

WELCOME TO THE "CARRY ON, MR. BOWDITCH" OVERNIGHT PROGRAM

The Ocean Institute's maritime programs began in 1980 as an attempt to make history come alive for young people. The objective was simply to recreate, as nearly as possible, the life of a nineteenth century sailor. Ocean Institute instructors developed the characters based upon Richard Henry Dana, Jr.'s book, Two Years Before the Mast and used these characters to immerse participants in the harsh world Dana faced as he rounded Cape Horn on his voyage to Alta California. Authenticity served as the primary guideline.

As the program grew, instructors discovered they could use their characterizations to realize a spectrum of objectives beyond teaching history. They found that, as a nineteenth century "first mate," they could demand considerably more from a child than a twentieth century "instructor." They found that children restructured their viewpoint to accept greater challenges and to demand more of themselves. The experiential aspects of the program were emphasized with a number of interesting outcomes.

Teamwork became a necessity. Crews found that they had to work together; they had to cooperate if they were going to "survive." Crews needed guidance so mates were chosen and forced to develop leadership skills. Crewmembers learned to accept the guidance of one another as well as the ship's officers. A sense of peril was injected into the program, an ever-present possibility for failure that in eighteen hours transforms into an overwhelming sense of success.

In 2002, Ocean Institute added the "Carry On, Mister Mr. Bowditch" program to its course offerings. Focused on the American Revolution and based on the novel of the same name, this program involves students in the maritime history of a new nation. Students recreate an adventuresome two-year Mediterranean-bound trading voyage. In order to survive the turbulent life at sea, they must learn to navigate, defend and maintain their ship, trade in foreign ports, and handle the rigging and the sails. **Nothing has influenced the development of human civilization and culture more than maritime travels and thus, by presenting history aboard historic tallships, students gain a unique perspective and experience unattainable in any other setting.**

Through the roles they choose, the students relate the past to themselves. They consider how they can apply the lessons learned to the world of tomorrow. The emphasis is on experience—experience in search of understanding. As well as learning history, the program offers lessons in math, science, language arts, and much more. The curriculum is aligned with the California Content Standards.

In all, the Ocean Institute's maritime programs remain distinctive. We combine "living history", hard work, discipline, and fun in an adventure many children never forget. Aboard our ships, we hope to continue to grow as a place where students can challenge their minds and bodies, where they can discover their heritage and themselves.

If you have any questions about your visit to the Ocean Institute, please do not hesitate to contact our Maritime Director, Karin Vardaman, at 949-496-2274 ext. 218.

Again, welcome to the "Carry on Mr. Bowditch" Overnight Program. We are looking forward to your visit.

Sincerely,

Rick Baker
Vice President, Education

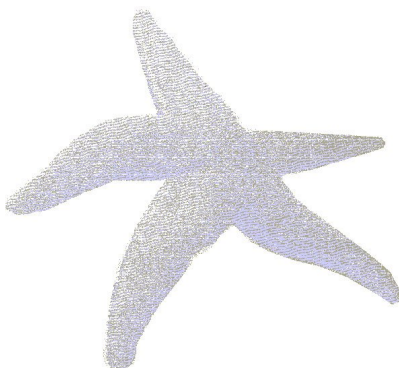
Saltwater produces nothing petty, nothing insignificant. The sea has always demanded from man his greatest courage, wisdom, ingenuity and honor.

~ Author Unknown

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A. ADMINISTRATIVE CHECKLIST

Immediately upon receiving this package...

- Carefully review the Teacher Preparation Package
- Arrange your transportation

Two months prior to your trip...

- Confirm student and adult numbers with the Ocean Institute

One month prior to your trip...

- Begin student preparation
- Assign students to crews
- Choose student mates
- Recruit your five safety officers
- Have parents write the "letters to the sailors"
- Distribute Medical Forms and Risk and Waiver Forms to parents

Two weeks prior to your trip...

- Mail program payment to the Ocean Institute—full payment must be received a minimum of 10 days before your program
- Collect Acknowledgement of Risk and Waiver and medical forms from each student and adult
- Contact parents to remind them to sign and return the Acknowledgement of Risk and Waiver and medical forms
- Fill out and sign the Acknowledgement of Risk and Waiver and Adult Medical Form for yourself

One week prior to your trip...

- Review behavioral expectations with students
- Review Clothing and Things to Bring List
- Meet with safety officers; go over the details of the program
- Contact the Ocean Institute with any last minute questions or changes
- Make nametags for all participants

24 hours to go!!!...

- Be sure all forms have been collected
- Please keep the Acknowledgement of Risk and Waiver separate from the medical forms
- Prepare nametags for students and adults

When you arrive for your program...

- Please attempt to arrive by 2:00p.m. This will allow time for check in, restroom use, snacks, shopping in the gift shop, pre-program safety officer meeting, and program staging.
- Unload the bus in front of the Ocean Education Center's Student Services Building
- Check in at the Student Services building with a final head count
- Safety officers will meet with the Gunner at 2:30 PM sharp to review their responsibilities
- Students may use the restroom facilities. Please limit use to seven girls and seven boys at a time
- If you plan on shopping in the Chambers Gift and Book Store, plan to arrive earlier. All shopping must be completed by 2:45 PM at which time, the supervising safety officer will lead the students to the dock for the crew muster, which begins promptly at 3:00 PM.



B. "CARRY ON, MISTER BOWDITCH" OVERNIGHT PROGRAM DESCRIPTION

During this overnight experience, students recreate a three-year Mediterranean-bound voyage aboard a tallship. Students sign on as sailors to escape the economic crisis of Revolutionary War era Salem. The year is 1796—eleven years after the Continental Navy was disbanded. With no protection provided by an American Navy or Coast Guard, American merchant vessels (the only source of major income for the US) must sail the globe to trade their goods. In order to survive life at sea, the crew must quickly learn how to navigate, defend and maintain their ship, trade with foreign ports, and handle the rigging and sails. Teamwork is a necessary component to make this a successful journey. The scenario is as follows:

It is time for you to strike out on your own, and you need to choose a line of work. While walking around town, you meet a sailor and are intrigued with his stories of foreign lands and adventure on the high seas. His merchant ship is leaving Salem, Massachusetts and heading for the Mediterranean to trade and sell cargo. The next thing you know, you are signing on as part of the new crew.

The people closest to you are worried about your safety. They have heard of tales of the Mediterranean—sailors captured by Barbary pirates, thrown in chains, and sold as slaves. Another problem rests with the 1500 different pirate rings that are waiting off the Eastern Seaboard to attack incoming and outgoing merchant vessels. To make matters even worse, an undeclared war with France has begun, and nearly 300 merchant ships have been captured by French privateers in the last year. To family and friends this spells Danger! But to you it sounds like great adventure—at least that is what you tell yourself...

Divide your students into five crews before you arrive for the program (See crew descriptions in this packet). Each crew has responsibilities during the program and participates in activities in the evening. The activities depend on the ship used for the program. **Each student participates in only those activities appropriate for their crew.**

- **Rowing the Long Boat**

Students learn the parts of a long boat and oar. Using the proper vocabulary, they work together to maneuver the long boat safely and efficiently.

- **Navigation**

Students learn about navigation through the use of equipment, including a compass and a basic chart.

- **Cargo**

Students man the ship's lines and load cargo on to the ship into the main hold.

- **Economics**

Students consider the economies of the areas to which they are traveling and decide what and where to sell cargo.

- **Defense**

Students learn the strategies and methods of rigging, loading, and firing the ship's cannon. They also learn to interpret information found in a variety of sources and apply it to their situation.

- **Line Handling**

Students learn the necessary line handling to move cargo.

- **Yard**

Students gain an understanding of the rigging aloft by practicing their skills upon the tops'l yard, furling and unfurling sail.

- **Bell Time**

Students use the bell to keep time onboard the ship.

C. LINKS TO CONTENT STANDARDS

Grade Four

History - Social Science Standards

- 4.1.1 Explain and use coordinate grid system of latitude and longitude to determine absolute locations.
- 4.1.2 Distinguish between the North and South poles; the equator and Prime Meridian; the tropics; and the hemispheres using coordinates to plot locations.

Analysis Skills (Grade K - Grade 5)

The intellectual skills noted below are to be learned through, and applied to, the content standards for kindergarten through grade five. They are to be assessed *only in conjunction* with the content standards in kindergarten through grade five.

In addition to the standards for kindergarten through grade five, students demonstrate the following intellectual, reasoning, reflection, and research skills:

Chronological and Spatial Thinking:

- 1. Students explain how the present is connected to the past, identifying similarities and differences between the two, and how some things change over time and some things stay the same.
- 2. Students use map and globe skills to determine the absolute locations of places and interpret information available through a map's or globe's legend, scale, and symbolic representations.

