

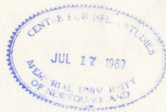
A REPORT ON THE DEVELOPMENT OF AN
INSTRUCTIONAL UNIT ENTITLED "THE
NEWFOUNDLAND SAILING FLEET"

CENTRE FOR NEWFOUNDLAND STUDIES

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GILBERT BOYCE



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ISBN 0-315-43321-3

A Report on the Development of an Instructional
Unit entitled "The Newfoundland Sailing Fleet"

by



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A report submitted in partial fulfillment of the
requirements for the degree of Master of Education

Division of Learning Resources
Memorial University of Newfoundland

August, 1986

St. John's

Newfoundland

ACKNOWLEDGEMENTS

The author wishes to thank the following for their help during the preparation of this project.

Dr. T. Braffet and Dr. M. Kennedy of the Learning Resources Division, Memorial University, who supervised the project.

Dr. G. Panting, Maritime History Group, Memorial University, for his critique of the historical content in the unit.

Dr. E. Sager, Department of History, University of Victoria, who provided copies of his research papers on the Newfoundland sailing fleet.

Mr. W. Oakley, Assistant Superintendent, Avalon Consolidated School Board, for permission to pilot the unit in schools under the board's jurisdiction.

Mr. R. Kearley, Social Studies Coordinator, Avalon Consolidated School Board, for his evaluation of the student booklet.

Ms. B. Reid, Elementary Reading Specialist, Morris Academy, Mount Pearl, for her evaluation of the reading level in the student booklet.

Mr. C. Dewling, for extensive use of his personal collection of Newfoundland materials.

The staff and students of Park Avenue School, Mount Pearl, for their cooperation in the validation testing of the unit.

June and John, for constructive criticism and moral support throughout the development and production of the unit.

ABSTRACT

This instructional unit entitled The Newfoundland Sailing Fleet was developed to introduce young Newfoundland students to the maritime skill and expertise of their ancestors. It is intended to supplement the existing Grade Five Social Studies program.

The unit consists of:

1. A student booklet containing reading material, illustrations and activities about the Newfoundland sailing fleet.

2. A teacher's handbook containing copies of the instructional objectives, task and concept analyses, and the test for the unit. Additional resources and a list of resource material are also included.

The unit was developed using a four stage model designed by Thiagarajan, Semmel and Semmel (1974).

Developmental testing was carried out during the design and developmental stages of production. The validation testing was conducted in classes organized under the jurisdiction of the Avalon Consolidated School Board within the town of Mount Pearl, Newfoundland. Results from developmental and validation testing indicate that the unit can be used effectively as resource material in the Grade Five Social Studies program.

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I

INTRODUCTION

History of Shipbuilding in Newfoundland

The first recorded shipbuilding activity in Newfoundland was reported by John Guy in 1612. In his journal report transcribed by Barakat (1976), Guy describes a ship "called the Indeavor, a barke builte in Newfoundland". The journal report describes a voyage of exploration to Trinity Bay by Guy and his crew in the Indeavor during October and November of 1612 and their subsequent encounter and trading with the Beothucks.

According to Briffett (1949), shipbuilding and other early colonial activities did not go unnoticed by the West Country merchants who persuaded the British Government to pass laws which would discourage settlement in Newfoundland. The Star Chamber Laws enacted in 1634 were designed to drive settlers from the island. Briffett (1949) also states that Newfoundland colonists were openly encouraged to resettle in Jamaica or other West Indian Islands. The latter half of the seventeenth century saw little encouragement of settlement in Newfoundland and little shipbuilding activity.

The eighteenth century was a period of dramatic change in Newfoundland. In 1713 the Treaty of Utrecht removed French influence and fishing rights from a large part of the island and British settlers were now

encouraged to settle in these areas. By 1728 the colony had a governor and an official system of justice. Matthews (1982) states that it was during this period that the English developed a "bank" fishery in Newfoundland using a fleet of twenty-five to eighty ton brigs which were manned and operated from the English West Country, particularly South Devon. He contends that this fishery created a labour shortage in Newfoundland and fishing vessels became passenger carriers from England and Ireland to Newfoundland. This new resident population gradually became the chief competitors of the English bank fishermen and toward the end of the eighteenth century there was a decline in the number of West Country fishermen coming to Newfoundland. The close of the century saw a gradual displacement of the English bank fishermen by resident Newfoundland fishermen. This displacement also created a demand for a new fishing fleet which marks the beginning of the Newfoundland shipbuilding industry.

The nineteenth century was to be the period of greatest activity in Newfoundland shipbuilding. In addition to a change in the fishery from the hands of English merchants to resident Newfoundland merchants, Matthews (1982) cites several other reasons for this increase in shipbuilding activity. He notes that the

seal fishery and the Labrador fishery initiated during the latter part of the eighteenth century expanded rapidly in the early 1800's. The establishment of hundreds of new fishing communities around the island created a demand for "coasting" vessels to serve the needs of the settlers. Expansion of the fishery based economy during this period also brought about a need for vessels to transport fish exports from Newfoundland and to bring back food and other imports to the island. The population of the West Indian Islands increased rapidly during this period and brought about a greater demand for Newfoundland cod fish. Finally by 1820 Newfoundland had developed a new market for cod fish in Brazil.

The nineteenth century demand for ships created by a fishery based economy was met largely through the efforts of local shipbuilders using local labour and materials. Sager (1977) studied the Newfoundland shipbuilding effort from 1820 to 1889 using Newfoundland ship registrations for this period. His findings indicate that more than 5000 new vessels were registered in Newfoundland during this period and approximately 75% of these were locally built. He also found that the majority of larger vessels such as brigs and brigantines were built during the 1840's and 1850's and by the end of the century Newfoundland shipbuilders concentrated mainly on building schooners.

Sager (1977) also reports that shipbuilding activity in Newfoundland was very much an "outharbour" occupation. His research indicates that more than 800 communities on the island were involved in shipbuilding in the nineteenth century. A regional breakdown of the locations indicates that Notre Dame Bay was the scene of most of the shipbuilding activity during the century. Four other areas - Trinity Bay, South Coast and French Shore, Bonavista Bay and Placentia Bay accounted for the major portion of the remaining shipbuilding activity.

Social Studies in the Newfoundland Curriculum

The Master Guide for Social Studies K-XII in Newfoundland and Labrador (1980) states that children must come to know the nature of society by growing outward from where they are. They must have an understanding and appreciation of who they are as Canadians and more specifically as Newfoundlanders. To enable students to achieve this understanding the Social Studies program for use in Newfoundland schools has established specific "areas of emphasis". The specific area of emphasis outlined for the Grade Five program in the Design for Social Studies K-VI in Newfoundland and Labrador (1980) includes the following:

The story of Newfoundland and Labrador is the story of land and sea, of people interacting with the sea, land and climate to meet their needs; of natural

resources, their utilization and conservation; of the human adventures of early peoples and of men and women who planned and worked to build a colony and a province; ...

This area of emphasis recognizes the close relationship that existed between Newfoundland people and the sea. Newfoundland society began as a result of the exploitation of its marine resources. The fishery attracted settlers to the island and they engaged in the harvesting of cod fish, seal oil and several other fish species. With the evolution of a Newfoundland based fishery came the demand for sailing ships to carry fishermen to and from the fishing grounds, to transport their catch to local and foreign markets and to distribute supplies to settlements scattered along the coastline. As Sager (1977) has indicated, the demand for ships existed in all coastal regions of Newfoundland and by 1820 approximately 75% of the ships needed were built by local shipbuilders using local timber.

This instructional unit entitled The Newfoundland Sailing Fleet has been prepared to help Grade Five students better understand the interaction between the land, the sea and the people in early Newfoundland. The Newfoundland sailing fleet was an integral part of this interaction.

Organization of Report

This report is presented in five chapters. Chapter I introduces the project and outlines the curriculum area and organization. Chapter II examines the need for the

project, outlines the development procedure, identifies the target audience, presents the tasks and concepts in the unit and lists the instructional objectives. Chapter III presents the criterion referenced test and discusses the rationale for the choice of media used in the unit. Chapter IV describes the developmental testing, validation testing, instrumentation, utilization procedure and presents the data analysis. Chapter V discusses the conclusions, outlines the recommendations and presents a diffusion plan for the unit. The appendix contains copies of the needs assessment questionnaire, the teacher's handbook, the criterion referenced - pretest posttest form, the teacher evaluation form and the student booklet.

II

DEFINE STAGE

Needs Assessment

The objectives of the Grade Five Social Studies program as stated in the curriculum guide, Design for Social Studies K-VI in Newfoundland and Labrador (1980) indicate that the student is to have major understanding and knowledge of:

1. How the sea influenced the lifestyle of the Newfoundland people.
2. The problems of the early Newfoundland people in the fishery.
3. The skill of the Newfoundland people in using their natural resources to meet their needs.

The guide also favours the thematic approach to instruction and recommends that where feasible locally produced materials be used to help meet program objectives.

The textbook assigned for use in the Grade Five Social Studies program is The Atlantic Edge by F. Cramm and G. Fizzard (1986). Through discussions with Grade Five teachers and at Social Studies workshops the developer became aware of the need for resource material which would extend the information presented in the text.

A needs assessment questionnaire (see Appendix A) was distributed to Grade Five teachers by the developer

early in the production of this unit. The results shown in Table 1 indicate that 94% of the teachers who responded felt that the Newfoundland sailing fleet was an important part of their Social Studies program. The results also show that instructional materials on this topic are unknown or unavailable to these teachers.

Table 1
Results of Needs Assessment Questionnaire

| Question | Responses | |
|--|-----------|----|
| | Yes | No |
| Do you think that a study of the Newfoundland sailing fleet would enable Grade 5 students to become more aware of their Newfoundland heritage? | 17 | 0 |
| Do you think that a study of the Newfoundland sailing fleet is a worthwhile subject of study for Grade 5 students? | 16 | 1 |
| Are you presently using or have you used any instructional materials on the Newfoundland sailing fleet? | 1 | 16 |

The results of this assessment indicate that there is a need for instructional materials on the Newfound-

land sailing fleet.

Survey of Available Materials

Once the need for instructional materials on the Newfoundland sailing fleet had been established, the developer conducted a survey to locate existing material on the subject. Resources at the following institutions were examined to determine whether or not they were suitable for or could be adapted to the Grade Five Social Studies program.

Canadian Broadcasting Corporation - The St. John's station had no productions dealing with the Newfoundland sailing fleet but recommended a CBC Toronto production entitled "The Return of the Tall Ships", a documentary on the sailing ships which visited Canada in 1984. The developer has been advised by CBC Enterprises that this program has not yet been cleared for educational use. Although Newfoundland sailing ships are not part of this production, the program would be useful in introducing students to the kinds of ships which made up the Newfoundland sailing fleet.

Centre for Newfoundland Studies, Memorial University -

The centre contains a scrapbook on the Newfoundland schooner "Norma and Gladys" by W. S. W. Nowak (1978). It contains a collection of newspaper clippings covering the history and voyages of this ship. Some of these have

been reproduced and are included in the teacher's handbook (see Appendix B).

Instructional Materials Section, Department of Education - The IMS did not have any material on the Newfoundland sailing fleet but the developer found two 16 mm films - "The White Ship" and "The Sea Got in Your Blood" suitable for inclusion in the unit. These were the only films located which show the construction and use of sailing ships in the nineteenth and early twentieth centuries.

Maritime History Group Archives - The Maritime History Group Archives holds the ship registries for all Newfoundland ships since 1820 as well as the papers of numerous Newfoundland ship owners and business people. This material is suitable primarily for writers and researchers.

National Film Board of Canada - The National Film Board did not have any material on the Newfoundland sailing fleet. The film library does have copies of the two 16 mm films already discussed i.e. "The White Ship" and "The Sea Got in Your Blood".

Newfoundland Archives - The Newfoundland Archives has a general collection of photographs which contains pictures of many Newfoundland sailing ships. The archives also contains copies of the papers of some Newfoundland

ship owners but this material is also intended for use by writers and researchers.

Newfoundland Military and Marine Museum - The Newfoundland Military and Marine Museum contains a good display on the different types of sailing ships as well as a number of paintings of Newfoundland ships. Also included are displays of some nineteenth century navigation instruments and artifacts from early Newfoundland shipwrecks. A class visit to a display like this one is highly recommended by the developer following a unit on the Newfoundland sailing fleet.

Resources Clearinghouse, Memorial University - Resources Clearinghouse did not contain any material on the Newfoundland sailing fleet. The centre does have a copy of the sound filmstrip "Shipbuilding at the Marystown Shipyard" by R. Tilley (1977). Although the material is not related to sailing ships the developer felt that the program could be used by teachers who wished to extend the unit or undertake a comparative study of shipbuilding techniques.

Books - The developer found relatively few books which dealt specifically with the Newfoundland sailing fleet. The majority of the books examined are intended for adult audiences and are listed in the teacher's handbook (see Appendix B) which accompanies this unit.

Three of the books examined during the preparation of this project were considered by the developer to be suitable supplementary resources for a unit on the Newfoundland sailing fleet and are recommended for inclusion in elementary school library collections. Excerpts from the following books have been reproduced and included in the teacher's handbook (see Appendix B).

The Newfoundland Fish Boxes: A Chronicle of the Fishery by H. Roberts and M. Nowlan (1982). Although the history of the Newfoundland sailing ships contained in this volume is too difficult for elementary students, the numerous colour photographs and the descriptions of the ships is well within the interest level and reading capability of the majority of Grade Five students.

On the High Seas: The Diary of Captain John W. Froude Twillingate 1863-1939 published by Jespersion Press (1983). This volume gives the reader an insight into the life of a Newfoundland sailor on board a large nineteenth century sailing ship. Captain Froude provides vivid descriptions of a sailing ship, his duties as an able seaman, his voyages and some of the storms encountered while at sea. The book is written in simple language but students may need the help of both the teacher and the glossary in order to fully understand some of the passages.

Men Ships and the Sea by A. Villiers (1973). This book traces the evolution of sailing craft from outrigger canoes to the sailing schooners Bluenose and Thebaud. The volume is intended for adult readers but it contains numerous photographs by National Geographic Society which would interest younger readers. The book also contains the story written by 16 year old Robin Graham about his single handed sail around the world in a 24 foot sailing sloop.

The materials examined in this survey were not suitable to meet the specific objectives of the Grade Five Social Studies program as outlined in the Design for Social Studies K-VI in Newfoundland and Labrador (1980). It was decided that the development of an instructional unit was necessary to provide a program to meet this need.

Outline of Development Process

An instructional development model designed by Thiagarajan, Semmel and Semmel (1974) was used in the development of this instructional unit. The model is shown in Figure 1.

In stage one an analysis of needs, learners, tasks and concepts is undertaken. Once a need for the unit has been established the instructional objectives are written based on the results of the task and concept

analyses.

In stage two a test instrument is designed which tests each of the instructional objectives. A prototype of the instructional unit is then developed using the media which will be most effective in meeting the objectives.

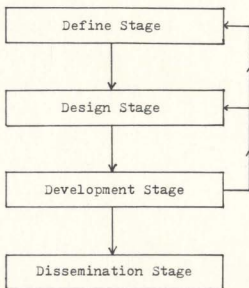


Figure 1. Instructional development model used to develop unit The Newfoundland Sailing Fleet.

In stage three the prototype is subjected to appraisal by a content specialist, media specialist,

reading specialist as well as sample groups from the intended users and the intended audience. The feedback from these appraisals is used to make improvements in the prototype following which validation testing is conducted. This testing is carried out by piloting the unit with one or more classes of the intended audience. These classes are pretested and then given the instructional unit after which a posttest is administered. The effectiveness of the unit is then determined by an analysis of the pretest and posttest scores.

In stage four the results of the validation testing are analysed and recommendations are made. The unit is packaged and a diffusion plan is designed and adopted.

Learner Analysis

Learner analysis is concerned with an examination of the characteristics of the learner population. These characteristics help determine such factors as language, style of presentation, size of learning steps and nature of sequence to be used in the unit (Thiagarajan, Semmel and Semmel, 1974).

