CSTA SINCE 1952 | Connecticut Science Teachers Association Newsletter

www.csta-us.org Volume 67 Number 3 June 2021

Connecticut Excellence in Science Teaching Awards 2020

Congratulations to all Awardees!

Excellence in Elementary Science Teaching 2020 -
Sponsored by Pearson
Phaedra Taft, Westport, CT

Excellence in Middle School Science Teaching 2020 -
Sponsored by Lab-Aids
Kristina Ngai,
William J. Johnson Middle School,
Colchester, CT

Excellence in Secondary Science Teaching 2020 -
Sponsored by School Specialty
Diane Pintavalle,
Glastonbury High School,
Glastonbury, CT

Ralph and Ruth Yulo Beginning Teacher Award 2020 -
Robert Wilkos,
Middletown High School,
Middletown, CT

Awards 2020 were presented online this year.

Babu George STEM Award - sponsored by CSSA in partnership with Sacred Heart University –TBA

Dr. Sigmund Abeles Science Advocate Award
Presented to: JASON Learning
Accepting award on behalf of JASON:
Amy O'Neil.

Marty Tafel Student Science Research Awards

Life Sciences Middle School - Grade 8 -
Lauren Marze -
Canton Middle School,
Canton, CT
"Concentration of Microplastics in Four Farmington River Locations"
Teacher - Ashley Lapane

Physical Sciences Middle School Grade 8 -
Jakob Zapanta -
Green Farm Academy,
Westport, CT
"Water Filter and Water Turbine"
Teacher - Modupe Oshi

Thank-you Educational Innovations and Discovery Museum/Sacred Heart University for our Teacher Awards Gifts!

Connecticut Science Teachers Association, Inc.

— Newsletter Editor —
Ray Delehant
Typography, Newsletter Layout, and Graphics – R. Delehant

Statement of Ownership

NSTA New England Chapter Leaders Meet Incoming NSTA President Eric Pyle

Susan Meabh Kelly, in her role as NSTA District 1 Director, facilitated a 45-minute Zoom meeting on May 21 in order to solidify collaboration among NSTA District 1 Chapters (Connecticut, Rhode Island, and Massachusetts) and NSTA District 2 Chapters (Maine, Vermont, and New Hampshire), and between the Chapters and NSTA.

The following Chapter Leaders attended:
Connecticut: Pat Ruane, President; Cindy Wilbur, Treasurer; Terry Contant, Member
Vermont: Christine Depatie, President
Maine: Tonya Prentice, President

The following NSTA Board/Council Leaders attended:

- **Susan Meabh Kelly, District I (2021-2024)**
- **Helene Adams, District II (2020-2023)**
- **Eric Pyle, President-Elect (2021-2022)**

During the meeting participants introduced themselves, their chapter or NSTA role, science education background, interests and issues as related to NSTA. Issues discussed included: re-imagining the District Director positions; including better defining the role and aligning this definition with Congress and NSTA initiatives.

- a bidirectional exchange of member lists,
- enhancing communication and relationships between Chapters and NSTA,
- establishing an NSTA-supported pathway to support science teacher leadership development,
- advancing elementary science education via inter-state activities. (It was noted that elementary education is one of the 2021 Congress strands.)
- continuing participation in future STEMtastic events, including NSTA and New England Chapter representatives serving as invited speakers.

Eric Pyle was receptive to all issues with NSTA Council, and appeared to be as eager to see change as the chapter leaders.

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CSTA Membership Dues

For 2021 - 2022
Dues for CSTA Membership are now due and payable for membership year **2021 - 2022** to September.
The money from your dues supports publishing of the Newsletter, the Journal, funding of grants, and support for various activities scheduled throughout the year — such as the Awards Program and the Connecticut Science Educators Professional Development Day.
Your membership can be renewed from our website.
www.csta-us.org/join-us

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As a CSTA Member in good standing, you will receive the member rate to attend the Conference and other events.

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Got News you would like to have in the Newsletter ?

If you know of events, activities, or workshops being offered, tell the Newsletter Editor about them.
Contact Ray Delehant by e-mail : delray637@att.net

Visit CSTA's new web site at:
www.csta-us.org

SCSU scholarship program aims to boosts science teachers with $1.4 million grant

New Haven Register

By Brian Zahn May 8, 2021 Updated: May 8, 2021 3:19 p.m.

https://www.ctinsider.com/news/nhregister/article/SCSU-scholarship-program-aims-to-boosts-science-16161143.php?cmpid=gsa-nhregister-result&_

SCSU senior Benson Rodrigues is photographed outside of Amity Regional High School in Woodbridge, where he is a student teacher, on April 19, 2021.
Photo: Arnold Gold / Hearst Connecticut Media

NEW HAVEN — It's one of the trickiest equations in public education: how can urban school districts get ahead of a perpetual shortage of qualified math and science teachers?
With a five-year, $1.4 million grant, Southern Connecticut State University officials believe they can solve for X.

The university received the grant from the National Science Foundation to increase the number of physics, chemistry and math teachers in high-needs school districts. Carrie-Anne Sherwood, an SCSU assistant professor of curriculum and learning, co-director of the university's Center for Excellence in Mathematics and Science and principal investigator for the grant, said the cost of pursuing a career in education often can be prohibitive, and there are more high-paying career paths that can be accessed with a science or math major.

"People who major in math and science have a lot of options in terms of careers," said Sherwood. "They don't have to pursue a strict math- or science-type of job; some do grad school, some go direct into industry, others go into things not so obvious like law or accounting where the skills they gain as those majors can be leveraged into more lucrative careers."

The university intends to use the money to provide 30 full-tuition scholarships for aspiring teacher candidates to complete the final two years of their degree for a commitment to work in a high-needs school district for at least four years after graduation.

Because of a "stigma" around education as a career, Sherwood said universities need to do more to make teaching jobs more appealing to candidates who would otherwise see the career as a calling.

"This is a real career choice that's really highly needed, and we need qualified people to do it," she said.

Recruiting has been a challenge, though. University data reveals that only a small number of graduates in math and sciences show a propensity to go into education by obtaining a teaching certificate. Between 2017 and 2019, 46 students graduated with a degree in chemistry, but only one of those students also received a 7-12 teaching certification. In that same period, there were 30 physics graduates with only two 7-12 teaching certification recipients.

Sherwood said that because SCSU was originally a normal school — or a teacher training school — it has a strong tradition of producing certified teachers. A large part of the university's recruiting efforts under the grant will be to create a pipeline for Gateway Community College graduates to pursue careers in science or math education at SCSU.