Research, Evidence, and Point of View:

- 1. Students pose relevant questions about events they encounter in historical documents, eyewitness accounts, oral histories, letters, diaries, artifacts, photographs, maps, artworks, and architecture.
- 2. Students distinguish fact from fiction by comparing documentary sources on historical figures and events with fictionalized characters and events.

Historical Interpretation

- 1. Students summarize the key events of the era they are studying and explain the historical contexts of those events.
- 2. Students identify and interpret the multiple causes and effects of historical events.

English-Language Arts Standards

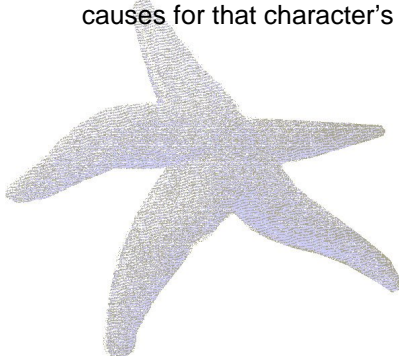
Literary Response and Analysis

Structural Features of Literature

- 3.1 Describe the structural differences of various forms of literature, including fantasies, fables, myths legends, and fairy tales.

Narrative Analysis of Grade-Level-Appropriate Text

- 3.2 Identify the main events of the plot, their causes, and the influence of each event on future actions.
- 3.3 Use knowledge of the situation and setting and of a character's traits and motivations to determine the causes for that character's actions.



Grade Five History - Social Science Standards

- 5.5.1 Students understand how political, religious, and economic ideas and interests brought about the Revolution.
- 5.5.3. Students understand the people and events associated with the drafting and signing of the Declaration of Independence and the document's significance, including the key political concepts it embodies, the origins of those concepts, and its role in severing ties with Great Britain.
- 5.6.2 Students describe the contributions of France and other nations and of individuals to the outcome of the Revolution.
- 5.6.3 Students understand the personal impact and economic hardship of war on families, problems of financing the war, wartime inflation, and laws against hoarding goods and materials and profiteering.
- 5.7.5 Students discuss the meaning of the American creed that calls on citizens to safeguard the liberty of individual Americans within a unified nation, to respect the rule of law, and to preserve the Constitution.

Analysis Skills (Grade K - Grade 5)

The intellectual skills noted below are to be learned through, and applied to, the content standards for kindergarten through grade five. They are to be assessed *only in conjunction* with the content standards in kindergarten through grade five.

In addition to the standards for kindergarten through grade five, students demonstrate the following intellectual, reasoning, reflection, and research skills:

Chronological and Spatial Thinking:

- 3. Students explain how the present is connected to the past, identifying similarities and differences between the two, and how some things change over time and some things stay the same.
- 4. Students use map and globe skills to determine the absolute locations of places and interpret information available through a map's or globe's legend, scale, and symbolic representations.

Research, Evidence, and Point of View:

- 3. Students pose relevant questions about events they encounter in historical documents, eyewitness accounts, oral histories, letters, diaries, artifacts, photographs, maps, artworks, and architecture.
- 4. Students distinguish fact from fiction by comparing documentary sources on historical figures and events with fictionalized characters and events.

Historical Interpretation

- 3. Students summarize the key events of the era they are studying and explain the historical contexts of those events.
- 4. Students identify and interpret the multiple causes and effects of historical events.

English-Language Arts Standards Literary Response and Analysis

Structural Features of Literature

- 3.1 Identify and analyze the characteristics of poetry, drama, fiction, and nonfiction and explain the appropriateness of the literary forms chosen by an author for a specific purpose.

Narrative Analysis of Grade-Level-Appropriate Text

- 3.2 Identify the main problem or conflict of the plot and explain how it is resolved.
- 3.3 Contrast the actions, motives (e.g., loyalty, selfishness, conscientiousness), and the appearances of characters in a work of fiction and discuss the importance of the contrasts to the plot or theme.

D. ADMINISTRATIVE INFORMATION AND PREPARATION

ADMINISTRATIVE CONTACT

For questions regarding scheduling, contracts and payment, please contact

Rachel Gomez, Program Reservation Coordinator
Telephone Number: (949) 496 – 2274, extension 211
E-mail: rgomez@ocean-institute.org

For program related questions regarding the "Carry-on Mr. Bowditch" Overnight, please contact

Sarah Burgart, Maritime Coordinator
Telephone Number: (949) 496-2274, extension 217
E-mail: sburgart@ocean-institute.org

INTRODUCTION

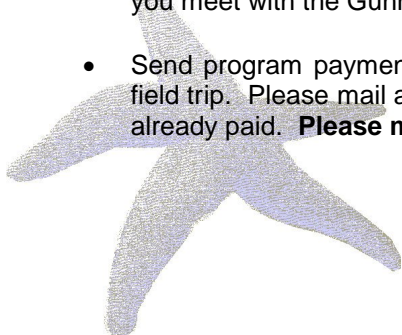
Thank you for choosing the Ocean Institute as your field trip destination. We appreciate the time and effort it takes to prepare your students for their program, and we will do everything we can to make their experience as rewarding as possible.

Please make sure that all of the participating teachers have a copy of these teacher materials. The information contained here can help you find answers to your questions, develop your preparation timeline, and prepare both your students and safety officers. This packet also contains directions to the Ocean Institute as well as contact phone numbers—please call us at any time with any questions you may have about your field trip.

TEACHER INFORMATION: BEFORE YOUR PROGRAM

You can do several things before you arrive to help make your program run as smoothly as possible:

- Review the program goals, activities, and expected behaviors with the students before you arrive. Complete the classroom activities with your students, and make sure they have a clear understanding of the educational concepts they will explore during the program.
- Spend some time choosing and preparing your safety officers. It is vital that the safety officers are prepared for the program. Review the program goals, station activities, and expected student behaviors with them before you arrive. Make sure that they have a clear understanding of their role as a safety officer.
- Have a signed Acknowledgement of Risk and Waiver and signed medical forms for each student and safety officer before boarding the bus.
- Notify the Ocean Institute staff of students with any special health or behavioral considerations when you meet with the Gunner prior to the program.
- Send program payment to the Ocean Institute at least 10 days before the scheduled date of your field trip. Please mail a single check for the total amount of the program minus the deposit you have already paid. **Please make checks payable to Ocean Institute.**



TEACHER INFORMATION: DURING YOUR PROGRAM

Ocean Institute instructors are all well trained to work with students of different ages and abilities. Both you and the safety officers can help the instructor to monitor student behavior and safety. There are several things that you can do to help facilitate the smooth running of your educational program:

- Work cooperatively with Ocean Institute instructors and your safety officers to manage students during the program.
- Work cooperatively with Ocean Institute instructors and your safety officers to solve student and safety officer management problems.
- Report any problems (including facilities and management) to the Ocean Institute staff as soon as possible.

RECRUITMENT OF SAFETY OFFICERS

A minimum of five adults (maximum of seven), including the teacher, is to accompany the participants on their voyage. Each adult will be assigned to a crew, and each crew must have a safety officer. The safety officers will be responsible for keeping an eye out for potential safety problems and assist in keeping discipline. No more than one adult should be taking pictures or video, as this then becomes a distraction. All adults should be prepared to participate in every aspect of the program, including role-playing and taking orders from the student mates. We strongly recommend that you begin the recruitment of the safety officers early.

Please note that it is vital that your safety officers be prepared for this program. Take time to provide them with copies of the resource materials. Make sure they understand the nature and scenario of the program. We cannot stress enough that the attitude of the adults influences the success of the voyage. Each safety officer will stand a minimum two-hour night watch with the crew to which he/she has been assigned.

Your safety officers need to understand the following rules:

- No late arrivals or early departures. The safety officers must be able to make the full commitment for the entire program—from 2:30 PM until 9:00 AM
- Absolutely no cell phones or pagers allowed
- No smoking allowed onboard, on the dock, or on Ocean Institute property
- Safety officers will be assigned to a different crew than their child
- Safety officers will not be permitted to leave the vessel to smoke, make phone calls, or for any other reason. Safety officers must remain with their assigned crew unless given orders by a ship's officer. Should a safety officer absolutely need to leave his/her crew, he/she should inform a ship's officer

Safety is our primary concern. To assure your safety officers, you may want to inform them of the following:

- Our instructors are certified in CPR and first aid
- We do have a phone onboard to make outgoing calls should an emergency arise
- We follow all Fire Marshal, Health Department, and United States Coast Guard regulations

LETTERS TO THE SAILORS FOR THE "CARRY ON, MR. BOWDITCH" PROGRAM

During the evening "Dog Watch," the Captain will take the entire crew below decks, where he will share nautical lore, sing sea shanties, and discuss the history of the times. The "letters to the sailors" are a great introduction to this activity. These letters are a very important aspect of the program and greatly enhance this "Dog Watch" time.