This instructional unit on the Newfoundland sailing fleet has been designed for use by heterogeneous groups of Grade Five Social Studies students within the province of Newfoundland and Labrador. The chronological age of these students ranges from 9 to 11 years. Teachers of

these students indicate that they are enthusiastic learners and enjoy both group and individual activities within the classroom setting. They have been introduced to the world community in the Grade Four Social Studies program and at the Grade Five level are engaged in a study of Newfoundland and Labrador - both its past and present.

Two classes of students were selected from the general Grade Five population for validation testing of this instructional unit. The classes selected were organized under the jurisdiction of the Avalon Consolidated School Board in the town of Mount Pearl.

Task and Concept Analyses

Task and concept analyses provide the developer with a basis for designing the measuring instrument and the instructional materials to be used in the unit. The task analysis and concept analysis charts provide a "map" of the subject matter and help the developer ensure that all important elements are included in the instructional unit. The charts also give evaluators and potential users an overview of the contents of the unit. The task analysis and the concept analysis for the instructional unit entitled The Newfoundland Sailing Fleet are shown in Figure 2 and Figure 3.

TASK ANALYSIS

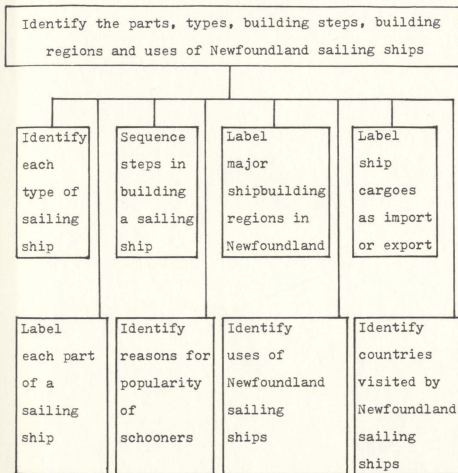


Figure 2. Task analysis for The Newfoundland Sailing Fleet .

CONCEPT ANALYSIS

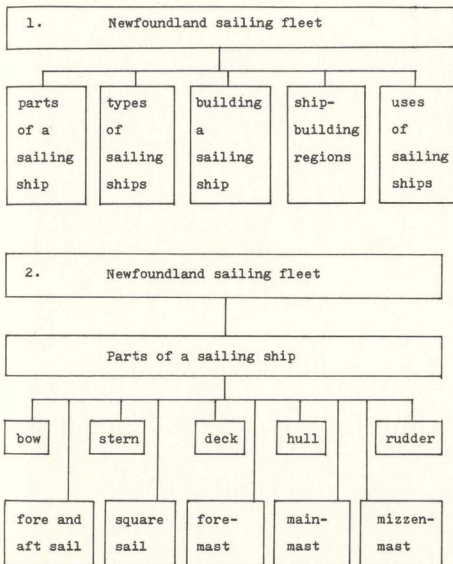


Figure 3. Concept analysis for The Newfoundland Sailing Fleet.

CONCEPT ANALYSIS (continued)

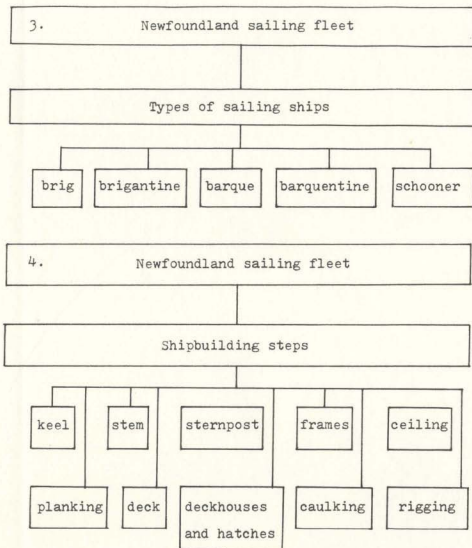


Figure 3 (continued). Concept analysis for The Newfoundland Sailing Fleet .

CONCEPT ANALYSIS (continued)

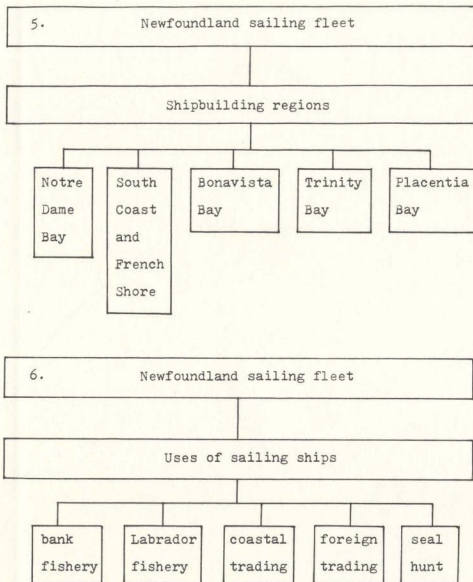


Figure 3 (continued). Concept analysis for The Newfoundland Sailing Fleet .

Instructional Objectives

Davies (1981) states that instructional objectives are written to serve as a guide to learning, instruction and evaluation.

The instructional objectives for this unit are a transformation of the task and concept analyses into statements of what the learner will be able to do. They are, then, a guide to learning.

The objectives are a guide to instruction since they provide an outline of the material to be mastered and help determine the selection of instructional media.

The objectives are a guide to evaluation since they are used as a basis for the construction of the criterion referenced test for the instructional unit.

The instructional objectives for the unit entitled The Newfoundland Sailing Fleet are as follows. The student will be able:

1. To match a given list of eleven sailing ship parts with a diagram of the ship.
2. To identify from drawings each of the five types of sailing ships included in the Newfoundland fleet.
3. To label as true or false a given list of statements about schooners.
4. To put in order from a given list, six of the basic steps in building a sailing ship.

5. To locate on a given map of Newfoundland the five major shipbuilding regions.

6. To identify from a given list the five major uses of Newfoundland sailing ships.

7. To identify from a given list of products five exports and five imports carried by Newfoundland ships.

8. To label on a given map of the world the eight major trading countries visited by Newfoundland sailing ships.

These objectives reflect the instructional material to be included in the unit and specify in operational terms what the learner will be required to do. They will also be used as a basis for the development of the activities to be included in the unit. After working with the instructional material and related activities the developer anticipates that all learners using the unit will be able to meet these objectives with at least a 70% success rate on the posttest instrument.

III

DESIGN STAGE

Criterion Referenced Test

The criterion referenced test (see Appendix C) for the unit entitled The Newfoundland Sailing Fleet was developed using the task analysis, concept analysis and instructional objectives as a guide. Eight major tasks are outlined in the task analysis (see Figure 2) which were used to write the eight instructional objectives. The test designed for the unit includes one question which tests each of the eight objectives. The concept analysis (see Figure 3) for the unit outlines six major concepts and their critical attributes.

Table 2

Objectives Matched With Test Questions and Test Items
on the Criterion Referenced Test

| Objective | Question | Test Items |
|-----------|----------|------------|
| 1 | 1 | 1-11 |
| 2 | 2 | 12-16 |
| 3 | 3 | 17-26 |
| 4 | 4 | 27-32 |
| 5 | 5 | 33-37 |
| 6 | 6 | 38-42 |
| 7 | 7 | 43-52 |
| 8 | 8 | 53-60 |

Each of these attributes is reflected in the individual test items. Table 2 shows that each objective has been matched with a specific test question and with a number of test items within the question.

Selection of Media

Before selecting the media to be used in the unit the developer did an analysis of the tasks, concepts and instructional objectives in order to establish the expected learning outcomes. This analysis indicated that the students were expected to learn factual information about sailing ships, make visual identifications of the types of sailing ships and learn the basic steps in the construction of a sailing ship.

The different media were then evaluated to determine which medium would be most effective in achieving the expected learning outcomes of the unit. The media evaluated were as follows:

1. Audio tape - This medium was rejected since much of the unit requires students to learn visual identifications which cannot be presented through audio tape.

2. Computer program - A computer program is capable of meeting all three types of learning outcomes expected by the developer. It can also provide random access and self pacing by the students. However, it was rejected because many elementary schools have not yet

acquired computer hardware and the developer lacked the programming expertise needed to write the program.

3. Slide tape - Although the slide tape medium is capable of meeting all three learning outcomes expected from the unit, it was rejected by the developer because it does not permit the pace of presenting the material to be individualized and does not allow random access and review of the material by the students.

4. 16 mm film and videotape - The 16 mm film medium was rejected because of production costs and lack of expertise on the part of the developer. 16 mm film and videotape were also rejected because Newfoundland sailing ships and shipbuilding activity are no longer available for filming.

5. Print - The print medium is considered adequate for meeting all three types of learning outcomes expected from the unit. It also has several other advantages. It allows students to proceed through the unit at their own pace and permits random access to the material. Activities can be included in the material which give immediate feedback as the students progress through the unit. Print materials can also be easily reproduced in the school setting.

The developer chose the print medium as the format for the instructional unit and the print material, maps

and illustrations developed for the unit were collated
in the form of a student booklet.

IV

DEVELOPMENT STAGE

Developmental Testing

The instructional objectives, task analysis, concept analysis and criterion referenced test for the unit entitled The Newfoundland Sailing Fleet were designed and written during the summer of 1985. These components were submitted to a specialist in instructional development for evaluation. The instructional objectives and the criterion referenced test were considered adequate by the evaluator. Suggestions for improving the task and concept analyses were adopted by the developer.

A storyboard technique was used to design material needed to meet the instructional objectives. Using this technique, the developer produced a series of sketches which matched the items in the task and concept analyses charts. Written material was drafted to accompany each sketch in the storyboard and a prototype booklet was produced.

The booklet was evaluated by a specialist in Maritime History who found both the sketches and written descriptions to be accurate. It was then submitted to specialists in Elementary Reading and Social Studies for evaluation. Based on their reports, revisions were made in the size of the learning steps and additional activity pages were included.

The developer then pilot tested the unit with four Grade Five students and their teacher in order to determine any aspects which might be difficult or confusing. These students obtained mean scores of 35% on the pretest and 88% on the posttest. The students and their teacher found no difficulty with the unit other than a lack of clarity in some of the sketches. A corrected draft of the booklet was then prepared using improved diagrams and professional lettering (see Appendix E).

Validation Testing

The developer conducted validation testing of the instructional unit to provide empirical evidence of its effectiveness in the classroom setting. The evidence was gathered by employing test instruments which measured the attitudes of teachers toward the unit and changes in student behaviour after exposure to the unit.

Instrumentation

The following instruments were used in the validation testing of the instructional unit.

Teacher evaluation form - A teacher evaluation form (see Appendix D) was used by the developer to obtain data on the suitability and quality of the instructional material for use by Grade Five students. Copies of the evaluation form and the student booklet were given to twelve Social Studies teachers.

Pretest - posttest form - The criterion referenced test (see Appendix C) designed to test the instructional objectives was used as the pretest and posttest form during the validation testing.

Procedure

Two Grade Five classes and their teachers in the Mount Pearl area participated in the validation testing of the instructional unit. These classes were existing heterogeneous groups organized by the Avalon Consolidated School Board and engaged in the regular program of studies for Grade Five. The results from the Canadian Tests of Basic Skills administered at the Grade Four level show that the majority of these students have average ability in reading and vocabulary. Their teachers indicated that they met the criteria prescribed by the developer in the learner analysis.

The teachers of the participating classes were given the following instructions to be followed in using the unit with their classes.

Prior to session 1 .

1. Preview the instructional unit by reading the teacher's handbook and the student booklet.

Session 1, day 1 .

1. Distribute copies of the pretest and allow each student enough time to complete it.

Session 2, day 2 .

1. Read and discuss with the students the instructional objectives of the unit.
2. Provide each student with a copy of the student booklet and have them read the introductory page entitled, "To the Student".
3. Have a short discussion on the student booklet pointing out the activity pages and the use of the answer pages to correct completed activities.
4. Circulate among the students and answer any questions they may have about directions and instructions in the booklet.
5. Allow each student enough time to read the booklet and to complete and check the activity pages.

Session 3, day 3.

1. Distribute copies of the posttest and allow each student enough time to complete it.

Data Analysis

Teacher evaluation - The teacher evaluation form was designed to measure teacher attitudes toward the instructional unit. Twelve teachers were asked to respond to a series of eleven questions about the unit in one of four ways; 1 - very favourable, 2 - favourable, 3 - unfavourable, 4 - very unfavourable. The frequencies of each response were tabulated and are shown in Table 3.

Table 3
Results of Teacher Evaluation

| Item | Question | No. of Responses | | | |
|------|--|------------------|---|---|---|
| | | 1 | 2 | 3 | 4 |
| 1. | Is the subject matter accurate? | 11 | 1 | 0 | 0 |
| 2. | Is the subject matter logically organized? | 10 | 2 | 0 | 0 |
| 3. | Is the subject matter related to the curriculum? | 10 | 2 | 0 | 0 |
| 4. | Are the concepts and vocabulary in the booklet suitable for Grade 5 students? | 9 | 3 | 0 | 0 |
| 5. | Is the subject matter clearly written and easy to understand? | 10 | 2 | 0 | 0 |
| 6. | Are the drawings appropriate to the concepts? | 12 | 0 | 0 | 0 |
| 7. | Are the drawings of good quality? | 10 | 2 | 0 | 0 |
| 8. | Are the lettering and captions clear and easy to read? | 12 | 0 | 0 | 0 |
| 9. | Are the activity pages appropriate for Grade 5 students? | 9 | 3 | 0 | 0 |
| 10. | Do you think this booklet is an appropriate learning aid for Grade 5 students? | 9 | 3 | 0 | 0 |
| 11. | Would you recommend this booklet to other teachers? | 10 | 2 | 0 | 0 |

The results of the teacher evaluation showed a majority of "very favourable" responses which indicate that the teachers had a positive attitude toward the instructional unit.

Pretest posttest - A criterion referenced test was used as the pretest and posttest instrument. The pretest was administered during session 1 before the students had read or discussed the instructional unit. The posttest was administered during session 3 after the students had read and worked with the instructional unit.

The data analyses conducted using the results from the pretest and posttest were as follows.

1. Calculation of the percentage of students with items correct on the posttest.
2. Comparison of the mean class scores on the pretest and on the posttest.
3. Comparison of the mean class score per objective on the pretest and on the posttest.
4. Comparison of the percentage of successful students per test item on the pretest and on the posttest.

Percentage of students with items correct on the posttest - Table 4 shows the overall class performance on the posttest. The data indicates that 57% of the students involved in the validation testing were successful on 90% or more of the test items. All of the

students involved in testing the unit were successful on 75% or more of the posttest items.

Table 4

Percentage of Students With Items Correct on the Posttest

| Percent of students | Percent of items correct |
|---------------------|--------------------------|
| 14% | 100% |
| 43 | 95 + |
| 57 | 90 + |
| 86 | 85 + |
| 90 | 80 + |
| 100 | 75 + |

Comparison of the mean class score on the pretest and on the posttest - A comparison of the mean class score on the pretest and on the posttest is shown in Table 5. Fifty-one students were involved in the validation testing of the unit. The mean class score on the pretest was 41% and the mean class score on the posttest was 91%.

Table 5

Comparison of the Mean Class Score on the Pretest and on the Posttest

| Test | N | Average class score |
|----------|----|---------------------|
| Pretest | 51 | 40.96% |
| Posttest | 51 | 90.80 |

Comparison of the mean class score per objective on the pretest and on the posttest - Both the pretest and posttest contained items designed to test the effectiveness of the unit in meeting the eight instructional objectives. Table 6 indicates that the greatest overall class gain was 72% on objective number two. The least overall class gains were 42% on objective number seven and 44% on objective number eight. The remaining objectives show an overall class gain of approximately 50%.

