to join the workforce. Have them choose two and compare and contrast the posters summarizing their message and explaining any details. Ask if they saw a pattern in posters. Was there always an appeal to patriotism?



Above: World War II, U.S. government recruiting poster for women workers. This woman is working on the bombardier nose section of a Navy bomber at the Douglas Aircraft Company plant in Long Beach, California. Photo: Courtesy of the Library of Congress.

Left: Turret lathe operator machining parts for transport planes at the Consolidated Aircraft Corporation plant, Fort Worth, Texas, October 1942. Photo: Courtesy of the Library of Congress; Office of War Information

Name \_\_\_\_\_

Date \_\_\_\_\_

## Women at War

### Background Information

When Japan bombed Pearl Harbor on December 7, 1941, men rushed to enlist to fight against tyranny. With so many men joining the Armed Forces, many jobs traditionally done by males, were left vacant. At the same time, in order to supply the growing military and wartime needs, the U.S. government and industry expanded dramatically to build new ships, airplanes, tanks, and other military equipment increasing even greater the need for workers. To answer the call, America's "secret weapon," women from around the country, voluntarily mobilized to meet those challenges of war.

A woman's place in 1941 was traditionally in the home as a wife and mother. Many jobs outside the home were thought unsuitable for women, but entry into the war changed everything. However, with society's perception of working women, it was necessary for the government to first change society's attitudes towards women working outside the home before they could recruit them into the work force. The federal government, along with businesses, began an intense courtship of women to convince them it was their patriotic duty to go to work. They also appealed to their intellect by offering women higher pay and more new challenges than ever before. The campaign worked, and soon women began working in new jobs, developing new skills, and exploring new opportunities to work as shipbuilders, chemists, engineers, riveters, code breakers, spies, war correspondents, truck drivers, secretaries, pilots, nurses, aircraft workers, factor workers, streetcar conductors, and many others. Six million women entered the workforce between 1941 and 1945.

At the end of the war, many women quit their jobs to return to the home. Some were fired so that their jobs could be filled by men returning from the war. However, many women continued to work. They wanted more out of life. They had experienced doing meaningful jobs, getting paid a good wage, and making a contribution to society. Therefore, the number of working women remained higher after the war than prewar numbers and for some, this was the impetus of the 1960s women's movement for equal rights.

### Activity A — Changing Roles of Women

1. Either as a class or individually, watch the video *Beyond the Story: American Women During World War II*. <https://www.youtube.com/watch?v=nxDdVoiLHcg>.
2. Follow along with the video to answer the following questions:
  - Describe a woman's role before the war?
  - Why were women needed to do a "man's" job?
  - Why did businesses not want women to work?
  - By 1945, how many women have war jobs?
  - What were some of the jobs that women did during WWII? Were they paid equally as men?
  - Other than working in factories, what additional jobs did women fill?
  - Which branches of the military supported women in WWII? What roles did they have in the military?
  - Was childcare available for working mothers? Who provided childcare?
  - At the end of the war, when the soldiers returned, did they expect their jobs back? What happened to the women who worked in those jobs?
  - With WWII, did women's feelings change toward working outside the home? What future movement was fueled by the working women of WWII?



Women welders at Ingalls Shipbuilding Corp., Pascagoula, Mississippi, in 1943. Courtesy of U.S. National Archives



Cornhusker Ordnance Plant women workers, Photo: Courtesy of U.S. National Archives

Name \_\_\_\_\_

Date \_\_\_\_\_

## Women at War Continued

### Activity B — Women’s Recruitment Campaign

During the Depression and into the early 1940s, the U.S. labor force consisted predominantly of men. In 1941, with the United States’ entry into World War II, many men volunteered or were drafted to serve in the military leaving a huge gap in fulfilling labor needs in offices, factories, and even in the military. Who would fill those jobs?

The government wanted women to step forward to fulfil the jobs left vacant by men. However, from our country’s earliest times until the 1940s, most Americans believed that a woman’s role was one of a mother and homemaker and her place was in the home. So even if women wanted to work, they felt the pressure of society to remain in the home. The government knew that the only way to get women in the work force in the numbers needed was to change society’s perception and acceptance of women working.

To change society, an extensive campaign was launched with the goal of changing public attitudes towards women’s roles. The campaign was two-fold and both appealed to women’s patriotic duty, just in different ways. First, the positive approach appealed to women to “do their part.” Second was a more negative approach saying “a soldier might die if you don’t do your part.” A campaign slogan saying “The More Women at Work—The Sooner We’ll Win” was created promising women that their contributions would bring the men home sooner.

Initially, these campaigns were successful. In December 1941, prewar, about 11 million women were in the workforce. By 1945, over 18 million women worked outside of the home. In manufacturing alone, six million women worked to make weapons for the military. However, many of the jobs were unglamorous and women did not want to work in them. Therefore, the War Manpower Commission (WMC) and the Office of War Information (OWI) began to point out that every job a woman took helped to solve the manpower shortage. They wanted to communicate that any job in the labor force, no matter how unglamorous, was a contribution to winning the war.

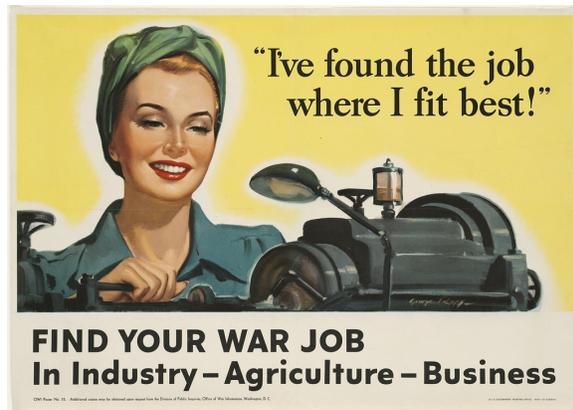
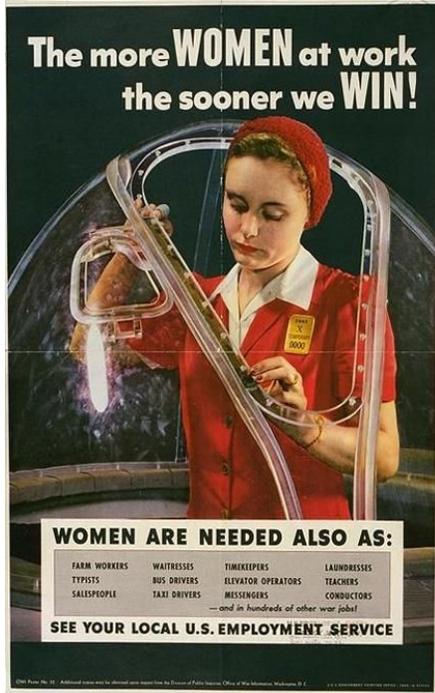
Once women began entering the workforce, there were unforeseen problems. Childcare, housework, and even shuffling children to and from school were all challenges the working woman met. In 1941, there were no childcare centers as there are today, and when a woman worked, she also did all the household tasks as well. Another problem women faced was difficulty in just getting to work. With all the rubber and metal going to the war effort, car parts were scarce. As a result of so many working women, the government began to realize the problems women faced when they took on a working role. However, despite the issues, women were desperately needed to help win the war.

### Activity Overview

In this activity, you will review the campaign posters the government created to encourage women to work outside of the home. You will evaluate them for their content, effectiveness, and appeal to women in 1942. Next, you will evaluate the posters for use today. Would they be effective? Would they appeal to today’s women? Finally, you will create a war-time poster that would appeal to the young women of today.

### Procedure

1. Review the recruitment posters and answer the following questions.
  - What would have been appealing to women in 1942 in each of the posters?
  - Is there a collective theme? If so, what is it? If not, what themes are displayed?
  - Identify which posters approach recruitment positively. Identify the ones that approach it negatively.
  - How do the women in the poster appear? Is their hair neatly coiffed? Do they wear make-up? Are they wholesome—the girl next door? Why do you think the government used these type of women as models for the posters?
2. Now review the same recruitment posters as a campaign in the current year.
  - What would be appealing to women today in each of these posters?
  - Would the messages or themes portrayed appeal to young women today? Why or why not?
  - Why would women today not want to join the military? Why would they want to join?
  - If there was another world war, how would you make the posters more appealing to women today?
3. Use what you have learned and design a campaign poster enticing women today to do their part if there was a war.



All poster images courtesy of the U.S. National Archives and/or Library of Congress



## Women at War Continued

### Activity C — Rosie the Riveter

In early 1943, the term “Rosie the Riveter” was used in a song written by Redd Evans and John Jacob Loeb. The song portrayed Rosie as a hard-working assembly line worker doing her part to help America win the war. It was a nationwide hit and filled radio waves across the home front. About that time, a series of posters were created by J. Howard Miller for Westinghouse to help promote the war effort. One of those posters featured the image of a working woman with her hair wrapped up in a scarf, sleeves rolled up and biceps flexing. The poster read, “We Can Do It!” The poster was intended to boost morale and keep production high within the Westinghouse factories. It was distributed to employees for about two weeks in February 1943, and then not seen again for nearly 40 years. The name “Rosie” was never associated with that original image, but during the 1980s, the image was rediscovered and mistakenly given the label “Rosie the Riveter.”

In 1943, Norman Rockwell created an image of “Rosie” for the cover of the *Saturday Evening Post* Memorial Day issue published on May 29, 1943. He painted a muscular woman wearing overalls, goggles, makeup, and with pins of honor on her lapel. She sits with a riveting tool in her lap as she eats a sandwich, while stepping on a copy of Adolf Hitler’s book *Mein Kampf*. The model was 19-year-old Mary Doyle, a telephone operator in Vermont who lived near Rockwell. As Rockwell preferred to work from still images instead of live models, he had her photographed, and used Michelangelo’s 1509 Sistine Chapel ceiling image of the prophet Isaiah for Rosie’s pose.

People loved Norman Rockwell paintings, and the *Post*’s cover was hugely popular. The government took advantage of the popularity and began a recruiting campaign based on the same name. The magazine loaned the image to the U.S. Treasury Department for use in war bond drives and it brought millions of women out of the home and into the workforce. Due to copyright protections, the image was seen less and less through the years. However, the J. Howard Miller poster, “We Can Do It!” had fewer copyright protections, and in the 1980s, his image soon replaced the real Rosie. The image appeared on coffee mugs, magnets, mousepads, and countless other items making her the most famous of all labor icons.

### Procedure

1. Observe the Miller poster and note the details. Write a summary of the overall message of the poster. Explain any details that helped you form your opinion.
2. Observe the Rockwell painting and note the details. Write a summary of the overall message of the poster. Explain any details that helped you form your opinion.
3. How are the two posters similar? How are they different?
4. Watch the Library of Congress video *Rosie the Riveter: Real Women Workers in World War II* and answer the following questions. <https://www.youtube.com/watch?v=04VNBMI1PqR8>
  - How many people subscribed to the *Saturday Evening Post* in 1943? Why is that significant?
  - Who was Rose Hickey? What was she and her work partner famous for?
  - What is a riveter? What is a bucker? Which job do you think Rosie did? Why?
  - List 10 details of the Norman Rockwell image and explain their significance.
  - Why was Rosie wearing loafers? What is the implication of Rosie stepping on Hitler’s book? Why is she eating in this image?
  - During World War II, women workers came from which three main groups?
  - How did employers and the government entice women to work?
  - After the war, did all women stop working outside of their homes? Why? How did the war change their lives?

Cover of the *Saturday Evening Post*, May 29, 1943, with Norman Rockwell’s “Rosie the Riveter” image.



J. Howard Miller’s poster created for Westinghouse and distributed to employees in February 1943.



262. Rosie the Riveter. Post cover, May 29, 1943

## Women In War



U.S. Navy WAVES recruiting poster.  
Courtesy of the Library of Congress

### Grade Level

6-12

### Timeframe

~30 minutes for each activity

### Materials

- Student worksheets
- Aircraft spotter cards (Activity B)

### Activity Summary

In Activity A, students explore women in the Armed Forces during World War II and analyze the effectiveness of military recruiting posters for women. In Activity B, they explore the WASP and in Activity C, they learn to identify friendly and enemy aircraft and write a creative story.

### Learning Objectives

- Discover how over 350,000 women served in the Armed Forces during World War II
- Explore military recruitment posters for women and analyze their effectiveness
- Explore the WASP and identify World War II aircraft
- Write a creative short story

### Key Words

SPARS, WAC, WASP, WAVES

### National Standards

NCTE:1, 5, 7 and 8; NCSS:I, II, IV, VII, and X;  
NCSS:HT.2, 3 and 4; NCSS:WH.ERA.8;  
NCSS:US.ERA.8; CCSS:ELA:LIT.RI.6-12.7;  
CCSS:ELA:LIT.W.6-10.1; CCSS:ELA:LIT.RH.6-12.7



WASP (from left) Frances Green, Margaret Kirchner, Ann Waldner and Blanche Osborn leave their B-17, called Pistol Packin' Mama, during ferry training at Lockbourne Army Air Force base in Ohio. They're carrying their parachutes. Photo: National Archives

## Background Information

When Japan bombed Pearl Harbor on December 7, 1941, American men rushed to enlist to fight against tyranny. With so many men enlisting, many jobs traditionally done by males, were then left vacant. At the same time, in order to supply the growing military and wartime needs, the U.S. government and industry expanded dramatically to build new ships, airplanes, tanks, and other military equipment increasing even greater the need for workers. To answer the call, America's "secret weapon," women from around the country, voluntarily mobilized to meet those challenges of war.

In addition to factory and home front jobs, there was also a great need for women to serve in the military to free male soldiers for combat. After congressional debates and policy changes, over 350,000 women served in all branches of the armed forces during the war. However, before the war, a woman's place was traditionally thought to be in the home, and that women did not have the "natural" ability to do many of the military jobs left vacant. Therefore, they were placed in military jobs, such as clerical work and jobs requiring rote work or small motor skills. It did not take long for women to prove them wrong.

In the U.S. Army, some women were nurses in the Army Nurse Corps, while others served in the Women's Army Corps (WAC), which began in 1942. The WAC allowed women to serve in non-combat areas fulfilling jobs such as mechanics, post office workers, and communications specialists. They served throughout the military, even landing in Normandy only a few weeks after D-Day. By the end of the war, over 150,000 women were in the WACs.

The U.S. Navy's WAVES (Women Accepted for Volunteer Emergency Service) program was created in August 1942, in response to the need for additional naval personnel. WAVES were an official part of the Navy and held the same rank and ratings as male personnel. They received the same pay and had to abide by the same military discipline. However, WAVES could not serve aboard combat ships or aircraft and were initially restricted to duty only in the United States. Later in the war, they were authorized to serve in some overseas U.S. possessions, and a number were sent to Hawaii. By the

end of World War II, there were well over 8,000 female officers and some 80,000 enlisted WAVES making up about 2.5% of the Navy's total strength.

In July of 1942, the Marine Corps Women Reserve was established as part of the Marine Corps Reserve. Qualified women served at shore commands, releasing men for combat duty. Women Marines were assigned to over 200 different jobs, including photographer, parachute rigger, baker, quartermaster, aerial gunnery instructor, motion picture operator, auto mechanic, telegraph operator, cryptographer, stenographer, agriculturist, and radio operator to name a few.

The Women's Reserve of the Coast Guard (SPARS) began on November 23, 1942, with the mission "to expedite the war effort by providing for releasing officers and men for duty at sea and their replacement by women in the shore establishment of the Coast Guard." By the end of the war, about 11,000 women signed enlistment contracts to serve in SPARS.

The United States faced a severe shortage of pilots in 1942, with a major need for male combat pilots. By mid-1942, it was agreed to allow the use of experienced women pilots to fly U.S. Army Air Force's aircraft within the United States. More than 25,000 women applied and 1,100 were chosen. They became known as the Women Airforce Service Pilots (WASP).

## Activity Summary

In Activity A, students analyze the effectiveness of World War II military recruiting posters for women. In Activity B, students explore the WASP through video and discussion questions. In Activity C, they become WASP aircraft spotters and learn to spot both enemy and friendly planes seen during World War II. After learning to identify aircraft, students will write a creative short story depicting a night when they spotted an enemy aircraft while on duty.

## Learning Objectives

In Activity A, students compare and contrast World War II military recruitment posters for women and analyze their effectiveness during the war. In Activity B, students explore the WASP to learn how these women contributed to the war effort. In Activity C, students identify World War II Allied and Axis planes, compete to identify them, and write a creative short story depicting a night on duty when they spotted an enemy plane.

## Teacher Preparation and Implementation

- Review each activity and determine if your students will do one or all activities. Decide if students will work individually or in small groups.
- Print copies of Activity A (pp. 117-118), B (p. 119), and/or C (pp. 120-122) for each student or group.

- Review the video section of this guide and choose one or more videos for students to view individually or as a class for each activity.
- Optional: Bookmark web pages for additional exploration of women in the military during World War II. See Resources section.

## Procedure

### Activity A:

1. Either have students read the background information or read it as a class. Check for understanding.
2. Either as a class or individually, have students watch one or more videos that highlight women in the military during World War II.
3. Have students review the World War II recruiting posters and discuss.
4. Have students answer the questions on the activity page.
5. In conclusion, have students create a poster aimed at encouraging young women today to join the military.

### Activity B:

1. Either have students read the background information or read it as a class. Check for understanding.
2. Have students watch the video *A Brief History of the WASP*, <http://wingsacrossamerica.us/wasp/video/index.htm> and answer the focus questions.
3. Discuss the role of the WASP in helping to win the war.

### Activity C:

1. After learning about the WASP, have students observe and memorize silhouettes of several Allied and Axis aircraft.\*
2. After practicing identification, have students compete to see who can identify the most airplanes correctly in the shortest amount of time.
3. Conclude the activity by having students write a creative short story describing a night on the beach during World War II, when they spot an enemy aircraft.

\* For an online version of the aircraft spotter game, visit Wings Across America at [http://wingsacrossamerica.us/wasp/arcade/spotter\\_game.htm](http://wingsacrossamerica.us/wasp/arcade/spotter_game.htm).

## Vocabulary

**SPARS** — Women's Reserve of the Coast Guard and Marine Corps

**WAC** – Women's Army Corps formerly known as Women's Army Auxiliary Corps (WAAC)

**WASP** – Women Airforce Service Pilots

**WAVES** – Women Accepted for Volunteer Military Service

## Resources\*

### Websites

#### National WASP WWII Museum

Museum at Avenger Field in Sweetwater, Texas, dedicated to preserving the legacy of the WASPs.  
<http://waspmuseum.org/>

#### Wings Across America

Digital, multi-media project where history comes alive through the colorful and unique eyewitness accounts of surviving Women Airforce Service Pilots (WASP) of World War II.  
<http://www.wingsacrossamerica.org/>

#### Wings Across America: The Ultimate WASP Slideshow

Meet 1,102 Women Airforce Service Pilots, the first women in history to fly America's military aircraft.  
<http://wingsacrossamerica.us/wasp/WOW3/index3.html>

#### NPR: Female WWII Pilots: The Original Fly Girls

Learn about the history of the WASP program and the women who flew the planes.  
<http://www.npr.org/2010/03/09/123773525/female-wwii-pilots-the-original-fly-girls>

#### National Museum of the US Air Force: WASPs Demonstrate Their Abilities

Scroll through photographs of WASP in action and learn how Ann Baumgartner was the first woman to fly an USAAF jet, Bell YP-59A twin jet fighter. WASPs flew about 60 million miles or 2,500 times around the world at the Equator!  
<http://www.nationalmuseum.af.mil/Visit/Museum-Exhibits/Fact-Sheets/Display/Article/196726/wasps-demonstrate-their-abilities/>

#### Texas Woman's University: Official Archive WASP

At this site, you will find the WASP's history, uniforms, exhibits, research, images and more.  
<https://twu.edu/library/womans-collection/featured-collections/women-airforce-service-pilots-wasp/>

#### Women of World War II: A Pictorial Tribute to Those Who Served

An extensive collection of photos featuring women who served in the military and its auxiliary branches during WWII. All branches of the military are represented.  
<http://www.womenofwwii.com/>

#### U.S. Navy: The Navy's History of Making Waves

Article detailing the history of women serving in the U.S. Navy and the WAVES of World War II.  
[http://www.navy.mil/submit/display.asp?story\\_id=75662](http://www.navy.mil/submit/display.asp?story_id=75662)

#### The National WWII Museum — New Orleans

Learn about the Coast Guard Women's Reserve, SPARS and watch a SPARs recruitment film.  
<http://www.nww2m.com/2012/11/coast-guard-spars-created/>

#### U. S. Army: Women in the Army

Learn how women have served in the Army since the Revolutionary War. Read about their role in World War II and the creation of the Women's Army Corp.  
<https://www.army.mil/women/history/>

### Books

Bond, Jill. *We Served Too: The Story of the Women's Airforce Service Pilots of WWII* (Kindle Edition). Virtual Advisory, Inc., October 11, 2015. ASIN: B016J2HKPU.

Bonnel, Francoise Barnes and Ronald Kevin Bullis. *Capturing the Women's Army Corps: The World War II Photographs of Captain Charlotte T. McGraw*. University of New Mexico Press, November 15, 2013. ISBN-13: 978-0826353405.

Haydu, Bernice 'Bee'. *Letters Home: 1944-1945 – Women Airforce Service Pilots, World War II*. Topline Printing and Graphics, 2003. ISBN-13: 978-0974767505.

Keil, Sally Van Wagenen. *Those Wonderful Women in Their Flying Machines: The Unknown Heroines of World War II*. Four Directions Pr., May 1, 1994. ISBN-13: 978-0962765902.

Mundy, Liza. *Code Girls: The Untold Story of the American Women Code Breakers of World War II*. Hachette Books, October 10, 2017. ISBN-13: 978-0316352536.

Nathan, Amy. *Yankee Doodle Gals: Women Pilots of World War II*. National Geographic Society, First Edition, September 1, 2001. ISBN-13: 978-0792282167.

Simbeck, Rob. *Daughter of the Air: The Brief Soaring Life of Cornelia Fort*. Atlantic Monthly Press, May 1999. ISBN-13: 978-0871136886.

### Videos

#### Wings Across America: A Brief History of the WASP (13:31)

Video gives a brief history of the WASP and excerpts from the 2010 Gold Medal Ceremony in Washington, DC.  
<http://wingsacrossamerica.us/wasp/video/index.htm>

#### Houston PBS: *When We Were WASP* (10:11)

A mini-documentary introducing the stories of two former Women Air Service Pilots Marjorie (Sandford) Thompson and Sylvia (Schwartz) Grander as they reminisce about their experiences flying military planes during World War II.  
[https://www.youtube.com/watch?v=a2DN\\_7g0UVg](https://www.youtube.com/watch?v=a2DN_7g0UVg)

\*The inclusion of links in this guide does not imply endorsement or support of any of the linked information, services, products, or providers.

**The Roles of Women Change During World War II (5:12)**

Video depicts how women answered the call and joined the armed forces to help win the war. Showcases the jobs women filled in the Army and Coast Guard and how many became prisoners of war and died in the service of their country.

<https://www.youtube.com/watch?v=CRJemr2Wc4s&t=113s>

**We Served Too Trailer—The Story of the Women Air Force Service Pilots of World War II (2:35)**

A firsthand account from WASP who share personal stories and discuss their unique experiences that make up the WASP history.

<http://www.wstthemovie.com/>

**Silver Wings / Flying Dreams – The Complete Story of the Women Airforce Service Pilots (4:02)**

WASP relive their personal experiences and the challenges they faced during their sixty-six year long struggle for recognition and veterans rights.

<https://www.silverwings-flyingdreams.com/>

**WAVES: Women in the Navy World War II Newsreel (2:14)**

Newsreel clip of the WAVES.

<https://www.youtube.com/watch?v=aFvIBXR9S-M>

**Navy WAVES – Women in WWII (7:40)**

Newsreel of WAVES learning the Navy way.

<https://www.youtube.com/watch?v=dHBEudf94DU>

**World War II Women’s Reserve WAVES U.S. Navy Movie (13:32)**

Short film about the Navy WAVES and what they did during World War II to serve their country.

[https://www.youtube.com/watch?v=PazHV\\_shhFU](https://www.youtube.com/watch?v=PazHV_shhFU)

**NPR.Org: A Contraband Camera: Photos of World War II WASP (3:00)**

Lillian Yonally was a female pilot with the WASP during World War II who captured images of her training at Avenger Field in Sweetwater, Texas. These photos offer a rare look at what life was like for the women of WASP.

[http://www.npr.org/sections/pictureshow/2010/03/a\\_contraband\\_camera\\_photos\\_of.html](http://www.npr.org/sections/pictureshow/2010/03/a_contraband_camera_photos_of.html)

**America Goes to War: The Roles of Women Change During World War II (5:12)**

Short documentary on the roles of women during World War II including those in the Army and other armed services.

<https://www.youtube.com/watch?v=CRJemr2Wc4s>

**CBS Sunday Morning: Honoring the Female Pilots of WWII (5:37)**

Video on how women served in the WASP. Includes an interview with WASP pilot Lucile Wise and discusses how WASP were reclassified as veterans, given benefits in 1977, and the congressional gold medal in 2009.

[https://www.youtube.com/watch?v=n\\_vcEkelV3I](https://www.youtube.com/watch?v=n_vcEkelV3I)

**Extensions**

1. Have students watch *Soundbytes of the WASP* to hear the women tell, in their own words, what it meant to them to be a WASP and to serve their country during World War II. After listening to the WASP’s stories, have students write five words that describe WASP. Place all the words into a Wordle or other program to see which adjectives best describe WASP. Soundbytes: [http://wingsacrossamerica.us/video/ipod\\_soundbytes.mp4](http://wingsacrossamerica.us/video/ipod_soundbytes.mp4) Wordle: <http://www.wordle.net/create>
2. Have students listen to the songs of the WASP, read the lyrics, and write their own song for the WASP or other branch of the service.
3. Assign each student or group the task to research and give a report detailing the life of a female that served during World War II. The female could have served in any branch of the service. Report can be a presentation, skit, video, PowerPoint, or other media.



A Wordle created from words used to describe WASP



Poster image courtesy of the U.S Library of Congress

Name \_\_\_\_\_

Date \_\_\_\_\_

## Women In War

### Activity A — Recruiting for the Military

In addition to factory and home front jobs, there was also a great need for women to serve in the military to free male soldiers for combat. After congressional debates and policy changes, over 350,000 women served in all branches of the armed forces during the war. However, before the war, a woman's place was traditionally thought to be in the home, and that women did not have the "natural" ability to do many of the military jobs left vacant. Therefore, they were placed in military jobs, such as clerical work and jobs requiring rote work or small motor skills. It did not take long for women to prove them wrong.

In the U.S. Army, some women became nurses in the Army Nurse Corps, but in 1942, the Women's Army Corps (WAC) began and offered women the opportunity to serve in non-combat areas fulfilling jobs such as mechanics, post office workers, and in communications. WACs served throughout the military, even landing in Normandy only a few weeks after D-Day. By the end of the war, over 150,000 women were in the WAC.

The U.S. Navy's WAVES (Women Accepted for Volunteer Emergency Service) program was created in August 1942 in response to the need for additional naval personnel. WAVES were an official part of the Navy and held the same rank and ratings as male personnel. They received the same pay and had to abide by the same military discipline. However, WAVES could not serve aboard combat ships or aircraft and were initially restricted to duty only in the United States. Later in the war, they were authorized to serve in some overseas U.S. possessions, and a number were sent to Hawai'i. By the end of World War II, there were well over 8,000 female officers and some 80,000 enlisted WAVES making up about 2.5 percent of the Navy's total strength.

In July of 1942, the Marine Corps Women Reserve was established as part of the Marine Corps Reserve. Qualified women served at Marine Corps shore commands, releasing men for combat duty. Women Marines were assigned to over 200 different jobs, including photographer, parachute rigger, baker, quartermaster, aerial gunnery instructor, motion picture operator, auto mechanic, telegraph operator, cryptographer, stenographer, agriculturist, and radio operator to name a few.

The Women's Reserve of the Coast Guard (SPARS) began on November 23, 1942, with the mission "to expedite the war effort by providing for releasing officers and men for duty at sea and their replacement by women in the shore establishment of the Coast Guard." By the end of the war, about 11,000 women signed enlistment contracts to serve in SPARS.

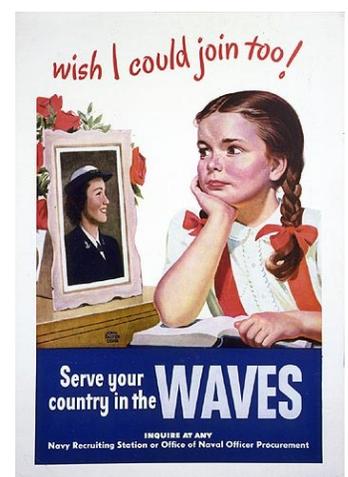
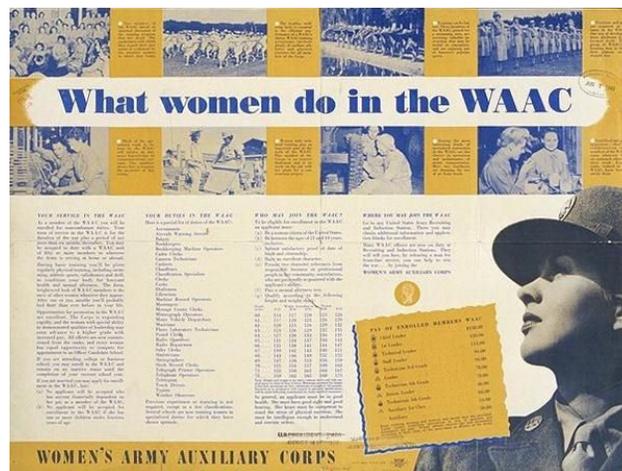
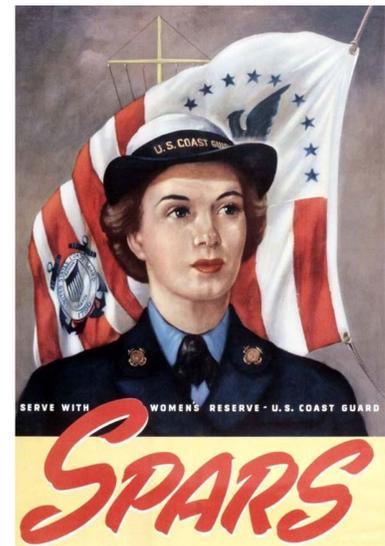
The United States faced a severe shortage of pilots in 1942, with a major need for male combat pilots. By mid-1942, it was agreed to allow the use of experienced women pilots to fly U.S. Army Air Force's aircraft within the United States. More than 25,000 women applied, but only 1,100 were chosen. They became known as the Women Airforce Service Pilots (WASP).

### Activity Overview

In this activity, you will review the campaign posters created by the government to encourage women to join the military. You will evaluate them for their content, effectiveness, and appeal to women in 1942. Next, you will evaluate the posters for use today. Would they be effective? Would they appeal to today's women? Finally, you will create a war-time poster that would appeal to the young women of today and encourage them to join the military.

### Procedure

1. Review the military recruitment posters and answer the following questions.
  - What would have been appealing to women in 1942 in each of the posters?
  - Is there a collective theme? If so, what is it? If not, what themes are displayed?
  - Why would women at that time not want to join the military?
  - How do the women in the poster appear? Is their hair neatly coiffed? Do they wear make-up? Why do you think the government used these type of women as models for the posters?
2. Now review the same military recruitment posters as a campaign in the current year.
  - Would the messages or themes portrayed appeal to young women today? Why or why not?
  - Why would women today not want to join the military? Why would they want to join?
  - What would you change about the posters to make them more appealing today if there were a war?
3. Use what you have learned and design a campaign poster enticing women today to join the military.