"We are one of the largest feeders into SCSU, and we have students that need as many possibilities and career options are possible," said Gateway Community College CEO William T. Brown. "This will make those career options available and it's another pathway for our students."

Benson Rodrigues, a senior at SCSU, will graduate with his degree in physics and obtain certification in 7-12 education this month. He said that for four years he has pursued the same major because he is confident that science education is his calling. He said he realized it in his senior year at Amity Regional High School when he was helping his friends study for a final exam in physics.

"I just really enjoyed seeing that spark when the material finally clicked and they were able to make connections. It was a tangible thing I could see, and make a difference in someone's life in that way," he said. "'I got a sense of fulfillment out of what I was doing."

Although the pandemic initially sidetracked student teaching efforts, Rodrigues said he was able to reach out to his alma mater for a placement at Amity. He said his former teachers immediately recognized him and were extremely helpful.

Overall, he said he's found teaching to be just as fulfilling as he'd expected. However, he said that getting a degree without financial assistance would be challenging.

"Southern is a very blue-collar university; everyone is working either part-time, or a few students I know are working full-time," he said. Rodrigues said that, on top of the credit hours he receives from student teaching, he works 30 to 40 hours a week mostly through tutoring at the university and privately. Rodrigues said he has also been aided by scholarships.
"It's all a balancing act," he said. "Those definitely helped me contribute more time to my education, pursue more classes and do more during my time at college."

Overall, Rodrigues said many aspiring teachers will benefit from a financial investment in their success.
"Supporting students getting a degree in education is beneficial to not just that student, but society," he said.
brian.zahn@hearstmediact.comg
a=2.165668607.1364872791.1620582069-1346061813.1432761473

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Report a Story

If you know of events, activities, or workshops being offered, let the Newsletter Editor know about them.
Contact Ray Delehant by e-mail :
delray637@att.net

Safety Incidents Unplanned – Security Incidents Planned!

SAFE SCIENCE: BE PROTECTED

By Dr. Ken Roy
Director of Environmental Health & Safety
Glastonbury Public Schools
Glastonbury, CT, USA;
Chief Science Safety Compliance Adviser & Safety Blogger
National Science Teaching Association (NSTA);
Safety Compliance Officer
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Email Address: Royk@glastonburyus.org
For the Latest on K-12 Lab Safety Follow Ken Roy on TWITTER @drroysafersci
INTRODUCTIONdrroysafersci

INTRODUCTION

Understand that when we prepare for safety, we are anticipating incidents which are unplanned. That is, safety accidents do not intentionally happen. On the other hand, preparing for security, we are trying to anticipate incidents which are planned! Security incidents happen intentionally by individuals acting in a terrorist manner. Over the past years, some school districts have fallen victim to terrorism. Security had already been addressed in many school districts across the United States as a result of 20 April 1999 Columbine High School terrorist actions and workplace violence.

This article is to provide some strategies on making science laboratories and the schools in which they are located not only safer, but also more secure. This is of special importance, given that hazardous materials and other dangerous artifacts/chemicals found in science laboratories can be the focus of terrorists. Even with the top priority of addressing the current COVID-19 pandemic, laboratory security also should not be off the radar

REGULATORY STANDARDS

The lab is an exciting place but it can be a dangerous place if the rules are not followed.

National health and safety agencies have tried to help employers make the workplace safer for employees and students. The Occupational Safety and Health Administration (OSHA) has developed the Hazard Communications Standard, the Laboratory Standard, the Bloodborne Pathogens Standard, Emergency Action Plans, Hazardous Materials, and others, providing direction for employers to develop and maintain a safer and securer working environment for all employees.

Additional safety and security support comes from such agencies as the Environmental Protection Agency (EPA), National Institutes of Health (NIH) and the Centers for Disease Control & Prevention (CDC).

Science teachers and supervisors as specialists need to work in concert with administrators in attempting to provide a safer and securer working environment for students, faculty and administrators.

HELPING TO MAKE THE LABORATORY SAFER

There are a number of ways to help make it safer and securer for school labs, preparations rooms and storerooms. To help raise levels of awareness relative to safety and security, consider the following areas of focus and necessary actions:

A. Entrances, Exits, Stairways and Hallways – All means of egress should be clear and unobstructed to allow for safe evacuation if necessary. Proper signage should be posted as appropriate.

B. Laboratory Access – All access doors to laboratories should be posted as "laboratories." All doors should remain closed and locked when unattended. Only certified science teachers should have access to laboratories when hazardous materials/equipment are present. Only certified science teachers and administrators/facilities maintainers/custodians should have keys to laboratories, storerooms and preparation rooms. Never allow students entry or opportunities to work in a lab without appropriate adult supervision!

C. Safety Equipment Operation – All showers and eye wash equipment must be inspected and in operational order in areas housing or using hazardous materials. A minimum of monthly inspections should be required. Also, weekly flushing protocols must be followed for 1-3 minutes.

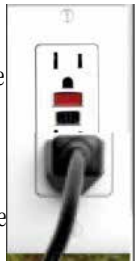
D. Personal Protective Equipment – Indirectly vented chemical splash goggles, safety glasses with side shields, nitrile or vinyl gloves, non-latex aprons, etc., should be easily accessed and are in good condition. They also need to be sanitized after each use.

E. Fire Suppression Equipment – appropriately rated fire extinguishers (ABC type and D type where combustible metals are present) should be available in the laboratories, storerooms and preparation rooms. The extinguishers should be appropriately inspected and located for easy access. All science employees should annually be trained in the use of the extinguishers providing this is permitted via Board of Education policy.

F. Pressurized Gas – All pressurized gas cylinders must be placed in an upright position and properly secured. Appropriate signage and cylinders per square footage must be adhered to. Small flammable gas cylinders must be stored

in flammable liquid cabinets. No other flammables are to be stored in that same cabinet.

G. Electrical Energy – All circuits in science laboratories, preparation and storerooms should have ground fault circuit interrupter protection (GFCI), in addition to easily accessible master shutoff switches with appropriate signage.



H. Gas Energy – All laboratories, preparation and storerooms should have master gas shutoffs with appropriate signage.

I. Water – Master water shutoff valves should be easily accessible with appropriate signage.

Water Shut off valve

J. Fume Hoods – Fume or exhaust hoods should have periodic inspections for appropriate operation such as face velocity. The hood's stage should not be used as a storage area for hazardous chemicals, lab ware or any other items. The NFPA requires an annual inspection of fume hoods by certified technicians.

K. Hazardous Chemical Storage – All hazardous chemicals should be properly labeled, dated and stored in a secured location. The areas housing hazardous chemicals should have restricted access and a high level of security.

