

2011 | 2012 EDUCATION BROCHURE

# AQUATIC

EXPLORATIONS



PROTECT OUR OCEANS

MYSTIC  
AQUARIUM

# BRING YOUR SCHOOL TO MEET OURS.



**\$2 OFF**

Admission for each child and chaperone attending as part of a group.

Offer valid September 1, 2011 through August 31, 2012  
Cannot be combined with any other offer.

**\$5 OFF**

Any regularly-priced 45 or 90 minute classroom program held in an aquarium classroom.

Offer valid September 1, 2011 through August 31, 2012  
Cannot be combined with any other offer.

**\$1 OFF**

Per children's box lunch. See page 5 for ordering information.

Offer valid September 1, 2011 through August 31, 2012  
Cannot be combined with any other offer.

For more information or to make a reservation, contact 860.572.5955 ext.520



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Mystic Aquarium is a division of Sea Research Foundation, Inc., a nonprofit 501(c)3 organization in Connecticut. The mission of Sea Research is to inspire people to care for and protect our ocean planet through education, research and exploration.



# Details & Reservations

To make a reservation for an aquarium field trip, traveling teacher visit, special workshop or program, visit [mysticaquarium.org](http://mysticaquarium.org), select Fun & Learning and complete our online reservations form. For additional information call 860.572.5955 ext.520 or email [reservations@mysticaquarium.org](mailto:reservations@mysticaquarium.org).

## ON-SITE AQUARIUM EDUCATION PROGRAMS

### School Group Admission Rates:

\$11/student; \$14/adult

### Groups From Youth Organizations:

\$12/student; \$15/adult

Group rates are based on a minimum of 10 paying individuals. **\*\* See discount on page 2**

### Chaperone Requirements:

Pre-K-Grade 3; 1:5

(one chaperone free with every 5 students)

Grades 4-12; 1:10

(one chaperone free with every 10 students)

### On-site Classroom Programs:

Classroom programs are 45 minutes and cost \$3/student.

Lengthen Your Class to 90 minutes- cost \$5/student.

Fees are based on a minimum of:

10 paying students Monday-Friday

20 paying students Saturday-Sunday

**\*\* See discount on page 2**

### PLEASE NOTE:

*Prices are subject to change.*

*One payment must be submitted for the entire group.*

*All programs must be reserved two weeks in advance.*

*A maximum of 30 students can be accommodated per class.*

*Aquarium members are not exempt from program fees.*

*A cancellation fee will be charged for classroom programs cancelled with less than two weeks notice (minimum of \$30 per class).*



### Group Souvenir Bags:

Are you bringing a group to the aquarium? Looking for some fun and educational souvenirs? Call the Aquarium Store ahead of time, and we can make souvenir gift

bags and have them ready to go when you arrive! Contact 860.536.8508 for more information.

## TRAVELING PROGRAMS

We will travel to you! Our traveling teachers bring a complete classroom presentation to your location. Traveling programs are offered within 75 miles of Mystic, Conn.

Each traveling class is 45 minutes.

Cost: \$240 for two classes; \$115 for third class; \$85 for fourth class.

### PLEASE NOTE:

*All programs must be booked for the same day at the same location to receive this rate.*

*A \$25 fee will be assessed per hour if there is an hour or more break between programs.*

*Classes begin at 9:00am at the earliest.*

*A maximum of four classes can be held each day.*

*It is ideal for all programs to take place in the same room. A chaperone must be present at all times.*

## TAILORED TOPICS & MULTI-PART PROGRAMS

**Looking for a class on a specific topic not listed in this brochure?** We will tailor a program to meet your group's needs. Give us a call. We will be happy to work with you to create the best educational experience for your group. *An additional fee will be applied for program creation.*

**Looking for a more in-depth experience than just one class?** Let Mystic Aquarium's Education Department create an engaging multi-part program to meet your specific curriculum needs. Programs can take place at the aquarium, at your school or on the coast!





## FIELD TRIP OR TRAVELING TEACHER PROGRAM RESERVATION CHECKLIST

To make a reservation for an aquarium field trip, traveling teacher visit, special workshop or program, visit [mysticaquarium.org](http://mysticaquarium.org), select Fun & Learning and complete our online reservations form. For additional information call 860.572.5955 ext.520 or email [reservations@mysticaquarium.org](mailto:reservations@mysticaquarium.org) for additional information.