All poster images courtesy of the U.S. National Archives and/or Library of Congress

Name \_\_\_\_\_

Date \_\_\_\_\_

## Women In War Continued

### Activity B — WASP

The United States faced a severe shortage of pilots in 1942, and there was a major need for male combat pilots. By mid-1942, the Air Force leaders decided to implement an experimental program to help fulfill this need. It was agreed to allow the use of experienced women pilots to fly U.S. Army Air Forces aircraft within the United States so that male pilots could serve in combat duty overseas. More than 25,000 women pilots applied, but only 1,100 were chosen. These women pilots were civilian volunteers and became known as the Women Airforce Service Pilots (WASP).

The WASP flew almost every type of military aircraft, including the B-26 and B-29 bombers. They ferried new planes long distances from factories to bases and tested newly overhauled planes. They towed targets so that ground and air gunners could train shooting with live ammunition. U.S. Army Air Forces, General Henry “Hap” Arnold said that when the program began, he was not sure “whether a slip of girl could fight the controls of B-17 in heavy weather.” At the last graduation ceremony for WASP, he said, “Now in 1944, it is on record that women can fly as well as men.”

The WASP were expected to become part of the military, but the program was cancelled after just two years. By the summer of 1944, flight training programs were closing, leaving male civilian instructors in fear of losing their jobs. Women flying aircraft was also very controversial at that time, and although it was acceptable for women to fly in order to release men to fight in combat, it was not acceptable for them to take their jobs. So it was announced that the program would disband by December 1944.

With no military status, the WASP, including the 38 women who died flying Air Force planes, were forgotten. The women of WASP went home and on with their lives. A few got jobs flying after the war, but no major commercial airline would hire women at that time. Margaret Taylor, a former WASP, said that they never expected anything. She said, “We were children of the Depression. It was root hog or die. You had to take care of yourself. Nobody owed us anything.”

In 1976, The Air Force announced that they were going to admit women to their flying program and that it was the first time that the Air Force had allowed women to fly their aircraft. That statement made women of the former WASP angry as they felt forgotten by the Air Force. Those still living united and lobbied for military status, and it was finally granted in 1977. In 2009, WASP pilots received the highest civilian honor given by the U.S. Congress, the Congressional Gold Medal. Unfortunately, only about 300 WASP were alive to receive it.

### Procedure

1. After reading the background information, watch the video *A Brief History of the WASP*, <http://wingsacrossamerica.us/wasp/video/index.htm> and answer the following focus questions:
  - Who convinced General Henry “Hap” Arnold that she could bring together women to replace the male pilots?
  - How many women applied for the WASP? How many were accepted for training?
  - Where did the women begin their training? What city housed the new training facility?
  - Was the training program for WASP the same as for male pilots? How many actually graduated?
  - What type of aircraft did the WASP fly, and under what conditions?
  - What was the only mission they did not fly?
  - When flying planes for the gunnery training was live ammunition used? What happened to any WASP who died?
  - When did the last class of WASP graduate? What happened 11 days later? Did the WASP get any GI benefits or other compensation? Were they forgotten?
  - Continue watching the Gold Medal Ceremony for WASP in 2010. Why was the ceremony held?
  - In Deanie Parrish’s words, why did women serve in WASP?
2. In a small group or as a class, discuss the role that WASP played in World War II. Did they help win the war? How or why not? What were some of their significant contributions to the war effort? Should WASP have been given veteran status in 1945? Why or why not? Are there women pilots today? If so, what branch(es) of service do they serve in? How would women pilots today compare to women pilots of World War II?

Name \_\_\_\_\_

Date \_\_\_\_\_

## Women In War Continued

### Activity C — Aircraft Spotters

In 1942 and 1943, many of the Army's airplanes were flown by WASP Coast Watchers or Spotters, civilians who watched the skies for enemy aircraft. These women had to recognize friendly aircraft from the shape of the plane or its silhouette. To train for quick identification, the women used Spotter Cards with various enemy and friendly airplanes as they would be seen from the front, side, or top/bottom. In this activity, you will work with a partner to train in spotting and identifying aircraft.

### Procedure

1. Observe the eight aircraft on the **Spotter Card Sheet with Names**.
2. Memorize the planes' shapes and names. Identify them as enemy or friendly aircraft.
3. Using the **Aircraft Spotter Sheet without Names**, cut apart the eight aircraft cards.
4. Mix the cards and practice identifying the airplanes, checking your responses for correctness.
5. Once you are familiar with the aircraft, work with a partner taking turns identifying the eight aircraft and see who can identify the airplanes the fastest. Use a stop watch or clock to time yourselves.
6. Research each of the eight aircraft and summarize their function during World War II. Include details, such as how many crew members were on board when flying, how much did it weigh, how many were built during World War II, how many were shot down, and any other interesting and pertinent facts.

### Writing Activity

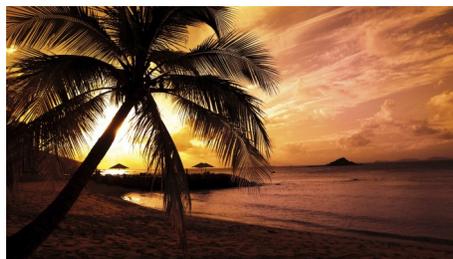
For this activity, write a creative short story (300 words or less) using the prompt below. Illustrate your story with your own drawings or images collected online.

**Prompt:** Imagine yourself as a WASP spotter during World War II. As you fly over the coast, you notice a plane approaching in the distance and identify it as an enemy aircraft. What happened and how did the situation end?

### Helpful Tips

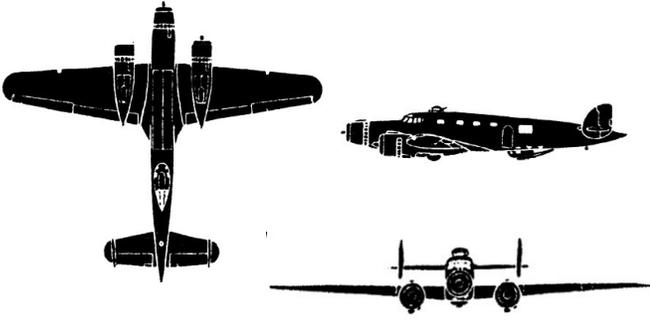
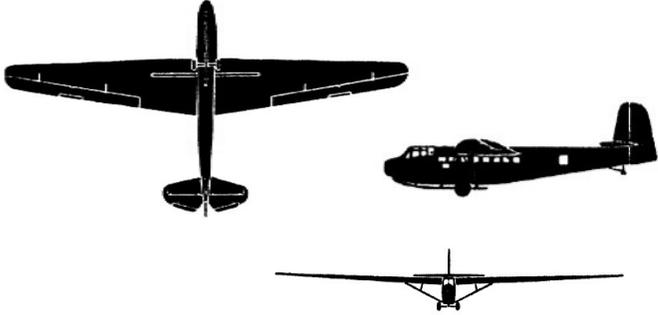
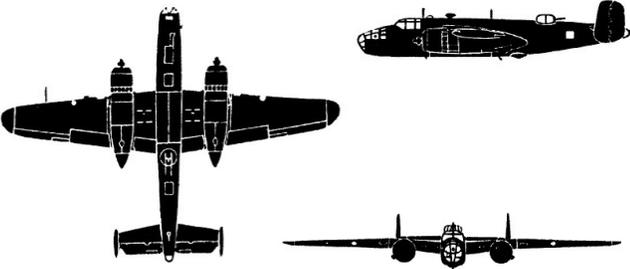
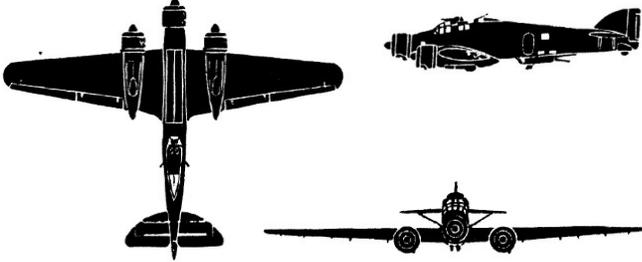
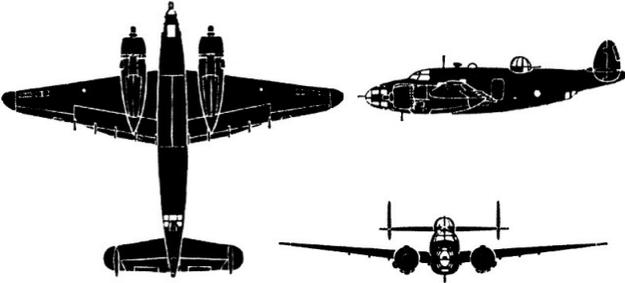
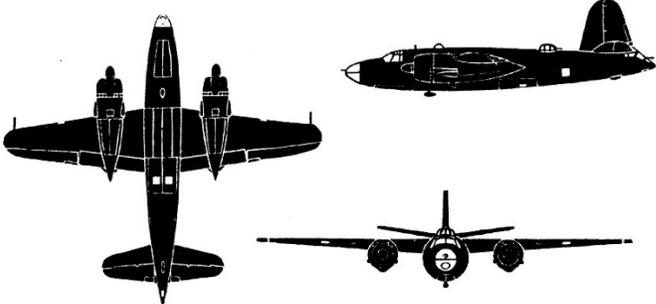
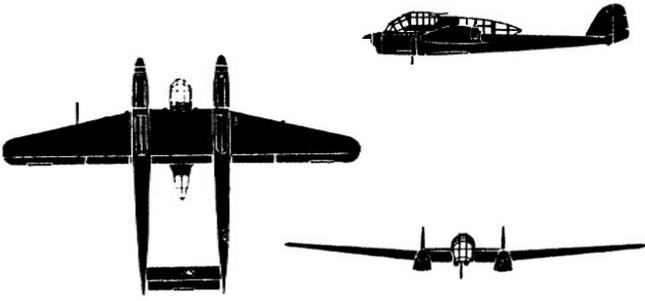
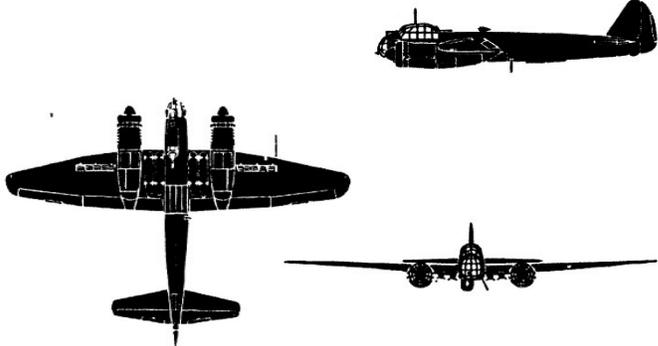
A short story is a work of fiction, usually written in prose and often in a narrative format. Here are a few tips:

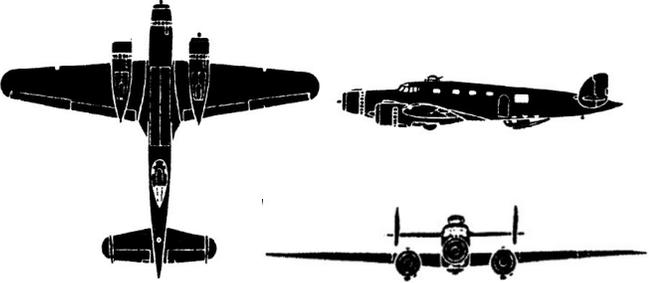
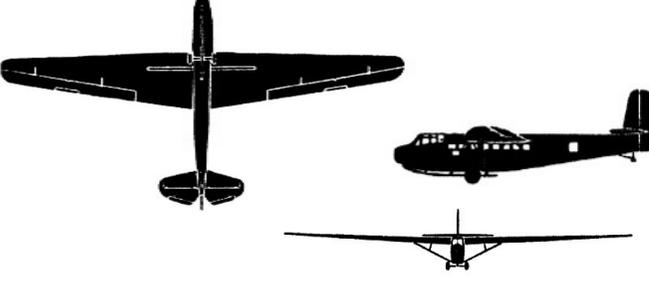
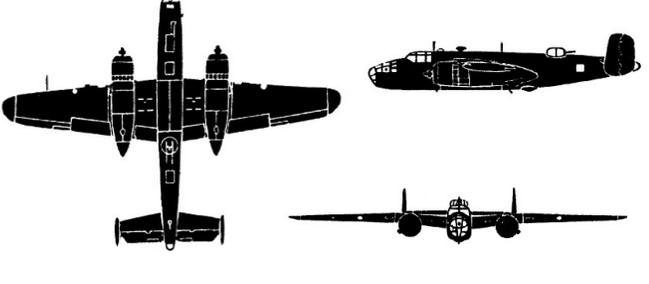
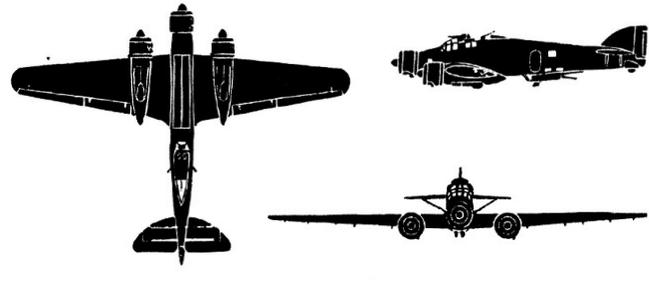
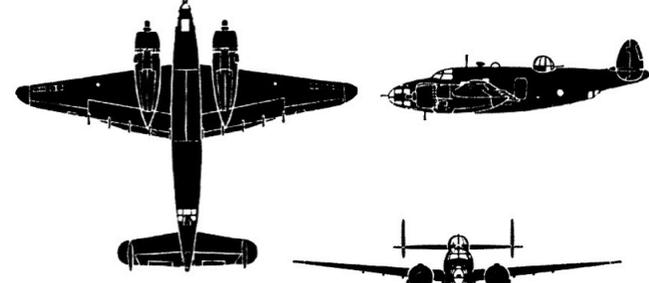
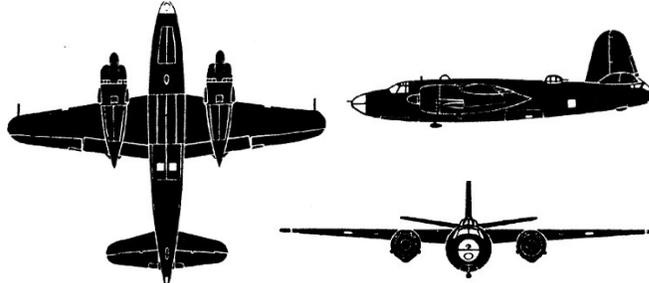
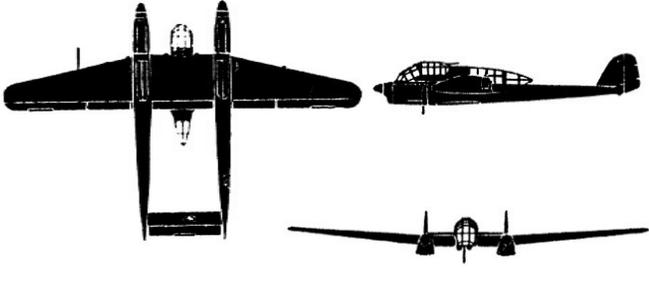
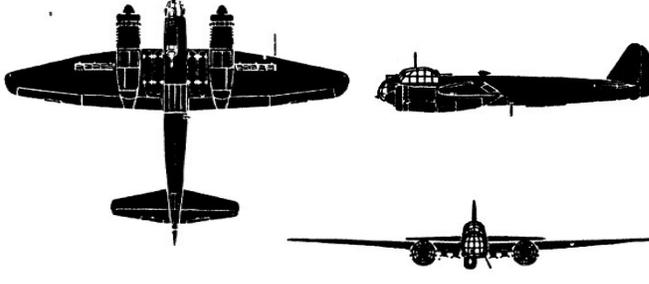
- Write a catchy first paragraph to grab your reader's attention.
- Develop your characters being selective in choosing traits to reveal. Remember, your reader does not need to know everything about each character, only what is important to the story.
- Write meaningful dialogue between your characters. Remember, each speaker gets his/her own paragraph and what they say is set in quotation marks.
- Develop the setting and context. Setting includes the time, location, context, and atmosphere. Appeal to your reader's senses: what do they hear, smell, see, feel, and/or taste?
- Set up a plot. There should be a conflict with rising action that falls and ends in a resolution.
- Stay focused. In a short story, there is no room for anything that is not essential to the story.
- Choose details wisely as there is not a lot of room to elaborate.
- Use the images below, or find others, to help you illustrate your story.



All images courtesy of Wallpapercraft (free wallpaper downloads) <http://wallpapercraft.net/>

### Spotter Card Sheet with Names

	
<p><b>1 SM.84 Savoia (Italian)</b></p>	<p><b>DFS 230 Glider (German)</b></p>
	
<p><b>B-25 North American Mitchel (U.S.)</b></p>	<p><b>SM-79 Savoia (Italian)</b></p>
	
<p><b>B-34 (PV-1) Vega Ventura (U.S.)</b></p>	<p><b>B-26 Martin Marauder II (U.S.)</b></p>
	
<p><b>189 Focke-Wulf (German)</b></p>	<p><b>JU-88 Junkers (German)</b></p>

 <input type="text"/>	 <input type="text"/>
 <input type="text"/>	 <input type="text"/>
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 <input type="text"/>	 <input type="text"/>

Spotter Card Sheet without Names

## On the Home Front — Victory Gardens



Victory Garden poster. Courtesy of the Library of Congress

### Grade Level

6-12

### Timeframe

~45 Minutes

### Materials

- Student worksheets
- Primary source readings for each student or group

### Activity Summary

Students read through primary source effort through Victory Gardens.

### Learning Objectives

- Discover why food was in short supply during World War II
- Learn how Americans helped to supply food to the troops
- Explore primary source documents to understand that everyone, even children, needed to support the war efforts
- Read for comprehension

### Key Words

Victory Garden, 4-H Clubs

### National Standards

NCSS:I and II; NCSS:HT.1, 2, 3, 4, and 5;  
 NCSS:WH.ERA.8; NCSS:US.ERA.8;  
 NCTE:1, 3, 5, and 7; NCTM:6-8.MS;  
 NCTM:9-12.PS; CCSS:ELA:LIT.RI.6-12.7;  
 CCSS:ELA:LIT.RH.6-10.2, 3, and 7;  
 CCSS:ELA:LIT.W.6-12.3



Students showing their 4-H posters celebrating Victory Gardens. Courtesy of North Carolina State University Libraries

### Background Information

When the United States declared war with Japan on December 8, 1941, there was not a single American who would not be affected by World War II. No matter if you were five, 55, or 100, you felt the effects of war at home. More than 15 million Americans served in the Armed Forces during the war, and almost 400,000 never returned home. Between 1941 and 1945, chances were that you knew someone who was fighting in the war and maybe even someone killed or missing in action.

With the bombing of Pearl Harbor on December 7, 1941, the United States was thrust into the war that everyone had hoped to avoid. With so many men and women serving in the military, families were split apart and separation took a toll on the military member, as well as their spouses, children, parents, friends, and neighbors. Despite the tremendous strain, Americans were determined to keep their spirit up and do whatever it took to support the war effort.

In an effort to encourage people to not focus on the stress of war, the government urged civilians to think of the war effort before themselves, and to develop ways to support the war at home. One of the government's efforts, to both help people support the war and to make sure there was enough food for both civilians and the military, was to encourage people to grow a Victory Garden. Throughout the war, people grew fruits or vegetables contributing to the war effort, and making them feel patriotic for helping.

By growing their own food, civilians were able to increase their self-sufficiency and increase food resources sent to American military overseas. Victory Gardens ranged in size from small backyard gardens to city plots of land, to even windowsill planters! With over two million Victory Gardens in America, civilians provided about 40 percent of the vegetables grown in the United States. By the end of the war, the Department of Agriculture estimated that Victory Gardens produced over one million tons of vegetables valued at \$85 million (in 1945 dollars). Many children and teenagers also helped to grow Victory Gardens, including thousands of 4-H Boys and Girls Clubs. In North Carolina alone, 4-H Clubs mobilized approximately 500,000 boys and girls to participate in at least one food production or conservation project.

## Activity Summary

In this activity, students learn that World War II's success depended upon every American working to support the war effort. They will explore primary source documents to learn how students in 4-H Clubs worked to grow vegetables in hundreds of Victory Garden projects. After summarizing the effect of Victory Gardens, they will design a poster to mobilize students today to start a Victory Garden or other need.

**NOTE:** *This lesson is based on lesson plans from an archived site originally created by University of North Carolina at Chapel Hill School of Education from 1997-2013. See Resource section for website address of archived site.*

## Learning Objectives

Students will read and interpret primary source documents to learn how 4-H Clubs contributed in helping to win World War II. They will describe a Victory Garden and explain why they were necessary during World War II. Students will design a persuasive poster to encourage students today to start a garden or begin a project for another need.

## Teacher Preparation and Implementation

- Determine if students will work individually or in small groups.
- There are four primary source documents (included in this activity guide). Determine if each group will read one, two, or all.
- For each student/group, print copies of the primary source document(s) they will read (pp. 129-139).
- Make copies of the student worksheets (pp. 126-129) for each student and/or group.
- Download or print copies of three or more Victory Garden posters. See Resource section for link to posters.

## Procedure

1. Have students read the background information or read as a class. Check for understanding.
2. Discuss Victory Gardens and why they were important during World War II.
3. Display or show students various Victory Garden posters, and discuss why the U.S. government encouraged people to grow a Victory Garden.
4. Tell the students that during World War II, even children were involved at the home front in doing anything and everything they could to help the war effort.
5. Explain the purpose of 4-H Clubs then and now. See Resource section for more information on current 4-H Clubs.
6. Divide the students into groups and give each group/student a copy of the primary source document(s) they will read and the student worksheet.

7. Have students begin the activity, reading and answering the questions on the worksheet.
8. After everyone has finished, go over the documents and the answers to the questions. Discuss how and why students helped to support the war effort.
9. After discussion, either have students complete the Victory Garden Summary worksheet individually, as a group, or as a class.
10. Discuss the students' answers to their specific reflection question and have them share their poster designs.
11. Ask if they think students today would help in a similar way if we were to have a world crisis or another world war. Why or why not? What would students today do differently to engage other students.
12. Have students design a poster to mobilize students today in a crisis. What would it look like? What message would it send? Would technology be used? If so, what type?

## Resources\*

### Websites

#### Modern Farmer

Visit this site for 12 fantastic Victory Garden posters culled from the Library of Congress.

<http://modernfarmer.com/2013/05/12-fantastic-victory-garden-posters/>

#### 4-H Club

America's largest youth development organization—empowering nearly six million young people across the U.S. with the skills to lead for a lifetime.

<http://4-h.org/>

*\*The inclusion of links in this guide does not imply endorsement or support of any of the linked information, services, products, or providers.*

## Vocabulary

**4-H CLUB** — A global network of youth organizations whose mission is “engaging youth to reach their fullest potential while advancing the field of youth development.” The 4-H name represents four personal development areas of focus for the organization: head, heart, hands, and health.

**VICTORY GARDEN** — A garden planted at private residences and public parks in the United States, United Kingdom, Canada, and Australia during World War II to help ensure adequate food for the Armed Forces and civilians on the home front; also called war gardens or food gardens.

### Learn NC—World War II at Home: Victory Garden

Archived site originally created by the University of North Carolina at Chapel Hill School of Education.

<http://www.learnnc.org/lp/pages/1627>

### The National WWII Museum: The Classroom Victory Garden

This site provides an overview of World War II, a timeline, information on how people supported the war at home, and information on how to start your own Victory Garden at home or school.

<http://classroomvictorygarden.org/classroom-homefront.html>

### Victory Seeds

This site sells heirloom garden seeds and provides information on planting. Use this site to have students grow a garden on a budget. (See Extensions.)

<http://www.victoryseeds.com/>

### NSTA—Connected Science Learning: Seeding the Future

Discover how to create opportunities for students to learn about growing food, doing science, and how science can help to contribute to the community. This program integrates hydroponics into both in-school and out-of-school educational settings. Learn how to make simple hydroponic systems and download free curriculum.

<http://csl.nsta.org/2017/05/seeding-the-future/>

### Books

Gowdy-Wygant, Cecilia. *Cultivating Victory: The Women's Land Army and the Victory Garden Movement*. University of Pittsburgh Press, April 25, 2013. ISBN-13: 978-0822944256.

Kochenderfer, Lee. *The Victory Garden*. Yearling, July 8, 2003. ISBN-13: 978-0440417033.

Way, Twigs. *The Wartime Garden: Digging for Victory (Shire Library)*. Shire Publications, February 17, 2015. ISBN-13: 978-1784420086.

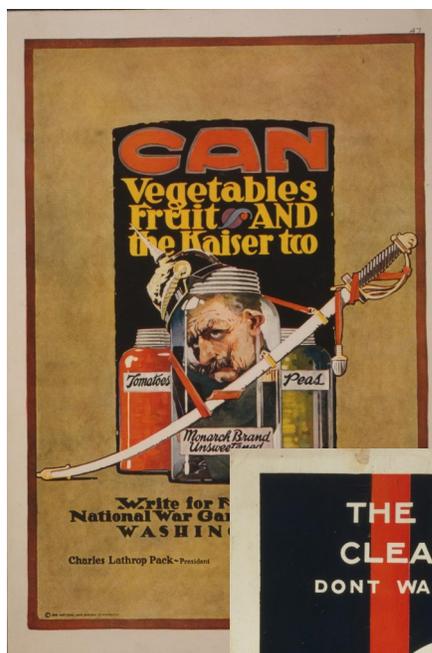
Wilbur, Helen L. *Lily's Victory Garden (Tales of Young Americans)*. Sleeping Bear Press, February 17, 2010. ISBN-13: 978-1585364503.

All Victory Garden posters are courtesy of the Library of Congress.



### Extensions

1. Begin a Victory Garden at your school or in your classroom. Learn about seeds, planting times, harvesting, and more.
2. Have the students research canning vegetables and can vegetables from your class garden, or enjoy a salad when it is harvested.
3. Have students plant a garden on a budget. Visit the Victory Seeds website <http://www.victoryseeds.com/> and have students select vegetable seeds to grow in an outdoor garden. They will need to click on a seed packet to learn the recommended time of year to plant and the price. Give the class a budget (\$50 or \$75) and have them buy as many seeds as possible. If desired, make them calculate the sales tax for your state. Once they have their seeds purchased, they will design a garden layout, detailing where each seed-type will be planted and how many. Extend to include soil, fertilizers, and other necessary items when growing a garden. Students can also research how to grow an organic garden.



Name \_\_\_\_\_

Date \_\_\_\_\_

## On the Home Front — Victory Gardens

### Background Information

When the United States declared war on Japan on December 8, 1941, there was not a single American who would not be affected by World War II. No matter if you were five, 55, or 100, you felt the effects of war at home. More than 15 million Americans served in the armed forces during the war, and almost 400,000 never returned home. Between 1941 and 1945, chances were that you knew someone who was fighting in the war and maybe even someone killed or missing in action.

With the bombing of Pearl Harbor, the United States was thrust into war that everyone had hoped to avoid. With so many men and women serving in the military, families were split apart and separation took a toll on the military member, as well as their wives, children, parents, friends, and neighbors. Despite the tremendous strain, Americans were determined to keep their spirit up and do whatever it took to support the war effort.

In an effort to encourage people to not focus on the stress of war, the government urged civilians to think of the war effort before themselves, and to come up with ways to support the war at home. One of the government's efforts, to both help people support the war and to make sure there was enough food for both civilians and the military, was to encourage people to grow a Victory Garden. Throughout the war, people grew fruits or vegetables contributing to the war effort, and it made them feel patriotic for helping.

By growing their own food, civilians were able to increase their self-sufficiency and increase food resources sent to American military overseas. Victory Gardens ranged in size from small backyard gardens to city plots of land, to even windowsill planters! With over two million Victory Gardens in America, civilians provided about 40 percent of the vegetables grown in the United States. By the end of the war, the Department of Agriculture estimated that Victory Gardens produced over one million tons of vegetables valued at \$85 million (in 1945 dollars).

Many children and teenagers also helped to grow Victory Gardens, including thousands of 4-H Boys and Girls Clubs. In North Carolina alone, the 4-H Clubs mobilized approximately 500,000 boys and girls to participate in at least one food production or conservation project. The projects ranged from growing crops to producing beef and pork for the war efforts. In addition, there were projects for youth to learn how to sew clothing, can vegetables, and to help make family life happier.



### Procedure

Read the selected primary source document(s) you have been assigned and answer the questions for your document(s).

#### 4-H Mobilization for Victory: February 6-14, 1943

1. What did “home front” mean during World War II?
2. Why did the 4-H Club Director think the 4-H Clubs should grow gardens?
3. What was the goal for each county’s club members?
4. How was that goal met?
5. Before mobilization, what were three things that needed to be completed?
6. During mobilization week, why should there be “a patriotic appeal” to all boys and girls?
7. Who should give short talks to 4-H Club members and why?
8. The plan recommends the showing of “colored slides or a movie” depicting 4-H Club activities. Why would they need to be in color?
9. Why should 4-H Clubs mobilize? How many North Carolina youth could participate?
10. What are the three jobs of the extension organizations?

**Reflect:** Today, with modern technology and broad social networks, how would you mobilize youth in the event of another crisis or world war?

**Create:** Design a poster that explains 4-H Club goals.

## Victory Gardens Continued

### Enlistment for Victory

1. What did “home front” mean during World War II?
2. What was the job of those on the home front?
3. List five of the most important things that boys and girls could do to help support the war.
4. Which one of the nine things do you consider to be the most important?
5. Why is it important to be a good citizen, interested in your community, state, and country?
6. Before selecting a project, what should a 4-H Club member consider? Explain why each is important to consider.
7. What should a club member do if they do not find a suitable project listed?
8. Who must each club member consult with before choosing a project?



**Reflect:** If the youth of our country would need to be mobilized today for another World War, what types of projects do you think they would be best at accomplishing? What projects do you think would be the most important?

**Create:** Design a poster that encourages young people to join 4-H Clubs or other organizations that would help people support the home front.

### Recommended Projects

1. Look over the recommended projects on the first page. What nine areas are options for projects?
2. Within the option for Gardening—Vegetables, there are four options with three for vegetables. In all three vegetable options, it is recommended that tomatoes be grown. Why do you think tomatoes would be an important crop?
3. What are the recommended crops?
4. Other projects include Foods and Nutrition, Food Preservation, Clothing, and Home Management. Read the required jobs for each. Which one would you do? Explain why you chose it.
5. What are the four project objectives?
6. Why do you think it is important to keep a “practical set of records, showing expenses, receipts, and profits”?
7. Why do you think it is beneficial to work in groups on these projects?
8. On the last page, “canning” is listed as a project. What is canning? If you do not know, research it and explain how it is done and why.

**Reflect:** If there were another world crisis and American youth needed to be mobilized, what projects do you think there will be a need for and why? The projects listed here are for youth in rural communities. What projects could the youth living in cities do to help in a crisis? What do you think urban youth did during World War II to help?

**Create:** Design a poster depicting several projects that students could do today to support a crisis.

### Food for Victory

1. Why was beef production important in 1943?
2. What is the best type of calves to feed? How old should they be?
3. When should you start to feed them for selling them in the spring?
4. How many bushels of corn will it take to get a calf ready for market? How much weight should each calf gain?
5. What are eight things that need to be done during the care and management of a calf?
6. How much of an increase in pork production is needed to meet the feeding of the Armed Forces, the Allies, and the civilians at home?
7. What price did the government guarantee for pork? Why do you think it was important for the government to offer this guarantee?
8. Who should be contacted if money is needed to purchase pigs or feed?
9. List three good protein supplements for pigs.
10. What parasites need to be controlled? How?

**Reflect:** If there were another world crisis, such as a world war, do you think food supply will be an issue like it was in World War II? Why or why not? Today, there are fewer American farmers than in 1943. Why do you think farms have decreased over the years? Describe how technology might play a part in farming and reducing the number of farms.

**Create:** Design a poster showing recommendations for helping to increase the food supply, such as raising beef or pork.



Name: \_\_\_\_\_

## Victory Garden Summary

Resources were . . .

List three ways 4-H boys and girls supported the war . . .

The Victory Garden was . . .

