

TEACHER'S RESOURCE

COMPETITION TO BE "HIGH-LINE" FISHERMAN

There is usually great rivalry among several members of the crew on a hand-line dory cod trip, as to who among them shall be "high-line." Most of us fished and worked very hard the whole trip, for we considered it a great honor to be called a "high-line" fisherman, and he, of course, would make the most money, and the "low-line" the least. On the *Elgin*, that trip, two of our crew were men we had shipped at Shelburne. They were brothers and both were "high-line" fishermen, but this was the first trip they had ever been shipmates. During the first half of the trip, Bill fished very hard and was some 300 fish ahead of his brother, Nate. One day Nate told Bill that he was very foolish to fish and work so hard while we were fishing in deep water (35 fathoms). "Wait 'til we get down in shoaler water an' I'll show yer who'll be high-line this trip," I heard him say. Sure enough, he did show Bill, and all the rest of us, how he could catch fish on the latter part of our trip, for when we had the *Elgin* full and left for home, Nate was "high-line" with 6,600 fish, and Bill had just about an even 6,000. Nathan Monroe was a fine fellow, one of the best men I ever met in my life, and he was the smartest hand-line dory fisherman that I ever went shipmates with. I was 7th line with 4,500 fish (an average share) and the youngest on board the vessel. The low-line had about 3,000 fish. The total number in count for the *Elgin's* trip, was about 64,000, over half of them large fish. When she arrived home on June 7th, she was very deep, and when she lay alongside the wharf, her scuppers were in the water, for she had brought in the largest trip of salt cod (840 tubs, 1260 quintals), landed at Southport for many years.

PAY SYSTEMS

The crew on "trawlers" go on a different "lay" than the "hand-liners," and perhaps it will be well for me to explain here the different "lays." The crews on trawlers for either cod, haddock or halibut, also the crews on all mackerel seiners, the gill-net mackerel-netters, also cod-netters, and swordfishermen, the flounder-draggers and herring-netters, "all share and share alike." The gross stock is divided: one half goes to the owners of the vessel, the other half is divided among the crew. The owners furnish the vessel, dories and trawl-gear, salt, bait and stores and pay the skipper his percentage, which is usually from 5 to 7 per cent, out of their half. The crew pay the cook his wages, which is usually from thirty-five to forty-five dollars per month; this is first deducted from their half. The remainder is divided equally among all the crew, including the skipper and cook, for they receive a share, as well as their per cent and wages.

All hand-line fishermen for cod, halibut, mackerel, and pollock, have half the money their fish bring, each man sharing in proportion to his own catch. The other half goes to the owner of the vessel. The "high-line" earns the most money and the "low-line" the least; all the rest share in between. The skipper has half the money his fish brings, and his percentage extra. The cook has half the money his fish brings, and his cook's wages extra. This method is called by the fishermen "fishing on halves." When a fishing vessel brings in a large trip of fish that sells for a fair price, she will make a good stock, which means the gross earnings for her trip.

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GROWING UP IN A FISHING FAMILY

The night I was born (Jan. 17th) my father was in a Gloucester vessel on George's Bank, where they were riding out a heavy northeast gale, during a blinding snowstorm. The great anxiety on the part of her skipper and his crew that night, was that some vessel in the large fleet anchored on the Bank to wind'ard of them, would part her cable or drag her anchor, and drift down afoul of them, when both vessels would be quickly smashed to pieces and all hands lost. Their skipper gave orders for the "watch" on deck to keep sharp lookout to wind'ard for any drifting vessels and to have an axe ready at hand for instant use to cut the cable (one blow would be enough for the cable was then under a terrific strain) should they see anything coming. It was almost impossible for a man to look up to wind'ard that night, for the blinding snow, hail, and frozen spray, cut like knives against his face and eyes. It was pitch-black darkness and a howling storm. All that anyone could possibly see would be the flash of a riding-light a few yards away, if a vessel was adrift and coming down fast under their vessel's bow. No vessel fouled them, however, and they rode out the gale in safety. Those men did not fear the heavy gale and angry seas that night, but they did fear collision. That was the real danger for them.

Thick, foggy weather is dreaded by most fishermen, more especially so by all skippers, for then it is a time of great anxiety, for fear some of their dories may go astray and the men become lost. Many such cases are on record where men have been lost in their dories for days and suffered greatly from cold, hunger and thirst before they were picked up by some other vessel or steamer. Fog is the greatest menace of the sea. When we were out in our dories fishing in foggy weather, we generally could keep run of our vessel and knew in what direction she lay, when it was time for us to go aboard. But sometimes, in moderate weather, the wind died out and it was calm for awhile, and when it breezed up again it would be from another quarter and we perhaps had not noticed the change which had taken place. On this same trip, one day we were out in the fog and just such a change of wind took place. I thought I knew the direction in which the vessel lay and when it was time to go aboard I hauled in my dory-anchor and started rowing. Pretty soon I met another dory going in the opposite direction, and the man hailed me and said: "Where yer going George?" "Going aboard," I replied. "Yer rowin' the other way from th' vessel!" he said. "Are you sure, Joe, that you are right?" I asked him "Sure? Yes!" he replied. "Didn't yer know th' wind shifted 'bout an hour ago, George?" "No," I replied. I had not noticed that the wind had shifted as I was busy fishing, for it was my first trip in a dory, and without much experience in fog on the Bank, it was easy to lose my sense of direction.

One day when we were all out in our dories fishing, the skipper set the signal at one o'clock P.M. for us to come aboard the vessel. I was fishing down to leeward about half a mile, and as the fish were biting well I was pretty busy trying to get a dory-load of them, so did not see the signal when it was set. Then I heard a gun fired and looking toward the vessel I saw the signal and could see father up in the main rigging swinging his hat. Then I noticed for the first time that it was black and threatening to wind'ard, with a bad squall coming down on us fast, so I jumped into the bow of my dory, quickly hauled my anchor in, and started rowing as

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hard as I could toward the vessel; but before I got half way aboard, the squall struck. I rowed as hard I could for perhaps half an hour, then realized that was making no headway at all, and had about made up my mind to throw out my anchor and try to hold on, then I looked around toward the vessel and saw two men in a dory coming down after me. As they got down alongside, I threw them my dory-painter, and the three of us rowed hard for more than an hour, before we got up alongside the vessel. When we finally got there I was very tired from my long, hard row, and father must have realized it for he said to me: "Climb in on deck, son. I'll pitch out your fish!" Father jumped into my dory and pitched the fish out on deck and when he had finished, he climbed out on deck and said: "Young man, the next time I set the signal for the dories, you get your anchor and start at once for the vessel. I hope you have learned your lesson well today and don't you ever forget it." I never have forgotten, for I am telling you about it now.

PIERCE, WESLEY GEORGE. GOING FISHING INTERNATIONAL MARINE PUBLISHING COMPANY, CAMDEN, MAINE, 1989.

ORIGIN OF TERM: SCHOONER

She was sharp on the bottom and fast, and, on being launched, sped over the water so fast from the impetus gained by descending from the ways as to elicit from a bystander the remark, "See how she scoons." "Scoon" was a word used by plain people to express the skipping of a flat stone over the surface of the water when skillfully thrown, and the builder of the vessel, having been somewhat at a loss for a name for the new rig, seized upon the trifling incident referred to and replied, "A scooner let her be," and two-masted vessels, with jibs and fore-and-aft sails, have since been called by that name. The advantage possessed by the "schooner" (as the name is now spelled) is that the canvas of the vessel is divided into a large number of sails, which are more easily handled than the large sails of a sloop could be, each containing the same amount of cloth. The schooner quickly superseded the sloop in the banks fisheries and in all others requiring voyages of any duration. Carrying twice as many men as a sloop, and making quick trips, a schooner could catch as many fish as two vessels of the other style, and were large enough to carry their own fish to foreign markets. Since the Revolutionary War they have been the only vessels employed by Americans in the banks fisheries.

PIERCE, WESLEY GEORGE. GOING FISHING INTERNATIONAL MARINE PUBLISHING COMPANY, CAMDEN, MAINE, 1989.

FISHERMEN'S PAY

Fishermen do not of course labor at regular wages. The business is carried on on shares. The vessel has a certain share of the general catch. The captain has a share for his additional trouble and responsibility. An account is kept of provisions and fish-bait used, and this is fairly averaged among the crew. Each man keeps his fish separate, and when they are "packed" (that is to say, inspected and sorted), he receives either his net share of the fish, or their equivalent in money at the highest market price.

continued

Sometimes, young men make a different arrangement, which is called "fishing for halves." They agree with some one ashore, generally a packer or inspector, to give him all their catch, he paying them in return one half its value, in cash, and taking the risk of making a clear profit from the balance. If the season is favorable and the fisherman has good fortune, the shoresman makes money by this, while if the catch is small, he loses —the provisions and other incidental expenses averaging as high in one case as in the other.

Through the kindness of a friend, I was introduced to a gentleman who, in consideration that I was to go in the *Mary Hawes*, agreed to let me fish for him at "half-line." This arrangement gave me great satisfaction, as it reduced my chances more to a certainty; and I felt just then a strong desire to make them as certain as possible.

NORDHOFF, CHARLES. WHALING AND FISHING DODD, MEAD & COMPANY, NEW YORK, 1895.

PURSE-SEINE FISHERY

Mackerel are caught with the purse-seine when they are schooling on or near the surface of the sea. The first purse-seine known to Southport fishermen was in the early sixties. It was a very crude affair about one hundred fathoms long and ten fathoms deep, knit of rather coarse twine which made it very bulky, heavy and hard to handle. The first one I know anything about was brought there from Boston in 1864 by Amherst Spofford. It was bought by ten fishermen at Cape Newagen, who formed a stock company and secured a small fishing vessel named *Niagara*. They also purchased a large, square-sterned boat. A purse-seine in those days cost quite a sum of money (\$2,400.00), for it was in wartime and cotton twine was very high in price. But so were mackerel, for they brought about \$30.00 per barrel. That purse-seine had only about one fourth the amount of twine, but it cost three times as much as a seine did during the eighties, when we were fishing with a purse-seine that was two hundred and twentyfive fathoms long and twenty-two fathoms deep and was made of fine cotton twine steam-tarred. These men at Cape Newagen caught a lot of mackerel with their seine, in the nearby waters, and did well, making some money. Soon after that date (1864), other vessel owners, all along the coasts of Maine and Massachusetts, bought purse-seines for their vessels and in a few years' time there was quite a large fleet of seiners, perhaps 250 sail.

TRAWL LINE FISHING FOR COD

Trawl-tubs are used in which to coil the trawl so that it can be more easily handled, and also to prevent the trawl-line from fouling or snarling. Most trawl-tubs are made by sawing a barrel in halves making two tubs. Each "tub-o'-trawl" is rigged in the following manner: ground-line, 300 fathoms, 300 No. 14 cod-hooks, 300 gangings, each three feet long and six feet apart (one end of the ganging is bent on the ground-line, and the hook is made fast to the other end); two buoys, two buoy-lines and two 16-pound anchors (one at each end) to hold the trawl fast when it is set on bottom. One end of the buoy-line is made fast to the anchor before it is thrown out, the other end reaches up to the surface and is bent onto the

continued

buoy. Vessels using trawls for cod, haddock and halibut off shore use dories 15 feet long on their bottom, two men going in each dory. The trawlers carry all the way from six to twelve dories, according to the size of the vessel. Each dory sets from four to six "tubs-o'-trawl" when fishing out on the Banks. The fishermen bait their trawls aboard the vessel, using fresh bait (iced or frozen) of menhaden (porgy slyvers), mackerel, herring, squid, clams, or capelin. These fish are slivered (slyvered), and cut up in small pieces about an inch square. One piece is put on each hook. ⌘

