Sound Experience welcomes you to the historic schooner *Adventuress* for a voyage of exploration on Puget Sound. Thank you for choosing this memorable learning experience. Our staff looks forward to sailing with your group.

**Mission**

Sound Experience sails the historic schooner *Adventuress* to educate, inspire, and empower an inclusive community that works to improve our marine environment and celebrates our maritime heritage.

**Vision**

We envision a future where everyone values Puget Sound/Salish Sea and the world's oceans and chooses to act as stewards of their treasured waters.

**Values**

- Transformative Education - changing our youth, our communities, and our world
- Learning Organization - evolving for and with our people
- Living Sustainably - acting for our waterways
- Partnering - sharing our collective strengths
- Integrity - doing the right thing
- All Are Welcome
Please feel free to copy and distribute any portion of this publication to your students and their families.

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Sound Experience programs are designed to educate students about the wonders of Puget Sound and ways they can help protect it. Our innovative, hands-on teaching strategies, conducted under sail on the waters of Puget Sound stimulate students to learn by making science real, accessible, and exciting. Sound Experience programs help to satisfy Next Generation Science Standards and ties to NOAA's Ocean Literacy Principles.

Sound Experience uses a variety of developmentally appropriate strategies to meet the diverse learning needs of our participants. Within an experiential framework, Sound Experience utilizes hands-on learning, critical thinking skills, and large and small group interactions.

During the program, students work cooperatively to set Adventuress' sails and navigate the ship through Puget Sound waters. Students rotate through learning stations that may include Marine Life, Plankton, Navigation, Nautical Skills and more. The following information outlines the trip theme options as well as the goals and activities on which we base our learning stations. This information will assist you in integrating Sound Experience programs into your classroom curriculum.

The seven Ocean Literacy principles are woven throughout the stations, as well as concepts including habitat, adaptations, resource management, food chains, cooperation and human impact

You will be able to choose your curriculum theme and goals when filling out the online “Getting to Know Your Group” form. Additional details can be discussed with the Education Coordinator.
Emerging Issues in the Salish Sea
Identify major environmental issues of the region and learn how we as a community can have an impact.

Teaching Stations:
Plankton, Life Aboard Ship, Marine Debris, Nautical Skills, Ocean Acidification

Marine Trades
Learn about the importance of the marine trade industry and its impact in our region.

Teaching Stations:
Life Aboard Ship, Marine Debris, Nautical Skills, Ocean Acidification, Mechanical Advantage

Marine Ecology
Discover a deeper understanding of the Salish Sea and its inhabitants.

Teaching Stations:
Plankton, Marine Life, Life Aboard Ship, Nautical Skills, Ocean Acidification

Becoming a Mariner
Explore the many skills required to become a mariner on the Salish Sea.

Teaching Stations:
Marine Life, Life Aboard Ship, Nautical Skills, Navigation and Mechanical Advantage
Sound Experience offers three theme options for your trip. Each has a specific selection of teaching stations and activities that complement each other to create a cohesive learning experience. In the “Getting to Know your Group” online form, you will choose one of the themes for your program.

1. **Emerging Issues in the Salish Sea**
   Identify major environmental issues of the region and learn how we as a community can have an impact.

   **Teaching Stations:**
   Plankton, Life Aboard Ship, Marine Debris, Nautical Skills, Ocean Acidification

   **Possible Activities:**
   Marine Life, Microplastics research, Beach Clean Up/Restoration Project (4+ day trip)

2. **Marine Trades**
   Learn about the importance of the marine trade industry and its impact in our region.

   **Teaching Stations:**
   Life Aboard Ship, Marine Debris, Nautical Skills, Ocean Acidification, Mechanical Advantage

   **Possible Activities:**
   Build a Boat to Float, Engineering Project

3. **Marine Ecology**
   Discover a deeper understanding of the Salish Sea and its inhabitants.

   **Teaching Stations:**
   Plankton, Marine Life, Life Aboard Ship, Nautical Skills, Ocean Acidification

   **Possible Activities:**
   Plankton Races, Shore Hike (4+ day trip)
GOALS FOR STUDENT LEARNING & ACTIVITIES

Environmental Understanding
- Identify where their home is in relation to the ship on Puget Sound by using charts and navigation tools.
- Research an aspect of Puget Sound Ecology to present to the group using on-board resources (books, guides, crew interviews, data collection using observation tools).
- Participate in hands-on activities, games, observation and discussions around the topics of: watersheds, ocean/estuarine features, marine foods webs, human impact on the environment, biodiversity, marine animal (mammals, invertebrates, birds) ecology, natural history, climate and habitat.
- Have a positive, direct, and prolonged on-the-water experience sailing aboard Adventuress on Puget Sound.