Table 6

Comparison of the Mean Class Score Per Objective on the Pretest and on the Posttest

| | Objective number | | | | | | | |
|----------|------------------|-----|-----|-----|-----|-----|-----|-----|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Pretest | 44% | 13% | 43% | 45% | 39% | 45% | 45% | 50% |
| Posttest | 94 | 85 | 89 | 94 | 88 | 94 | 87 | 94 |
| Gain | 50 | 72 | 46 | 49 | 49 | 49 | 42 | 44 |

Comparison of the percent of successful students per test item on the pretest and on the posttest - The responses on the pretest and on the posttest were used to calculate the percentage of students who were successful on each test item. The differences in the success rates for each test item are shown in Table 7. The data

indicates that thirty-seven of the test items showed a gain of 50% to 80% on the posttest. Thirty-two of the test items showed a gain of 20% to 40% on the posttest.

Table 7

Comparison of the Percent of Successful Students Per Test
Item on the Pretest and on the Posttest

| Test item | Percent of successful students | | Difference in success rates |
|--------------|--------------------------------|----------|--------------------------------|
| | pretest | posttest | |
| 1 | 29% | 94% | 65% |
| 2 | 35 | 92 | 57 |
| 3 | 29 | 96 | 67 |
| 4 | 25 | 88 | 63 |
| 5 | 27 | 96 | 69 |
| 6 | 41 | 92 | 51 |
| 7 | 49 | 94 | 45 |
| 8 | 78 | 96 | 18 |
| 9 | 55 | 94 | 39 |
| 10 | 71 | 94 | 23 |
| 11 | 37 | 92 | 55 |
| 12 | 22 | 96 | 74 |
| 13 | 18 | 88 | 70 |
| 14 | 10 | 88 | 78 |
| 15 | 04 | 76 | 72 |

(continued on next page)

Table 7 (continued)

Comparison of the Percent of Successful Students Per Test

Item on the Pretest and on the Posttest

| Test item | Percent of successful students | | Difference in success rates |
|--------------|--------------------------------|----------|--------------------------------|
| | pretest | posttest | |
| 16 | 12% | 78% | 66% |
| 17 | 43 | 92 | 49 |
| 18 | 57 | 94 | 37 |
| 19 | 51 | 92 | 41 |
| 20 | 45 | 94 | 49 |
| 21 | 41 | 92 | 51 |
| 22 | 45 | 92 | 47 |
| 23 | 33 | 86 | 53 |
| 24 | 22 | 92 | 70 |
| 25 | 53 | 80 | 27 |
| 26 | 35 | 73 | 38 |
| 27 | 10 | 90 | 80 |
| 28 | 51 | 96 | 45 |
| 29 | 69 | 98 | 29 |
| 30 | 14 | 86 | 72 |
| 31 | 49 | 96 | 47 |
| 32 | 76 | 98 | 22 |
| 33 | 39 | 98 | 59 |
| 34 | 37 | 78 | 41 |

(continued on next page)

Table 7 (continued)

Comparison of the Percent of Successful Students Per Test

Item on the Pretest and on the Posttest

| Test | Percent of successful students | | Difference |
|------|--------------------------------|----------|------------------|
| item | pretest | posttest | in success rates |
| 35 | 25% | 82% | 57% |
| 36 | 61 | 92 | 31 |
| 37 | 33 | 88 | 55 |
| 38 | 63 | 92 | 29 |
| 39 | 43 | 94 | 51 |
| 40 | 31 | 100 | 69 |
| 41 | 39 | 90 | 51 |
| 42 | 49 | 94 | 45 |
| 43 | 63 | 98 | 35 |
| 44 | 33 | 80 | 47 |
| 45 | 29 | 92 | 63 |
| 46 | 45 | 86 | 41 |
| 47 | 37 | 84 | 47 |
| 48 | 49 | 84 | 35 |
| 49 | 39 | 86 | 47 |
| 50 | 65 | 88 | 23 |
| 51 | 25 | 86 | 61 |
| 52 | 61 | 86 | 25 |
| 53 | 39 | 92 | 53 |

(continued on next page)

Table 7 (continued)

Comparison of the Percent of Successful Students Per Test
Item on the Pretest and on the Posttest

| Test item | Percent of successful students | | Difference in success rates |
|--------------|--------------------------------|----------|--------------------------------|
| | pretest | posttest | |
| 54 | 43% | 84% | 41% |
| 55 | 53 | 98 | 45 |
| 56 | 45 | 90 | 45 |
| 57 | 41 | 96 | 55 |
| 58 | 57 | 100 | 43 |
| 59 | 63 | 96 | 33 |
| 60 | 59 | 96 | 37 |

The results of the data analyses for the project were positive. The level of performance shown by the students testing the unit was acceptable. The test form designed for the unit was considered appropriate by evaluations carried out during the developmental testing. The participating teachers presented the unit in accordance with the instructional procedure. Therefore the developer is confident that the posttest results achieved by the validation testing group was primarily the result of their exposure to the instructional unit.

V

DISSEMINATION STAGE

Conclusions

The developmental and validation testing conducted for this instructional unit indicate that it was successful in meeting its objectives. The results from pilot tests carried out during the developmental testing showed an overall gain in student achievement of 53%. Data from the validation testing conducted with two existing Grade Five classes showed an overall gain in student achievement of 50%. The results from the teacher evaluation questionnaire showed that the majority of the teachers had a very favourable attitude toward the instructional unit.

Evaluations of the unit by specialists, teachers and students were positive. The developer concludes that the instructional unit entitled The Newfoundland Sailing Fleet is an effective teaching resource for use in the Grade Five Social Studies program.

Recommendations

During the preparation of this instructional unit the developer became aware of the lack of educational resources and experiences in Newfoundland Maritime History currently available to students and teachers. Few print and non-print items exist which deal with the subject and the only Maritime History display located is

is housed at the Newfoundland Military and Marine Museum. The restoration of the Newfoundland schooner "Norma and Gladys" ended in 1980 when the ship sank in Placentia Bay.

The developer recommends the development of other resource materials on Newfoundland Maritime History which would help improve instruction in this area and be beneficial to the present Social Studies curriculum.

Diffusion Plan

Thiagarajan, Semmel and Semmel (1974) define diffusion as the process through which a new idea or product becomes accepted and assimilated, that is "adopted" by an individual, group or system. The following plan has been prepared to encourage educators to adopt the instructional unit entitled The Newfoundland Sailing Fleet.

1. The developer will present and demonstrate the instructional unit at teacher workshops and to other interested groups.
2. The developer will present a copy of the unit to the Social Studies Coordinators for the Province of Newfoundland and Labrador, the Avalon Consolidated School Board and the Roman Catholic School Board for St. John's.
3. The developer will make copies of the unit available to the following resource centres and endeavour to have them listed in their catalogues: IMS, Department of

Education; IMC, Avalon Consolidated School Board and
Resources Clearinghouse, Memorial University.

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APPENDIX A

NEEDS ASSESSMENT QUESTIONNAIRE

NEEDS ASSESSMENT QUESTIONNAIRE

1. Do you think that a study of the Newfoundland sailing fleet would enable Grade 5 students to become more aware of their Newfoundland heritage?

YES ()

NO ()

2. Do you think that the Newfoundland sailing fleet is a worthwhile subject of study for Grade 5 students?

YES ()

NO ()

3. Are you presently using or have you used any instructional materials on the Newfoundland sailing fleet?

YES ()

NO ()

If "yes" (1) Please list the materials below.

(2) Are you satisfied with the materials? _____

(3) Would you like to have new materials? _____

Comments (optional)

APPENDIX B
TEACHER'S HANDBOOK



THE NEWFOUNDLAND

SAILING FLEET

teacher's handbook

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INTRODUCTION

This instructional unit entitled The Newfoundland Sailing Fleet was developed to introduce young Newfoundland students to the maritime skill and expertise of their ancestors. It is intended to supplement the existing Grade Five Social Studies program.

The unit consists of:

1. A student booklet containing reading material, illustrations and activities about the Newfoundland sailing fleet.

2. A teacher's handbook containing copies of the instructional objectives, task and concept analyses, and the test for the unit. Additional resources and a list of resource material are also included.

The unit was developed using a four stage model designed by Thiagarajan, Semmel and Semmel (1974).

Developmental testing was carried out during the design and developmental stages of production. The validation testing was conducted in classes organized under the jurisdiction of the Avalon Consolidated School Board within the town of Mount Pearl, Newfoundland. Results from developmental and validation testing indicate that the unit can be used effectively as resource material in the Grade Five Social Studies program.

OBJECTIVES

The instructional objectives for the unit entitled The Newfoundland Sailing Fleet are as follows. The student will be able:

1. To match a given list of eleven sailing ship parts with a diagram of the ship.
2. To identify from drawings each of the five types of sailing ships included in the Newfoundland fleet.
3. To label as true or false a given list of statements about schooners.
4. To put in order from a given list, six of the basic steps in building a sailing ship.
5. To locate on a given map of Newfoundland the five major shipbuilding regions.
6. To identify from a given list the five major uses of Newfoundland sailing ships.
7. To identify from a given list of products, five exports and five imports carried by Newfoundland ships.
8. To label on a given map of the world the eight major trading countries visited by Newfoundland sailing ships.

TASK ANALYSIS

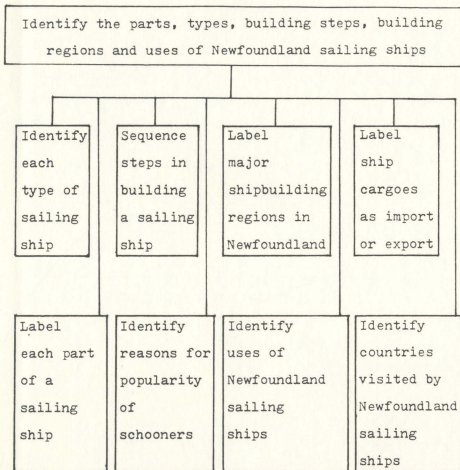


Figure 2. Task analysis for The Newfoundland Sailing Fleet .

CONCEPT ANALYSIS

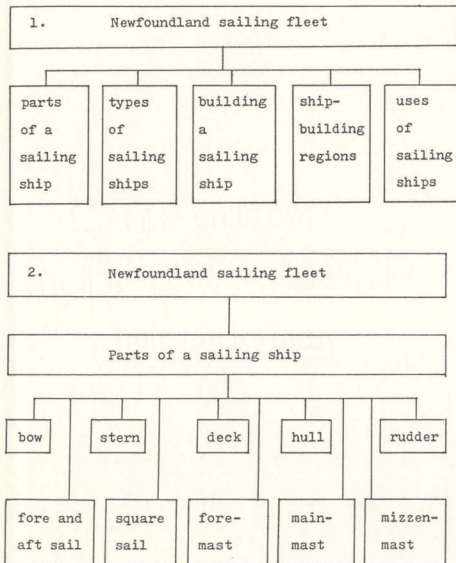


Figure 3. Concept analysis for The Newfoundland Sailing Fleet.

CONCEPT ANALYSIS (continued)

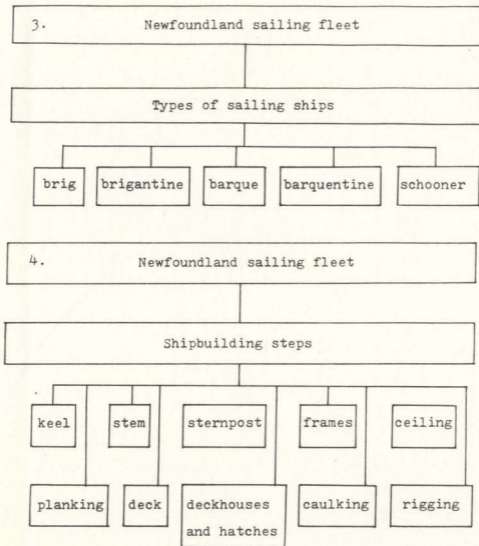


Figure 3 (continued). Concept analysis for The Newfoundland Sailing Fleet .

CONCEPT ANALYSIS (continued)

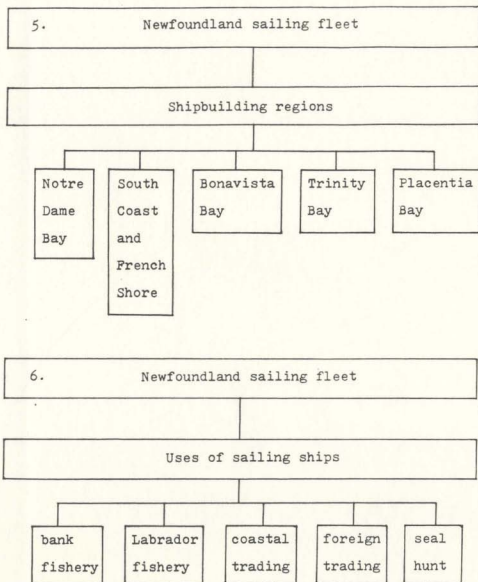


Figure 3 (continued). Concept analysis for The Newfoundland Sailing Fleet .

1. Write the name of each ship part on the correct line below.

BOW

HULL

RUDDER

DECK

KEEL

SQUARE SAIL

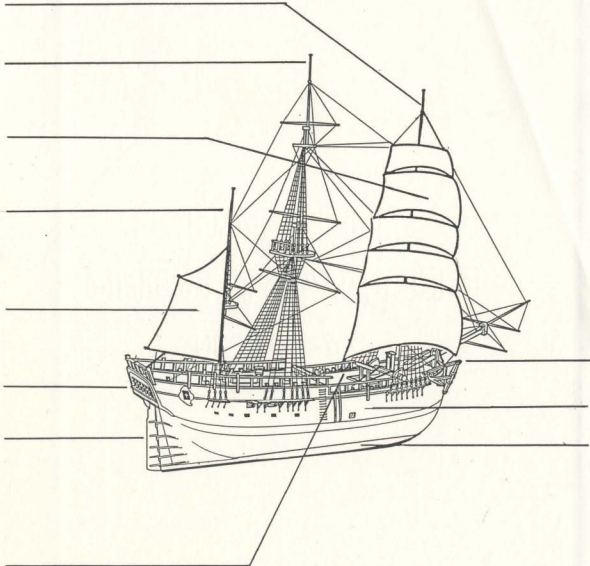
FOREMAST

MAINMAST

STERN

FORE AND AFT SAIL

MIZZENMAST



2. Choose the correct name for each type of sailing ship
and write it below the drawing of the ship.

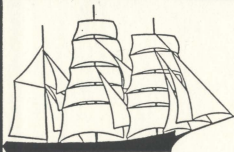
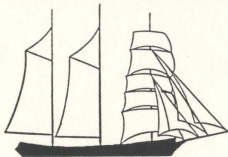
BARQUE

BRIG

SCHOONER

BARQUENTINE

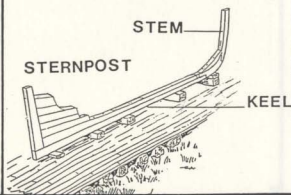
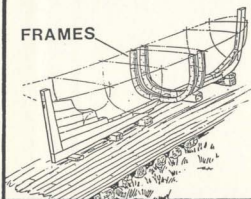
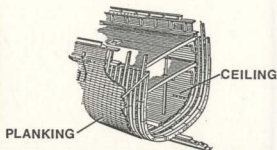
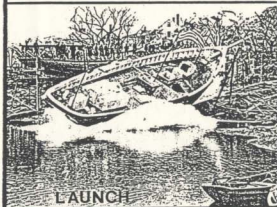
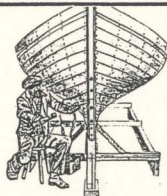
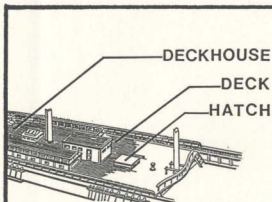
BRIGANTINE



3. Tell whether the following statements about schooners are true or false. Write TRUE or FALSE in the blank before each statement.

- _____ 1. Schooners were the largest ships in the fleet.
- _____ 2. Schooners were suitable for use in both the cod fishery and coastal trading.
- _____ 3. Schooners were the only ships suitable for the seal hunt.
- _____ 4. Profits from the cod fishery were used to help pay for the building of new schooners.
- _____ 5. After 1870 the Newfoundland Government paid a "bounty" to shipbuilders who built schooners.
- _____ 6. Newfoundland shipbuilders became skilled mainly in schooner building.
- _____ 7. Schooners were the fastest sailing ships in the Newfoundland fleet.
- _____ 8. Small Newfoundland companies could only afford to buy schooners.
- _____ 9. Schooners were not used in the Labrador fishery.
- _____ 10. Schooners were the only ships used in the foreign trade.