### Please have the following information available to make your reservation:

What date(s) are you interested in scheduling the field trip or program? \_\_\_\_\_  
*All traveling and on-site programs must be scheduled at least two weeks in advance.*

Approximate number of students attending? \_\_\_\_\_ Approximate number of chaperones? \_\_\_\_\_

What age or grade level are the students? \_\_\_\_\_

Name of the program(s) you would like to schedule: \_\_\_\_\_

What time(s) would you like the programs? \_\_\_\_\_

If planning a field trip, what time do you expect to arrive at the aquarium? \_\_\_\_\_

Who will be the group leader? \_\_\_\_\_  
*This person is in charge of all communication between the aquarium and your group.*

School or group name \_\_\_\_\_

Mailing Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip Code \_\_\_\_\_

Email address \_\_\_\_\_

**If scheduling a traveling program, please confirm that this address is the same address where the program will be presented.**

**A confirmation letter will be mailed or emailed to you. To expedite your admission process, please bring this letter with you.**

### INTERESTED IN ORDERING LUNCH FOR YOUR GROUP?

Mystic Aquarium is delighted to provide a delicious and nutritious lunch for your group while they are visiting. Please contact Ocean Blue Catering, our on-site catering service, at 860.572.5955 ext.334.

We offer an affordable box lunch option for schools and other groups that allows you to pre-order for your entire group. Easy, organized and scheduled! Avoid crowds or lines at the café. **\*\*See discount on page 2.**

*Please note that we do not allow any outside food inside the aquarium. If students bring their own lunches, please leave the lunches on the bus. The students will eat either on the bus or in our outdoor picnic area near the bus parking lot.*





# Resources and Professional Development for Educators

## Looking for a unique professional development opportunity for the educators in your school or district?

Have the aquarium bring one of our programs to you! Contact MaryEllen at [mmateleska@mysticaquarium.org](mailto:mmateleska@mysticaquarium.org) for more information on our current traveling continuing education offerings or to tailor a program to meet your group's specific needs.

## Want to stay up-to-date on what's going on at the aquarium?

Send your name, school and email contact information to [educationinfo@mysticaquarium.org](mailto:educationinfo@mysticaquarium.org) to register to receive our free monthly education e-newsletter. Each e-newsletter focuses on a specific marine theme and includes related information, classroom activities and updates on upcoming classroom and professional development programs.

## MARINE SCIENCE INFORMATION AND SCAVENGER HUNTS

If you need additional information, resources or scavenger hunts related to a marine science topic or to prepare for an aquarium program, we can help! Visit the Educator Resources page of [mysticaquarium.org](http://mysticaquarium.org) or contact [educationinfo@mysticaquarium.org](mailto:educationinfo@mysticaquarium.org).

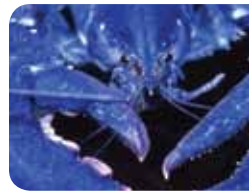


## THE WONDERS OF THE SEA IN THE COMFORT OF YOUR CLASSROOM



Experience the hands-on excitement of Mystic Aquarium right in your own classroom! Nearly all of our programs can travel to you as part of our Traveling Teacher Program. Our programs address Connecticut state science standards and encourage students to get hands-on and ask questions. Many of the programs even include a Touch & Learn with a live sea creature! For more information or to make a reservation, visit [mysticaquarium.org](http://mysticaquarium.org).

# Resources and Professional Development for Educators



## **FREE** AQUARIUM OPEN HOUSE FOR EDUCATORS AND THEIR FAMILIES

Thursday, October 6, 2011

6:15pm–8:00pm, please enter by 7:00pm

Teachers and administrators are invited to bring their families for an evening of fun and information. Learn about the wide variety of educational opportunities that Mystic Aquarium has to offer this school year, see the exhibits, check out the traveling programs that come right to your school and meet our enthusiastic educators to discuss what we can provide for you and your students.

Enter to win exciting raffle prizes, including a free educational program!

*Free of charge for educators and their families.*

*Reservations required.*

## **FREE** RESEARCHER FOR A DAY-NUTRITION

Thursday, November 3, 2011

10:00am–2:00pm

Cost: No Charge (workshop funded by Pfizer)

Appropriate for teachers Grade 6–Adult

This workshop is designed to give educators an inside look at the nutrition and feeding practices for our aquarium animals as well as demonstrate their effect on animal health. Participants will work closely with aquarium staff to perform hands-on preparation of fish samples for content analysis and to calculate total caloric content of the food item, based on their results. Join us for this unique immersive learning experience!