Leadership
- Come up with a personal or small group project they can present during an evening program based upon some thing they have learned during the trip.
- Identify personal and group learning goals and objectives and actively work toward them.
- Engage in community building activities, including singing, skits, and group presentations.
- Participate in setting sails, taking the helm, and community duties (evening program entertainment).

Stewardship
- Take the time to get to know the members of their Watch and the whole crew and how each contributes to collective goals.
- Monitor the daily use of resources aboard the ship and present them to the group.
- Participate in daily stewardship duties (chores, dishes, meal prep, etc.).
- Learn something of the cultural and maritime history of the area as it relates to natural resources (consumption, trade, transport, conservation, etc.).
- Stand at least one hour of anchor watch.
- Live in close proximity to others.
- Reflect on the needs of others and engage in care of those needs.
Mechanical Advantage Station

Outcomes and Learning Standards
Students will be able to:
- Define Mechanical Advantage
- Identify different ways in which Mechanical Advantage is used aboard Adventuress
- Describe different forms of mechanical advantage and how they are used to reduce the amount of force used in doing work

Lesson Summary
Throughout the Mechanical Advantage lesson, students will develop an understanding of Mechanical Advantage and how different systems such as pulleys, levers, wedges, and screws work to help shipboard systems function. Lesson activities will include use of a block and tackle and an inclined plane system, and identifying different simple machines used to work Adventuress.

Marine Life Station

Outcomes and Learning Standards
Students will be able to:
- Define “marine"
- Describe intertidal zone habitats and the concept of ecosystems
- Give examples of marine life adaptation to the intertidal zone environment
- Understand the factors impacting the health of the intertidal zone habitat
- Understand the basic groupings (phyla) of intertidal zone marine life and be able to give examples
- Recognize the connections between all life (marine and land habitats)

Lesson Summary
The Marine Life lesson will provide students with an understanding of the diversity of marine life in Puget Sound, particularly the organisms that inhabit the intertidal and nearshore zones. Discussion of habitat, ecosystems, and adaptation will help students appreciate the processes that determine the variety and viability of our local marine life forms. The lesson will combine discussion of marine life topics and observation and interaction with the surrounding environment.

Ties to Ocean Literacy Principles 5: The ocean supports a great diversity of life and ecosystems
**Marine Debris Station**

**Outcomes and Learning Standards**

Students will be able to:
- Define ‘marine debris’
- Recognize the pervasiveness of plastics within marine debris
- Identify the “Debris Decomposition Timeline”
- Illustrate ways to reduce the everyday use of plastic/contain plastic pollution before it reaches the ocean
- Recognize that plastic is both good and bad
- Give examples of items used everyday that contain plastic
- Explain the difference between mineralization of debris vs. degradation of plastics
- Summarize the citizen science conducted on board and how it is assessing the plastic pollution situation

**Lesson Summary**

The Marine Debris station will provide students with an understanding of the definition of marine debris, the pervasiveness of plastics within marine debris, the various “life-spans” of marine debris, the potential environmental impacts of oceanic plastic pollution and ways to reduce everyday plastic usage. Educators will discuss connections to relevant Ocean Literacy Principles (The ocean supports a great diversity of life and ecosystems, The oceans and humans are inextricably interconnected) as well as other on-board lessons (Plankton, Ocean Acidification, Marine life).

**Ties to Ocean Literacy Principles 6: The ocean and humans are inextricably connected**
Nautical Skills Station

Outcomes and Learning Standards
Students will be able to:
- Identify tasks which need to be accomplished to successfully sail Adventuress and, with the guidance of the Watch leader, take action
- Each take responsibility for steering Adventuress
- Recognize the necessity of cooperation to accomplish a task

Lesson Summary
This station is intended to allow the watch groups to learn by working together, with a focus on cooperative actions, and feel the responsibility of steering Adventuress. As this is a very weather dependent station it is important to have many optional activities. Optional activities include: knot tying, sail setting and striking, navigation, sail theory and the ability to explain the mechanics of tacking and gybing. When appropriate, focusing on the more physical tasks is encouraged, as this is the only station participants really get to use their bodies.