Beef and pork were important to the war effort because . . .



4-H mobilization was important because . . .

4-H booklets were . . .

Boys and girls planted . . .

## 4-H Mobilization for Victory: February 6-14, 1943



### 4-H MOBILIZATION FOR VICTORY FEBRUARY 6-14 1943

#### TO EXTENSION WORKERS:

The men of our fighting forces are giving all of their strength and vitality to defend the freedom and continued existence of this country. Those of us who remain here at home must do our fighting on the "home front" and it is our job to see that our soldiers, sailors and aviators have all the necessary and adequate supplies of food, clothing and munitions needed to wage a successful and victorious war.

Here in North Carolina there are about 500,000 boys, and girls of 4-H club age who, with the proper guidance and direction, could exert a tremendous influence and render a valuable service to the Nation in this war emergency. It is our duty as an Extension organization to direct as many of these rural boys and girls as possible towards the production and the conservation of food. Our goal for this year should be not less than 150,000 members in the 4-H clubs, with each member conducting a food production or a food conservation project.

The goal for the club members of a given county this year should be at least the production of enough food by these members to feed all the men leaving that county for the armed services.

To meet this challenge, each Extension worker must assume his share of the job. The program needs to be so coordinated and organized as to use every hour of our time in the most efficient and valuable way.

*J. O. Schaub*  
Director of Extension.

## 4-H Mobilization for Victory: February 6-14, 1943

### Page 2

- 2 -

#### PLANS FOR 4-H MOBILIZATION FOR VICTORY

THE OBJECTIVE The production and/or conservation of the maximum amount of food by 4-H Club members; at least the equivalent of the amount required for the men in the armed forces from the county.

THE GOAL The enlistment of 150,000 boys and girls, or 50% of the eligible youth for membership in 4-H Club work in each county, in production or conservation projects.

THINGS TO DO BEFORE MOBILIZATION

1. Be sure that all extension workers have a thorough understanding of the program. All extension workers within each county should meet together and consider plans for the job to be done and for its execution.
2. Ask each old member to secure a new member.
3. Acquaint the following people with the plans and reasons for mobilization:

- a. Members of the 4-H County Council.
- b. Officers of the local clubs.
- c. School people - arrange for definite schedule at Chapel period or other desirable time.
- d. Neighborhood leaders.
- e. Members of civic, women's, home demonstration, and other clubs; ministers; etc.
- f. The general public.

MOBILIZATION WEEK

1. Explain the purposes of 4-H mobilization at a special meeting of each club, preferably at a Chapel period when all students of club age may attend.
2. Make a patriotic appeal to all boys and girls of club age and explain to them how they can help bring Victory through the production and conservation of food, feed and fiber.
3. Explain in detail the projects recommended. Use the special enlistment forms for securing membership. Request that the boys and girls return these forms to a teacher or leader appointed as sponsor for the club, who will forward them to the agent's office.

FOLLOW-UP WORK

1. Immediately following the enlistment of members, assemble and group the names of members according to neighborhoods, using the neighborhood map as a guide.
2. Select neighborhood 4-H leaders. (See page 9, Section IV.)
3. Prepare the form "A GUIDE FOR NEIGHBORHOOD LEADER IN ASSISTING WITH CLUB PROJECTS." See page 6-7.
4. Prepare and assemble subject matter material in suitable form for projects selected and present it to the club members at the next regular meeting. Copies of the same information should be given to neighborhood 4-H leaders. Suitable material has been promised by subject matter specialists.
5. Acquaint the neighborhood leader with the program, its importance, and the opportunity it presents the neighborhood leader for rendering a service. See page 10, Section V.

## 4-H Mobilization for Victory: February 6-14, 1943

### Page 3

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#### A SUGGESTED CHAPEL PROGRAM FOR MOBILIZATION WEEK

Program Called To Order - Local Club President, Presiding

Purpose Of This Special Chapel Program - School Principal

4-H Victory Pledge - By Club (See page 14)

To give an understanding of what 4-H Club Work is and something of the wartime program.

Talk: The Purpose of Mobilization and How Each Boy and Girl Can Help Through the 4-H Club To Win the War - An Extension Worker

#### The Call To Service:

Either the president, school principal, club leader or extension worker asks all boys and girls who will enlist for service through the 4-H Club to meet immediately after the program to sign the enlistment form.

Adjournment

Other suggestions for club members' part on program if the Victory Pledge seems too difficult:

#### DISCUSSION:

The 4-H Club Member Looks Ahead  
(Should be well-prepared and presented)

#### SEVERAL SHORT TALKS:

Given by members who succeeded well with food production and conservation projects in 1942. Talks should be rehearsed before they are given at the meeting.

#### COLORED SLIDES OR A MOVIE:

Depicting 4-H activities, particularly food production projects.

#### THE MEANING OF THE 4-H'S:

Presented in the same form as formerly suggested but given a wartime angle.

## 4-H Mobilization for Victory: February 6-14, 1943

### Page 4

#### WHAT WILL MOBILIZATION MEAN

The guiding of our present membership, and as many other boys and girls as is possible, in selecting and conducting at least one food production or conservation project. It will mean an all-out mobilization of rural youth for Victory. A week for focusing attention upon the activities of the 4-H Club and giving prestige and publicity to its wartime club program.

#### WHY MOBILIZE

In approximately 500,000 farm youth in North Carolina is a vast resource of power and energy. While boys and girls can do much to help win the war through individual action, their efforts, if properly organized and directed in groups such as the 4-H Club, can make a major contribution to the war effort. The 4-H pledge is an all-out promise of the club member for clearer thinking, greater loyalty, larger service, and better living for club, community and country.

#### HOW CAN THE JOB BE DONE

Every extension agent will be expected to do his share of the club work. The home demonstration agent, the county agent, the assistant agent - all will have to conduct club meetings, visit projects, and train and use leaders in this wartime program. This may mean a division of work, with each agent having certain responsibilities, and it will certainly mean a coordinated and organized program with every hour of time used in the most efficient way possible. There will need to be a complete mobilization of the 4-H membership. Leaders must be selected, trained and used. Essential subject matter information and material and necessary supervision for conducting project activities must be provided.

To guide the agent in the furtherance of this program the following plan is recommended. Remember this is to be an all-out program for Victory, and our job as an extension organization is to enlist and guide as many young people as is possible in producing and conserving food, in promoting special war activities, and in maintaining a high spirit of moral and a high standard of 4-H Club work.

## Enlistment for Victory



### ENLISTMENT FOR VICTORY

The men of our ARMY, NAVY, MARINE CORPS, COAST GUARD and AIR FORCE are giving all of their strength and vitality to defend the freedom and continued existence of this country. Those of us who remain here at home must do our fighting on the "home front." It is our job to see that these men have all the supplies of food, clothing, munitions and necessary equipment needed to wage a successful and victorious war.

You can help win this war by enlisting in the 4-H Victory Program and conducting one or more of the projects recommended by your county farm and home demonstration agents. They will be glad to assist you by furnishing information and guidance in conducting the projects. Some of the most important things you can do are:

1. Produce food — vegetables, poultry, meat and milk.
2. Preserve and store food produced — canning, drying, storing.
3. Assume your share of farm and home labor.
4. Build up your health, develop good habits.
5. Keep farm and home equipment in good repair.
6. Protect forest and farm property from fire.
7. Buy war stamps and bonds.
8. Collect salvage material needed — scrap metal, rubber, tin, etc.
9. Be a good citizen, interested in your community, state and country.

*On the other side of this sheet is a list of 4-H Club projects recommended for your county that will help in winning the war. Go over this list carefully, discuss it with your parents and select the project you can do best; check it in the space provided. Study the jobs listed under the project you have selected and place a check mark by the job on which you will need information or assistance from your county farm or home agent or "Neighborhood" 4-H Leader. In selecting a project you should consider the following:*

1. What you are most interested in doing.
2. What you can do best.
3. Resources available, such as land, machinery, housing, pasture, feed, stock, seed, canning and other equipment or supplies that would be needed.
4. Available markets.
5. Available transportation facilities.

If you do not find a suitable project listed on this sheet, consult your farm or home agent. Information on other projects is available.

TAKE THIS FORM HOME. GET YOUR PARENTS TO HELP YOU SELECT A PROJECT, CHECK IT AS INSTRUCTED ABOVE; THEN SIGN YOUR NAME AND ADDRESS AND RETURN IT TO YOUR TEACHER OR CLUB LEADER.

# Recommended Projects

## RECOMMENDED PROJECTS

Your Name ..... Address ..... Age ..... Parents' Initials .....

(Be sure to check the project you have selected and check the jobs listed under it on which you will need information or assistance.)

### GARDENING—VEGETABLES:

Select one or more of the following groups of vegetables. Each vegetable to consist of a minimum of 50 feet of row. Please do not substitute vegetables. The jobs listed at right apply to all three groups.

- |                                  |                                   |                                    |   |
|----------------------------------|-----------------------------------|------------------------------------|---|
| <input type="checkbox"/> Group I | <input type="checkbox"/> Group II | <input type="checkbox"/> Group III | <b>Jobs:</b>  |
| Tomatoes                         | Tomatoes                          | Tomatoes                           | <input type="checkbox"/> Selecting location         |
| Turnips                          | Collards                          | Beets                              | <input type="checkbox"/> Preparing seed bed         |
| Lima beans                       | Snap beans                        | Onions                             | <input type="checkbox"/> Time to plant              |
| Cabbage                          | Onions                            | Mustard                            | <input type="checkbox"/> Variety                    |
|                                  |                                   |                                    | <input type="checkbox"/> Obtaining plants or seed   |
|                                  |                                   |                                    | <input type="checkbox"/> Methods of planting        |
|                                  |                                   |                                    | <input type="checkbox"/> Fertilization              |
|                                  |                                   |                                    | <input type="checkbox"/> Cultivation                |
|                                  |                                   |                                    | <input type="checkbox"/> Insect and disease control |
|                                  |                                   |                                    | <input type="checkbox"/> Harvesting                 |
|                                  |                                   |                                    | <input type="checkbox"/> Canning, drying or storing |
|                                  |                                   |                                    | <input type="checkbox"/> Records                    |
- SMALL FRUITS:**  
This project to consist of a minimum of 100 strawberry plants or 15 dewberry plants or 15 raspberry plants. (The jobs listed for vegetables at right also apply to this project.)

### POULTRY:

- Heavy Broiler,  Chick Raising  
 Flock Management

#### Jobs:

- Preparing brooding equipment
- Selecting breed
- Obtaining chicks
- Feeding
- Brooding
- Housing
- Sanitation
- Culling
- Marketing
- Records

### CROPS:

- Corn,  Cotton,  Cabbage,  
 Snap Beans,  Sweet Potatoes,  
 Irish Potatoes,  Tomatoes

#### Jobs:

- Selecting variety
- Selecting location
- Obtaining seed
- Preparation of seed bed
- Fertilization
- Insect and disease control
- Harvesting
- Marketing
- Records

### DAIRYING:

- 4-H Calf,  Milking Cow

#### Jobs:

- Obtaining stock
- Feeding and care
- Pasture
- Housing
- Fitting
- Care of milk
- Parasite control
- Marketing
- Records

### MEAT ANIMALS:

- Pig,  Baby Beef  
 Sheep

#### Jobs:

- Obtaining animal
- Feeding and care
- Housing
- Pasture
- Parasite control
- Marketing
- Records

### FOODS AND NUTRITION

#### Jobs:

- Improve food habits
- Prepare food as directed in club demonstration
- Improve table manners
- Work for adequate supply of milk in home
- Improve methods for caring for and handling of milk in home

### FOOD PRESERVATION

#### Jobs:

- Work out family canning budget
- Check on canning supplies
- Can, dry and store food
- Keep records

### CLOTHING

#### Jobs:

- Collect equipment
- Mend and repair
- Select patterns
- Sew for self or family
- Keep records

### HOME MANAGEMENT

#### Jobs:

- Study how present crisis affects self and family
- Work in home and on farm
- Keep personal records
- Make family life happier under trying conditions

IF YOU DO NOT FIND A SUITABLE PROJECT LISTED, CONSULT YOUR FARM OR HOME AGENT FOR INFORMATION REGARDING OTHER PROJECTS.

North Carolina State College of Agriculture and Engineering of the University of North Carolina and U. S. Department of Agriculture, co-operating. N. C. Agricultural Extension Service, L. O. Schaub, Director, State College Station, Raleigh. Distributed in furtherance of the Acts of Congress of May 8 and June 30, 1914.

## Recommended Projects

### Page 2

- 6 -  
 A GUIDE FOR "NEIGHBORHOOD" 4-H CLUB LEADERS  
 IN ASSISTING 4-H CLUB MEMBERS WITH CROP AND LIVESTOCK PROJECTS

Leader \_\_\_\_\_ Address \_\_\_\_\_ Neighborhood \_\_\_\_\_ Year \_\_\_\_\_

- Project Objectives:
1. To assist farm boys and girls with food production and conservation projects and other special projects that will contribute to the war effort.
  2. To teach farm boys and girls BEST farm and home practices.
  3. To help farm boys and girls gain an APPRECIATION for a job WELL DONE.
  4. To teach farm boys and girls the meaning of THRIFT, CITIZENSHIP, and GOOD FARM AND HOME MANAGEMENT.

Procedure for 4-H Members in Reaching Objectives:

- Livestock Projects:
1. Obtain good stock.
  2. Feed proper amounts of a balanced ration, including pasture and hay.
  3. Good care of young stock with proper housing.
  4. Strict disease and parasite prevention and control.
  5. Putting animals in good marketing condition.
  6. Marketing to best advantage.
  7. Keeping a practical set of records, showing expenses, receipts and profits.

- Crops Projects:
1. Obtain pure seed of adapted variety.
  2. Properly prepare seed bed.
  3. Use correct amount and formula fertilizer.
  4. Follow recommended cultivation practices.
  5. Harvest according to best practices.
  6. Proper storage--treating for insect control when necessary.
  7. Marketing to best advantage.
  8. Keeping a practical set of records, showing expenses, receipts and profits.

LIST OF 4-H MEMBERS IN YOUR NEIGHBORHOOD WITH INDICATION AS TO HELP NEEDED

Name of 4-H Members	Age	Name of Project	Jobs on which club members need assistance																				
			Livestock Projects								Crop Projects												
			Obtaining stock	Breeding	Feeding & care	Disease & parasite control	Housing	Pasture	Care of product	Culling	Preparing for market	Marketing	Records	Select. of land	Select. of var.	Obtaining seed	Seed bed preparation	Fertilizing	Cultivation	Disease & parasite control	Harvesting	Storing	Marketing



# Food for Victory

## FOOD FOR VICTORY

North Carolina Extension Service  
Animal Industry Food Production Series — No. 5  
Subject:

Prepared by:  
L. I. Case, In Charge  
Animal Husbandry Extension

Baby Beef Production For 4-H Club Members Designed For War Time

Importance of Beef Production in the War Effort: Our Government is calling for a large increase in cattle and calves for slaughter in 1943. 4-H Club members can do much toward reaching our goal by feeding steer calves for 6 to 8 months thus getting them ready for market a year or more earlier than the same animals when handled in the usual way.

SECURING CALVES TO FEED: Home grown steer calves are best to feed. Next best are thrifty animals purchased as near home as possible at commercial prices. Show yard standards are of less importance than economy of production. Calves from 2 to 10 months old and in reasonably good flesh are best. Start calves on feed in February or March for fall sale and in August or September for spring sale. Feed two or more calves where possible. Local banks and other credit organizations will gladly finance the purchase of calves.

FEEDING: It will take about 50 bushels of corn or its equivalent in concentrated feed to get a calf ready for the market which means a gain of from 400 to 500 pounds. In addition it will require from 1000 to 1200 pounds of roughage to feed a calf 6 to 8 months. When possible start calf on grain before weaning. On account of need for milk in war effort and economy of gains, wean calf at about 500 pounds.

### Suggested Ration

Start calves on 2 or 3 pounds per day of the following mixture:

*Corn (shelled or coarsely cracked) . . . . .	4 parts by weight
**Oats (whole or coarsely ground) . . . . .	2 " " "
Protein Meal . . . . .	1 " " "
Hay . . . . .	At will

Increase gradually the amount of feed and the proportion of corn so at the end of three months the steer will be getting about all he will clean up of the following:

*Corn (shelled or coarsely cracked) . . . . .	8 parts by weight
	(over)

Issued in furtherance of the Acts of Congress of May 8 and June 30, 1914.—I. O. Schaub, Director.  
Cooperative Extension Work in Agriculture and Home Economics, North Carolina State College of Agriculture and Engineering, and U. S. Department of Agriculture, Cooperating.

## Food for Victory Page 2

\*\*Oats (whole or coarsely ground) . . . . . 2 parts by weight  
Protein meal . . . . . 1 " " "  
Hay . . . . . At will

\*Berley or wheat may replace half the corn. Either should be coarsely ground.

\*\*Oats not absolutely necessary for fattening steers.

Things to remember: Feed 2 times a day at first, 3 times the last of feeding period. Feed at regular times each day. Avoid sudden changes in both kind and amount of feed. Don't feed more than calf will clean up. Provide clean, fresh water and salt at all times.

PASTURE: Grazing calves on small areas of good permanent or annual pastures, will save some feed and reduce the cost of gains.

CARE AND MANAGEMENT: Housing. Baby beeves should have access to a shed, barn or shelter of some kind at all times. It should be dry and free from drafts in cold weather and darkened to cut down fly bother in summer. A dry clean bed is necessary for calves to do their best. Remove wet bedding and manure daily. Feed Boxes should be on, or reasonably close to ground. They should be kept clean at all times. Castrate and Dehorn calves at an early age. Halter Break calves early. Then train them to lead and stand properly. Groom frequently. Wash and Curl a few times before show. Control lice and other external parasites.

RECORDS: A neat, accurate record should be kept. Be sure to record the initial weight, cost or value. Also keep a complete record of weights and values of all feeds fed. If scales are available weigh and record weight of each calf every 28 days. This will show gains in comparison with other 4-H Club calves. USE BABY BEEF RECORD BOOK.

### WHAT BABY BEEF CLUB WORK ACCOMPLISHES:

1. A Baby Beef Club member learns judging, feeding, care and management of beef cattle.
2. It is a valuable forerunner to the successful handling of a breeding herd.
3. It offers good opportunity for profit where a reasonably good job of feeding is done. Over 90 percent of the boys and girls who fed steers last year made money. The average profit was \$57.18 per steer not including prizes won. When premiums were included the average profit was \$46.05. Of the reports sent in last year 51 boys made \$50.00 or more on individual steers. It should be remembered, however, that a boy or girl must do a good job of feeding to assure a profit.

## Food for Victory Page 3

# FOOD FOR VICTORY

North Carolina Extension Service

Animal Industry Food Production Series — No. 4

Subject: 4-H PIG CLUB PROJECTS FOR 1943

Prepared By:  
E.V. Vestal, Animal  
Husbandry Extension  
Specialist

Importance of Pork in the War Effort: 4-H Club Members have an excellent opportunity to contribute to the 15% increase in pork production that is so badly needed in 1943 for the feeding of our Armed Forces, our Allies and our folks on the Home Front. We must not only feed more hogs than we fed in 1942, but we must feed them to a heavier market weight. We are assured a fair market price for pork as the Government is guaranteeing us a price of at least \$13.25, Chicago basis, per 100 pounds, liveweight, for top hogs.

Our 1943 Objective: The object of 4-H Pig Club projects for 1943 is to feed one or more hogs to a market weight of 230 to 250 lbs., or to produce pigs for others to feed to market weights.

Securing Pigs to Feed: Thrifty pigs of good breeding are necessary if economical pork is to be produced. Club members who are in a position to feed hogs should contact their local banks, Production Credit Associations, or others, if money is needed to purchase either feeder pigs or to purchase a part of the necessary feed.

Feeds Required: Any club member who has about 12 bushels of corn or other grain and can get about 100 lbs. of a good high-protein supplement should be able to make a 30 lb. feeder pig grow into a 230 to 250 lb. hog in less than 5 months. If enough grain is available, 3 or 4 pigs will make a nice size profit for the time required, and lessen the cost of marketing. However, every club member that has enough grain, should feed out at least one pig.

Feeding: The pigs should have all the grain they will eat at all times. Plenty of water to drink, and from 1 pint to 1 quart of a good protein supplement per head, each day. A good protein supplement can be one of the following:

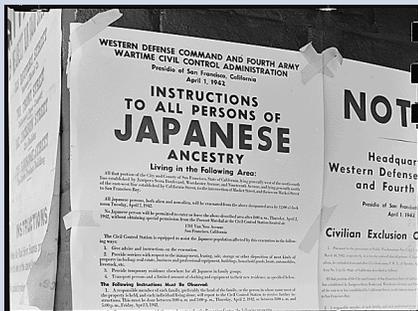
1. A mixture of 45 lbs. of Cottonseed meal  
45 lbs. of Soybean or Peanut oil meal  
8 lbs. of ground limestone  
2 lbs. of salt
2. A good commercial hog ration analyzing 34 to 40% protein.
3. 1 quart to 1 gallon of surplus milk per pig per day.

Parasite Control and Care: A small lot, built of boards, polls or saw-mill slabs, located on land where no hogs have been for at least 12 months, will prevent worm infestation. Occasional use of old cylinder oil will prevent lice and mange. A simple shelter should be provided as protection from the weather.

Marketing: The fat hogs can be killed for home use, sold to a local butcher or sold to a regular livestock market. County Agents should be able to help with group marketing in order to save transportation costs.

Reference Material: War Series Bulletin No. 6, Producing Pork for Home Use.  
The 4-H Pig Club Record Book.

# Japanese Internment



Posting of Exclusion Order at First and Front Streets in San Francisco, California. Photo: National Archives

**Grade Level**  
6-12

**Timeframe**  
~45 Minutes

**Materials**

- Computer and internet (optional)
- If no internet, use paper copies of needed information
- Student activity pages

**Activity Summary**

Students explore Japanese internment through discussion, analyzing primary source documents, and researching various topics.

**Learning Objectives**

- Understand the purpose and effects of Executive Order 9066
- Explore Japanese internment, how it affected Japanese Americans, and why few objected
- Examine and analyze the Bill of Rights and the Supreme Court's ruling on internment

**Key Words**

Internment, Bill of Rights, executive order, Supreme Court

**National Standards**

NCSS:I, II, IV, V, and VI; NCSS:HT.2, 3, 4, and 5; NCSS:WH.ERA.8;  
NCSS:US.ERA.8; NCTE:1, 3, 5, and 7;  
CCSS:ELA.LIT.RI.6-12.7;  
CCSS:ELA.LIT.RH.6-10.2, 3, and 7;  
CCSS:ELA.LIT.W.6-12.3



An Army soldier shows his Purple Heart to his brother, during a visit to the internment camp where his family is confined. Unidentified photographer, October 31, 1943. FDR Presidential Library & Museum

## Background Information

On December 7, 1941, Japan bombed Pearl Harbor, and immediately after the bombing, President Roosevelt issued Presidential Proclamations 2525, 2526, and 2527 to authorize the U.S. to detain allegedly potentially dangerous enemy aliens. Thousands of suspected enemy aliens, mostly of German, Italian, or Japanese ancestry were arrested. Quickly, rumors spread of a plot among Japanese Americans to sabotage the American infrastructure. Americans feared another enemy attack and saw danger at every turn, often fueled by racial prejudice. Even though there was no evidence, civilian and military leaders on the West Coast began in early 1942 to charge that Japanese Americans might be working with Japan. They pushed President Roosevelt to take action to guard against another attack. With the shock of Pearl Harbor and news of Japanese atrocities in the Philippines, racial tensions along the West Coast intensified. Reluctantly, on February 19, 1942, Roosevelt issued Executive Order 9066.

Although the executive order did not identify any particular group, it led to the military eventually forcing over 120,000 Japanese Americans living on the West Coast to relocate to one of 10 internment camps established in California, Idaho, Utah, Arizona, Wyoming, Colorado, and Arkansas. Of those who relocated, more than two-thirds were native born American citizens. Many Japanese Americans were forced to abandon or sell their homes and businesses, and many lost everything they owned. Although this was a great injustice, thousands of young Japanese American men from the camps volunteered to serve in the military. Many of them went on during the war to distinguish themselves through extraordinary valor in combat.

Several legal cases were brought forth on behalf of Japanese Americans, but the Supreme Court upheld the legality of the relocation order. Early in 1945, Japanese American citizens of undisputed loyalty were allowed to return to the West Coast, but the last camp did not close until March 1946. A 1948 law provided for reimbursement for property losses by those citizens interned and in 1988, Congress awarded restitution payments of \$20,000 to each survivor of the camps, an estimated 73,000 people.

## Vocabulary

**BILL OF RIGHTS** — The first 10 amendments of the U.S. Constitution, ratified in 1791 and guaranteeing such rights as the freedoms of speech, assembly and worship.

**EXECUTIVE ORDER** — A rule or order issued by the president to an executive branch of government and having the force of law

**INTERMENT** — The act of putting a person in prison or other kind of detention, generally in wartime. During World War II, the American government put Japanese-Americans in internment camps fearing that they might be loyal to Japan.

**SUPREME COURT** — The highest judicial court in a country or state; the highest federal court in the U.S., consisting of nine justices and taking judicial precedence over all other courts in the nation

**NOTE:** This activity is adapted from FDR Presidential Library & Museum. Original Guide can be found at <https://fdrlibrary.org/curriculum-guide-internment>.

## Activity Summary

In this activity, students explore Japanese internment to understand why Executive Order 9066 was issued, what effects it had on Japanese Americans, and why the courts upheld the order.

## Learning Objectives

Students explore President Roosevelt's Executive Order 9066, why it was issued, and what happened to Japanese Americans once the order was issued. They also explore photos of Japanese internment and discuss. Students will examine the Bill of Rights and determine which, if any, of the Amendments the Executive Order violated.

## Teacher Preparation and Implementation

- Read through the activity and determine if students will work individually or in small groups.
- Bookmark any websites that the students will visit, or if internet is not available, print the material needed.
- Review the videos and determine if appropriate for your class objectives.
- If using the videos, bookmark or download.
- Print activity page, photo page, Executive Order 9066, and Bill of Rights (pp. 143-148).
- Review the Procedure section and make any changes as needed for your students and/or class objectives.

## Procedure

1. Have students read the background information or read it as a class, and discuss and check for understanding.
2. Ask the students, based on what they read and/or know, how they feel about the Japanese American internment during World War II.
3. In small groups or as a class, have students note a time that they felt unjustly accused of something that they did not do and how it made them feel. Have them complete the questions and discuss.

4. Give each student or group a copy of the Japanese American Internment Photos page. Ask them to write a brief description of each picture and to hypothesize what might have occurred right before and after each photo. Have students complete the questions and discuss.
5. Have students pretend to be a newspaper reporter and write a short article on what life was like in an internment camp, using the photos to guide their story. Have them share their stories and discuss.
6. Have students read President Roosevelt's Executive Order 9066 (included in this guide) and describe what it means to them in their own words. Have them share what they wrote and compare to other students' interpretations. Answer the discussion questions.
7. Have students review the Bill of Rights. Discuss if any of the Japanese Americans' civil rights were violated. Have students explore the court cases that ensued against internment. For more information on Fred Korematsu's case and the Supreme Court's decision, have students watch a segment of the video, *Japanese Internment During WWII*.

Optional: Watch both videos: *Japanese American Internment During WWII* (18:06) and *George Takei: Why I love a country that once betrayed me* (15:58) and



Japanese American children pledge allegiance to the flag in San Francisco at Raphael Weill Public School. Photo: National Archives (Identifier: 536053)

discuss the viewpoint of each video. The first video is an archived newsreel that depicts life in internment camps as hard, but also not too bad. The second video is Star Trek's George Takei telling his own story of internment and how it made him a proud American.

## Resources\*

### Websites

#### FDR Presidential Library & Museum

Visit this site to download a curriculum guide on Japanese American internment.

<https://fdrlibrary.org/curriculum-guide-internment>

#### The National Archives

At this site, you will find primary source documents, photographs, and teaching activities on the Japanese relocation during World War II.

<https://www.archives.gov/education/lessons/japanese-relocation>

#### The National World War II Museum — New Orleans

This site offers a variety of information about World War II. At the site, you can learn how to research a veteran, view digital collections, discover the science and technology of World War II, teacher activities, and more.

<http://www.nationalww2museum.org/>

#### Smithsonian.com

Powerful images of Japanese families facing internment.

<http://www.smithsonianmag.com/history/injustice-japanese-americans-internment-camps-resonates-strongly-180961422/>

#### NPS: Tule Lake Unit of WWII Valor in the Pacific National Monument

Learn about the largest and most controversial of Japanese internment sites.

<https://www.nps.gov/tule/index.htm>

### Videos

#### Japanese Internment During WWII (14:30)

Video that documents the internment of Japanese American, the controversial Supreme Court ruling, Fred Korematsu challenge to the courts decision, and more.

<https://www.youtube.com/watch?v=6mr97qyKA2s>

#### Japanese American Internment During WWII (18:06)

Archived 1942 newsreel of Japanese American internment during WWII, and a 1942 view of what life was like in the camps and of those who joined the military.

<https://www.youtube.com/watch?v=OgkNaK6fviA>

*\*The inclusion of links in this guide does not imply endorsement or support of any of the linked information, services, products, or providers.*

#### George Takei: Why I love a country that once betrayed me (15:58)

George Takei (Star Trek) looks back at how the internment in a camp shaped his surprising, personal definition of patriotism and democracy.

<https://www.youtube.com/watch?v=LeBKBFApWnNc>

#### FDR Presidential Library and Museum: Teachable Moments — Japanese Internment (2:24)

Short video on Japanese internment.

[https://www.youtube.com/watch?v=I5N-3f2-RNc&list=PLnYXL2y0SAPHgTO3\\_oKdMWcaxCFLjIrvv&index=8](https://www.youtube.com/watch?v=I5N-3f2-RNc&list=PLnYXL2y0SAPHgTO3_oKdMWcaxCFLjIrvv&index=8)

### Extensions

1. Watch the videos listed in the Video section and compare and contrast the viewpoint of each.
2. Have students take on the role of different groups within the internment camps and create a dialogue for each. For example, one group might be members of a family who have owned their own business for more than 25 years. They could be angry over internment or accepting of their fate. Have students give examples of the family's position and explain. Another group might be that of high school students discussing the confusion they are feeling in their lives due to internment. Or, a third group could be two families discussing patriotism and the relocation policy. Have students present their dialogue and discuss as a class.
3. Have students research the law passed in 1948 by Congress to reimburse internees for property losses. Research the Civil Liberties Act of 1988 that made restitution to internees in the amount of \$20,000 to each survivor. For each legislative act, have students indicate at least three sources and identify if the source was in favor or against the law. Have them write a one-page position paper on their opinion of the two legislative acts.
4. Lead a discussion on why the vast majority of Japanese Americans did not oppose the Executive Order 9066.



U.S. Army Corporal Jimmie Shohara, formerly of the Manzanar Relocation Center in California. Ansel Adams 1943. FDR Presidential Library & Museum

Name \_\_\_\_\_

Date \_\_\_\_\_

## Japanese Internment

### Background Information

On December 7, 1941, Japan bombed Pearl Harbor, and immediately after the bombing, President Roosevelt issued Presidential Proclamations 2525, 2526, and 2527 to authorize the U.S. to detain allegedly potentially dangerous enemy aliens. Thousands of suspected enemy aliens, mostly of German, Italian, or Japanese ancestry were arrested. Quickly, rumors spread of a plot among Japanese Americans to sabotage the American infrastructure. Americans feared another enemy attack and saw danger at every turn, often fueled by racial prejudice. Even though there was no evidence, civilian and military leaders on the West Coast began in early 1942 to charge that Japanese Americans might be working with Japan. They pushed President Roosevelt to take action to guard against another attack. With the shock of Pearl Harbor and news of Japanese atrocities in the Philippines, racial tensions along the West Coast intensified. Reluctantly, on February 19, 1942, Roosevelt issued Executive Order 9066.

