

NISE Net Online Workshop

Bust out that Chemistry kit for National Chemistry Week 2021 - Fast or Slow...Chemistry Makes It Go!

Tuesday, September 14, 2021



Today's presenters:

Patricia Galvan, American Chemical Society (ACS), Washington, DC

Rebecca Reed, Fort Worth Museum of Science and History, Fort Worth, TX

Emily Hostetler, Museum of Science, Boston, MA

Kate Anderson, Beyond Benign, Wilmington, MA



Welcome!

As we wait to get started with today's discussion, please:

Introduce yourself! Type your name, institution, and location into the [Chat Box](#)

Questions? Feel free to type your questions into the [Chat Box](#) at any time throughout the webinar or use the raise your hand function in the participants list and we'll unmute your microphone.

Today's discussion will be recorded and shared on nisenet.org at: nisenet.org/events/online-workshop

Future Online Workshops

**Evaluating Educational Experiences
During Times of Limited Social
Interactions - Adventures in Team-
Based Inquiry**

Tuesday, November 16, 2021
2pm-3pm Eastern / 11am-12pm
Pacific

Learn more at nisenet.org/events



NISE Network Resources for National Chemistry Week

- NISE Net National Chemistry Week collection of resources (including a list of **activities that fit this year's theme**):
<https://www.nisenet.org/ncw>
- Exploring Science: Let's Do Chemistry kit:
<https://www.nisenet.org/chemistry-kit>
- Chemistry training video resources:
<https://vimeo.com/showcase/5409904>
- Train-the-trainer workshop:
<https://vimeo.com/showcase/7987447>



American Chemical Society

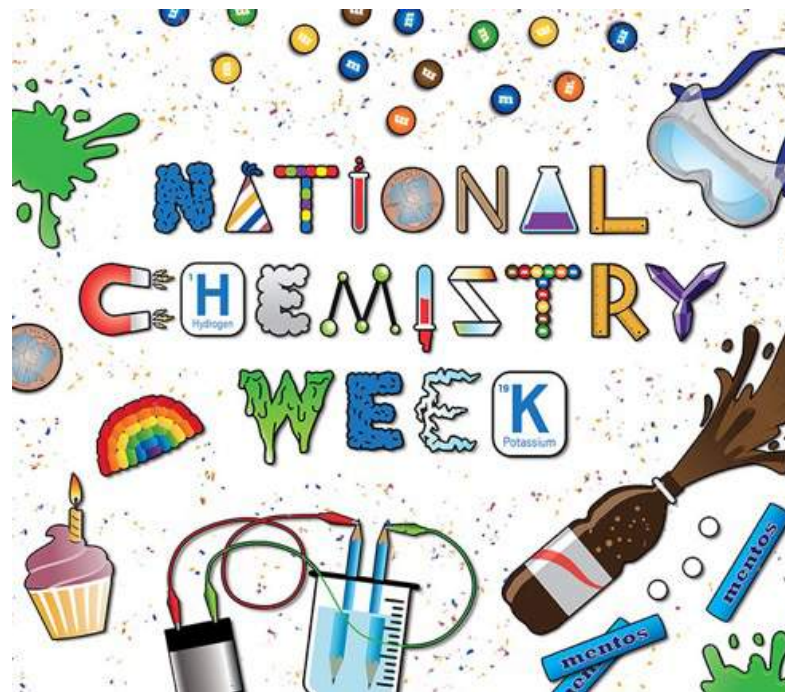
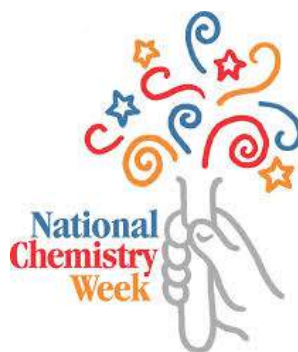
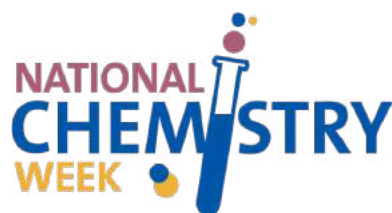