Ties to Ocean Literacy Principles 7: The ocean is largely unexplored

Navigation Station

Outcomes and Learning Standards
Students will be able to:
- Define and interpret the symbols and language on a navigational chart, define the terms "longitude" and "latitude" and be able to differentiate charts from maps.
- Understand how to use tools of navigation, how to read a chart and determine their location accurately using natural ranges identify uses of navigation tools, and explain the difference between magnetic and truth north.
- Practice using a chart, navigational aids and symbols, ranges and demonstrate and apply navigational skills based on these three questions: Where am I? Where do I want to go? How do I get there?
- Through discussion, participants will explore the importance of always knowing where you are to be better able to decide where you must go next.

Lesson Summary
This is a focus on teaching the principles of inland navigation beginning with personal observation and advancing to the use of common marine navigational tools. The lesson is used to develop personal observational skills through navigation, fundamental use of navigation equipment and as a way of generating metaphoric connections to the concept of, “know where you are to be able to plan where you are going.”

Ties to Ocean Literacy Principles 7: The ocean is largely unexplored
Plankton Station

Outcomes and Learning Standards
Students will be able to:
- Define plankton
- Describe the two main plankton types (zooplankton, phytoplankton)
- Explain the differences between holoplankton and meroplankton
- Give examples of phytoplankton and zooplankton
- Explain the role of phytoplankton in O2 production and CO2 absorption
- Explain the role of plankton in the food web
- Describe connections between the Plankton lesson and other lesson areas
- Give examples of relevant Ocean Literacy principles

Lesson Summary
The Plankton Lesson will provide students with an understanding of the definition of plankton, types of plankton found in Puget Sound waters, their place in the ocean ecosystem, their role in the food web, and their connection to environmental factors in the atmosphere and on land. Lesson activities will include plankton collection, observation of plankton with microscope-video system, identification of plankton types, and plankton “behavior”.

Ties to Ocean Literacy Principles 5: The ocean supports a great diversity of life and ecosystems

Ocean Acidification Station

Outcomes and Learning Standards
Students will be able to:
- Explain the concept of pH and the influence of added CO2
- Describe the ocean acidification process
- Identify sources of CO2 pollution
- Describe the harmful effects of ocean acidification on marine life (adult and planktonic forms)
- Give examples of how to decrease ocean acidification
- by reducing CO2 polluting emissions
- Understand the necessity of cooperation as a course to action.

Lesson Summary
The Ocean Acidification lesson will help students understand the process of ocean acidification, its causes, and its increasingly damaging impact on marine life. Students will be empowered to identify and change aspects of their daily behavior that contribute to ocean acidification.

Ties to Ocean Literacy Principles 1, 5, 6
- The Earth has one ocean big with many features
- The ocean supports a great diversity of life and ecosystems
- The ocean and humans are inextricably connected
The following is a list of suggestions for pre and post field trip activities that can be done in the classroom.

**Get to Know the Boat**
Learn more about the layout of *Adventuress* by looking at the sail plan, deck layout, and below decks floor plan. (Materials located on pages 12-14)

**Discover the History of Adventuress**
Learn about Adventuress’ history with your students and create timelines of her journey from 1913 to the present. (Material located on pages 15-16)

**Learn a Sea Shanty**
Sing a tune with your students! Sea shanties are an important aspect of life on ships. On *Adventuress* we use shanties to keep in time when we set sail. A list of popular sea shanties sung on Adventuress can be found on page 17.

**Try a Specific Activity**
We have highlighted a few activities that might be perfect for your students to learn more about the marine environment. Visit our website for the links (Sail with us -->School and Youth Groups --> Day Programs: Sound Studies --> For Educators).