Although the executive order did not identify any particular group, it led to the military eventually forcing over 120,000 Japanese Americans living on the West Coast to relocate to one of 10 internment camps established in California, Idaho, Utah, Arizona, Wyoming, Colorado, and Arkansas. Of those who relocated, more than two-thirds were native born American citizens. Many Japanese Americans were forced to abandon or sell their homes and businesses, and many lost everything they owned. Although this was a great injustice, thousands of young Japanese American men from the camps volunteered to serve in the military. Many of them went on during the war to distinguish themselves through extraordinary valor in combat.

Several legal cases were brought forth on behalf of Japanese Americans, but the Supreme Court upheld the legality of the relocation order. Early in 1945, Japanese American citizens of undisputed loyalty were allowed to return to the West Coast, but the last camp did not close until March 1946. A 1948 law provided for reimbursement for property losses by those citizens interned and in 1988, Congress awarded restitution payments of \$20,000 to each survivor of the camps, an estimated 73,000 people.

### Discussion

1. In your group, name a time when you were each blamed for something that you did not do. Were you punished for it? How did it make you feel? What did you do to try to rectify the situation? Did it work? Why or why not? How does your situation compare with that of the interned Japanese Americans? Should Japanese Americans have been innocent until proven guilty? Why or why not?
2. Individually, select one of the photos provided for your group. Write a brief description of the photo, including what is happening in the photo and what you think might have taken place just before and right after the photo was taken. Describe how the photo makes you feel. Did it make you feel called to take action? If so, what action? Share your photo and responses with your group. Do they feel the same as you?
3. After reviewing all the photos with your group, pretend you are a news reporter and that you just received the photos. Based on the photos, write a brief news story that describes a typical day of life in an internment camp.
4. Read President Roosevelt's Executive Order 9066, and in your own words, describe what it means to you. With your group, share what you wrote and compare to other group members' interpretations. Does the document tell the military to round up people and relocate them to camps? Why do you suppose the military interpreted the document the way they did?
5. Review the Bill of Rights. Summarize each amendment. Be sure to be concise, but accurate. Discuss if any of the Japanese Americans' Civil Rights were violated through the Executive Order 9066.
6. Research any lawsuits that were filed on behalf of Japanese Americans and share the findings. Watch the video, *Japanese Internment During WWII*. At time code 6:23, watch the story of Fred Korematsu and how he challenged his arrest for not agreeing to internment. His case was appealed and after several years, it was heard by the U.S. Supreme Court. Could the President discriminate during a time of war? Why or why not? How did the Supreme Court rule? Explain and summarize the stance of two judges on the U.S. Supreme Court with opposing views on the case.
7. Could internment of a race or sect of people ever happen today? Why or why not?

Japanese American Internment Photos — Additional Photos at <https://fdrlibrary.org/curriculum-guide-internment>



Merchandise sale in San Francisco, California, by a proprietor of Japanese ancestry during a pre-evacuation sale. Photo: National Archives (Identifier: 536042)



With baggage stacked, residents of Japanese ancestry await a bus at the Wartime Civil Control Administration (April 6, 1942). Photo: National Archives (Identifier: 536065)



Japanese family heads and persons living alone form a line to report for "processing." Photo: National Archives (Identifier: 536422)



Baggage belonging to evacuees is sorted and trucked to owners in their barrack apartments (Puyallup, Washington). Photo: National Archives (Identifier: 538278)



High school classes are housed in tarpaper-covered barrack-style buildings. Photo: National Archives (Identifier: 537153)



Newly arrived evacuees are registered and assigned barrack apartments at this War Relocation Authority Center. Photo: National Archives (Identifier: 538283)

EXECUTIVE ORDER

- - - - -

AUTHORIZING THE SECRETARY OF WAR TO PRESCRIBE  
MILITARY AREAS

WHEREAS the successful prosecution of the war requires every possible protection against espionage and against sabotage to national-defense material, national-defense premises, and national-defense utilities as defined in Section 4, Act of April 20, 1918, 40 Stat. 533, as amended by the Act of November 30, 1940, 54 Stat. 1220, and the Act of August 21, 1941, 55 Stat. 655 (U. S. C., Title 50, Sec. 104):

NOW, THEREFORE, by virtue of the authority vested in me as President of the United States, and Commander in Chief of the Army and Navy, I hereby authorize and direct the Secretary of War, and the Military Commanders whom he may from time to time designate, whenever he or any designated Commander deems such action necessary or desirable, to prescribe military areas in such places and of such extent as he or the appropriate Military Commander may determine, from which any or all persons may be excluded, and with respect to which, the right of any person to enter, remain in, or leave shall be subject to whatever restrictions the Secretary of War or the appropriate Military

Executive Order 9066

- 2 -

Commander may impose in his discretion. The Secretary of War is hereby authorized to provide for residents of any such area who are excluded therefrom, such transportation, food, shelter, and other accommodations as may be necessary, in the judgment of the Secretary of War or the said Military Commander, and until other arrangements are made, to accomplish the purpose of this order. The designation of military areas in any region or locality shall supersede designations of prohibited and restricted areas by the Attorney General under the Proclamations of December 7 and 8, 1941, and shall supersede the responsibility and authority of the Attorney General under the said Proclamations in respect of such prohibited and restricted areas.

I hereby further authorize and direct the Secretary of War and the said Military Commanders to take such other steps as he or the appropriate Military Commander may deem advisable to enforce compliance with the restrictions applicable to each Military area hereinabove authorized to be designated, including the use of Federal troops and other Federal Agencies, with authority to accept assistance of state and local agencies.

Executive Order 9066

- 3 -

I hereby further authorize and direct all Executive Departments, independent establishments and other Federal Agencies, to assist the Secretary of War or the said Military Commanders in carrying out this Executive Order, including the furnishing of medical aid, hospitalization, food, clothing, transportation, use of land, shelter, and other supplies, equipment, utilities, facilities, and services.

This order shall not be construed as modifying or limiting in any way the authority heretofore granted under Executive Order No. 8972, dated December 12, 1941, nor shall it be construed as limiting or modifying the duty and responsibility of the Federal Bureau of Investigation, with respect to the investigation of alleged acts of sabotage or the duty and responsibility of the Attorney General and the Department of Justice under the Proclamations of December 7 and 8, 1941, prescribing regulations for the conduct and control of alien enemies, except as such duty and responsibility is superseded by the designation of military areas hereunder.

THE WHITE HOUSE,

February 14, 1942.



THE NATIONAL ARCHIVES  
FILED AND MADE AVAILABLE  
FOR PUBLIC INSPECTION

FEB 21 12 51 PM '42

IN THE DIVISION OF THE  
FEDERAL REGISTER

9066

## Executive Order 9066

## THE BILL OF RIGHTS

### **Amendment I**

Congress shall make no law respecting an establishment of religion, or prohibiting the free exercise thereof; or abridging the freedom of speech, or of the press; or the right of the people peaceably to assemble, and to petition the government for a redress of grievances.

### **Amendment II**

A well regulated militia, being necessary to the security of a free state, the right of the people to keep and bear arms, shall not be infringed.

### **Amendment III**

No soldier shall, in time of peace be quartered in any house, without the consent of the owner, nor in time of war, but in a manner to be prescribed by law.

### **Amendment IV**

The right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated, and no warrants shall issue, but upon probable cause, supported by oath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized.

### **Amendment V**

No person shall be held to answer for a capital, or otherwise infamous crime, unless on a presentment or indictment of a grand jury, except in cases arising in the land or naval forces, or in the militia, when in actual service in time of war or public danger; nor shall any person be subject for the same offense to be twice put in jeopardy of life or limb; nor shall be compelled in any criminal case to be a witness against himself, nor be deprived of life, liberty, or property, without due process of law; nor shall private property be taken for public use, without just compensation.

### **Amendment VI**

In all criminal prosecutions, the accused shall enjoy the right to a speedy and public trial, by an impartial jury of the state and district wherein the crime shall have been committed, which district shall have been previously ascertained by law, and to be informed of the nature and cause of the accusation; to be confronted with the witnesses against him; to have compulsory process for obtaining witnesses in his favor, and to have the assistance of counsel for his defense.

### **Amendment VII**

In suits at common law, where the value in controversy shall exceed twenty dollars, the right of trial by jury shall be preserved, and no fact tried by a jury, shall be otherwise reexamined in any court of the United States, than according to the rules of the common law.

### **Amendment VIII**

Excessive bail shall not be required, nor excessive fines imposed, nor cruel and unusual punishments inflicted.

### **Amendment IX**

The enumeration in the Constitution, of certain rights, shall not be construed to deny or disparage others retained by the people.

### **Amendment X**

The powers not delegated to the United States by the Constitution, nor prohibited by it to the states, are reserved to the states respectively, or to the people.



## Vocabulary

**DRAFT** — A system for selecting young men for compulsory military service, administered in the United States by the Selective Service System. At present, the U.S. relies on a voluntary military and does not have a draft. However, young men are required by law to register with the Selective Service.

**GOLD STAR FLAG** — Flag or banner with a white field, red border, and a gold star representing each family member who died serving in the Armed Forces of the United States during any period of war; blue stars represent family members who are serving in the Armed Forces.

**INTERMENT** — The act of putting a person in prison or other kind of detention, generally in wartime. During World War II, the American government put Japanese-Americans in internment camps fearing that they might be loyal to Japan.

**SCRAP DRIVES** — During World War II, to supply the massive amounts of metal needed to build tanks, ships, planes and weapons, Americans were urged to turn in scrap metal for recycling and schools and community groups held scrap metal drives

**VICTORY CORPS** — American program during World War II that provided training to male and female high school students for more effective preparation and participation in wartime service.

## Teacher Preparation and Implementation

- Visit The National WWII Museum’s website for high school yearbooks.  
<http://www.ww2yearbooks.org/home/>
- Review the website for Excelsior Union High School and page through its yearbook.  
<http://www.ww2yearbooks.org/yearbooks/california-excelsior.php>
- Either bookmark Excelsior’s website for the students or print copies of the yearbook images (included in this guide).
- If using the included images, enlarge each yearbook page to make it easier for students to read.
- Print copies of the activity page (p. 152) and Executive Order 9066 (pp. 145-147) for each student/group.

## Procedure

1. Have students read the background information or read it as a class.
2. Discuss how student life might have been similar and different for students during World War II as compared to today’s students.
3. Explain to the students that they will answer the questions in the activity using Excelsior Union High School’s 1942 yearbook belonging to Annie Hogan.
4. When the students have completed answering the question, discuss their answers as a class.
5. Wrap up the activity, with each student writing a short description of how their life might change if another world war were to happen today. Ask them, if there was another war, what would they write in an inscription to their best friend in the yearbook. Have them explain what would it say and why.

## Resources\*

### Websites

#### The National World War II Museum — See You Next Year

Visit this site to see a collection of annuals and yearbooks from World War II.

<http://www.ww2yearbooks.org/home/>

#### The National World War II Museum — New Orleans

This site offers a variety of information about World War II. At the site, you can learn how to research a veteran, view digital collections, discover the science and technology of World War II, teacher activities, and more.

<http://www.nationalww2museum.org/>

#### FDR Presidential Library & Museum

Visit this site to download a curriculum guide on Japanese American internment.

<https://fdrlibrary.org/curriculum-guide-internment>

#### Moving History: Films from the Home Front

A collection of unique moving images illustrating life in Britain during World War II, as seen through amateur documentaries, newsreels, government films, and home movies.

<http://www.movinghistory.ac.uk/homefront/>

#### U.S. Navy – This Day in Naval History – Dec. 7

This webpage gives short synopsis of the major events and heroes on December 7, 1941.

[http://www.navy.mil/submit/display.asp?story\\_id=280](http://www.navy.mil/submit/display.asp?story_id=280)

*\*The inclusion of links in this guide does not imply endorsement or support of any of the linked information, services, products, or providers.*



Poster for the High School Victory Corps, which helped to mobilize students for more effective participation in wartime service during World War II. Courtesy of National WWII Museum.

### National WWII Museum: Victory Corps

<http://www.nww2m.com/2012/09/high-school-victory-corps-established/>

### Videos

#### FDR Presidential Library and Museum: Teachable Moments — *Japanese Internment* (2:24)

Short video on Japanese internment.

[https://www.youtube.com/watch?v=I5N-3f2-RNc&list=PLnYXL2y0SAPHgTO3\\_oKdMWcaxCFLjIrvv&index=8](https://www.youtube.com/watch?v=I5N-3f2-RNc&list=PLnYXL2y0SAPHgTO3_oKdMWcaxCFLjIrvv&index=8)

#### FDR Presidential Library and Museum: Teachable Moments — *On the Home Front* (2:10)

Short video clip of what life was like during World War II on the home front.

[https://www.youtube.com/watch?v=3Ge-7WsWjn4&index=9&list=PLnYXL2y0SAPHgTO3\\_oKdMWcaxCFLjIrvv](https://www.youtube.com/watch?v=3Ge-7WsWjn4&index=9&list=PLnYXL2y0SAPHgTO3_oKdMWcaxCFLjIrvv)

#### FDR Presidential Library and Museum: Teachable Moments — *Attack on Pearl Harbor* (2:19)

Short video clip of the attack on Pearl Harbor.

[https://www.youtube.com/watch?v=v-h97DnI2Kk&index=6&list=PLnYXL2y0SAPHgTO3\\_oKdMWcaxCFLjIrvv](https://www.youtube.com/watch?v=v-h97DnI2Kk&index=6&list=PLnYXL2y0SAPHgTO3_oKdMWcaxCFLjIrvv)

### FDR Presidential Library and Museum: Teachable Moments — *War: Beginning of WWII* (1:57)

[https://www.youtube.com/watch?v=eqxSfNKTv0g&index=7&list=PLnYXL2y0SAPHgTO3\\_oKdMWcaxCFLjIrvv](https://www.youtube.com/watch?v=eqxSfNKTv0g&index=7&list=PLnYXL2y0SAPHgTO3_oKdMWcaxCFLjIrvv)

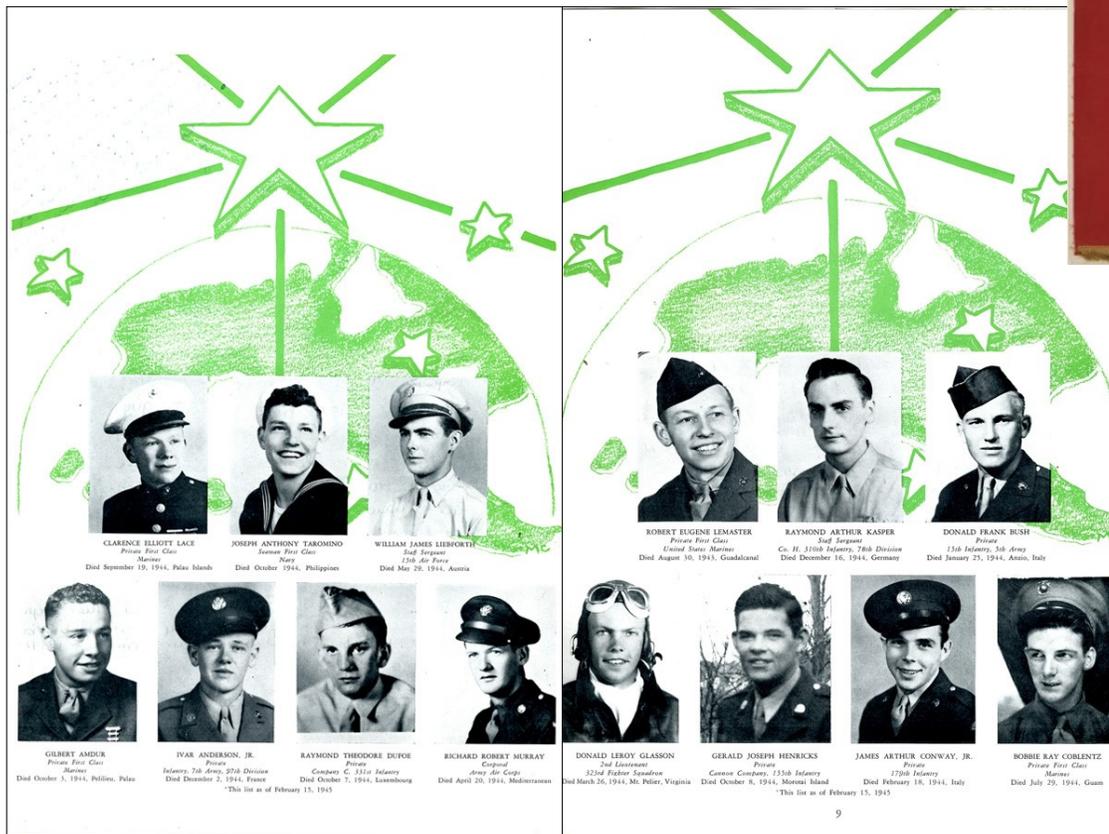
### FDR Presidential Library and Museum: Teachable Moments — *Toward Racial Equality* (2:20)

Short video clip about the racial divide during World War II and what President Roosevelt did to ensure equality.

[https://www.youtube.com/watch?v=Vr64s4TDjRE&list=PLnYXL2y0SAPHgTO3\\_oKdMWcaxCFLjIrvv&index=10](https://www.youtube.com/watch?v=Vr64s4TDjRE&list=PLnYXL2y0SAPHgTO3_oKdMWcaxCFLjIrvv&index=10)

### Extensions

1. Have students explore yearbooks from each year of World War II and note how they changed over time.
2. Have each student choose one yearbook and summarize what life was like for students in that high school during the war. Be sure to have each year, from 1941 to 1945, represented. Compare and contrast life for teens based on their home location, duration of the war and other factors as appropriate. <http://www.wv2yearbooks.org/home/>
3. Have students research how teens supported the war effort through programs such as the High School Victory Corps.



Above: World War II service flag/banner with three stars indicating that three men from this family were serving in the war. The gold star indicates that one died while serving. Courtesy of the Library of Congress

Left: Pages in the West High School, Rockford, Illinois, yearbook dedicated to the students that died serving in World War II during 1943 and 1944 (as of February 15, 1945). Courtesy of Mrs. Richard Stanton, Class of 1945 via The National WWII Museum.

Name \_\_\_\_\_

Date \_\_\_\_\_

## High School Life—1942

### Background Information

When the Japanese bombed Pearl Harbor, life as Americans knew it changed forever. Between December 7, 1941, and the end of the World War II (WWII) in 1945, the war affected every aspect of American life. From large urban cities to small rural farms, no one was immune to the war's influence, not even high school students. Students during World War II were much like you are today. They participated in sports, fell in and out of love, went to the prom, and dealt with all the typical teenage issues. However, they were also forced to confront the realities of war.

As millions of teenagers went about being teenagers during the war, they documented their school days in much the same way as teens still do today with annuals and yearbooks. As yearbooks today offer a perspective on the current state of affairs in the world, the yearbooks of World War II also told the unique story of the many challenges, setbacks and triumphs of the war as seen through the eyes of the students coming to age between 1941 and 1945.

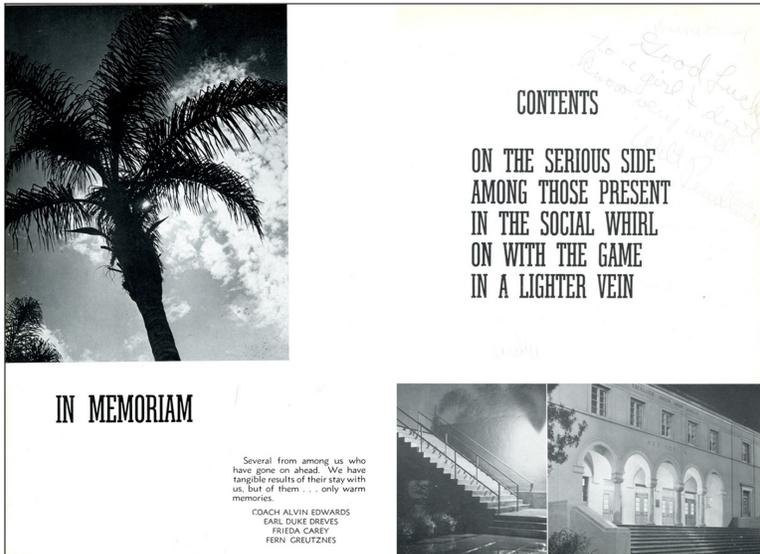
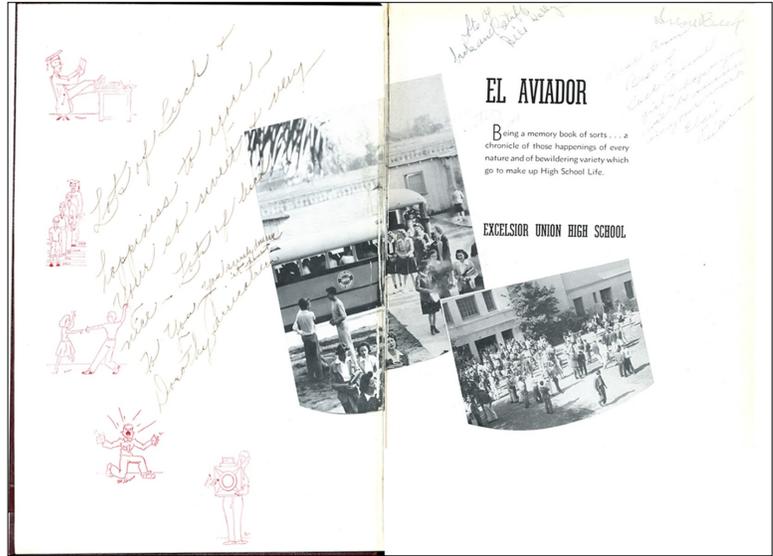
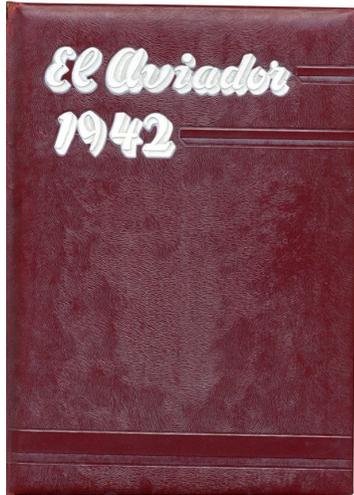
In this activity adapted from The National WWII Museum, you will view the 1942 yearbook of Excelsior Union High School in Artesia, California. Artesia was home to an ethnically diverse population that included a substantial Asian American minority. As you read through the yearbook, imagine that you are a student at Excelsior and answer the questions below.

### Procedure

1. Visit The National WWII Museum—New Orleans' website to read the Excelsior Union High School's yearbook. <http://www.wv2yearbooks.org/yearbooks/california-excelsior.php> or use provided photos of the yearbook pages, to answer the following questions.
2. Look at the front cover. The name of the yearbook is El Aviador, a Spanish word.
  - a. What do you think the Spanish name means?
  - b. Why do you think they would have a Spanish name for their yearbook?
3. Open to the second page for "Contents." Look at the page on the left titled "In Memoriam." It says "Several among us who have gone on ahead..."
  - a. How many from their school have died? Were they all killed during World War II? How do you know?
  - b. Do you think any of them might be students? Why or why not? Research "Gold Star Mothers" and explain.
4. Turn the page and read the next two pages titled "Excelsior In the War."
  - a. Describe how the students heard that President Roosevelt declared war.
  - b. Did students or faculty immediately join the military? Why do you think some students decided to serve instead of finishing high school?
  - c. What were four things the students did on the "home front" to help the war effort?
  - d. What type of flag are they creating and why?
5. Flip through the next few pages of student photos and read some of the notes written to the yearbook owner, Annie.
  - a. What did people think of Annie? Did she have any special talents?
  - b. There were approximately 75 students in this school. About how many are Asian students? After the attack on Pearl Harbor, do you think the Asian students were treated differently? Why or why not?
6. Turn the pages to the Japanese Club page and read the text. It says it WAS one of the largest and most active clubs at Excelsior.
  - a. Look at the photo at the top of the page. How many Japanese students are in the photo? With only approximately 75 students in the high school, about what percentage of the population was Japanese?
  - b. What happened to the club? Why? Where do you think the students went? Read Executive Order 9066 and summarize it in your own words. Do you think that the order was fair?
  - c. How did the other students feel about their departure?
  - d. Do you think it was fair that they had to leave? Why or why not?
7. Read the remaining pages and note which sports the students played and anything else that is interesting to you.

### 1942 El Alviador Yearbook Pages

<http://www.wv2yearbooks.org/yearbooks/california-excelsior.php>

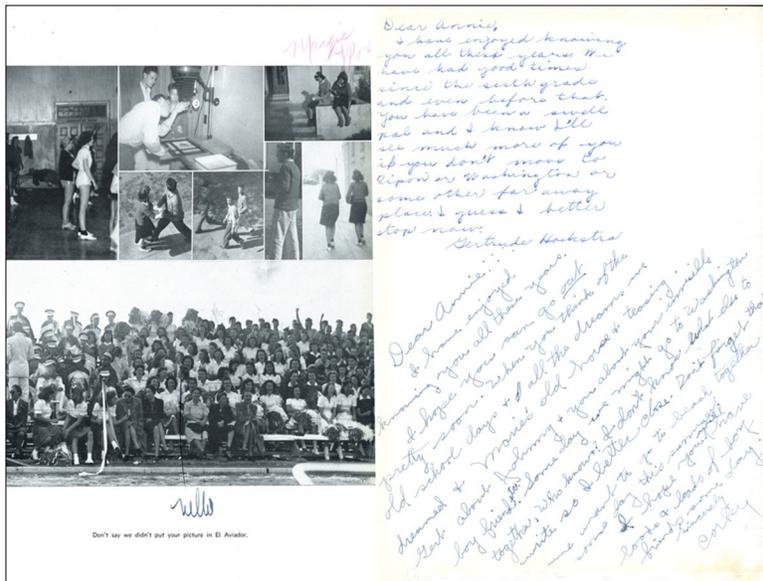
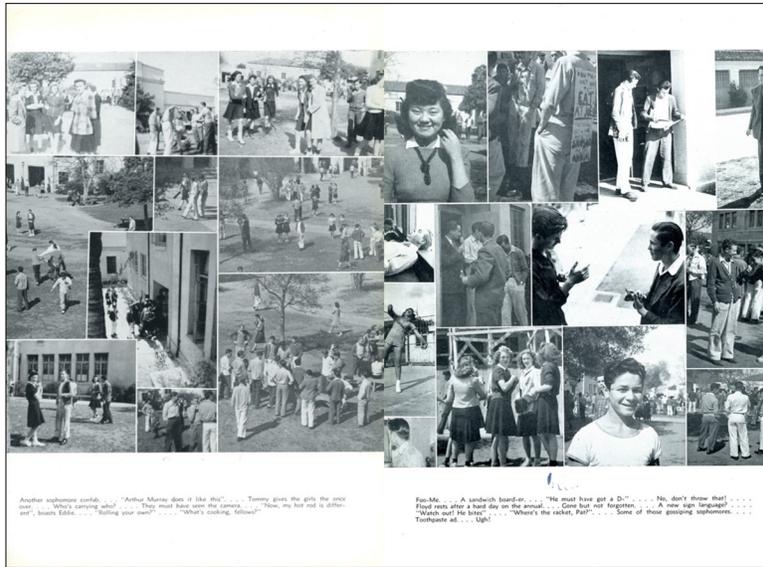


All images are of pages from Excelsior Union High School's 1942 yearbook. Courtesy of Annie Hogan and The National WWII Museum—New Orleans.

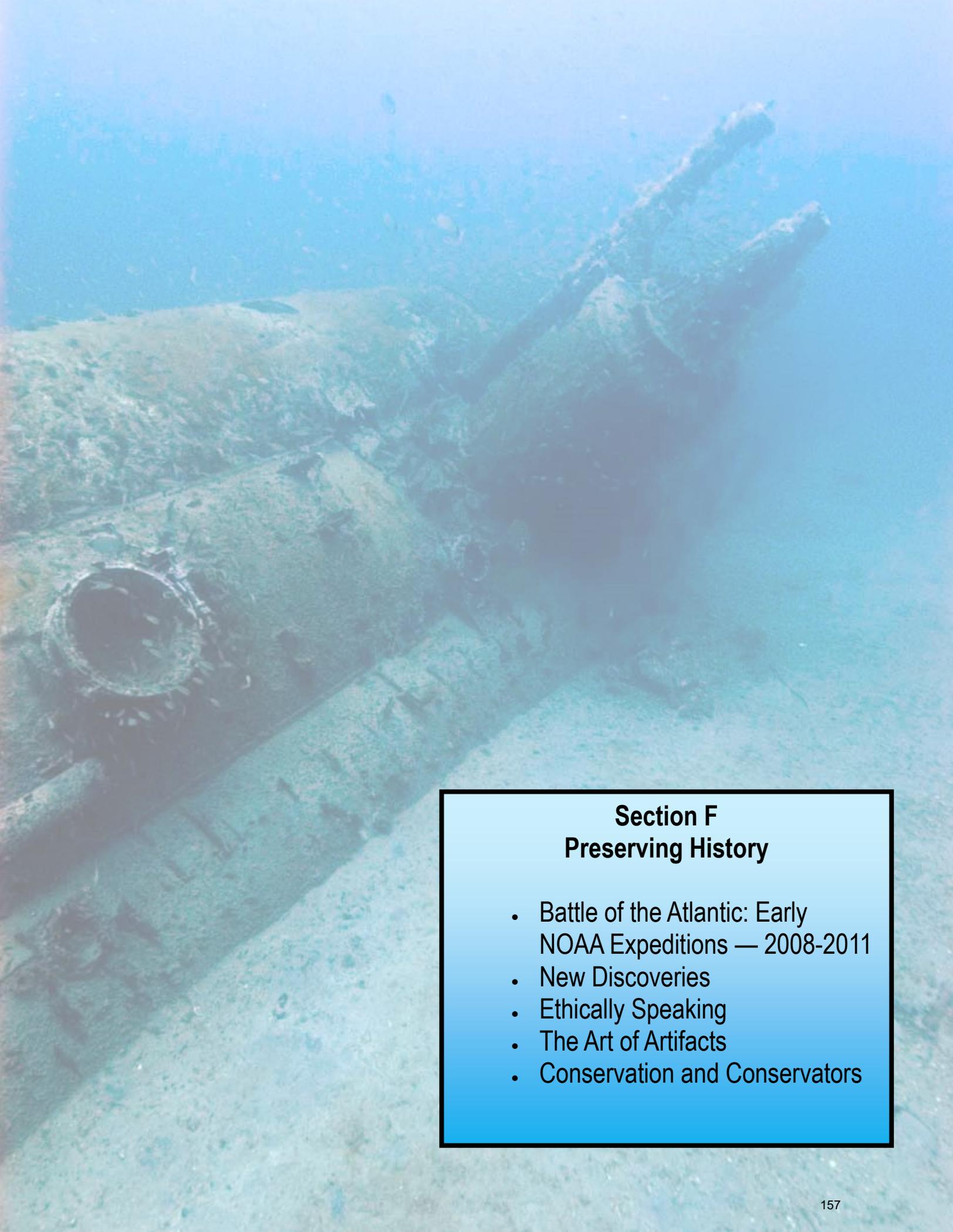








All images are of pages from Excelsior Union High School's 1942 yearbook. Courtesy of Annie Hogan and The National WWII Museum—New Orleans.



## **Section F Preserving History**

- Battle of the Atlantic: Early NOAA Expeditions — 2008-2011
- New Discoveries
- Ethically Speaking
- The Art of Artifacts
- Conservation and Conservators

# Battle of the Atlantic: Early NOAA Expeditions — 2008-2011



Diver explores wreck site of *E.M. Clark*. Photo: NOAA

## Grade Level

6-12

## Timeframe

~45 Minutes

## Materials

- Computers and internet OR
- Printed copies of the expeditions
- Paper or journal

## Activity Summary

Students conduct an online scavenger hunt to explore NOAA's early Battle of the Atlantic expeditions to learn about the team, technology, and the ships surveyed and/or found.

