



Virtual Science Programs



New York Hall of Science Fall 2020 – Spring 2021

The New York Hall of Science (NYSCI) continues to support remote learning needs through a variety of high quality virtual educational programs for schools, child care centers, and other community based organizations that are seeking engaging educational STEM experiences for their audiences. With over 10 years of experience delivering online programs, NYSCI has developed successful virtual learning strategies and experiences that makes science come alive at your school or online!



### VIRTUAL SCIENCE WORKSHOPS

Looking to create a fun, engaging online experience for your class that will enrich your STEM curriculum? NYSCI's Virtual Science Workshops are designed to make it easy for educators to integrate within their remote learning platform and foster hands-on learning, critical thinking, collaboration and communication skills through group discussion. Each workshop is a live interactive experience led by a NYSCI Instructor and includes an activity material list provided prior to the workshop consisting of accessible materials that can be found in participants homes or can be easily substituted. Workshop topics are listed below.

*Fee: \$150 per 1 hour session for a maximum of 32 students.*

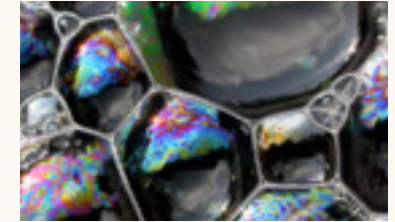
*For more information or to book a NYSCI program, contact Georgette Williams at 718-595-9114 or [gwilliams@nysci.org](mailto:gwilliams@nysci.org).*

### STEM Fairytales

*Grades Pre-K\* – 2*

*Once upon a time...* students will participate in an active story time with the fairy tale of Goldilocks and the Three Bears and then apply science, technology, and math skills to solve an engineering challenge that they can do from home with simple materials.

*Grades K – 2: NYC K-2-ETS1-2, NYS K-2-ETS1-2*



### Bubble, Bubble

*Grades Pre-K\* – 2*

Bubbles are a great source of science discovery! Students will design and make their own bubble-blowing tool from everyday objects then test and play with these new bubble-making tools as they observe the size, shape, patterns, reflection, and colors of bubbles.

*Grade Pre-K: NYC Unit 7 P-PS1-1, NYS P-PS1-1*

*Grade K: NYC Unit 1 K-PS1-1, NYS P-PS1-1*

*Grade 2: NYC Unit 1 2-ESS2-2, NYS 2-ESS2-2*



### Light and Shadows

*Grades Pre-K\* – 2*

How is a shadow created? Experiment with light sources, shapes and filters to create a variety of shadows that demonstrate light transmission, projection or blocking. Observe how colored filters can be used to manipulate light and add a touch of color within a shadow.

*Grade Pre-K: NYC Unit 6 PS3-1, NYS PS3-1*

*Grade 1: NYC Unit 2 PS4-2, 1-ESS1-2, NYS PS4-2, PS4-3*

### Amazing Adaptations: Designer Ears

*Grades 1 – 3*

Students become animal investigators as they explore an amazing adaptation that enables animals to survive in the environments that they live in... their ears! Explore the relationship between predator and prey, and how different animal ear shapes

influence hearing by designing and testing their own set of animal ears.

*Grade K: NYC Unit 3 K-ESS3-1, NYS K-ESS3-1*

*Grade 1: NYC Unit 3 1-LS1-1, NYS 1-LS1-1*

*Grade 2: NYC Unit 3 2-LS2-2, NYS 2-LS2-2*



### Science of Sports

*Grades 3 – 6*

Explore the science of sports through a series of interactive activities. Discover the relationship between kinetic and potential energy and why balls bounce as high as they do. Participate in physical activity to test your reaction time and learn how to improve your performance in sports activities.

*Grade 3: NYC Unit 4 3-PS2-1, 3-PS2-2, NYS 3-PS2-1, 3-PS2-2*

*Grade 4: NYC Unit 2 4-PS3-2, 4-PS3-4, NYS 4-PS3-2, 4-PS3-4*

*\*These workshops will require adult assistance for Pre-K students.*

### Eyes Have it

*Grades 3 – 7*

Experiment with various optical illusions and learn how the brain can deceive the eye. Conduct investigations on depth perception and create your own optical illusion toy.

*Grade 4: NYC Unit 1 LS1-2, NYS LS1-2*

*Grade 7: NYC Unit 3 MS-LS1-8, NYS MS-LS1-8*

### Strong Structures

*Grades 3 – 8*

Using an assortment of simple materials, participate in a series of challenges to build and design strong stable structures. Test weight, durability and ability to withstand extreme environmental conditions and analyze ways to improve on your design.