## SEMINAR ON MARINE MAMMALS

January–May 2012 Weekly evening seminar

Cost for Educator: \$350

Enhance your knowledge of marine mammals. In this weekly seminar, visiting scientists will discuss the natural history, evolution, anatomy, physiology, husbandry, cognition, behavior and conservation of these magnificent creatures. Our expert speakers offer a wealth of knowledge you won't find anywhere else!

*Registration closes January 1, 2012.*



All programs require advanced registration. To make a reservation for a workshop, visit [mysticaquarium.org](http://mysticaquarium.org), select Fun & Learning, Teachers & School Groups, Educator Resources to use our online reservations system. For additional information call 860.572.5955 ext.520 or email [reservations@mysticaquarium.org](mailto:reservations@mysticaquarium.org).

## SCIENCE IN THE EARLY CHILDHOOD CLASSROOM

Friday, January 13, 2012

10:00am–12:00pm

Cost: \$20

Join the aquarium's director of early childhood programs to learn how to bring marine science topics to your young students through hands-on activities that are both educational and fun. You'll take home techniques and activity ideas that can immediately be put to use in your classroom.

## OCEAN PRODUCERS

Thursday, February 9, 2012

10:00am–1:00pm

Cost: \$20

From phytoplankton to seaweed, ocean plant life provides the essential needs of oxygen and food for marine inhabitants. This program will focus on these vital species and through participation in hands-on activities, which can be used directly in the classroom, you will learn how to bring the importance of ocean producers to your students.

## TEACHING SCIENCE AT THE SHORE

Saturday, March 24, 2012

11:00am–2:00pm

Cost: \$20

Gain the knowledge and confidence to lead a coastal field program on your own! Join us as we investigate the rocky shore and golden marshes of Hammonasset State Park in Madison, Conn. Get to know the flora and fauna that live in these marine habitats, while participating in population studies and sampling. This is a perfect way to share the wonder, history and importance of Long Island Sound with your students.

Unless otherwise noted, workshops are appropriate for teachers of all grade levels and CEUs are available.



# Unique Group Programs and Opportunities

## GUIDED AQUARIUM TOUR

(Grades K-Adult)

**Fee: \$10/person per hour**

A member of our interpretation team will take your group on a personalized guided tour of the aquarium's exhibits, as well as the back-up areas that are critical for the care and condition of our animals and exhibits. Specialized talks, fascinating facts and sneak peeks will engage participants at every turn.

*Tours are offered for 5-15 participants. All participants must pay aquarium admission.*

## TRAVELING TOUCH TANK

Liven up your next conference, fair or meeting by including a live, local invertebrate Touch & Learn. We will bring a touch tank with lobsters, horseshoe crabs, sea stars and shellfish right to your function to entertain and educate people of all ages.

*Hours are customized to meet your needs. Program rate is \$250 for up to two hours and \$125 for each additional hour.*

## SEA LION TRAINING- LARGE GROUP PROGRAM

**(Groups of 50-400) Fee: \$2 per student**

Have you ever wondered "How did they train that animal to do that?" Our California Sea Lion Training Program will show you. This unique opportunity gives your group an inside look at our new show behavior training and animal care program and will provide the opportunity to ask our enthusiastic animal trainers questions.

*Programs take place in our Marine Theater. Programs accommodate multiple groups until maximum is reached. Booking is limited – usually available M, W, F.*

## DISTANCE LEARNING

Arrange a videoconference presentation or series of programs tailored to your programming needs. Each program is 30-40 minutes in length and is designed to be interactive with a live reptile or invertebrate visiting each presentation. Cost is \$70 per session and includes specially designed pre- and post-activities as well as a system check prior to the day of programming. Contact MaryEllen at [mmateleska@mysticaquarium.org](mailto:mmateleska@mysticaquarium.org) for additional information.



## CAREER FAIRS

Is your school or group hosting a career fair? Countless students are interested in animal training and ocean exploration. Have an aquarium staff member come and talk to your students about the many varied careers in the field of marine biology.

*Regular traveling program fees apply. See page 4.*

*Coming to the aquarium for a visit? Career programs are also offered on-site in an aquarium classroom. See page 14.*

## AUDITORIUM PROGRAMS IN YOUR SCHOOL

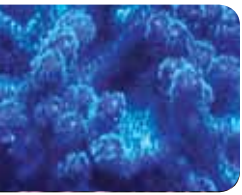
Mystic Aquarium educators will travel to your school to present a fun, educational and engaging 45-60 minute presentation for your students in an auditorium setting. You may choose one of three themes for the program: penguins, sharks or explore the shore. Each presentation will include information and activities as well as a visit from a selection of live marine invertebrates (lobster, horseshoe crab, sea star, etc.) which will be shown to students utilizing a special camera that can project the small parts of animals larger than life on a big screen. This program is a unique and fun auditorium experience.