Encourage the parents to write letters to their children as if they were living in the year 1796. Secretly bring them the day of the program and hand them to the Gunner. Imagine the amazement of the sailors when the Captain gives them their letter telling them of life back home on the farm or in Salem.

These letters should incorporate news items of the times so that the students can build upon the lessons they have learned (as well as provide some entertainment). The Captain will use the letters to begin a discussion of history.

Please make sure the parents understand that the letters should not refer to or reflect modern times. The year is 1796, and the students have signed aboard a merchant ship for a job as a sailor. Remember that the sailors have been away from home for one year. Tell the parents that they are writing from back east—either from their farm or from their humble dwelling in the city. They can write about life on the farm or the difficult times in the city, what is happening in the world, or exciting new inventions. The letters can be from the "parents," "children," "wife," "suitor," "friend," or whomever, but should attempt to recreate the atmosphere of the times.

Remind the parents that their children are sailing at a time when America was struggling to gain the respect of the world after gaining independence. There were also no child labor laws; the age of 10 was normal for children to go to sea!

Also remember:

- Women do not have the right to vote.
- There are no women aboard sailing ships.
- Only wealthy families send children to school past the third grade; most children are forced to work from the age of 10.
- A sailor's life is arduous, and captains are often cruel.

UNITED STATES HISTORIC REVIEW 1789-1804

SYNOPSIS

After the Revolution, America is relying heavily on trade to provide goods for the fledgling country. Without the protection of the British Navy, merchant vessels dangerously ply their trade throughout the East Indies and the Mediterranean without any naval protection. Salem merchants, such as Elias Hasket Derby, boldly send their ships off to distant ports and help New England pull out of its depression. These first "venture capitalists," eventually make Salem one of the richest cities in United States and themselves the first millionaires in the country.

Following the French Revolution, France becomes embroiled in another war with England. Although America and France had promised after the American Revolution to ally with each other in the event of a war with England, President Washington instead declares neutrality. Given that the young country is struggling with its first national debt, and has no navy, it is not in the position to wage war on the high seas against the British Navy, the greatest naval force in the world.

England, whose ships have been attacking Americans and impressing men into service, sign a treaty with the United States (Jay's Treaty) in 1795, forcing the British to evacuate western forts and granting trade

rights with British possessions in India and the Caribbean. As American ships begin to trade with England, French Privateers harass them. Despite the treaty with America, England continues to impress merchant sailors.

The Barbary pirates from Algiers are assailing American ships as well, confiscating cargo, and selling the men into slavery. In 1796, the United States and Algiers sign the *Treaty of Algiers* in hopes of stopping the assaults and Congress responds by halting the construction of six frigates, including *USS Constitution*. With no fear of reprisal, the Barbary Pirates resume their attacks against American vessels.

In 1798, President Adams sends an envoy to negotiate with France, but when news gets out that three French delegates have attempted to bribe the Americans, scandal erupts. Later known as "The XYZ Affair," it sparks a wave of American Nationalism against the French, concluding in an undeclared war referred to as, the *Quasi-War*.

At this time, the bloody triangle trade supported a large part of the American economy. Ships transported manufactured goods from New England to the coast of Africa and there, traded for slaves. The dreaded middle passage brought these slaves into abominable conditions and squalor and to near certain death on the plantations of the Caribbean Islands. Sugar and molasses from the West Indies were the cargo for the last leg of the voyage. Quaker ship owners like Elias Derby would have no part in this immoral trade, and chose to partake in voyages bound to farther, more dangerous ports such as to the East Indies and the Mediterranean.

POINTS TO KEEP IN MIND

Although not represented well in the California School Curriculum, this period in American history is both dynamic and far reaching in its significance. America is on the precipice of war with the two greatest powers in Europe; Great Britain and France, and by 1812, will have gone to war or been in undeclared wars with all the antagonists mentioned in the program. Other notable facts:

- *USS Constitution*, the oldest and most famous Navy vessel in America, launches and faces in battle the Barbary Pirates and French in the Mediterranean, and the English during the War of 1812.
- The US Marine Corp Hymn, with the verse "... to the shores of Tripoli," will be written which refers to the First Barbary War.
- General Napoleon Bonaparte is laying siege to Italy and Egypt in 1796, and will soon seek to conquer Europe as the Emperor of France in 1804.

Bringing this history to life is both educational and exciting for the students, and interesting and fulfilling for the instructor. All facets of the program including navigation, defense of the ship, and the concept of supply and demand must be well integrated into the historical aspects. The students should never lose sight of the fact that the ship they are on is a "merchant vessel" on a peaceful, albeit dangerous, trading voyage to the Mediterranean.

UNITED STATES HISTORIC REVIEW 1789-1804

This time line has been included to use as a resource for Dog Watch and general program reference. The Captain can discuss some of the current events with the students. This will not only add to the illusion of the voyage actually taking place between the end of 1796 and the beginning of 1800, but also provide a chance for the students to reinforce the history they have learned in class.

1789

- ❖ George Washington is elected first President of United States and John Adams Vice-President.
- ❖ James Madison introduces the Bill of Rights to the United States Congress. The first ten amendments of the Constitution include the right to a speedy and public trial by jury, freedom of speech and religion, and a state's right to make its own laws.
- ❖ The French Revolution begins

1790

- ❖ Alexander Hamilton establishes the Revenue Marines, later called the Revenue Cutter Service, and a predecessor to the US Coast Guard. Charged with enforcing the customs laws of the new nation it is the only naval force subsequent to the Revolutionary War.

1791

- ❖ The Bill of Rights is ratified by three-fourths of the States.
- ❖ Barbary Pirates attack several American merchant ships capturing and holding crews for ransom! Congress takes years to decide what to do.

1792

- ❖ The United States Postal Service is established.
- ❖ The United States Mint is established.

1793

- ❖ George Washington is sworn in as President for a 2nd term.
- ❖ King Louis XVI of France is executed.
- ❖ Great Britain, a monarchy, is fearful that France's revolution will foment uprisings in their own country, and declares war on France.
- ❖ President Washington declares neutrality.
- ❖ Algerian pirates capture 12 American merchant ships in the Atlantic
- ❖ Eli Whitney invents the cotton gin thereby reviving the institution of slavery.

1794

- ❖ Washington signs "an act to provide a naval armament," authorizing the construction of six frigates in response to the continuous and increasing attacks by the "Barbary pirate" states of Morocco, Algiers, Tunis, and Tripoli, as well as from aggressive practices of the British, against American merchant vessels.

1795

- ❖ Nathaniel Bowditch sets to sea for the first time
- ❖ *Jay's Treaty* is signed, averting war with England, and granting trade rights with British possessions in India and the Caribbean, which encourages trade. The treaty does not address the issue of Britain impressing American citizens.
- ❖ French Privateers, responding to the perceived alliance between England and America, begin harassing American ships with British cargo.

****Anything after this point occurs while you are at sea!!!**

1796

- ❖ The *Treaty of Tripoli*, a treaty between the United States and Algiers, is signed. In response, Congress halts the construction of the six frigates. George Washington chides Congress for such waste, as construction of the ships has already begun.
- ❖ Thomas Jefferson, a Democratic-Republican, speaks out against the establishment of a Navy suggesting that it could provoke a war with the European powers and is too costly.
- ❖ Napoleon invades and occupies Livorno, Italy with the intention of ruining the port's chances of competing with Marseilles (France), and seizing the wealth belonging to the British community in the city.
- ❖ John Adams wins the election for second President of the United States. Thomas Jefferson is elected Vice-President.
- ❖ Tennessee becomes the 16th state admitted into the Union.

1797

- ❖ John Adams, a Federalist, and strong proponent of a National Navy, is sworn in as the second President of the United States. He pushes through an act to complete the building of six frigates, including *USS Constitution*.
- ❖ Great Britain asks the Portuguese Navy who guard the Mediterranean Sea, to stand down. This allows pirates to attack American merchant ships that are carrying cargo to Great Britain's enemies.

1798

- ❖ *The XYZ Affair* sparks a wave of American nationalism against France.
- ❖ The United States is now in an undeclared Naval War with France referred to as, *The Quasi-War*.
- ❖ The Department of the Navy is established

1800

- ❖ The Barbary Pirates (Algeria) are attacking American merchant ships again.
- ❖ Washington, D.C. becomes the official capital of the United States.