L. Laboratory Hygiene – No drinking, eating, smoking, etc. should be permitted in the laboratory, save exceptions approved by the chemical hygiene officer.

M. Appliances – All appliances such as refrigerators, microwaves, ovens, etc., should be appropriately labeled for intended use; e.g., food for human consumption only or hazardous chemicals and biological only.

N. Ventilation – Laboratory and preparation rooms should have "negative pressure" relative to corridors. Per NFPA standards, ventilation must be continuous and on-going. It also should not be recycled to other parts of the facility.

O. Housekeeping – Appropriate housekeeping must be secured to reduce or eliminate trip/fall hazards, provide adequate clearance of sprinkler systems (18 inches), provide access to emergency equipment, have an unobstructed means of egress, etc.

P. Emergency Lighting – Emergency lighting should be available to assist evacuation in power outages as appropriate. The lighting should be inspected periodically to ensure operation.

Q. Evacuation Plans – Evacuation plans should be posted in appropriate sites, in addition to emergency numbers. All laboratories, preparation rooms and storerooms should have communication access in cases of emergency.

HELPING TO MAKE THE LABORATORY SECURER!

The school building facility must also have security needs addressed. This is the first "line of defense." These simple recommended procedures will not guarantee a 100% secure workplace. However, they will raise everyone's level of awareness and help the building become more secure – both physically and psychologically! The recommended procedures include:

A. Designated Reception Area – The building should have a designated entrance and receptionist area to control access. All remaining entrance doors should be locked.

B. Visitors – Once signed in, visitors should be escorted to designated work areas by employees.

C. Employees – All employees should employee wear prominently displayed photo identification.

D. Strangers – Employees should challenge any unaccompanied stranger(s) in the workplace.

E. Mail – Employees should be trained and be provided with personal protective equipment (e.g., vinyl gloves) to sort mail. Protocols should be in place to deal with suspicious items.

F. Lock down/Evacuation Procedures – Employers should develop both lock down and evacuation procedures for employees and students. Appropriate drills should be exercised. Administrators need to check with their local fire marshal, the authority of local jurisdiction, for mandatory drill procedures.

OSHA requires emergency preparedness plans for employees in its 29 CFR Part 1010.30 and 29 CFR Part 1910.165 standards (Available at www.OSHA.gov). These standards mandate that employers provide emergency action plans and fire prevention plans. These plans are only an example of proactive preparation. Readers should consult their own government's standards or regulations. OSHA's include:

A. Emergency escape procedures and escape route assignments.

B. Procedures for employees who remain behind to operate essential operations.

C. Procedures to account for all employees after an evacuation is completed.

Safety, continued page 6

Safety, continued from page 5

D. Rescue and medical duties for employees with those responsibilities.

E. Procedures for reporting fires or other emergencies.

F. Names and titles of persons to contact for explanations or further instructions.

Another great resource is The Federal School Safety Clearinghouse and SchoolSafety.gov.

SchoolSafety.gov includes:

A. The School Safety Readiness Tool, an assessment that assists users in evaluating their respective school's safety posture across ten foundational elements of school safety. After completing the assessment, users are provided an action plan with task prioritization, options for consideration, aligned resources, and grant opportunities specific to individual needs;

B. A Secure Information Sharing Platform for designated school personnel to share school safety ideas, practices, plans, and tactics in a protected environment; and

C. A wide array of resources and best practices on key school safety topics to assist with building awareness within the school community to promote vigilance and build capacity to respond to incidents.

D. COVID-19 Resources for Schools is another resource which can help make it safer/securer for schools. See Internet site in Resources below.

FINAL THOUGHT

Remember - "AAA" - Awareness, Assessment and Action are keys to safety and security – be prepared!

LIVE LONG AND PROSPER SAFELY!

RESOURCES:

Occupational Safety and Health Administration – http://www.osha.gov

U.S. Environmental Protection Agency http://www.epa.gov/ - https://www.schoolsafety.gov

COVID-19 Resources https://www.schoolsafety.gov/covid-19-resources-schools -

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CALIFORNIA ACADEMY OF SCIENCES

Stream Habitat Earth in your classroom

https://www.calacademy.org/educators/habitat-earth-in-the-classroom?utm_campaign=educator_enews_20201207&utm_medium=email&utm_source=Mailjet

Bring an awarding-winning planetarium show to your students for free!

Habitat Earth makes complex science topics accessible with rich, digital experiences. This 25-minute production takes viewers on a journey through the vast networks of life on Earth. Short, supplementary videos explore key themes and lesson plans dive deeper into environmental topics.

- **Educator Guide (grades 3-5)** https://drive.google.com/file/d/0B5MCdB3zH82pZ0lXdzN2clA4a0U/view
- **Educator Guide (grades 6-12)** https://drive.google.com/file/
- d/0B5MCdB3zH82pYnpLVGtZRE1mZlU/view

Each guide includes key concepts, glossaries, behind-the-scenes articles, guiding questions and answers, and linkages to the Next Generation Science Standards.

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NATIONAL MOTH WEEK GLOBAL CITIZEN SCIENCE 10 years

SCISTARTER

National Moth Wee k-July 17-25, 2021

National Moth Week celebrates the beauty, diversity and ecological importance of moths world wide. People of all ages and abilities are invited to learn about, observe and document moths in their backyards, parks and other habitats.

People of all ages and abilities are invited to learn about, observe and document moths in their backyards, parks and other habitats. Get started https://scistarter.org/national-moth-week-3?utm_campaign=NL051721&utm_medium=Email&utm_source=Newsletter from anywhere July 17 to July 25.