**All programs require two week advanced registration.**

To make a reservation visit [mysticaquarium.org](http://mysticaquarium.org), select Fun & Learning and complete our online reservations form. For additional information call 860.572.5955 ext.520 or email [reservations@mysticaquarium.org](mailto:reservations@mysticaquarium.org).

# Programs at a Glance

Program	Page	Grade Level	On-Site	Traveling	CT State Science Content Standard	Rhode Island Grade Span Expectations in Science
Hermit Crab Hideaway	10	Pre-K & K			PK.2, K.2	LS 1
Ocean Locomotion	10	Pre-K & K			PK.2, K.2	LS 1, LS 4
Penguin Palooza	10	Pre-K & K			PK.2, K.2	LS 1
Sea Colors	10	Pre-K & K			PK.2, K.2	LS 1
Suitcase of Surprises	10	Pre-K & K			PK.2, K.2	LS 1, LS 4
All Sorts of Animals	11	1 to 3			1.2, 3.2	LS 3
Amazing Reptile Adaptations	11	1 to 3			1.2, 3.2	LS 1, LS 4
American Indians and the Sea	11	1 to 3			2.3, 2.4, 3.4	LS 1
Beautiful Belugas	11	1 to 3			1.2, 3.2	LS 1, LS 4
Explore the Shore of Long Island Sound	11	1 to 3			1.2, 3.2	LS 1, LS 2, LS 4
Ocean Communities	11	1 to 3			1.2, 3.4	LS 2, LS 4
Amazing Sharks	12	4 to 5			4.2	LS 1, LS 4
Amphibians in Jeopardy	12	4 to 5			4.2	LS 1, LS 3
Beluga Echolocation	12	4 to 5			5.1	LS 1, LS 2, PS 2, PS 3
Creature Features	12	4 to 5				LS 1, LS 3
Eat or be Eaten	12	4 to 5			4.2	LS 1, LS 2, LS 3
Animal Classification	13	6 to 8			6.2	LS 1, LS 3
Discovering Freshwater Ecosystems	13	6 to 8			6.2, 6.4, 8.2	LS 1, LS 2
Long Island Sound Exploration	13	6 to 8			6.2, 6.4	LS 1, LS 2, PS 1
Marine Scientist	13	6 to 8			6.2, 7.2	LS 1, LS 2, LS 3
Squid Dissection	13	6 to 8			6.2, 7.2, 8.2	LS 1, LS 3
Animal Behavior	14	9 to 12				
Career Exploration	14	9 to 12				
Comparative Evolution	14	9 to 12			10.5	LS 3, LS 4
Endangered Ecosystems	14	9 to 12			9.3, 9.6, 9.8, 9.9, 10.6	LS 2, LS 3, LS 4
Researcher for a Day: Hematology	14	9 to 12			10.1	LS 1, LS 4
Researcher for a Day: Microbiology	14	9 to 12			10.2	LS 1, LS 4

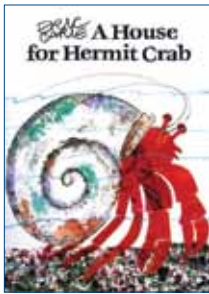


# Pre-K and Kindergarten

All Pre-K & K programs focus on scientific inquiry and literacy and include a special Touch & Learn with live marine invertebrates. This hands-on opportunity offers a valuable and exciting learning experience that encourages students to make observations and ask questions.

All Pre-K & K programs can also be conducted right in your own classroom as part of our Traveling Teacher Program.

 THIS CLASS CAN TRAVEL TO YOU  THIS CLASS INCLUDES A LIVE INVERTEBRATE TOUCH & LEARN



## HERMIT CRAB HIDEAWAY

Hermit crabs are fascinating creatures. Because they live in a shell, they are never far from home. But sometimes moving to a new bigger shell can be an adventure! Using the story *A House for Hermit Crab* by Eric Carle, props and a costume, students discover how hermit crabs camouflage themselves while decorating a shell with sea anemones, sea stars, lantern fish and more!