1801

- ❖ Algiers declares war on the United States after President Jefferson refuses to send "tribute" money. The First Barbary War between America and the Barbary States begins.

1802

- ❖ Nathaniel Bowditch publishes *The New American Practical Navigator*, which incorporates his simplified formulas for determining longitude. The "Bowditch" becomes the seaman's bible.

1804

- ❖ Napoleon declares himself Emperor of France.

SAMPLE LETTER

My Dearest _____.

We hope this letter finds you well. We are sending this letter via the new Postal Service, I hope it reaches you! Your oldest brother John has started working in a new steam factory on the river, while your bother Sam is preparing for college at Harvard. He is only one of five students from Salem that has gained a scholarship to that school. We are proud of all our sons!

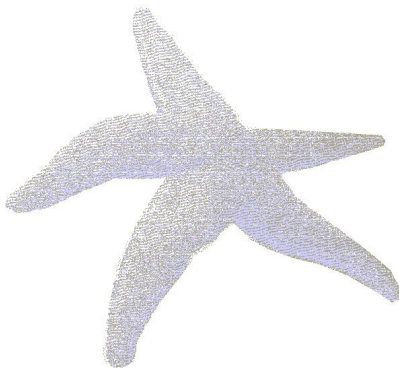
Your wife Jenny is doing well but we are all terribly worried about your safety. Since you shipped off on your trip to the Mediterranean, we have heard shocking news. Three more ships from Salem have been reported taken by French privateers. Every now and then, crewmembers return home on other ships and are destitute since their ships and cargo have been stolen from them—all this because America will not side with the French in their war with England. I know that the French helped us in our Revolution, but they must understand that we cannot get involved in another war! We must concentrate our efforts upon building our economy and our country. I have some good news: a treaty has been made with the Barbary pirates of Algeria. I don't trust them at all, but at least they have promised not to attack any more ships!

John Adams has just been elected President. He says we must build a navy to protect our merchant ships, but Congress doesn't want to spend the money. The longer the government argues, the worse things get. These are troubling times for our young nation, and I fear that our economy shall continue to fail if these horrible acts against American merchant ships continue.

But I am sorry to trouble you with our worries. Here at home we are hearing greater news of our country's expansion. Settlers are moving into Ohio, I shall save the papers for you.

Everyone misses you and we hope to see you return safely and soon.

Love,



PAYMENT

Payment must be received 10 days before your program date. Please mail a single check for the total amount of the program minus the deposit you have already paid. **Please make checks payable to Ocean Institute.**

FINAL COUNT

Call the Ocean Institute at (949) 496-2274, extension 0 two days before your program if the number of students or adults changes. When you arrive at the Ocean Institute for your program, you must have an accurate count of total students and adults participating in the program. If the number of participants listed on your Program Agreement is not accurate, call the Ocean Institute immediately.

STUDENT AID

The Ocean Institute maintains a student aid fund for students who are unable to obtain sufficient funding to attend the program. Please call (949) 496-2274, extension 0 for more information and to receive the necessary forms for student aid.

TRANSPORTATION

Student transportation should be arranged well in advance. It is important that you arrive on time. Please schedule yourself to arrive at least 45 minutes before your scheduled program start time. If you arrive late, your program time may need to be shortened.

Buses can unload in front of the Student Services building. After the students have unloaded, the drivers will be notified of where to park the buses.

NO LATE ARRIVAL / EARLY DEPARTURE

Please note that neither students nor adults will be allowed on board the *Pilgrim* or the *Spirit of Dana Point* after the start of the program. All participants must be in attendance from the initial muster at 3:00 PM. To ensure the safety and integrity of the program there will be NO EXCEPTIONS to this rule. Group leaders, please make sure all of your participants understand that they are committed to stay for the entire program. If any adult or child cannot stay for the whole program, they will not be able to participate.

NAMETAGS

Each student must wear a sturdy nametag throughout the voyage. The tag should have only the student's last name and the crew to which he/she belongs. If he/she is a mate, remember to put a "Mr." before his/her name. Adults should also have name tags, with S.O.(safety officer) and their last name.

For the student's safety, the nametag should attach to the clothing and not hang around the student's neck, as the tag could become entangled with a line the student is using.

ENSIGN

It is not required, but some crews like to prepare their own class ensign or flag to be flown along with the Captain's personal flag and the American flag. The ensign should be about the size of a pillowcase with two one-inch grommets on the left corners.

DITTY BOX FOR THE "CARRY ON, MR. BOWDITCH" PROGRAM

For more extensive assistance in preparing your crew, an optional "ditty box" is available for \$35.00 for two weeks or \$60.00 for four weeks. The ditty box contains additional material and equipment to help familiarize participants with program concepts and activities. The ditty box includes lesson plans, 30 copies of Carry On, Mr. Bowditch, a CD of sailor sea shanties with lyrics, knot tying lines and knot board, sailing DVD, mini block and tackle system, and bell with stand for practicing bell time. We can mail boxes to your school for an additional cost of \$25.00 shipping/handling. The box must be returned when you check in for your program.

Reservations are accepted via fax only. Please use the form provided in the Teacher Information Packet. Availability is limited, so please reserve your ditty box well in advance.

FORMS

Please make sure to have all the completed forms with you upon arrival for your program.

Medical Forms

You must have a completed and signed medical form for each student and adult (including the teacher) participating in the program. In order for a child to receive any prescription or non-prescription medication during the program, the Administration of Medication form must be completed and signed by the parent or guardian and the child's physician.

Acknowledgement of Risk and Waiver

Each student must have this form signed by a parent or guardian to participate in the programs. Please make sure that you have one signed form for each student, adult safety officer, and teacher when you check in with the Ocean Institute staff. Please keep these forms separate from the medical forms when you give them to the Ocean Institute staff. **Participants without a signed form will not be permitted to participate.**

Crew Forms

Your class must be divided into five crews before your arrival. We have provided a Crew Form to help you. Please bring the form with you and hand it over to the First Mate before the program begins.

STUDENT PREPARATION

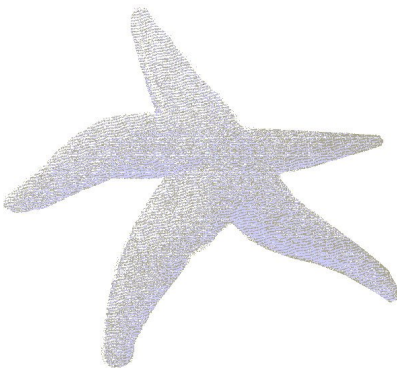
We have found that the more familiar the students are with program concepts and content before they arrive, the more they will benefit from and enjoy their experience. We have included background information and classroom activities to introduce important concepts to your students before they arrive for their program.

SNACK

The students will not eat until 7:15 PM. Due to the nature of the program, which requires a lot of energy from the "crew," we strongly recommend that they be served a simple snack upon arrival at the Ocean Institute before the start of the program. Please arrive at the Ocean Institute no later than 2:15 PM.

Some ideas for the snack are:

- granola bars
- cheese and crackers
- fruit and beef jerky ("salt beef")
- boxed juice



LAURENA G. CHAMBERS GALLERY BOOK AND GIFT STORE

Chambers Gallery Book and Gift Store is a fun and unique non-profit museum store open daily from 9:00 AM to 5:00 PM and definitely worth the visit. The revenue is directed toward lowering tuition for schools that participate in Ocean Institute programs.

To help accommodate all of the schools that would like to shop each day, please have one teacher from your school check-in with a store staff member before your students begin shopping.

There will be a limit on the number of students allowed to shop at one time and we encourage you to organize them so that they all have time to enjoy the shop. Please have one or two adults in the store to help supervise your students. We ask that all food, drink, and backpacks be left outside with a friend while they are shopping. Teachers receive a 15% discount in the shop if members of the Teachers Club and 10% normally.

Please remind your students that sales tax will be added to their items.