HOW TO JOIN

Online: https://docs.google.com/forms/d/e/1FAIpQLSfLI7pJAlhfxEpkBQQgFEa0zOJ_LX6r3o7EizEQyqiKUD5uww/viewform?fbclid=IwAR2qOE9wDNFYlsgDiigBirGfGfupb9vYRhJSo7MToA5cMS5t-d9FjbaJ_hQ

EVENT TYPE

Kid-friendly, Nature monitoring

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HARVARD UNIVERSITY

Seasons Curriculum from Harvard

Understanding the reasons for the seasons is challenging to teach in any educational setting, but especially so in remote learning environments. Seasons, a curriculum for grades 6–8 produced through Harvard University's WorldWide Telescope Ambassador Program, contains digital resources to make the task easier. Learn more and find the curriculum here.

https://wwtambassadors.org/seasons?utm_medium=email&utm_source=GovDelivery

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Moths - continued

Board Member Directory
July 2019 through June 2021

Some positions on the Board are open.
If you would be interested in being on the Board, contact CSTA acting President Patricia Ruane
pat.o.ruane@gmail.com

	Executive Board	Term	E-mail Contact
President	Patricia Ruane	2021-2023	pat.o.ruane@gmail.com
Vice President			
Secretary	Mary Patricia Coburn	2019 --2021	coburnmp@yahoo.com
Treasurer	Cindy Wilbur	2020 - 2022	lou.mcminn@gmail.com
	Appointed by the President		
Membership	Cindy Wilbur		wilburc@fpsct.org
Newsletter Editor	Ray Delehant		delray637@att.net
Journal Editor	Ray Delehant		delray637@att.net
Webmaster	Louise McMinn		lou.mcminn@gmail.com
	County Directors		
Fairfield	Steve O'Connell	2019-2021	oconnusa@gmail.com
Hartford	Open	2021-2023	
Litchfield	Susan Meath Kelly	2021-2023	susankelly.ct@gmail.com
Middlesex	Open		
New Haven	Open		
New London	Amy O'Neal	2019-2021	amy@jason.org
Tolland	Mark Ruede	2018-2020	mruede@tolland.k12.ct.us
Windham	Ralph Yulo	2019-2021	oluy@aol.com
	Level Directors		
Elementary	Sean Serafino	2020-2022	
Middle School	Cindy Wilbur	2017-2019	
High School	Open		
Vo-Tech	Leslie Czerwinski	2021-2023	leslie.czerwinski16@gmail.com
Independent Schools	Open		
Parochial Schools	Open		
Charter/Magnets	Eva Kibbe	2019-2021	kibbye@ces.k12.ct.us
Higher Education -	Bonnie S. Maur	2018-2020	bmaur1@aol.com
Retired Teachers	Scott Johnson	2019-2021	scojohnso55@gmail.com
	Special Representatives		
CSSA Representative			
Science Education Consultant Connecticut State Dept. Education	Ronald Michaels Ph.D.		Ronald.Michaels@ct.gov
NSTA District 1 Representative	Susan Meath Kelly	2021-2024	susankelly.ct@gmail.com

Meetings, Events, Workshops, Grants, Fellowships…

CSTA Grants

Connecticut Science Teachers Association provides one or two small grants ($250-$500) each year to **CSTA members** to provide support for research, innovation, or enrichment activities not usually covered in normal school or institutional budgets. Any CSTA member may apply.

Applications are due by April 15 each year.
View the grant rubric.
http://www.csta-us.org/grants.htm

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Revised 12/12, 2020

NSTA Important Dates

Go to NSTA.org for details.

Upcoming NSTA National and Area Conferences

Future NSTA Conferences 2021-2022

National Conferences

[a] Houston, Texas: March 31–April 3, 2022

2021 Area Conferences

- 10h Annual STEM Forum & Expo in San Francisco: July 28–306, 2021
- Portland, Oregon: October 28–30
- National Harbor, Maryland: November 11–13
- Los Angeles, California: December 9–11, 2023

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The Alternate Route to Certification (ARC) program is interested in hiring retired teachers to evaluate our students during their practicum (student teaching). Ed O'Connell, Dean
Email eoconnell@ctohe.org
FYI Please pass this on to retired colleagues!
Laurel Kohl

THREE CONNECTICUT TEACHERS CHOSEN AS STATE FINALISTS FOR PRESIDENTIAL TEACHING AWARD

Three high school science teachers, **Robert Cormier, Lauren Danner and Alexa Mitchell,** have been selected as Connecticut State Finalists for the Presidential Awards for Excellence in Mathematics and Science Teaching (PAEMST).

- *Robert Cormier (Wolcott High School)*
- *Lauren Danner, (North Branford High School)*
- *Alexa Mitchell, (RHAM High School)*

The candidates were selected as the three secondary school finalists eligible to receive a PAEMST award in science, the nation's highest honor for U.S. K–12 science, technology, engineering, mathematics, and/or computer science teachers. The awards program is administered by the National Science Foundation (NSF) on behalf of the White House Office of Science and Technology Policy. Their application packets will now move forward to the national selection committee.

State Finalists represent the most outstanding teachers Connecticut has to offer and serve as both a model and an inspiration to students and fellow teachers. Each year, the national committee of prominent mathematicians, scientists, mathematics/science education researchers, district level personnel, and classroom teachers recommends up to 108 teachers to receive PAEMST awards.

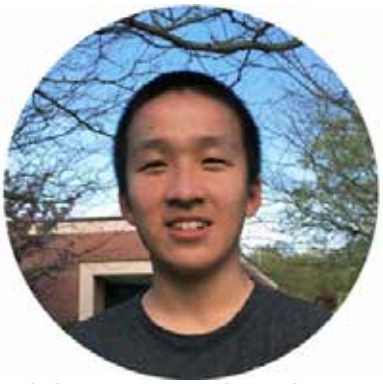
Up to two teachers—mathematics and/or science—from each state, the District of Columbia, Puerto Rico, the U.S. Territories as a group (comprising American Samoa, Guam, the Commonwealth of the Northern Mariana Islands, and the U.S. Virgin Islands), and schools operated in the United States and overseas by the Department of Defense Education Activity (DoDEA) receive the award. Teachers who are selected as PAEMST awardees receive a trip to Washington, D.C., where they attend a series of recognition events and professional development opportunities.

They also receive a $10,000 award from NSF, a Presidential certificate, and join an elite cohort of award-winning teachers who can influence state/jurisdiction and national STEM teaching.

PAEMST Recognition

PAEMST winners are typically announced and honored the year following the receipt of the application.

Each Presidential Awardee receives a certificate signed by the President of the United States and a $10,000 award from NSF. Awardees also are honored during recognition events that take place in Washington, D.C. These events include an award ceremony, professional development opportunities, and discussions with policy-makers on how to improve science, technology, engineering, and mathematics (STEM) education.



MASON ZHANG – CT DELEGATE TO 2021 VIRTUAL NATIONAL YOUTH SCIENCE CAMP

By Terry Contant
terrycontant@hotmail.com
CT NYSCamp Delegate Selection Coordinator

At the request of Governor Ned Lamont a committee of CSTA Board Members selected **Mason Zhang** to serve as **Connecticut's Delegate to 2021 Virtual National Youth Science Camp;** a program of the National Youth Science Foundation established to support its mission: To inspire lifelong engagement and ethical leadership in STEM fields.