Leverage the Expertise of ACS Local Sections for NCW 2021

Tuesday, September 14, 2021
Patti Galvan, Program Manager
ACS Office of Science Outreach

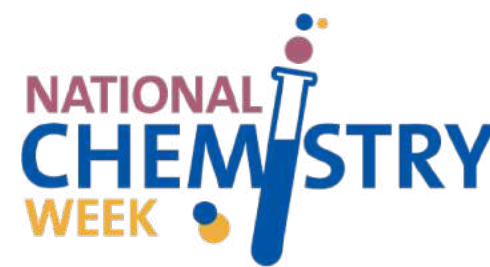


How many of you have hosted a chemistry event for NCW in the past?



NCW Background

- Celebrated annually during the fourth week of October
- National Chemistry Week (NCW) unites ACS local sections, student chapters, technical divisions, businesses, schools, and science enthusiasts in communicating the importance of chemistry to the public at the local, national, and global levels to make a positive change in the public's impression of chemistry.





FAST* ~~OR~~ *SLOW

Chemistry Makes It Go!

OCTOBER 17-23, 2021

#NCW



ACS
Chemistry for Life®

AMERICAN CHEMICAL SOCIETY

NCW Background

Digital NCW 2020

- 76% of local sections participated
- 52,500 issues of the *Celebrating Chemistry* were distributed
- 51,755 views and 21,125 visitors of the web page (up 50%)
- 8,300 engagements and 55 million reach with #NCW

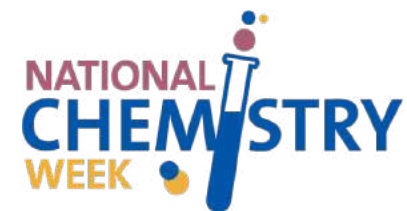
Hybrid NCW 2021 (so far)

- 62% ACS local sections have an official NCW Coordinator
- 4 ACS international chapters have an official NCW Coordinator

NCW Background



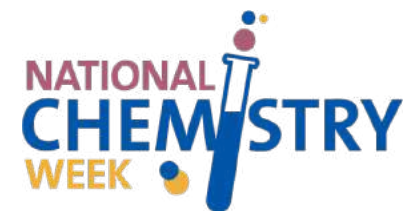
The New York Local Section teams up with 19 universities and nonprofit organizations to host an annual NCW event at the New York Hall of Science for 1,200 attendees



NCW Background



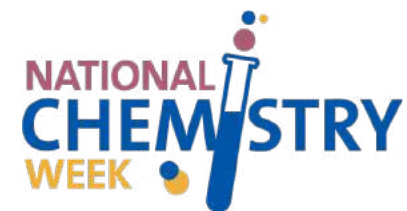
The Northeast Tennessee Local Section works with Eastman Chemical to provide 1,400 students a day of chemistry



NCW Background



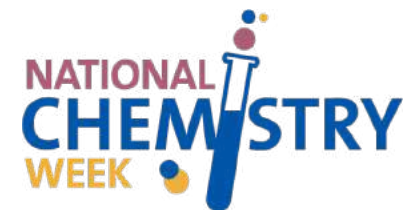
The Puget Sound Local Section teams up a local student chapter to visit 23 middle school classrooms



NCW Background



The Permian Basin Local Section works with three high school ChemClubs to host tables of activities at the local mall and during the annual homecoming float parade