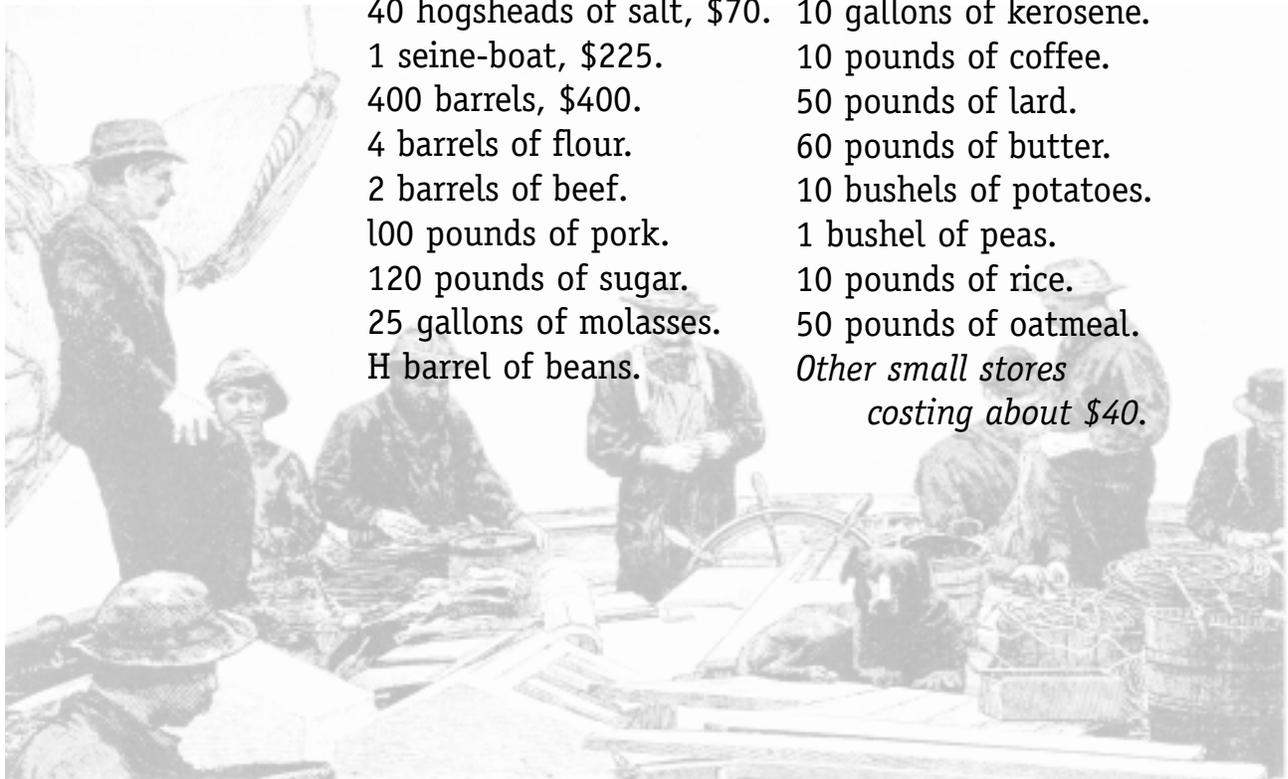
THE COST OF A FISHING VESSEL

From first to last, about thirty distinct trades are concerned in the collection of the material for a fishing schooner and the construction of a vessel. The largest part of the cost is for material. Fishing schooners were built in 1880 for from \$55 to \$65 per register ton. The cost of a 75-ton vessel was about \$5,000; the amount paid out in the ship-yard for labor of building was about \$1,900.

THE FINANCES OF A VOYAGE

The outfit of such a vessel for a five-weeks' mackerel trip for a crew of master and 14 men was:

- | | |
|-----------------------------|----------------------------|
| 1 Seine, costing \$850. | 25 pounds of dried apples. |
| 40 hogsheads of salt, \$70. | 25 pounds of cornmeal. |
| 1 seine-boat, \$225. | 10 gallons of kerosene. |
| 400 barrels, \$400. | 10 pounds of coffee. |
| 4 barrels of flour. | 50 pounds of lard. |
| 2 barrels of beef. | 60 pounds of butter. |
| 100 pounds of pork. | 10 bushels of potatoes. |
| 120 pounds of sugar. | 1 bushel of peas. |
| 25 gallons of molasses. | 10 pounds of rice. |
| 1 barrel of beans. | 50 pounds of oatmeal. |
| | <i>Other small stores</i> |
| | <i>costing about \$40.</i> |



Baiting trawls on board the Gloucester haddock schooner *Mystic*, about 1883 (Goode's *Fisheries*)

SCHOONER ERNESTINA CARRIED 10 DORIES ON DECK WITH TWO MEN PER DORY.
EACH DORY CAN CARRY UP TO A TON OF FISH.

TEACHER'S RESOURCE

DORY TRAWL EQUIPMENT

DRAWING BY R. DUNPHY, GLOUCESTER SCHOONER ADVENTURE, 1995.

Bailer - A scoop to empty water from the dory

Float Marker - Attaches to the dory anchor.

Gob Stick - Used to stun smaller fish

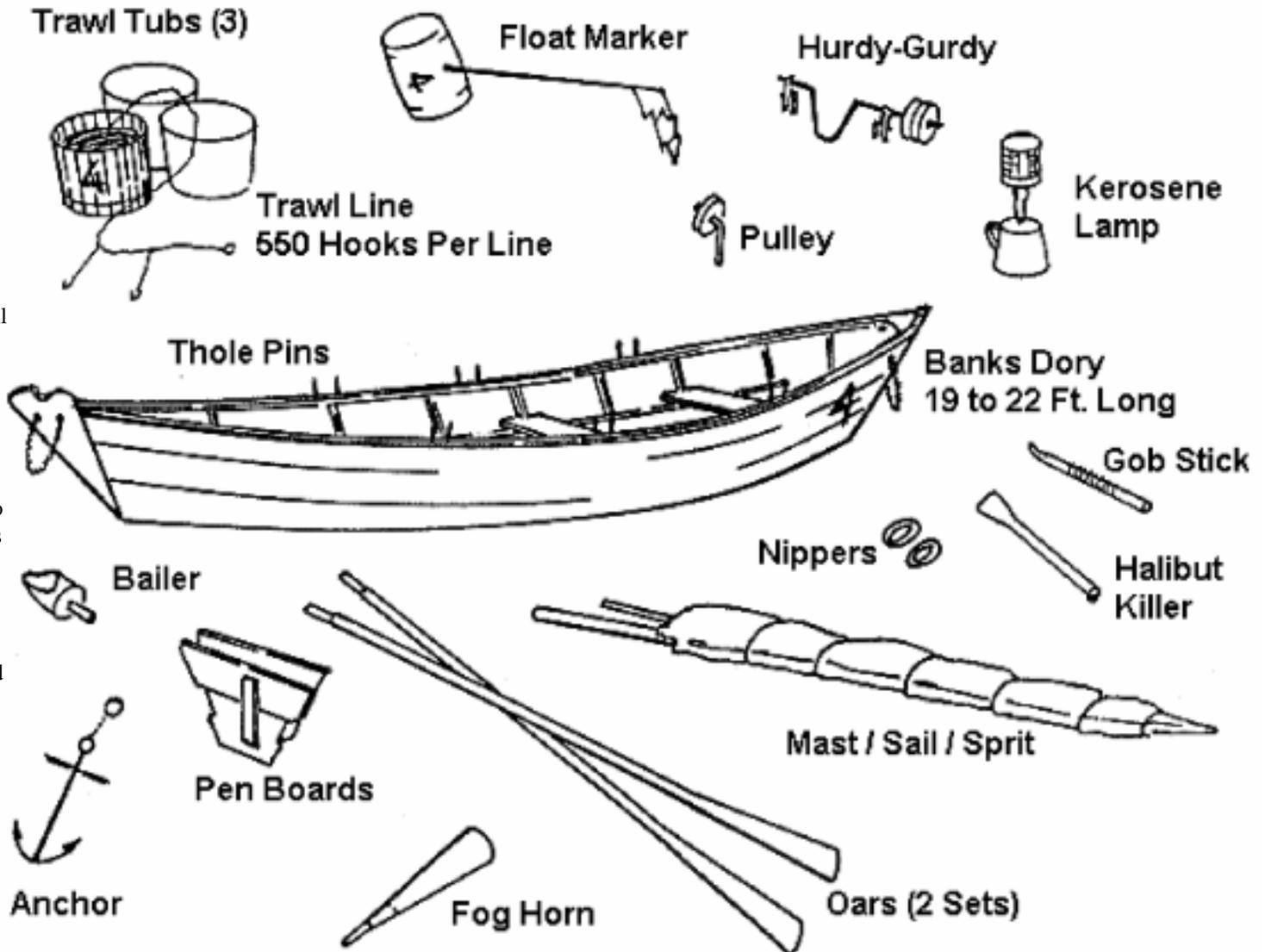
Halibut Killer - Used to kill larger fish

Hurdy-Gurdy - Hand crank to ease the task of hauling heavy lines.

Nippers - Fingerless mits to protect the dorymen's hands when paying out or hauling in lines.

Thole Pins - Wooden pegs that insert into the rail; used to hold the oars in place when rowing.

Trawls Line - A long fishing line to which many smaller, hooked lines are attached.

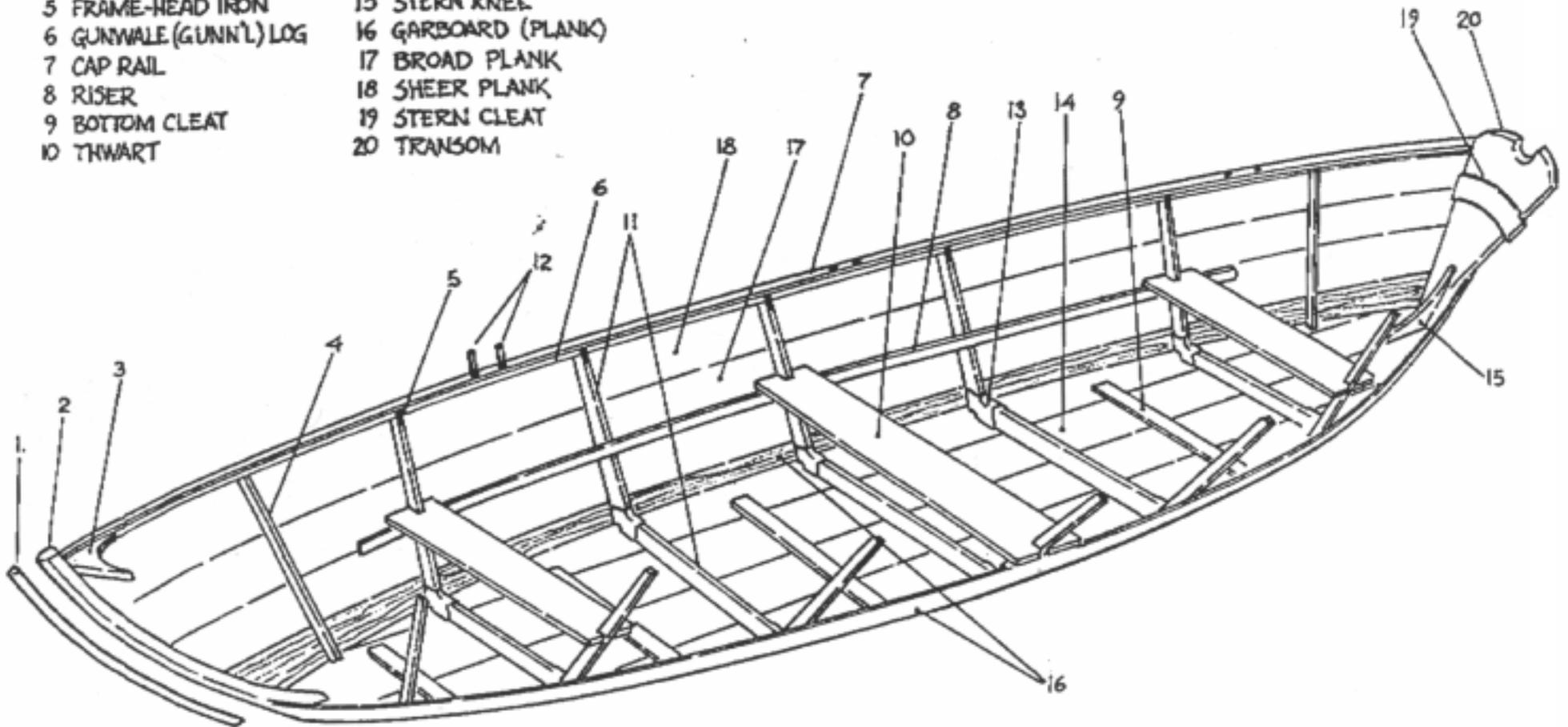


TEACHER'S RESOURCE

PARTS OF A DORY

PARTS OF A DORY (CONSTRUCTION)

- | | |
|------------------------|---------------------|
| 1 FALSE STEM | 11 FRAME |
| 2 STEM | 12 THOLE PIN(S) |
| 3 BREAST HOOK | 13 FRAME GUSSET |
| 4 SIDE CLEAT | 14 BOTTOM PLANK |
| 5 FRAME-HEAD IRON | 15 STERN KNEE |
| 6 GUNWALE (GUNN'L) LOG | 16 GARBOARD (PLANK) |
| 7 CAP RAIL | 17 BROAD PLANK |
| 8 RISER | 18 SHEER PLANK |
| 9 BOTTOM CLEAT | 19 STERN CLEAT |
| 10 THWART | 20 TRANSOM |

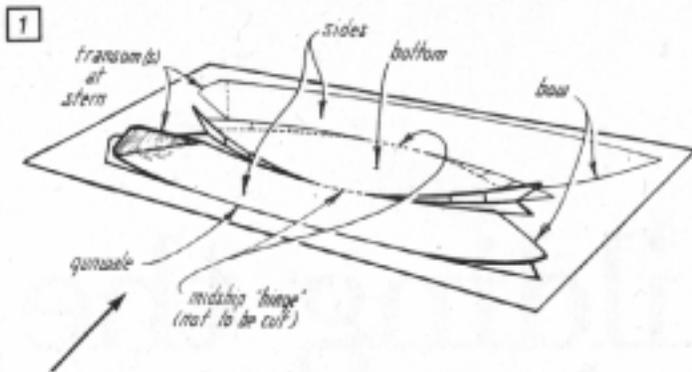


LOWELL'S BOAT SHOP DORY - 1800'S TO
PRESENT

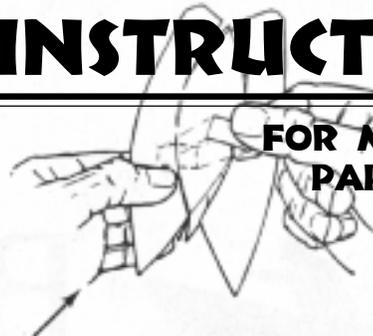
DRAWING BY R. DUNPHY, SCHOONER ADVENTURE, INC., 1995.