In order to ensure a positive experience, we recommend the following:

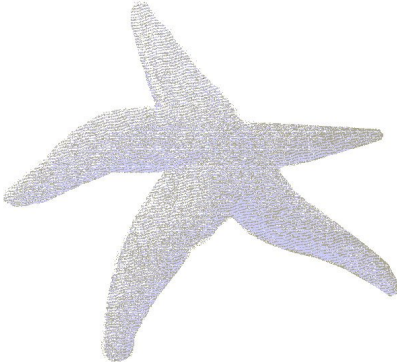
1. Plan to arrive early so that the students have sufficient time to shop. All shopping must be completed by 2:45 p.m., at which time the supervising safety officer will lead the students to the dock for the crew muster, which begins at 3:00 p.m.
2. All purchases should be stowed safely away in the participants' gear and must not be taken out or seen for the entirety of the program or they will instantly become the First Mate's property!
3. Please allow only one crew in *Chambers Gallery* Book and Gift Store at a time. Remaining crews should be finishing their snack outside in a manner that does not interfere with traffic in and out of the building.
4. Please fax a group order form to the *Chambers Gallery* Manager for any large orders, such as 30 T-shirts, 30 patches or books, etc. Please make sure to include your phone number so we can contact you about your order. Orders are required at least 6 weeks in advance to assure availability. Group order forms are included in the Required Forms packet. The fax number for the store is (949) 496-4296.

MARITIME OVERNIGHT SOUVENIR T-SHIRT

Your students can take home more than just knowledge and memories from their Ocean Institute adventure! Both *Pilgrim* and *Spirit of Dana Point* t-shirts are available for both students and adults. This comfortable t-shirt features the ship logo and is *only* available to participants who have completed the program.

Group and individual order forms are included in the Required Forms packet, available on the Ocean Institute website. If you would like to place an order for your school, please combine all individual orders onto one Group Order Form (individual checks are okay!) and fax it to (949) 496-4296. All orders must be received at least six weeks in advance of your program date.

If you have any questions, please contact the *Laurena G. Chambers Gallery* Book and Gift store at (949) 496-2274.



DIRECTIONS TO THE OCEAN INSTITUTE

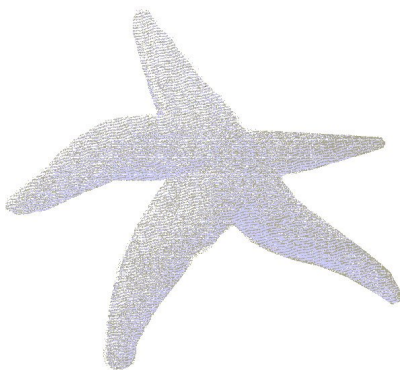
The address of Ocean Institute:
24200 Dana Point Harbor Drive
Dana Point, CA 92629
(949) 496-2274

Directions from Los Angeles:

- Travel south on Interstate 5
- Exit on the Pacific Coast Highway Exit
- Stay in the right lane of the exit ramp and go north on P.C.H.
- Turn left onto Dana Point Harbor Drive
- The road ends in the Ocean Institute parking lot

Directions from San Diego:

- Travel north on Interstate 5
- Exit on the Beach Cities Exit
- Stay in the left lane of the ramp and go north on P.C.H.
- Turn left onto Dana Point Harbor Drive
- The road ends in the Ocean Institute parking lot



E. STUDENT PREPARATION

Preparing your students for this program is extremely important. We want the students to have fun as they learn, but they must understand that their tasks are not always easy. They need to know that they will be expected to work hard, work together, and listen to and follow orders. They must understand that the success of their voyage depends on them—their attitude, their willingness to take this adventure seriously, and their willingness to learn. You, as the leader, should take the time to prepare them using the following materials. The better the students are prepared, the more they—and you—will gain from the program. Please take advantage of the instructions, resource materials, and information provided in this package.

ACADEMIC PREPARATION

The students need to know the objectives voyage. Be sure they have a solid understanding of the program's scenario. We highly recommend that your students read Carry On, Mr. Bowditch.

CREWS

Divide your class/group into five "crews." Many of the activities aboard the tallship are designed as group problem solving exercises. Each of the groups, or crews, has a specific purpose on board. The crews are the *Galley*, *Navigation*, *Boatswain*, *Super Cargo*, and *Gunnery* (see crew descriptions in this section). Each crew must have a student mate who is in charge of that particular crew. Choose a mate any way you wish, but try to select a child who is capable of withstanding the added demands of leadership. Each mate is responsible for relaying orders and making certain that his/her crew is safe and working hard at all times. The ship officers will be guiding these mates. Each one of the crews will have a safety officer. The Mate is also responsible for his/her adult safety officer.

ROLE-PLAY

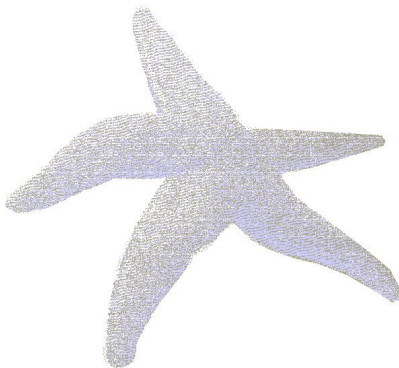
The students need to thoroughly understand the concept of role-playing. The students should know that they are pretending to be sailors in the past.

From the moment the Gunner musters the crew on shore, the students are expected to participate in the role-play for the entirety of the voyage. Our staff are also pretending, and they take their characterizations very seriously!

SAFETY CONSIDERATIONS

We will teach you all you need to know upon your arrival. Wear rubber-soled shoes and long pants. Stay out of the rigging, do as you are told, stay away from the rails, do not run, and do not leave the ship. Most dangers aboard will become readily apparent once the program has begun. For anyone who does not see them, the officers will enthusiastically point them out.

Should an emergency arise, please remain calm. All of our staff are certified in First Aid and CPR and have been trained to handle emergencies. Additionally, the ship has excellent communication equipment and help is only a few minutes away.



THE CAST OF CHARACTERS

The Captain

The Captain is the master of the ship and the crew. Possessing a calm head and ability for handling any situation, he is not above teaching his crew everything he knows about sailing. He has even been known to teach his officers the latest math, navigation, and fighting tactics—skills that his officers will teach their men as well.

Gunner

The Gunner is the first mate, second in command and sailing master. He is the chief disciplinarian and expects nothing less than perfection in the work of the crew. The gunner is the only sailor onboard experienced in battle and defense.

Navigation Officer

The Navigator is the second mate, third in command and in charge of the accurate and safe navigation of the ship. Being a naturally curious man, he is extremely intelligent and questions everything around him. He strives to be a patient teacher and believes that every man is capable of learning. Although he has spent his life around harbors, wharves and small coastal sailing vessels, he is a stranger to the great ocean and long deep-water voyages.

Cook

Although he had no formal education (like the captain or navigator), the cook is a wise man. He has traveled all over the world as a ship's cook and has stories of battles, pirates, and the dangers of the Mediterranean. He is as willing to share what he knows as he is to learn.

VOCABULARY

The students should know the following nautical vocabulary before they arrive:

AVAST:	Stop
AYE:	Yes
CARRY-ON:	Get started. Students will often be given a series of orders; they must wait for the command "carry-on" before they begin
AYE, AYE:	Yes, I understand and yes, I will carry out your orders
SIR:	The Captain. Always call the Captain <i>Sir</i> (and nobody else)

CREW DESCRIPTIONS

Galley Crew: Responsible for the preparation of meals and running the galley. Activities include: Cooking, cleaning, attending to the captain and officers, organizing food distribution, story telling, and some sail handling.

Boatswains: Responsible for maintenance and organization on the ship. Activities include: Keeping ship's bell time, rigging blocks and tackle and moving cargo, handling of ship's sails.

Navigators: Responsible for safely navigating the ship from port to port. Activities include: Rigging blocks and tackle and moving cargo, basic navigation by dead reckoning, and rowing while using the compass and sounding with the lead-line.

Supercargo Crew: Responsible for trading the ship's cargo and yielding the largest possible profit for the captain and crew. Activities include: Rowing in longboat, moving and loading cargo, and calculating profits and potentials according to the laws of economics. Students who appreciate mathematical challenges will benefit the most from this crew.

Gunner Crew: Responsible for the ship's defense and communications. Activities include: Gunnery drills, ship's ceremonies, rowing and reconnaissance, moving cargo, monitoring threats and interpretation of Intelligence.

Please note that the Captain reserves the right to change any crew's jobs as he sees fit.

F. RESOURCE MATERIALS

PROGRAM BACKGROUND: NATHANIAL BOWDITCH, AMERICA'S NATIVE SON...

The history of the Salem...the history of maritime science...the history of education...the history of mathematics and finance...the history of modern capital development. None can be told completely without the history of Nathaniel Bowditch. If Nathaniel Bowditch can be described as a "contribution" from the City of Salem, this is indeed a contribution of global proportions, and a source of great pride for Salem.

Salem's Stellar Scientist, Nathaniel Bowditch, An Appreciation. Mildred Berman

His fame is of the most durable kind, resting on the union of the highest genius with the most practical talents, and the application of both to the good of his fellow man."