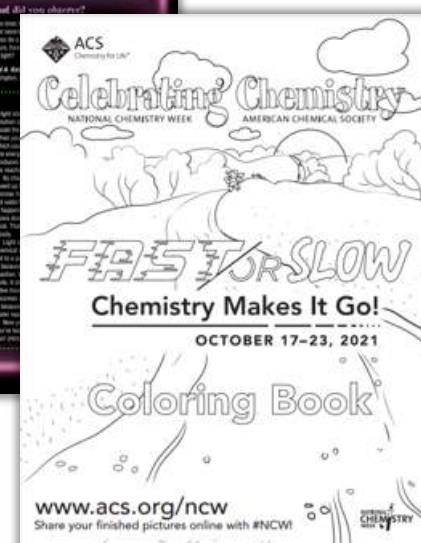
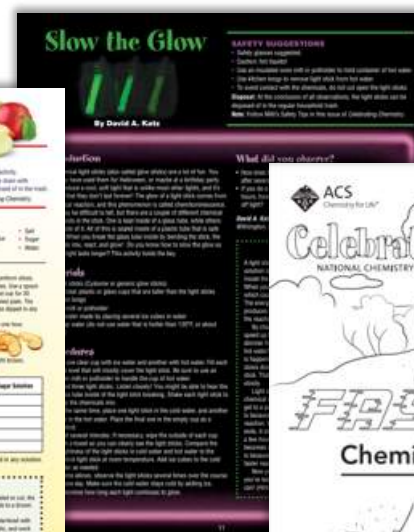
How many of you are already planning a chemistry event for NCW 2021, October 17-23?



NCW Resources

Educational Resources

- Themed activity materials
- Coloring book



www.acs.org/ncw

NCW Resources



Celebrating Chemistry

It's never been easier to share!

American Chemical Society > Students & Educators > Science Outreach > Celebrating Chemistry > NCW 2021 Celebrating Chemistry > Fast or Slow ... Chemistry Makes It Go!

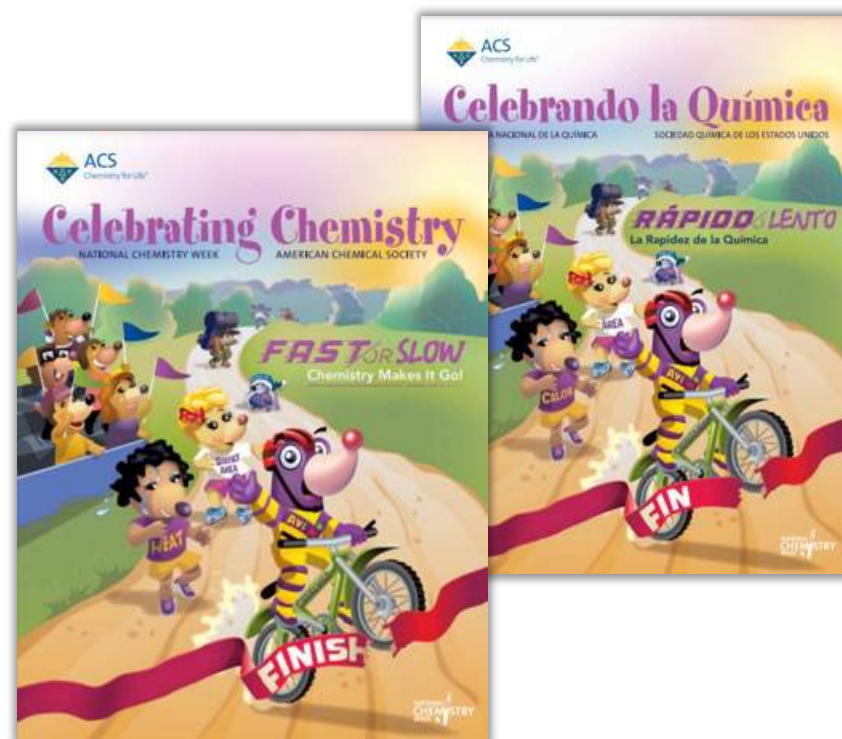
Fast or Slow ... Chemistry Makes It Go!

By Lori R. Stepan

Everything around us is made of **molecules**, including the air we breathe, the objects we touch, and the bodies we use to run, learn, and laugh. Molecules are very small and can't be seen with the naked eye, but they are very important!