INSTRUCTIONS

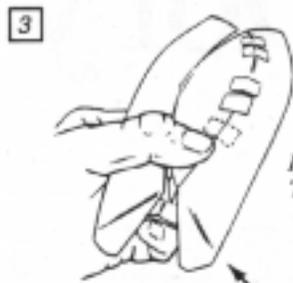
FOR MAKING A PAPER DORY



1 Fold the tabs along the bottom upward.
Fold the sides upward along their midship "hinge."
Fold the transoms inward.

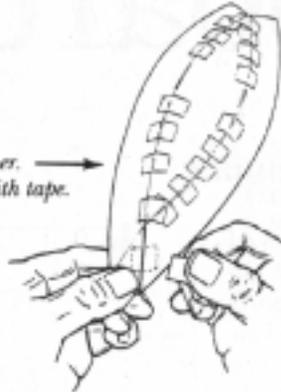


2 Draw together sides and bottom, starting from the middle of the boat and working toward the ends.



3 Tack sides and bottom together with temporary swatches of tape on the outside of the hull.

Pull the stern together.
Tack temporarily with tape.



4 Pull the bow together.
Tack with tape swatches pulled tightly from one side to the other.



5 A 12" strip of tape is run down the inside of the hull and up to close the bow and stern. Crease this into all corners.

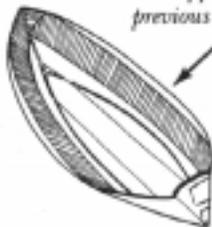
Major wrinkles are slit, with their flaps smoothed down.

Minor wrinkles can be smoothed with your thumbnail.



6 Overlap this center strip of tape with an 11" strip on each side. Let the ends of these strips climb the sides of the boat and hook across the bow and stern.

7 Third set of interior strips (11") overlapping the previous set.



8 Pull off all temporary swatches on the outside of the hull.

Run a 9" strip down the center of the bottom.

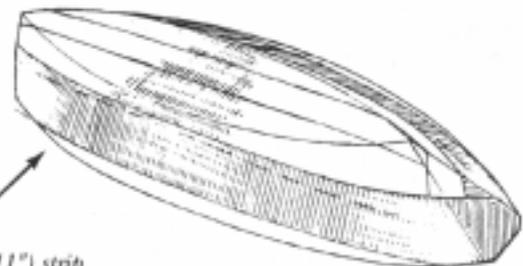


Ends of the strip are slit where needed to hook around the bow and stern in natural lay.

9 Second exterior strip (11") covers the junction of sides and bottom.



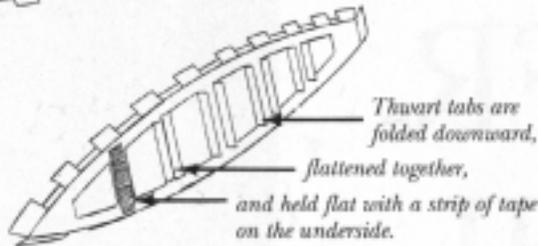
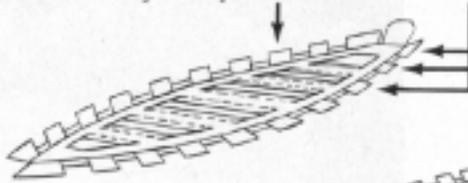
10 Third (11") strip.



INSTRUCTIONS

FOR MAKING A PAPER DORY

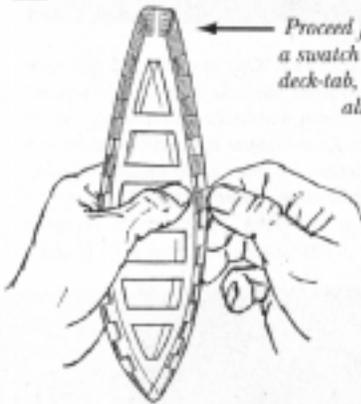
- 11 Thwart-deck cut-out—side tabs are folded upward. Tops of these tabs will align with the gunwale.



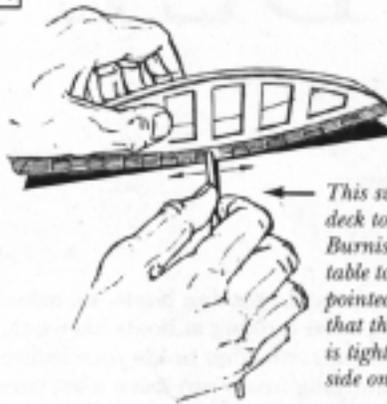
- 12 Place the thwart-deck inside the boat so that the top of the transom tab aligns exactly with the top of the transom of the hull. Tack it there with tape swatches pulled tightly over the gunwale from the closest adjacent tabs.



- 13 Proceed forward from the transom, sticking a swatch of tape to the inside face of each deck-tab, pulling it (with the tape) into tight alignment with the top of the boat's gunwale. Smooth down each swatch on the outside. Work tab by tab, alternate sides, until deck and hull are closed to the bow. Then swatch-tape the open spaces between the tabs.



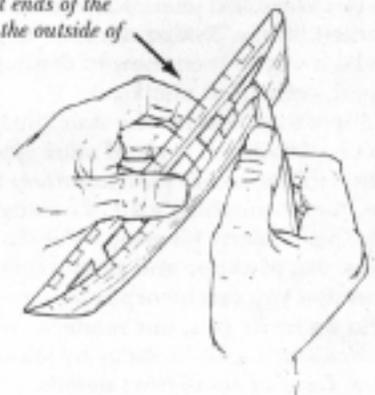
- 14 This swatch-taping of thwart-deck to gunwale is permanent. Burnish it firmly against a table top with a smooth, pointed instrument to be sure that the tape between the tabs is tightly stuck to the boat's side on the interior.



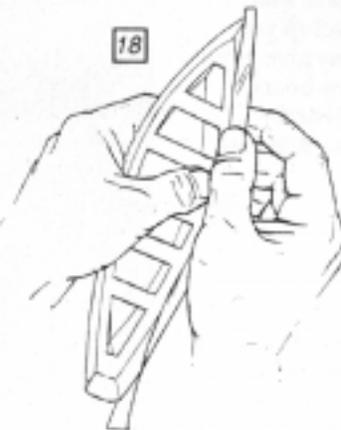
- 15 With shears or scissors, trim off the folded edge of the tape swatches where they cross the gunwale from the inside to outside of the boat. Try not to cut the curved edge of the cardboard beneath.



- 16 Remove the cut ends of the swatches from the outside of the boat.



- 18 Bend this strip over the gunwale. Trim where necessary. Burnish-out any wrinkles occurring on the inside.



- 17 Add a third (11") strip of tape to the outside of the boat, approximating the uppermost plank of the sides.

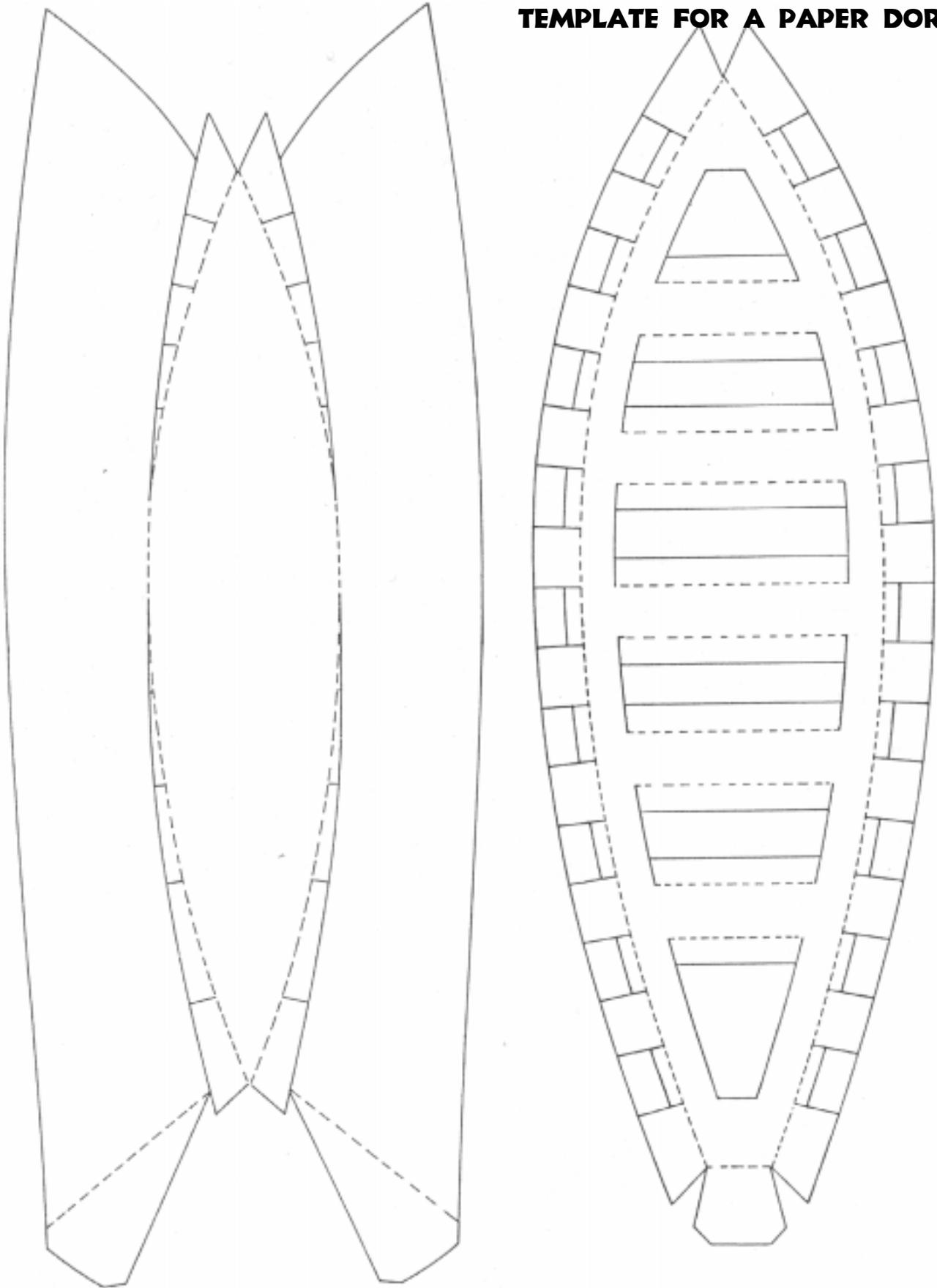


Solid lines are to be cut.

Dotted lines are to be folded

ACTIVITY SHEET

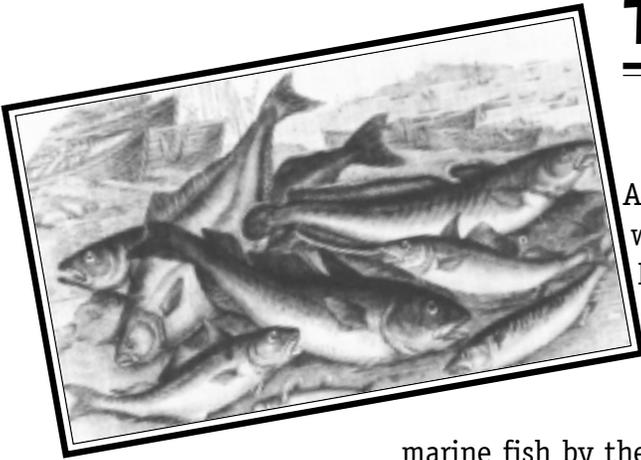
TEMPLATE FOR A PAPER DORY



Copyright S.F. Manning

Solid lines are to be cut. Dotted lines are to be folded.

TEACHERS RESOURCE



THE STORY OF COD

The Atlantic cod is native to most of the North Atlantic Ocean. In the northwest Atlantic, it inhabits waters from western Greenland south to Cape Hatteras, North Carolina. They are most abundant from the coast of northern Labrador to the Nantucket Shoals region of Massachusetts.

Cod are easily distinguished from most other marine fish by their three rounded dorsal fins and two anal fins. They also have a prominent barbel (whisker) on the chin. Individuals vary widely in color. Most cod are grayish green to reddish brown on their backs and sides, and white on their bellies. They are speckled on the upper portion of their bodies, the sides of their heads, and their fins and tails. The lateral line, a series of pores that allows fish to detect disturbances in the water, is conspicuously lighter than the dark sides of the body.

Cod occasionally reach lengths in excess of 5 to 6 feet. The heaviest fish on record, caught off the Massachusetts coast by a commercial vessel, weigh over 200 pounds. In recent years, harvested cod rarely weigh more than 100 pounds. The average size of cod usually ranges from 50 to 60 pounds.