Mason Zhang is a resident of Woodbridge, CT and a 2021 graduate of Amity Regional High School. With an impressive academic record in challenging and diverse classes, in fall 2021, Mason plans to attend Brown University to pursue a degree in Computer Science. But this summer, from June 28 through July 21, he will virtually join other STEM-talented 2021 high school graduates from across the country and around the world, *camp staph* (intentional misspelling used to connote their infectious enthusiasm), and amazing lecturers and presenters.

In its 59th year, the NYSCamp traditionally has been a residential science, technology, engineering, and mathematics (STEM) program in the eastern mountains of West Virginia designed to honor and challenge some of the nation's rising STEM leaders and provide them with opportunities to engage with STEM professionals and participate in exciting outdoor activities. In response to the COVID-19 pandemic, however, 2021 NYSCamp will be an entirely virtual NYSCamp experience. STEM professionals who are on the cutting edge of discovery and innovation will present synchronous online lectures with follow-up Q&A sessions about their work, fields of study and scientific passions and interested. There will be opportunities for delegates to engage with experts and enthusiasts in STEM fields and other subjects in smaller seminars and multi-day directed studies. Instead of cabins in the woods, virtual conferencing and messaging tools will enable delegates to interact with one another and develop connections and friendships online this summer. Planning is underway for a virtual talent show. Some delegates will have the opportunity to host their own seminar about a STEM topic they researched in high school or a favorite or unique hobby.

Even with the virtual nature of the camp, delegates are expected to participate daily (on weekdays) in camp activities for the entire duration of camp. The NYSCamp is offered to selected participants at NO COST so that talented students may attend regardless of their financial ability.

In addition to curiosity, effective communication skills, and enthusiasm, NYSCamp delegates are expected to have:

- Documented superior academic proficiency
- Recognition for notable achievements in STEM areas
- Skills and achievements outside of STEM and/or academics
- Intent to pursue higher education and a career in STEM

A rationale for Mason Zhang's selection as this year's CT Delegate to NYSCamp follows:

As a high school student, Mason was active in a variety of clubs and activities including: CT Science and Engineering Fair, CT STEM Fair, Academic Decathlon, Varsity Tennis, Pit Orchestra, Symphonic Wind Ensemble, All-State Concert Band, Trident Newspaper, LINK Tutoring, Mu Alpha Theta, National Spanish Honor Society, National Social Studies Honor Society. During his senior year, Mason Zhang was recognized as an Horatio Alger State Scholar, a Bronze Awardee for the National Spanish Exam, the 2ndPlace Awardee in the Environmental Category and Pfizer Life Science Award Medalist at CT Science and Engineering Fair, and 2nd Place Awardee in the Environmental Category at CT-STEM Fair.

Mason also found time to use his talents for service to his community. While volunteering at West Haven VA Hospital he manned the front desk and transported patients. Mason fund raised $4000 for cancer research as an active member of a local Relay for Life student group. He also tutored dozens of bright, young students of underprivileged demographics in academics; then expanded tutoring efforts in Connecticut by recruiting and training 12 high school students as virtual teachers of English for elementary students in China.

Starting in 2018 Mason Zhang worked about 3.5 hours a week as a High School Research Assistant in the lab of Assistant Professor Steven P. Brady at Southern Connecticut University. As a result of

Mason Zhang, continued page 10

Mason Zhang continued from page 9

that experience, Mason:

- Designed three research projects and posters on how salt contamination impacts wood frog survival.
- Performed extensive data analysis with R using packages like **ggplot2** and **Tidyverse**.
- Collected data on 600 wood frog edema samples in aid of a graduate student's thesis.
- Edited manuscripts and co-authored a paper submitted to the top biodiversity journal *Global Change Biology* on how pollutants impacts wood frog physiology.
- Created a deep neural networks via **DeepLabCut** in Python to track tadpole swimming velocity.
- Used **Computer Vision** from *Microsoft* **Azure** to autonomously quantify frog gamete image data.

Mason eloquently describes his beliefs about the importance of science in today's world and his deep interest in the understanding the natural world in the following excerpt from his NYSCamp application letter:

"I also have a passion for environmental conservation through a computer-oriented approach, inspired by Connecticut's idyllic scenery of seemingly endless, lush autumnal hills. I am an avid hiker of the rocky trails at state parks like Southford Falls where there is a rusty metal tower at the summit that overlooks a stunning, forested landscape. These scenes influenced me to use my research to aid conservationists in devising new strategies to mitigate the pollution brought on by industrialization and urbanization. At the Brady Lab, which focuses on global change biology at Southern Connecticut State, I have used deep neural networks, a form of artificial intelligence, to examine the impact of road salt pollution on tadpole locomotor performance and the physiology of wood frogs, a widespread species vital to ecological diversity and prosperity. It is an unfortunate fact that salt contamination irreversibly changes surrounding habitats, and thus, the effect of de-icing on these populations must be understood so specialized solutions can be devised to lessen the human-caused damage done to these intricate ecosystems. In my several years as a member of this lab, I have co-authored a research paper submitted to the peer-reviewed biodiversity journal Conservation Biology and created an award-winning project on how salt contamination impacts wood frog fitness which I presented at competitive, statewide science fairs."

If you know a STEM-talented student from the Class of 2022 who would be an exemplary delegate from Connecticut go to www.nyscamp.com for more information. Expect the online application process to open during November, 2021.

Hopefully next year's National Youth Science Camp will convene in person in West Virginia!

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Hurricane Preparedness Week Materials ...or Anytime!

NOAA 2021 Hurricane Preparedness Week materials are now available for use. Hurricane Prep Week takes place May 9-15, but feel free to use the content before then and throughout the year! The materials are available at weather.gov/wrn/hurricane-preparedness. The Spanish versions of the graphics & social media plan are also available.

Also check out a terrific hurricane activity to complement the above materials. Students research and report on Hurricane Katrina, using an earth systems science analysis approach in this problem-based learning module. Find the PDF here.
https://www.strategies.org/wp-content/uploads/2012/03/KatrinaAll-copy.pdf?utm_medium=email&utm_source=GovDelivery

Website by Avi Ornstein

May have entries you will find worth viewing.

Every week there is a new puzzle – along with the answer to the previous week's puzzle – that can be used to encourage your students to exercise their minds in thinking outside the box.

Every month there is a short essay under "Shared Idea" aimed for teachers and/or students. In addition, "Interesting Excerpts" include excerpts from books and magazines, with new entries added frequently to replace ones that are being deleted.