## Learning Objectives

- Learn about careers in science
- Understand the need for advanced technology in surveying shipwrecks and to search for lost shipwrecks
- Discover how teamwork among scientists and agencies is important to achieve expedition goals

## Key Words

Battle of the Atlantic, convoy, maritime archaeology, merchant vessel, research, U-boat

## National Standards

NG:1, 13 and 17; NCSS:I, II; NCSS:HT.2, 3, and 4; NCSS:WH.ERA.8; NCSS:US.ERA.8; NCTE:1, 3, 7, and 8; CCSS:ELA.LIT.RI.8.1; NCTM:6-8:G; NCTM:9-12:G.A, B; OL.6 and 7



## Background Information

Just one month after the United States entered World War II, German U-boats arrived off the East Coast bringing the war once again to America's doorstep. No other area along the eastern seaboard saw more action than North Carolina. It is where the war truly came home to our shores. Over the course of just six months, from January to July 1942, as the Battle of the Atlantic raged, approximately 90 ships sank off the coast of North Carolina, with over 1,600 men making the ultimate sacrifice as they fought against tyranny.

During the early phases of the Battle of the Atlantic in U.S. waters, merchant ships and naval vessels fought bravely to turn the tide against the U-boats. The U.S. Navy, U.S. Army Air Force, and the U.S. Coast Guard developed successful strategies to outsmart and outmaneuver the German submarine force. In May 1942, the tide began to turn, and finally in July 1942, the remaining U-boats left the East Coast and were relocated.

NOAA's Monitor National Marine Sanctuary began a multi-year collaboration in 2008 with the Bureau of Ocean Energy Management (BOEM), the National Park Service (NPS), East Carolina University (ECU), University of North Carolina Coastal Studies Institute (UNC CSI), and the state of North Carolina to conduct a maritime archaeological survey of these World War II shipwrecks. Each year, the expeditions grew with additional new partners, new technology, and a renewed drive to document these important historic cultural resources in an effort to raise awareness of North Carolina's involvement and to pay homage to the brave men who fought and died off the coast.

The early expeditions (2008-2011) are archived online through a website that includes information on the team, careers in science, technology used, ships explored, images, videos, and daily blogs. The expeditions continued through the years with over 35 World War II shipwrecks documented and surveyed, and in 2014, two shipwrecks, U-576 and SS *Bluefields*, were finally discovered after six years of searching. In 2016, an expedition was made to their sites and these shipwrecks were seen for

the first time in 74 years. Today, NOAA and partners continue to document this collection of World War II shipwrecks as an important component of our nation's maritime heritage.

## Activity Summary

In this activity students will conduct an online scavenger hunt to explore NOAA's early Battle of the Atlantic expeditions. They will search the expeditions' websites for information about the team, technology, and the ships they surveyed and/or found.

## Learning Objectives

Students will learn about careers in science and understand the need for advanced technology in surveying shipwrecks and to search for lost shipwrecks. They will discover how teamwork among scientists and agencies is important to achieve the expedition goals.

## Teacher Preparation and Implementation

- Determine if students will work individually or in small groups.
- There are four expeditions archived. Assign each student/group one or more expeditions to research.
- Determine if students will work online or use printed copies of the expedition website.
- If working online, bookmark all the pages needed for the scavenger hunt.
- If students cannot work online, print copies for each student/group of the pages needed for the expedition(s).
- Print the student worksheet for each student/group (pp. 161-162).

## Procedure

1. Read the background information to the class or have them read individually. Review World War II's Battle of the Atlantic and its significance off North Carolina's coast.
2. Tell students that NOAA and partners have worked since 2008 to document and survey dozens of World War II shipwrecks located off North Carolina's coast. Explain that they will review the early expeditions to learn more about careers in science, shipwrecks, and the technology used.

3. Discuss why it would be important to survey and document these historical shipwrecks.
4. Assign each student/group an archived year to investigate.
5. Pass out printed copies of the website or have student access the websites online.
6. After everyone is finished, as a class go over and discuss each year's mission, the technology used, the ships documented, the expedition team and their careers, and any other information that might be interesting for students.

## Resources\*

### Websites

#### NOAA's Battle of the Atlantic Expeditions

This archived site, of the expeditions from 2008 to 2011, hosts researchers' blogs, expedition details, videos and images, technology used, and more.

<https://sanctuaries.noaa.gov/missions/battleoftheatlantic/archives.html>

#### Monitor NMS – Shipwreck Web Pages

Over 45 World War II shipwrecks located off North Carolina are featured on this site giving background information, current site condition, sonar images, underwater images of wreck and marine life, and more.

<https://monitor.noaa.gov/shipwrecks/>

#### Naval History and Heritage Command: The Battle of the Atlantic

Great source for learning about one of the longest running battles in history. Learn about convoys, U-boat activities on the East Coast, and read primary sources, such as German U-boat war logs, download images, and more.

<https://www.history.navy.mil/browse-by-topic/wars-conflicts-and-operations/world-war-ii/1942/atlantic.html>

*\*The inclusion of links in this guide does not imply endorsement or support of any of the linked information, services, products, or providers.*

## Vocabulary

**BATTLE OF THE ATLANTIC** — Longest continuous military campaign in World War II, running from 1939 to 1945; at its core was the Allied naval blockade of Germany and Germany's subsequent counter-blockade

**CONVOY** — A group of ships traveling together, typically accompanied by warships for protection

**MERCHANT VESSEL** — A ship that transports cargo and is engaged in commercial trade

**MARITIME ARCHAEOLOGY** — A discipline within archaeology that studies human interaction with the sea, lakes, and rivers through the study of associated physical remains

**RESEARCH** — The systematic investigation into and study of materials and sources in order to establish facts and reach new conclusions

**U-BOAT** — A German submarine; name is derived from German word "Unterseeboot," which literally means "undersea boat"

### The National World War II Museum — New Orleans

This site offers a variety of information about World War II. At the site, you can learn how to research a veteran, view digital collections, discover the science and technology of World War II, teacher activities, and more.

<http://www.nationalww2museum.org/>

### Books

Black, Wallace B. and Jean F. Blashfield. *Battle of the Atlantic (World War II 50th Anniversary Series)*. Crestwood House, 1991. ISBN-13: 978-0896865587.

Blair, Clay. *Hitler's U-Boat War: The Hunted, 1942-1945*. Modern Library, June 6, 2000. ISBN-13: 978-0679640332.

Dimbleby, Jonathan. *The Battle of the Atlantic: How the Allies Won the War*. Oxford University Press, March 1, 2016. ISBN-13: 978-0190495855.

Gannon, Michael. *Operation Drumbeat: The Dramatic True Story of Germany's First U-Boat Attacks Along the American Coast in World War II*. Naval Institute Press, March 1, 2003 (reprint). ASIN: B000NSODE8.

Hickahm, Homer. *Torpedo Junction: U-Boat War Off America's East Coast, 1942 (Bluejacket Books)*. Naval Institute Press, 1st edition, April 1996. ISBN-13: 978-1557503626

### Video

#### UNC Coastal Studies Institute: *Battle of the Atlantic (7:23)*

Video clip that highlights the research and tools used to document World War II shipwrecks off the North Carolina coast, while showing the beauty of the marine life living on them today.

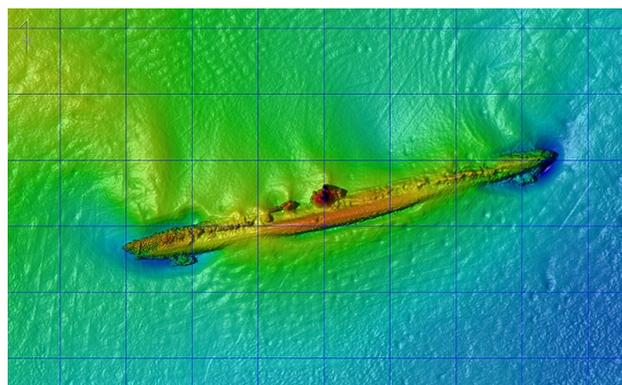
<http://science.unctv.org/content/battle-atlantic>



2008 underwater image of the U-701 that sank when a U.S. Army plane accurately dropped three depth charges on it. Photo: Sellers, NOAA



Underwater image of the U-352 that sank when USCG Cutter *Icarus* dropped five depth charges sinking it. Photo: NOAA



Multibeam sonar image of the German U-boat, U-701. Image: NOAA



Photomosaic created in 2008 of the German U-boat, U-85. The U-85 sank after it engaged in a surface battle with the USS *Roper*. Image: Hoyt, NOAA

Name \_\_\_\_\_

Date \_\_\_\_\_

## Battle of the Atlantic: Early NOAA Expeditions

### Background Information

Just a few weeks after the United States entered World War II, German U-boats arrived off the East Coast bringing the war once again to America's doorstep. No other area along the eastern seaboard saw more action than North Carolina. It is where the war truly came home to our shores. Over the course of just six months, as the Battle of the Atlantic raged from January to July 1942, approximately 90 ships sank off the North Carolina coast, with over 1,600 men making the ultimate sacrifice as they fought against tyranny.

During the early phases of the Battle of the Atlantic in U.S. waters, merchant ships and naval vessels fought bravely to turn the tide against the U-boats. The U.S. Navy, U.S. Army Air Force, and the U.S. Coast Guard developed successful strategies to outsmart and outmaneuver the German submarine force. In May 1942, the tide began to turn, and finally in July 1942, the remaining U-boats were called home.

NOAA's Monitor National Marine Sanctuary began a multi-year collaboration in 2008 with the Bureau of Ocean Energy Management (BOEM), the National Park Service (NPS), East Carolina University (ECU), University of North Carolina Coastal Studies Institute (UNC CSI), and the state of North Carolina to conduct a maritime archaeological survey of these World War II shipwrecks. Each year, the expeditions grew with additional new partners, new technology, and a renewed drive to document these important historic cultural resources in an effort to raise awareness of North Carolina's involvement and to pay homage to the brave men who fought and died off the coast.

The early expeditions (2008-2011) are archived online through a website that includes information on the team, careers in science, technology used, ships explored, images, videos, and daily blogs. The expeditions continued through the years with over 35 World War II shipwrecks

The expeditions continued through the years with over 35 World War II shipwrecks documented and surveyed, and in 2014, two shipwrecks, the U-576 and SS *Bluefields*, were finally discovered after six years of searching. In 2016, an expedition was made to their sites and these shipwrecks were seen for the first time in 74 years. Today, NOAA and partners continue to document this collection of World War II shipwrecks as an important component of our nation's maritime heritage.

### Activity Overview

In this activity, you will explore the archived Battle of the Atlantic Expedition websites for 2008 through 2011. As you search for the answers in this scavenger hunt game, you will learn about careers in science, maritime archaeology, technology used to discover shipwrecks, and more.

### Procedure

Using either printed pages or the online resources, follow the clues to dive into maritime archaeology and to learn about protecting national cultural resources. Using your own paper or journal, answer the following questions for your assigned expedition.

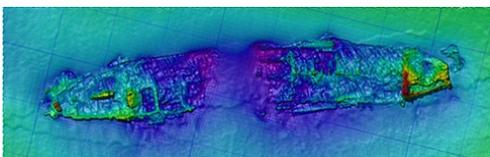
1. Visit <https://sanctuaries.noaa.gov/missions/battleoftheatlantic/archives.html>.
2. Click on the link for **2008** and give a brief summary of the expedition that summer.
  - <https://sanctuaries.noaa.gov/missions/battleoftheatlantic/>
  - In the right tool bar, click on "The Mission." What are the primary sites to be observed during this expedition?
  - In the right tool bar, click on "U-85." How did the U-85 sink?
  - In the right tool bar, click on one of the mission "blogs" and summarize.
  - In the right tool bar, click on "Meet the Team" and list the various job titles of the team.
  - What technology was used during this mission?
  - What was one fact that you found the most interesting?
3. Click on the link for **2009** and give a brief summary of the expedition that summer.
  - <https://sanctuaries.noaa.gov/missions/battleoftheatlantic2/>
  - In the right tool bar, click on "The Mission." What are the primary sites to be observed during this expedition?
  - In the right tool bar, click on "HMT *Bedfordshire*." How did the *Bedfordshire* sink?

## Battle of the Atlantic: Early NOAA Expeditions Continued

- In the right tool bar, click on one of the mission “blogs” and summarize.
  - In the right tool bar, click on “Meet the Team” and list the various job titles of the team.
  - What technology was used during this mission?
  - What was one fact that your found the most interesting?
4. Click on the link for **2010** and give a brief summary of the expedition that summer.
- <https://sanctuaries.noaa.gov/missions/2010battleoftheatlantic/>
  - In the right tool bar, click on “The Mission.” What are the primary goals for this expedition?
  - In the right tool bar, click on “Merchant Vessels.” How did the *Dixie Arrow* sink?
  - In the right tool bar, click on one of the mission “blogs” and summarize.
  - In the right tool bar, click on “Meet the Team” and list the various job titles of the team.
  - In the right tool bar, click on “Wrecks as Reefs.” Summarize how biologists collected data on the shipwreck sites. What technology did they use?
  - What was one fact that your found the most interesting?
5. Click on the link for **2011** and give a brief summary of the expedition that summer.
- <https://sanctuaries.noaa.gov/missions/2011battleoftheatlantic/>
  - In the right tool bar, click on “The Mission.” What are the primary sites to be observed during this expedition?
  - In the right tool bar, click on “Vessels of Interest.” How did the *Keshena* sink?
  - In the right tool bar, click on one of the mission “blogs” and summarize.
  - In the right tool bar, click on “Meet the Team” and list the various job titles of the team.
  - What technology was used during this mission?
  - What was one fact that your found the most interesting?

### Extend Your Learning

To learn more about World War II shipwrecks off the North Carolina coast, visit Monitor National Marine Sanctuary's shipwreck website at <https://monitor.noaa.gov/shipwrecks/>.



Left to Right, Top to Bottom: Diver documenting U-701; Diver surveys HMT *Bedfordshire*; Diver photographing the *EM Clark*; Sonar image of the *Benson*; A shark swims on the *Caribsea*; Marine life is abundant on the *British Splendour*. All images: NOAA

## Battle of the Atlantic — New Discoveries



U-576 Captain Hans-Dieter Heinicke (left).  
Photo: Courtesy of Ed Caram

### Grade Level

6-12

### Timeframe

1-2 hours

### Materials

- Activity Sheet: Plotting the Course
- Colored pencils
- Copy of *Convoy KS-576*
- Two copies of map
- Paper, journal, or graph paper

### Activity Summary

This activity simulates the first stage of searching for a lost shipwreck—research. Students conduct research to narrow the search area of an underwater battlefield.

### Learning Objectives

- Use primary, secondary, and tertiary resources
- Plot coordinates to create a map of sunken U-boats
- Analyze data and determine a search area
- Discover how maritime archaeologist conduct research

### Key Words

Convoy, coordinate, merchant vessel, Torpedo Junction, U-boat

### National Standards

NG:1, 13 and 17; NCSS:I, II; NCSS:HT.2, 3, and 4; NCSS:WH.ERA.8;  
NCSS:US.ERA.8; NCTE:1, 3, 7, and 8;  
CCSS:ELA:LIT.RI.8.1; NCTM:6-8:G;  
NCTM:9-12:G.A, B; OL.6 and 7



Diver explores wreck site of *E.M. Clark*.  
Photo: NOAA

### Background Information

Although World War II's Battle of the Atlantic is not well known by the general public, it has been extensively studied by historians. Beginning in 1939, and continuing until Germany surrendered in 1945, it was the war's longest military campaign and pivotal in winning the war.

Once the U.S. entered World War II in 1941, U-boats began to ply the waters off the American coast. In 1942, their presence was intensely felt off the East Coast, and in particular just off Cape Hatteras, North Carolina, in an area that became known as "Torpedo Junction." Ship casualties in Torpedo Junction included four German U-boats, along with over 80 Allied and merchant ships. Three casualties were a result of a battle between Convoy KS-520 and U-576. For decades, wreck divers and maritime archaeologists searched for this lost battlefield. With its discovery, historians would obtain a wealth of new information giving greater insight into the events that happened on that day of July 15, 1942.

Since 2008, Monitor National Marine Sanctuary (MNMS) led archaeological, biological, and historical surveys of World War II heritage resources off the North Carolina coast associated with the Battle of the Atlantic. For six years, researchers attempted to locate U-576 and SS *Bluefields*, a merchant ship sunk by U-576. During this multi-year endeavor, the sanctuary partnered with various federal and state agencies, universities, and others in search of the elusive U-576. After years of research and methodical searching, the U-576 and *Bluefields* were located in the summer of 2014.

When searching for lost shipwrecks, extensive research is done using primary, secondary, and tertiary sources in order to narrow the search field. Once an area is identified, NOAA maritime archaeologists use a variety of tools and techniques to search for the shipwreck, such as scuba, sidescan sonar, multi-beam sonar, remotely operated vehicles (ROVs), autonomous underwater vehicles (AUVs), towfish, magnetometers, photogrammetry, and NOAA ships and submersibles. With these cutting-edge tools and the abundant expertise of our NOAA research team and partners, NOAA has helped to lead the way to protect our ocean's cultural resources.

### Activity Summary

In this activity students learn the important role that research plays in the discovery of shipwrecks. They look at primary, secondary, and tertiary source documents so as to understand the importance of World War II's Battle of the Atlantic. Students conduct research on U-boat activity in

U.S. waters and use coordinates to create a map of sunken U-boats off the East Coast. They also learn about the battle of Convoy KS-520 as they begin to simulate the search for U-576.

## Learning Objectives

Students will use primary, secondary, and tertiary resources to narrow the search area for a lost shipwreck. They will create a map of sunken U-boats off the East Coast using map coordinates and then analyze data to determine a search area.

## Teacher Preparation and Implementation

- Review all resources and determine which ones to use, or use your own resources.
- If internet is available, create a digital binder, such as LiveBinder\*, of all resources for students' use. The binder helps to concentrate and limit their searches. For more information on LiveBinder, visit <http://www.livebinders.com/>.
- If internet is not available, print copies of resources for each student/group.
- Print copies of *Convoy KS-520, Map A, Map B*, and activity page, *Plotting the Course* (pp. 166-172). (NOTE: For best results, enlarge Map B.)

## Procedure

1. With students, review primary, secondary, and tertiary sources. Discuss importance of determining relevant details from articles. Review latitude and longitude lines and plotting coordinates.
2. Have students read the background section and the activity summary of *Plotting the Course*.
3. Have the students conduct research to answer the provided questions.
4. Use the chart and *Map A* and have the students plot the coordinates for the sunken German U-boats and then analyze their maps.
5. The article *Historical Accounts of Battle of Convoy KS-520* is a technical paper. Read and select any terms that the students might be unfamiliar with, and review them with students.
6. Have students read *Battle of Convoy KS-520* and answer questions.
7. Next, have students analyze their research and use *Map B* to outline a search area for the U-576. Have students/groups share their maps and explain their rationale for their search area.
8. After the students identify their search zone, give the students the actual coordinates of the U-576 and *Bluefields*. <https://monitor.noaa.gov/shipwrecks/u-576.html> and <https://monitor.noaa.gov/shipwrecks/bluefields.html>.
9. Compare each group's maps for accuracy.



## Resources\*

### Websites

#### NOAA's Battle of the Atlantic Expeditions

Since 2008, NOAA and partners have documented and surveyed World War II cultural resources located off North Carolina's coast. This site details the expeditions from 2008 to 2011.

<http://sanctuaries.noaa.gov/missions/battleoftheatlantic/archives.html>

#### NOAA's Monitor National Marine Sanctuary — U-576

Visit this page to read a synopsis of the battle between Convoy KS-520 and U-576. Included are images and fact sheets for download.

<http://monitor.noaa.gov/science/u-576.html>

#### Monitor NMS — Maritime Archaeology Curriculum

Want to dive deeper into STEM and shipwrecks? Download *Maritime Archaeology: Discovering and Exploring Shipwrecks* curriculum guide for grades 6-12.

[https://nmsmonitor.blob.core.windows.net/monitor-prod/media/archive/education/pdfs/maritime\\_curriculum.pdf](https://nmsmonitor.blob.core.windows.net/monitor-prod/media/archive/education/pdfs/maritime_curriculum.pdf)

#### NOAA's Outer Banks Maritime Heritage Trail

A series of short videos that depict North Carolina's rich, maritime cultural landscape. The site includes videos for World War II's Battle of the Atlantic, oral histories from people who experienced the war first hand, and corresponding educational activities.

<http://monitor.noaa.gov/obxtrail/welcome.html>

\*The inclusion of links in this guide does not imply endorsement or support of any of the linked information, services, products, or providers.

#### German U-boats

Right: U-701 located off Cape Hatteras, North Carolina.  
Photo: Sellers, NOAA

Below: U-352 located off Beaufort, North Carolina.  
Photo: NOAA



## History Channel

Summary of the Battle of the Atlantic.

<http://www.history.co.uk/study-topics/history-of-ww2/battle-of-the-atlantic>

## Uboat.net

Map of U-boats lost off the U.S. coast.

[http://uboat.net/maps/us\\_east\\_coast.htm](http://uboat.net/maps/us_east_coast.htm)

## NBC News

Archived photos of German U-boat crew of the U-576.

<http://www.nbcnews.com/news/world/archive-photos-show-german-u-boat-crew-world-war-ii-n231596>

## Books

Bunker, John. *Heroes in Dungarees: The Story of the American Merchant Marine in World War II*. Naval Institute Press, January 2013. ISBN-13: 978-1591140993.

Offley, Edward. *The Burning Shore: How Hitler's U-Boats Brought World War II to America*. Basic Books, March 2014. ISBN-13: 978-0465029617.

## Video

### National Geographic — *Hitler's Secret Attack on America*

This 44-minute video details World War II's Battle of Atlantic and NOAA's search for the lost German U-boat – U-576.

<https://www.youtube.com/watch?v=PKXkkEPimJw>



## Extensions

1. Have students click on “U-576” in the “Shipwrecks” section of Monitor National Marine Sanctuary’s website, <https://monitor.noaa.gov/shipwrecks/u-576.html>, to learn more about the Battle of Convoy KS-520 and U-576. Read the fact sheets, legal status, and learn more about the SS *Bluefields*. Have students become a maritime archaeologist on the expedition that discovered the U-576 and *Bluefields*, and write a first person account of the day. You can also read the press release in the “News” section <http://monitor.noaa.gov/news/pdfs/pr102114.pdf>
2. For a personal view of the Battle of the Atlantic, have students complete *U.S. Merchant Marine — A Seaman Remembers* included in Section D of this guide (pp. 97-101).
3. Have students explore the 2016 Battle of the Atlantic Expedition to see the first images of U-576 and SS *Bluefields*. Learn about the cutting edge technology used, such as laser scans, submersibles, photogrammetry, and more. <http://oceanexplorer.noaa.gov/explorations/16battlefield/welcome.html>
4. Have students explore four websites that detail the Battle of the Atlantic Expeditions from 2008-2011. <http://sanctuaries.noaa.gov/missions/battleoftheatlantic/archives.html>. Have students read the blogs from one expedition and then create a daily blog of their own.
5. Create a timeline of events for the Battle of KS-520 based on class reading.

## Vocabulary

**BATTLE OF THE ATLANTIC** — Longest continuous military campaign in World War II, running from 1939 to 1945; at its core was the Allied naval blockade of Germany and Germany’s subsequent counter-blockade

**CONVOY** — A group of ships traveling together, typically accompanied by warships for protection

**COORDINATE** — A number in an ordered pair that names the location of a point on the coordinate plane

**DEPTH CHARGE** — An explosive charge designed to be dropped from a ship or aircraft and to explode under water at a preset depth; used for attacking submarines

**LOGBOOK** — An important written record of activity and events in the management, operation, and navigation of a ship

**MERCHANT VESSEL** — A ship that transports cargo and is engaged in commercial trade

**MILITARY TIME** — A method of measuring time based on the full 24 hours of the day rather than two groups of 12 hours; the 24-hour clock

**RESEARCH** — The systematic investigation into and study of materials and sources in order to establish facts and reach new conclusions

**TORPEDO JUNCTION** — Also known as Torpedo Alley, is an area off North Carolina and is one of the ship graveyards of the Atlantic Ocean; named for the high number of attacks by German U-boats on Allied shipping during World War II

**U-BOAT** — A German submarine; name is derived from German word “Unterseeboot,” which literally means “undersea boat”

Name: \_\_\_\_\_

Date: \_\_\_\_\_

## New Discoveries — Plotting the Course

### Background Information

World War II's Battle of the Atlantic is not well known by the general public, but it has been extensively studied by historians. Beginning in 1939, and continuing until Germany surrendered in 1945, it was the longest continuous military campaign. The campaign was to end the Allied naval blockade of Germany and to block war supplies from going to Britain. Germany pitted their U-boats and other naval warships against the Allies, including Allied merchant vessels. Once the U.S. entered the war in 1941, U-boats began to ply American waters. In 1942, their presence was intently felt off the East Coast, and off Cape Hatteras, North Carolina, in particular, in an area that became known as "Torpedo Junction." As the war raged off the North Carolina coast, ship casualties included four U-boats, along with over 80 Allied and merchant ships.

Since 2008, Monitor National Marine Sanctuary (MNMS) has led archaeological and historical surveys of these World War II heritage resources associated with the Battle of the Atlantic off North Carolina's coast. When the expeditions first began, the locations for several merchant ships and one of the U-boats, U-576, were unknown. Over the years as teams of maritime archaeologists, photographers, and others documented and surveyed the known shipwrecks, a hunt for the elusive U-576 and the ship it sank, the SS *Bluefields*, also began.

With depths reaching thousands of feet, sophisticated equipment is often needed. Therefore, to locate and document shipwreck sites, NOAA maritime archaeologists use a variety of tools and techniques, such as side scan sonar, remotely operated vehicles (ROVs), autonomous underwater vehicles (AUVs), towfish, magnetometers, scuba, and NOAA ships and submersibles. With these cutting-edge tools and the abundant expertise of our NOAA research team, NOAA has helped to lead the way to protect our ocean's cultural resources. And, after years of research and methodical searching, the U-576 and *Bluefields* were located in the summer of 2014.

### Activity Summary

In this activity, you will begin the search for U-576. To begin searching for a shipwreck, thorough research must be done. You will start by researching the Battle of the Atlantic in order to better understand the conflict and U-boat activity off the United States' East Coast. You will plot the approximate locations of U-boats in U.S. waters. You will learn about the Battle of Convoy KS-520 and use your research to help narrow the U-576 search field for NOAA's maritime archaeologists.

### Procedure

1. Using books, websites, and other resources provided, conduct research on the Battle of the Atlantic to answer the following questions:
  - a. Why was it critical to control the shipping lanes that stretched for thousands of square miles across the Atlantic Ocean?
  - b. Early in the war, Germany had the tactical advantage. Why?
  - c. Why did the Allies begin to use convoys when moving war supplies and goods?
  - d. What tactics did German U-boats use to attack Allied convoys?
  - e. When did the Allies gain the tactical advantage and why?
  - f. Did the Allies maintain that advantage? Why or why not?
  - g. What was the cost of the Battle of the Atlantic, in men and ships, to both sides?
2. Using the chart with German U-boats' latitude and longitude coordinates and the map (A) provided, plot the approximate locations of sunken German U-boats in U.S. waters. Use a different color for each year and complete the key. Analyze the map. Where was the highest concentration of U-boats? Why?
3. Read the article, *Battle of Convoy KS-520*. The article focuses on four areas: 1) details of the departure of Convoy KS-520; 2) the whereabouts of German U-boat, U-576; 3) description of the battle that occurred; and 4) an assessment of the historical accounts from each perspective.
4. Once you have completed reading the article, answer the following questions:
  - a. How many total ships were in the convoy (merchant and escort)? Which ship was out in front at the bow of the convoy?
  - b. Approximately, where did the Battle of Convoy KS-520 take place?
  - c. Why did Kplt. Heinicke attack the convoy when his U-boat was damaged?
  - d. After reading the article and the first-hand accounts, who do you think sank the U-576?

### New Discoveries — Plotting the Course Continued

5. Analyze your research and using a different color to represent each ship involved, illustrate the battle on a map or graph paper.
6. On the map you created, define an area for NOAA to begin the search for the U-576.
7. Explain why you defined that specific area. In your research, what clues did you use to help define the area?
8. On the *Bathymetry and Topography of Cape Hatteras* map, outline the search zone you defined. What is the range of water depths in which the ship might be found? Would depth affect the search for the ship? Why or why not? How would depth affect the way that maritime archaeologists study a shipwreck? Explain.
9. Share your map with the class and explain your rationale for the search area you defined.
10. Plot the actual coordinates for U-576 and *Bluefields*. How accurate were your findings?



U-576 crew gathered around the conning tower.  
Photo: Courtesy of Ed Caram

### German U-boats Shipwrecks in U.S. Waters

U-Boat	Date Sank	U.S. Area	Known Coordinates
<b>1942</b>			
U-85	April 14, 1942	Cape Hatteras, NC	35.55N, 75.13W
U-352	May 9, 1942	Beaufort, NC	34.21N, 76.35W
U-157	June 13, 1942	NE of Havana, Cuba	24.13N, 82.03W
U-158	June 30, 1942	W of Bermuda	32.50N, 67.28W
U-215	July 3, 1942	E of Boston, MA	41.48N, 66.38W
U-701	July 7, 1942	Cape Hatteras, NC	34.50N, 74.55W
U-576	July 15, 1942	Cape Hatteras, NC	34.51N, 75.22W
U-166	July 30, 1942	Gulf of Mexico	28.50N, 89.00W
U-754	July 31, 1942	N of Boston, MA	43.02N, 64.52W
<b>1943</b>			
U-176	May 15, 1943	NE of Havana, Cuba	23.21N, 80.18W
U-521	June 2, 1943	North Atlantic	37.43N, 73.16W
U-84	August 7, 1943	North Atlantic	27.55N, 68.03W
<b>1944</b>			
U-856	April 7, 1944	E of New York	40.18N, 62.22W
U-550	April 16, 1944	E of New York	40.09N, 69.44W
<b>1945</b>			
U-869	Feb. 11, 1945	New Jersey	39.33N, 73.02W
U-866	March 18, 1945	NE of Boston	43.18N, 61.08W
U-548	April 19, 1945	SE of Halifax, Canada	42.19N, 61.45W
U-879	April 30, 1945	Cape Hatteras, NC	36.34N, 74.00W
U-853	May 6, 1945	SE New London, CT	41.13N, 71.27W

## New Discoveries —Plotting the Course: Historical Accounts of the Battle of Convoy KS-520\*\*\* North Carolina, 15 July 1942

### KS-520 Convoy Departs

Beginning at 0430 EWT, on July 14, 1942, the 19 merchant ships and five escorts of convoy KS-520 prepared for departure from Lynnhaven Roads, Virginia. Convoy code KS designated groups moving south along the East Coast, and their destination was Key West, Florida. Once assembled beyond the minefield that protected the approaches to the Chesapeake Bay, the convoy began making way at its assigned 8 knot speed and was expected to arrive in Key West by July 21.

As per standard procedure, a Convoy Commodore, Capt. N.L. Nichols USN (retired), was assigned to direct convoy movement and oversee merchant vessels within the convoy. Additionally, an Escort Commander, Lieutenant Commander Leland R. Lampman USN, was placed in command of the naval and Coast Guard craft that protected the convoy (Escort Group Easy). Each of their orders specified signal number and convoy position, time of departure, navigation instructions for safe exit of the Chesapeake Bay minefield, and directions for convoy assembly and movement. Once 14 miles past the Chesapeake Lighted Buoy, a course change to 78 degrees, followed by a 32-mile transit to a whistle buoy, each vessel would be clear of the mined channel and ready for assembly. After assembled, the convoy continued to travel south and at 0700 on the morning of July 15, the KS-520 rounded Cape Hatteras, North Carolina. Through midday, the convoy proceeded within a hundred fathom curve, and by 1600 hours, was 20 miles from Ocracoke Inlet. Unfortunately, the convoy did not know that it was steaming right into the path of a German U-boat.

