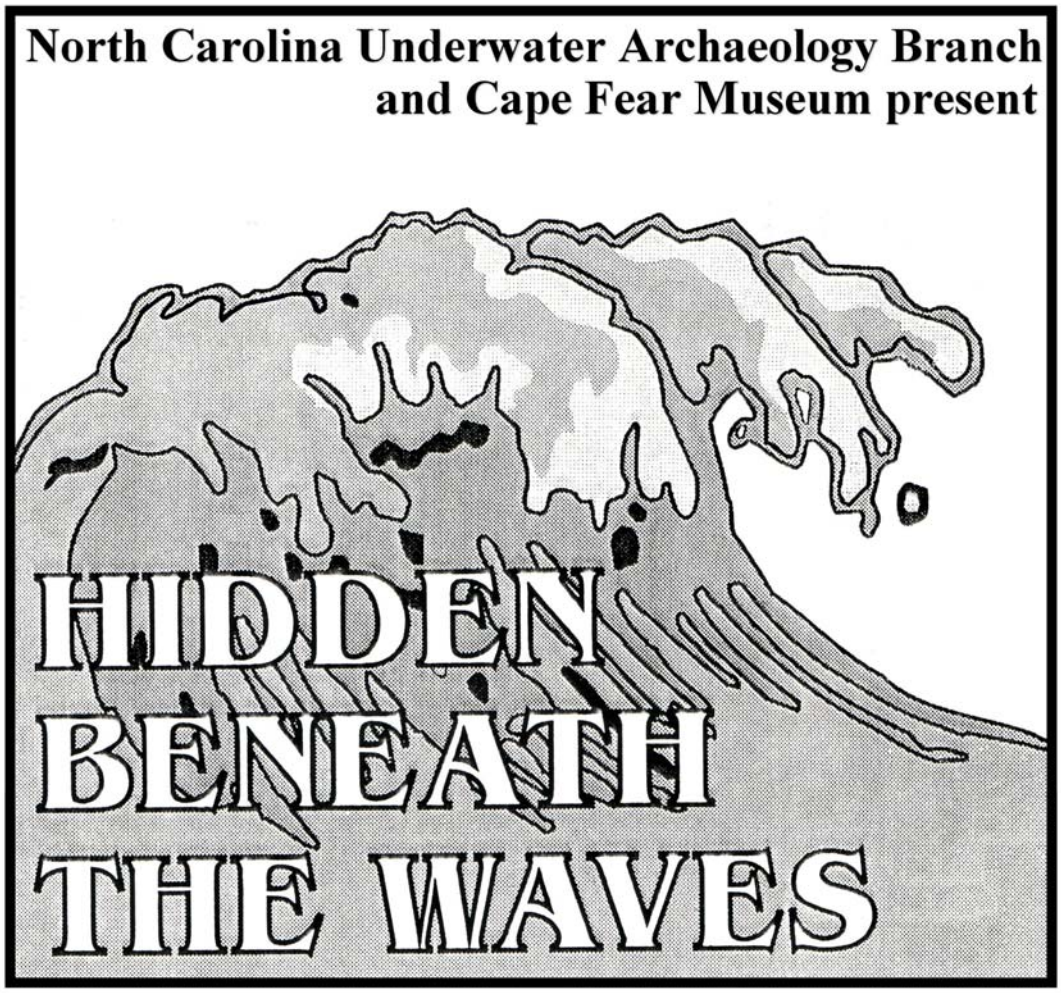
North Carolina Underwater Archaeology Branch
and Cape Fear Museum present



Teachers' Guide

Program Overview

Hidden Beneath the Waves is a hands-on, interdisciplinary program, designed to introduce eighth-grade students to underwater archaeology with classroom exercises simulating the activities of career underwater archaeologists in the field. The program consists of four units comprising a four-week course of study. Each unit stands alone, allowing the program to be custom-tailored to fit individual class needs. The program integrates social studies, science, math and language arts skills, and may be presented as a multidisciplinary unit by several teachers or as a unit in any one area. The program was intended originally for academically gifted students, but has been used successfully with students of all academic levels, including below grade level, special education, academically, gifted and traditional eighth-grade classes. With appropriate teacher modifications, the program is suitable for use in any eighth-grade class.

The kit contains program materials developed by the Underwater Archaeology Unit of the North Carolina Division of Archives and History in conjunction with Cape Fear Museum. After successful completion of a summer training session, teachers may borrow kits from Cape Fear Museum. Call the museum at (910) 341-4350 to make reservations. Kits are loaned free of charge to New Hanover County schools. There is a small charge for non-New Hanover County schools. Teachers are responsible for transporting the kits to and from the school and the museum. Kits are heavy. Museum staff may not be available to assist in loading and unloading the kits from vehicles.

Why Underwater Archaeology?

1. **To stimulate interest in history and to enhance the classroom study of social studies:**
   North Carolina is a coastal state with many miles of inland rivers and streams. The settlement and development of North Carolina have been, and will continue to be, heavily influenced by the close relationship to water. In *Hidden Beneath the Waves*, students will study the historical role of coastal waters, estuaries and rivers, and their associated wrecked or abandoned ships, on state and national history. Program materials present North Carolina history from the time prehistoric dugout canoes plied regional waters until World War II German U-boats patrolled Southport's coastal waters. Students will study shipwrecks, local records and replicas of recovered artifacts, all rich sources of information about lifestyles during different periods of history.