Atlantic cod live in a variety of habitats but are generally found at depths of 200 to 360 feet and in temperatures ranging from 34 to 46 degrees F in the summer, and at depths of 295 to 440 feet and in temperatures of 36 to 39 degrees in the winter. They are seldom found deeper than 660 feet.

Cod undergo seasonal migration in the more northerly and southerly reaches of their range in the northwest Atlantic. Fish inhabiting the region between coastal Nova Scotia and Cape Cod do not exhibit predictable seasonal migration. Cod do not swim in large schools, but they do travel in small groups when searching for food.

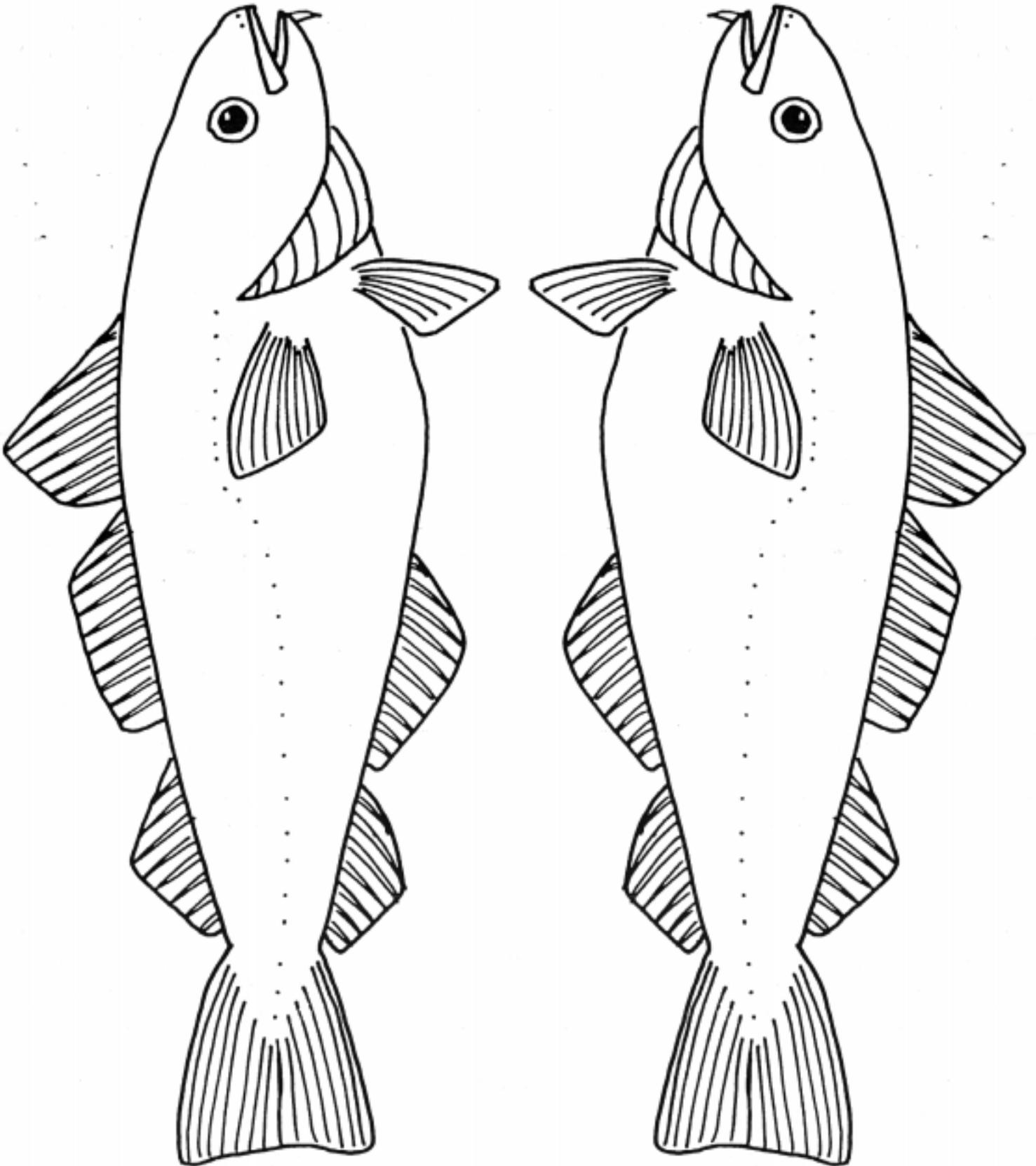
The cod is a winter spawner. It reproduces from November to December along the coast of southern New England. A 40 inch female may lay about 3 million eggs and a 50 inch female may lay up to 9 million eggs in one spawning season.

Larvae hatch 10 to 40 days after spawning and move to the bottom where they hide and feed among rocks and algae until they are large enough to swim away from predators. The smaller bottom-dwelling cod feed mainly upon small crustaceans such as shrimp and amphipods. Adults will eat almost anything small enough to fit into their mouths, including clams, cockles, mussels, and other mollusks, as well as crabs, lobsters, and sea urchins. Adults also pursue schooling fish, eating substantial numbers of herring, capelin, shad, mackerel, silver hake, young haddock, and other species. Cod will occasionally dine upon some very exotic items; ducks, shoes, jewelry, and rope have been found in the stomachs of captured cod.

Young cod are eaten by many species of fish, including pollock and larger cod. Once juvenile cod grow to about 8 inches, they can swim away from many of their potential predators. Adult cod occasionally fall prey to spiny dogfish and sharks.

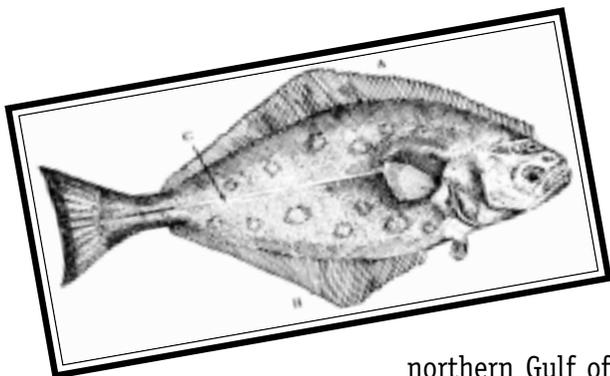
TEACHER'S RESOURCE

FISH TEMPLATE



TEACHERS RESOURCE

THE STORY OF HALIBUT



The Atlantic halibut, a giant amongst the flatfish, is native to both sides of the Atlantic Ocean. In the western Atlantic it ranges from the coast of Greenland to New Jersey. It is most abundant from Nantucket Shoals to the northern Gulf of St. Lawrence, the southern portion of the Grand Bank, and the deep waters of the outer continental shelf off Labrador.

Like other flatfish, halibut have both eyes on one side of the head. When they are newly hatched larvae, these fish have one eye on each side of their head; as they grow, one eye migrates, and the body becomes markedly flattened. In the halibut, this metamorphosis is completed when the fish is less than 1 1/2 inches long. The halibut is called a right-handed species because both eyes occur on the right side of the body. When resting on the ocean floor, it lies on its "blind" left side. The halibut has a large mouth that extends posteriorly to below the eyes and contains sharp, curved teeth.

Halibut are the largest of all the flatfish. The largest northwestern Atlantic halibut on record weighed 700 pounds. However, fish exceeding 300 pounds were considered rarities even before this species was depleted due to fishing pressure.

In this species, females are longer and heavier than males of the same age. Halibut grow very slowly. Five year old fish average about 22 inches in length, and weigh 3 to 4 pounds; 10 year olds range from about 30 to 55 inches in length and weigh from 12 to 60 pounds. It has been estimated that the immense fish weighing 400 or more pounds may be as much as a half century old.

Halibut are found in subarctic waters; they prefer temperatures from 36 to 47 degrees and depths from 200 to 3,000 feet. As young fish, they inhabit shallower areas, but move into progressively deeper waters as they grow. The oldest, largest specimens

tend to occur in the deeper waters inhabited by this species. Although they are bottom dwellers, individuals are occasionally sighted feeding at the surface. They live on sand, gravel, or clay bottoms, tending to avoid mud and rock.

There are seasonal movements associated with changes in water temperature. Halibut to be found in shallow areas such as Georges Bank and Nantucket Shoals only in winter and spring. As temperatures rise, the fish withdraw to deeper waters.

Reproduction occurs between December to February. They congregate at particular spawning sites, located at depths of 900 to 2,000 feet, every year. The number of eggs a female produces increases with the size and weight of the fish. A female Atlantic halibut of about 200 pounds produces as many as 2,180,000 eggs in a season.

Halibut feed mainly on groundfish, but occasionally eat a variety of shellfish. Their diet included whatever species happen to be most abundant at a particular time, including cod, cusk, haddock, herring, flounder, crabs, lobster, shrimps, clams, and mussels. Seabirds have even been found in the occasional specimen. In turn, adult halibut are eaten by seal and Greenland sharks. ☞

TEACHER'S RESOURCE

HAUL AWAY, JOE A SAILING WORK SONG

Now when I was a little boy and so my mother told me,
'Way, haul away, we'll haul away, Joe!
That if I did not kiss the gals me lips would all grow moldy,
'Way, haul away, we'll haul away, Joe!

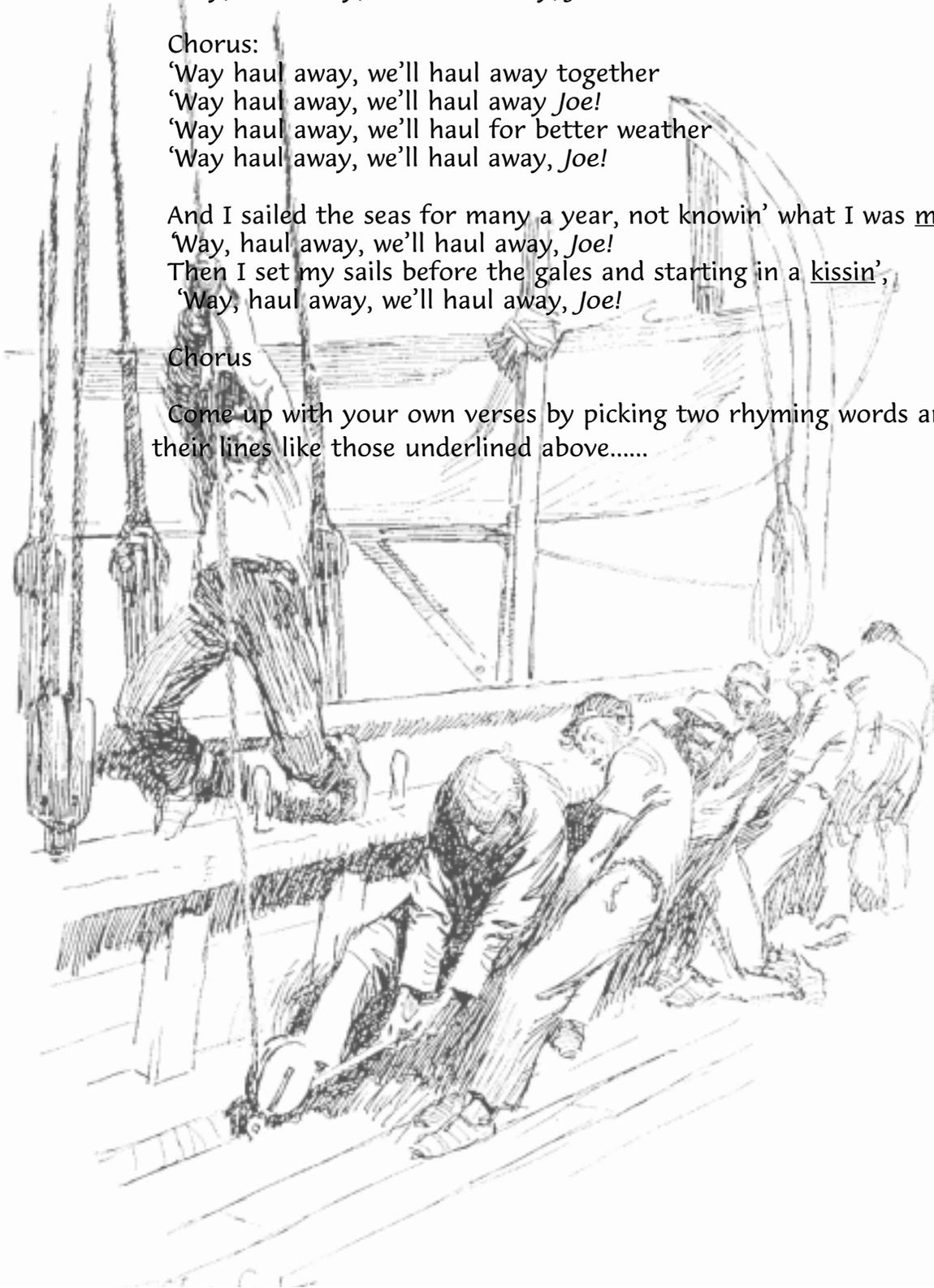
Chorus:

'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!

And I sailed the seas for many a year, not knowin' what I was missin',
'Way, haul away, we'll haul away, Joe!
Then I set my sails before the gales and starting in a kissin',
'Way, haul away, we'll haul away, Joe!