The Boston Athenaeum 1838

Born into a family of Salem seafarers in 1773, Nathaniel Bowditch rose from humble chandlery apprentice to successful captain, businessman, and author of the maritime masterpiece The New American Practical Navigator. Bowditch was the quintessential example of the American self-made man studying and mastering Newton's *Principia*, advanced mathematics, and astronomy. Recognized with membership in effectively every international scientific society of the age, his monumental book gave the young United States credibility in the worldwide scientific community.

Nat Bowditch attended school up until the age of ten when his father's business collapsed. In 1785 Bowditch became an apprentice clerk in the ship's chandler shop of *Hodges and Ropes*, which dealt in provisions and supplies for ships. At the age of seventeen, he began working as a clerk for Samuel Ward and acquired access to Kirwan's library. Richard Kirwan, the creator of the library, was an Irish chemist who compiled his own writings and those of other scientists into a collection bound for England. Intercepted by an American Privateer the library settled in Salem where it became available to Bowditch.

Twelve years after the Revolutionary War, and no longer an indentured servant, Bowditch went to sea as a clerk in 1795. He made four sea voyages between 1795 and 1802 and on his last commanded his own ship, **Putnam**. He was one of the first officers of a merchant vessel to train the common sailors the arts of math, reading, and navigation, coining the phrase, "It's a simple matter of mathematics."

While at sea Bowditch became fascinated with the mathematical tables and charts involved in celestial navigation. Finding extensive mistakes in John Hamilton Moore's original tables, he worked to rearrange and expand the information. Bowditch greatly enjoyed carry out complex mathematical computations and so the task of correcting Moore's work was never tedious. He initially published the first American edition of Moore's Practical Navigator in 1799, but after detecting over 8,000 mistakes, made the decision to rewrite the book under his own name. Resolving to "put down in the book nothing I can't teach the crew," the first edition of Bowditch's The New American Practical Navigator, was published in 1802. Referred to as the "Bowditch," the book became the common seaman's bible. It is so detailed and exact that master mariners still use it today.

Setting out from Salem, American merchant ships traveled to nearly every harbor in the world and the house flags of its merchants flew at ports in Europe, the Mediterranean, and Canada. Its most extensive trade was around the Cape of Good Hope to the Far East and the Indies. Salem merchants acted as market speculators, rather than the suppliers of life's necessities. Primarily in the business of making money at the lowest risk, for the highest profit, ships would leave with a cargo of commodities that were common in America such as dried cod, lumber, tobacco, or cotton. They returned a couple of years later having "traded up" for luxury goods such as silk, tea, and soap that were expensive in America.

The economy of early America was dependent upon foreign trade, but merchants and sailors faced many obstacles. The French, still angry at America’s lack of assistance in their continuing war with England, allowed their privateers to plunder defenseless American ships. The Algerian states of North Africa attacked and held for ransom American merchant vessels as well. Lastly, British war ships habitually stopped and boarded American merchant ships, impressing the crew who were deemed deserters of the “British Navy.” These predators acted with impunity and without fear as America did not yet have a navy to protect its shipping lanes. While Congress argued over the need for an expensive navy, more and more ships failed to reach port in these trying times.

The men who sailed from Salem Harbor favored smaller, seaworthy ships, which were faster and more maneuverable. The crews were small, usually fewer than twenty, and young; it was not uncommon for a man barely in his twenties to be master of a ship. Good luck and clever investments allowed some captains to retire at a young age, but only if they could overcome the risks and hazards of maritime trade. Many reckless or ill-fated seamen did not return, having died from disease, accidents, pirates, or storms. The sailors knew that they absolutely had to work together and communicate in order to survive. On board the ship, students face many of the same challenges confronted by Nathaniel Bowditch and the men before him. Through these shipboard activities, students will gain important skills in problem solving, responsibility, communication and teamwork. They will learn that they must pull together in order to accomplish a common goal.

HISTORY OF THE BRIG *PILGRIM*

One by one the few remaining sailing ships are disappearing. They drop away, and are heard of no more. With them goes much that is worthy and incalculable. It passes like a high squall sinking beyond the horizon, wind and sea, motion and color, romance and inspiration, a whole range of human endeavor, all vanishing to leeward with the tall ships in their midst. . . The sailing ship stood for a means whereby men were brought to their fullest development. She stood for a profession in which only merit could endure. She stood for things the world cannot afford to lose.

Master Mariner, Lincoln Colcord

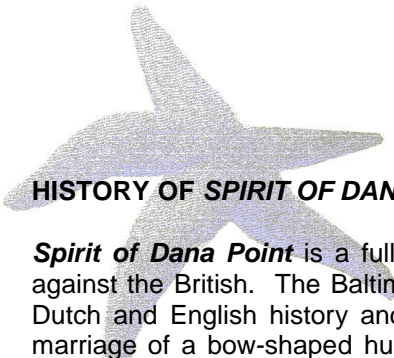
Pilgrim is a full size replica of the hide brig immortalized by Richard Henry Dana, Jr. in his American seafaring classic novel Two Years Before the Mast. Dana said of *Pilgrim*, "The vessel I am going on is small, but strong and a remarkably fast sailor having been built for the smuggling trade."

The original *Pilgrim* was built in 1825 at a cost of \$50,000. Her length was a mere 90 feet compared to the average 110 feet for other vessels of the same class. The purpose of its 1834 voyage was to participate in the California cattle hide trade for her Boston owners, Bryant and Sturgis. It is not known in what other trades *Pilgrim* engaged after her voyage to Alta California, Mexico. However, it is recorded that she was lost in a fire at sea in 1856. By this time the hide trade had also suffered its demise.

Length of Deck:	98'
Beam:	24.6'
Mainmast Height:	98'
Net Tonnage:	64
Built:	1945, Denmark

HISTORY OF *SPIRIT OF DANA POINT*

Spirit of Dana Point is a full size replica of a Baltimore Clipper schooner once used as a patrol vessel against the British. The Baltimore Clipper was a hull design that developed over several hundred years of Dutch and English history and culminated around the 1760’s in and around the waters of Virginia. The marriage of a bow-shaped hull, a heart-shaped midsection, short keel, and a raking stern, along with the



large schooner-style fore and aft sail rig and one or two square top-sails, provided for one of the fastest ships of the era.

Due to the narrowness of the hull, cargo space was limited, yet as a Letter of Marque, naval support craft, coast-guard cutter, or exploratory vessel, the Baltimore Clipper was prime. The first vessels ordered by George Washington at the start of the Revolutionary War were clipper schooners, and privateer schooners of this design were easily found and commissioned into the Continental Navy when extra vessels were needed.

Between the Revolutionary War and the War of 1812, there were a number of small conflicts that required U.S. naval presence. These conflicts centered around the suppression of pirates along the Gulf of Mexico, the removal of the threat on merchant shipping from the Barbary pirates in the West Indies, and the protection of U.S. merchants from the French and British, who were unreliable allies at best. In all of these conflicts, Baltimore schooners were employed for service to supplement the few frigates capable for action.

After the conflicts were resolved, the navy typically sold the schooners to merchants where they carried nearly 9/10th of all American foreign borne trade. Most trade was with China and the Indies for products such as spices, rare cloths, slaves, and opium. These exotic, and sometimes illegal goods, were suited for the small cargo capacity of the clipper schooner, since they resulted in a high payoff. When it was time for the US government to enforce laws against the slave and opium trade, it was the Baltimore Clippers that were employed by the Revenue Service, since it took a fast ship to catch a fast ship.

Although the Baltimore Clipper schooner design was replaced by larger clipper ships, brigs, and barques for the larger cargo capacities, the navy, smugglers, and coast guard retained the famous design well into the 19th century.

Length Overall:	118'
Beam:	24'
Draft:	9'6"
Design by:	Howard Chapelle
Built by:	Dennis Holland, Costa Mesa, CA
Launched:	Nov. 19 th , 1983

SHIPBOARD LIFE

The labor of the sailor was endless. If work aloft did not occupy him, holystoning the deck might. Once a long and arduous passage had been concluded, the more brutal work of unloading cargo awaited him. The handling of cargo was considered more dangerous than climbing up to the royal yard in a gale. When the ship was finally unloaded, the first mate would immediately set the men to work again, painting, scraping rust and beautifying the ship. Great pride was always taken in the condition of the vessel, especially when coming into port.