### U-576 Heads to Cape Hatteras

Earlier that summer, U-576 also set a course for Cape Hatteras and arrived on July 10. Overall, there was limited action for the German U-boats that sat off the coast due to a drop in shipping traffic and increased defense measures. However, on July 13, that quiet ended when U-576 was attacked. The ship's captain, Kpl. Heinicke, reported damage to its main ballast tank. Kpl. Heinicke had no choice but to abort the patrol. Having completed two patrols without a single kill, and making only marginal gains during his third and fourth patrol, Heinicke was no doubt disappointed.

### The Battle

Then on that fateful morning of July 15, U-576 spotted KS-520, and now Heinicke faced a difficult decision. The U-576's damage from July 13, left the ship at a disadvantage and not in prime condition for battle. Nonetheless, that did not stop the captain. Reasonably, Kpl. Heinicke's decision to attack must have been based upon a sober assessment of the limitations of his boat and crew, the terrain of the ocean floor, his tactical advantages and disadvantages, and administrative pressure upon him to carry out his orders. However, Heinicke was a cavalier and reckless captain bent on success at all costs, and the fate of his boat and crew were sealed the moment KS-520 came into view.

Left: U-576 getting underway  
Center: U-576 crew  
Right: U-576 crew gathered around the conning tower's wintergarden  
All Photos Courtesy: Ed Caram



\*\*\*We graciously thank John Bright; Nathan Richards, Ph.D.; Joseph Hoyt; John Wagner; and Tom Allen, Ph.D. for their contributions to this overview of the Battle of Convoy KS-520.

Convoy KS-520 consisted of 19 merchant ships: *Mount Pera*, *Bluefields*, *Zouave*, *Tustem*, *Gulf Prince*, *Robert H. Colley*, *American Fisher*, *Para*, *Mount Helmos*, *Jupiter*, *Hardanger*, *Nicania*, *Toteco*, *Clam*, *Egton*, *J.A. Mowinckel*, *Unicoi*, *Rhode Island*, and *Chilore*. There were also five support vessels that made up Escort Group Easy: USS *Ellis*, USS *McCormick*, USS *Spry*, USCG *Triton*, and USCG *Icarus*.

At 1600 hours, USCG *Triton* picked up a contact with its sonar gear and raised its crew to general quarters to prepare for battle. Five minutes later, *Triton* dropped three depth charges over the contact, followed by five more at 1610 hours. The second depth charge apparently damaged the *Triton*'s sonar and contact was lost. The convoy's aircraft escort observed freighter *Chilore* 600 yards ahead of its station in the lead of column two. Meanwhile, the other four escorts were in their positions.

In an instant, the monotony and routine of convoy operations over the past 36 hours was shattered. Sometime between 1615 and 1620 hours, two torpedoes rocked *Chilore*. A minute later, a third torpedo struck the port stern of the *J.A. Mowinckel*. Barely a minute later, a fourth torpedo struck the *Bluefields* amidships on its port side. In less than five minutes, U-576 fired four torpedoes that all met their mark. For the three ships hit, the ordeal had only just begun.

Over the next hour, the Escort Group Easy and the patrol aircraft hunted the U-boat. USS *Spry*, patrolling at the port stern of the convoy immediately saw smoke and made for the center of the convoy at full speed, raising the crew to general quarters. USS *McCormick* slightly ahead of the convoy, reversed course to hunt for the submarine. USS *Ellis* also headed for the center of the convoy and did not have to go far because in less than two minutes, the destroyer made a sound contact off the convoy's port quarter and dropped two depth charges. Stationed on the outer screen on each side of the convoy, *Icarus* and *Triton* responded, but were far enough away that most of the action passed before they arrived on the scene.

From 1641 to 1745 hours, *Ellis* pursued the contact and made four depth charge runs along the convoy's port quarter dropping 13-15 depth charges. Despite *Ellis*'s efforts, it is doubtful that the ship was responsible for sinking U-576. According to Captain Griffiths, Master of the *J.A. Mowinckel*, "immediately following the explosion of the torpedo which struck the *Chilore*, a submarine partly surfaced, bow first. Possibly she was forced upward by the concussion." (Standard Oil Company [SOC] 1946:365).

**Top** (left to right): *Dixie Arrow* engulfed in flames prior to sinking (Photo: National Archives); USS *McCormick*, DD-223 (Photo: NAVSOURCE); USCG *Icarus*, WPC-110 (Photo: US Coast Guard); USS *Spry*, PG-64 (Photo: NAVSOURCE). **Bottom** (left to right): USS *Ellis*, DD-154 (Photo: National Archives); USCG *Triton*, WPC-116 (Photo: National Archives); *Bluefields* (Photo: U.S. Coast Guard)



\*\*\*We graciously thank John Bright; Nathan Richards, Ph.D; Joseph Hoyt; John Wagner; and Tom Allen, Ph.D for their contributions to this overview of the Battle of Convoy KS-520.

FINAL REPORT: The Battle of the Atlantic Expedition 2011: The Battle of Convoy KS-520, North Carolina, 15 July 1942. February 2012.

Two Navy patrol aircraft made a depth charge run against the surfaced submarine astern of the *J.A. Mowinckel* dropping two depth charges each – they reported the U-boat sunk. It is also reported armed US freighter *Unicoi*, stationed between *Chilore* and *J.A. Mowinckel*, assisted in the fight. In concert with the aircraft, a *Unicoi* gun crew scored a solid hit on the U-boat’s conning tower. The force of depth charge attacks, combined with rounds from *Unicoi*’s deck gun, made quick work of the U-576.

### Assessment of the Facts

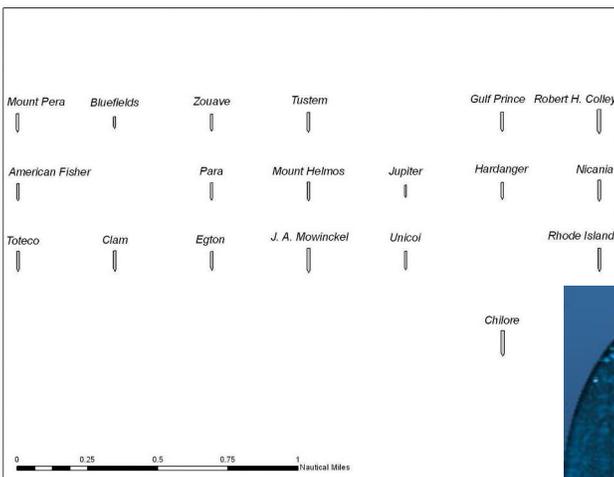
These historical accounts, although illustrative, are somewhat vague. To complicate matters, the most detailed firsthand accounts, those in the logbooks of the Escort Group Easy, do not mention any visual contact with the U-boat. *Triton*, *Ellis*, *Spry*, and *Icarus* were at stations distant from the presumed origin of the attack: the convoy’s port bow. The only escort in a position to have witnessed the U-boat was the destroyer, USS *McCormick*, however, it reversed course and sped to the aid of sailors abandoning the rapidly sinking *Bluefields*. Navy aircraft reported destroying, with four depth charges, a surfaced submarine in the middle of the convoy. This is corroborated by the first-hand account from the Master of *J.A. Mowinckel*. Captain Griffiths (SOC 1946:365) later recalled:

The submarine’s appearance was the signal for our escort to go into action. Planes dived over the spot. Our airplane escort continued to drop bombs or depth charges...credit for the kill was given to the Navy plane VS-9 and to a ship in the convoy, the SS *Unicoi*, owned by the War Shipping Administration.

Some eyewitness accounts even suggested that the U-boat survived the attack and safely got away. One account by Edwin P. Hoyt’s (1978:168) account in “U-Boats Offshore” reports:

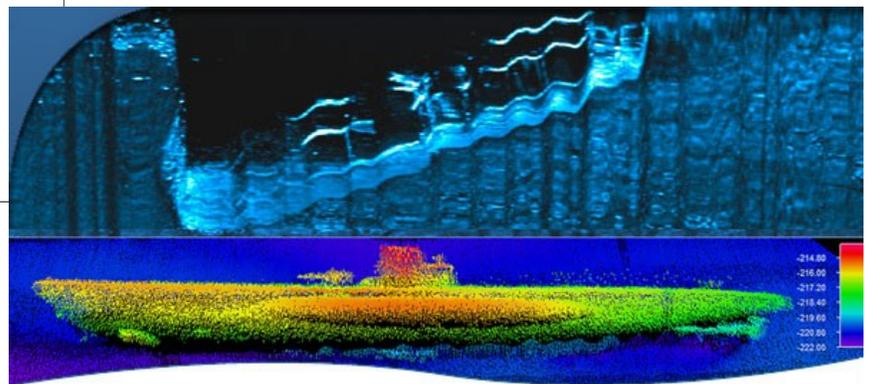
The U-boat was in the middle of the convoy. The two planes came in to bomb near the stern of the *Mowinckle* [sic]...Up to the surface came the U-boat, just yards from the convoy flagship, but almost immediately she went down again, apparently blown to the surface but not out of control. For 40 minutes, the ships of the convoy milled about while escort searched for the enemy.

Nonetheless, if U-576 had survived, it certainly never returned home. The U-boat was reported sunk with all hands down, and stricken from the German war journal in the days following. Kpl. Heinicke’s decision to attack with a damaged boat, and surfacing moments following the attack, are quite puzzling; surfacing in the center of a convoy was probably not intentional, yet it is unclear if this resulted from mechanical failure precipitated by damage inflicted by aircraft or from the force of torpedo explosions, or perhaps an escape tactic. Archaeological examination of the sunken U-boat might answer many of these questions... Stay tuned as the NOAA’s Maritime Heritage Program investigates the site.



**Left:** Scaled representation of the merchant ships’ locations within KS-520 as they began the battle. Drawing by Stephen Sanchagrin.

**Below:** Sonar images of *Bluefields* (top) and U-576 (bottom). Image: NOAA

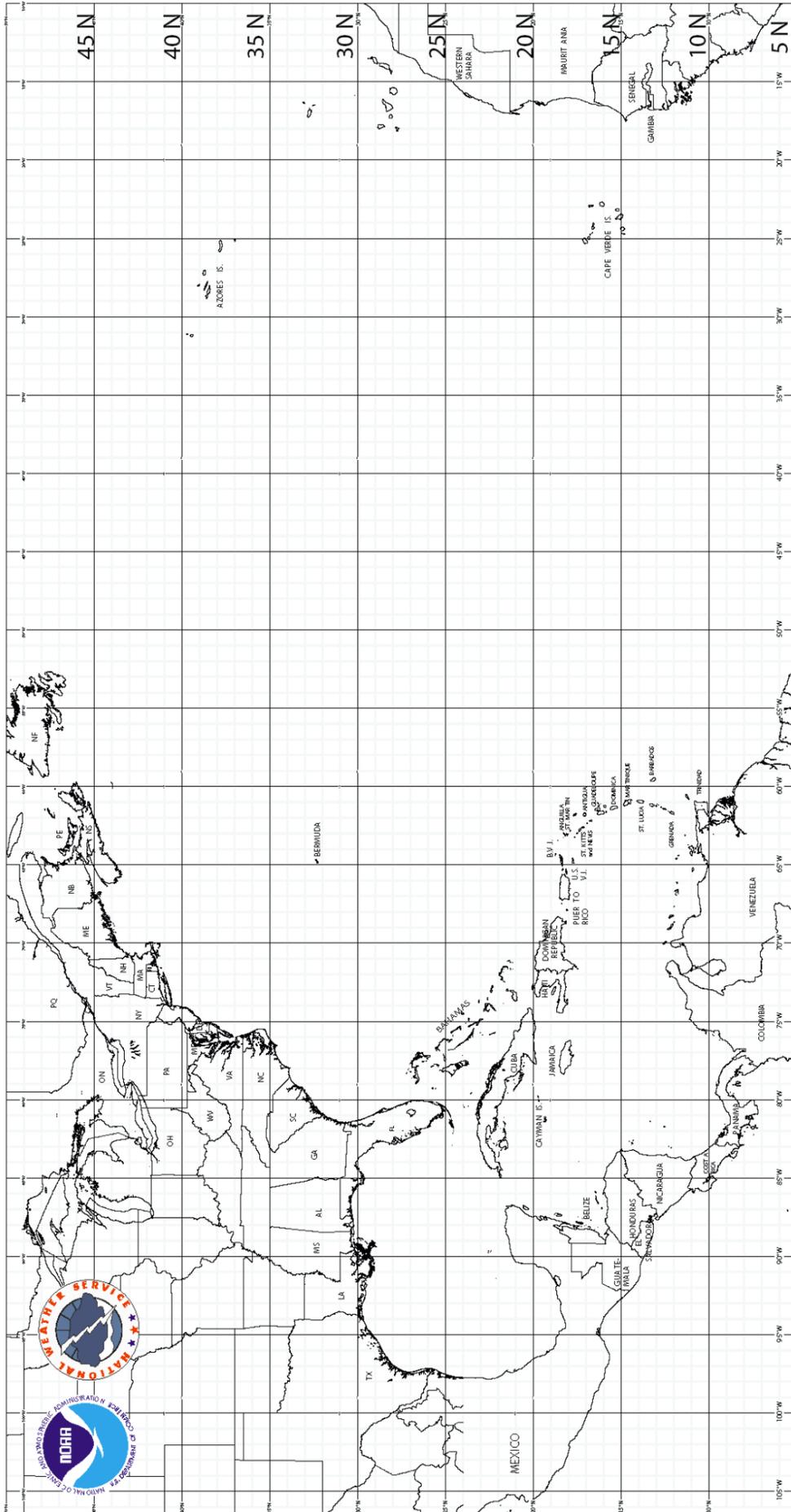


\*\*\*We graciously thank John Bright; Nathan Richards, Ph.D; Joseph Hoyt; John Wagner; and Tom Allen, Ph.D for their contributions to this overview of the Battle of Convoy KS-520.

FINAL REPORT: The Battle of the Atlantic Expedition 2011: The Battle of Convoy KS-520, North Carolina, 15 July 1942. February 2012.

Map A

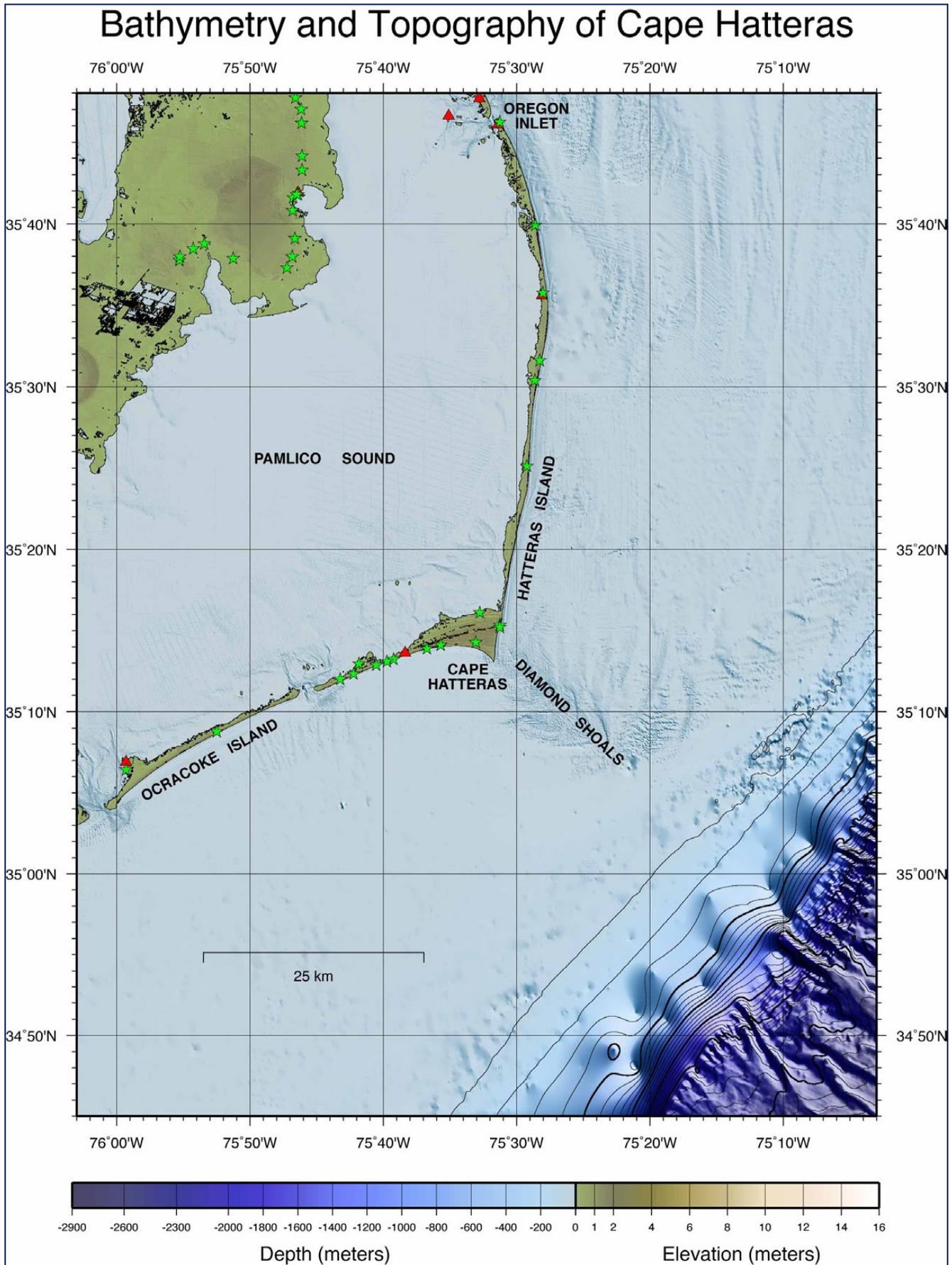
Location of German Submarines Sunk in U.S. Waters



Color Key—German U-boats


**Map B**

Use the bathymetry and topography map below to indicate the search zone you have determined is the best area for NOAA maritime archaeologists to search for U-576.



## Ethically Speaking



Military craft, such as the U-352 off Beaufort, North Carolina, are protected by the Sunken Military Craft Act. Photo: Monitor NMS, NOAA

### Grade Level

6-12

### Timeframe

1-2 hours

### Materials

Computer with internet access or printed resources

### Activity Summary

Students will explore how and why military craft are protected and engage in a Socratic seminar to answer an overarching question: Do divers have the right to take artifacts from shipwrecks?

### Learning Objectives

- To understand that shipwrecks offer a window into the past and why they should not be disturbed
- To learn about the Sunken Military Craft Act and other protections for cultural resources
- To debate using a Socratic seminar

### Vocabulary

Ethics, Socratic seminar, Sunken Military Craft Act

### National Standards:

NCSS:II, III, V, VI, and IX;  
CCSS:ELS.LIT.RI.4; CCSS:ELS.LIT.SL.1-6; NCTE:1, 3, 7, and 8; OL.6 and 7



US Navy YP-389 discovered by NOAA in 2010. Photo: NOAA

## Background Information

Shipwrecks can be found in deep water, near shore, and sometimes even on the beach. The idea of finding a shipwreck is exciting and mysterious because shipwrecks are vessels of untold stories that connect us to the ocean and our maritime past. Unlocking the secrets a shipwreck holds may be difficult, but that only fuels our imagination and curiosity to learn more.

Shipwrecks are intriguing for many different reasons. To scuba divers, they are part of an underwater world of wonder that offers divers a look at things not seen on land. To marine biologists and fishermen, they are an oasis of life that teams with an overwhelming amount of variety. To maritime archaeologists, they are windows into our past. And to local coastal communities, shipwrecks provide economic support through maritime heritage tourism.

Shipwrecks are exciting, but they are also a finite resource. And because they are nonrenewable, it is important to protect them, especially those that are significant to our nation's history. Many of the shipwrecks lost during World War II are also grave sites that should remain untouched to honor those that died. There are laws and regulations in place for the protection of some shipwrecks, such as military vessels, but they do not apply to all shipwrecks. Therefore, while people can visit and enjoy cultural resources, the removal of artifacts is not widely accepted and, in some cases, it is even illegal. Therefore, it is always a good idea to know the rules before you visit a shipwreck!

## Activity Summary

Students will come to understand the importance of historically significant shipwrecks to our maritime heritage. They will learn that these cultural resources are non-renewable and that in order to preserve them for future generations, divers must maintain high ethical standards in their practices, even when shipwrecks are not protected by law. They will also explore the Sunken Military Craft Act that protects all foreign and domestic military shipwrecks and learn how formal agreements with other governments help to protect our nation's history.

## Learning Objectives

Students will understand that divers need to establish and consistently adhere to a code of ethics in order to preserve historically significant shipwrecks. They will explore the laws and agreements that protect military craft around the world, and use a Socratic seminar to debate the removal of artifacts from shipwrecks.

## Teacher Preparation and Implementation

- Review the websites and activity pages.
- If internet is available, create a digital binder, such as LiveBinder\*, of all resources for students' use. For more information on LiveBinder, visit <http://www.livebinders.com/>.
- If internet is not available, print copies of resources for each student/group.
- Determine if students will work individually or in groups.
- Print the student activity pages (pp. 175-178).
- If internet is not available, print copies of the CSS *Alabama* Wreck Protection Agreement (pp. 179-184) and Sunken Military Craft Act (see website in Resources section).

## Procedure

1. Lead a discussion with the class asking the overarching question: "Do divers have the right to take artifacts from all shipwrecks?" Have students explain the reason for their positions. Positions might include a diver's inherent right to take artifacts, or a legal right, or both.
2. There are three parts to this unit. First, have students read the background information for the *Student Activity*. Next, have students complete the three activities outlined below.
3. **Activity 1:** Have students go to the U.S. Navy's site for the CSS *Alabama* Protection Agreement or give them a printed copy of the agreement (pp. 179-184). Let students explore the site/article to answer the questions.
4. **Activity 2:** Have students go to the Sunken Military Craft Act or give them a printed copy of the act. Let students explore the site/printed copy to answer the questions.
5. **Activity 3:** Wrap-up by asking students the overarching question again. Who changed his/her position? Why? Have students choose a side and debate the issues of artifact removal in a Socratic seminar.

## Resources\*

### Websites

#### Sunken Military Craft Act

Visit this site to view the regulations that govern sunken military craft.

<https://www.history.navy.mil/research/underwater-archaeology/policy-and-resource-management/sunken-military-craft-act/smca.html>

#### CSS Alabama Wreck Protection Agreement — PDF

[https://coast.noaa.gov/data/Documents/OceanLawSearch/CSS%20Alabama%20Wreck%20Protection%20Agreement,%20between%20the%20United%20States%20and%20France%20\(March%208,%201995\).pdf](https://coast.noaa.gov/data/Documents/OceanLawSearch/CSS%20Alabama%20Wreck%20Protection%20Agreement,%20between%20the%20United%20States%20and%20France%20(March%208,%201995).pdf)

#### Naval History and Heritage Command — SMCA Brochure

Download a PDF of the Sunken Military Craft Act (SMCA) brochure.

<https://www.history.navy.mil/research/underwater-archaeology/policy-and-resource-management/sunken-military-craft-act/smca-brochure.html>

#### Historic Preservation Policy Regarding U.S. Navy Sunken Military Craft

Common questions about submerged military craft federal laws and regulations.

<https://www.history.navy.mil/research/underwater-archaeology/policy-and-resource-management/faq.html>

#### American Battle Monuments Commission — The Battle of the Atlantic Interactive Timeline

Excellent site that offers a well done interactive site/map with a wealth of information on WWII and the Battle of the Atlantic. Do not overlook the timeline at the bottom and after watching the video segment for each time period, check out the "briefings" for each, as there is a plethora of information given. Flash is needed to view.

[http://www.abmc.gov/sites/default/files/interactive/interactive\\_files/BOTA\\_Web/index.html](http://www.abmc.gov/sites/default/files/interactive/interactive_files/BOTA_Web/index.html)

#### Monitor National Marine Sanctuary

Download a copy of the Underwater Cultural Heritage Law Study that provides an analysis of existing laws that protect U.S. underwater cultural heritage sites, the gaps in protection, and recommended legislative changes.

<http://monitor.noaa.gov/publications/welcome.html>

#### The National Paideia Center — Socratic Seminar

Visit this site for an overview and step-by-step directions for conducting a Socratic seminar, including a scoring rubric.

<https://www.nwabr.org/sites/default/files/SocSem.pdf>

*\*The inclusion of links in this guide does not imply endorsement or support of any of the linked information, services, products, or providers.*

## Vocabulary

**ETHICS** — Moral principles that govern a person's or group's behavior

**IN SITU** — To leave an object in its original place

**SOCRATIC SEMINAR** — A collaborative, intellectual dialogue facilitated with open-minded questions about a text

**SUNKEN MILITARY CRAFT ACT** — Enacted in 2004 to preserve and protect all sunken military craft, both foreign and domestic, from unauthorized disturbances within U.S. waters

Name: \_\_\_\_\_

Date: \_\_\_\_\_

## Ethically Speaking

### Background Information

Shipwrecks can be found in deep water, near shore, and sometimes even on the beach. The idea of finding a shipwreck is exciting and mysterious because shipwrecks are vessels of untold stories that connect us to the ocean and our maritime past. Unlocking the secrets a shipwreck holds may be difficult, but that only fuels our imagination and curiosity to learn more.

Shipwrecks are intriguing for many different reasons. To scuba divers, they are part of an underwater “world of wonder” that offers divers a firsthand look at things not seen on land. To marine biologists and fishermen, they are an oasis of life that team with an overwhelming amount of variety. To maritime archaeologists, they are windows into our past, and they provide historians a wealth of information about a time period and its culture. To everyone, some are war graves where brave men and women died in defense of our nation and should be treated with the utmost respect.

The presence of shipwrecks also provides economic support to coastal communities through maritime tourism. For example, shipwrecks can serve as a diving or fishing location for chartered vessels. Shipwrecks along the beach also offer those who do not dive or fish an opportunity to experience a wreck from shore. As all these people visit the community, they stay in hotels, eat in restaurants, visit local museums, and buy souvenirs or groceries from local stores, to name only a few. Ultimately, visitors can provide a large source of income to communities.

When a new ship is discovered, it is quite exciting, but often there is conflict over what to do with the new shipwreck. Most people not only want to do what is ethical to protect shipwrecks for archaeological or historical purposes, but also to ensure that its remains can be seen by many people for future generations. Hurricanes, storms, currents, and water take a huge toll on a shipwreck, but divers can also do damage both intentionally and unintentionally. There are some divers who intentionally remove artifacts for financial gain, which often destroys the shipwreck. In other instances, a diver that is perhaps not aware of the importance of leaving a shipwreck *in situ* might take a piece of a ship or an artifact home. Never intending to do any harm, they just may not realize that a shipwreck is a finite resource and cannot be replenished. If every diver took a piece of a shipwreck with them each time they dove, over time, there would not be much left. Therefore, it is important to educate divers “to take only pictures and leave only bubbles,” so that future generations will have an opportunity to experience and explore these resources as well.

Being ethical when diving, understanding the importance of leaving a shipwreck *in situ*, is a must. However, in the past not everyone thought that way. Therefore, in 1987, Congress passed the *Abandoned Shipwrecks Act*. The act was passed due to the severe damage of about 3,000 historic wrecks in the Great Lakes and other coastal areas. The ships had been salvaged and in some cases ruined by treasure hunters in the 1970s. The law provides that any wreck that lies embedded in a state’s submerged lands (lands lying below the high tide line or high water mark) is property of that state and subject to the state’s jurisdiction if the wreck is determined abandoned.

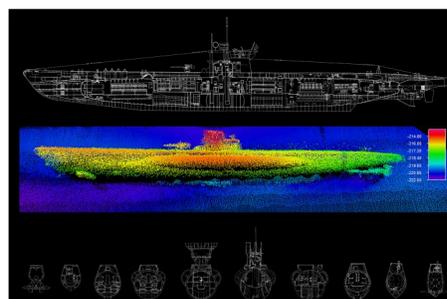
For other shipwrecks, there are additional laws and regulations that protect them. For example, some shipwrecks are protected by the *Sunken Military Craft Act of 2004*. This act protects all military vessels (foreign and domestic) and their associated contents. While people can enjoy and visit these cultural resources, the removal of artifacts is strictly prohibited. Also, some shipwrecks may belong to a foreign government, such as the German U-boats off North Carolina’s coast. Just as we would want citizens in foreign countries to respect and preserve our military vessels off their shores, we want to demonstrate that same level of respect. Another consideration is that many of the military and merchant vessels had losses of life, so they are also considered war graves. Therefore, it is not only important to learn what is ethically correct when diving on shipwrecks, as we want to honor and respect the men who died, but also know the law. Remember that “ethics” is what you SHOULD do and “law” is what you CAN do!

In this activity, you will explore a few of the laws that protect some of our most historically significant shipwrecks.



Left: NOAA diver documents the *Caribsea* shipwreck located off North Carolina’s coast. Photo: NOAA

Right: First sonar image of U-576, discovered in 2014. Image: NOAA



## Ethically Speaking Continued

### Activity 1 — How Old is too Old?

The Civil War occurred over 150 years ago, but many of the ships, that fought during the war and sank, continue to live on as shipwrecks. These shipwreck sites offer valuable information to maritime archaeologists and are protected under the *Sunken Military Craft Act*. However, what happens when a Confederate ship is sunk off the coast of another country? Does the U.S. maintain ownership? Can the United States just give that ownership to another country or organization?

Explore answers to these questions and more by going to **Navy History and Heritage Command** to read about the “CSS *Alabama* Wreck Protection Agreement.”

[https://coast.noaa.gov/data/Documents/OceanLawSearch/CSS%20Alabama%20Wreck%20Protection%20Agreement,%20between%20the%20United%20States%20and%20France%20\(March%208,%201995\).pdf](https://coast.noaa.gov/data/Documents/OceanLawSearch/CSS%20Alabama%20Wreck%20Protection%20Agreement,%20between%20the%20United%20States%20and%20France%20(March%208,%201995).pdf)

Read more at:

<https://www.history.navy.mil/research/underwater-archaeology/sites-and-projects/ship-wrecksites/css-alabama.html>

1. This agreement was made between \_\_\_\_\_ and \_\_\_\_\_.
2. CSS *Alabama* is a former Confederate ship sunk by the USS *Kearsarge* on June 19, 1864. Where did the ship sink?
3. Who is the rightful owner of the *Alabama*? Why? When was rightful ownership recognized and by whom?
4. Who found the CSS *Alabama*?
5. What is the purpose of the “Association?” Whose laws do they operate under?
6. Why do you think it was important for the U.S. Navy to enter into this agreement with the French government?



Painting of CSS *Alabama*. Painting: U.S. Navy's Naval Historical Center

## Ethically Speaking Continued

### Activity 2 — Why Protect Military Craft?

Even before the United States entered World War II, a battle raged between Germany and Allied forces for the waters of the Atlantic Ocean. When the United States entered the war in December 1941, East Coast shipping lanes became key targets for German U-boats. Heavy losses of merchant and Allied ships occurred, especially along the North Carolina coast in an area known as “Torpedo Junction.” Today, the area is littered with over 80 World War II shipwrecks, including German U-boats, Allied naval vessels, and merchant ships. The sunken warships (naval auxiliary or other vessels owned or operated by a government on military non-commercial service when it sank) are protected by the Sunken Military Craft Act (SMCA). Enacted in October 2004, the SMCA applies to all U.S. sunken military craft that rest in U.S. waters. International collaboration and reciprocity are essential to preserve these craft through joint research efforts, the application of legal mandate, and enforcement for violations.

Visit the **Naval History and Heritage Command’s** site at:

<https://www.history.navy.mil/research/underwater-archaeology/policy-and-resource-management/sunken-military-craft-act.html>

1. Who retains ownership of all military craft? Is there a time limit on ownership?
2. How many Navy ships and aircraft wrecks does the Naval History and Heritage Command’s Underwater Archaeology Branch manage?
3. What does the permitting program allow? Do you need a permit to fish or dive recreationally if you do not intend to disturb the wreck?

