

Marine Discovery 2009

University of Arizona – Department of Ecology and Evolutionary Biology

<http://marinediscovery.arizona.edu>

Email: marine.discovery@gmail.com

Marine Discovery is a marine biology outreach program for 3rd–8th grade classes. Teachers sign their class up and accompany their class to campus for the workshop. The on-campus workshops are hands-on, activity-based laboratory programs that provide students with the opportunity to work with live marine animals and teaching specimens. Students are exposed to living and preserved organisms found in the Gulf of California and gain a general understanding of the scientific relationships between them.

Workshop assistant: Geoffrey Palmer (820-4704)

Email: palmerg@email.arizona.edu or marine.discovery@gmail.com

Marine Discovery Director: Dr. Katrina Mangin, mangin@u.arizona.edu, 626-5076

Location: University of Arizona

Koffler Building (formerly Chemistry & Biological Sciences), Room 511

Audience: Open to grades 3 through 8

Maximum class size: 35 Minimum class size: 16

Time: Fall Semester: Tuesday, Wednesday, Thursday and Friday, 9:00 to ~11:30, starting no later than 10:00

Requested donation*: \$3.50 per student. Make checks payable to: University of Arizona

Parking: School bus parking is free. Parking for cars in the garage is \$6/car. See further transportation information below.

*Please pay the undergraduate teaching assistant the day of your workshop (the student fees as well as the parking fee, if you will be parking cars in a garage), unless other arrangements have been made.

Before you arrive

- Divide your students into 5 groups.
- Have your students wear nametags.

Program Goals

- To encourage students to “think like scientists” using their observational, critical thinking and problem solving skills.
- To introduce students to the conservation and biology of the marine environment, especially the Gulf of California, Tucson’s closest ocean.
- To encourage higher education by allowing interaction with university students who really enjoy what they study.

General Workshop Set-up

- Each workshop lasts approximately 2.5 hours and is organized as follows:
- Introduction: Students are familiarized with the day’s activities, laboratory procedures and the undergraduate students who teach the workshops.
- Students participate in five stations, each lasting approximately 25 minutes.
- The stations are developed and taught by University of Arizona undergraduate and graduate students.
- Many classes choose to eat lunch on the University Mall, located right next to the building where the workshop is held.

Workshop Stations

Students will participate in the following five stations in Marine Discovery.

Shark Dissection: Students are led through the dissection of a dogfish (*Squalus*), with emphasis on its unique adaptations for survival. Age recommendation: grades 3-8

Fish Diversity: Students compare the body forms of a variety of preserved fish to determine where they might live, what they eat and how they move. Form and function are explored in detail through this hands-on activity. Age recommendation: grades 3-8

Plankton: Students are introduced to the role of plankton in marine ecosystems as well as human uses of plankton-derived products. During a hands-on activity, students are challenged to construct their own neutrally buoyant “plankton”. Age recommendation: grades 3-8

Rocky Intertidal Zone: Participants learn about the unique environment of the rocky intertidal zone and its special inhabitants, with an emphasis on the adaptations for life between the tides. Everything from echinoderms to chordates to some new creatures you may never have heard of are represented. Age recommendation: grades 3-8

Squid Dissection: Students participate in the dissection of a squid (*Loligo* sp.), focusing on its special adaptations for survival. Age recommendation: grades 3-8

Arriving on Campus

If you will be arriving by school bus:

We need to notify the U of A Parking and Transportation office that your bus will be parked on campus. **Please email or call Geoffrey Palmer (marine.discovery@gmail.com; 820-4704) to let him know what is written on the side of your bus.** He will reply to you with specific directions about where to instruct the driver to park. Someone will meet your bus at the designated parking spot and walk with you to the lab (Koffler Building)

If you will be arriving by private cars:

There are metered spaces and lots around campus (see attached map) for which we cannot make reservations. You are welcome to plan on using these. More information is available online at <http://parking.arizona.edu/visitors/>.

There are also parking garages on campus for which we can reserve spaces for you. The Second Street Garage (Administration Parking Garage) located on the corner of Mountain and Second or the 6th Street Garage located on 6th Street just east of Park Avenue are both available for reservations. The cost of the garage reservation is \$6.00 per car (no time limit). **Please email or call Geoffrey Palmer (marine.discovery@gmail.com; 820-4704) in advance if you will be using either the Second Street Garage or the 6th Street Garage.** We need to reserve spaces in the garage for your exact number of vehicles.

The procedure for parking in a garage with a reservation is as follows. When entering garage, take a ticket. If you find a “Lot is full” sign, intercom the attendant, inform them you are on campus for “Marine Discovery” and they will let you in. After the workshop, but before leaving the garage, present the ticket to the garage attendant and inform attendant that you were on campus for “Marine Discovery.” The attendant will validate each drivers’ ticket. You do

not pay for parking at the garage. You will pay the Marine Discovery undergraduate TA in class the day of your lab. (The University bills Marine Discovery.) If you use the Second Street Garage one of our workshop presenters will be waiting to greet your group at the southeast corner of the garage. If you are using the 6th Street Garage we will meet your group on the northeast corner of the garage.

If you will be walking:

A Marine Discovery representative will meet your group at the southeast corner of the Koffler building.

The morning of the workshop:

If you run into any difficulties, please call the appropriate undergraduate TA for your day:

Tuesday: Anna Moreno (602-577-1276)

Wednesday: Matt Lutheran (cell: 520-204-0448)

Thursday: Carlos Cruz (cell: 520-249-7707)

Friday: Lauren Cmiel (cell: 520-603-2847) and Megan Talbot (cell: 928-853-8317)

If you have any additional questions, please contact Geoffrey Palmer (marine.discovery@gmail.com; 820-4704).

We look forward to seeing you!