*Suggested book to complement the program: "A House for Hermit Crab" by Eric Carle*  
*CT State Science Standards Addressed: PK.2, K.2*



## OCEAN LOCOMOTION \*STARRING BABY BELUGA\*

Ocean creatures have countless ways of moving from one place to another. Some float, some use flippers, others walk sideways! Join us to find out if Rocky the crab or Octy the octopus can teach a confused baby beluga how to swim. This program, which includes a puppet show, is designed to help students discover how marine animals move.

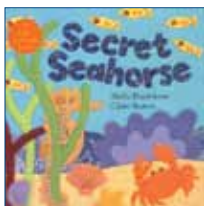
*Suggested book to complement the program: "Baby Beluga" by Raffi*  
*CT State Science Standards Addressed: PK.2, K.2*



## PENGUIN PALOOZA

All children love to imitate penguins, so think how much fun it would be to see a classmate dressed up as one from beak to tail! Through movement and hands-on activities, students will love learning about these adorable "birds that can't fly."

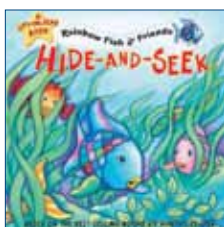
*Suggested books to complement the program: "Penguin Pete" by Marcus Pfister, and "Baby Penguin" by Aubrey Lang*  
*CT State Science Standards Addressed: PK.2, K.2*



## SEA COLORS (BEST SUITED FOR PRE-K)

Why are some sea animals vibrantly colored while others can barely be seen in their ocean home? Camouflage and traveling in groups are essential to many marine animals. Through a variety of educational activities and games, your students will discover the importance of color for identification and survival in the ocean.

*Suggested book to complement the program: "Secret Seahorse" by Stella Blackstone and Clare Beaton*  
*CT State Science Standards Addressed: PK.2, K.2*



## SUITCASE OF SURPRISES (BEST SUITED FOR KINDERGARTEN)

What kinds of surprises might children encounter in the magical aquarium suitcase? Clownfish, eels, anemones, flounder and sharks to name just a few. Learning comes alive as students discover the numerous adaptations that equip these animals for life in the ocean, while they act as pieces of a great ocean survival game!

*Suggested book to complement the program: "Rainbow Fish & Friends Hide and Seek" by Marcus Pfister*  
*CT State Science Standards Addressed: PK.2, K.2*

# GRADES 1 to 3



All grade 1-3 programs focus on scientific inquiry and literacy and include a special Touch & Learn with live marine invertebrates or a live reptile. This hands-on opportunity offers a valuable and exciting learning experience that encourages students to make observations and ask questions.

All grade 1-3 programs can also be conducted right in your own classroom as part of our Traveling Teacher Program.

-  THIS CLASS CAN TRAVEL TO YOU    THIS CLASS INCLUDES A LIVE INVERTEBRATE TOUCH & LEARN  
 THIS CLASS INCLUDES A TOUCH & LEARN WITH A LIVE REPTILE    THIS CLASS HAS A CONSERVATION FOCUS

## ALL SORTS OF ANIMALS

How do you know if an animal is a reptile, bird, mammal or fish? In this class, students will take part in a fun, hands-on sorting activity to find out. An excellent introduction to classification, this class will help your students discover why animals are classified into different groups and provide them with the opportunity to look for similar and differing characteristics as they examine live marine invertebrates!

*Suggested book to complement the program: "Ocean Life" by Carolyn Franklin*

*CT State Science Standards Addressed: 1.2, 3.2*

## AMAZING REPTILE ADAPTATIONS

What is a blue-tongued skink and where does it live? What is the difference between a tortoise and a turtle? Students will discover many fascinating facts as they learn about the amazing adaptations reptiles from around the world have to survive in their own unique habitats.

*Suggested book to complement the program: "Eyewitness: Reptile" by Colin McCarthy*

*CT State Science Standards Addressed: 1.2, 3.2*

## AMERICAN INDIANS AND THE SEA

American Indians have lived along the coastline of Connecticut for thousands of years. Through a hands-on experience with live Long Island Sound invertebrates and an interactive game, your students will discover some of the ways local American Indians used plants and animals from the sea.

*Suggested book to complement the program: "Clambake: A Wampanoag Tradition" by Russell M. Peters*

*CT State Science Standards Addressed: 2.3, 2.4, 3.4*

## BEAUTIFUL BELUGAS

Through interactive activities, students discover the many adaptations these charismatic marine mammals have for survival in their ocean habitat. A costume is used to transform a student into a whale, highlighting these amazing adaptations.