Take a visit and see if it may help you or your students. www.aviornstein.com

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yahoo!
https://www.yahoo.com/news/heres-happen-insects-earth-disappeared-175858771.html

Here's what would happen if all insects on Earth disappeared

Thu, April 15, 2021, 1:58 PM

Although it's impossible to say exactly what would happen if all insects on Earth suddenly vanished, it's likely that civilization — if not most ecosystems throughout the planet — would be in serious trouble. Without dung beetles and other poop-eaters, nitrogen-rich feces could build up, choking plant life and preventing anything from growing. Meanwhile, no dermestids and other insects that eat corpses would mean fewer custodians able to clean up dead bodies and recycle those nutrients back into the ecosystem.

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2021 eesmarts Summer Institute

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$50 ALLOWANCE PER WORKSHOP

As part of the Energize Connecticut initiative, ***eesmarts*** is an energy efficiency and clean energy educational program designed to facilitate students' understanding of the science, math and technology related to energy efficiency, clean energy sources and electricity.

The ***eesmarts*** program offers Professional Development workshops led by the Capitol Region Education Council (CREC) free-of-charge to K-12 formal and informal educators across the State of Connecticut. *In response to the social distancing recommendations, the 2021 Summer Institute workshops will be offered virtually.*

The ***eesmarts*** Summer Institute, held in July, gives educators a chance to attend workshops on various energy-related topics.

Summer Institute Benefits:

- Receive free on-line curriculum and materials for your classroom. All ***eesmarts*** lessons are fully aligned with the Next Generation Science Standards, and Common Core Standards for Math & English Language Arts.
- Receive a $50 allowance per workshop.
- Gain knowledge, confidence and skills for teaching your students about energy, energy conservation, renewable energy sources and efficient technologies.
- Collaborate with peers on curriculum implementation strategies.
- Receive lesson ideas, activities and differentiated teaching strategies.

Register for a Workshop!
EnergizeCT.com/eesmarts-summer-institute
or 877-514-2594

https://www.energizect.com/eesmarts-home/summer-institute

Using Simple Outdoor Science Lessons to Inspire Students

edutopia

https://www.edutopia.org/article/using-simple-outdoor-science-lessons-inspire-students?utm_content=linkpos5&utm_source=edu-legacy&utm_medium=email&utm_campaign=weekly-2021-06-16

By Matt Carity
Biology Teacher
Hamilton Township High School
Columbus, OH 43207
June 11, 2021

Open-ended prompts can guide students to explore life science processes in the world around them.

Providing meaningful pedagogical change for my students' benefit in a way that is organic and impactful is my ultimate goal, and it has proven difficult to achieve.

When I recently reflected on my teaching, it showed far too much time spent on content-driven sprints instead of focused, process-oriented marathons. I could see that the science process had fallen away from my instruction. There had been no opportunities for students to "do science"—they had just been learning about science concepts. Students learning about life science and natural science behind a classroom desk every day seemed a bit backward. Hoping to rekindle curiosity about the outdoors and a desire to reconnect with students, instead of learning science only in traditional ways, we moved outside.

Participatory outdoor experiences and student choice proved foundational for me in helping students begin to like and appreciate science and learning again. I will share one example of that process.

Begin with open-ended prompts to initiate observations

My sophomores and I spent time outside at the beginning of the school year, doing simple observational tasks. My outdoor lesson prompts were open-ended: "Write down some observations you can make." Observations were the focus; moving beyond visual identifications was the goal. We made cursory observations first and then focused on sensory mapping, https://www.scienceworld.ca/resource/backyard-sensory-map/ a practice where students find an isolated spot and chart, in real time, the changes they observe around them.

My students mapped a grassy area east of our building. After that, we discussed common themes that they chose to represent their surroundings. How many students noticed the plane flying overhead? How many recorded the dump truck driving by? With these questions, they became more attuned to their surroundings and thought about their environment in a new light.

Later that week, we went back outside, and they recorded biotic and abiotic factors using the skills learned earlier. Eyes widened—they were getting excited.

Inspire wonder in the details

Here are some of my initial observations of students getting outside:

- Laughing after inadvertently walking through a spiderweb
- Admiring a praying mantis mimicking wind movement
- Discovering a shoelace used for nesting material
- Furrowing brows while asking about bagworm cocoons

The classroom content was composed of small details of students' learning. Experiences became our vocabulary. They were all fluent. This is the school I want.

My students still talk about those couple of days spent outside, discussing rudimentary science concepts. Genuine outdoor learning stirs wonder in us—wonder about the natural world, questions asked without thought, and excited anticipation when interacting up close with bugs and critters.

Encourage discovery-based education

Teaching in a free-form style is difficult. Many students commented that making observations was difficult because of the lack of instruction. My students often want to know the task, and they work to complete it so they can be absolutely sure that they're meeting the desired expectation.

I feel that education is more poignant when it's discovery-based.

Hoping to get my students outdoors even more, I tasked them with taking pictures of three plants and three animals. That was it. No further directions were given because I wanted to see what the students' responses would look like.

The results from the assignment were staggering. My students submitted pictures ranging from pets to houseplants and livestock to landscaping. For them, it was a matter of convenience. "What is close? What can I do quickly to check this box?"

Re frame the task and clarify expectations

In response to their submissions, I uploaded two clarifying videos, re framing the task for my students. It was time to make the expectations a little more overt—to clear the muddy waters. Pictures came rolling, and the results were astonishing. The dirt was settling and the waters were clearing. So many amazing plant and animal picture contributions were submitted for the assignment.

After posting three of the plant submissions, students could choose one picture and one prompt. The tasks were as follows:

1. Pick one picture.
2. Pick one of the following tasks:
- Tell me why you picked this picture. ("Because I like it most" is not good—what do you like best about it?)
- What does this picture mean to you?
- Write a short poem about the photo.
- Draw or paint your version of the picture.
- Describe the picture using five words. (These words cannot make a sentence.)

3. Share your work.

Change direction intentionally

Less than 12 hours after I posted these prompts, six of my students replied and two completed submissions—and this was a completely voluntary assignment, posted on a Saturday.

Extremely small, intentional steps to change the direction of my teaching have been ongoing and quite slow. However, these small practices have led to significant positive changes in my students as learners. They show genuine interest in being outside, have excited questions about nature, and go down rabbit holes of question-laden investigations. These are the foundations for meaningful life science instruction.

My students continue to ask to go outside, and I'll remain diligent about directing instruction and framing it in a way where learning can, and does, occur outside. I believe students' observations and curiosity should drive the content and discussion. Students learning together, from the same experiences and through different lenses, is a hallmark of effective engagement and learning.

We should hope to spark learners to teach others through their excitement in and admiration for the natural world—tying school to locale and encouraging conservation through community. I hope this engages you, like-minded educators, who also want to enact change in your pedagogy to improve your students' learning.

