

SCIENCE EXPLORATION DAYS 2011

JUNIOR HIGH DAY

Grades 7–8(9)

Wednesday, May 11

9:30 am - 1:00 pm

Sponsored by
Central Western Section
Science Teachers Association of New York State

St. John Fisher College
Rochester, New York 14618

101. ADVENTURES IN CIVIL ENGINEERING
Mr. William VanAlst (American Society of Civil Engineers)
The role of the civil engineer in solving problems is developed through discussions. A variety of careers in engineering will be explained.
102. WILDLIFE DETECTIVES
Mr. Ron Schroder (NYS Department of Environmental Conservation, retired)
You'll learn how to detect the wildlife that lives around us by identifying the clues they leave behind. Hands-on samples will aid your sleuthing.
103. EXCITEMENT OF CHEMISTRY
Dr. Kenneth Schlecht (SUNY College at Brockport)
View an array of numerous chemical phenomena intended to surprise you and catch your interest. Witness explosions, color changes, and fire, all designed to generate thought and a scientific explanation.
104. WHITE-TAILED DEER: HISTORY AND BIOLOGY
Mr. John R. Hauber (NYS Department of Environmental Conservation)
While our forebears and Native Americans once depended on deer for survival, now the deer depend on us. We will discuss deer biology, including antler development and deer aging techniques.
105. LIGHTNING EXTRAVAGANZA
Jamie Oliver (Electronic Engineer, Eastman Kodak Company)
Witness a 4-foot, continuous lightning discharge from a 1,800-watt Tesla Coil. Experience plasma forming, and learn about Nikola Tesla, one of the world's true genius inventors.
106. EYE, TISSUE, AND ORGAN DONATION
Ms. Patricia Moorehouse (Rochester Eye and Tissue Bank)
Team up with others to play an interactive game "STAT RUN" that is fast paced, full of fascinating information, and designed to teach and explore the field of organ and tissue donation.
107. AQUATIC MACROINVERTEBRATES
Ms. Edith Davey (Ontario Soil and Water Conservation District)

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Investigate macroinvertebrates in real water samples. The populations of different insect, worm, and crab species will indicate the relative oxygen level of a stream. Learn via hands-on how to do this!

108. DNA TECHNOLOGY

Joanne Labate and Amy Szwec-McFadden (USDA-ARS Plant Genetic Resources Unit)

DNA provides the instructions that plants and animals use in order to develop, grow and survive. Plant geneticists, like detectives, use DNA to solve mysteries about plants. We will present a hands-on demo showing how to extract DNA from a banana in your kitchen using common household chemicals. The leftover banana will be used to make strawberry-banana fruit smoothies for everyone to drink. We will also demonstrate a common technique from the laboratory - how do you make a DNA Fingerprint and what does it look like?

109. LAND USE AND TECHNOLOGY

Nadia Harvieux (CLWA Watershed Educator)

Students will do a fun, hands-on activity to learn about the different land uses within a watershed and the impact on water quality. Working in small groups, students will “inherit” a piece of a watershed and a million dollars to develop their land. Student will have to address potential water pollution issues that arise from developing their property and provide solutions to improve water quality.

110. INCREDIBLE INSECTS

Mr. Robert Iveson (Ward’s Natural Science Establishment, retired)

Learn why insects are so successful and why “bugs” may not be as bad as most people think they are. The amazing adaptations and dynamic diversity of earth’s most abundant life forms will be illustrated with actual (and live) specimens.

111. CREATING A WEB PAGE

Mr. Robert Palmer (Rochester Democrat & Chronicle)

Get hands-on experience building a Web page! Emphasis will be on placing pictures and text, and managing color, fonts and sizes. You are encouraged to bring your own pictures (JPG or GIF) on a floppy disk. If you bring a disk, you can take your creation home.