2. **To develop science and math process skills:**
   Artifact analysis, mapping, the technology of steam engines and scale modeling are integral components of *Hidden Beneath the Waves*. Each topic is presented in hands-on activities similar to actual processes used in the field. The student will learn skills in a realistic setting rather than through textbook exercises, enhancing interest and improving retention of the material.

3. **To promote environmental education and archaeological preservation:**
   The protection and preservation of archaeological and environmental resources are important to prevent the loss of historical information and preserve natural features of the environment. Program experiences will help students develop an understanding of the effects of man's interactions with his environment, such as canals, dredging and development. Research and artifact identification will promote an understanding of the historical importance of preserving archaeological sites.

4. **To promote the development of research skills and critical thinking:**
   As students solve the shipwreck problem, they will practice library research and field research skills. Students will learn to seek information from many sources and to use the information to draw logical conclusions and compile meaningful reports.

5. **To introduce the career of underwater archaeology:**

Students will learn about the educational requirements and job skills necessary for careers in underwater archaeology. Students will gain an understanding of the relationship of history and science coursework to future career paths.

Ties to the North Carolina State Competency Curricula for Eighth-Grade Students

Social Studies Curricula:

Competency Goal 1: **The learners will assess the influence of geography on the economic, social and political development of North Carolina.**

1.1 Determine the absolute and relative location of physical and cultural features. Students will locate coastal towns, rivers and physical features of the North Carolina coast on maps and charts.

1.2 Describe the physical and cultural aspects of North Carolina places. Students will use charts and maps to locate coastal sites and rivers and discuss the effects of these physical features on the lives and economics of people during different periods in history.

1.3 Analyze ways North Carolinians have modified, used, and adapted to the physical environment. Students will study changes made to coastal waters and landforms as they were adapted to contemporary needs in defense or technology, e.g., Civil War earthworks built for defense, changes in inlets to alter shipping routes and dredging to accommodate new ship technology.

1.4 Trace changes in the movement of people, ideas, and goods at different periods throughout North Carolina history. Students will learn about the changing nature of imports and exports as they study types of ships carrying different cargoes. Ship types include dugout canoes, 18th century schooners, 19th century blockade runners and 20th century container ships. Students will learn how trade influences history as they study the relationship of Civil War blockade runners and battleships to yellow fever, slave-running and exports.

Competency Goal 7: **The learner will trace the causes and events and judge the effects of the Civil War and Reconstruction on North Carolina.** Students will study the history and importance of Wilmington as a port and area Civil War sites as they investigate blockade runners and battleships, providing a solid introduction to discussions of causes and effects of the Civil War and Reconstruction.

Science Curricula:

Competency Goal 2: **The learner will develop the ability to use science process skills.**

Students will make observations, record data, make inferences and measurements, and draw conclusions during their shipwreck studies to identify their wreck and to study the related artifacts. They will summarize and communicate the results of their research orally and in writing.

Competency Goal 4: **The learner will develop a positive attitude toward science.**

Students will learn firsthand that science is an active, hands-on, problem-solving process rather than a static memorization of facts and formulas. The program's emphasis on process skills and deductive reasoning will illustrate the changing nature of scientific thought, with new conclusions appearing as a result of continued data collection and interpretation.

Competency Goal 5: **The learner will have an understanding of the relevance of current topics in science.** Students will study the effects of changes in coastal waters over time (shoreline drift, hardened structures, inlet migration) and develop a framework to understand current environmental and political concerns about natural and man-made changes to coastal features. Students will study current efforts to preserve coastal features and waters, and will learn about site damage and loss of historical information that may result

from the actions of treasure hunters or developers. Students will learn about changes in lifestyles brought about by changes in technology, such as the development of steam engines. Careers in archaeology, underwater archaeology, and preservation science will be explored.

Suggested Units of Study

Getting Started (Five Class Periods)

Day 1 …… Introduce program: activity, video and discussion.
Day 2 …… Select teams with Puzzling Problems; show the video *Cape Fear Maritime History*
Day 3 …… Play Quiz Bowl: *Cape Fear Maritime History*.
Day 4 …… Show and discuss the video *Underwater Archaeology* (may be postponed until after the Cape Fear Exercise).
Day 5 …… Play Quiz Bowl: *Underwater Archaeology* (may be postponed until after the Mystery Wreck Exercise).

Cape Fear Exercise (Seven Class Periods)

Day 1 …….. Introduce wall chart and shipwreck folders. Begin research.
Day 2 …….. Research shipwrecks: Use shipwreck material provided in kit, optionally assign homework at New Hanover County Library, main branch.
Days 3-6 …. Complete research; fill out ship's log and construct scale drawing.
Day 7 …….. Teams present research.

Optional activities: field trips, skits, raps, *The Coasting Captain*, How Big are Ships?

Mystery Wreck Exercise (Seven Class Periods)

Day 1 …… Introduce mystery wreck, review team packets and begin work at stations.
Days 2-6 …. Rotate through six stations, collecting and recording data at each station.
Day 7 …… Draw conclusions using keys and reveal the Mystery Wreck.

Conclusion (Two Class Periods)

Days 1-2 ….. Final Impressions, *Around the Horn,* evaluation and certificates.

Optional activities: class field trips, resource people, reading assignments.