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New episodes available every Friday on PBS https://pbskids.org/naturecat/diy

Nature Cat

Nature Cat and the gang are out to see some amazing nature sights. Caves, sunsets, bats flying in the evening sky and The Gardens of Gold await our adventurers!

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Free Online Courses from National Geographic

Want to take a deeper dive into innovative instructional strategies? **Try an online course with a cohort of peers** .https://www.nationalgeographic.org/education/professional-development/courses/?utm_source=ed-newsletter&utm_medium=email&utm_campaign=educator-online-courses#

Teaching-Global-Climate-Change Empower your learners to make sense of our interconnected world by integrating geographic thinking skills and resources into your instruction https://www.nationalgeographic.org/education/professional-development/courses/?utm_source=ed-newsletter&utm_medium=email&utm_campaign=educator-online-courses#geographic-thinking in a National Geographic short course! Peruse our courses here and sign up today! https://www.nationalgeographic.org/education/professional-development/courses/?utm_medium=email&utm_source=GovDelivery

New courses begin June 23rd!

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iBiology

New Resource for Educators

The California Educators Together Community of Practice Platform https://www.caeducatorstogether.org is the new statewide K-12 system that provides equitable access to a high-quality digital environment with a comprehensive and growing collection of diverse, open digital resources.

We're excited to have iBiology, Explorer's Guide to Biology, and Wonder Collaborative resources included in this initiative. https://www.caeducatorstogether.org/groups/science-communication-lab

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NATIONAL GEOGRAPHIC

Reimagine Your Teaching Approach With Mini-Courses From National Geographic

At National Geographic, we believe anyone can be an explorer—an informed, curious, and capable individual empowered to make a difference. This summer, National Geographic is **offering free online mini-courses** that will teach you how to develop a National Geographic Explorer Mindset with your students and empower them to make

sense of our interconnected world.

Learn how to foster the mindset of a National Geographic Explorer in your students and explore innovative strategies and resources to transform your teaching. This mini-course will introduce you to National Geographic's interdisciplinary approach to education, its powerful resources, and a supportive community of educators.

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https://www.nationalgeographic.org/education/professional-development/courses/?utm_source=newsletter&utm_medium=email&utm_campaign=educator-online-courses&utm_content=educator-community-welcome-email#mindset

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Do have a story idea or announcement that you think we should consider? Do you have a suggestion for how we can make this newsletter better? Let us know what you think. E-mail us your suggestions and feedback at delray637@att.net We look forward to hearing from you!

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Lesson Plans for Sound Science

Science Buddies' free Lesson Plans can help you teach students about sound with fun, hands-on activities
https://www.sciencebuddies.org/blog/lesson-plans-sound-science?from=Newsletter

By Amy Cowen

Teaching about sound can be a real challenge. You can't (usually) see sound, so students sometimes struggle to understand the physics of sound waves.

Science Buddies has free NGSS-aligned Lesson Plans for elementary and middle school teachers to help students explore (and, in some cases, see) the science of sound.

From making and playing rubber-band guitars to using your voice to send candies dancing across a surface, students can learn more by getting hands-on with sound science activities. Our free STEM Lesson Plans show you how to integrate these activities in the classroom!

Teach about sound:

Sound and Vibrations:

1. Rubber Band Guitar (grade 1): See how vibrations cause sound waves.
https://www.sciencebuddies.org/teacher-resources/lesson-plans/sound-vibrations-rubber-band-guitar?from=Blog

2: Make Sprinkles Dance
(grade 1): See how sound waves cause vibration
https://www.sciencebuddies.org/teacher-resources/lesson-plans/sound-vibrating-sprinkles?from=Blog s.

- Perfect Pitches with a Rubber Band Guitar(grades 6-8):
- Use Google's Science Journal app* to explore and quantify the relationship between the frequency and amplitude of sound waves and what we hear.
https://www.sciencebuddies.org/teacher-resources/lesson-plans/sound-wave-frequency-amplitude?from=Blog

Put sound science to use:

- Block That Noise! (grades 6-8): Once students understand more about sound, challenge them to find ways to block or absorb sound.\
https://www.sciencebuddies.org/teacher-resources/lesson-plans/sound_insulation?from=Blog
- Send That Signal! (grade 4): Investigate ways to transmit information so that it can be picked up across a room by a phone using Google's Science Journal app. Using sound is one approach students can try!
https://www.sciencebuddies.org/teacher-resources/lesson-plans/send_signal?from=Blog
- Measuring Heart Rate with Your Own Stethoscope (grade 4): Students use what they know about sound to make and test a simple stethoscope to hear someone's heartbeat.
https://www.sciencebuddies.org/teacher-resources/lesson-plans/make-a-stethoscope?from=Blog

Short Sound Science Activities

For short hands-on activities students and families can do at home to explore sound, see the following:

- Musical Bottles
https://www.sciencebuddies.org/stem-activities/musical-bottles?from=Blog
- Do-Re-Mi with Straws
https://www.sciencebuddies.org/stem-activities/make-musical-instrument?from=Blog

Build a Disk Siren

- https://www.sciencebuddies.org/stem-activities/build-disk-siren?from=Blog
- Make Your Own Harmonica!
https://www.sciencebuddies.org/stem-activities/make-harmonica?from=Blog
- Make Sprinkles Vibrate with Sound
https://www.sciencebuddies.org/stem-activities/sprinkles-vibrate-sound?from=Blog
- Can You Kazoo?
https://www.sciencbuddies.org/stem-activities/can-you-kazoo?from=Blog

Reference:

*(Learn more about using the Science Journal app for student STEM.)
https://www.sciencebuddies.org/science-journal-app?from=Blog

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NASA STEM Engagement

Celebration of Station Science: – Plant Science
https://www.nasa.gov/audience/foreducators/stem_on_station/celebrating-station-science.html
Audience: Educators, Parents and Caregivers of Students in Grades K-12
Explore resources connecting plant science research being conducted on the International Space Station to K-12 curricula. Learn about experiments, watch inspiring videos and participate in activities that can be completed in a classroom, at home or virtually. Excite the Artemis Generation of explorers with activities from the Celebrating Station Science
https://www.nasa.gov/audience/foreducators/stem_on_station/celebrating-station-science.htmlwebsite

August: Back to School

This kickoff month is dedicated to student engagements on the International Space Station 13.2 [t
https://www.nasa.gov/audience/foreducators/stem_on_station/celebrating-station-science/august/index.html

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Treehugger

How I Avoid Plastic Pots in My Garden

By Elizabeth Waddington
Published May 18, 2021 02:47PM EDT
Fact checked by Haley Mast

A few tried and tested strategies to avoid introducing new plastic pots to your garden.

https://www.treehugger.com/how-i-avoid-plastic-pots-in-my-garden-5185248?utm_campaign=treehugger&utm_medium=email&utm_source=cn_nl&utm_content=23887025&utm_term=

Dougal Waters / Getty Images

Most of us are well aware of the detrimental environmental impact of plastic. This is a material which comes at a great cost—from beginning to end, starting with its manufacture to the waste at the end of its life.

