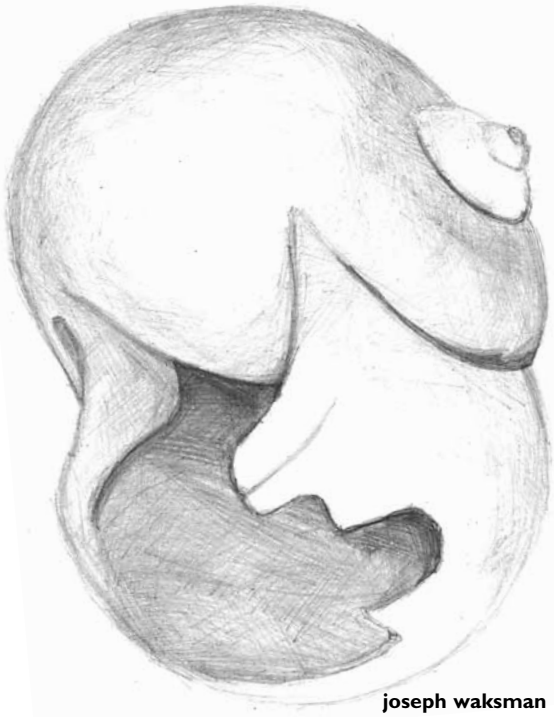
CHILDREN'S SCHOOL OF SCIENCE, INC.

NINETY-SEVENTH YEAR

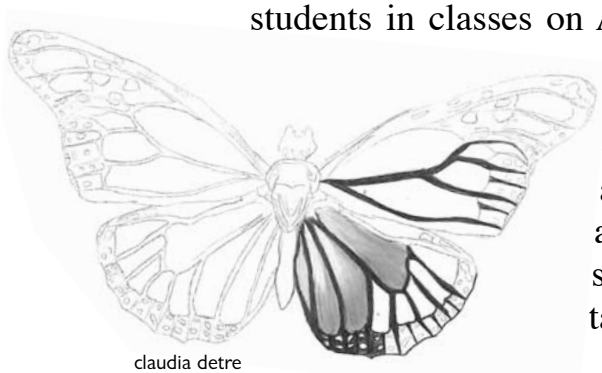
July 6 - August 12, 2010

The Children's School of Science encourages and develops in children a love and appreciation of science. Inquiry, direct observation, and understanding of nature is our guiding philosophy. Frequent field trips and hands-on classroom study give students the opportunity to explore nature, become adept at observation, and discover the rules that govern natural processes. The world-famous scientific community of Woods Hole offers additional opportunities to learn about research in different fields. The unusual complexity of the waters, geology, and biology of the greater Falmouth area provides a uniquely well suited "live" learning environment.



joseph waksman

Courses are organized into six-week sessions and three-week sessions. Classes meet daily Monday through Friday for ninety minutes. Attendance at every class is expected. Courses are organized according to students' interests and age appropriate study. We will begin placing students in classes on April 1st. It is important to have your registration materials in by this date. Please select alternate courses should your first choice be unavailable. We will make every effort to place children in their first choice classes; however, this will not always be possible. Our goal will be to place as many students as possible in a course. Additional courses will be assigned if space is available. First priority is given to children who have taken courses in previous years.



claudia detre

2010 Calendar

July 6 – First day of classes
July 7 – Back to School Night – 5-6 pm
July 21 – Open Board Meeting – CSS 7 pm
July 23 – End of session A – Open House
July 26 – Session B begins
July 27 – Back to School Night 5-6 pm
July 29 – CSS picnic – Ballpark 5 pm
August 9 – Annual Meeting – Fisher House 7:30 pm
August 11 – Open House 5-7 pm
August 12 – End of sessions B and AB

The Children's School of Science is made possible through the cooperation and collective generosity of dedicated parents, teachers and benefactors. The CSS gratefully acknowledges all contributions from its many friends and families. CSS also gives thanks to The Esther Simon Charitable Trust, The Fidelity Charitable Gift Fund, The Friendship Fund, The Marine Biological Laboratory, The NOAA National Marine Fisheries Service, The Robert Wood Johnson Foundation, The UBS Matching Gift Program, The Woods Hole Oceanographic Institute, The Woods Hole Women's Club, The Woods Hole Public Library, The Woods Hole Historical Museum, The Clowes Fund, The Boston Foundation, The Nehemias Gorin Foundation.