Chorus

Come up with your own verses by picking two rhyming words and their lines like those underlined above.....



TEACHER'S RESOURCE

BLOW YE WINDS

**“Tis advertised in Boston, New York and Buffalo
Five hundred brave Americans a-whaling for to go.**

Singing...

(Chorus)

Blow ye winds in the morning

Blow ye winds hi-ho

Clear away the running gear and

Blow boys, blow

**They tell you of New Bedford that famous whaling port
Then send you to a land shark to board and fit you out.**

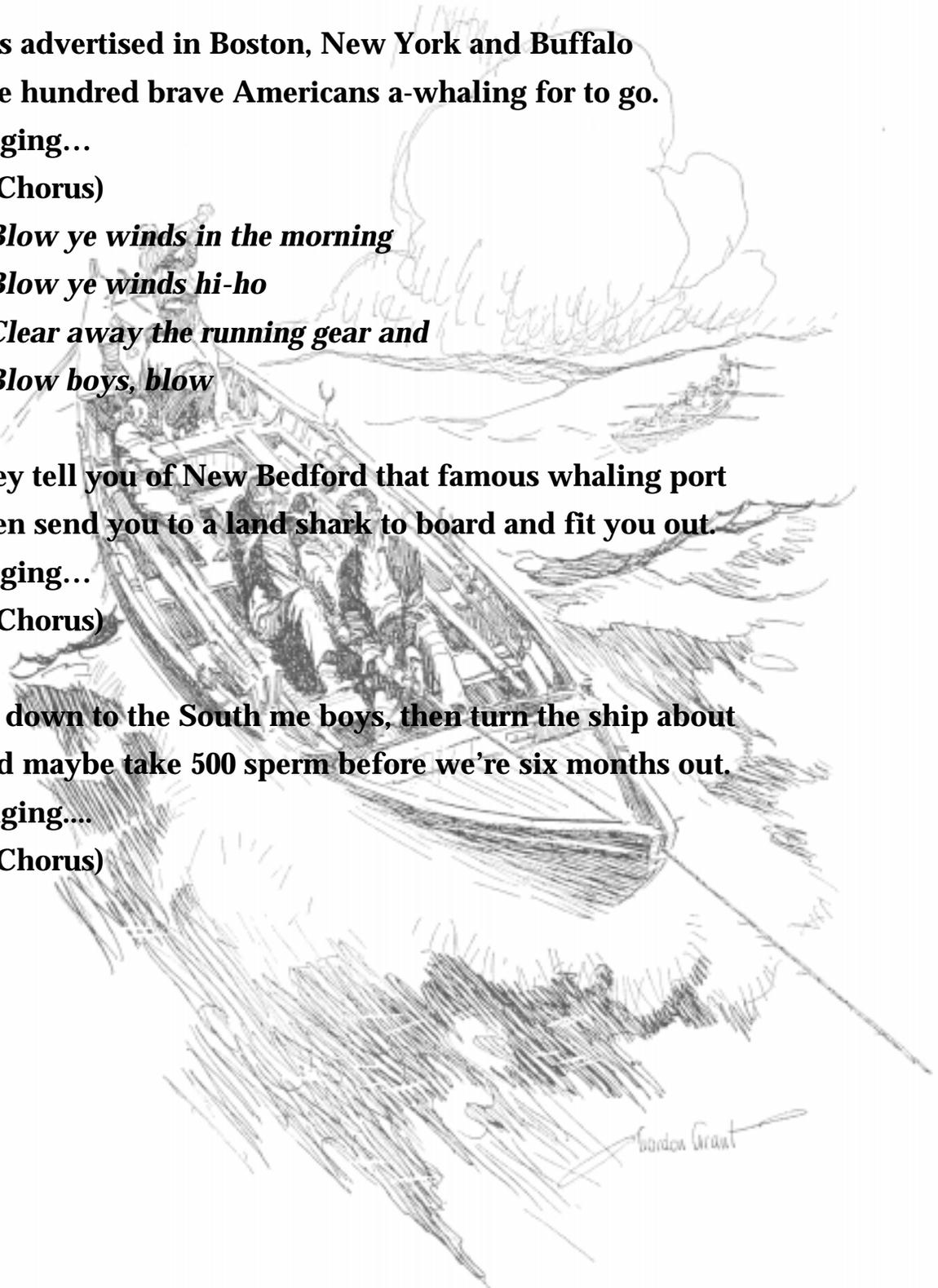
Singing...

(Chorus)

**It's down to the South me boys, then turn the ship about
And maybe take 500 sperm before we're six months out.**

Singing....

(Chorus)



TEACHER'S RESOURCE

SONG FOR ERNESTINA

BY TOM GOUX

She started life a fisherman
Gloucester fisherman she be
Out on the Banks in stormy wind and snow.
Work the grounds from dawn to dusk
To weather and to lee
All hands at it, ne'er a soul below

*Chorus: Hurrah for the Effie Morrissey
Named for her Captain's daughter
She outlived all her sisters,
Done a bit more than she oughter!*

Between the Wars she headed North
To explore the polar realm;
Walrus, seal, and Eskimo to know.
Beneath the northern lights she was
Captain Bartlett at the helm
Intrepid amidst the icy floes.

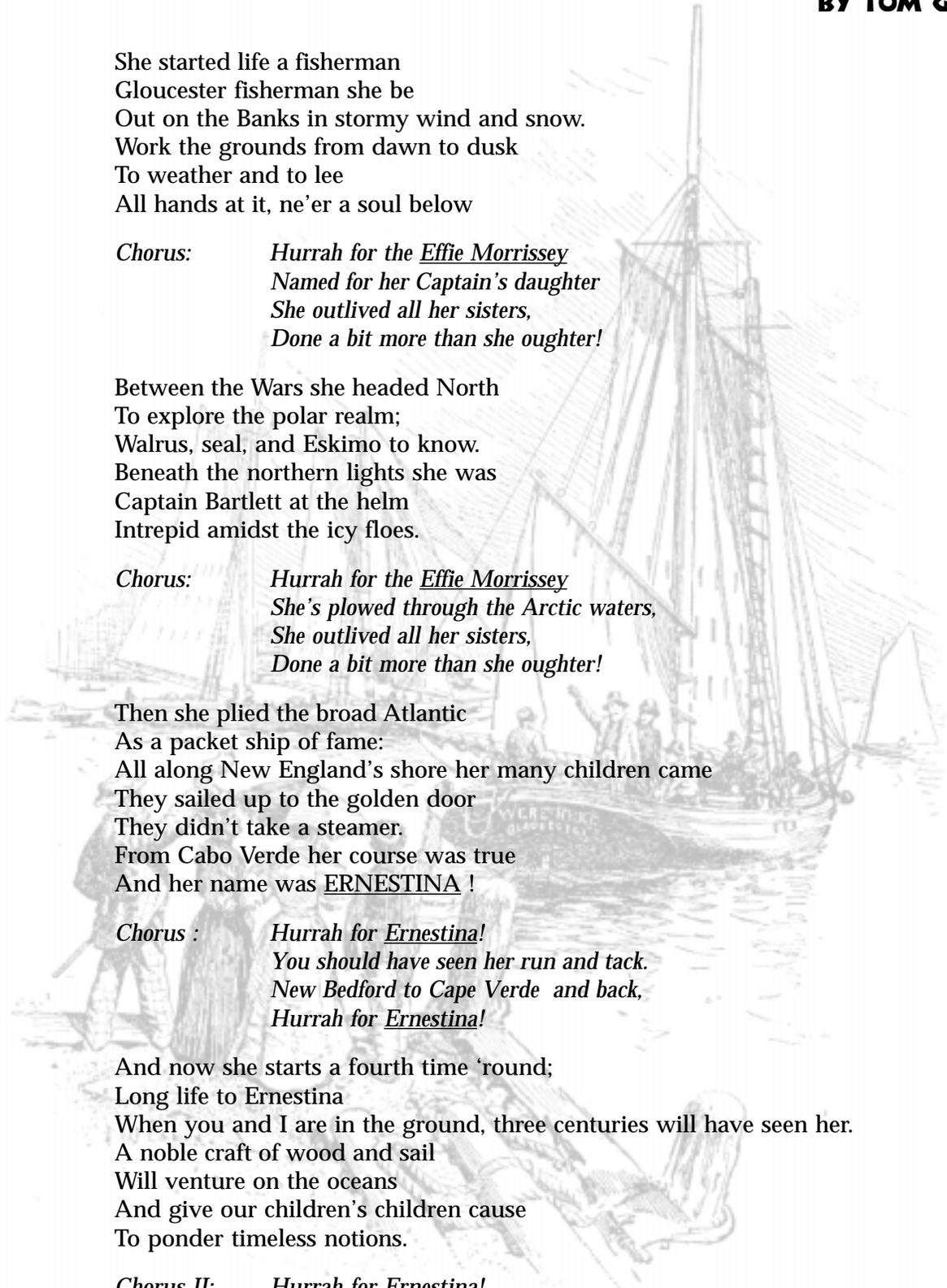
*Chorus: Hurrah for the Effie Morrissey
She's plowed through the Arctic waters,
She outlived all her sisters,
Done a bit more than she oughter!*

Then she plied the broad Atlantic
As a packet ship of fame:
All along New England's shore her many children came
They sailed up to the golden door
They didn't take a steamer.
From Cabo Verde her course was true
And her name was ERNESTINA !

*Chorus : Hurrah for Ernestina!
You should have seen her run and tack.
New Bedford to Cape Verde and back,
Hurrah for Ernestina!*

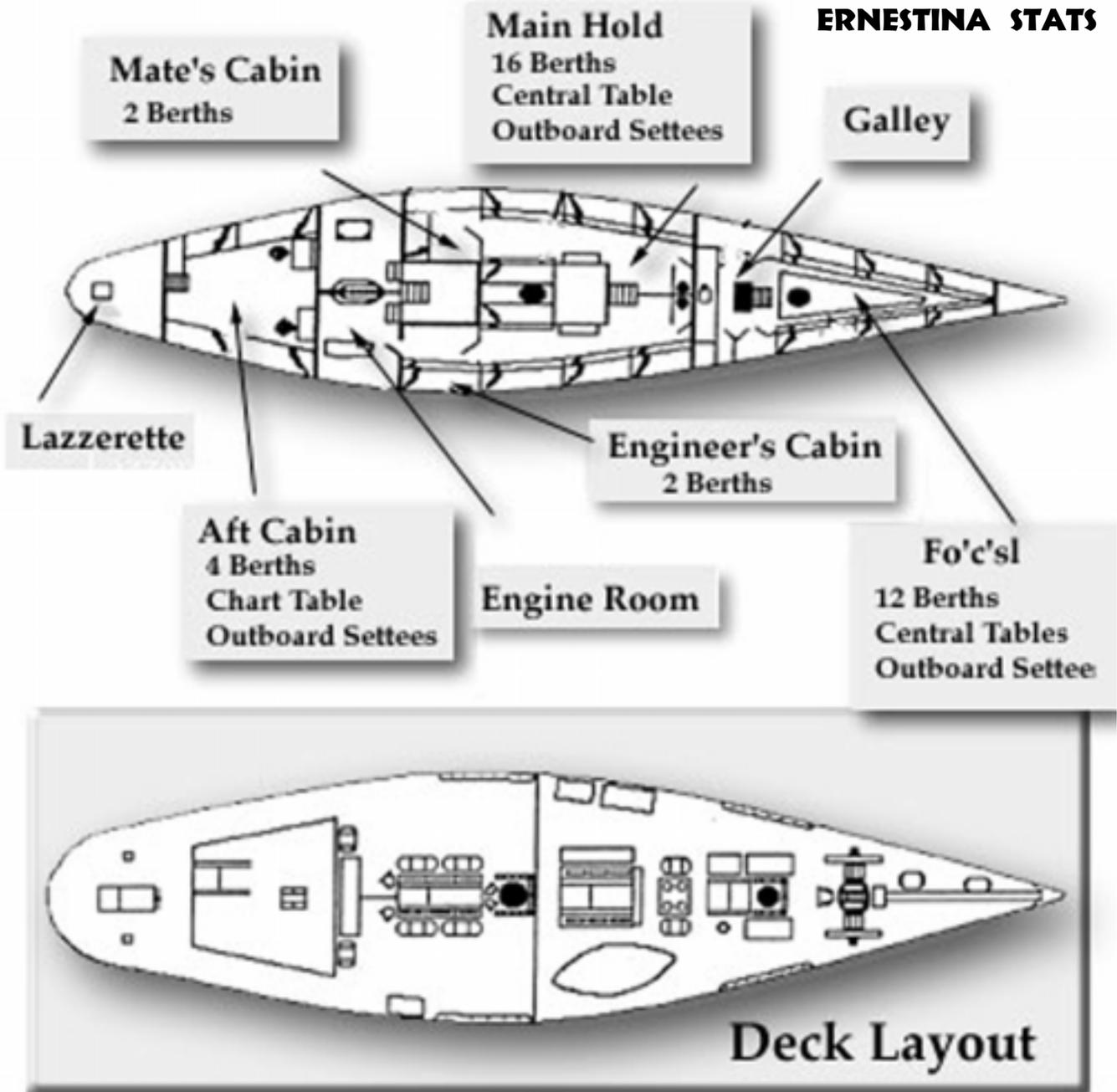
And now she starts a fourth time 'round;
Long life to Ernestina
When you and I are in the ground, three centuries will have seen her.
A noble craft of wood and sail
Will venture on the oceans
And give our children's children cause
To ponder timeless notions.