4. Number the drawings below to show the order in which a sailing ship was built. Write 1 on the first step, 2 on the second step and so on.



5. Choose the names of the 5 largest shipbuilding regions in Newfoundland and write them in the correct spaces below.

FORTUNE BAY

NOTRE DAME BAY

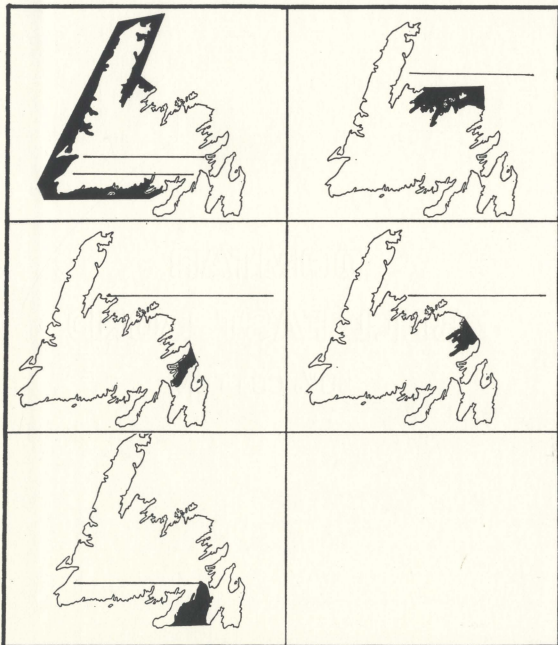
CONCEPTION BAY

PLACENTIA BAY

BONAVISTA BAY

TRINITY BAY

SOUTH COAST AND FRENCH SHORE



6. In the list below underline the 5 major uses of Newfoundland sailing ships.

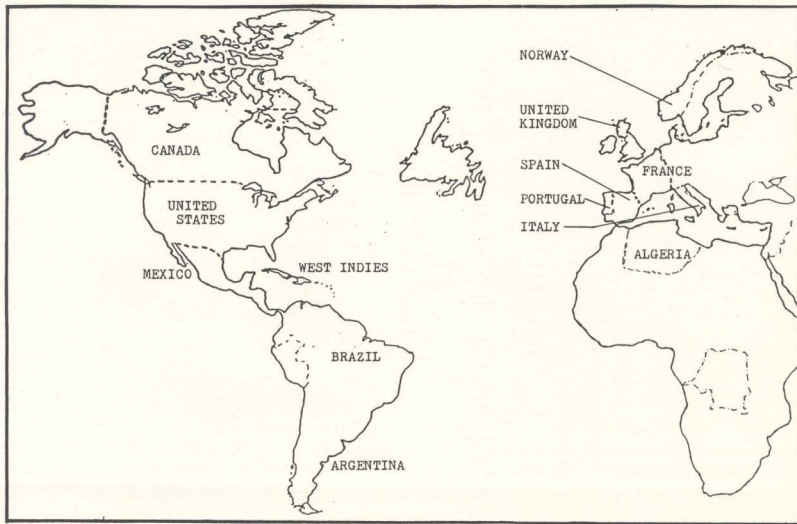
1. Coastal trading
2. Transporting iron ore
3. Labrador fishery
4. Voyages of discovery
5. Bank fishery
6. Transporting pulp and paper
7. Seal hunt
8. Arctic exploration
9. Foreign trading

7. In the chart below write EXPORT after the products carried to other countries by Newfoundland sailing ships. Write IMPORT after the products brought back to Newfoundland.

| PRODUCT | EXPORT OR IMPORT |
|---------------|------------------|
| 1. Cod fish | |
| 2. Coal | |
| 3. Salt | |
| 4. Seal oil | |
| 5. Molasses | |
| 6. Cod oil | |
| 7. Seal skins | |
| 8. Herring | |
| 9. Lumber | |
| 10. Sugar | |

8. On the map below CIRCLE the names of the 8 countries visited by Newfoundland sailing ships.

(63)
13



RESOURCE MATERIAL

Books - The majority of books examined during the development of this unit were adult oriented. Excerpts from the following volumes are included in this handbook.

Froude, J. W. On the high seas: The diary of Capt. John W. Froude Twillingate - 1863-1939. St. John's: Jespersion Press, 1983.

The Norma and Gladys: A Scrapbook. Compiled by W. S. W. Nowak. St. John's: Memorial University, 1978.

Roberts, H. D. and Nowlan, M. O. The Newfoundland fish boxes: A chronicle of the fishery. Fredericton: Brunswick Press, 1982.

Villiers, A. Men ships and the sea. Washington: National Geographic Society, 1973.

Other books: These volumes deal with particular segments of the Newfoundland sailing ships and general Maritime History. They are intended mainly for adult readers.

Horwood, A. Captain Harry Thomasen: Forty years at sea. Antrim: W. and G. Baird, 1973.

Horwood, A. Newfoundland ships and men. St. John's: Macy's Pub. Co., 1971.

Saunders, F. The mate just took a bearing. St. John's: Town Crier Pub. Co., 1976.

16 mm films -

The sea got in your blood. Tom Daly (producer). National

Film Board. 27 min. 56 sec. #106B 0165 118.

Although this film deals with the Nova Scotia sailing schooner "Bluenose", it contains information on building, launching and rigging schooners. It also gives the viewer an insight into the lives of bank fishermen and their families in the early twentieth century.

The white ship. Rex Tasker (producer). National Film

Board. 14 min. 54 sec. #106C 0166 039.

This film shows a Portuguese sailing schooner on a voyage to the Grand Banks. It gives the viewer an idea of what life was like on a fishing schooner and illustrates some of the dangers banking dory fishermen were exposed to.

From: On the high seas: The diary of Capt. John

W. Froude Twillingate - 1863-1939. Froude (1983)

A Sailours duty unboard ship

For a number of years and travelled
In ships of difference sizes under
Steem and sail and have had to
Undergo the rules and regulations
Of a seafearing life from North
To South and from Shore to Shore
And am now making a voyge
From london out around the
Cape of good hope to South
Africa and back again to
Ole england which may be my
Last round trip in one of these
Large ships and has I have not
Said much about the duties of a
Sailour on his voyge at sea I
Will now note a few things which
He is suppose to know and do
Before he can pass as an able seaman
On the deck of a deep water ship
When at the begining of of the voyge
The first thing he has to do is
To go unboard or to the Shipping
Office and offer your discharge
To the Captain or chief officer
If the discharge is marked with
A. V.G. he is accepted you sign
On the Articles and the time is
Set for you to joine your ship
So when going unboard you
Report yourself to the captain
Or the mate if the ship is
About ready for a start
You go in the fore castle
Change your clothes
And put on a sailours rig
And come on deck ready to
Turn too at anything

Names of Sails

We are supposed to know
The names of the sails and ropes of
The ship we are unboard of. Which is
As follows if she is a large ship
She carries these sails. Main and fore courses
Are set on the maine and fore yards.
Topsails topgallant sails and royals on the
Yards they are named after. Spanker on the
Mizenmast. trysails on the fore and mainmast
Fore topmas staysail. Jib and flying jib
On the bosprit jib and flying jib booms
Topgallant sails royals and studdingsails
Are called small sails and are only used
In fine weather. main topmast and
Maintopgallant staysails are set on the main
Topmast and topgallant stays. fore and main
Storm trysails are set on the fore and main
Trysailmast. And the names which a sail contains
Cloth. roping. head. leech. luff. slab. bunt becket
Bolt rope foot. clue. tack. sheets. bunt cringles
Robands head earing. reef earing. reef points
Reef lines. eyelet holes. reef tackle patch. and pendant
Buntline cloth. reef bands and tabling.

The Ship in danger drifting

when in the afternoon the got
 Dark the rain decended the thinder roared
 And the winds arose and the seas
 Run high When our captain gave
 Orders to put 2 reefs in the main
 Sail we had now the fore main and
 Mizén topsails clewed up also the
 Beloon and outter jibs. we put two
 Reefs in the mainsail and set it
 When a squall came and it burst
 Across the reef and it blew away
 In strips. we let go the haliards
 To loar the foresail and tak in
 Reefs but the haliards burst and
 The end got jamed around the
 Peak block and we could not git
 The foresail down so it blew away
 In ribbons. as no man could git
 Aloft to clear the haliards. and
 At this time all 3 jibs blew away
 Like a beg of feathers before the wind
 We pulled down the spanker and
 Balance reefed him and set it again
 We might have lost the spanker
 Only it wa a new sail from the needle
 We bent in leaving port. We now
 Hove the vessel too for a few hours
 As we have to keep her underway as
 Much as posable to prevent her
 From drifting on land as the
 Wind is from the North East. a gale
 And danger ahead also our ship
 Is lying in a hawful condition
 The great seas were dashing over our
 Decks the water increasing in the
 Hold all hands were engaged at
 The pumps to keep her afloat the
 Galley cabin and forecastle were
 Saturated with water and could
 Not git food sleep or rest our

Boat were beat to pieces the rail
 And bulworks gone and the men
 Gitting laid up one at a time
 When about 12 oclock on the second
 Night as we were about 1 hours
 Drift from Nantucket Shoals
 The wing changed from the
 North West. that blew harder than it
 Blew before we were drifted off
 The land about one hundred and
 Fifty miles we lay in this condition
 74 hours When the wind modrated
 And the sea went down. we was
 The greatest part of this time without
 Rest sleep or food as there were
 Now only a small crew of us to pump
 And manage the vessel. we mustered
 Up some old sails which was stowed
 Away below and bent an old
 Mainsail for a foresail also bent
 Some old jibs and got her fitted up
 As best we could and once more
 Put her on her course a hard
 Looking sight but not lost we passed
 Two other vessles on our way with
 All their canves blown away we
 Was now making very good way in
 For the land when on the 27. the
 Wind began to freshen from the North
 East as usual and we had to reef
 Her down again the wind once
 More rose to a gale Which very
 Near clewed up all hands as we
 Had endured so much hardship
 In the last gale and now having
 Another hard time which would
 Try the nerve of a mule to endure
 So may days and nights without
 Rest

From: The Norma and Gladys: A scrapbook.

Compiled by W. S. W. Nowak, 1978.

The NORMA & GLADYS Story

Built of local spruce and birch in 1945 by Captain Henry Stone of Monroe, Trinity Bay, the vessel measures some 93' in length, 23' in breadth, 8³/₄' in depth and has a displacement of 133 tons. Although initially powered by sail, she was later modified to accommodate two diesel engines.

The vessel received its name when its first Captain, Allan Tucker, gave her the name of his two daughters. During the period 1945-1951, the "Norma & Gladys", under a series of owners, actively prosecuted the Labrador fishery. In 1951 she was purchased by Charles Hann Kean and for the next twenty-two years was involved in the coastal trade on the north-east coast of Newfoundland.

The significance of the vessel, being one of the few remaining coastal schooners still in existence in Newfoundland, made her an ideal subject for restoration, in order to preserve for the benefit of future generations, a way of existence now fast disappearing. Accordingly, the Historic Resources Division of the Department of Tourism initiated an attempt to secure "Norma & Gladys" on behalf of the government and people of Newfoundland. In 1973 their efforts were met with success when the Government of Newfoundland and Labrador with the financial assistance of the National Museums of Canada purchased the vessel for use as a "floating museum" illustrating Newfoundland Maritime History. In the light of world concern for the conservation of maritime resources a subsequent agreement was arranged between the Government of Newfoundland and Labrador and the Department of External Affairs to send the "Norma & Gladys" on a year long voyage to foreign ports to illustrate Canada's concern for the oceans of the world, and the seas surrounding her shores.

Published by
NEWFOUNDLAND AND LABRADOR DEPARTMENT OF TOURISM
Confederation Building St. John's, Newfoundland
Hon. T. J. Healey, M.P.A.
Minister

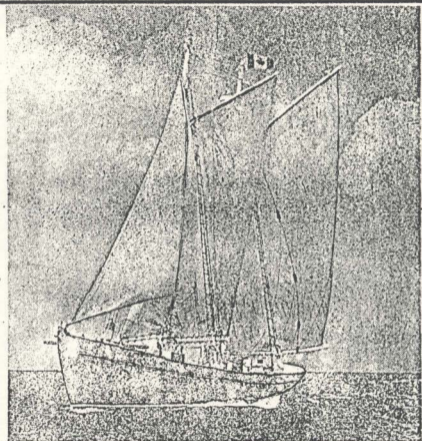
Canadian schooner arrives

A Newfoundland fishing schooner, Norma & Gladys, arrived in Kingston Harbour on Tuesday as part of a world tour to promote fisheries conservation and environmental protection through international co-operation.

The schooner has already visited New York and Boston, and from here she will proceed to Los Angeles and San Francisco, then to Japan, where she will be the highlight of the celebration of 'Canada Day' at Expo '75.

The schooner's hold has been converted into a display area for an exhibit contrasting the richness of the Grand Banks fishing grounds in the past with their present depleted state. The display area also portrays Canada's efforts to effectively manage living resources off her coast, and also the principles of fisheries management she will implement when the planned 200-mile off shore zone becomes reality.

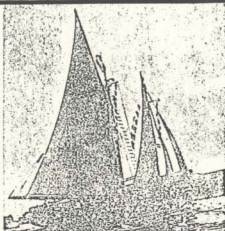
The schooner has an overall length of 93.3 feet and a displacement of 133 tons. Master of the vessel is Capt. John Smith. He is assisted by a crew of eight.



NORMAN & GLADYS...
The Newfoundland fishing schooner 'Norma & Gladys' which arrived in Kingston Harbour on Tuesday as part

of her world tour to promote fisheries conservation and environmental protection through international co-operation. She was launched

in 1945 and is considered one of the last of her kind in the world. She has an overall length of 93.3 ft. and a displacement of 133 tons.



START OF GOOD WILL TOUR — The 93-foot Norma and Gladys, the last of the Grand Bank fishing schooners, sailing into Boston Harbor yesterday on the first stop of a world-wide voyage to salute the U.S. Bicentennial and present Canada's stand on preserving the fishing industry.

(Patriot Ledger staff photo by Everett A. Talreau)

Fishing Schooner On World-Wide Voyage

BOSTON — The last of the legendary fleet of Grand Bank fishing schooners sailed into Boston yesterday, the first port of call of a world-wide voyage.

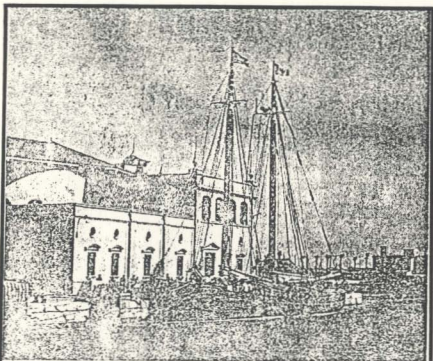
The 93-foot Norma and Gladys will be tied up at Anthony's Pier 4 today through Friday and will be open to the public from 9:30 to 11:30 a.m. and from 2 to 4 p.m. daily. However, visitors must obtain passes by applying in person at the Canadian Consulate General, 500 Boylston St., Boston.

Capt. John Smith, master of the schooner, and a crew of Newfoundlanders will sail around the world for the next 10 months to salute the Bicentennial in the U.S. and to present to all nations an exhibition illustrating Canada's stand on preserving the fishing industry.

The exhibit in the hold of the vessel displays a series of cut-outs showing the history of Grand

Banks fishing over the past 400 years. Models also show how foreign mechanized fishing fleets are depleting the fish stock on Canada's Atlantic continental shelf and how they may be saved with the adoption of Canada's proposal to extend the 12-mile territorial limit to a 200-mile economic zone.