*Suggested book to complement the program: "Beluga Whales" by Ann O. Squires*

*CT State Science Standards Addressed: 1.2, 3.2*

## EXPLORE THE SHORE OF LONG ISLAND SOUND

The classroom becomes the setting for students to learn about the beautiful rocky shores of the Long Island Sound and investigate the native plants and animals that live there. Learn how difficult it is for animals to live in this harsh environment and the adaptations they have developed for rocky shore survival.

*Suggested book to complement the program: "Seaside Switch" by Kathleen V. Kudlinski*

*CT State Science Standards Addressed: 1.2, 3.2*



## OCEAN COMMUNITIES

Students will be introduced to some of the fascinating "neighborhoods" found beneath the waves. They will discover that many sea creatures work together to be terrific neighbors, while others have interesting adaptations that keep them at the top of the food chain. Children will participate in an interactive presentation that will have them learning all while having a great time.

*Suggested book to complement the program: "The Magic School Bus on the Ocean Floor" by Joanna Cole*

*CT State Science Standards Addressed: 1.2, 3.4*





# GRADES 4 to 5

All grade 4–5 programs focus on scientific inquiry and literacy. They are designed to bring science to life and to encourage students to make observations and ask questions.

All grade 4–5 programs can also be conducted right in your own classroom as part of our Traveling Teacher Program.

- THIS CLASS CAN TRAVEL TO YOU
- THIS CLASS INCLUDES A LIVE INVERTEBRATE TOUCH & LEARN
- THIS CLASS INCLUDES A TOUCH & LEARN WITH A LIVE REPTILE
- THIS CLASS HAS A CONSERVATION FOCUS

## AMAZING SHARKS

Everyone knows that sharks attack people (about 65 reports are submitted each year), but did you know that people kill millions of sharks in that same time frame? Sharks are in trouble. Of the roughly 375 shark species, 68 are threatened or endangered, mostly due to overhunting and the effects of pollution. In this class, students will learn about fascinating shark species, the challenges they must overcome for survival and the conservation efforts underway to protect them.

*CT State Science Standard Addressed: 4.2*

## AMPHIBIANS IN JEOPARDY

This interactive Jeopardy-style game will introduce your students to the many amazing adaptations that amphibians have to survive. Participants will answer questions and perform challenges to discover more about amphibians and the roles they play in our ecosystems.

*CT State Science Standard Addressed: 4.2*

## BELUGA ECHOLOCATION

How do whales find their way and find food in the pitch-dark ocean? How do they know that a flounder is hiding just under the sand on the sea floor? By using echolocation – the unique ability to “see” using sound! In this class, students participate in a variety of engaging hands-on activities to discover how these animals produce sound and how it helps them survive.

*CT State Science Standard Addressed: 5.1*



## CREATURE FEATURES

Did you know that 97 percent of all animals on earth don’t have any bones? In this class, students become scientists and examine a group of live marine invertebrates (animals without backbones) in an attempt to classify them into groups. What you see is not always what you get. Some animals may look completely different but are classified together because of characteristics that your students will discover for themselves.

*Promotes observation and critical thinking skills*

## EAT OR BE EATEN

Children may know about sharks, a predator that sits at the top of the ocean food chain. But how many know about plankton, the often microscopic plants and animals, that make up the food chain’s base? Both groups are critical to life in the ocean and would not exist if it weren’t for the other. In this class, students will explore the ocean food web’s links and discover who eats whom, how they do it and why.

*CT State Science Standard Addressed: 4.2*



# GRADES 6 to 8



All grade 6–8 programs focus on scientific inquiry and literacy. They are designed to bring science to life and encourage students to identify questions that can be answered through scientific exploration.

All grade 6–8 programs can also be conducted right in your own classroom as part of our Traveling Teacher Program.

-  THIS CLASS CAN TRAVEL TO YOU  THIS CLASS INCLUDES A LIVE INVERTEBRATE TOUCH & LEARN  
 THIS CLASS INCLUDES A TOUCH & LEARN WITH A LIVE REPTILE  THIS CLASS HAS A CONSERVATION FOCUS

## ANIMAL CLASSIFICATION

What characteristics make a whale or dolphin a mammal? What makes a shark a fish? Students will learn the answers to these questions and many more as they discover scientific classification within the animal kingdom. From phylum to species, students will understand how both the external and internal anatomy of an animal plays an important role in grouping organisms together. Class participants will even have the opportunity to use their newfound taxonomy skills to classify live marine invertebrates!