Many of us are trying to avoid plastic use wherever possible in our homes and gardens. To help others to move away from plastic use in the garden, specifically, here are some strategies I use to avoid introducing new plastic pots in my garden.

First of all, it is important to mention that I do have some plastic pots in my garden. I just avoid introducing new ones whenever possible. If you, like me, already have some old plastic pots knocking around for reuse, it is a good idea to use these for as long as possible, to keep them out of the waste stream.

That said, here are some things I do:

Grow from Seed

Plastic pots are much more difficult to avoid if you buy in plants from garden centers or plant nurseries, most of which will not have made the move away from plastic pots. So rather than buying plug plants or bedding plants, it is always a more sustainable option to grow your own from seed where possible.

It is worth noting that plastic pots are not the only issue when buying plants. Sowing from seed can also help you avoid other harmful products, like peat-based compost, for example. It also allows you to grow from scratch in an organic way without worrying about what may have been used on plants before you bought them.

I sow most of the fruits, vegetables, herbs, and flowers I grow from seed, rather than buying plants. And, as an aside, you should also consider saving at least some seeds from your homegrown plants to sow in your garden next year. Since this is one more way to reduce consumption and reduce waste.

Biodegradable Pots and a Soil Blocker

To avoid buying in plastic seed trays, pots and containers, use sustainable seed-starting alternatives. For example, I often use toilet roll tubes as mini biodegradable plant pots. And there are plenty of other biodegradable pot options you can buy or make.

Another great idea is to invest in (or make) a soil blocker. This creates solid blocks of soil/growing medium which allow you to start seeds without using any pots at all. These soil blocks can be placed in recycled food containers, cardboard boxes, or wooden seed trays, rather than new plastic ones.

Propagate Existing Plants

Sowing seeds is not the only way to get new plants for your garden without buying them in plastic pots. You can also increase your plant stock by propagating existing plants in your garden. You can take softwood, semi-ripe, or hardwood cuttings from many different plants, and many others can easily be propagated by layering or division.

Always look around to see how you can increase plant stock for your garden in this way before you decide to buy any new plants.

Swap Plants With Friends and Neighbors

Even if you do not have plants in your own garden to propagate, there are still other options to increase your plant stock without buying new plants in pots. One thing to consider is you might be able to beg cuttings or divisions from other gardeners in your area or swap plants (or seeds) with friends or neighbors. If you see a plant that you admire in a neighbor's garden, there is no harm in politely asking whether you can take a cutting or two for your own use. Joining a gardening club or community garden in your area could be a great way to connect with other gardeners.

Buy Bare Root Rather Than Potted Trees and Shrubs

There may well still be times when you do wish to buy plants for your garden. You may not be able to avoid plastic entirely. But you can avoid bringing new pots onto your property if, rather than buying potted trees and shrubs, you purchase bare-root specimens during the dormant period. If you are creating a larger forest garden or other larger planting scheme, then this is often also the more affordable option.

You might not be able to avoid plastic in your garden altogether but by following the tips above, you should be able to avoid bringing too many new plastic pots into your garden. By avoiding new plastic pots as much as possible, and using old ones for as long as you can, you can help reduce plastic waste and do the right thing for people and the planet.

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Observe the Milky Way and Great Rift

David Prosper

Summer skies bring glorious views of our own Milky Way galaxy to observers blessed with dark skies. For many city dwellers, their first sight of the Milky Way comes during trips to rural areas - so if you are traveling away from city lights, do yourself a favor and look up!

To observe the Milky Way, you need clear, dark skies, and enough time to adapt your eyes to the dark. Photos of the Milky Way are breathtaking, but they usually show far more detail and color than the human eye can see – that's the beauty and quietly deceptive nature of long exposure photography. For Northern Hemisphere observers, the most prominent portion of the Milky Way rises in the southeast as marked by the constellations Scorpius and Sagittarius. Take note that, even in dark skies, the Milky Way isn't easily visible until it rises a bit above the horizon and the thick, turbulent air which obscures the view. The Milky Way is huge, but is also rather faint, and our eyes need time to truly adjust to the dark and see it in any detail. Try not to check your phone while you wait, as its light will reset your night vision. It's best to attempt to view the Milky Way when the Moon is at a new or crescent phase; you don't want the Moon's brilliant light washing out any potential views, especially since a full Moon is up all night.

Keeping your eyes dark adapted is especially important if you want to not only see the haze of the Milky Way, but also the dark lane cutting into that haze, stretching from the Summer Triangle to Sagittarius. This dark detail is known as the Great Rift, and is seen more readily in very dark skies, especially dark, dry skies found in high desert regions. What exactly is the Great Rift? You are looking at massive clouds of galactic dust lying between Earth and the interior of the Milky Way. Other "dark nebulae" of cosmic clouds pepper the Milky Way, including the famed Coalsack, found in the Southern Hemisphere constellation of Crux. Many cultures celebrate these dark clouds in their traditional stories along with the constellations and Milky Way.

Where exactly is our solar system within the Milky Way? Is there a way to get a sense of scale? The "Our Place in Our Galaxy" activity can help you do just that, with only birdseed, a coin, and your imagination: bit.ly/galaxyplace. You can also discover the amazing science NASA is doing to understand our galaxy – and our place in it - at nasa.gov.

The Great Rift is shown in more detail in this photo of a portion of the Milky Way along with the bright stars of the Summer Triangle. You can see why it is also called the "Dark Rift." Credit: NASA / A.Fujii

If the Milky Way was shrunk down to the size of North America, our entire Solar System would be about the size of a quarter. At that scale, the North Star, Polaris - which is about 433 light years distant from us - would be 11 miles away! Find more ways to visualize these immense sizes with the Our Place in Our Galaxy activity: bit.ly/galaxyplace

NASA Night Sky Notes July 2021

This article is distributed by NASA Night Sky Network

The Night Sky Network program supports astronomy clubs across the USA dedicated to astronomy outreach. Visit nightsky.jpl.nasa.gov to find local clubs, events, and more!