CSS Website: childrensschoolofscience.org

2010 COURSES:

SEASHORE LIFE (7-8) A, B, AB Students will explore and study the various areas of the seashore, including dunes, marshes, beaches, and shallow water. On field trips and in the classroom, students will learn about the flora and fauna of the seashore. Their activities may include setting up aquaria, experiments, art projects, and collections. In the three-week version, the students will explore the areas of the seashore and will learn about the seashore life forms and their communities.

WOODS, PONDS, AND FIELDS (8) A, B Students will observe the local habitats of plants and animals both outdoors and in classroom tanks. They may make collections of plants, insects, and other natural objects. Separate units will introduce students to botany, entomology, herpetology, geology, and limnology.

AQUATIC LIFE (8-9) AB Come learn about fish, crustaceans and other aquatic life found in our local bays, sounds and marshes. Using collection, observation and experimentation students will become acquainted with the animals and plants that live an aquatic life.

ANIMAL BEHAVIOR (9) A, B Ever wonder why certain animals live where they do or behave in particular ways? Through collection, observation and experimentation this course will study the habits and habitats of local animals.

MARINE BIOLOGY (9-10) A, B, AB This is a diverse field-oriented course, which takes full advantage of low tide to see, study, and collect the major groups of animals and plants of the ocean. Students will visit rocky, sandy, and marshy ecosystems for their study. In the classroom, students will use dissecting microscopes and will make a shell collection. The six-week version will study these areas in greater depth.

ECOLOGY OF THE BIKE PATH (9-10) B This course has a similar focus to Marine Biology; however, students will explore the ecosystem along the Shining Sea Bike Path using bicycles. Participants must provide their own bicycles and helmets.

COASTAL BOTANY (10-11) B Study the fauna and floral of Woods Hole's coastal regions. Students will study basic and intermediate botanical concepts through demonstrations, experiments and projects. They will collect specimens for their own herbarium!

owen steele

GEOLOGY OF CAPE COD (10-11) A Students will be introduced to the geological history of Cape Cod. The course will focus on such topics as: Cape Cod's rock record and history, fossils, soil and water. Laboratory modeling and fieldwork will help students examine the changes in the environment over the past geological period.

OCEANOGRAPHY (10-11) AB Students will examine the physical and chemical features that comprise our oceans. They will learn about ocean zonation, beach profiles, wave formation, astronomical observations on tides and currents, seafloor mapping, and considerations of light, temperature, and food. Students will also be introduced to marine robotics, engineering and its oceanographic applications.

TERRESTRIAL NAVIGATION (11-12) A Why learn to navigate on land? It's the best training for how not to get lost! Students will learn how to use a compass, read a map, determine distance, take bearings and navigate from point to point. The sport of orienteering and use of a GPS will be covered. There will be plenty of opportunities to try out newly found skills

NAUTICAL SCIENCE (11-12) B Explore boat design and build a seaworthy model boat, learn to navigate by chart and compass, experiment with the principles of buoyancy and displacement, delve into nautical terminology and practical seamanship. Class trips will go to the working waterfront and through Woods Hole passage itself.

ICHTHYOLOGY (11-12) AB In this class, students not only will learn about how to fish using different baits and lures, setting traps and using seines, they will have the opportunity to learn about characteristic species of different North Atlantic and freshwater habitats and to observe the diversity of form and different strategies for survival.

HERPETOLOGY (12-13) A Study the reptiles and amphibians of the Woods Hole environs. Learn how 'herps' are different from other animals, where they live and how to identify them.

ENTOMOLOGY (12-13) B Why are insects so successful? Investigate the interesting world of insects through the collection and classification of living insects. Study their identification and ecology. Each student will have the opportunity to make a collection of preserved specimens and sketches of insect anatomy.

EMBRYOLOGY (12-13) A How long does it take for an organism to develop? During development a single cell will grow into many different cell types with different shapes and jobs. This course will introduce and explore the changes and stages of embryonic development in organisms. Through collection and microscopic research, students will follow the growth and changes in the embryo.

MICROBIAL LIFE (12-13) B Find out more about the strange and exciting world of microbes. Observe and learn how bacteria, protists and fungi survive and thrive. Discover how they change and shape our environment. Students will collect samples from the local environment using the classroom for microscopic observation and learning.