Every molecule is made of two or more **atoms**, which are the building blocks of matter, like the individual bricks in a Lego sculpture. Molecules are in constant motion at all times. When they're in a solid phase, they vibrate against each other. When they're in a liquid phase, they slide past each other. And when they're in a gas phase, they are very spread out. **Chemistry** is the study of these atoms and molecules, their properties, and their changes.

Molecules can change into other molecules as they go through **chemical reactions**, which happen when molecules break the **chemical bonds** that hold them together or combine to make new bonds with other molecules, forming new molecules. The starting substances in a reaction are the **reactants**, and the substances produced at the end of a reaction are called **products**. Some chemical reactions are so slow that you can't observe a change right away (such as the formation of rust on a piece of metal), and others are so fast that you might miss them if you blink (like when a firecracker pops).

A cartoon character with a purple body and a red nose is riding a green bicycle. The character is wearing a yellow and black striped shirt and is crossing a red ribbon finish line. The word 'FINISH' is written on the ribbon.

www.acs.org/ncw

NCW Resources



Instructions for hosting Hands-On Science and Demo Events



www.acs.org/ncw



NCW Resources



Ideas for hosting adult-focused Teach-Ins



www.acs.org/ncw

NCW Resources



Participate in Chemistry Advocacy Day

- Wednesday, October 20
- Theme: Chemists Catalyze Change
- Message: Chemists are catalysts for positive scientific and social change in communities everywhere.
- Distribute buttons at events