The able-bodied seaman was the most experienced sailor under an officer. He generally had no formal education and could not read or write; however, his skills onboard were phenomenal. He knew everything there was to know about sailing a tallship. He was ready to risk life and limb in a moment's notice, to climb aloft in a storm in the middle of the night. He knew without thinking what to do with each line in every situation. He was agile, swift, and quick thinking. The safety of the ship, the officers, the cargo, and passengers depended on the able-bodied seaman. The ordinary seaman was a man with little experience who had a lot to learn in a harsh environment. His pay was less than that of an able-bodied sailor, and the less interesting and most laborious work was left to this man. Under the ordinary seaman came the greenhand, or apprentice seaman. Working up the ranks took years of hard labor and endless life risking experiences.

The captain and the officers ranked above the able-bodied, the ordinary, and the apprentice seamen. The navigator occupied a peculiar position. Socially, he was thought of as neither sailor nor commander. In an age when sailors relied upon gut instincts to sail the world's oceans, the navigator was the genius of a new

art—navigation. His ability for detail and swift mental calculations made him a wonder. He was in charge of deciphering the stars, using complex instruments to locate the ship's position, and providing a mathematically sound course for the ship to follow. Charts of this era had not been made by a precise science, so he had to decipher the symbols written upon them as best he could.

The gunner was similar to a first mate. Besides being second in command, the captain's right arm and the most visible officer to the crew, he was in charge of operating the ship's guns. The crew had to be trained to safely and properly operate the guns for defense when beset by hostile Barbary pirates or the British and the French, and privateers. It normally fell to the gunner to enforce discipline in the crew and, if necessary, among the passengers. He supervised the crew directly in their work and saw to it that the captain's orders were carried out.

There is no equivalent to command under sail—the captain. This sort of leadership called for the ability to make split second decisions combined with the accumulated wisdom of the centuries.

Along with the captain, the officers, and the sailors were the "idlers," named because they did not stand a normal watch. The idlers were kept at work all day and slept through the night. The idlers included the sailmaker, the carpenter, and the cook.

The cooks were often chastised for their meals but, in the cook's defense, the rations they had to work with were not of their own choosing. Traditionally, the cooks had two purposes: to prepare meals and to act as the doctor on merchant vessels, where no passengers were accommodated. The cook was often nicknamed "doctor" since no real medical personnel were ever provided for sailors. It fell to the cook to act as the doctor because he was the one with most of the knives. Serious injury to a limb usually led to immediate amputation. Upon amputation, the limb was dipped in boiling tar to cauterize the wound. The cooks also had their own special concoctions for treating illness: spices and herbs believed either to have medicinal or spiritual power were administered by the cook to the ailing sailor.

The food prepared for the sailors typically consisted of salt meat (preserved meat) and hard tack (old, hard biscuit). Any fresh meat or produce was reserved for the captain. The crew would be allotted one cup of water bewitched (weak hot tea) a day. If, however, the ship had recently been in port the crew may have experienced some fresh provisions—fish, pork, vegetables, potatoes, oats, and rice.

MARITIME GLOSSARY

Unintelligible orders were so rapidly given, and so immediately executed...that I was completely bewildered.

Two Years Before the Mast, Richard Henry Dana Jr.

I wish you could hear Mr. Peters' language. It's perfectly elegant. He will give an order to the men just filled with the loveliest nautical terms all run together. I can't make out a word of it. Every mast has about a thousand ropes, the mainmast has sixty that I counted and each rope has a different name. The men all say, when he gives an order, 'Aye, aye, sir,' and run to the top of the rigging where they hang in mid-air by their feet.

By Square Rigger, Shirley Hyatt

Shipboard Directions

Aft - (Afterward or abaft) In rear to, or towards the stern.

Fore - (Foreword) In front of, or towards the bow, as in before the mast.

Port - The left side of a vessel, as one stands facing the forward.

Starboard - The right side of a vessel, as one stands facing forward.

Bow - The whole forward end of a ship or boat.

Stern - The backward end of a ship or boat.

General Terminology

Aloft - Above the deck, in the rigging.

Amidships - In the middle of the ship (main deck).

Avast - Stop, quit what you are doing, hold your work and await further instructions.

Aye - Yes.

Aye, Aye - "Yes, I understand your orders and yes, I will carry out your orders."

Bight - A bend or loop in a rope.

Bilge - The lowest internal part of the hull where ballast is kept and bilge water collects.

Bitter End - The very end of a piece of rope.

Block - A pulley. A wood or metal case for one sheave (wheel) or more.

Broadside - A firing of all cannons on one side of the vessel.

"Carry On" - Indication that an order is finished being given and must be carried out.

"Doctor" - Nickname for the ship's cook because he has the knives.

Forecastle - The crew's quarters in the bow, also called fo'c'sle.

Furl - To raise or roll up a sail.

Galley - The ship's kitchen.

Greenhand - Inexperienced hand on a vessel.

Hatch - An opening in the deck, provided with a hatch cover and a box trim built around it.

Halyard - Any line used for hoisting (raising) sails, cargo, flags, etc. Short for haul to the yard.

Hold - Cargo storage area of the ship.

Kanaka - Hawaiian word for man.

Leeward - Downwind. Pronounced "lou-ward."

Line - A sailor's word for rope that has a purpose.

Lime juicer (also **Limey**) - British vessel or sailor

Mast - A vertical spar for supporting sails and rigging.

Quarter Deck - Raised aft deck on ship from where the Captain commands.

Reeve - To pass a line through a hole, as in a block and tackle system.

"Salt" - An experienced seaman on a vessel.

Shanty - Song sung by sailors to coordinate work.

Sheave - The grooved pulley wheel in a block.

"Slack away" - To let out line, hand over hand, without losing control of the line.

Spar - Any support for sails or rigging - a mast, yard, boom, or gaff.

Stow - To put away in its proper place; applied to anything loose.

Tackle - Line rigged through and around pulleys (blocks) to increase the effect of pull applied.

Windward - Towards or into the wind.

Yard - Horizontal spar that holds the sails.

G. CLASSROOM ACTIVITIES

ACTIVITY #1: SEEING WITH DIFFERENT EYES

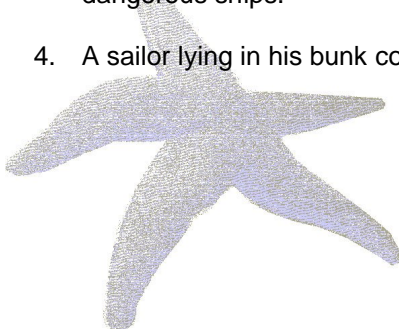
The Challenge

Gather in your crew to read the Character Sketches and the list of Seaward Situations listed below. Choose one of the Seaward Situations and discuss how each of the characters might react to it. Choose one of the situations and role-play how two of the characters might react to it. How did your interpretation differ from that of the other crews?

<p style="text-align: center;"><u>The Captain</u></p> <p>The Captain is the commander and ruler on board. He is a highly educated man who has been a Naval officer for many years. He runs a tight ship and is obeyed in everything.</p>	<p style="text-align: center;"><u>The Gunner</u></p> <p>The active lieutenant, second in command and sailing master. He is the chief disciplinarian and expects nothing less than perfection in the work of the crew. The gunner is the only sailor onboard experienced in cannon handling and ship defense, due to his involvement in the Revolutionary War.</p>	<p style="text-align: center;"><u>The Cook</u></p> <p>Although he had no formal education like the captain or navigator, the cook is a wise man. He has traveled all over the world as a ship's cook and has stories of battles, pirates, and the dangers of the Mediterranean. He is as willing to share what he knows as he is to learn.</p>	<p style="text-align: center;"><u>The Navigator</u></p> <p>The Navigator is in charge of the accurate and safe navigation of the ship. This job requires that he be intelligent and have nerves of steel. He strives to be a patient teacher and believes that every man is capable of learning.</p>
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SEAWARD SITUATIONS

1. A boatman in the harbor offers to trade enough fresh eggs for the whole crew to have a delicious breakfast.
2. As the moon lights the open ocean, you walk toward the bow and see a sailor sleeping during his assigned watch.
3. It's pitch dark and the waves are big. You have been ordered to climb aloft and act as a lookout for dangerous ships.
4. A sailor lying in his bunk complains that he is too sick to go up on deck to work.



ACTIVITY #2: THE SHIP’S BELL

Description

The Ship's Bell is rung every half hour throughout each four-hour watch. The time is described as "one bell" for the first half hour, "two bells" for the second half hour, and so on, up to eight bells. Bells are always rung in pairs.

The Challenge

Find a bell (or make one from an empty can), and ring it the correct number of times each half-hour. The following charts will help you determine how many times to ring the bell. Do this for an entire day. Remember that the bell is always struck in pairs.