The Norma and Gladys, named for the children of its first master, Capt. Allan Tucker, was launched in 1943 and fished the Grand Banks until 1932 when she was converted into a motorized coastal freighter. Two years ago the vessel was bought by the Government of Newfoundland and restored to her original fishing rig and lines. The schooner's 2,400 square feet of sail has been supplemented by two 150-horsepower auxiliary engines. She is equipped with the latest in navigation and safety equipment.



Norma and Gladys in Malaga, Spain

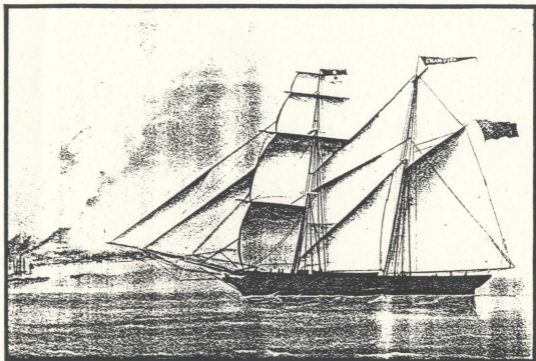
Telegram photo

A report by external affairs department employee Jan Wylie on the Norma and Gladys' visit to Malaga, Spain says the schooner was jammed with awestruck visitors during her four-day stop. "The feeling aboard the Norma and Gladys when she is jammed from stem to stern with smiling, often awestruck visitors is that of a fair ground—a festival in honor of Newfoundland!" writes Mr. Wylie. The report, which Mr. Wylie cautions contains personal opinions, was distributed by the provincial tourism department. Mr. Wylie describes himself as an "advance man" to the Norma and Gladys show before it hits town.

"Newfie ballads play from speakers lashed to the main boom," writes Mr. Wylie. "The crew somehow manage to communicate with the visitors on a plane higher, I suppose, than language, while our Spanish speaking guide explains the history of the fishery, the meaning of conservation and resource management to as many people as possible." Mr. Wylie reports the Norma and Gladys was featured on Spanish radio, television and in the newspapers. He quotes the deputy minister of the Spanish department of commerce as saying: "Such a small boat, bringing such a big message, it is incredible."

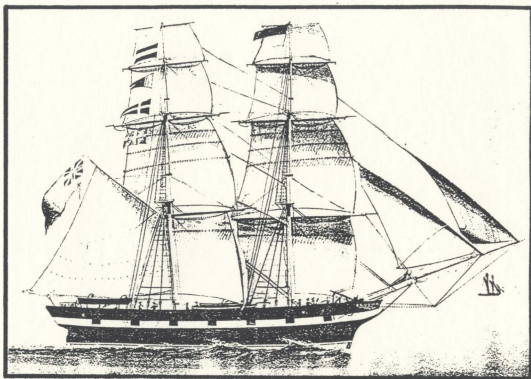
The Evening Telegram, March 25, 1976.

From: The Newfoundland fish boxes: A chronicle of
the fishery. by Roberts, H.D. and Nowlan, M.O.,
(1982).



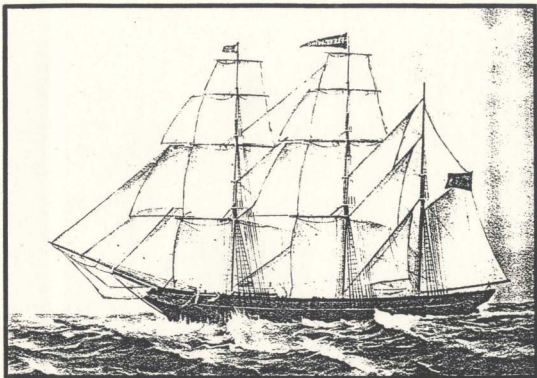
The schooner *Champion* was built at Moreton's Harbour, Newfoundland by Thomas French in 1885. Green Bay, in which Moreton's Harbour is situated, was noted for its shipbuilding and its master builders like Thomas French.

Built for Moses Monroe of St. John's, she was registered in that city. A trim little vessel, the *Champion* was typical of many small schooners constructed in Newfoundland for the coastal and fishing trades. History recounts little of her activity. In fact, no details of her demise exist. Her registry was closed in 1933 with a note that she had been lost at sea many years before.



The *Clutha*, a brig, was built by Michael Kearney at Harbour Grace in 1841 for William Punton and John Munn, merchants who owned their own shipyard. Her first master was one of Munn's sons, Duncan. She was chiefly employed in the trades from Newfoundland to the United Kingdom, Europe and Canada, in other words, a 'Newfoundland trader'. Like all Punton-Munn ships, she came under the sole ownership of Munn when Punton died in 1850.

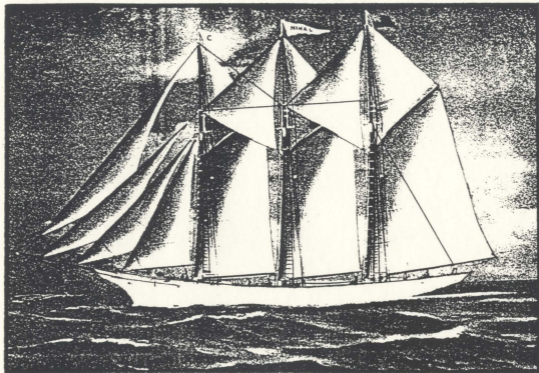
Her later masters included William Cunningham, another of Munn's sons, John, and Henry Burn. The *Clutha* was one of few Newfoundland fishery ships to meet peaceful end. She was broken up in 1854.



Fleet Wing was a large barque built at Hall's Bay (Notre Dame Bay), Newfoundland in 1857. Her construction was for the Barnes — John B., William M. and Ebenezer — who were merchants engaged in the coal and provisions trade from British North America. Within a year of her launching, however, she became part of the John Munn shipping business at Harbour Grace. Munn used her consistently in the overseas trade and the Labrador seal hunt.

Like many of the Newfoundland fishery vessels, *Fleet Wing* knew only one or two masters. For many years, she was commanded by Francis Pike of Carbonear and later by his brother James.

Although she was one of the largest ships built in Newfoundland, she suffered heavily from the ravages of the sea. *Fleet Wing* was condemned in 1873 at Lisbon. This action followed a long and stormy voyage from Newfoundland during which she was greatly damaged. As a great ship, she suffered the humility of being sold as unseaworthy.



This smart, little tern schooner did not last long at the mercy of the sea. Pictures of her show a neat schooner whose hull was very much like the fishing vessels of the period with a long overhang to the stern, no forward deckhouse and flush-decked except for the break amidships. She was built at Northern Arm, Notre Dame Bay, Newfoundland in 1907 by Job Manuel for Josiah Manuel and his son, Chesley, of Exploits. In May 1910, the *Nina L* became part of the Crosbie fleet when John C. Crosbie bought her. Incidentally, Crosbie had married Josiah Manuel's daughter, Mitchie Ann.

With the ownership change, there was a transfer of her registry to Sydney, Cape Breton even though she was used exclusively in the Newfoundland trade. Under Crosbie, however, she did not last long. A strong sea claimed her on December 12, 1911.

From: Men ships and the sea. by Villiers, A. (1973)

Around the World in 1,739 Days: A Teen-ager Sails Alone



A boy sets out, a man returns. Starting at 16, Robin Lee Graham masters sea and self to become the youngest solo sailor to girdle the globe.

With genoa and main rigged wing and wing, we sleigh-ride into a trough. *Dore* labors up the next crest, and down we plunge again, day after day, my boat and I.

I rely upon the usually predictable trade winds to carry me around the world. When they favor me, I feel exhilarated; when they don't, I wallow in my personal doldrums.

It seems ages since that short while ago

that I turned 16. Then I had confronted my family with a dream: I wanted my own boat to cruise the South Pacific. My father understood; as a boy he'd dreamed of a similar adventure, but World War II intervened. So, in early 1965, we bought *Dore*, a 24-foot fiberglass sloop with aluminum mast and boom. She was laid out below for day sailing, but together we outfitted her for the open sea.

On July 27, I set sail from Los Angeles for Honolulu. I covered the 2,230 nautical miles in 22½ days with ease. It seemed quite natural to continue not just to the South Pacific but on around the globe, stopping in rarely visited harbors, holing up among other peoples for months at a time, eating their bread, dancing to their pipers.

"But nobody your age has even skipped a boat around the world," Mom fretted, "much less alone." Dad wasn't worried; he'd taught me to navigate and to keep a shipshape boat and a healthy respect for the wind and sea. Against us both, Mom gave in.

On September 14, I sailed from Honolulu. The breezes at first were too light to move the self-steering vane we had devised. I had few other mechanical aids: an inboard engine, an outboard motor, a transistor radio. I had an ice chest, but except in port, never any ice. I had fishing line, a pistol, and a tape recorder for notes and messages. On lonely days the recorder gave me the feeling—almost—that I had someone to talk to.

My first landfall, 1,050 miles south, was the 12-square-mile coral atoll of Fanning Island. Not much of a target!

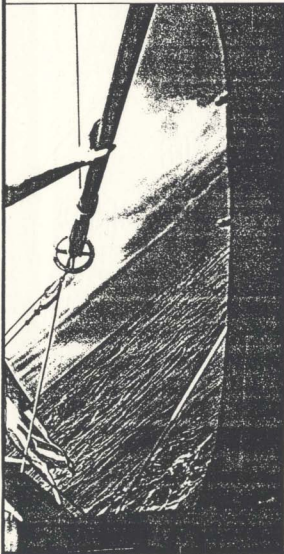
The northeast trades pushed me along. Always the initial few days at sea were depressing, until I adjusted to life aboard *Dore*. Then, even in sleep, I would sense any change in her motion and wake up.

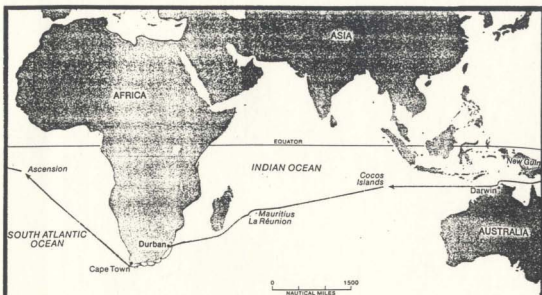
Foremost, the lone voyager dreads being washed overboard. At sea, even in my bunk, I nearly always wore a harness tethered to a ring on *Dore's* boom.

Small things can highlight a day at sea. A few days out of Honolulu I taped: *There's a school of porpoises all around the ship. I can hear their squeaks. It's amazing how loud.... I wonder if they are trying to talk to me?*

Honed and hardened by nearly five years alone on the sea, Robin Lee Graham grasps boom and tiller as his sloop heels hard to port off Barbados. Beyond a skewed horizon wait the Panama Canal, the Pacific Ocean, and his home in Los Angeles.

PATRICIA GRAHAM





After 14 days I raised Fanning Island, where a lone European supervised 300 Gilbert Islanders harvesting copra. As he drove me around at dusk, we crunched over some of the large land crabs that crawl by the thousands over Fanning.

Returning after dark, we saw a gruesome scene in our headlights. Hordes of crabs were cannibalizing those we had squashed. Fanning's crabs are edible, but my fondness for crab meat had vanished.

I gave a boy two T-shirts from my supply of 500 articles of used clothing. Since my cash reserves were small, I hoped to get by with these for gifts and bartering. I left Fanning only 20 cents poorer. I hadn't spent that 20 cents, but lost it while gyrating to the drumbeats of an island dance.

On my way to Samoa, a shark gobbled up my tailfin-log spinner, trailing 25 feet astern. That really annoyed me. Without the log to measure sea miles sailed each day, I would have to guess the distance I made.

The wind blows from every direction, I complained to my recorder. I've never had it blow the way it's supposed to.

Fifteen days out of Fanning, my monotony vanished in the greatest thrill of ocean sailing: a landfall. Navigation is simple, but a small error could be disastrous if I sailed past a tiny island into an empty ocean. I taped: *I see it! It's right there, kind of a dome-shaped thing. ... It's all rainy looking.* I had sighted Tutuila, chief island of American Samoa.

Suddenly a squall hit me. My mast buckled,

carrying mainsail and genoa jib overboard. I felt like crying. But I had too much to do. I hauled everything aboard, erected the boom for a mast, and set the mainsail.

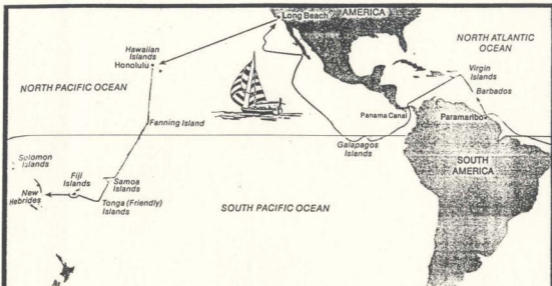
I could see that the strong southeast breeze was going to blow me right past Tutuila. With this jerry rig I could not sail to windward, and my engine was no match for the wind. So I set course downwind for Upolu in Western Samoa.

About 3 a.m. I saw a light on Upolu. But the wind was driving me dangerously close to the rocks. All sailors fear a lee shore, and under my clumsy shortened sail I could never bear back to the open sea.

A lucky wind shift let me skin past. By daylight I was passing sandy beaches. Believe me, I was glad to duck into port at Apia.

Friendly people invited me to dinner every night. For two weeks I didn't eat a meal on *Dore*. The principal of a technical school welded the hollow mast and jammed a hardwood core inside. I rigged and stepped the spar, but overlooked a sailor's superstition: You must place a coin under the mast for luck.

Life was lazy in Apia. The dancers' bark-strip skirts kept me interested—but not so much as the feasts. The islanders build a fire in an *umu*, a rock-lined oven in the ground. After the rocks heat up, pigs, fowl, fish, yams, and taro are placed in the umu, basted with coconut milk and wrapped in banana leaves. Covered with very hot rocks and more banana leaves, the food bakes for a couple of hours, then is served with coconut milk,



CHARLES ALLMON, OVERLEAF: WILLIAM ALBERT ALLARD

melons, mangoes, bananas, and papayas. To me, no food surpasses Samoan!

I climbed Mount Vaea to read on Robert Louis Stevenson's tomb the haunting lines he wrote as his own epitaph: "Home is the sailor, home from the sea..." Then, at Christmas a box from home brought supplies and a new tailrail-log spinner. By the shank end of January, I was in Pago Pago. Uneasy weather had settled in.

One afternoon a man rowed past, shouting, "Batten down, a hurricane's heading our way." By evening the wind came gusty.

Barometer's dropping fast....Gusts over 70, I taped. The boat's swinging wildly and rolling from gunwale to gunwale....Hold on! Here we go! That one dipped the gunwale under.

It's 2:30 in the morning now. The boat—I can't believe it!—all of a sudden a gust will pick the boat up and tip it over....The sea pours in over the cockpit coaming.... This is exciting.

The infinitesimal during the infinite. Dove embraces the wind and wafts her young skipper from home port in Long Beach toward landfalls thousands of miles away. Robin's steering vane aft holds her on course; if she veers, it catches the wind and turns a trim rudder to compensate.

Built as a day sailer, Dove proved herself so seaworthy on her shakedown cruise to Honolulu that Robin's dream of seeing the Pacific isles grew into a plan to sail the world. Twice dismasted, 24-foot Dove bested storms in the Pacific, Indian, and Atlantic oceans, sharing with her skipper such exotic landfalls as Tutuila in American Samoa (overleaf), where she lies rafted to another yacht.