The lessons include:
- Apple Ocean
- Nautical Word Find
- Build a River
- Personal Water Meter
- Shape a Watershed
ADVENTURESS SAIL PLAN

Adventuress 1913
Vessel Specifications

Length on deck (LOD)...........................101 feet
Length overall (LOA)...........................133 feet
Length at the waterline (LWL)...............71 feet
Rig height........................................110 feet
Beam..................................................21 feet
Draft...........................................10 feet, 6 inches
Sail area...................................5,478 square feet
Displacement........................................98 tons
ADVENTURESS
BELOW DECK LAYOUT
Maiden Voyage to the Arctic
Launched in 1913 in East Boothbay, Maine, Adventuress was designed for luxury and adventure by Bowdoin B. Crowninshield. The yacht was built for John Borden II, founder of the Chicago Yellow Cab Company, for an Arctic expedition to secure a Bowhead Whale specimen for the American Museum of Natural History. On board was Roy Chapman Andrews, the museum's naturalist, who would later discover fossilized dinosaur eggs in Mongolia and serve as the inspiration for Hollywood’s Indian Jones character. The whale eluded the expedition, but Andrews did pivotal research along the way on the dwindling fur seal population of the Pribilof Islands.

Guiding the World's Largest Ships
In 1914, Borden sold Adventuress to the San Francisco Bar Pilots. They valued her speed and state-of-the-art auxiliary engine. With an altered rig to accommodate the challenging working conditions, Adventuress plied the treacherous waters off the Golden Gate for more than three decades. During World War II, she served the U.S. Coast Guard patrolling the coastline.

Nearly Lost to History
By 1950, ships of her vintage were becoming increasingly rare. For her part, Adventuress had been phased out of use by the Bar Pilots and left at the dock at Sausalito, a more damaging fate for an old schooner than hard use. Adventuress was a sad sight with her truncated rig and without her bowsprit. To many, it appeared that her days of adventure were over.

"She's Something Different"
O.H. “Doc” Freeman, an entrepreneurial Seattle chandlery owner, discovered Adventuress tied to the dock in Sausalito. He saw past the neglect. Paying just $7,800 and hoping to turn a profit in Seattle, Freeman brought her up the coast in February 1952. The voyage was, by all accounts, downright harrowing. Off the coast of California, the winter wind blew a steady 45 knots, causing the sails to blow out. Despite the engine throwing its clutch and a leaking heater filling below decks with gasoline fumes, the ship made it to her new home in Puget Sound.
Teens and a Tall Ship

After changing hands several times, Adventuress found a dreamer named Monty Morton who started Youth Adventure, a nonprofit youth sail-training organization closely tied to scouting. His motto was “Busier youth build better citizens.” Morton and marine surveyor Captain “Cap” Raynaud began to restore the schooner in earnest, bringing back her topmasts, gaff rig, and bowsprit, and lengthening her main boom to increase her sail area. With the ship now repaired, and Captain Karl Mehrer at the helm, young mariners could come aboard for adventure and learning.

A National Historic Landmark

In 1963, Ernestine “Erni” Bennett came aboard with Dorothy Rogers and their Girl Scout Troops looking for adventure and challenge. They became increasingly involved in the organization, with Bennett following Morton as director, and would enlist an extensive community of volunteers to complete the ship’s transformation to her original lines. In 1989, the National Park Service granted Adventuress the elite status of National Historic Landmark in recognition of her national significance.

Puget Sound's Environmental Tall Ship

In the late 1980s, Bennett was seeking a successor, another organization that would continue the ship’s youth mission. She chose Sound Experience, a nonprofit founded by Barbara Wyatt and Morley Horder, whose program was modeled after the Sloop Clearwater and Pete Seeger’s mission to clean up the Hudson River in New York. Adventuress was the ideal on-the-water teaching platform for environmental stewardship and protection of Puget Sound.

For Generations to Come

Now an icon of the Salish Sea, Adventuress remains an authentic example of living maritime history. “Youth of all ages” can climb aboard, take the helm, and sail as they did 100 years ago. With a mission to educate, inspire, and empower an inclusive community to make a difference for the future of our marine environment, Adventuress hosts thousands each year. Under the careful stewardship of Sound Experience, Adventuress is poised to sail for generations to come.
The following are samples of some of the more popular sea shanties sung aboard the schooner Adventuress. These songs are used to help keep the rhythm while raising the sails - and we love students to sing along! You may select one of these songs to be the main shanty of your sail. Click here to find full shanties on our website.

