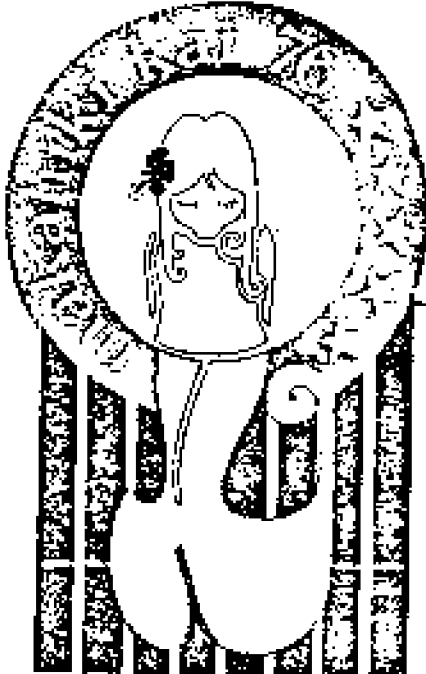


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MAKAHIKI KAI '76

H.I.C. Exhibition Hall
March 2-8, 1976

Teacher's Guide Sheet

WORKING PAPER NO. 20

FEBRUARY 2, 1976

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TEACHERS' GUIDE SHEET

Dear Teacher:

As you already know, Makahiki Kai '76 will feature the very unique Hawaiian aku (skipjack) fishing industry. It is an industry that has both potential for development and several real problems that stand in the way of the realization of its potential. But the industry is uniquely Hawaiian and deserving of special recognition as the central theme of the exhibits of Makahiki Kai '76.

We are pleased that you have decided to participate in Makahiki Kai '76. This collection of activities should make the visit of your students to Makahiki Kai more meaningful and exciting.

Rose Pfund, Coordinator
Makahiki Kai

Some housekeeping information:

- We are grouping all scheduled classes in groups of approximately 60 children. Since each stop will be only 5 minutes, please move your children along as rapidly as possible when you hear the bell ring over the Exhibition Hall PA system. Group your students in the area marked off with tape so that they will be able to hear the presentation all at the same time.
- Your class may be grouped with one from another school. If this is the case, please stay with your assigned grouping and move about as a unit. This may be inconvenient, but because of the number of classes we need to accommodate, we ask your forbearance.
- We realize that a 5 minute stop is a short time to really see an exhibit, but there is so much to show and not enough time to do it in. Please encourage your students to come in the evening with their parents. Children will be admitted free of charge at all times. A minimal charge of \$1.00 will be charged for adult admission during non-school public showing hours.

PRE-VISIT ACTIVITIES FOR MAKAHIKI KAI '76

Since Makahiki Kai '76, as was true for the previous two held in '74 and '75, is an educational program, maximum value to your students can only be obtained if you provide pre- and post-visit activities. The activity suggestions that follow will give students background information that will make the exhibits they will be seeing at the Blaisdell Memorial Center's exhibition hall and assembly hall more meaningful.

MAKAHIKI KAI '76 EXHIBIT HALL OVERVIEW

The exhibits fall into two large divisions: Aku (Skipjack tuna) as a unique Hawaiian fishery and the Marine Education Center.

AKU: A UNIQUE HAWAIIAN FISHERY

This central theme is divided into two components: a four-part audiovisual presentation which will serve as the entrance to Makahiki Kai '76 and more static displays in the exhibition hall.

THE MARINE EDUCATION CENTER

Designed to enable us to present the various aspects of marine resources and the variety of uses of those resources, the Marine Education Center will consist of thirteen components and pelagic and reef animal tanks containing live animals, including sharks.

ACTIVITIES RELATED TO AKU: A UNIQUE HAWAIIAN FISHERY

1. Aku (or Skipjack tuna) is but one of the tuna species. Have children research the different species of tuna. Especially have them note the size of different varieties of tunas. A child can become the "resident expert" on one of the tuna species. What are the scientific names for tunas? The popular names? Note the generic name: Thunnus. Is there a relationship between the common name "tuna" and the generic name Thunnus? If your school has the Oxford English dictionary some one can do a search into the origin of the word "tuna".
2. Tunas are found all over the world. One of the exhibits at Makahiki Kai will show graphically the range of the more common species of tunas. A team of children can work on a plotting project of the scope of the range of tunas on a map of the world which they can draw.
3. The amount of library based information on aku fishermen is limited. As a comparison, have children do research on fishermen in other parts of the world. (There will be a film clip on Hawaiian aku fishing and photo murals of Hawaii's aku fishermen at Makahiki Kai '76.) Children may be instructed to make a comparison with what they found and what they will see at Makahiki Kai '76 as a post-trip activity.
4. If you are really ambitious you can take your class on a field trip to the local fish auction put on by the United Fishing Agency near the waterfront makai of the Chinatown area. You need to get there by 6:30 or 7:30 a.m. So there must be very strong interest or perhaps you can

persuade some of the children to get their parents to take them. If interested in pursuing this, call the United Fishing Agency and ask for permission to take your class there. Students can write or make an oral presentation, or do a large mural.