APPENDIX C

CRITERION REFERENCED TEST: PRETEST POSTTEST

1. Write the name of each ship part on the correct line below.

BOW

HULL

RUDDER

DECK

KEEL

SQUARE SAIL

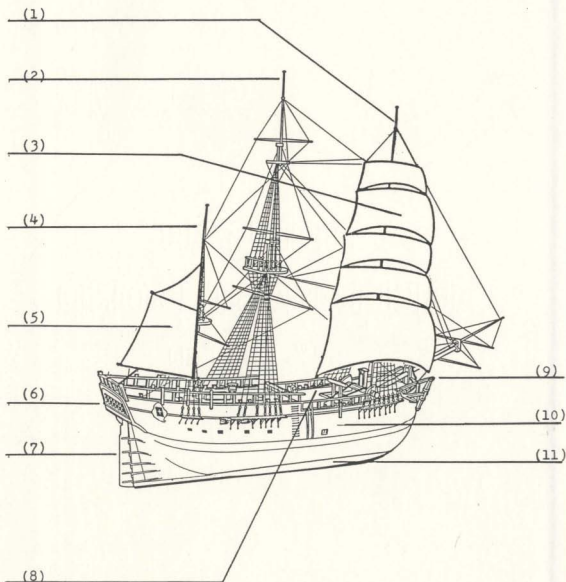
FOREMAST

MAINMAST

STERN

FORE AND AFT SAIL

MIZZENMAST



2. Choose the correct name for each type of sailing ship and write it below the drawing of the ship.

BARQUE

BRIG

SCHOONER

BARQUENTINE

BRIGANTINE



(12)



(15)



(13)



(16)

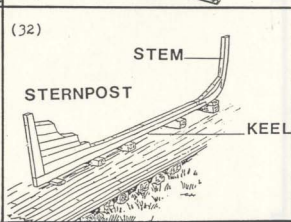
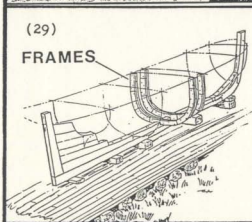
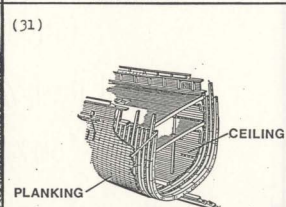
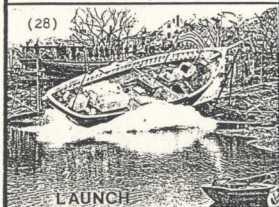
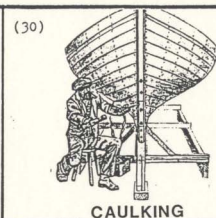
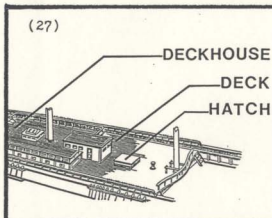


(14)

3. Tell whether the following statements about schooners are true or false. Write TRUE or FALSE in the blank before each statement.

- (17) _____ 1. Schooners were the largest ships in the fleet.
- (18) _____ 2. Schooners were suitable for use in both the cod fishery and coastal trading.
- (19) _____ 3. Schooners were the only ships suitable for the seal hunt.
- (20) _____ 4. Profits from the cod fishery were used to help pay for the building of new schooners.
- (21) _____ 5. After 1870 the Newfoundland Government paid a "bounty" to shipbuilders who built schooners.
- (22) _____ 6. Newfoundland shipbuilders became skilled mainly in schooner building.
- (23) _____ 7. Schooners were the fastest sailing ships in the Newfoundland fleet.
- (24) _____ 8. Small Newfoundland companies could only afford to buy schooners.
- (25) _____ 9. Schooners were not used in the Labrador fishery.
- (26) _____ 10. Schooners were the only ships used in the foreign trade.

4. Number the drawings below to show the order in which a sailing ship was built. Write 1 on the first step, 2 on the second step and so on.



5. Choose the names of the 5 largest shipbuilding regions in Newfoundland and write them in the correct spaces below.

FORTUNE BAY

NOTRE DAME BAY

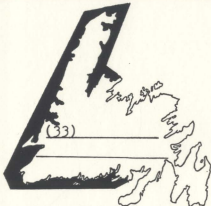
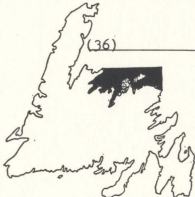


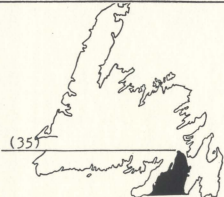
CONCEPTION BAY

PLACENTIA BAY

BONAVISTA BAY

TRINITY BAY

SOUTH COAST AND FRENCH SHORE

| | |
|---|--|
|  |  |
|  |  |
|  | |

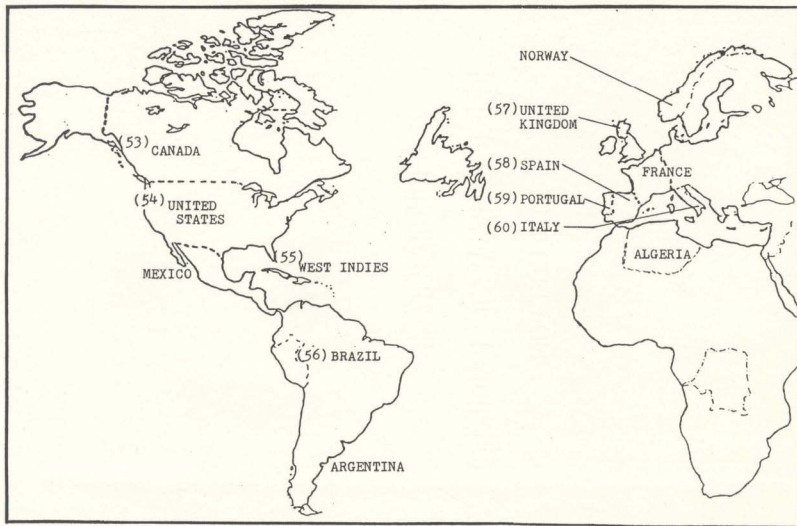
6. In the list below underline the 5 major uses of Newfoundland sailing ships.

- (38) 1. Coastal trading
 2. Transporting iron ore
 (39) 3. Labrador fishery
 4. Voyages of discovery
 (40) 5. Bank fishery
 6. Transporting pulp and paper
 (41) 7. Seal hunt
 8. Arctic exploration
 (42) 9. Foreign trading

7. In the chart below write EXPORT after the products carried to other countries by Newfoundland sailing ships. Write IMPORT after the products brought back to Newfoundland.

| | PRODUCT | EXPORT OR IMPORT |
|------|---------------|------------------|
| (43) | 1. Cod fish | |
| (44) | 2. Coal | |
| (45) | 3. Salt | |
| (46) | 4. Seal oil | |
| (47) | 5. Molasses | |
| (48) | 6. Cod oil | |
| (49) | 7. Seal skins | |
| (50) | 8. Herring | |
| (51) | 9. Lumber | |
| (52) | 10. Sugar | |

8. On the map below CIRCLE the names of the 8 countries visited by Newfoundland sailing ships.



APPENDIX D
TEACHER EVALUATION FORM

TEACHER EVALUATION FORM

KEY: 1 - very favourable 2 - favourable
 3 - unfavourable 4 - very unfavourable

- | | | | | |
|--|---|---|---|---|
| 1. Is the subject matter accurate? | 1 | 2 | 3 | 4 |
| 2. Is the subject matter logically organized | 1 | 2 | 3 | 4 |
| 3. Is the subject matter related to the curriculum? | 1 | 2 | 3 | 4 |
| 4. Are the concepts and vocabulary in the booklet suitable for Grade 5 students? | 1 | 2 | 3 | 4 |
| 5. Is the subject matter clearly written and easy to understand? | 1 | 2 | 3 | 4 |
| 6. Are the drawing appropriate to the concepts? | 1 | 2 | 3 | 4 |
| 7. Are the drawings of good quality? | 1 | 2 | 3 | 4 |
| 8. Are the lettering and captions clear and easy to read? | 1 | 2 | 3 | 4 |
| 9. Are the activity pages appropriate for Grade 5 students? | 1 | 2 | 3 | 4 |
| 10. Do you think this booklet is an appropriate learning aid for Grade 5 students? | 1 | 2 | 3 | 4 |
| 11. Would you recommend this booklet to other teachers? | 1 | 2 | 3 | 4 |

Comments (optional)

APPENDIX E
STUDENT BOOKLET



THE NEWFOUNDLAND

SAILING FLEET

student booklet

CONTENTS

| | page |
|--|------|
| I TO THE STUDENT | 1 |
| II PARTS OF A SAILING SHIP | 2 |
| III TYPES OF SAILING SHIPS | 9 |
| IV THE IMPORTANCE OF THE SCHOONER | 16 |
| V BUILDING A WOODEN SHIP | 24 |
| VI SHIPBUILDING REGIONS OF NEWFOUNDLAND | 33 |
| VII USES OF NEWFOUNDLAND SHIPS | 41 |
| VIII CARGO CARRIED IN NEWFOUNDLAND SHIPS | 49 |
| IX TRADE ROUTES OF NEWFOUNDLAND SHIPS | 55 |
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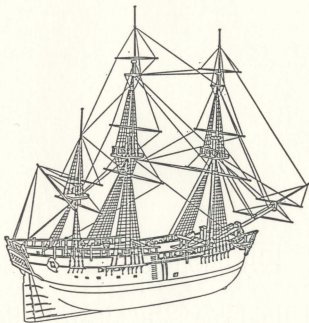
TO THE STUDENT

This booklet has been designed to help you learn about Newfoundland sailing ships. There are eight sections in the booklet which will help you learn the following:

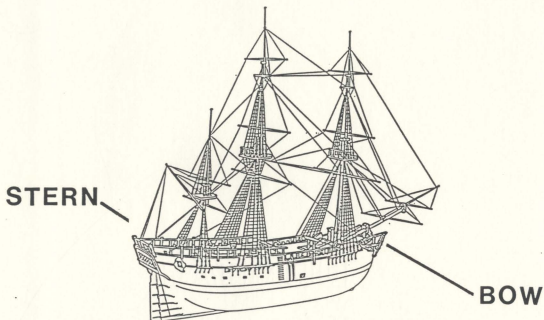
- Section 1 Parts of a sailing ship.
- Section 2 Types of sailing ships.
- Section 3 The importance of the schooner.
- Section 4 Building a wooden ship.
- Section 5 Shipbuilding regions of Newfoundland.
- Section 6 Uses of Newfoundland ships.
- Section 7 Cargo carried in Newfoundland ships.
- Section 8 Trade routes of Newfoundland ships.

Please read the booklet carefully and work at your own speed. Read each section carefully and study the maps and diagrams closely. After you have read each section complete the activity page following. Correct your work as you go by comparing your answers with those on the answer pages. If you find any mistakes in your work please correct them before going on to the next section.

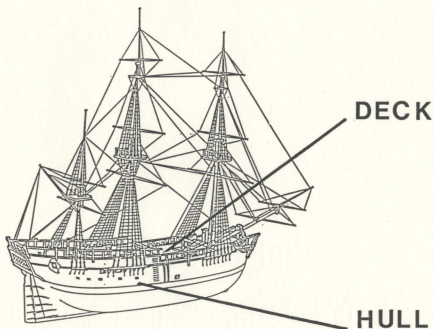
SECTION 1



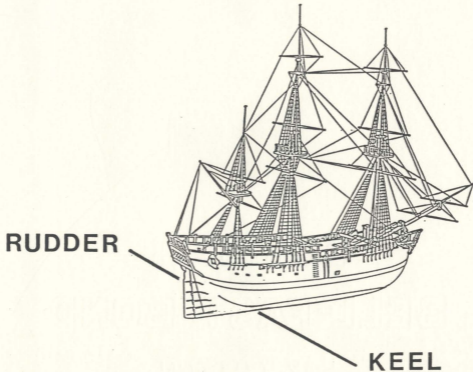
PARTS OF A SAILING SHIP



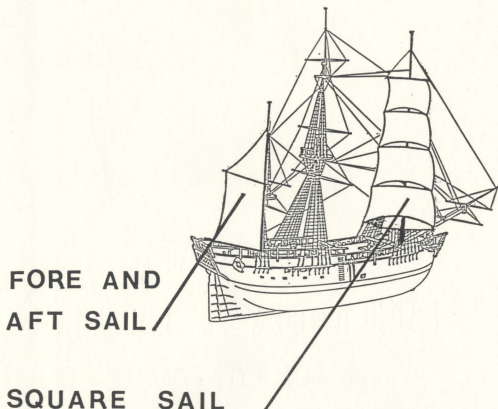
The front of the ship is called the BOW. Sailors also call it the "fore" or forward part of the ship. The back part of the ship is called the STERN. Sailors sometimes call this part of the ship "aft".



The bottom and sides of the ship are known as the HULL. The flat surface on the top of the hull is called the DECK.



The **KEEL** is located on the bottom of the ship. It runs the full length of the vessel, gives it strength and helps it remain upright in the water. The **RUDDER** is attached to the stern of the ship and is used to steer the ship and keep it on course.



Sailing ships used two kinds of sails. SQUARE SAILS were rigged so that they stretched across the ship from one side to the other. FORE AND AFT SAILS were rigged so that they stretched lengthwise along the ship from bow to stern.

FOREMAST**MAINMAST****MIZZENMAST**

Newfoundland sailing ships usually had two or three masts. The mast closest to the bow was called the FOREMAST. The second mast from the bow was called the MAINMAST and the mast closest to the stern was called the MIZZENMAST.

ACTIVITY 1

8

Write the name of each ship part on the correct line below.

(You may look back at Section 1 if you wish).

BOW

HULL

RUDDER

DECK

KEEL

SQUARE SAIL

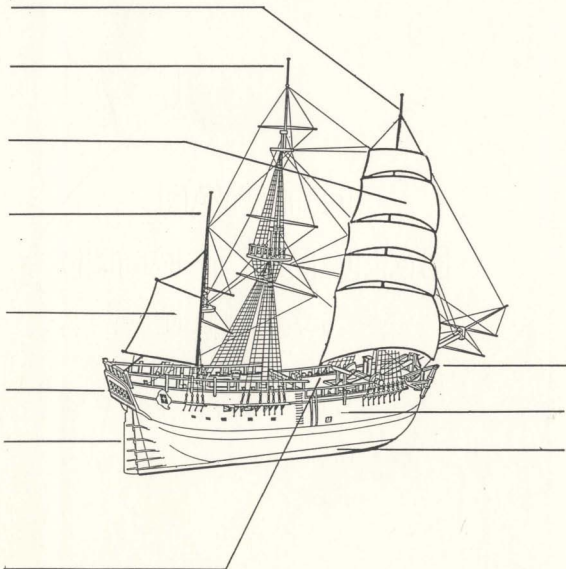
FOREMAST

MAINMAST

STERN

FORE AND AFT SAIL

MIZZENMAST

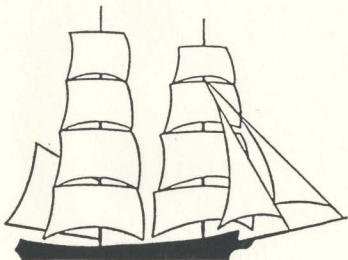


TO CHECK YOUR ANSWERS TURN TO PAGE 62

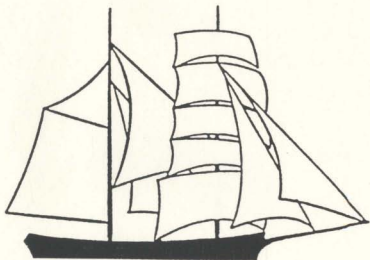
SECTION 2



TYPES OF SAILING SHIPS

**BRIG**

This type of sailing ship is called a BRIG. These ships have two masts with square sails on both of them.

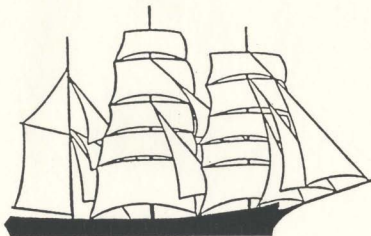


BRIGANTINE

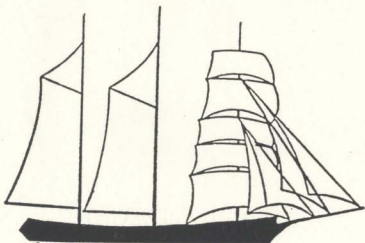
This type of ship is called a BRIGANTINE. These ships have two masts with square sails on the foremast. The sails on the mainmast are rigged fore and aft.

**SCHOONER**

This type of sailing ship is called a SCHOONER.
Schooners have two or three masts with fore and aft
rigged sails on all of them.