**Haul Away Joe**
Oh listen while I sing to you about the good ship Nancy
Way haul away, we'll haul away Joe
Copper-bottomed, clipper-built, she's just me style and fancy
Way haul away, we'll haul away Joe

**CHORUS**
Way haul away, we'll haul away together
Way haul away, we'll haul away Joe
Way haul away, we'll haul for better weather
Way haul away, we'll haul away Joe

**Johnny Come Down to Hilo**
Never seen the like since I was born
An Arkansas farmer with his sea boots on
Johnny come down to Hilo, a poor old man

**CHORUS**
So it’s wake her - **Wake her!**
Shake her - **Shake her!**
**Wake that gal with her Carhartts on**
Johnny come down to Hilo, a poor old man

**Runnin' Down to Cuba**
Runnin’ down to Cuba for a hold full of sugar
Way me boys to Cuba
Make her run you lime juice squeezers
Runnin’ down to Cuba

**CHORUS**
Away me boys to Cuba
Make me run you lime juice squeezers
Runnin’ down to Cuba

**South Australia - Rolling Kings**
In South Australia I was born
**Heave away, haul away**
In South Australia, round Cape Horn
**We're bound for South Australia**

**CHORUS**
Haul away you rolling kings
Heave away, haul away
Haul away, you'll hear me sing
**We're bound for South Australia**
Cape Code Girls
Cape Cod girls ain't got no combs
Heave away, haul away
They comb their hair with codfish bones
And we're bound away for Australia

CHORUS
So heave her up me bully, bully boys
Heave away, haul away
We'll heave her up, why don't you make some noise
And we're bound away for Australia

Paddy Works on the Railway
In 18 hundred and 61
The American War had just begun
Put my corduroy britches on
For working on the railway

CHORUS
Fiddle me or ee or ee ay
Fiddle me or ee or ee ay
Fiddle me or ee or ee ay
Workin' on the railway
We are often asked what participants will do each day. Our experience has been that each trip and each day are different. Our program and schedule are often based on the winds, currents, and tides. We don’t plan a set itinerary because we find that it limits program possibilities and does not make the best use of a sailing vessel. Some days we may get up earlier in order to catch a tide or sail later in the evening to make use of a wind pattern. Schedules and routines are adjusted to take advantage of the weather. In general, though, our days resemble the following:

The Morning
Days begin with a morning wake-up call at 0700. Breakfast is around 0800. Each Watch will have a different morning chore assignment after breakfast. The different chores for the morning include preparing and cleaning up breakfast, cleaning below decks and topsides, and preparing the sails and deck.

The Day
During the day, you’ll spend most of your time with your Watch Group. Your Watch Leaders and other crew members will help you learn new sailing skills and share their knowledge of Puget Sound. You’ll be responsible for sailing the ship for a portion of the day and preparing and cleaning up one meal per day. You’ll prepare presentations and activities for the evening program. You will also have some free time each day for reading, naps, journaling, and other personal needs.

The Evening
When we get to our destination for the day, we drop anchor, tidy the ship, and eat dinner. Evenings are a time for the whole group to gather in the main cabin to share an evening program. The program may consist of songs, stories, or other group activities. “Lights out” is at 2200 and the ship is quiet all night. Each Watch is responsible for keeping an eye on the ship, with participants standing one-hour Anchor Watches with crew members—staying awake to make sure the ship is safe. This is a wonderful time to enjoy the peaceful beauty of a tall ship at anchor in Puget Sound: stars, sounds of night animals, and glowing plankton in the water. All Anchor Watches are led by a qualified Watch Leader who will assist you in taking readings of the ship’s positions.
This is a required form for students on overnight voyages, Sound Exploration programs. This is an example, the actual form will be located on CampBrain, our online registration program.

1. If I must leave the ship for any reason parent/guardians (for youth) will be responsible for picking me up at a designated port based on the ship’s location. Sound Experience will not be responsible for the additional cost of transportation.

2. No alcohol, illegal drugs, marijuana, or weapons are allowed on board the ship.

3. Smoking, vaping, or e-cigarettes are only allowed at the discretion and permission of the Captain.

4. All medications (prescription/non-prescription) must be given to the Program Coordinator or Group Leader upon arrival to the ship if youth are aboard. Adult participants or Parents/Guardians are responsible for any costs of refills that must be secured for the voyage.

5. Sound Experience expects that all participants will come prepared to put forth their best effort, try new activities, work as part of a group, and follow instructions, especially where safety is concerned.

6. During the program exclusive relationships are highly discouraged outside of married couples. Married and non-married couples should reserve any personal activity for off the boat to secure the community atmosphere and comfort of others in tight quarters with limited privacy.

7. Removal from the program for any of the above reasons will result in the forfeiture of tuition.