112. ALL ABOUT REPTILES

Tina Crandall (Conservation Education Coordinator/Seneca Park Zoo)

Are you eager to meet and learn about reptiles? Here’s your chance to learn how scientists differentiate between the different groups, understand why reptiles are important, and find out what we can do to help reptiles survive. You’ll meet a variety of reptiles during the presentation.

113. WATERSHED MODEL

Sharan Radak (CLWA Watershed Educator)

Where does our water flow and how does it get polluted? Using the EnviroScope Watershed Model, we will demonstrate how pollution from different areas within our watershed can enter waterways as non-point and/or point source pollution. Students will learn ways in which they can help keep local streams, creeks and lakes pollution-free.

114. CRITTER RACES

Sheila Brady Root (St. John Fisher College)

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Teams of students will observe racing insects, make hypotheses, collect data in Excel and graph results. Web sites will be used to enrich understanding of the results.

115. MASTODONTS IN THE MUCK

Jutta Siefert Dudley, PhD (SUNY College at Brockport)

Many swamps across the Great Lakes region contain the skeletal remains of elephant-like creatures called mastodons that were part of the Ice Age ecosystem. How did these animals live and why did they become extinct? Come find out what we know so far. You will examine some samples and see how paleontologists digging in the muck uncover the past.

116. ULTRASOUND: THE WAVE OF THE FUTURE

Prof. Hamad Ghazle and Jodie Crowley (Rochester Institute of Technology, Allied Health Sciences)

You have heard of, and probably know someone who has had an ultrasound examination. You may have even had an ultrasound examination yourself. Did you ever think that a career in ultrasound might be right for you? Do you like to work, interact with and help people? Do you want to work in the medical field? Are you thinking of becoming a doctor? Do you want to be able to have a job anywhere? Join us to get the answers to these questions and learn about this exciting career.

117. INTERACTIVE HANDS-ON FORENSIC WORKSHOP

Mr. Timothy Wilson and Ms. Deborah Janes (Eastman Kodak Company)

The drive to unlock the mystery of some crime through the application of science is great for the forensic scientist. The result of the forensic scientist's work has real meaning with life and death implications and impact upon the criminal justice system. Participants will investigate several different disciplines of analytical sciences as they pertain to forensics. No chemistry background is needed for this exploratory workshop, just the willingness to get your hands dirty while having fun.

118. PHYSICAL THERAPY

Connie Chau (Assistant Professor, Nazareth College)

Come find out what a physical therapist does and who needs physical therapy. Learn about common types of injuries and things you can do to prevent them.

119. CAN YOU HEAR ME NOW? HOW WE HEAR: FROM EARBUD TO BRAIN.

Sarah Klimasewski (Audiologist)

Overview of basic anatomy of the ear and auditory pathway, how sound travel through the pathway, different types of hearing loss and hearing conservation; particularly how to listen to personal stereo systems safely and the hazards of too much "noise".

120. POLYMERS

Tim Cawley (Rochester Museum and Science Center)

Explore the amazing world of Polymer Chemistry in this totally hands-on program. Perform experiments to make different kinds of polymers like slime, nylon, and Styrofoam. Extract DNA from a banana!

121. THE EARTH TRANSFORMED: EXPLORING HUMAN IMPACT ON LANDSCAPES AROUND THE WORLD

Mike Batek (Project Manager, Crossing Boundaries)

Have you ever wondered how much humans have impacted the environment? In this session you will

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learn to use cutting edge geospatial technology to travel through time and see for yourself how humans have changed and continue changing the face of the Earth. Learn about some of the most challenging and dramatic environmental issues and impacts across the globe!

122. COOL THINGS TO SEE IN THE NIGHT SKY

Carol Latta (Astronomy Section of the Rochester Academy of Science, U of R Teaching Assistant)
Have you ever wondered what is in the night sky above you? In this workshop, we will examine a few interesting astronomical objects that you can observe for yourself **just** using **binoculars**. You will get information you can take home to try this out yourself on the next clear night! And while we are at it, we'll explore some of the science behind the objects.