*Chorus II: Hurrah for Ernestina!
You should have seen her run and tack.
New Bedford to Cape Verde and back,
Hurrah for Ernestina!*



TEACHERS RESOURCE

ERNESTINA STATS



STATISTICS

Sparred Length Overall:	156 feet	Builders:	James & Tarr Shipyard, Essex, MA
Length at Waterline:	93 feet	Launched:	February 1, 1894
Beam:	24 feet 5 inches	Onboard Educational Staff:	12
Draft:	13 feet	Capacity for Events:	80
Gross Tonnage:	98 Tons	Educational Day Programs:	65
Displacement:	240 Tons	Overnight Programs:	24
Designer:	George M. McClain		



TEACHER'S RESOURCE

OUTFITTING A WHALESHIP SHIP *ATKINS ADAMS*

The following is a list of some, but not all, supplies and equipment purchased to outfit the whaleship Atkins Adams for her voyage 1850-1854 in search of sperm whales.

1850	company/person	item	cost
July 2	Ruben Adams	8 Bbls. Tar	\$ 14.85
	J. Bourne	20 cords wood	109.38
	Robt. Hooper	duck	341.44
	Henderson Inches	copper	1504.93
	Joshua Delano	cedar boards	22.24
Aug.2	Joseph Blossom	wood	13.49
	Adam Hathaway	caulking	192.65
	Andrew Snow	Bricks	24.50
	Randall Brothers	Paints	159.80
	Hayward Osgood	beans	16.60
	Gardner & Thayer	Hardware	161.12
	Harrison Fay	Hams	59.67
	William Ashley	Flags	4.75
	Alfred Gifford	Butter	173.28
	Hitch Taber	Sailmaker	178.97
	James B. Ransen	rivets	32.74
	Wright & Whitman	duck	107.63
	Peleg Drew	Iron Poles	10.75
	Barrow & Corey	Tobacco, Soap	309.03
	Simpson Hart	sail duck	513.08
Sept.	David R. Green	Copper nails	85.07
	R. S. Kirbey	Trypots	35.00
	Weston Howland	oars	36.54
	Chenery Shaw	Wine & Brandy	21.33
	N. S. Higgins	lumber	118.06
	Gardner & Thayer	shovels	1.42
	H. P. Willis	1 Bucket	3.00
	S. G. Nye	beef & pork	102.40
	D. R. Green	corn	11.52
	Isaac Norton	boots	92.00
	William Baker	potatoes	25.05
	Wm Edwards	flags	4.32
Franklin Hatch	cask	672.42	
Jethro Taber	craft	53.76	

continued

TEACHER'S RESOURCE

OUTFITTING A WHALESHIP SHIP *ATKINS ADAMS*

1850	company/person	item	cost
	Warren Delano	sheathing	\$ 9.85
	P. Merrehew	blacksmith tools	147.34
	Dexter Jenney	leather	121.00
	Dexter Jenney	Water	25.00
	Albert Sawin	cordage	1005.53
	Albert Sawin	Ballast	25.80
	P. Fuller	oil rosin	4.50
	N. & J. W. Lawton	vegetables	24.98
	Natht Church	nails	131.36
	Seth Shaw	pork beef	8.79
	Edward M. Robinson	oil soap	37.75
	Enoch Taber	cabbages	2.18
	Le Barron	30 bushels charcoal	3.75
	E. Sawin	planing lumber	8.27
	Charles Bosworth	boat	80.30
	Thos Bates	sawing wood	10.80
	Geo T. Barker	vinegar	26.31

TEACHER'S RESOURCE

HOW A WHALESHIP PREPARED FOR A VOYAGE

OBJECTIVE:

Students will understand that a variety of equipment and materials was necessary to prepare a whaleship for a four-year whaling voyage, that many people and industries were involved, and that it was expensive.

MATERIALS NEEDED:

- Chapter 3, "An Arctic Whaling Voyage," *Whales, Ice and Men*. John R. Bockstoce
- "Outfitting a Whaling Vessel: Ship *Atkins Adams*"
- White composition paper

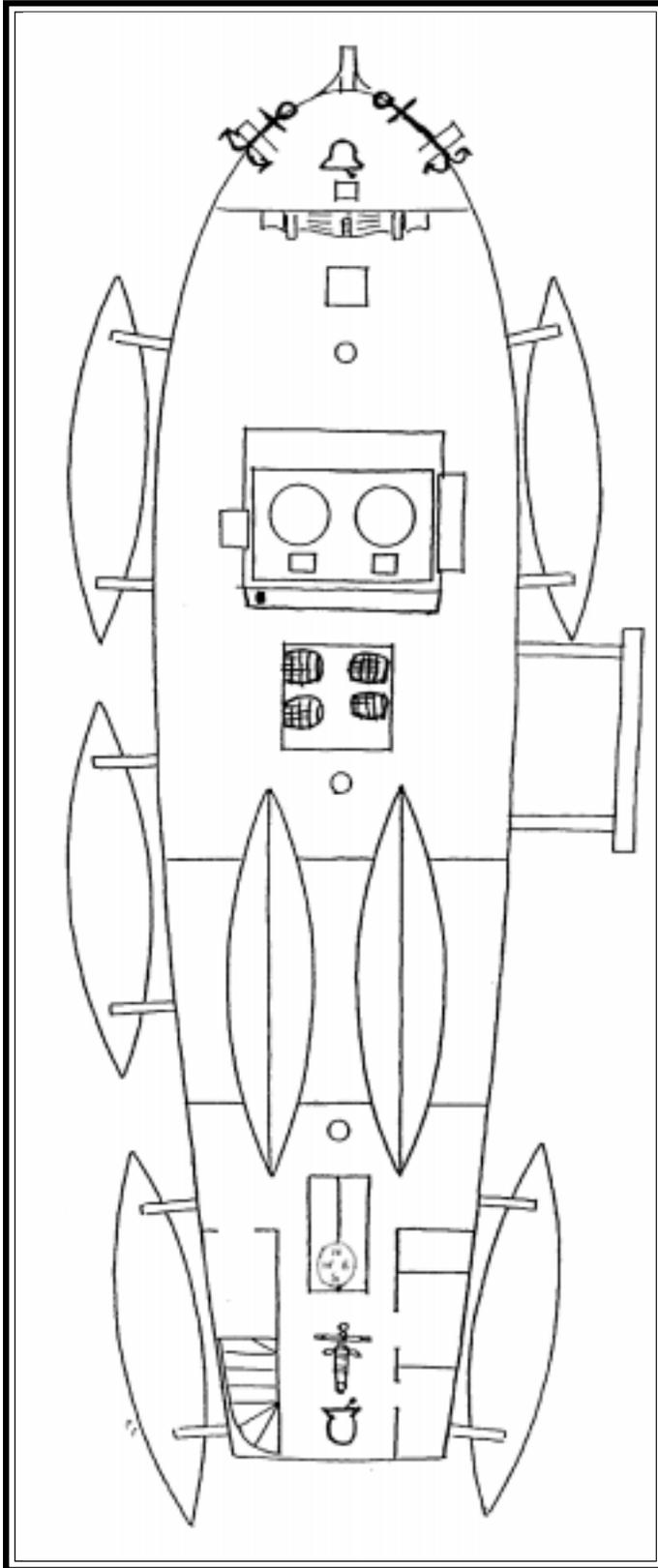
PROCEDURE:

- Read Chapter 3 to students.
- Discuss chapter.
- Using "Outfitting the Whaleship: Ship *Atkins Adams*," students will categorize the items listed.
- Set up composition paper with the following five categories across the top of the paper:

Food Stuffs	Rigging and Sails	Repairs to Ship	Whaling and Oil Preparation	Sailors Comforts

TEACHER'S RESOURCE

LAGODA DECK PLAN



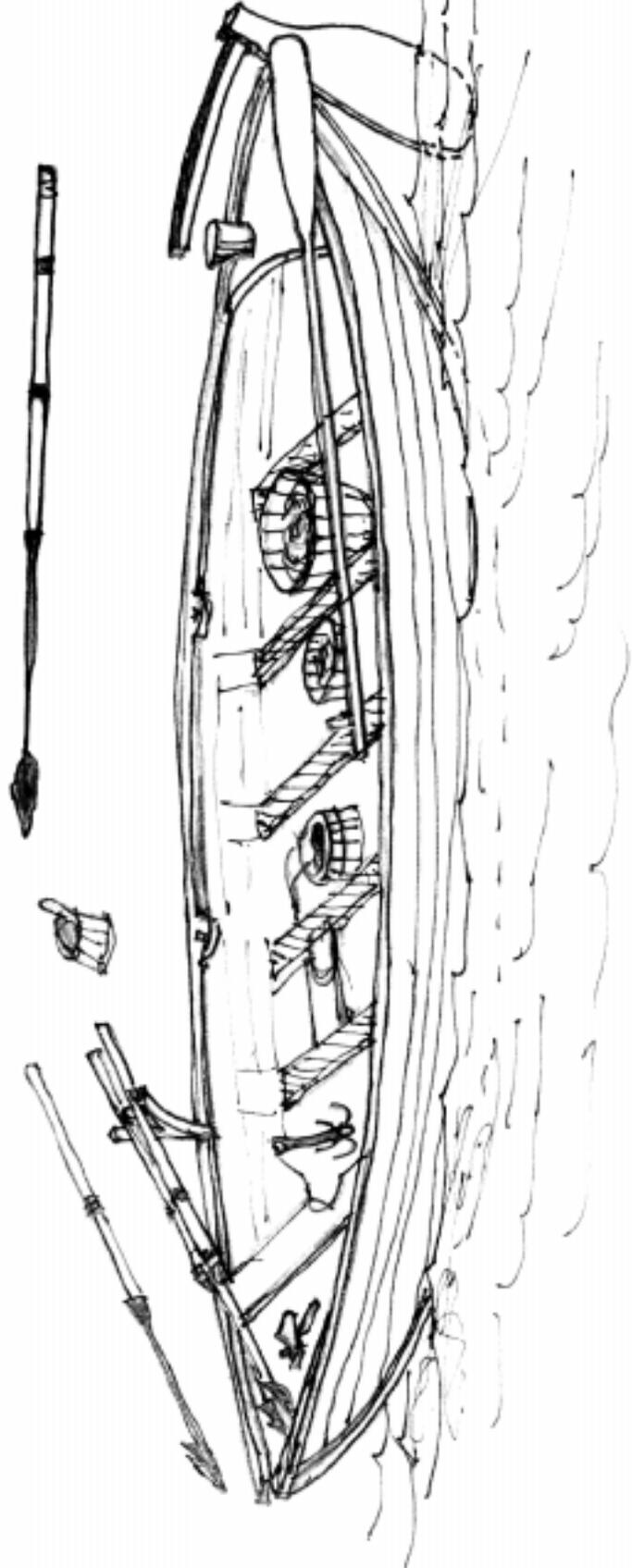
1. windlass
2. forecastle (fo'c's'l) *
3. hatch to crew's quarters
4. anchor
5. casks *
6. cutting-in stage
7. masts
8. tryworks
9. carpenter's bench
10. galley
11. boats on davits
12. compass
13. steering wheel
14. sails
15. ship's bell
16. Captain's quarters *
17. weather deck
18. spare boats

* Below Deck

TEACHER'S RESOURCE

WHALEBOAT PARTS

1. chocks
2. clumsy cleat
3. ax
4. grappling hook
5. mast hinge
6. paddles
7. harpoons
8. lances
9. main line tub
10. reserve line tub
11. bucket
12. bailer
13. steering oar
14. loggerhead
15. rudder





TEACHER'S RESOURCE

SUGGESTED PRE & POST VISIT ACTIVITIES FOR YOUR VISIT TO THE SCHOONER ERNESTINA

A. Imagine your family has been fishing out of Gloucester for 3 generations. You are 12 years old and your father, the captain, has decided you're ready for your first voyage to the Grand Banks fishing grounds. Write a letter to your cousin who lives in New Bedford describing how you feel about leaving home for 2 months, learning your family's trade, and what you might expect to experience at sea.

B. Write and perform a brief play with the title "WORKING ON THE BANKS" Some possible scenes are:

1. Preparing to leave home.
2. Sailing out to the Grand Banks off the coast of Newfoundland.
3. Setting off in the dory and working a hand or trawl line.
4. Pitching the fish up on deck
5. Cleaning and salting the fish.
6. "Muggin' up" in the fo'c's'tle

C. How did the captain know where and when to go to catch the fish? Study the life cycle of cod, halibut, flounder and, mackerel and their migration patterns.

D. Log books were used to record location, weather, type and amount of fish collected, and catches of each man. Create a log book that records your daily activity that could include a record of your daily schedule, where you went and who you talked to, what and where you ate during the day, new ideas you learned, and special events.

E. Illustrate a blank world map. List continents and oceans. Label the Grand Banks. Indicate where the different types of fish could be found.