www.acs.org/ncw

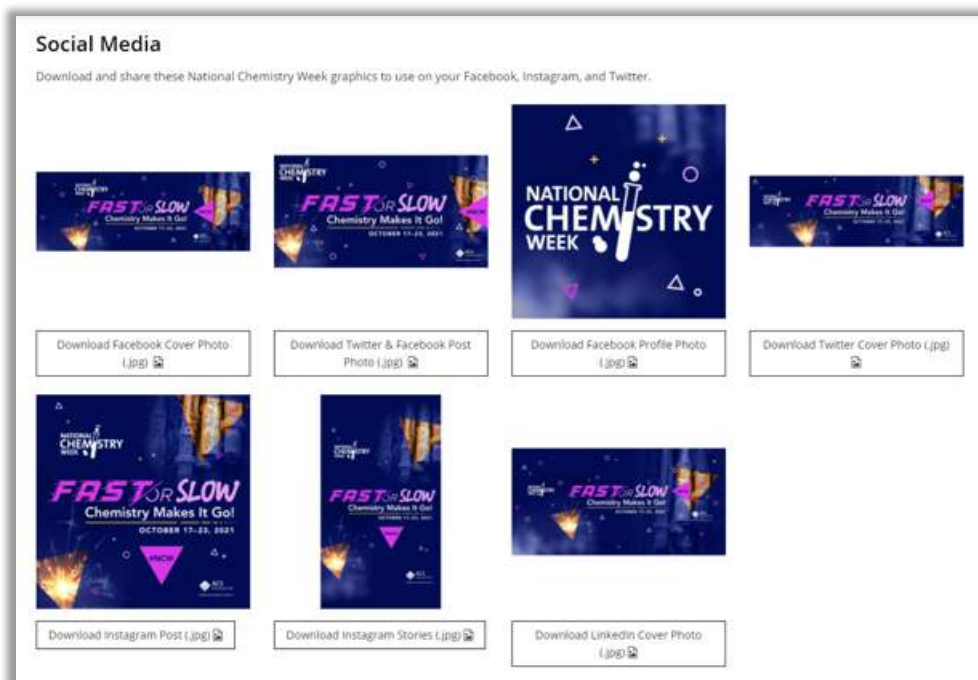
NCW Resources



Design Toolkit

- PowerPoint slide
- Social media images
- Web banners
- Flyers
- Mole artwork

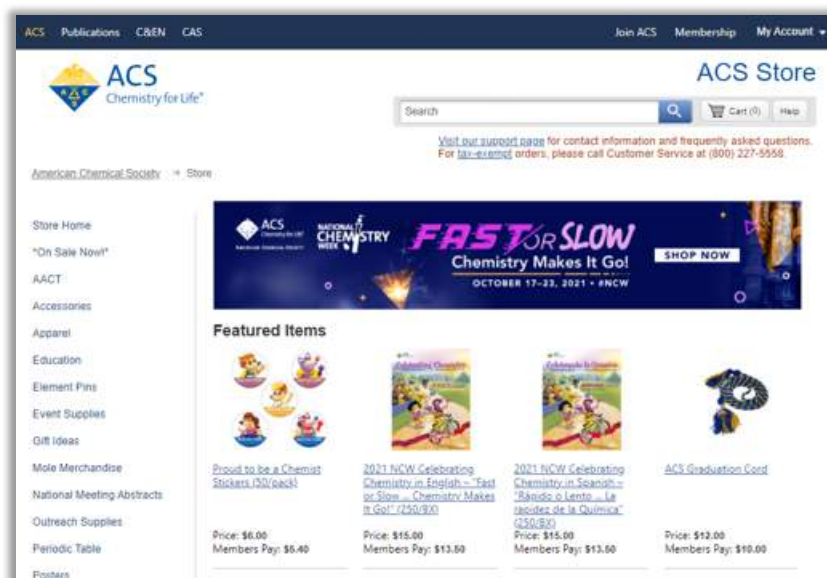
www.acs.org/ncw



NCW Resources



Order ACS Store Merchandise



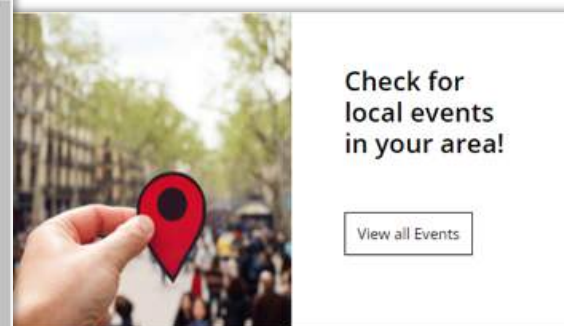
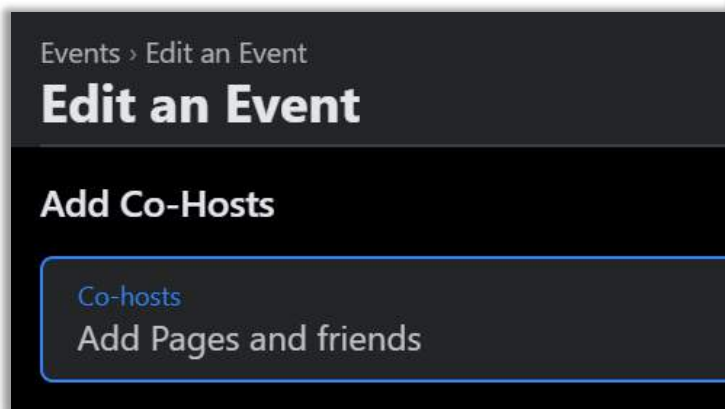
www.acs.org/store



NCW Resources



Add to Facebook Events



www.acs.org/ncw

NCW Resources



But your biggest resource of all...



www.acs.org/ncw

NCW Resources



Is your ACS Local Section's NCW Coordinator!

- Contact your local coordinator today via the NCW Coordinator Lookup Platform at www.ncwlookup.acs.org.
- If you would like a personal introduction, contact outreach@acs.org.

A screenshot of the ACS National Chemistry Week Coordinator Lookup web page. The page has a dark blue header with navigation links: ACS, Publications, C&EN, and CAS. On the right side of the header is a "Log In" button. Below the header, the ACS logo and "Chemistry for Life" tagline are on the left, and the title "National Chemistry Week Coordinator Lookup" is on the right. A breadcrumb trail reads "American Chemical Society >> National Chemistry Week Coordinator Lookup". The main heading is "National Chemistry Week Coordinator Lookup". Below this, a text line states: "You can find National Chemistry Week Coordinators in a local section by entering either your state or a 5-digit zip code." There are two radio buttons: "Search by Zip Code" (which is selected) and "Search by State". Below the radio buttons is a text input field labeled "Zip Code:". At the bottom right is a button labeled "Find National Chemistry Week Coordinator".

www.acs.org/ncw

Questions?