**BARQUE**

This type of sailing ship is called a BARQUE. Barques have three masts with square sails on the foremast and the mainmast. The sails on the mizzenmast are rigged fore and aft.



BARQUENTINE

This type of ship is called a BARQUENTINE. Barquentines have three masts with square sails on the foremast only. The sails on the mainmast and the mizzenmast are rigged fore and aft.

ACTIVITY 2

Write the name of each type of sailing ship below the correct drawing. (You may look back at Section 2 if you wish).

BARQUE

BRIG

SCHOONER

BARQUENTINE

BRIGANTINE





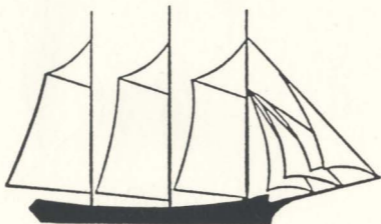






TO CHECK YOUR ANSWERS
TURN TO PAGE 63.

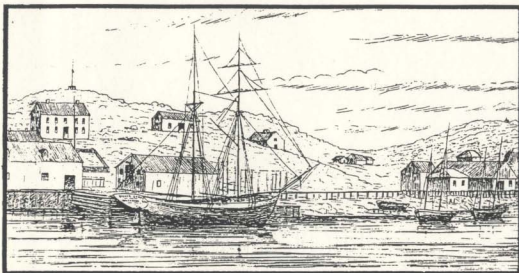
SECTION 3



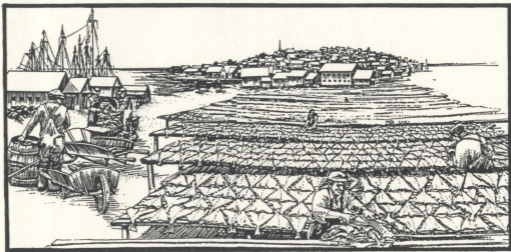
THE IMPORTANCE OF THE SCHOONER



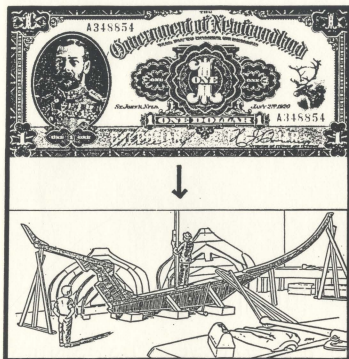
Schooners were the most popular type of sailing ship used in the offshore fishery in Newfoundland. They sailed from many ports to the fishing banks off the coast of Newfoundland.



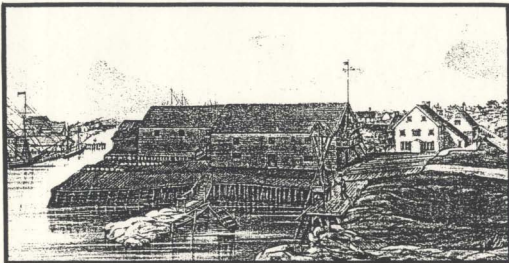
In the nineteenth century most Newfoundland settlements were not connected to the highway or railway. Most of the food and supplies needed by people in these communities had to be delivered by schooners called "coasters".



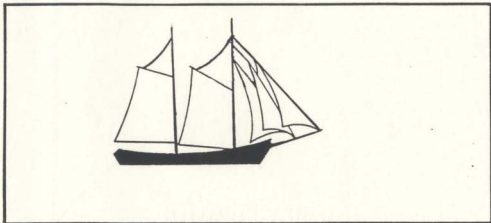
Schooners were paid for mainly from profits earned from the cod fishery. If the fishery was good and the schooner owners made a lot of money they built more new schooners for the next year. If the fishery was poor fewer new schooners were built.



After 1870 the Newfoundland government tried to encourage schooner building by paying shipbuilders money called a shipbuilding "bounty".



Most Newfoundland companies were very small and could only afford small sailing schooners.



By the middle of the nineteenth century there was little demand for larger sailing ships such as barques and barquentines. Thus, the skills necessary for building the larger ships declined and Newfoundland shipbuilders built mainly small schooners.

ACTIVITY 3

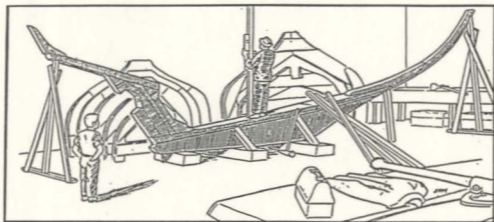
23

Listed below are some statements about schooners. Read each statement carefully and place a check mark (✓) in front of the 5 statements which help explain why the schooner became the most popular sailing ship in the Newfoundland fleet. (You may look back at Section 3 if you wish.)

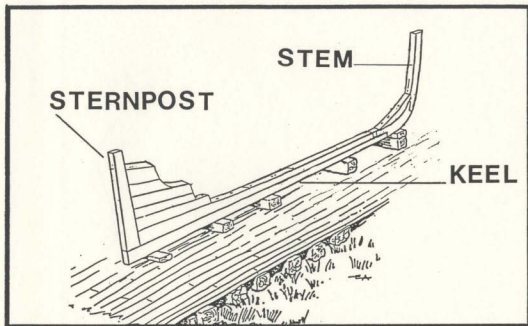
- ___ 1. Schooners were the largest ships in the fleet.
- ___ 2. Schooners were suitable for use in both the cod fishery and coastal trading.
- ___ 3. Schooners were the only ships suitable for the seal hunt.
- ___ 4. Profits from the cod fishery were large enough to help pay for the building of new schooners.
- ___ 5. After 1870 the Newfoundland Government paid "bounties" to shipbuilders who built schooners.
- ___ 6. Newfoundland shipbuilders were skilled mainly in schooner building.
- ___ 7. Schooners were the fastest sailing ships in the Newfoundland fleet.
- ___ 8. Small Newfoundland companies could only afford to buy schooners.

TO CHECK YOUR ANSWERS TURN TO PAGE 64.

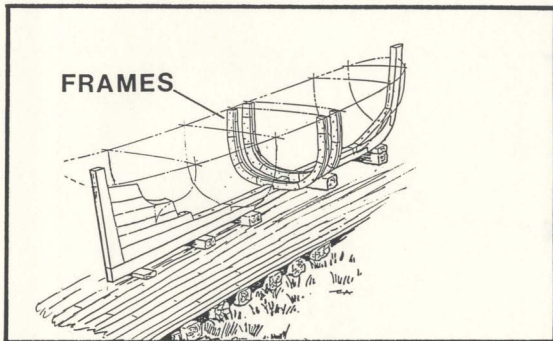
SECTION 4



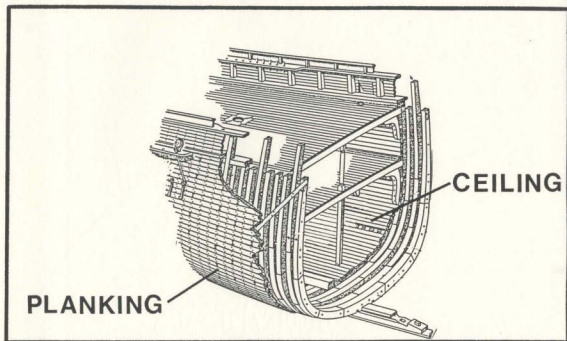
BUILDING A WOODEN SHIP



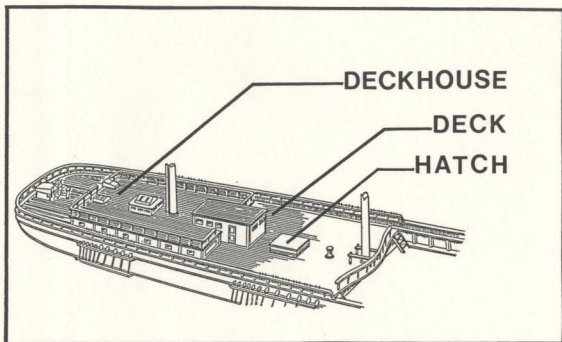
The building began by laying the KEEL on wooden blocks. The STEM, which formed the bow of the ship was bolted to the forward end of the keel. The STERNPOST was bolted to the rear or "aft" end of the keel and would later hold the rudder in place.



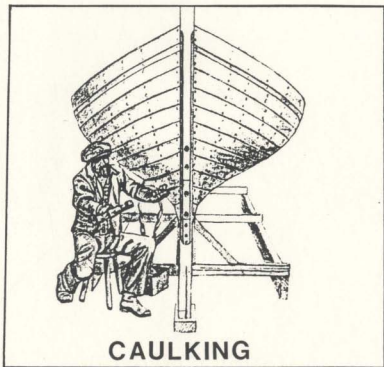
The FRAMES which formed the rounded shape of the hull were then laid on top of the keel and bolted in the correct position.



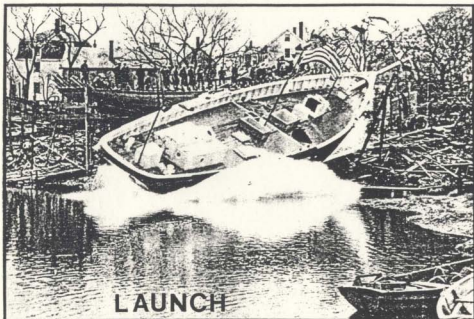
After framing out the hull of the ship, boards were nailed and bolted to the inside and outside of the frames. The inside boards were called CEILING and the outside boards were called PLANKING.



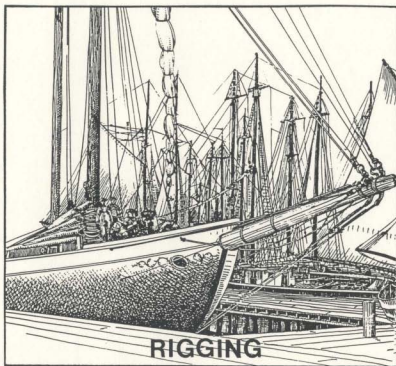
When the hull had been planked the DECK, DECKHOUSES and HATCHES were built.



All the seams in the hull and deck planks had to be made waterproof. This was done by hammering a rope fiber called oakum into all the ship's seams. The oakum was then covered with a tar like substance called pitch which made the seams water tight. The whole process was known as CAULKING.



Once all the seams had been made water tight the whole ship was painted and made ready for LAUNCHING. A ship launching was always a special occasion and hundreds of people gathered to watch the new ship enter the water.



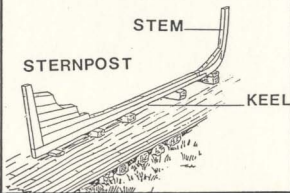
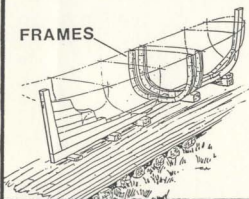
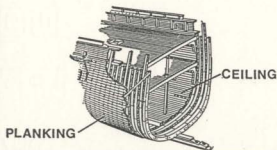
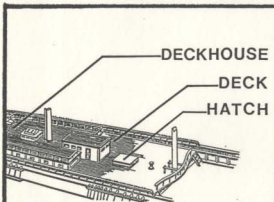
After launching, the new ship was tied to a wharf and the masts were put in. The ropes and wires which held them in place were attached. Then the sails were put in place along with the ropes necessary for raising and lowering them. This work was known as RIGGING the vessel.

ACTIVITY 4

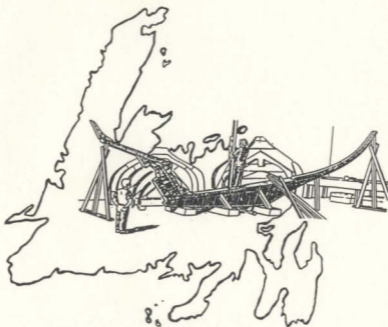
(125)
32

Number the drawings below to show the order in which the sailing ship was built. (You may look back at Section 4 if you wish).

TO CHECK YOUR ANSWERS TURN TO PAGE 65



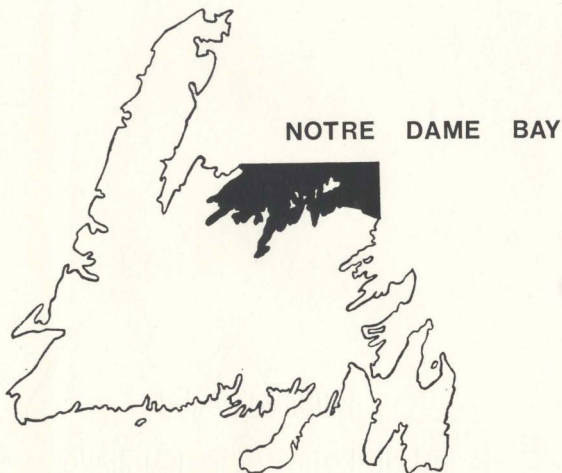
SECTION 5



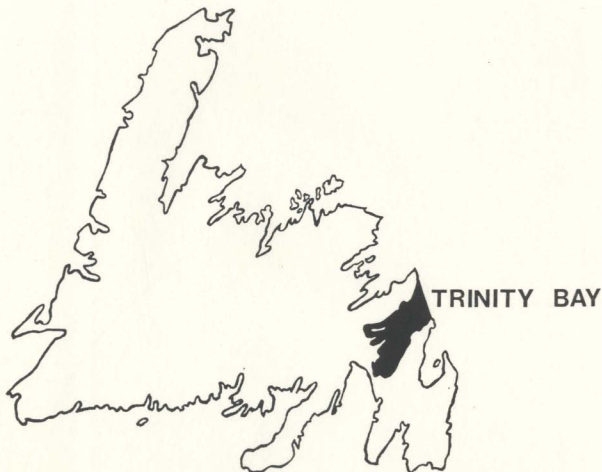
SHIPBUILDING REGIONS
OF NEWFOUNDLAND



Most of the sailing ships which made up the Newfoundland fleet in the 1800's were built in Newfoundland. More than 800 settlements all along the coastline were involved in the shipbuilding industry.



NOTRE DAME BAY had the largest number of shipbuilding locations in the 1800's. In this region ships were built in about 200 different communities.



TRINITY BAY was the second largest shipbuilding region in Newfoundland. Approximately 115 communities in this region were engaged in the shipbuilding industry.



SOUTH COAST AND FRENCH SHORE

The SOUTH COAST AND FRENCH SHORE region was another important shipbuilding area. About 110 communities in this region built sailing ships for the Newfoundland fleet.



An equally important shipbuilding area was the BONAVISTA BAY region. 110 communities in this region also built sailing ships.



PLACENTIA BAY

People living in PLACENTIA BAY also built sailing ships.
In this region ships were built in almost 100 different
communities.

ACTIVITY 5

Write the name of each Newfoundland shipbuilding region on the maps below. (You may look back at Section 5 if you wish).