*Grades 3 – 5: NYC MS-ETS1-1, MS-ETS1-2, MS-ETS1-3 MS-ETS1-4; NYS MS-ETS1-1, MS-ETS1-2, MS-ETS1-3 MS-ETS1-4*

*Middle School: NYC MS-ETS1-1, MS-ETS1-2, MS-ETS1-3 MS-ETS1-4; NYS MS-ETS1-1, MS-ETS1-2, MS-ETS1-3 MS-ETS1-4*

### Color My World

*Grades 3 – 7*

Delve into the mysteries of color and light to learn about the visible spectrum, color-absorption and reflection. Observe objects under unique monochromatic color filters and discover how colors can be blocked to create secret messages. Investigate a device that utilizes a diffraction grating lens to observe the spectrum of light.

*Grade 4: NYC Unit 2 PS4-3, NYS Unit 2 PS4-3; Patterns*



### Cool Craniums

*Grades 6 – 10*

Explore how animals adapt to their environments. Study, sort and classify the form and function of a variety of mammal skulls. Investigate how to apply these techniques to identify a mysterious skull.

*Grade 8: NYC Unit 4 MS-LS4-2, NYS MS-LS4-2*



### WOW! Science Showcase

Seeking to amaze your students with extraordinary science phenomena that requires no materials for you or your students? Our WOW! Science Showcase consists of a range of eye popping science demonstrations that will spark interest in understanding the how and why science phenomena occurs. NYSCI Instructors will set up all materials and equipment and conduct experiments on screen such as air pressure and electricity and engage students in an interactive dialogue to explore the science principles of each science phenomenon. Appropriate for all grades.

*Fee: \$150 per one hour session for up to 40 students.*



## ANIMAL ADAPTATIONS SERIES

### Grade 4

Educators can reserve a series of three virtual workshops on Animal Adaptations that scaffolds the learning experience for 4th grade students, engages in hands-on engineering challenges and aligns with NYC Science Scope & Sequence Units of Study, NY State and Next Generation Science Standards. Students will explore how the brain and the eyes work to perceive the world around us, observe a cow's eye dissection, and discover unique features that help animals to survive in their environment.

*Fee: \$450 per class for all 3 sessions. Workshop description for each session below.*

*For more information or to book a NYSCI program, contact Georgette Williams at 718-595-9114 or [gwilliams@nysci.org](mailto:gwilliams@nysci.org).*

### Eyes Have it

Experiment with various optical illusions and learn how the brain can deceive the eye. Conduct investigations on depth perception, and create an optical illusion toy.

*Grade 4: NYC Unit 1 LS1-2, NYS LS1-2*

### Cow's Eye Dissection

Compare and contrast the structure and function of a human eye with a cow's eye dissection. Explore how the brain and eyes work together to filter light and create images for your brain to interpret.

*Grade 4: NYC Unit 1 LS1-2, NYS LS1-2*

### Gliding Mammals

Get inspired by gliding animals and your knowledge of forces and motion to design a gliding wing suit out of everyday materials.

*Grade 4: NYC Unit 1 LS1-2, NYS LS1-2*



## PROFESSIONAL LEARNING FOR EDUCATORS

NYSCI provides online professional learning workshops that help educators infuse their remote learning classes with hands-on activities and pedagogical strategies that inspire and excite STEM learning. These professional learning workshops have been adapted into 2 hour synchronous online courses to suit time management needs and cultivate a community of practice among participants through interactive reflective dialogue. All professional learning courses include CTLE credit.

*Fee: \$650 per 2 hour synchronous course for a maximum of 32 teachers. Course descriptions listed below.*

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### • STEM Institute Courses

STEM Institute courses focus on science content units that demonstrate effective strategies for creating interactive lessons in their virtual classrooms and utilizes low cost accessible materials for their students. Instructors will model a series of hands-on activities that can easily be replicated virtually or in person classrooms and methods for engaging students with multiple learning styles. Participants will leave the workshop with a toolbox of strategies and lessons to use in their own practice.

#### Elementary School Topics

Weather  
Astronomy  
Interdependence  
Energy Transformations  
Changes to Landforms

#### Middle School Topics

Ecosystems  
Diversity of Life  
Energy and Matter  
Forces of Motion

### • Specialized Professional Learning Courses

#### Strategies for Integrating Hands-On STEM Online: Materials Matter

Explore how the materials in your student's home can be used for a variety of fun, high quality STEM investigations. In this workshop, participants will engage in standards-aligned, hands-on activities related to light and magnification and discover how the properties of common materials can be leveraged in multiple ways to support learning across the curriculum.

#### Strategies for Integrating Hands-On STEM Online: At-Home Design Challenges

Design challenges can be a powerful and exciting way to engage students in STEM problem solving both in the classroom and at home. In this workshop, educators will participate in two design challenges related to force and motion and then review strategies for creating their very own standards-aligned design lessons using a Design Challenge planning tool.

## PROGRAM RESERVATIONS

For more information or to reserve any of NYSCI's virtual education programs, contact Georgette Williams, Program Manager at [gwilliams@nysci.org](mailto:gwilliams@nysci.org) or at 718-595-9114.

Customization of programs or other topics to meet your learning needs may also be available upon request. Additional fees may apply.



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