*CT State Science Standard Addressed: 6.2*

## DISCOVERING FRESHWATER

### ECOSYSTEMS

Explore the unique relationships found within New England's largest river ecosystem. Through hands-on activities students will delve into the wonders of the Connecticut River to discover how factors, such as non-point source pollution and riverside development, can affect the populations within a freshwater ecosystem. Class participants will also discuss ways to clean up our rivers to keep these ecosystems safe for generations to come. **Lengthen your class!** Add Long Island Sound Exploration for a full 90-minute investigation into Connecticut's unique aquatic systems.

*CT State Science Standards Addressed: 6.2, 6.4, 8.2*

## LONG ISLAND SOUND

### EXPLORATION

The Long Island Sound is an amazing and diverse ecosystem, but what makes this environment different from others? Students will learn the unique characteristics of an estuary, analyzing water samples to determine the qualities of the water found in the Sound. Students will also have the opportunity to interact with live Long Island Sound marine invertebrates and discover how human activity has impacted this delicate ecosystem.

**Lengthen your class!** Add Discovering Freshwater Ecosystems for a full 90-minute investigation into Connecticut's unique aquatic systems.

*CT State Science Standards Addressed: 6.2, 6.4*

## MARINE SCIENTIST

A stranded marine animal is rescued and arrives at Mystic Aquarium's Animal Rescue Clinic. Now what happens? Students will take on the role of a marine scientist by examining animal anatomy through x-rays and by exploring the immune system to discover how environmental factors affect animal health. This unique program is designed to enhance your students' understanding of science concepts and how marine scientists work through hands-on and minds-on activities.

*CT State Science Standards Addressed: 6.2, 7.2*



## SQUID DISSECTION

What are the largest, fastest and most intelligent invertebrates in the sea? Squid! Students will discover the amazing adaptations of these animals by participating in a detailed dissection of our local species. A unique opportunity to see an animal from the outside in.

**Lengthen your class!** Turn this dissection into a 90-minute immersive lab experience by adding an invertebrate lab to discover how squid, snails, sea stars and other marine invertebrates are classified into taxonomic groups.

*CT State Science Standards Addressed: 6.2, 7.2, 8.2*



# GRADES 9 to 12

All grade 9–12 programs focus on scientific inquiry and literacy and the ability to read, write, discuss and present coherent ideas about science. They are designed to bring science to life and encourage students to identify questions that can be answered through scientific investigation.

 THIS CLASS CAN TRAVEL TO YOU  THIS CLASS HAS A CONSERVATION FOCUS

**NEW**

## ANIMAL BEHAVIOR

How do scientists study animal behavior and why is it important? Whether it is to study wild animals, to better understand the health of our ocean planet, or to train a behavior for an aquarium animal to assist in its own health care, we will explore the many techniques for studying and training marine animals (and students too!).

*CT State Science Core: Scientific Inquiry, Literacy and Numeracy*

## CAREER EXPLORATION

Find out about the variety of marine-related career opportunities available to your students. From designing deep-sea vehicles to analyzing blood and water samples or developing interactive programs for visitors, students will understand what it takes to keep an educational research facility like ours running successfully. We would love to see them as part of our staff some day!

**Lengthen your class!** Add Animal Behavior for a full 90-minute interactive program.

## COMPARATIVE EVOLUTION

Did a whale ever live on land? How are humans and whales similar and different? This program will explain how environmental changes supported the evolution of new species and the expansion of life to utilize available unused niches. Students will examine marine mammal skeletons to discover the structural changes whales and dolphins have made to support a fully aquatic lifestyle. This program is a great way for your students to see firsthand anatomical evidence that supports the theory of evolution and the transition from a terrestrial to aquatic lifestyle.

**Lengthen your class!** Turn this experience into a 90-minute class that involves additional lab time and extra animal specimens.

*CT State Science Standard Addressed: 10.5*

*CT Enrichment Standards: Evolution, Physiology*

## ENDANGERED ECOSYSTEMS

From the coral reef ecosystem off the coast of Australia to the polar regions within the Arctic Circle, ocean habitats around the world are under extreme stress. Throughout this interactive class, students will discover how climate change, pollution, habitat loss and human interaction are affecting aquatic plants and animals around the world. The class will conclude with a discussion of current projects underway to help recover these endangered ecosystems.

*CT State Science Standards Addressed: 9.3, 9.6, 9.8, 9.9, 10.6*

## RESEARCHER FOR A DAY – HEMATOLOGY

This two-hour program allows students to test their laboratory skills by analyzing marine mammal blood samples. Through the preparation and staining of blood slides, identification of individual cells and the determination of cell functions, students will discover how the components of blood can be used to gain information on an animal's health. This program demonstrates to students fascinating real-time applications of both immunology and hematology in the diagnosis and treatment of illness.