NOTRE DAME BAY

BONAVISTA BAY

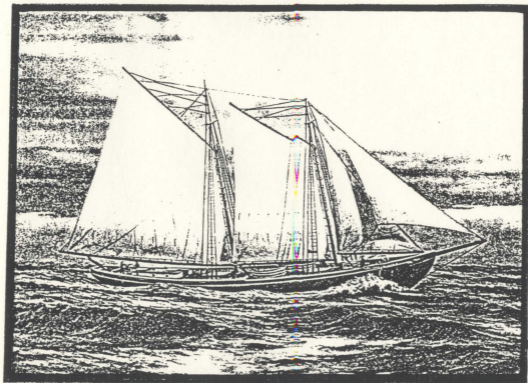
SOUTH COAST AND FRENCH SHORE

TRINITY BAY

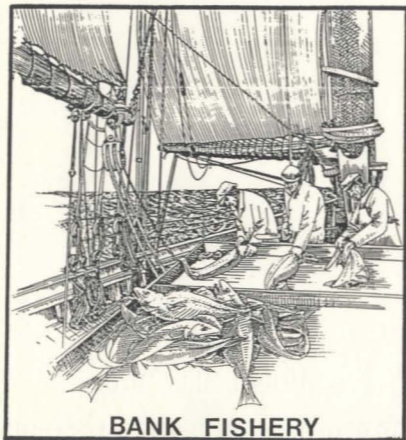
PLACENTIA BAY

| | |
|---|--|
|  |  |
|  |  |
|  | <p>TO CHECK YOUR ANSWERS TURN TO PAGE 66.</p> |

SECTION 6

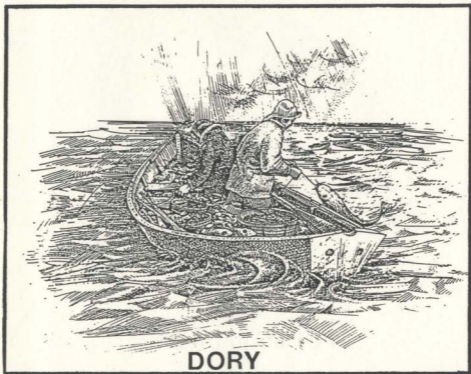


USES OF NEWFOUNDLAND SHIPS

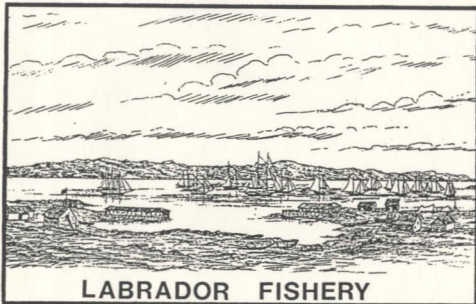


BANK FISHERY

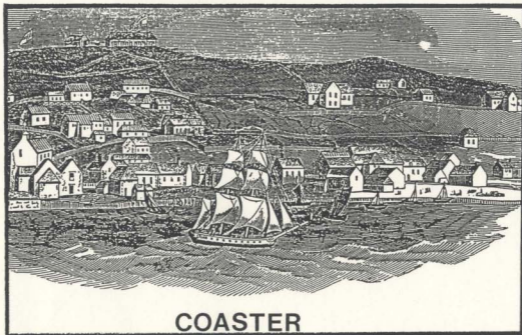
The major use of the Newfoundland sailing fleet was the offshore fishery also known as the "bank" fishery. Banking ships, mainly schooners carried between 8 and 10 small boats called dories.



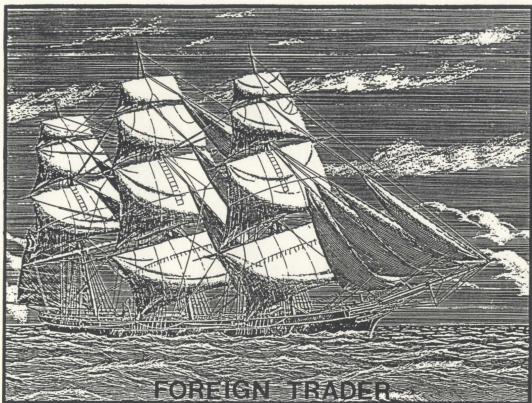
The bank fishermen used the dories to catch the codfish and bring them back to the schooner to be cleaned, salted and stored below deck.



Sailing ships were also used in the Labrador fishery. Each spring the ships were loaded with fishing supplies and fishing families sailed to the coast of Labrador. During the spring and summer months the fishermen and their families worked at catching and curing the fish. In the fall their catch was loaded into the ship and the fishermen and their families returned to Newfoundland.



There were few highways in Newfoundland in the 1800's and people living in coastal communities depended on sailing ships to deliver their supplies. These ships, called "coasters" were small brigs or schooners which could sail safely in and out of many small harbours along the Newfoundland coast.



Sailing ships were also used to carry Newfoundland products to other countries. These ships, called "foreign traders" were much larger than coasting schooners and could carry all the dried codfish produced in a large fishing settlement during the fishing season.



Each spring Arctic ice drifts southward over the fishing grounds along Newfoundland's coasts. In the 1800's as many as 500 sailing ships sailed to the ice fields each spring to harvest the huge herds of seals drifting with the ice.

ACTIVITY 6

Write the correct use of Newfoundland sailing ships below each drawing. (You may look back at Section 6 if you wish).

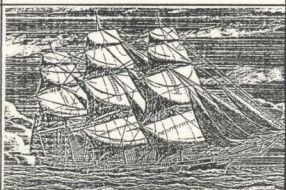
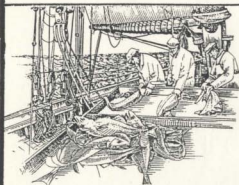
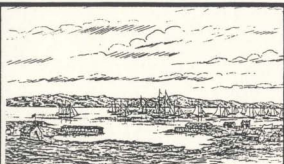
SEAL HUNT

LABRADOR FISHERY

COASTAL TRADING

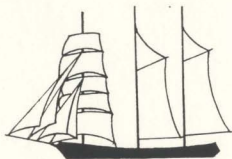
FOREIGN TRADING

BANK FISHERY



TO CHECK YOUR ANSWERS
TURN TO PAGE 67.

SECTION 7



**CARGO CARRIED IN NEWFOUNDLAND
SAILING SHIPS**



EXPORTS

Products which are produced in Newfoundland and taken to other countries by ship are called EXPORTS.

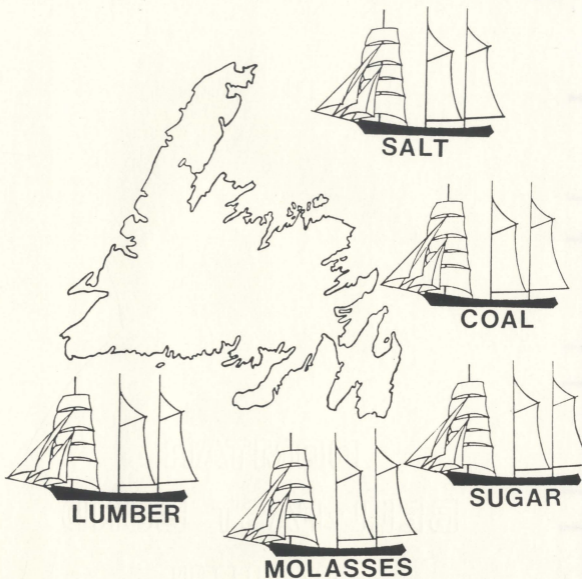


IMPORTS

Products which are grown or produced in other countries and brought to Newfoundland by ship are called IMPORTS.

**CODFISH****COD OIL****SEAL OIL****HERRING****SEAL SKINS**

The major EXPORTS carried to other countries by the Newfoundland sailing fleet were codfish, cod oil, seal skins, seal oil and herring.



The major IMPORTS brought to Newfoundland by the Newfoundland sailing fleet were salt, coal, lumber, sugar and molasses.

ACTIVITY 7

Decide whether each sailing ship is carrying an export or import then write EXPORT or IMPORT on the line beside each ship. (You may look back at Section 7 if you wish).

TO CHECK YOUR ANSWERS TURN TO PAGE 68.

**CODFISH**

**SEAL SKINS**

**SALT**

**COAL**

**HERRING**

**SEAL OIL**

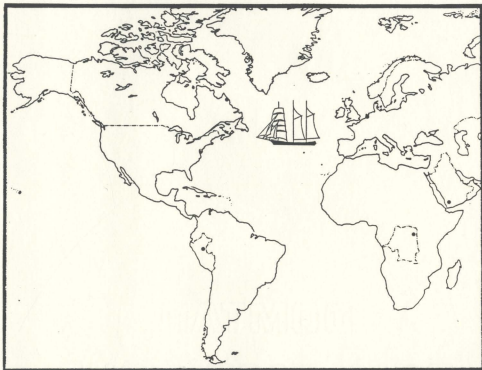
**SUGAR**

**LUMBER**

**MOLASSES**

**COD OIL**

SECTION 8



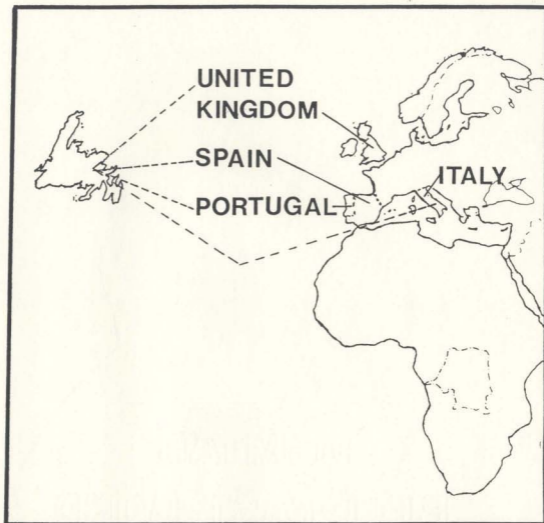
TRADE ROUTES OF NEWFOUNDLAND
SAILING SHIPS



Newfoundland's foreign trading ships sailed mainly to countries located on the Atlantic Ocean.



On this side of the Atlantic the Newfoundland ships sailed ocean routes which took them to Canada, United States, West Indies and Brazil.



On the other side of the Atlantic, the Newfoundland trading ships sailed ocean routes which took them to the United Kingdom, Portugal, Spain and Italy.

ACTIVITY 8

(152)

59

On the map below write the names of the countries which were visited by the Newfoundland foreign trading ships. (You may look back at Section 8 if you wish).

BRAZIL

CANADA

UNITED STATES

WEST INDIES



TO CHECK YOUR ANSWERS TURN TO PAGE 69.

ACTIVITY 9

(153)
60

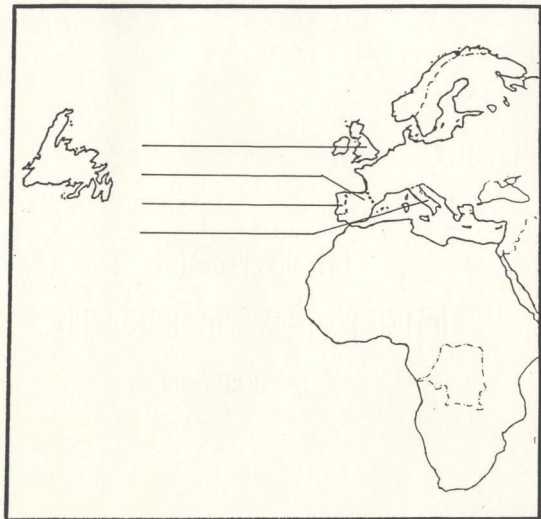
On the map below write the names of the countries on the other side of the Atlantic which were visited by Newfoundland foreign trading ships. (You may look back at Section 8 if you wish).

PORTUGAL

UNITED KINGDOM

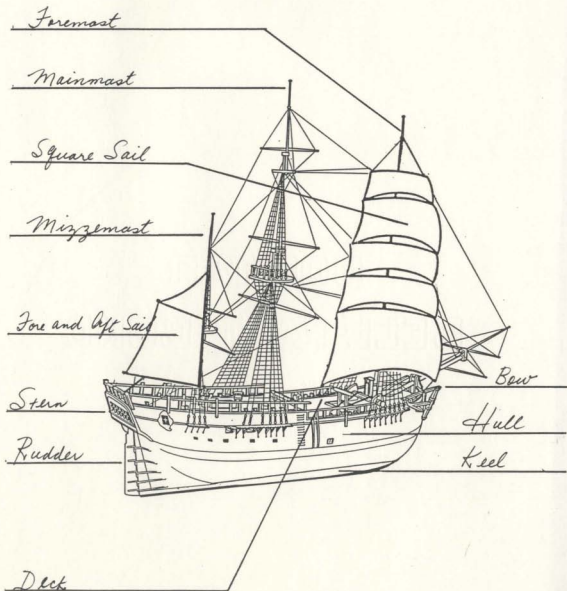
ITALY

SPAIN



TO CHECK YOUR ANSWERS TURN TO PAGE 70.

ANSWERS
TO ACTIVITY PAGES

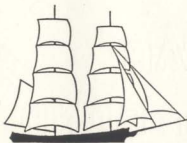




Schooner



Barquentine



Brig



Brigantine



Barque

ACTIVITY 3 (ANSWERS)

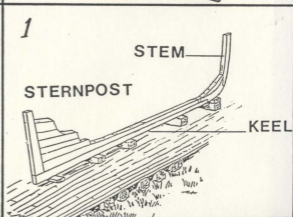
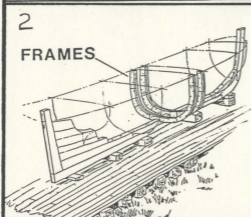
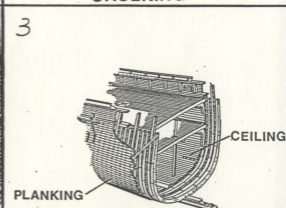
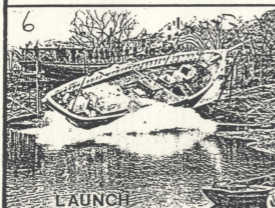
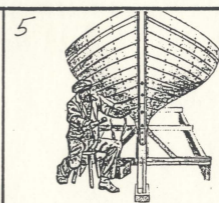
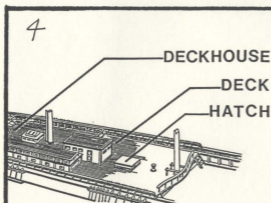
64

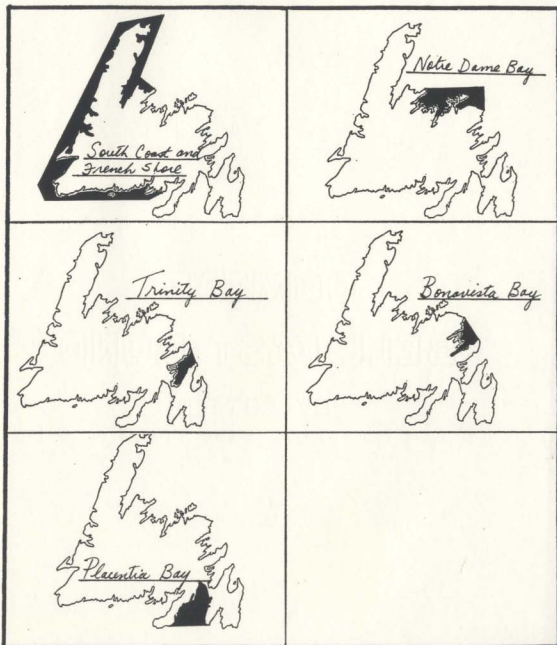
Listed below are some statements about schooners. Read each statement carefully and place a check mark (✓) in front of the 5 statements which help explain why the schooner became the most popular sailing ship in the Newfoundland fleet. (You may look back at Section 3 if you wish.)

- ___ 1. Schooners were the largest ships in the fleet.
- ✓ 2. Schooners were suitable for use in both the cod fishery and coastal trading.
- ___ 3. Schooners were the only ships suitable for the seal hunt.
- ✓ 4. Profits from the cod fishery were large enough to help pay for the building of new schooners.
- ✓ 5. After 1870 the Newfoundland Government paid "bounties" to shipbuilders who built schooners.
- ✓ 6. Newfoundland shipbuilders were skilled mainly in schooner building.
- ___ 7. Schooners were the fastest sailing ships in the Newfoundland fleet.
- ✓ 8. Small Newfoundland companies could only afford to buy schooners.

ACTIVITY 4 (ANSWERS)

65



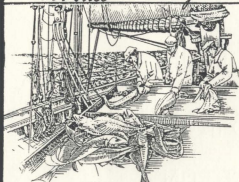




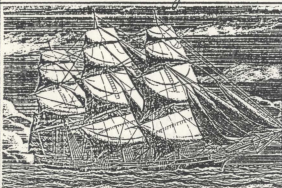
Coastal Trading



Labrador Fishery



Bank Fishery



Foreign Trading



Seal Hunt



CODFISH

Export



SEAL SKINS

Export



SALT

Import



COAL

Import



HERRING

Export



SEAL OIL

Export



SUGAR

Import



LUMBER

Import



MOLASSES

Import



COD OIL

Export

ACTIVITY 8 (ANSWERS)

69