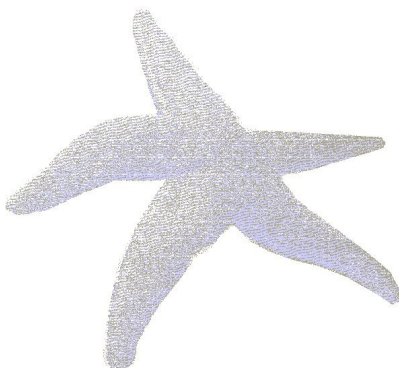
1 bell	12:30
2 bells	1:00
3 bells	1:30
4 bells	2:00
5 bells	2:30
6 bells	3:00
7 bells	3:30
8 bells	4:00

1 bell	4:30
2 bells	5:00
3 bells	5:30
4 bells	6:00
5 bells	6:30
6 bells	7:00
7 bells	7:30
8 bells	8:00

1 bell	8:30
2 bells	9:00
3 bells	9:30
4 bells	10:00
5 bells	10:30
6 bells	11:00
7 bells	11:30
8 bells	12:00

An Extension

Once the students are familiar with bell time, write some of the day's activities on the board next to the time (in bell time) they should be completed. Make sure that the classroom clock is covered and that students are not wearing watches. Have the students keep bell time throughout the day so that they can determine when they complete different school activities.



ACTIVITY #3: SAILORSPEAK**Description**

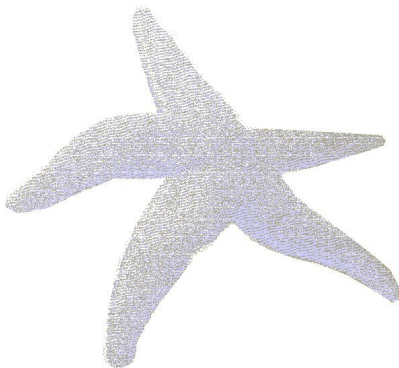
A sailor's first day can be full of confusion, as life on board is a world of its own. Even the language of the sea has its very own vocabulary. To work as a sailor, you have to speak like one.

The Challenge

Since you are going to play the character of a sailor, you must learn to talk like one. Aboard the *Spirit*, we say:

Aye	to mean, "yes"
Avast	to mean, "stop"
Sir	every time we speak to the Captain
Carry on	when an officer or mate wants you to begin an order you have been given
Aye Aye	to mean "yes, I understood your orders and yes, I will carry them out"
Mr.	before the last name of a mate or officer

To practice, gather into your crews. Select someone to be the "mate." This person should always be called Mr. (his/her last name). Select someone else to be the Captain (the teacher might be a good choice) and remember that when you speak to him the last word you say must always be "Sir." Now, for a period of time (an hour, a day, a week) all crews should speak like sailors. They should always say "aye" instead of yes, "avast" instead of stop, and so forth.



ACTIVITY #4: SEA SHANTIES

Description

When sailing ships such as the *Pilgrim* and the *Spirit* traveled the oceans, shipboard work relied on the human back, unassisted by mechanical power. Shanties were used to coordinate the necessary muscle power into single pulses of concentrated energy that could raise and lower the many tons of canvas and wood necessary to propel a sailing ship through the oceans.

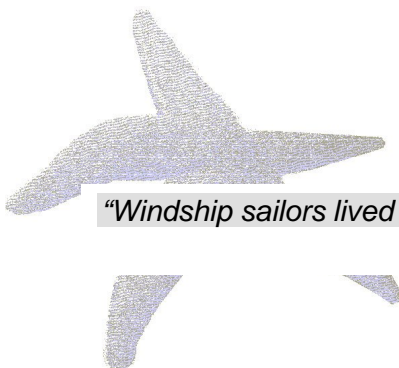
Work shanties can be found in most cultures and time periods. They tend to reflect the nature of both the work and culture. Whether on land or at sea, their primary use was for work that tended to be laborious and repetitive. The sea shantey, reflecting the cosmopolitan nature of the sailor, revealed a magnificent array of human endeavor. On a single vessel, one could hear songs that reflected opinions concerning Hong Kong, New Orleans, cotton plantations, railroads, Irish emigration, wars, national heroes, and political trends. The most popular of all topics was, naturally, the plight of the maltreated sailor. The shantey, being part of the folk tradition, was ever evolving. One can find vulgarity and crudeness mixed side by side with literacy, sophistication, and compassion—all due to the various types of sailors (Harvard student, farm boy, blacksmith apprentice, and emigrant) who found their way to the seas.

Improvisation was a hallmark of the shantey, since the verses always ran out before the work was complete. It is this necessity that imbues shanties with their richness of cultural heritage. Cargo handling, weighing anchor, pumping bilges, line handling, setting sail and working the capstan are some of the jobs sailors do that require the use of a sea shantey.

The Challenge

Learn the verses to the attached sea shanties, and practice them for your voyage aboard the *Pilgrim* or the *Spirit*. Please note that other Shanties resources are available in the institute's gift shop, including the book with sheet music *Songs of a Sailor*. A web search for "sea shanties" will provide with more lyrics, many with midi files to play the tune for you!

- John Kanaka: Halyard Shantey
- Gloucester Girls: Capstan Shantey
- Leave Her Johnny: Pumping and Windless Shantey



"Windship sailors lived with music...a rough kind they made themselves, more often than not."
Christmas at Sea, Captain Fred K. Klebingat

John Kanaka: Halyard Shantey

C **F** **C**

I thought I heard the Old Man say,

G7 **C**

Johnm Ka - na - ka - na - ka, tu-lai - e! We'll work to -

F **C**

mor - row but no work to - day John Ka - na - ka - na - ka,

G7 **C** **F**

tu - lai - e! Tu - lai - e Oh Tu - lai -

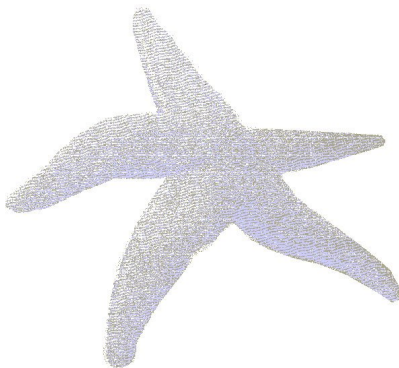
C **G7** **C**

e! John Ka - na - ka - na - ka tu - lai - e!

A Yankee ship with a Yankee crew
 And we're the buckos to push her through

Oh, haul away, oh haul away
 Oh, haul away and make your pay

A Yankee ship with a Yankee mate
 If you stop to walk, he'll change your gait



Gloucester Girls: Capstan Shantey

C **G7** **C** **Am** **G7**

Glouce-ster girls, they have no combs. Heave a - way! Heave a - way! They

C **G7** **C**

comb their hair with cod-fish bones. We're bound for Cal-i-

G7 **C** **F** **C**

for-ni-a! Heave a - way, my bul-ly, bul-ly boys! Heave a -

Am **G7** **F** **C** **F**

way! Heave a - way! Heave a - way and don't you make a noise, we're

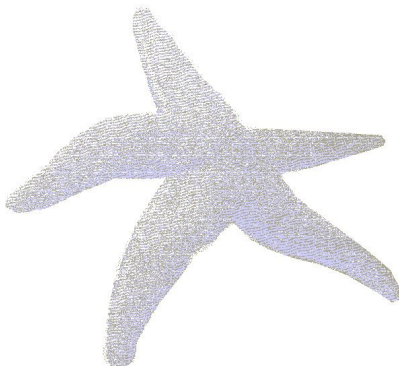
C **G7** **C**

bound for Cal-i- for-ni-a!

Gloucester boys, they don't have sleds
They slide down hills on codfish heads

Gloucester doctors don't use pills
They prescribe their patients codfish gills

Gloucester cats, they don't have tails
They got blown off in southeast gales



Leave Her Johnny: Pumping and Windless Shantey

C

I thought I heard the Old Man say,

G7 C F C

"Leave her, John - ny, leave her!" You can go a - shore and

F C G7 C *LAST TIME*

draw your pay, It's time for us to leave her!

G7 C F

Leave her, John - ny, leave her, Oh leave her John - ny,

C F C F

leave her. The voyage was long and the winds don't blow and it's

C G7 G

time for us to leave her.

Oh, our ship is old and she's sinking fast
Our ship is old and she will not last

Aye the work was hard and the wages low
The grub was bad and the ship was slow

Yes, it's rotten meat and weavily bread
If you moan too hard, they break your head

The Mate was a bucko and the old
Man a Turk

And the bosun was a devil with the
Middle name o' work

Now the mates have gone and we the crew
It's time we lads that we went too