2010 COURSES:

ROBOTICS/ROV (13-15) A, B, AB Students will focus on the technical, economic, environmental and social aspects of real-world marine engineering and electronics. Frequent field trips and data analysis will be used to study propulsion and energy. Through project design, data analysis and field exploration, students will explore the physical principles behind modern marine technology. *While Session A is not a pre-requisite for Session B, class placement preference for Session B will go to students who plan to take both Sessions A and B in 2010. Material Fee: $40.*

PARASITOLOGY (13-15) A Discover the relationship between a parasite and its host. What are their specialized traits and life-history strategies that enable them to colonize hosts? How are parasites eradicated and how can humans avoid them? Students will learn the answers in this class.

MICROBIAL DIVERSITY (13-15) B This course will cover the impact of microbes on earth systems, the nature of microbial species, and the importance of microbial biodiversity for the understanding of global physiochemical and biological processes. It will also focus on environmental evolution, biochemical cycling and species interactions.

MARINE MAMMALS (14-16) B Whales, dolphins and seals have long fascinated people. In this course, students will study behavior, communication, social structure, adaptations, interactions with humans and natural history of marine mammals. The course will include a whale watch.

BIOLOGICAL ILLUSTRATION (13-16) A Illustration can be a most useful and beautiful method of recording information. Become familiar with basic techniques of biological illustration, while examining the structure, anatomy and functions of local organisms. This course will also touch upon how biological illustrations are applied to science today.

ADVANCED MARINE BIOLOGY (14-16) B Students will delve into the biology and ecology of marine vertebrates and invertebrates; their evolution and classification, anatomy and physiology, ecology and behavior. This course will include snorkeling field trips, experiment design and analysis, and a whale watch!

EXPERIMENTS IN WOODS HOLE (14-16) A For more than a century, Woods Hole has been "an international center for research, education and training in biology." Distinguished scientists from around the world come to study the diverse and abundant marine organisms in local waters. This innovative course is designed for the discernible young scientist with an interest in and a curiosity for exploring the experiments and investigations that take place in Woods Hole.

BLACK & WHITE FILM PHOTOGRAPHY (13-16) AB In this popular, intensive, six-week class, students will explore the basic principles of photography including the balance of light and time, composition and darkroom procedure. The six weeks allow these students to focus on printing techniques and photographic essay. Students must provide their own working 35 mm film camera. Space limited to 10 students. *Material Fee: $60.*

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Curriculum Chairs: Karen Schwalbe, Kim Sutton
Assistants Chair: Jackie Brunelli
Registrar: Crickett Warner

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CHILDREN'S SCHOOL OF SCIENCE
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WOODS HOLE, MA 02543
css@cape.com

SCHEDULE OF CLASSES 2010

SESSION AB
July 6 - August 12

8:30 – 10:00
Session AB
Seashore Life (7–8)
Ichthyology (11–12)
Robotics/ROV (13–15)
B&W Photography (13–16)

10:15 – 11:45
Session AB
Aquatic Life (8–9)
Marine Biology (9–10)
Oceanography (10–11)

SESSION A
July 6 - July 23

8:30 – 10:00
Session A
Marine Biology (9 – 10)
Robotics/ROV (13–15)

10:15 – 11:45
Session A
Woods, Ponds & Fields (8)
Experiments in Woods Hole (14–16)

12:00 – 1:30
Session A
Seashore Life (7–8)
Animal Behavior (9)
Geology (10–11)
Herpetology (12–13)
Parasitology (13–15)

1:45 – 3:15
Session A
Seashore Life (7–8)
Marine Biology (9–10)
Terrestrial Navigation (11–12)
Embryology (12–13)
Biological Illustration (13–16)

SESSION B
July 26 - August 12

8:30 – 10:00
Session B
Marine Biology (9 – 10)
Robotics/ROV (13–15)

10:15 – 11:45
Session B
Woods, Ponds & Fields (8)
Marine Mammals (14–16)

12:00 – 1:30
Session B
Seashore Life (7–8)
Animal Behavior (9)
Coastal Botany (10–11)
Entomology (12–13)
Microbial Diversity (13–15)

1:45 – 3:15
Session B
Seashore Life (7–8)
Ecology of the Bike Path (9–10)
Nautical Science (11–12)
Microbial Life (12–13)
Advanced Marine Biology (14–16)

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