F. Learn a sea chantey that was used to help the crew members work together. Work chanteys for hauling lines include: *Haul Away Joe*, *Cape Cod Girls*, *Boston Harbor*, and *South Australia*.

G. Make a timeline indicating one or more of the following:

- ⌘ a day in the life of a salt bank fisherman
- ⌘ life cycle and migration patterns of Cod
- ⌘ 105 years of Ernestina

H. Use fish templates on the following page. You can enlarge the mirror images using a copy machine. Design both sides as the "skin" of the fish. It can be as creative as you'd like. Stuff with newspaper and tape or glue the sides together. Display with a fishing net for a bulletin board display.

TEACHER'S RESOURCE



SUGGESTED PRE & POST VISIT ACTIVITIES FOR YOUR VISIT TO THE NEW BEDFORD WHALING MUSEUM

A. Imagine that you live on a farm in 1850. Your dream is to go to whaling. Write a letter to a friend who has been on a whaler. Ask him any questions you have about life aboard a whaler. Tell him what you will miss about the farm and what you will be happy to leave behind. Have another person in your class be your friend and respond to your letter.

B. Knowing that they would be away from home for years, many seamen had either their portrait painted or a photograph taken of themselves to leave with a loved one as a memento; a remembrance. Imagine yourself sitting for a portrait. Plan the scene, what will you wear, what will you include in the picture that will tell about you and your interests?

C. Write and perform a brief play with the title "ON BOARD A WHALESHIP"
Some possible scenes are:

1. Preparing to leave home.
2. The first few days on board the ship.
3. The sighting and capturing of a whale.
4. Trying out blubber.
5. Visiting a South Sea island.
6. Returning home.

D. How were sea captains able to find their way across the oceans without getting lost? Describe the methods used by sea captains now and in the whaling days of the 1850's.

E. Research sailors' knots, make a display board showing different types of knots.

F. Imagine that you are a whaleman preparing for a voyage that will last three to four years. You can take only those things which you will need the most and that will fit into a seaman's chest. Make a list of the items you will need and want to bring with you. Compare your list with someone else's. Explain your reason for choosing the items you did.

continued

G. Log books not only gave daily accounts of a whaling voyage, the weather and location, but they also presented a visual account of the days when whales were sighted or killed. Write an imaginary entry in a log, including information on all of the above. Whales' images were made with a wooden stamp. Illustrate your log by making a whale stamp out of a potato.

H. Illustrate a blank map of the world. Name the oceans, seas and continents a whaler might explore while making an around the world search for whales. Research and locate some of the many ports at which a whaler might stop for supplies and repairs. Present this information in the form of a play, a travelogue or a panorama.

I. Before motion pictures, historic events and far away places were portrayed on huge canvas rolls that were hand cranked with each scene moving across the stage. These were called panoramas. Create your own panorama depicting an historic event. Use a box as a stage and paper towel rolls or dowels to unfurl the narrative picture.

J. Whalemen occupied idle hours with an art form called scrimshaw, carving whale's teeth, bones and baleen into useful and decorative objects. Designs and pictures were carved into these materials usually with a sail needle and darkened with lamp black. Make your own scrimshaw using either grocery store meat containers, empty bleach bottles, or sea shells and darken with paint or ink.

K. Make paper mache whales using oval shaped balloons with cardboard flukes taped to the end. Once covered and dried, paint and add final whale-like touches.

L. Go to the library and find short stories and poems about whales. Make up your own stories, poems or myths about whales.

M. Make a time line indicating the major changes in the source of light between 1800 and 1900.

TEACHER'S RESOURCE

SELECTED LEARNING STANDARDS FROM THE MASSACHUSETTS CURRICULUM FRAMEWORKS

THE DEVELOPMENT OF SELECTED HISTORY and SOCIAL SCIENCE LEARNING CAPACITIES PreK-4

HISTORY: learning capacities in chronology and causality; historical understanding; Research, evidence and Point of view; Society, Diversity, Commonality, and the Individual; Interdisciplinary Learning: Religion, Ethics, Philosophy, and Literature in History; Interdisciplinary Learning: Natural Science, Mathematics, and Technology in History

PreK-K students can	Grade 1 students can	Grade 2-3 students can	Grade 4 students can
<ul style="list-style-type: none"> + practice and acquire habit of listening to and following stories + learn to recognize narrative story elements: <ul style="list-style-type: none"> - chronology ("now," "long ago") - narrative order (first, next, last) + attend with teacher assistance to causal factors in stories: <ul style="list-style-type: none"> - character, ideas, family/social/ economic settings - geography, seasons - accident, etc. + dictate sentences about story elements of character, event, setting + memorize historical poetry, songs portions of documents and speeches 	<ul style="list-style-type: none"> + recognize and describe more complex story elements of chronology and narrative sequences + describe story elements of character, event, setting + with teacher assistance, draw simple inferences from story: <ul style="list-style-type: none"> - about character, events, or setting - about causal factors + with teacher assistance, identify/seek evidence for inferences + with teacher assistance, make comparative oral connections between stories, between stories and life experiences + write properly sequenced descriptions and summaries + memorize historical poetry, songs, portions of documents and speeches 	<ul style="list-style-type: none"> + refine sense of time ("now" and "in the past") and recognize in discussion existence of changing historical periods ("other times, other places") + begin to construct historical timelines + with teacher assistance, begin to recognize similarities and differences of character, action, and setting: between now and period depicted: between periods depicted + with teacher assistance, begin to discuss causal factors of narrative, actions, events, + incorporate these capacities in simple writing exercises + continue memorization 	<ul style="list-style-type: none"> + identify events by date and historical period and begin to associate period with chronological order in time + construct timelines + use reading skills for independent study on historical topics, attending to chronology, causality, and evidence + begin to understand that historical inquiry employs a variety of sources and identify, with teachers assistance, primary and character secondary sources + dictate sentences about story + with teacher assistance, begin to understand that narrative accounts of historical events, ideas, and people vary in emphasis and point of view according to author's understanding of cause or significance , + begin to understand that good evidence requires consulting multiple sources + develop versatile means of expressing understanding: oral, written, dramatic, artistic + continue memorization

GEOGRAPHY: learning capacities in Physical Spaces of the Earth; Places and Regions of the World; The Effects of Geography; Human Alteration of Environments

PreK-K students can	Grade 1 students can	Grade 2-3 students can	Grade 4 students can
<p>+ practice being careful observers of natural surroundings,* with teacher assistance, note regular changes/patterns:</p> <ul style="list-style-type: none"> - length of day/night - seasons - features of local topography, geology, biology <p>+ with teacher assistance, notice connections between geography and the way people live "now" and "in the past" as depicted in stories</p> <p>+ follow as teacher traces stories on large globe</p> <p>+ learn basic global features (continents, oceans, poles, axis)</p> <p>*regular "tours" of school grounds or local park</p>	<p>+ continue regular observation "tours"* and record changes:</p> <ul style="list-style-type: none"> - ecology (plant and animal) - sky, weather <p>+ with teacher assistance, begin to understand effect of geography on the way people live "now" and "in the past" as depicted in stories (effect on shelter, diet, arts, technologies)</p> <p>+ continue to learn global features (hemispheres, rivers, mountains)</p> <p>+ with teacher assistance, follow stories on globe and maps</p> <p>+ begin to learn map-reading vocabulary</p>	<p>+ enlarge globe and map-reading skills (following narrative accounts on globe and maps)</p> <p>+ make simple maps on paper and relief maps</p> <p>+ begin to identify and express understanding of geographical effects/cause in history under study (effect on shelter, diet, arts, technologies; cause of event)</p> <p>+ continue to learn global features (latitude and longitude) and local features in conjunction with history under study (political units, natural resources)</p> <p>+ practice skills by making maps from memory of basic global/continental/select nation and state shapes and features</p>	<p>+ use proper globe and map vocabulary</p> <p>+ continue to learn geographic features of areas under study</p> <p>+ use reading and writing skills to identify/describe geographical effects/cause in history under study</p>



ECONOMICS: learning capacities in Fundamental Economic Concepts; Economic Reasoning; American and Massachusetts Economic History; Today's Economy; Theories of Economy

PreK-K students can	Grade 1 students can	Grade 2-3 students can	Grade 4 students can
IN CONJUNCTION WITH STORIES	IN CONJUNCTION WITH HISTORY STORIES AND GEOGRAPHY STUDY	IN CONJUNCTION WITH HISTORY STORIES AND GEOGRAPHY STUDY	IN CONJUNCTION WITH HISTORY STORIES AND GEOGRAPHY STUDY
+ notice with teacher assistance: - basic needs of people "now" and "long ago" for food, clothing, shelter - their resources, plentiful and scarce, to satisfy needs - the family "economy" for meeting needs (family tasks) - the community "economy" (mutual assistance and exchange)	+ begin to notice, with teacher assistance, changing and developing resources depicted in narrative accounts: - gathering/hunting and fishing/exchange/agricultural production/trade and money commerce/manufacturing/service + begin to notice, with teacher assistance, complexity of needs: - leisure for practice of religion, arts and sciences, sociability; community security - accumulation of wealth, individual and community, to provide for these needs	+ continue to note and identify, with teacher assistance, individual and community needs, as distinguished from wants + with teacher assistance, begin to develop an appreciation of changing and developing resources-and their distribution-specifically connected with historical event/period under study + with teacher assistance, notice varied global distribution of resources	+ use reading, writing, and geography skills to begin to incorporate basic economic questions (needs, resources, accumulation, exchange, distribution) in considering causality in events/period under study + begin to notice, with teacher assistance, basic economic questions as factors in community responsibilities for security and the general welfare

Teachers should also recognize that student acquisition of an early grasp of events, ideas, and words of economic import is not limited solely to the context of study in history and geography. Historical narrative and geography study disclose economic effects as well as ideas; so do many other instances of early learning in economics:

- Giving students a word problem in mathematics constructed around the value of coins might equally lead to more than superficial discussion of the concept of money.
- Having students compile a list of materials to purchase in order to make a gift for a friend might frame questions and discussion of specific economic terms, such as "consumer," "producer," "buyer," "seller," "cash," and "credit."
- Helping students learn to be respectful of the rights of others usually requires some attention to the ideas of ownership and property.

CIVICS and GOVERNMENT: learning capacities in Authority, Responsibility, and Power; The Founding Documents; Principles and Practices of American Government; Citizenship; Forms of Government

PreK-K students can	Grade 1 students can	Grade 2-3 students can	Grade 4 students can
<p>+ learn and practice rules and precepts of the learning community:</p> <ul style="list-style-type: none"> - respect for persons and property (courtesy and consideration, taking turns) - take part by being cooperative and helpful to others - share responsibility for keeping classroom in order - work with diligence and honesty <p>+ begin to understand reasons for following rules at home, in the classroom, on the playground</p> <p>+ be touched in their aspirations by stories of good, just, noble actions</p>	<p>+ observe and practice rules and precepts of the learning community</p> <p>+ begin to work in groups with defined tasks and responsibilities for the work of classroom</p> <p>+ from stories, myths, narrative accounts, biographies, learn more about qualities of character to emulate or to avoid</p> <p>+ be introduced in story and narrative to ideas of liberty and justice</p>	<p>+ observe and practice rules and precepts of learning community</p> <p>+ begin to assume leadership for specific class responsibilities</p> <p>+ undertake community service within the school (participate in school "buddy system")</p> <p>+ participate in appropriate all-class decisions and abide by majority decision; begin to learn that they will sometimes be in and sometimes out of the majority</p> <p>+ explore in stories, biographies and historical narrative the character of historical figures</p> <p>+ begin to distinguish acting justly, for the common good, or acting unjustly, for selfish ends</p> <p>+ begin to learn from stories, biographies, and narrative accounts about high value we place on liberty and justice for all</p>	<p>+ observe rules and practice precepts of learning community and participate in community responsibilities</p> <p>+ begin to understand that rules/precepts of learning community are connected - <i>through habits of observing rules and participation</i>- to laws which secure human and civil rights and confer political and civic responsibilities</p> <p>+ use reading skills to learn about high value we place on liberty and justice for all; begin to learn about how these are secured by limited government (representative democracy and constitutional government)</p>



MASSACHUSETTS CURRICULUM FRAMEWORKS

WORKING ON THE WATER

Strand One: History

LEARNING STANDARD 1: CHRONOLOGY AND CAUSE. Students will understand the chronological order of historic events and recognize the complexity of the historical cause and effect, including interaction of forces from different spheres of human activity, the importance of ideas, and of individual choices, actions, and character.

⌘ Students put events in temporal order. STUDENTS CAN USE THE TIMELINE TEMPLATES TO CHART A VARIETY OF EVENTS INTRODUCED IN THE UNIT. EXAMPLES INCLUDE: A TIMELINE OF AN INDIVIDUAL TRIP, LENGTH OF A VOYAGE, THE ERA OF WHALING OR FISHING IN THE GRAND BANKS, A DAY IN THE LIFE OF ONE OF THE CREWMEMBERS.

⌘ Students understand cause and effect, THEY EXPLAIN HOW SUPPLY AND DEMAND EFFECTED FISHING AND WHALING THE RELATIONSHIP BETWEEN EVENTS. THEY EXAMINE THE CONSEQUENCES OF OVERUSE OF NATURAL RESOURCES.

