

TEACHER'S GUIDE



ONLY ONE OCEAN

MARINE SCIENCE ACTIVITIES FOR GRADES 5-8

MA RE



LAWRENCE HALL OF SCIENCE
UNIVERSITY OF CALIFORNIA AT BERKELEY

What You Need for the Whole Unit

The quantities below are based on a class size of 32 students. You may, of course, require different amounts for smaller or larger classes. This outline gives you a concise “shopping list” for the entire unit. Please refer to the “What You Need” and “Getting Ready” sections for each individual activity, which contain more specific information about the materials needed for the class and for each team of students.

A good deal of blank and lined paper is called for in this unit; we suggest you use the quantities listed below (under General Supplies) as a guideline, and that you have an extra supply on hand. (Much of the paperwork will be compiled as part of a class book, or to be used in student portfolios.)

Nonconsumables

- a videocassette recorder (VCR)
- a viewing monitor
- Monterey Bay Aquarium Video Collection: “Seasons of the Squid,” or other video containing squid footage (see “Resources,” page 163)
- 1 small jar with lid (like a baby-food jar) half-filled with water
- 1 “Fry Daddy” or other deep-fat fryer
- 1 medium bowl
- 1 spoon to mix the batter
- 1 knife to cut the squid
- 1 cutting board
- 17 hand lenses
- a large (36”) inflatable globe (available in many travel stores and children’s stores)
- 17 butter knives (metal preferred, or VERY sturdy plastic)
- 1 picture of each of the live animals from which the seafood for Activity 3 came
- pictures from magazines, old calendars, or postcards depicting the ocean or ocean life
- 1 Squid Interest-Group Profile student sheet (master on pages 85–86) cut into individual profiles
- 5 sets of 6 Fishery Information Cards (masters on pages 109–140)
- 5 sets of 6 Fishery Assignments (masters on pages 141–147)

Complete classroom kits for GEMS teacher’s guides are available from Sargent-Welch. For further information call 1-800 727-4368 or visit www.sargentwelch.com

- (optional) 1 audiocassette player
- (optional) 1 audiocassette of natural ocean sounds
- (optional) laminated posters depicting physical or biological aspects of productive coastal zones (see "Resources")
- (optional) 1 microscope
- (optional) 1 small dish (such as a Petri dish) to use with the microscope
- (optional) 1 large world map
- (optional) 4–5 marine-life reference books (see "Resources")
- (optional) 1 world atlas
- (optional) book(s) of *haiku* poems

Consumables

- 17 apples (see "Getting Ready," page 17)
- 18 squids (see "Getting Ready," page 46)
- enough packages of tempura batter mix (the just-add-water kind) for the class (see page 71)
- 5 or more different seafood samples, enough for each student to have a small taste of each (see "Getting Ready," page 91)
- 50 full-sized, round, white, undivided, sturdy paper plates (Chinet® or similar)
- paper towels
- cooking oil for frying
- 1 box of toothpicks
- 1 "Land" poster or overhead transparency (example on page 17)
- 1 "Ocean" poster or overhead transparency (example on page 17)
- up to 45 sheets of chart paper (approximately 27" x 34") or blank overhead transparencies, to record brainstorming and display Key Concepts (chart paper preferred)
- 33 unlabeled External Squid Diagram student sheets (master on page 83) if you play Squid Jeopardy (see page 72)
- 33 unlabeled Internal Squid Diagram student sheets (master on page 84) if you play Squid Jeopardy
- 6 Squid Statements Anticipatory Chart student sheets (master on page 82)
- 1 Squid Statements Anticipatory Chart (example on page 82)
- 1 Squid Interest-Group Chart (example on page 48)
- 1 About Squids Chart (example on page 46)

- 3 squid anatomy charts: 1 "External," 1 "Internal," and 1 "What We Learned" (see Getting Ready, page 47)
- 5 copies of the World Map Handout (master on page 148)
- 5 copies of the Overview of the World's Ocean Fisheries handout (master on page 108), copied on colored paper
- 33 copies of the Dolphins and Your Tuna-Fish Sandwich handout (master on pages 105–107)
- (*optional*) 1 copy of the Squid Dissection Summary Outline for Teacher's Notes (master on pages 80–81)
- (*optional*) lemon for garnish

General Supplies

- a roll of masking tape
- 17 or more full sets of colored markers (wide-tipped, water-based)
- 5 or more full sets of fine-point markers
- notepaper for brainstorming
- 126 sheets of 8½" x 11" lined paper
- 33 sheets of 8½" x 11" blank paper
- 66 sheets of 10" x 14" or 11" x 17" blank paper
- lined paper or journals for creative writing
- 20 sheets of grid paper, for graphing assignments
- 33 pairs of scissors
- 17 rulers
- a 3-hole punch
- 3 brads for class book, *World Fisheries Conference Proceedings*
- at least 5 small paper clips
- pens or pencils for all students
- (*optional*) an overhead projector
- (*optional*) a good supply of blank overhead transparencies
- (*optional*) a laminator