- Email: outreach@acs.org
- Facebook: [@ACS_Outreach](#)
- Twitter: [@ACS_Outreach](#)





***FAST* ~~OR~~ SLOW**

Chemistry Makes It Go!

OCTOBER 17-23, 2021

THANK YOU!

#NCW



ACS
Chemistry for Life®

AMERICAN CHEMICAL SOCIETY

Rebecca Reed
Outreach and Programs Manager
Fort Worth Museum of Science & History



FORT WORTH MUSEUM
SCIENCE AND HISTORY

Background

Pre-Covid Chemistry Week was a 5-6 day long festival at the Museum.

Included a variety of hand-on stations that went along with the yearly theme.

Activities were focused in a part of the Museum called Innovation Studios.



Background

Special activities during the week were focused on the times we had field trip groups present and Saturday.

Typically has a Homeschool Afternoon where we had the festival activities and often additional demonstrations or classes.



FORT WORTH MUSEUM
SCIENCE AND HISTORY

CHEMISTRY IS OUT OF THIS WORLD CHEMISTRY CONNECTIONS 2018

All activities will take place in the Innovation Studios and Noble Planetarium*

Please note: Activities are offered on a rotating basis and recommended for 2nd grade through adult.

TUESDAY 10/23 10AM-2PM

TEXAS CHRISTIAN UNIVERSITY
Fizzy Planets
Fog Cannon

UNIVERSITY OF NORTH TEXAS
Tasty Solvent Experimentation
Explore Sublimation
Floating Bubbles
Make your own Dye

CLASSIC CHEMISTRY CORNER
Stop by for daily demonstrations
and hands-on experiments!

NOBLE PLANETARIUM *
Elements in Outer Space-
Study Spectroscopy

WEDNESDAY 10/24 10AM-2PM

TEXAS CHRISTIAN UNIVERSITY
Fizzy Planets
Micro Rockets
Fog Cannon

CLASSIC CHEMISTRY CORNER
Stop by for daily demonstrations
and hands-on experiments!

INTERVIEW A CHEMIST
11:00 am-1:00 pm
Preregistration required

NOBLE PLANETARIUM *
Elements in Outer Space-
Study Spectroscopy

THURSDAY 10/25 10AM-4PM

TEXAS CHRISTIAN UNIVERSITY
Fizzy Planets
Fog Cannon

UNIVERSITY OF NORTH TEXAS
Tasty Solvent Experimentation
Investigate Sublimation
Floating Bubbles
Make your own Dye

TRINITY VALLEY SCHOOL
Chemistry of Light and Color
A look at Astrophotography

TARRANT COUNTY COLLEGE
Floating Grapes

**UNIVERSITY OF NORTH TEXAS
HEALTH SCIENCE CENTER**
Explore Constellations and Comets

SOUTHWEST CHRISTIAN SCHOOL
1:00-4:00 pm
Light Spectrum Experiences
Ferrofluids

FORT WORTH COUNTRY DAY
1:00-4:00 pm
Micro Rockets

NOBLE PLANETARIUM *
Elements in Outer Space-
Study Spectroscopy

FRIDAY 10/26 10AM-2PM

TEXAS CHRISTIAN UNIVERSITY
Fizzy Planets
Micro Rockets
Fog Cannon

COLLIN COLLEGE
11:00 am-2:00 pm
Create a Comet

CLASSIC CHEMISTRY CORNER
Stop by for daily demonstrations
and hands-on experiments!