**In the left navigation bar, click on “Sunken Military Craft Act of 2004 (Text).”**

4. Read Sec. 1402. Prohibitions (a) and write in your own words what you think it says.
5. Read Sec. 1403. Permits (a). For what reasons may a permit be issued?
6. Read Sec. 1404. Penalties (b). What is the penalty for violating the SMCA?
7. Read Sec. 1407. Encouragement of Agreements with Foreign Countries. Explain why you think the U.S. should enter into agreements with foreign governments.
8. Do you think that the SMCA is beneficial and should be kept in place? Why or why not?



<p><b>Introduction</b></p> <p>The Sunken Military Craft Act (SMCA) was enacted on October 28, 2004. Its primary purpose is to preserve and protect from unauthorized disturbance all sunken military craft that are owned by the U.S. government, as well as foreign sunken military craft that lie within U.S. waters. Pursuant to the SMCA, the Navy's sunken military craft remain property of the U.S. government regardless of their location or the passage of time and may not be disturbed without permission from the U.S. Navy.</p> <p>NMHC archaeologists dive on the preserved remains of a War of 1812 schooner in the Potomac River, MD.</p> 	<p><b>U.S. Navy Sunken Military Craft</b></p> <p>The Naval History and Heritage Command's (NMHC) Underwater Archaeology Branch (UAB) manages sunken military craft on behalf of the Department of the Navy. These craft, and their associated contents, represent a collection of non-renewable resources that often have historical value, serve as war graves, carry unexploded ordnance, and, if disturbed, could become environmental hazards due to oil or other materials they contain.</p> <p>Examples of sunken military craft</p> <p>Over documenting the visibility of submarine USS Greer (SS-392) off California (photo by the UAB Project Team)</p>  <p>Multibeam echo sounder data collected on a wrecked landing craft during a survey of the coast of Normandy, France.</p> 	<p><b>Ordnance &amp; Hazardous Materials</b></p> <p>Sunken military craft frequently contain oil, ordnance, or other hazardous materials that require special handling as they may pose a danger to the environment and general public, if disturbed. The SMCA mitigates against these potential hazards by requiring permits and approvals for site disturbance.</p>  <p><b>Artifact Protection</b></p> <p>Unauthorized artifact recovery is prohibited by the SMCA. This protection promotes the preservation of artifacts that can illuminate the most important moments of our country's maritime history.</p> 
<p><b>Definition of Sunken Military Craft</b></p> <ul style="list-style-type: none"> <li>Any sunken warship, naval auxiliary, or other vessel that was owned or operated by a government on military non-commercial service when it sank.</li> <li>Any sunken military aircraft or military spacecraft that was owned or operated by a government when it sank.</li> <li>The associated contents of such sunken military craft, including equipment, cargo, as well as remains and personal effects of the crew and passengers within the craft and its debris field.</li> </ul>	<p><b>Human Losses and Maritime Graves</b></p> <p>Sunken military craft serve as maritime grave sites for thousands of lost servicemen and women and these sites should be accorded the highest respect and protection.</p>  <p>War grave recovered by USS Arizona and the crew lost during the attack on Pearl Harbor (December 7, 1941)</p>	<p><b>International Collaboration</b></p> <p>The SMCA applies to all U.S. sunken military craft across the globe, as well as to foreign sunken military craft that rest in U.S. waters. International collaboration and reciprocity are essential to preserving these craft through joint research efforts, the application of legal mandates, and the enforcement of violations.</p>

## Ethically Speaking Continued

### Activity 3 — The Great Debate

Socratic seminars were named for one of the most interesting and influential thinkers of the fifth century, Socrates. Socrates was born around 470 BCE, in Athens, Greece. His *Socratic Method* laid the groundwork for Western systems of logic and philosophy. He believed in the power of asking questions and encouraged inquiry and discussion. Although Socrates left no written legacy of his own, we know a lot about him and his philosophy through the writings of his students, such as Plato and Xenophon.

A Socratic seminar is a formal discussion in which a leader asks open-ended questions. Throughout the discussion, students listen to the answers and comments of others and think critically for themselves in order to offer their own thoughts and responses.

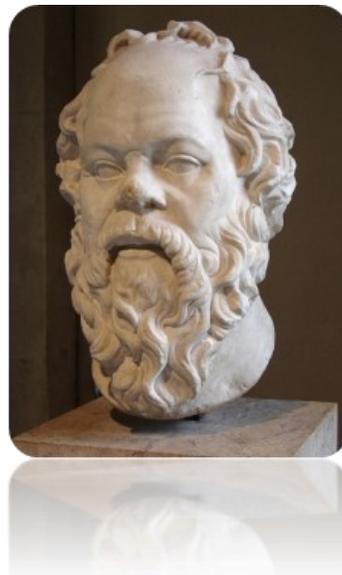
During the discussion some basic rules should be followed:

- Be courteous at all times.
- Listen while others are talking.
- Support all comments with evidence from the source.
- Avoid raising your hand to talk – instead jump in at an appropriate time.
- When disagreeing with a previous comment, disagree with the idea rather than attack the person.
- Address the group when talking, not the teacher.

You are responsible for:

- Asking questions.
- Asking for clarification.
- Being courteous and respectful.
- Pausing and thinking before responding.
- Give your opinions clearly.
- Make judgments that you can defend with facts and evidence.
- Explain how you derived any inferences.
- Listening patiently as peers share their ideas.
- Listening critically to others' opinions and taking issue with any inaccuracies or illogical reasoning.
- Move the seminar forward to new concepts.
- Listen to a peer's entire position before responding.
- Exhibit mature behavior.

**Discuss:** Do divers have the right to take artifacts from shipwrecks?



Bust of Socrates.  
Photo: Eric Gaba—  
Wikimedia Commons  
user.

## CSS *Alabama* Wreck Protection Agreement

Copied from [www.history.navy.mil/branches/org12-9c.htm](http://www.history.navy.mil/branches/org12-9c.htm) 1/11  
DEPARTMENT OF THE NAVY -- NAVAL HISTORY & HERITAGE COMMAND  
UNDERWATER ARCHAEOLOGY BRANCH

### CSS *Alabama* Wreck Protection Agreement

This agreement is made by and between the United States Navy, represented by the Naval Historical Center, hereinafter referred to as the "Navy," acting for the Government of the United States of America, owner of the *Alabama* wreck and its associated artifacts,

on the one hand,  
and the Association CSS *Alabama*, a non-profit private-law association registered under the French Law of 1901, hereinafter referred to as the "Association,"

on the other hand,

and hereinafter together referred to as the "Parties" to this agreement.

Whereas the Government of the United States of America, as the successor State to the former Confederate States of America, is the owner of the wreck of the CSS *Alabama*, a Confederate warship sunk by the USS *Kearsarge* in battle off Cherbourg, France, on 19 June 1864, including its contents, apparel and equipment; and

Whereas this ownership was recognized by the government of the Republic of France in the Verbal Note No 2826 addressed to the Ambassador of the United States in France by the Ministry of Foreign Affairs, dated 18 October 1991; and

Whereas the Agreement signed by the United States of America and the Republic of France in Paris on 3 October 1989, a copy of which is attached as Exhibit A, hereinafter referred to as the "1989 Agreement," recognizes mutual national interests in this important heritage resource, and provides for the establishment of a Joint French-American Scientific Committee, hereinafter referred to as the "Committee," to make recommendations to the respective governments on the protection, the conditions of exploration and the scientific study of this wreck site in the historic and cultural interests of both nations; and

Whereas the above-mentioned 1989 Agreement recognizes that the wreck of the CSS *Alabama* resides within the territorial waters of the Republic of France and is therefore subject to French law, including regulations for the protection of historic shipwrecks and archaeological sites under laws administered by the French Ministry of Culture; and

Whereas a shipwreck was located by the French Navy's mine hunter *Circé* on 30 October 1984 and its identity later confirmed as that of CSS *Alabama* by Captain Max Guérout, French Navy; and

Whereas in 1988 the Association was founded as a non-profit organization and registered under the Law of 1901 for the purpose of conducting the scientific exploration and study of the CSS *Alabama* and its wreck site, in accordance with the laws of France governing underwater archaeology, and from 1988 to the present, has successfully financed, exclusively from French sources, and conducted seven annual investigations of the wreck and its immediate surroundings for the purpose of evaluating the archaeological potential of the site and undertaking excavation, thereby demonstrating its ability to carry out professional archaeological research on this difficult site; and

Whereas, as required by French law (Chapter IV of the Decree of 26 December 1961 and Article 9 of the Law 89-874 of 1 December 1989), the Association wishes to establish with the owner, represented by the U.S. Navy, an agreement on mutually acceptable operating principles by which the investigation of the wreck site can be continued and the development of its public and private funding pursued in the United States as well as in France and elsewhere; and

## CSS *Alabama* Wreck Protection Agreement — Continued

Whereas it is to the advantage of both the Association and the Navy to enter into an agreement recognizing their mutual interests in the wreck site, establishing an operating agreement by which the rights and responsibilities of the Navy and the Association are recognized, and recognizing as well the 6/14/13 CSS *Alabama* Wreck Protection Agreement particular rights afforded to the Association's principal archaeologist; and

Whereas the Association recognizes its responsibility for its own work and actions performed on the *Alabama* wreck by persons intervening on the site on its behalf, and for objects removed from the site while in its custody, during field conservation treatment (Phases I and II of the conservation process; see Exhibit B) and until they have been transferred either to the owner or to the conservation laboratory designated by the owner. It may also help finance the cost of Phases III and IV of the conservation treatment performed in French laboratories when possible; and

Whereas the owner has recognized his responsibility for financing, to the extent that the necessary funds are available for this purpose, Phases III and IV of the conservation treatment of *Alabama* artifacts (see Exhibit B), in particular, but not exclusively, all such treatment performed in laboratories in the United States; and

Whereas the Navy, in addition to assuming its own administrative costs on behalf of the owner and the costs of conservation as indicated above, as well as ensuring the curation and security of the artifacts beginning with their transfer to the United States, may also agree to fund a share of the costs of the archaeological project, and may contribute cash, in-kind services, or provide other resources agreed upon by the Parties, to the extent those resources are available; and

Whereas, under French law and regulations, the Association as operator must present to the Ministry of Culture its financial plan for the operations for which it requests an official permit, and assumes thereby the responsibility for seeking the funds necessary to carry out the proposed archaeological operations in accordance with requirements pertaining to the excavation and conservation of retrieved objects;

Now, therefore, the two Parties do mutually agree, as follows:

1. The study, management and protection of the CSS *Alabama* site is guided by the principle that the shipwreck is an important and unique part of both American and French naval history, of great mutual and international interest. Its exploration and study require the advice of the Committee. Considered to be a fragile, nonrenewable heritage resource, the wreck is to continue to be studied in a manner consistent with its protection, insofar as its physical environment allows, for the present and for the future.
2. The government of the United States of America as owner of the wreck and the associated artifacts of the CSS *Alabama*, represented by the Navy, accredits the Association as operator of the *Alabama* archaeological project and recognizes its responsibility for the scientific study, research and management of this project, subject to official permits issued by the Ministry of Culture of France and to the Association's conformance with the terms of this agreement. In that capacity, the Association and its principal investigator are responsible for defining short and long-term research goals and for incorporating them into a research "design" for their investigation of the wreck. This research plan shall be addressed to the Committee for review and for recommendations to the Minister of Culture, the cognizant French authority. A copy shall be sent to the representative of the owner unless he is also a member of the Committee.
3. a) The Association, as the authorized operator, assumes the responsibility for its actions on, to, and from the CSS *Alabama* wreck site defined to be the remains of the ship and its associated artifacts, including the consequences of accidents involving personnel intervening on the site on its behalf and under the authority of its principal investigator. For each campaign on the site, the Association shall subscribe, as in the past, an insurance policy covering civil responsibility claims resulting from actions of its personnel or of persons acting on its behalf and in accordance with instructions issued by its principal investigator. In the foregoing conditions, it hereby agrees not to hold the owner or

## CSS *Alabama* Wreck Protection Agreement — Continued

his representatives liable for damages incurred by personnel or equipment.

b) If U.S. Navy equipment and/or personnel are designated to perform a specific service for the Association on the *Alabama* site, a particular contract shall be signed specifying the duration of and the conditions attached to the service to be rendered. The Association shall then subscribe a special insurance policy to cover the risks assumed under the terms of that particular contract.

c) When, in accordance with the terms of the 1989 agreement, United States observers are present on site (on the surface or underwater), the Navy assumes responsibility for their actions to the extent provided by applicable law.

4. The Navy has the responsibility, as representative of the owner, of funding its own administrative costs as well as those of Phases III and IV of the conservation treatment of *Alabama* artifacts, to the extent necessary funds are available for this purpose, and of their curation while in its custody. It may also agree to contribute to the costs of the archaeological exploration itself, as well as to provide services and rights as set for hereinafter.
5. The Association's prime responsibility is for the archaeological exploration of the site and the recovery of artifacts and material as approved by the Scientific Committee and the owner. It is also responsible for Phases I and II of the conservation process as defined above and consequently for the objects undergoing such treatment while in its custody. It may also attempt to fund or to obtain without cost to the owner Phases III and IV of the required conservation treatment, in particular when performed in French laboratories.
6. At its discretion, the Navy may support the efforts of the Association to investigate CSS *Alabama*, offering in-kind services to the extent they may be available and specific rights to the Association and its sponsors. They may include, but are not limited to, cooperative and supporting technical assistance in historical and archaeological research, field and laboratory investigations, diving, recovery, transportation, artifact conservation (cf. Para.4), data analysis, exhibition, publishing, communications. These services and/or rights must be mutually agreed to and desired by the Association and the Navy, except those provided in Paragraph 9 below.
7. Specific rights offered by the owner to the Association's sponsors may include, but are not limited to, short and long-term loans of artifacts. In addition to those mentioned in Paragraph 6 above, specific rights offered by the owner to the Association may include, but are not limited to, the use in its own publications, subject to normal scholarly citation, of graphic images (films, photographs and video) and other documentation held in U.S. Navy collections.
8. The Association holds all exclusive property rights over its own collection of photographic and other graphic images, including all such items as it may acquire by purchase or by gifts from individuals, groups or companies. Any photographs or other graphic images provided to the Navy shall be marked as "Proprietary data. Publication without the express permission of the Association CSS *Alabama* is prohibited."
9. The Association may decline specific rights offered by the Navy but accepts to fulfill the following requirements considered by the Navy to be necessary to follow onsite investigations and to protect the fundamental rights of the owner over its property:
  - A. The Association will observe and abide by the terms of the 1989 Agreement, including the possibility offered by Article 7 for both France and the United States to have at least one observer present at excavation operations. The observer(s) may operate either on surface or underwater; in the latter case, his activities will be entirely separate from those of the Association under the conditions prescribed in 9 B below.
  - B. The surface observer(s) is free to witness and photograph from the Association's dive boat all objects as they arrive at the surface and are placed on the boat, and may at will collect graphic images and other data on the surface. He may also obtain from the Association's principal investigator information concerning past and present operations, including site conditions as they change, to be used solely for reporting to the representative(s) of the owner and to his own employer agency.

### CSS *Alabama* Wreck Protection Agreement — Continued

The underwater observer(s) may also dive on the wreck site and is free to witness and photograph during such dives, subject to the approval of the director of the archaeological project. Such approval shall normally be given, subject to prior notification by the owner (see paragraph 9 C) and to possible restrictions imposed by weather conditions, safety hazards or regulations, or due to the daily diving and work schedules that are the sole responsibility of the director of the archaeological project. The observer is responsible for obtaining in advance all authorizations required by the French Ministry of Labor for divers qualified to descend to 60 meters. He is also responsible for providing his own means of access to the site and shall not interfere in any way with the actual work underway on the bottom.

The Association and the observer(s) will provide assistance to each other in case of danger.

The owner and his representative are liable for any damage caused by the observer(s), to the extent provided by applicable law. The Association cannot be held liable for any damage caused by the observer(s).

- C. The owner and its representatives make the necessary agreements, contracts and arrangements for these and other services.

The owner or its representatives shall provide the Association at least thirty days notice in the case of pending observer visits, and sixty days notice before transport or removal of artifacts in the custody of the Association which are not otherwise subject to existing loan agreements.

- D. The conservators of either France or the United States that are funded or contracted by either the Association or the Navy to provide services to the *Alabama* project shall have the right to independently study, analyze, publish or otherwise disseminate technical information on artifact conservation performed on CSS *Alabama* artifacts under their supervision, subject to the terms of their contracts or agreements.
- E. As in the past, the Association will continue to provide each French and U.S. representative to the Committee with one copy of its annual report, including the registry of artifacts recovered, with photographs, sketches and any other pertinent information available. If additional copies are required for official purposes by any one of the representatives, they may be made by him at his expense. Annual field reports provided to the Navy shall include a statement that they contain proprietary information and their release is governed by paragraph 10.A of this present agreement between the United States Navy and the Association CSS *Alabama*.
- F. At the conclusion of the Association's study of the CSS *Alabama* and after publication of the archaeologist's findings, or at such point as the project may be otherwise terminated, the Association will, in accordance with French requirements, deposit its documentation in the Département des Recherches Archéologiques Sous-Marines at Marseille and will provide copies to the representative of the owner. The final study provided to the Navy shall include a statement that it contains proprietary information and its release is governed by paragraph 10.A of this present agreement between the United States Navy and the Association CSS *Alabama*.

- 10. The Navy hereby recognizes that the intellectual property rights of the Association and its principal archaeologist include the following:

- A. The Association and its principal archaeologist have the right of first use and publication of their own findings, including methodology and techniques developed during the investigation, the analysis of the site and its

contents, and other conclusions reached under their direction. This right of first use and publication shall not

### **CSS *Alabama* Wreck Protection Agreement — Continued**

exceed ten years from termination of the last season of excavation. The rights of the Association and its principal investigator recognized in this paragraph shall not interfere with the Navy's ability to respond in general terms, preferably by using the Association's press releases, when these are made available to the Navy, to routine press and other inquiries regarding activities at the site and its agreement with the Association. The Navy shall provide copies of any such responses to the Association. All inquiries from archaeologists, historians or other writers, requiring substantial data or other information from any report of the archaeologist shall be referred to him for his response.

- B. The Association owns and determines the use of its collection of photographic images of the wreck site, particularly of all the underwater views. It reserves the right to release them to its sponsors, publishers, authors, or the media, to be used for public relations or for other purposes as it sees fit.
  - C. The Association and its principal archaeologist have the right of first use, study and publication concerning artifacts recovered by the Association from the CSS *Alabama* wreck site, as is compatible with the need for stabilization or conservation of recovered materials. This right shall not interfere with or delay publication or dissemination of technical information on artifact conservation by authorized conservators working with CSS *Alabama* artifacts in either France or the United States. This right shall not interfere with or timely stabilization and conservation of recovered materials, and, unless justified to the satisfaction of the Navy, this right shall not exceed twelve months from the date of recovery. Extensions may be granted for further study upon the documented request of the archaeologist, if without prejudice to the objects retained.
  - D. The Navy shall now and in the future prominently credit the Association CSS *Alabama* for funding and accomplishing the recovery of *Alabama* artifacts in all displays or publications concerning them, and shall likewise credit Electricité de France for the conservation treatment of all such objects having been treated in its laboratories. The Association will likewise credit the Maryland Historical Trust for all such objects having been treated in its laboratories, and the U.S. Navy for the conservation treatment that it finances. It will credit the Naval Historical Center for curation and documentation services provided. Both the Navy and the Association shall further require of all repositories receiving traveling exhibitions of *Alabama* objects to observe the same rules.
11. The Navy and the Association recognize that research questions pertaining to archaeological artifacts may arise long after an artifact has been released for transport, conservation or exhibition, or after this agreement has expired. Therefore, both Parties and their designated conservators and curators, shall make reasonable efforts to assist the Association's archaeologist with research inquiries that pertain to *Alabama* artifacts under their management. These efforts shall include artifact photography, visual inspection and communication of findings to the archaeologist. In addition, conservators and curators shall provide for access to the artifacts with reasonable advance notice so that the archaeologist may conduct his own research.
  12. The Navy and the Association agree to inform each other of all developments, discoveries, changes of policy, and other factors that affect this agreement and the archaeological investigation of the CSS *Alabama* wreck site.
  13. Unless otherwise agreed by both Parties in writing, each Party shall fund its own expenses for activities conducted pursuant to this agreement. All obligations of the Parties under this agreement are subject to national laws, regulations, and the availability of necessary resources or appropriated funds for such activities.

14. This agreement shall be in effect for five years from the date on which it is signed.

**CSS *Alabama* Wreck Protection Agreement — Continued**

It may be amended by mutual agreement of the two Parties.

If circumstances outside the control of either or both Parties should constitute a case of force majeure, or if other imperative reasons should so require, this agreement may be terminated by either Party upon condition 1) that an opportunity for consultation has been offered to the other Party with a view to avoiding premature rupture, 2) that, in case it is decided to pursue premature termination, due notice be given to the other Party, and 3) that the date of termination not become effective until six months after due notice has been given.

The decision for premature termination shall be communicated to the Committee and to the Ministry of Culture of France by the Party responsible for the decision, or by both Parties if so desired.

We the undersigned, having read, understood and accepted the terms of this Agreement, so affix our signatures on duplicate copies, one of which shall be given to each of the signers:

Association CSS *Alabama*  
Ulane Bonnel  
President of the Association

Signed in Paris on:  
8 March 1995

United States of America  
William D. Vance  
Captain, U.S. Navy  
Director of Naval History  
acting for the United States Navy  
Signed in Washington on:

**Attachments:**

Exhibit A: Agreement between the Government of the United States of America and the Government of the Republic of France concerning the Wreck of the CSS *Alabama* signed in Paris on 3 October 1989.

Exhibit B: Compte rendu de la reunion du Comité scientifique du CSS *Alabama*, 19-22 octobre 1992.

**AMENDMENT TO THE AGREEMENT OF 23 MARCH 1995 BETWEEN THE UNITED STATES NAVY ACTING FOR THE UNITED STATES OF AMERICA, OWNER OF CSS ALABAMA, AND THE ASSOCIATION CSS ALABAMA RESPONSIBLE FOR ON-SITE ARCHAEOLOGICAL OPERATIONS**

The two Parties to the above-mentioned Agreement hereby declare the extension by mutual consent, of the validity of their Agreement of 23 March 1995 for another five year period ending 23 March 2005.

The Association's principal investigator and director of the archaeological project is henceforth the underwater archaeologist Gordon P. Watts, Jr., PhD, of Washington, North Carolina.

We the undersigned, having read, understood and accepted the terms of this Amendment, so affix our signatures on duplicate copies, one of which shall be given to each of the signers:

Association CSS *Alabama*  
Ulane Bonnel  
President of the Association

Signed in Paris on:

United States of America  
William S. Dudley  
Director, U.S. Naval Historical Center  
acting for the United States Navy  
Signed in Washington on:  
31 March 2009

\*This agreement was copied from the U.S. Navy's Naval History and Heritage Command website on March 26, 2018:

[https://coast.noaa.gov/data/Documents/OceanLawSearch/CSS%20Alabama%20Wreck%20Protection%20Agreement,%20between%20the%20United%20States%20and%20France%20\(March%208,%201995\).pdf](https://coast.noaa.gov/data/Documents/OceanLawSearch/CSS%20Alabama%20Wreck%20Protection%20Agreement,%20between%20the%20United%20States%20and%20France%20(March%208,%201995).pdf)

## The Art of Artifacts



Government issued pocket comb found in the USS *Monitor's* turret. Photo: NOAA, *Monitor* Collection

### Grade Level

6-12

### Timeframe

2-4 hours

### Materials

- Variety of objects to represent artifacts (see *Teacher Preparations and Implementation*)
- Variety of broken objects and a basket for each group (see *Teacher Preparations and Implementation for Activity C*)

### Activity Summary

This lesson engages students to explore the recovery of artifacts and recognize the importance of skilled archaeologists in any recovery effort.

### Learning Objectives

- To understand that artifacts should only be removed by trained archaeologists
- To experience the difficulty in identifying unfamiliar artifacts and to make inferences
- To discover the difficulty in piecing together artifacts

### Vocabulary

Artifact, conservation, conservator, *in situ*

### National Standards:

NCTE:1; NCSS:HT.1, 2, 3, 4 and 5;  
CCSS:ELA.LIT.RH.7; OL.6 and 7



A spoon and buttons found in the USS *Monitor's* turret. Photo: *Monitor* Collection, NOAA

## Background Information

Shipwrecks are remnants of human history. The suddenness with which a ship often sinks creates an “accidental” moment in time and is the perfect place for archaeologists to study the past and to learn what happens over time. However, a shipwreck is more than just a collection of objects lying on the seabed. Specifically, they offer a wealth of information that represent the human activities and cultural and social systems of their time. For example, they can tell us what items were considered essential for survival on a ship; give us a look at a cross-section of social classes by the different quarters (living spaces) on board; tell us how ships were constructed; teach about ship life; help us to understand the trade of goods; and through the personal belongings of the crew and passengers, give us glimpses into the lives of the people who sailed on the ship. Sometimes, something as seemingly insignificant as a small stamp or mark on an artifact can even provide valuable, previously unknown information. Therefore, a shipwreck’s treasure is not its cargo, but rather the infinite amount of information that can be learned about our past.

Although legend and lore often provide us with stories of shipwrecks full of treasure, every shipwreck, even those without “treasure,” provide archaeologists with a special bounty: information. For instance, the position of the wreck, distribution of wreckage and/or other items, rate of deterioration, and much more help archaeologists tell a ship’s complete story. Therefore, it is important to preserve a shipwreck *in situ* (in its original place), so that it can be studied as a whole. Removal of artifacts from a site destroys the archeological context. If artifacts are removed, it should be done with archaeologists that have been trained to keep an accurate record of the artifacts through notes, photographs, site plans, and other documents. However, no matter how well archaeologists collect data, once artifacts are removed, the site will never be intact and whole again.

The raising of a shipwreck and the removal of artifacts is often debated. For most shipwrecks, archaeologists agree they should be studied *in situ*. However, a water environment can have devastating effects on a shipwreck. Specifically, salty water, hurricanes, storms, and human activities can all cause a shipwreck to deteriorate. Therefore, in a few instances, when a shipwreck is nationally and historically significant, such as the USS *Monitor*, a decision is made to recover some or all of the ship’s artifacts.

Any recovery of artifacts must be carefully planned as it is imperative that they be immediately conserved. Conversely, without conservation, most artifacts will perish and all historical data lost. Organic material can crumble within a few hours after it dries; iron may last a few days or months, but will eventually fall apart; and glass and pottery will slowly

become hard, opaque, or crystalline. Therefore, it is imperative that all factors be considered before recovering artifacts. Some factors considered include the location for conservation and display after artifacts are preserved; the amount of money available to conserve the artifacts; and the reasons to conserve an artifact.

## Activity Summary

Students conduct four different activities to better understand the important role artifacts play in the story of a shipwreck. They will analyze and interpret “artifacts,” and discover the difficulty often encountered when trying to put together pieces of artifacts. Through these activities, students will not only understand the difficulty in identifying artifacts, but also learn how artifacts teach us much about a society’s culture.

## Learning Objectives

Students will understand that artifacts should only be removed by trained archaeologists. They will experience the difficulty in identifying unknown artifacts, and learn to make inferences about the uses of unfamiliar tools. They will also discover the difficulty in piecing together artifacts.

## Teacher Preparation and Implementation

- Review the activities and resources.
- Determine group size.
- Acquire objects needed for each activity (see individual activities for details).
- Make copies of *Student Activity* pages (pp.188-191).

## Procedure

1. There are three parts to this unit. First, have students read and discuss the opening background information (p. 188). Answer discussion questions. Make sure that students clearly understand that removal of artifacts from a shipwreck should only be done by highly skilled archaeologists and for a valid reason.
2. Continue with Activity 1, 2, and 3 as outlined in steps 3-5.
3. **Activity 1**
  - a. Collect a variety of discarded empty containers, such as soda cans, cereal boxes, or frozen food boxes so that each student/group has at least one. The containers are “artifacts.”
  - b. Have students follow directions to analyze their artifact.
4. **Activity 2**
  - a. Collect several unique kitchen/garden tools or other unusual objects, such as a cherry pitter or garlic press that students might not readily recognize. Provide one for each group.

- b. Using a tag, label each item with a number. On an index card, record the number of the artifact, what it actually is and the purpose of the object. Save the cards until the conclusion of the activity.

### 5. Activity 3

- a. Purchase or acquire, from places such as thrift stores, several inexpensive and various shaped ceramic objects. If possible, have two objects that are similar.
  - b. Carefully break the objects into many pieces and remove several of the pieces from each broken object.
  - c. Divide the class into small groups and give each group a basket with most of the pieces from several objects. For more difficulty, divide the broken pieces among all the groups in class.
6. After the students complete all the activities, wrap up with a discussion on what artifacts tell us, why it is important to only remove artifacts for specific reasons, and how difficult it is to analyze and piece them back together.
  7. Optional: Have students relay what they have learned by writing a report, creating a video, or posting to a fake social media.



**Above:** East Carolina University students work to assemble the 6,500-gallon tank to hold the *Queen Anne’s Revenge* anchor. Photo: Cliff Hollis, ECU

**Bottom:** A nail from *Queen Anne’s Revenge* awaits transport to the North Carolina Maritime Museum in Beaufort. Photo: ECU

## Resources\*

### Websites

#### The Mariners' Museum

Explore the Batten Conservation Laboratory to learn more about the conservation of the USS *Monitor*.

<http://www.marinersmuseum.org/uss-monitor-center/>

#### East Carolina University

Read about the recovery of artifacts from Blackbeard's ship, *Queen Anne's Revenge*.

<http://www.ecu.edu/cs-admin/news/QARlab.cfm#.VcJStPIVhuA>

#### NOAA's Maritime Heritage Program

Visit the Office of National Marine Sanctuaries to learn how NOAA maritime archaeologists explore the ocean.

<http://sanctuaries.noaa.gov/maritime/welcome.html>

#### *Titanic*: The Artifact Exhibition

Visit this site to learn why artifacts have been recovered from the *Titanic*.

<http://www.premierexhibitions.com/exhibitions/3/3/titanic-artifact-exhibition/recovery-conservation>

### Books

Davis, Robert P. *Stobart. The Rediscovery of America's Maritime Heritage*. Dutton, 1985. ISBN-10:0525243623.

Bowens, Amanda (Editor). *Underwater Archaeology: The NAS Guide to Principles and Practice*. Blackwell Publishing (2nd Edition), 2009. ISBN-13: 978-1405175913.

Levitt, Peggy. *Artifacts and Allegiances: How Museums Put the Nation and the World on Display*. University of California Press, July 7, 2015. ISBN-13: 978-0520286078.

Panchyk, Richard. *Archaeology for Kids: Uncovering the Mysteries of Our Past*. Chicago Review Press, 2001. ISBN: 1556523955.

Sanford, Patricia. *Archaeology for Young Explorers: Uncovering History at Colonial Williamsburg*. Colonial Williamsburg Foundation, 1995. ISBN: 087935089X.

Spirek, James D. and Della A. Scott-Ireton (Editors). *Submerged Cultural Resource Management: Preserving and Interpreting Our Maritime Heritage*. Springer, July 31, 2003. ISBN-13: 978-0306478567.

Smith, Robert H. *Maritime Museum of North America*. C Books, August 6, 2009. ISBN-13: 978-0941786072.

\*The inclusion of links in this guide does not imply endorsement or support of any of the linked information, services, products, or providers.

## Vocabulary

**ARTIFACT** — Any object made by humans, typically an item of cultural or historical interest

**CONSERVATION** — Preservation, repair, and prevention of deterioration of archaeological, historical, and cultural sites and artifacts

**CONSERVATOR** — A person responsible for the repair and preservation of works of art, building, or other things of cultural or environmental interest

**ETHICS** — Moral principles that govern a person's or group's behavior

**IN SITU** — Latin phrase that means in its original place or position

## Extensions

**Activity 1:** Create a time capsule by collecting items that represent your culture. Put the items in a coffee can or other container that is waterproof and can be sealed tightly. Record the date the items were collected. You may wish to bury the container and leave it for someone to find in the future or put the can in a safe place to be opened by a future class.

**Activity 2:** Conduct research to learn about primary and secondary sources of information. How do historians use inferences to help them interpret events from the past?