5. A trip to the fishmarket, Tamashiro's or others around town (there is a market at Ala Moana, Chinatown, and in Kalihi on Dillingham Blvd.) might be fun and profitable for the children. Especially because they will be able to see many species of fishes they ordinarily would not see. Most of them see only the cooked fish at the dinner table, a large amount of which came from the freezer. Arrange these trips by calling the markets you want to visit. Consult yellow pages of the telephone book. (We have not made contact with any market, so you're on your own.)

ACTIVITIES RELATED TO THE MARINE EDUCATION CENTER

1. Baitfish: Because fishermen need bait in order to fish the food fish, baitfish is an important aspect of commercial or any kind of fishing. The favorite baitfish for aku fishermen is nehu, often called the Hawaiian anchovy (Stolephorus purpureus). It is one of the factors which makes expansion of commercial aku fishing very difficult. Although it is an excellent baitfish in terms of its behavior and ability to attract tunas, it is short-lived. The exhibit on baitfish will show the expanded fishing ranges possible with several alternative experimental baitfish. Classroom activity may be in another dimension of baitfish to enable students to appreciate the importance of baitfish to fishermen.

If there are several children who have dads who are fishing enthusiasts, let these students involve their parent in this project. Ask the student to work together with his or her dad to make a list of fishes (or crustaceans) and the bait that he uses to catch those fishes. There should be alternative baits to each species. Have the child ask his dad to indicate the preferred bait and write down his dad's reasons for his preference. Having done this exercise, the choice of the aku fishermen for nehu will become more relevant. A post-visit activity (for 6th or upper level 4th and 5th grades), might be the pursuance of this aspect of the aku fishing industry. Such questions as: tradition and its effect on the fishermen's stubborn adherence to age-old methodology can be developed to include other traditions related to other occupations: Butcher has a set way of dressing beef, etc., secretary types a letter in a certain way (also, why "Dear Sir:" or "Gentlemen:"??), why do schools have principals and teachers? why do universities have "colleges"?

2. Do an art project with a marine-related theme.
3. One of the displays will be on sand. Have a student bring a cupful of sand to school and have a group of students separate the grains into various components of sand: coral pieces, shell fragments, etc. They might compute the percentage of each kind of component and see how accurate they were by checking with the information given in the student workbook (which we will be giving you for your class at the exit) for Makahiki Kai '76.

4. Seaweed is plentiful and easy to pick up at the beach. Have a student gather common varieties in the shallow waters of any beach and bring them to class to identify. Be sure to instruct the student to bring the seaweed to school in a bucket of seawater. If your school library has resources in Hawaiiana, the students might be asked to find out the Hawaiian name for the seaweed varieties they found along with the scientific name. They might also determine which is edible and which is not. Further study can be made in the botanical aspect of seaweeds and their chemical composition (depending on your class level). A fun activity would be for some of the students to ask mothers for ethnic recipes for fixing edible seaweed and the recipes can be tried in class, if you have willing parents who will provide the necessary ingredients.
5. Geology: The physical processes that are involved in the birth and death of an island will be shown as one of the Makabiki Kai '76 exhibits. Your class might want to study the process in relation to our islands. Which is the oldest island? Why? Which is the youngest? Why? How did the Hawaiian Islands come to be? What are the forces that are working to age our islands? (Sterns: Geology of the Hawaiian Islands is a good resource).
6. We will have a life-size mural of the more common Hawaiian sharks. Have students research names, including scientific names, and the characteristics of the sharks. We have two of the more celebrated sharks, the great white and the odd-looking hammer-head, in Hawaiian waters. Sharks are biologically interesting animals. The mural will picture the following species: Great White Shark; Scalloped Hammer-head; White-tipped Reef Shark; Grey Reef; Black-tip Reef; Black-tip; Sandbar and Tiger Shark. Assign one child to each species so that he becomes the expert in that particular species and can put together a booklet with a sketch of the "critter" and a description of the shark, size, color, etc., along with information on the biology of the species. After the reports are presented, it will be possible for the children to see the similar bio-physical traits that make up the family of sharks.

This hastily put together list of activities is not exhaustive by any means. But it should be the base from which I'm sure you'll generate other ideas and activities.

Please take a few minutes and drop us a note as to whether you found this TEACHER'S GUIDE SHEET ON MAKAHIKI KAI '76 useful or not. If you found this to be useful, which activity suggestions did you use. If your reactions were negative, let us know why -- so we can improve.

Write to: Mrs. Rose Pfund, Coordinator, Sea Grant College Program, University of Hawaii, 2540 Maile Way, Spalding 255, Honolulu, Hawaii, 96822.

Mahalo.

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