Additional Researcher for a Day programs focusing on molecular biology and pathology are also available. Visit [mysticaquarium.org](http://mysticaquarium.org) for details.

*Cost of program: \$7 per student*

*CT State Science Standard Addressed: 10.1*

*CT Enrichment Standard: Ecology*

**NEW**

## RESEARCHER FOR A DAY – MICROBIOLOGY

This two-hour program introduces students to common microbes that affect animals and demonstrate their effects on health and disease. Using samples taken from collection animals, household items and even the students, we will culture and identify microbes based on their appearance and characteristics under the microscope. This class is a great introduction or review of the science of microbiology.

*Cost of program: \$7 per student*

*CT State Science Standard Addressed: 10.2*

*CT Enrichment Standard: Physiology*

# Bring World-Famous Scientists into Your Classroom with JASON Live



## The JASON Project<sup>SM</sup>



### JASON LIVE

JASON Live delivers interactive events produced by The JASON Project, Immersion Learning and Nautilus Live. Join world-famous scientists and explorers on their expeditions of discovery! See below for a schedule of upcoming events—all are free and will be streamed live online. A computer with an Internet connection is the only requirement for tuning in. Please note that event dates and times are subject to change, so be sure to visit [jason.org/live](http://jason.org/live) for the most up-to-date information.

### MEET A NASA ENGINEER – KOBIE BOYKINS

**Event date:** Wednesday, October 19, 2011

**Show times:** 10:30am, 1:30pm, 4:30pm, 6:30pm EDT

With the upcoming launch of the rover Curiosity, all eyes will once again turn to Mars. What better tour guide to have than one of Curiosity's top mechanical engineers? Kobie Boykins will explain his work and the unique challenges of engineering for the rigors of the Martian surface.



### LIVE FROM THE NAUTILUS

In July, Dr. Robert Ballard and his team launched an exciting expedition on the E/V *Nautilus* to explore ancient history and learn more about the ocean. A satellite on the ship is transmitting live video, audio and other data 24 hours a day, 7 days a week until the expedition ends in November. You and your students can view these data feeds and interact with *Nautilus* team members on the Nautilus Live website at [nautiluslive.org](http://nautiluslive.org). JASON Live will also be producing several live shows from the *Nautilus*. Tune in on the following dates to hear directly from Dr. Ballard and the JASON Argonauts—a group of educators and 14- to 16-year-old students selected through a competitive application process to join the *Nautilus* team:

#### DR. BALLARD LIVE FROM THE NAUTILUS

**Event date:** Friday, October 28, 2011

**Show times:** 1:30pm and 6:30pm EDT

#### JASON ARGONAUTS LIVE FROM THE NAUTILUS

**Event date:** Tuesday, November 8, 2011

**Show times:** 1:30pm and 6:30pm EST

PHOTO: GASPÉR TRINGALE



### RESCUING SOUTH AFRICAN PENGUINS

**Event date:** Thursday, December 1, 2011

**Show times:** To be announced

Webcasting live from Cape Town, South Africa, JASON will give you a first-hand look at efforts to preserve and protect endangered African penguins along the coast. Experts from the Southern African Foundation for the Conservation of Coastal Birds (SANCCOB) and Sea Research Foundation will demonstrate how they rescue, rehabilitate and release abandoned penguin chicks back into the wild.



### MEET A CLIMATOLOGIST – DIANE STANITSKI

**Event date:** Thursday, December 15, 2011

**Show times:** 10:30am, 1:30pm, 4:30pm, 6:30pm EST

Researching the complex interactions between the ocean and Earth's climate, JASON host researcher Diane Stanitski works with sensing buoys around the world to develop a better understanding of where our climate is heading. During this event, she will discuss how the oceans and climate affect one another.





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Mystic Aquarium is a division of Sea Research Foundation, Inc., a nonprofit 501(c)3 organization in Connecticut. The mission of Sea Research is to inspire people to care for and protect our ocean planet through education, research and exploration.



Mystic Aquarium is dedicated to conservation.  
Printed on recycled paper. Please recycle.

**You're invited ♦ FREE!**

Open House for Educators and their Families

Thursday, October 6, 2011 – 6:15pm-8:00pm (enter by 7:00pm)

Bring the family, see the exhibits, peek behind the scenes, and check out all the educational opportunities and fun that Mystic Aquarium has to offer! *Details on page 7.*