**Activity 3:** Place three animal cookies in a small baggie and gently break them apart. On a flat surface and a paper towel, spread the cookies apart. Try to put the cookies back together again. Students cannot eat until they have them together...well at least almost together!



The USS *Monitor*'s turret was raised in 2002. Inside the turret were a plethora of artifacts. Two sets of human remains were also discovered during excavation. Photo: NOAA, *Monitor* Collection

Name: \_\_\_\_\_

Date: \_\_\_\_\_

## The Art of Artifacts

### Background Information

Shipwrecks are remnants of human history. The suddenness with which a ship often sinks creates an “accidental” time capsule and is the perfect place for archaeologists to study the past and what to expect from the progression of time. However, a shipwreck is more than just a collection of objects lying on the seabed. Specifically, they offer a wealth of information that represents the human activities and cultural and social systems of their time. For example, they can tell us what items were considered essential for survival on a ship; give us a look at a cross-section of social classes by the different quarters (living spaces) on board; tell us how ships were constructed; teach about ship life; help us to understand the trade of goods; and through the personal belongings of the crew and passengers, give us glimpses into the lives of the people that sailed on the ship. Sometimes, something as seemingly insignificant as a small stamp or mark on an artifact can even provide valuable, previously unknown information. Therefore, a shipwreck’s treasure is not always its cargo, but rather the infinite amount of information that can be learned about our past.

Although legend and lore often provide us with stories of shipwrecks full of treasure, every shipwreck, even those without “treasure,” provide archaeologists with a special bounty: information. For instance, the position of the wreck, distribution of wreckage and/or other items, rate of deterioration, and much more help archaeologists tell a ship’s story. Therefore, it is important to preserve a shipwreck *in situ* (in its original place), so that it can be studied as a whole. Removal of artifacts from a site destroys the archeological context. If artifacts are removed, it should be done by archaeologists that have been trained to keep an accurate record of the artifacts through notes, photographs, site plans, and other documents. However, no matter how well archaeologists collect data, the site will never be intact and whole again once artifacts are removed.

The raising of a shipwreck and the removal of artifacts is often debated. For most shipwrecks, archaeologists agree they should be studied *in situ*. However, a water environment can have devastating effects on a shipwreck. Specifically, salty water, hurricanes, storms, and human activities can all cause a shipwreck to deteriorate quickly over just a few decades. Therefore, in a few instances, when a shipwreck is historically significant, such as the USS *Monitor*, a decision is made to recover some or all of the ship’s artifacts.

Any recovery of artifacts must be carefully planned as it is imperative that they be immediately conserved. Conversely, without conservation, most artifacts will perish and all historical data lost. Organic material can crumble within a few hours after it dries; iron may last a few days or months, but will eventually fall apart; and glass and pottery will slowly become hard, opaque, or crystalline. Therefore, it is imperative that all factors be considered before recovering artifacts. Some factors include the location for conservation and display after artifacts are preserved; the amount of money available to conserve the artifacts; and the reason to conserve artifacts.

### Discussion Questions

1. Explain “accidental time capsule.”
2. What can artifacts from shipwrecks tell an archaeologist? How?
3. Why is it important to sometimes preserve the shipwreck *in situ*? When might artifacts be recovered?
4. Explain why it is imperative to plan for conservation before recovering artifacts?

## Activity 1 — Analyzing Artifacts: How Archaeologists Interpret Artifacts

### Background Information

An artifact is an object that is made or used by humans. Archaeologists often study cultures that existed before the written word, so they must try to interpret the artifacts that are left by the people that used them. A shipwreck, for instance, can offer a unique look at the life of the people that sailed on a ship and the culture when the ship sank. These time capsules hold a wealth of information and even their “trash” provides clues of what life was like on board. Moreover, artifacts that were discarded as trash many years ago are treasures today to archaeologists. Archaeologists carefully examine the objects and analyze them to learn their stories. A simple everyday object may actually tell us more than we think about the people that made and used it. An artifact might even tell us what their lives were like, how they thought, what they valued, and how they changed the world in which they lived.

### Procedure

1. You are an archaeologist analyzing artifacts that have been recovered from an archaeological site. Select an artifact.
2. Carefully observe the artifact.
3. In your science journal, record your observations and provide as many details as possible about the artifact.
4. Answer the following questions about the artifact and write a sentence to explain its potential culture of origin and/or the values of the culture. For example, a nutritional label on a box might indicate that the culture was concerned about its health.
  - a. Is the artifact plain or decorated?
  - b. How was it sealed?
  - c. Is there any writing on the artifact?
  - d. What material is the artifact made of?
  - e. Where was the product made?
  - f. What other details offer clues?
5. Share and compare your findings and explanations with the other archaeologists in your class.

### Discussion

1. Why do archaeologists look at objects that were discarded or thrown away by people?
2. What are some of the things archaeologists can learn about a culture by studying artifacts?



**Left:** Boot recovered from the USS *Monitor*.  
Photo: NOAA, *Monitor* Collection

**Right:** Silver spoon after its removal from USS *Monitor*'s turret.  
Photo: NOAA, *Monitor* Collection



## Activity 2 — Making Inferences: What Is That Thing?

### Background Information

When artifacts are found and/or recovered, they are analyzed, which may prove to be difficult. Unless an artifact is something that was used and documented in history, archaeologists are left to interpret the purpose and use of the artifact based on what they know about the culture and how people might use the same kind of object today. When ancient Egyptian artifacts were first uncovered, the archaeologists had difficulty interpreting the objects and making sense of how they were used. After the discovery and translation of the Rosetta Stone, archaeologists were able to interpret Egyptian hieroglyphics (picture writing), which gave them a new and better understanding of Egyptian artifacts.

You and your class are future maritime archaeologists from the twenty-third century that uncover some unique artifacts from the twenty-first century.

### Procedure

1. Carefully observe the artifact.
2. In your science journal, draw a picture of the object. Record your observations including as many details as possible.
3. In your group, discuss your observations and based on what you know about life in the 21st century, determine a purpose for the object. Come to a consensus on its purpose.
4. In your science journal, explain what the artifact might have been used for and why your group came to that conclusion.
5. As a group, create a short 2-3 minute skit that explains to the other archaeologists in your class the artifact, without naming it, and its use.
6. After all archaeologists have completed their skits, get the card from your teacher that explains what the artifact is and how it was/is actually used.
7. Compare your inferences and conclusions.

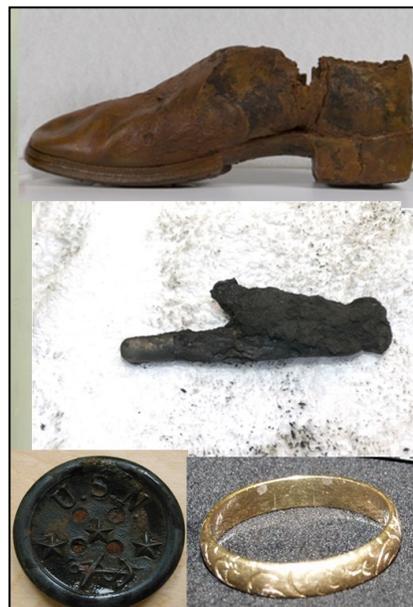
### Discussion

1. Were you able to identify the purpose of your artifact? Why or why not?
2. Did everyone agree about the purpose of each artifact? Why or why not?
3. How is this activity similar to what happens when an archaeologist recovers an artifact?

### Extensions

1. Read excerpts from historical journals. What clues do the authors leave about the cultures in which they lived? How are journals helpful to archaeologists? What might an archaeologist learn from these kinds of records found at a site?
2. Look at a picture of an old painting. What can you learn about the culture from the painting? Conduct research to find out about ancient artworks that have been found on cave walls or rock cliffs.
3. Visit a museum to look at the artifacts from another culture. Before reading the information cards, predict how the object may have been used; then read about the object in the museum case. Keep track of the number of times you were correct in your predictions.

Look at the photo and identify the four objects recovered from the USS *Monitor*'s turret in 2002. What can be inferred by these objects?



## Activity 3 — Picking Up the Pieces Is Not Always Easy!

### Background Information

Once a maritime archaeologist has uncovered artifacts, recorded their location, and documented each piece, the scientific process of archaeology continues. The artifacts are usually brought to a lab where they may be washed, counted, weighed, and catalogued. Next, archaeologists carefully sort the artifacts into groups according to their characteristics. Think of the last time you put a puzzle together. Did you first find all the edge pieces? Or did you find all the ones of the same color? Similarly, an archaeologist sorts the artifacts and any pieces.

All artifacts are unique and offer valuable information; in particular, pottery is an especially important artifact for archaeologists to find. Specifically, pottery does not break down as easily as cloth, and it is often the most abundant artifact found. Another helpful characteristic of pottery is that the method and style for making pottery changes over time and across different cultures. Therefore, pottery can be used to determine the age of the site and its relationship to other cultures.

### Procedure

1. Carefully, observe the pieces of artifacts in your group's basket.
2. Come to a consensus in your group about how to best sort the artifacts and then carefully sort them.
3. Once the artifacts are sorted, try to put the pieces together and determine the identity of the artifact.
4. Continue until you have either no more pieces or you can no longer make them fit together.
5. Sometimes broken artifacts can be recovered at different times and/or in different places of a shipwreck. Therefore, be sure to consult with the other groups to see if they have any pieces that are similar to yours.
6. If there is a group that has pieces similar to your artifacts, join them and try to put the artifacts together.
7. As a class, discuss the difficulty of piecing together the artifacts.

### Discussion

1. What was the most difficult part about putting the pieces together?
2. In a real archaeological recovery, why might there be missing pieces?
3. Are all artifacts always identified?



Pottery is useful to identify the time period and culture of a shipwreck.

A conservator works to conserve a shoe found inside the USS *Monitor's* turret.  
Photo: NOAA, *Monitor* Collection



# Conservation and Conservators



USS *Monitor*'s turret shortly after recovery.  
Photo: NOAA, *Monitor* Collection

## Grade Level

6-12

## Timeframe

1-2 hours

## Materials

See *Teacher Preparations and Implementation* for each activity's materials

## Activity Summary

This lesson engages students to explore the conservation of artifacts through online learning and experiments.

## Learning Objectives

- To understand that artifact conservation is complex and can take years to complete
- To observe the destructive properties of rust
- To discover that modern metals differ from historic metals

## Vocabulary

Artifact, conservation, conservator, corrosion, restoration, rust

## National Standards:

NCSS:HT.1; CCSS:ELA.LIT.RI.4 and 6; NS:5-8.A, B, E, F, and G; NS:9-12.A, B, E, F, and G

## Background Information

When planning to recover artifacts from a marine archaeological site, two of the most important items to consider are: 1) how to preserve the artifact, and 2) how much it will cost (and who is funding it). Without conservation, most artifacts would perish and all historical information would be lost. Conservation may seem like a straightforward and simple process, but it is very complicated. Conservation is also time consuming and expensive, often costing more than the original recovery of an artifact.

Conservation does not simply involve a single set of procedures; therefore, only highly trained professional conservators should work to conserve artifacts. Moreover, professional conservators are often the first person to see an actual artifact, and for that reason, they are deeply concerned with the integrity of the artifact and the history it represents.

Conservators take on the same responsibilities as an archaeologist, and they also fill the roles of a mender, caretaker, and recorder of the artifacts they conserve. They take great care to handle the artifact with respect and ensure that the artifact is conserved correctly. Additionally, conservators are guided by a set of ethical guidelines adopted by the International Institute for Conservation.

When artifacts are recovered from a saltwater environment, they must not be allowed to dry. Artifacts absorb salt from the water and over time, these salts become embedded in an artifact, especially in iron objects. The presence of salt can be fatal for an artifact, because as the artifact dries, salt comes out of solution and crystallizes. Salt crystals act as tiny wedges that can break apart an artifact. Therefore, before an artifact can dry, the salt must be removed. The salt removal process varies in length. Many other factors can also affect the length of time it takes to conserve an artifact, such as its size and source material.

Removing salt from objects can take years or even decades, like with the USS *Monitor*'s turret. The process requires that skilled, professional conservators and other support staff are hired. A facility must be acquired and then, there are numerous other costs, such as utilities, supplies, chemicals, and more. Therefore, funding is a key component in recovering artifacts from a shipwreck site. If decades are required, as with the *Monitor*, then the amount of funding required can be in the millions of dollars.

## Activity Summary

Students explore the conservation of the USS *Monitor*'s turret. Students will also perform two experiments. In the first experiment, they will observe the destructive properties of rust; and in the final activity, they will learn that the composition of metals has changed over time.

## Learning Objectives

Students will recognize that artifact conservation is a costly and complex process requiring years to complete. They will observe the destructive properties of rust and predict how rust forms in different environments. They will also recognize that metal composition has changed over time and predict the most effective way to clean copper.

## Teacher Preparation and Implementation

- Review the background information, resources, and three activities. Gather materials listed for each activity.
- Determine group size for each activity.
- Bookmark websites for students or create a digital binder, such as Livebinder\* (<http://www.livebinders.com/welcome/education>).
- Print copies of the activity pages (pp. 195-200). If internet is not available, print website information.

## Procedure

1. **Activity 1:** Have students first read the background information and then complete the questions. Continue with Activities 2 and 3.
2. **Activity 2:** Materials per group—Create a set of materials for each group
  - a. 5 pieces of steel wool (without soap)
  - b. 5 shallow plastic disposable bowls
  - c. 4 small clean jars
  - d. 15 ml baking soda
  - e. 60 ml vinegar
  - f. 15 ml salt
  - g. 180 ml water
  - h. 2 stir sticks
  - i. 2 tongue depressors (or tweezers)
  - j. 5 paper plates
  - k. Safety goggles

3. **Activity 3:** Review acids and bases and how to use a litmus strip. For each group, create a set of materials from the list below
  - a. ~8 pennies that are not shiny
  - b. 7 small plastic cups
  - c. Graduated cylinder or beaker
  - d. 30 ml water
  - e. 30 ml vinegar
  - f. 15 ml baking soda mixed in 30 mL water
  - g. 30 ml lemon juice
  - h. 30 ml liquid hand soap
  - i. 15 ml salt mixed in 30 mL water
  - j. 30 ml ketchup
  - k. Tape
  - l. Soft paper towels
  - m. Seven litmus strips
4. Wrap up the activities with a discussion on the complexity of the conservation of artifacts. Help students to understand that because the process is complex, expensive, and time consuming, most artifacts should be left *in situ* unless they are historically significant in some way that warrants their recovery.

## Resources\*

### Websites

#### Monitor National Marine Sanctuary: Preserving a Legacy

An in depth look at the USS *Monitor*'s history, discovery, recovery of artifacts and present day conservation efforts.

<http://monitor.noaa.gov/150th>

*\*The inclusion of links in this guide does not imply endorsement or support of any of the linked information, services, products, or providers.*

## Vocabulary

**ARTIFACT** — Any object made by humans, typically an item of cultural or historical interest

**CONSERVATION** — Preservation, repair, and prevention of deterioration of archaeological, historical, and cultural sites and artifacts

**CONSERVATOR** — A person responsible for the repair and preservation of works of art, building or other items of cultural or environmental interest

**CORROSION** — A chemical action that causes the breakdown of a material, especially metal

**IN SITU** — Latin phrase that means in its original place or position

**IRON** — A strong, hard magnetic silvery-gray metal, often used as a material for construction and manufacturing, especially in the form of steel

**METAL** — A solid material that is typically hard, shiny, malleable, fusible and ductile, with good electrical and thermal conductivity

**RESTORATION** — The action of returning something to a former owner, place, or condition

**RUST** — A reddish- or yellowish-brown flaky coating of iron oxide that is formed on iron or steel by oxidation, especially in the presence of moisture

### The Mariners' Museum

Explore the USS *Monitor* Center and watch live webcams of the turret and other artifacts undergoing conservation and more.

<http://www.marinersmuseum.org/uss-monitor-center/uss-monitor-center>

### Comic Book Periodic Table

Explore the periodic table of elements in a whole new way. Connect each element to a comic book hero who has the same characteristics as the element.

<http://www.uky.edu/Projects/Chemcomics/>

### Chemistry for Kids

Explore the structure of molecules and learn how atoms combine to form compounds.

[http://www.chem4kids.com/files/atom\\_intro.html](http://www.chem4kids.com/files/atom_intro.html)

### David's Whizzy Periodic Table

This website provides a multimedia crash course on the chemistry behind all materials, and includes the ever popular and very interactive "David's Whizzy Periodic Table."

[http://www.colorado.edu/physics/2000/periodic\\_table/index.html](http://www.colorado.edu/physics/2000/periodic_table/index.html)

### The National WWII Museum

Visit this site to learn more about the techniques and guidelines to preserve artifacts.

<http://www.nationalww2museum.org/give/donate-an-artifact/preservation-of-artifacts.html>

### Science Kids: Metals for Kids

Check out the cool topic of metals with a range of free games, experiments, and more.

<http://www.sciencekids.co.nz/metals.html>

### Great Schools Science Worksheets

Great teacher resource for metals with printable worksheets.

<http://www.greatschools.org/worksheets/science/?start=18>

### Books

Bowens, Amanda (Editor). *Underwater Archaeology: The NAS Guide to Principles and Practice*. Blackwell Publishing (2nd Edition), 2009. ISBN-13: 978-1405175913.

Llewellyn, Claire. *Metal*. Scholastic Library Publishing, 2001. ISBN: 0531148343.

Mebane, Robert C. and Thomas Rybolt. *Metals (Everyday Material Science Experiments)*. 21<sup>st</sup> Century, 1997. ISBN: 0805028420.

Oxlade, Chris. *How We Use Metal*. Raintree, 2004. ISBN: 1410908933.

Sparrow, Giles. *Iron*. Marshall Cavendish, 1999. ISBN: 0761408800.

Zronik, John Paul. *Metals*. Crabtree Publishing Company, 2004. ISBN: 0778714500.

### Extensions

1. Learn more about the human remains discovered inside the *Monitor*'s turret and their burial at Arlington National Cemetery. <http://monitor.noaa.gov/150th>
2. Explore the difference between chemical and physical changes. Create a poster, skit, or song that explains the differences.
3. Repeat *Activity B* using pennies, paper-covered metal twist ties, and brass nails. Make a poster to compare and contrast the results. What does this experiment tell you about the corrosion of different metals in the same environments? Use this information to talk about the kinds of buildings that might be built in different climates or which kinds of metals will need the most protection from corrosion.
4. Visit the United States Mint's website <http://www.usmint.gov> to learn more about the metals that are used in coins.
5. Visit or contact a museum to find out how they clean and restore their paintings or other artifacts. Prepare a report to share with the class.



#### USS *Monitor* Artifacts

Left: Steam engine register.  
Center: Alloy spoon found in turret.  
Right: Ring found with human remains.  
All Photos: NOAA, *Monitor* Collection

Name: \_\_\_\_\_

Date: \_\_\_\_\_

## Conservation and Conservators

### Background Information

When planning to recover artifacts from a marine archaeological site, one of the most important items to consider is how to preserve the artifact. Specifically, without conservation, most artifacts would perish and all historical information would be lost. For many people, conservation seems like a straightforward and simple process, but it is very complicated. Conservation is also time consuming and expensive, often costing more than the original recovery of the artifact.

Conservation does not simply involve a single set of procedure; therefore, only highly trained professional conservators should work to conserve artifacts. Moreover, professional conservators are often the first people to see an actual artifact, and for that reason, they are deeply concerned with the integrity of an artifact and the history it represents. Conservators take on the same responsibilities as an archaeologist, and they also fill the roles of a mender, caretaker, and recorder of the artifacts they conserve. They take great care to handle the artifact with respect and ensure that the artifact is conserved correctly. Additionally, conservators are guided by a set of ethical guidelines adopted by the International Institute for Conservation.

When artifacts are recovered from a salt water environment, they must not be allowed to dry. Artifacts absorb salt from the water and over time, these salts become embedded in an artifact, especially in iron objects. The presence of salt can be fatal for an artifact because, as the artifact dries, salt comes out of solution and crystallizes. Salt crystals act as tiny wedges that can break apart an artifact. Therefore, before an artifact can dry, the salt must be removed. The salt removal process varies in length. Many other factors can also affect the length of time it takes to conserve an artifact, such as its size and its source material.

Removing salt from objects can take years or even decades, like with the USS *Monitor*'s turret. The process requires that skilled, professional conservators and other support staff are hired. A facility must be acquired and then, there are numerous additional costs, such as utilities, supplies, chemicals, and more. Therefore, funding is a key component to making any decision to recover artifacts from a shipwreck site. If decades are required, as with the *Monitor*, then the amount of funding can be in the millions of dollars.

### Getting Started

In this activity, you will explore the conservation process for the USS *Monitor*'s turret, observe the destructive properties of rust, and understand that the composition of metals has changed over time.



A look inside the Batten Conservation Lab where artifacts from the USS *Monitor* are being conserved. In the foreground is the steam engine tank and behind it is the turret tank. Photo: Courtesy of The Mariners' Museum

## Conservation and Conservators Continued

### Activity 1 — Exploring the Conservation of the USS *Monitor*'s Turret

Using paper or a journal, answer the following questions using information from The Mariners' Museum's websites given for each set of questions.

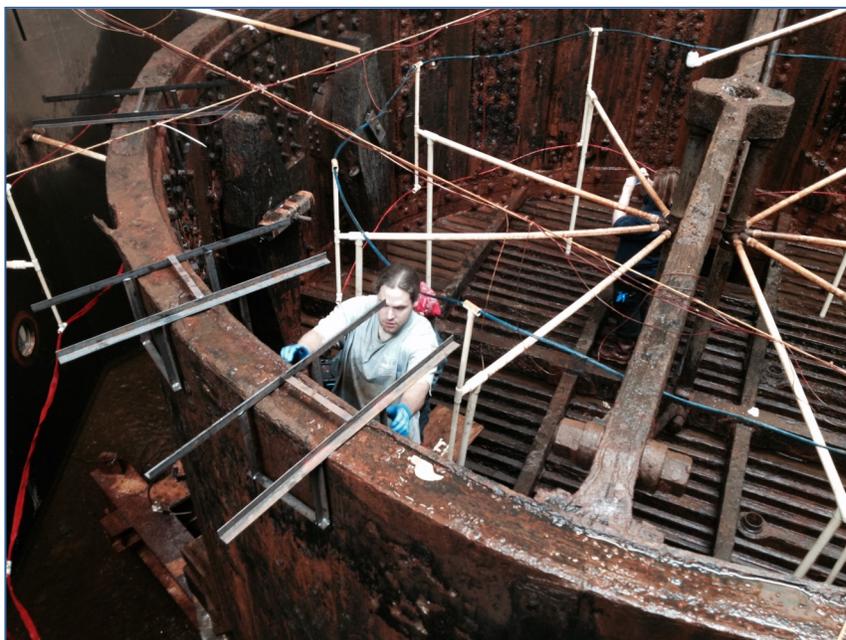
<http://www.marinersmuseum.org/uss-monitor-center/conservation-process>

1. Where are the USS *Monitor*'s turret, steam engine, condenser, Dahlgren guns, and other artifacts being conserved?
2. How many years were these artifacts submerged in the ocean?
3. How many tons of iron artifacts are being conserved at the museum?
4. When the conservation process is completed, where are the artifacts displayed?
5. What is concretion?

<http://www.marinersmuseum.org/uss-monitor-center/countering-effects-corrosion>

6. What is electrolytic reduction? Explain fully.
7. Why is a negative charge applied to an artifact?
8. When is the solution changed?
9. Why are there bubbles?
10. What happens when objects are finally removed from the tanks?

The 90,000 gallon tank must be drained in order for conservators to work inside the turret. The process takes about five hours and typically occurs once a year.  
Photo: NOAA, Monitor NMS



## Conservation and Conservators Continued

### Activity 2 — Rusting Away

Corrosion is a naturally occurring physical and chemical deterioration, or break down, of a material as it reacts with oxygen and other parts of its environment, such as acids, salts, or moisture. Corrosion takes place slowly over a long period of time. Often, there are no clues to announce that the reaction is taking place until the corrosion is seen. In the United States, corrosion of metals causes more than five billion dollars of damage each year. Different metals corrode in different ways. When iron is exposed to oxygen for an extended period of time, iron oxide ( $\text{Fe}_2\text{O}_3$ ), or rust, forms on the surface. Because rust is porous, exposure to oxygen and water in the air continues the corrosion process until the metal breaks down entirely.

When copper is exposed to gases in the air, the product of the corrosion reaction is a green finish that acts much like a coat of paint that prevents the air from further reaching the metal so only the surface of the object corrodes. This green coating is a layer called patina. Corrosion on silver is a dull tarnish that changes the physical appearance of silver. Tarnish can be removed using another chemical reaction with aluminum foil and baking soda.

Scientists and researchers study ways to reverse the problems of corrosion and to prevent corrosion from happening, and conservators work to find ways to slow or stop the corrosion of artifacts.

### Procedure

- Put on your safety goggles.
- Label four of the five bowls:
  - Water
  - Salt
  - Baking sod
  - Vinegar
- Pour the vinegar into the bowl labeled “Vinegar.”
- Pour 60 mL of water into each of the other three bowls.
- In the bowl marked “Salt,” add 15 mL salt to the water and stir until dissolved. Discard stir stick.
- In the bowl marked “Baking Soda,” add 15 mL baking soda to the water and stir until dissolved. Discard stir stick.
- Place a piece of steel wool in each bowl.
- Turn a jar upside down over each piece of steel wool in the bowl to form a sealed environment. See image.
- Label the fifth bowl, “Control.”
- Put a dry piece of steel wool in the control bowl and leave it uncovered.
- Place the bowls in a location where they will not be disturbed.
- Predict what will happen to the steel wool in each of the bowls.
- Determine which bowl will show the most change. Record your predictions on your *Student Observation Chart*.
- Over the next four days, while wearing your safety goggles, observe the steel wool. Record your observations on the *Student Observation Chart*.
- Label five paper plates with the same labels as the bowls.
- On day 5, put on your safety goggles and remove the steel wool from each of the bowls and place them on the corresponding paper plate.



**Above:** Conservators place anodes around one of the Monitor's Dahlgren guns. Photo: NOAA, Monitor Collection



**Above:** Conservators work inside the Monitor's turret.  
**Left:** Port pump recovered from the USS Monitor. Photos: NOAA, Monitor Collection

### Conservation and Conservators — Activity 2: Rusting Away Continued

17. Using the tongue depressors (or tweezers if available), pull apart each piece of steel wool.
18. Observe what happens and record your observations.
19. Compare the “Control” sample to the other samples.

#### Discussion

1. What happened to the steel wool pieces in each of the bowls?
2. Which bowl showed the most change after four days?
3. Why is it important to protect metal surfaces from corrosion?
4. Using what you have learned from your test results, how does iron react in saltwater? Freshwater?

#### Student Observation Chart

Day	Water	Baking Soda	Vinegar	Salt Water	Control
Prediction					
0					
1					
2					
3					
4					

In your journal or using your own paper, answer the following questions:

1. Which piece of steel wool rusted the fastest?
2. Which piece rusted the most?
3. What happened when you used the tongue depressors to pull apart the steel wool from the four experimental containers?
4. What happened when you tried to pull apart the control piece of steel wool?
5. Explain what this activity taught you about rust.

#### Extensions

1. Place one of the rusty pieces of steel wool in a glass of cola for one hour. What happens to the rust? Can the metal that was destroyed be replaced?
2. Visit a car dealership or automotive shop that puts protective coatings on the underside of a car. Interview the technician to find out what the coating is made from and why it is used.

## Conservation and Conservators Continued

### Activity 3 — Changing Metal

Scientists always look for ways to protect metals and prevent corrosion. Because different metals corrode in different ways, scientists can develop new combinations of metals that will resist corrosion and last longer.

Although many common items are made of metals, the composition of the metals used today may be different from in the past. Pennies are a good example of this difference.

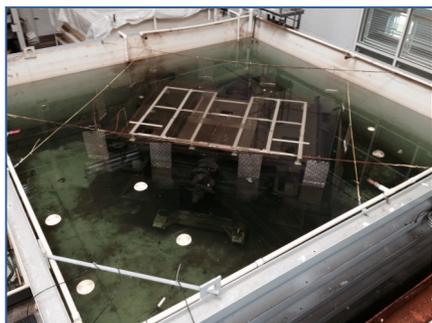
- From 1793 to 1837, pennies were made of pure copper.
- From 1837 to 1857, pennies were made of bronze (95% copper and 5% tin and zinc).
- From 1857 to 1864, the penny was 88% copper and 12% nickel, giving the coin a whitish appearance.
- From 1864 to 1962 (except for the year 1943), the penny was again bronze.
- In 1943, copper was needed for use in World War II, so most of the pennies that were minted, or made, were zinc-coated steel coins.
- In 1962, the small amount of tin that was used in earlier pennies was removed, making the metal composition of the one-cent piece 95% copper and 5% zinc.
- From mid-1982 to present day, pennies are made with 97.5% zinc and 2.5% copper.

A penny is shiny when it is first made, but exposure to oxygen and dirt cause it to become dull and turn dark brown. Copper oxide forms and coats the penny, much like tarnish on silver. Copper oxide reacts with mild acids. When dipped in an acidic solution the copper oxide dissolves, leaving a bright shiny penny again.

Archaeologists, museum curators, and art restoration technicians all use a variety of cleaning methods to restore artifacts. Scientists have discovered that oxygen atoms react with organic materials causing them to dissolve. Many common laundry and carpet cleaners today use the power of oxygen to boost their cleaning power. People that do metal restoration must consider the time period in which the metal was made because metals were created differently throughout time, just like the penny. Concurrently, knowledge of the time period helps archeologists to know how best to clean or restore an item.

### Procedure

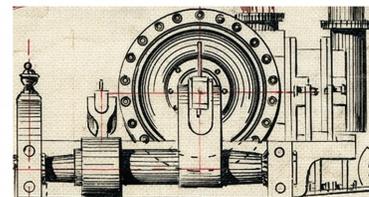
1. Predict which chemicals will clean the pennies, making them shiny again.
2. Write your predictions in your science journal and explain your predictions.
3. Label each cup: water, vinegar, water and baking soda, lemon juice, soap, saltwater, and ketchup.
4. Using a graduated cylinder or beaker, measure and pour the amounts listed for each cup: 30 mL water, 30 mL vinegar, 15 mL baking soda mixed with 30 mL water, 30 mL lemon juice, 30 mL liquid hand soap, 15 mL salt mixed with 30 mL water, 30 mL ketchup.
5. Place a penny into each cup.
6. Leave the last penny on the table. This penny is your control.
7. Leave the pennies in the cups overnight.
8. Observe the penny the next day and record your observations. What changes did you see?
9. Remove one penny from its solution.
10. Rinse the penny with plain water and dry with a soft paper towel.
11. Observe the penny after it is rinsed and dried. Record your observations.



**Left:** The steam engine in its tank undergoing conservation. Photo: NOAA, Monitor NMS



**Right:** The steam engine under conservation. Photo: The Mariners' Museum.



### Conservation and Conservators — Activity 3: Changing Metal Continued

12. Tape the penny onto the chart in the correct space provided.
13. Repeat with the other pennies, one at a time.
14. Determine which solutions cleaned the pennies best.
15. Test each solution using a litmus paper strip to determine if the solutions were primarily acids or bases.

#### Discussion

1. What changes did you observe after the pennies had soaked in the solutions overnight?
2. Which solutions were the most effective to clean the pennies?
3. Why do you think rinsing the pennies with water made a difference?
4. Would you achieve the same effect by simply wiping the pennies with a clean paper towel? Why or why not?
5. What conclusions can you draw about the types of substances that would best remove corrosion from a copper surface?

**Penny Observation Chart**

Solution	Prediction	Results Before Rinsing	Results After Rinsing	pH of Solution (Acid or Base)	Penny (Tape in Box)
Water					
Vinegar					
Water and Baking Soda					
Lemon Juice					
Soap					
Salt Water					
Ketchup					

**What do the results tell you?**





NATIONAL MARINE  
SANCTUARIES

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MONITOR