LEARNING STANDARD 2: HISTORICAL UNDERSTANDING: Students will understand the meaning, implications, and importance of historical events, while recognizing the contingency and unpredictability of history – how events could have taken other directions – by studying past ideas as they were thought, and past events as they were lived, by people of the time.

⌘ Students understand that people often have good evidence for predicting the outcome of their actions but that actions can also have unintended consequences. STUDENTS WILL READ “A LETTER HOME FROM WILL WOODS, GREENHAND”. THEY WILL GATHER EVIDENCE FROM THE LETTER ABOUT THE UNINTENDED CONSEQUENCES OF HIS ACTIONS.

LEARNING STANDARD 3: RESEARCH, EVIDENCE, AND POINT OF VIEW: Students will acquire the ability to frame questions that can be answered by historical study and research; to collect, evaluate, and employ information from primary and secondary sources, and to apply it in an oral and written presentation. They will understand the many kinds and uses of evidence; and by comparing competing historical narratives, they will differentiate historical fact from historical interpretation and from fiction.

⌘ Students differentiate among the kinds of text they read. STUDENTS WILL READ THE TWO EXAMPLES OF A “DAY-IN-THE LIFE” OF A WHALER AND A FISHERMAN. THEY WILL COMPARE AND CONTRAST THE TEXT USING A VENN DIAGRAM. THEY WILL ALSO EXPLAIN THE DIFFERENCE BETWEEN STATEMENTS OF FACT AND STATEMENTS OF OPINION.

LEARNING STANDARD 6: INTERDISCIPLINARY LEARNING: Natural Sciences, Mathematics, and Technology in History. Students will describe and explain major

advances, discoveries, and inventions over time in natural science, mathematics, and technology; explain some of their effects and influences in the past and present on human life, thought, and health, including use of natural resources, production and distribution and consumption of goods, exploration, warfare, and communication.

⌘ Students learn the story of inventions and discoveries that make their lives different from the lives of people of long ago. STUDENTS WILL EVALUATE HOW THE DISCOVERIES OF PETROLEUM, OIL, AND ELECTRICITY EFFECT THEIR LIVES. THEY WILL ALSO DETERMINE HOW THESE INVENTIONS CHANGED WHALING AND FISHING. A CAUSE AND EFFECT CHART WILL ENABLE TO THE STUDENTS TO REPRESENT INFORMATION GRAPHICALLY.

Strand Two: Geography

LEARNING STANDARD 7: PHYSICAL SPACES OF THE EARTH. Students will describe earth's natural features and their physical and biological characteristics; they will be able to visualize and map oceans and continents; mountain chains and rivers; forest, plain, and desert; resources both above and below ground; and conditions of climate and seasons.

⌘ Students know and locate the cardinal directions, poles, equator, hemispheres, continents, oceans, major mountain ranges, and other major geographical features of the earth. STUDENTS WILL USE THE WORLD MAP TO IDENTIFY LOCATIONS OF FISHING AND WHALING GROUNDS AND THE ROUTES PEOPLE TOOK TO GET THEM THERE. THEY WILL LABEL THEM MAP FEATURES.

LEARNING STANDARD 9: THE EFFECTS OF GEOGRAPHY. Students will learn how physical environments have influenced particular cultures, economies, and political systems, and how geographic factors have affected population distribution, human migration, and other prehistoric and historical developments, such as agriculture, manufacturing, trade, and transportation.

⌘ Students understand reasons why people move from one place to another. STUDENTS WILL UNDERSTAND WHY PEOPLE CAME TO NEW BEDFORD FROM THE "YOUNG MEN WANTED TO SEE THE WORLD" ACTIVITY DURING THEIR WORKING ON THE WATER VISIT TO THE WHALING MUSEUM.

Strand Three: Economics

LEARNING STANDARD 11: FUNDAMENTAL ECONOMIC CONCEPTS. Students will understand fundamental economic concepts, including choice, ownership, exchange, cooperation, competition, purposive effort, entrepreneurship, incentive, and money. The emphasis in the lower grades will be on clarity of understanding, not terminology. Instruction in fundamental economics concepts will continue through grade 12, and will develop progressively to include mastery of more complex concepts and accurate use of important terms.

⌘ Students understand how natural limits favor people working together. STUDENTS WILL

READ “THE CAPTURE AND PROCESSING OF WHALES” AND IDENTIFY THE DIFFERENT PEOPLE WHO WORKED IN CONJUNCTION TO SEIZE A WHALE.

STUDENTS WILL USE THE “ABOVE AND BELOW” CHART TO DETERMINE THE WHO, WHAT, AND WHERE OF PEOPLE AND THEIR JOBS ON A FISHING SCHOONER AFTER THEIR VISIT TO THE SCHOONER ERNESTINA.

⌘ Students understand the concept of incentives and the idea of money. STUDENTS WILL UNDERSTAND THAT BOTH TYPES OF SEAMEN WERE PAID BY THE PROFITS OF THEIR SHIPS. THIS WAS THEIR INCENTIVE TO WORK AS HARD AS POSSIBLE TO ENSURE HIGHER WAGES. THEY WILL ALSO UNDERSTAND HOW THOSE PROFITS WERE DIVIDED.

LEARNING STANDARD 12: ECONOMIC REASONING. Students will demonstrate understanding of supply and demand, price, labor markets, the costs of capital, factors affecting production, distribution, and consumption, relations among such factors, the nature of goods and services, incentives, financial markets, cost-benefit (including marginal cost-benefit) analysis, fairness, and the value of trade.

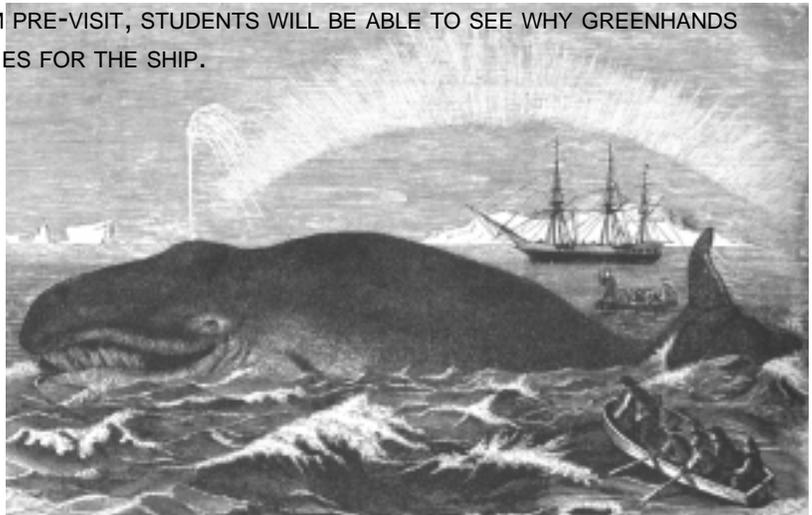
⌘ Students understand that price may be determined by bargaining. STUDENTS UNDERSTAND THAT THE PURCHASE PRICE OF THE RESPECTIVE SHIPS’ HOLD WAS BASED ON SUPPLY AND DEMAND AND THE FINAL PRICE SET BY BIDDING AND AUCTION.

⌘ Students understand the difference between the price someone pays to buy a good or service and the cost of making or providing it. STUDENTS USE THE “OUTFITTING OF A WHALESHIP ~ SHIP **ATKINS ADAMS** AND THE ACTIVITY IN THE TEACHER’S RESOURCE SECTION TO THE COST OF A 4 YEAR VOYAGE AND WHAT WERE THE MOST IMPORTANT OF PURCHASES.

⌘ Students explain the law of supply and demand. STUDENTS WILL BE ABLE TO EXPLAIN HOW SUPPLY AND DEMAND EFFECTED THE PRICING OF WHALE AND FISH PRODUCTS AND HOW THIS PRINCIPLE RELATES TO TODAY’S MODERN SOCIETY.

⌘ Students explain how labor markets work. STUDENTS WILL EXPLAIN AFTER THEIR TRIP HOW WORKERS WERE ENTICED INTO WHALING FIELD AND HOW THE FISH VESSELS GATHERED THEIR MEN.

⌘ Students explain why it cost money to borrow money. USING RESOURCES IN THE CURRICULUM GUIDE AND THE CLASSROOM PRE-VISIT, STUDENTS WILL BE ABLE TO SEE WHY GREENHANDS WERE NOT ADVISED TO PURCHASE SUPPLIES FOR THE SHIP.



LEARNING STANDARD 13: AMERICAN AND MASSACHUSETTS ECONOMIC HISTORY. Students will describe the development of the American economy, including Massachusetts and New England, from colonial times to the present.

⌘ Students will understand technological progress. STUDENTS LEARN STORIES THAT SHOW THAT THE WHALING INDUSTRY AND FISHING INDUSTRIES DEVELOPED IN A SEQUENCE.

⌘ Students understand that pursuit of economic opportunity often required people to make journeys and to establish new homes. STUDENTS UNDERSTAND THAT VARIOUS RACIAL, AND ETHNIC GROUPS CAME TO NEW BEDFORD OVER THE SEA EITHER THROUGH A MARITIME TRADE OR ACROSS THE OCEANS OVER THE SEA IN SEARCH OF NEW OPPORTUNITIES.

⌘ Students describe the stages of economic change in New England from the 1600s to the present. STUDENTS DRAW TIMELINES OF NEW ENGLAND WHALING AND FISHING INDUSTRIES AND RUN THEM RIGHT UP TO THE PRESENT DAY THROUGH AN EXPLORATION OF THE WATERFRONT IN NEW BEDFORD.

⌘ Students describe the rise and fall of particular industries. STUDENTS UNDERSTAND THAT THE WHALING AND FISHING INDUSTRIES HAVE FLUCUATED OVER TIME.



BIBLIOGRAPHY

TO FIND OUT MORE ABOUT NEW BEDFORD AND THE FISHING/WHALING INDUSTRIES

THE FOLLOWING BOOKS ARE RECOMMENDED AS RESOURCES FOR TEACHERS

- Ashley, Clifford W., The Yankee Whaler, Boston: Houghton Mifflin Co., 1926.
- Bockstoece, John R., Whales, Ice, and Men, Seattle: U. of Washington, 1986.
- Ellis, Richard, Men and Whales, New York: A.A. Knopf, 1991.
- Garland, Joseph E., Down to the Sea - The Fishing Schooners of Gloucester, D.R. Godine, Pub., 1983.
- Junger, Sebastian, The Perfect Storm, WW Norton & Co., New York, 1997.
- Kipling, Rudyard, Captains Courageous, The Century Co., New York, 1909.
- Kurlansky, Mark, Cod: the biography of the fish that changed the world. Walker & Co., New York, 1997.
- Melville, Herman, Moby-Dick, 1851. Norton Critical Edition, 1967.
- “*Moby-Dick and the Tools of Whaling*,” ODHS-New Bedford, MA., 1983.
- Nordhoff, Charles, Whaling and Fishing, Dodd, Mead & Company, New York, 1895.
- Pierce, Wesley George, Going Fishing, International Marine Publishing Company, Camden, Maine, 1989.
- Story, Dan, Growing Up in a Shipyard. Mystic Seaport Museum, Inc., Mystic, 1991.
- Villiers, Alan.,The Quest of the Schooner Argus. Charles Scribner’s Sons, New York, 1951.
- Wallace, Frederick William, Roving Fisherman, 1912.

The illustrations in “Working on Water” appear in: *Grant, Gordon, Greasy Luck*, William Farquhar Payson, The Stratford Press, Inc., New York, 1932; *Kipling, Rudyard, Captains Courageous*, The Century Co., New York, 1909; S.F. Manning, “Building a Cardboard Dory,” *Wooden Boat Magazine*, Sept/Oct 1989; Goode, G. Browne, et al. *The Fisheries and Fishery Industries of the United States*, 6 vols., Washington: U.S. Commission of Fish & Fisheries, 1887; *Riesenberg, Felix, Standard Seamanship for the Merchant Service*, D. Van Nostrand Company, Inc, New York, 1922.

TEACHER'S QUESTIONNAIRE

using the following scale:

very effective < 1 2 3 4 5 > less effective

In your opinion, did "Working on the Water" provide activities and information for your students in a contextual setting?

1 2 3 4 5

In your opinion, did the activities and information presented in "Working on the Water" offer your students an effective opportunity to expand their knowledge and understanding of:

Comparative technology of fishing and whaling eras?

1 2 3 4 5

Societal issues of two periods of local and regional history?

1 2 3 4 5

Use of primary sources in learning?

1 2 3 4 5

using the following scale:

strong presence < 1 2 3 4 5 > weaker presence

In your opinion, were the following elements present in "Working on the Water"?

Integrated Subject Areas 1 2 3 4 5

Multicultural Content 1 2 3 4 5

Inquiry-based Learning 1 2 3 4 5

Awareness of Technology 1 2 3 4 5

Connection of Science and Technology to Human Affairs
1 2 3 4 5

In reviewing your students' activities, data collection and informative experience in regard to "Working on the Water" please list at least three things which you think your students learned:

1.

2.

3.

Please include any additional comments on the reverse side of this sheet.