NOBLE PLANETARIUM *
Elements in Outer Space-
Study Spectroscopy

CATTLE RAISERS MUSEUM
The Chemistry of Soil

Chemistry Connections
is sponsored locally by



Additional support is provided by the American Chemical Society

Volunteer support is provided by Texas Christian University, Texas Wesleyan University, Texas Woman's University, Texas A & M-Commerce, University of Dallas, University of North Texas, University of North Texas-Health Science Center, University of Texas at Arlington, Collin College, Tarrant County College-Northwest Campus, Alcon, Birdville High School, Fort Worth Country Day, Hebron High School, Southwest Christian School, Trinity Valley School and ViaChem.

Want to learn more?

Visit fortworthmuseum.org/chemistry-connections
and download the Chemistry
Activity Guide.



FORT WORTH MUSEUM
SCIENCE AND HISTORY

Staffing

Like lots of institutions we have limited staffing for special events.

1-3 full time staff

4-5 part-time staff

Volunteers- often 200+



FORT WORTH MUSEUM
SCIENCE AND HISTORY

Collaboration

We found that the key to creating really engaging larger scale events was to involve our community.

For Chemistry Week-

American Chemical Society Dallas-Fort Worth Local Section



FORT WORTH MUSEUM
SCIENCE AND HISTORY

Collaborations

ACS Student Chapters- Organizations for undergraduate students with an interest in the chemical sciences.

- DFW has about 8 different colleges in the area
- Provide both ideas and facilitation of activities

Local High School Groups

- Came during the school day (typically one afternoon) and on Saturday to facilitate activities



FORT WORTH MUSEUM
SCIENCE AND HISTORY

Tips

- We allow collaborators select their own activities (within reason) or select from a “menu” we create
- We provide supplies for their activities
- Paid parking
- Variable schedule
- Remember that events are often new to these groups, at least as a provider. Explain everything.



FORT WORTH MUSEUM
SCIENCE AND HISTORY

Keep Them Coming Back

- Volunteer “Break Room”
- Volunteer T-shirts
- Voucher for Museum admission



FORT WORTH MUSEUM
SCIENCE AND HISTORY



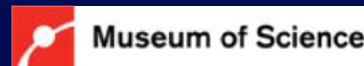
FORT WORTH MUSEUM
SCIENCE AND HISTORY

Questions?

rreed@fwmmsh.org

Museum of Science, Boston

Emily Hostetler

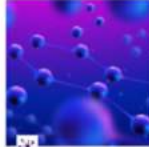










National Chemistry Week 2020

- Focused on online experiences
- Created diverse opportunities to engage
 - Podcasts
 - Panels
 - Demos
 - Live Animals
- Involved guest educators (volunteers)
- Involved local chemistry organizations

Chemistry Week

Celebrate with us, October 19 - 23! This year's theme, "Sticking with Chemistry," features fun virtual presentations, podcasts, and more. And of course, no Chemistry Week celebration would be complete without the participation of world-famous Professor Bassam Shakhashiri!

 <p>What Is Your Favorite Molecule?</p> <p>Podcast</p> <p>We asked 107 graduate students in chemistry how they got into research and more.</p> <p>Listen</p>	 <p>Science in Action: Making a "Greener" Glue</p> <p>Video</p> <p>Discover how we can use chemistry to make environmentally friendly glue at home.</p> <p>Watch</p>	 <p>Science in Action: Sticking with Bioplastics</p> <p>Video</p> <p>What if we could convert the way we make plastics? Here we introduce a website using bioplastics.</p> <p>Watch</p>
 <p>How Can I Explore Chemistry at Home?</p> <p>Podcast</p> <p>Bassam Shakhashiri joins us to explain the fun chemistry experiments that you can do from home!</p> <p>Listen</p>	 <p>Science in Action: Like Dissolves Like</p> <p>Video</p> <p>Have you ever heard that general solute helps get gum out of your hair?</p> <p>Watch</p>	 <p>Ask a Scientist: Chemistry in College</p> <p>Video</p> <p>We've assembled a team of college chemistry students to answer your questions.</p> <p>Watch</p>
 <p>Science in Action: The Science of Slime!</p> <p>Video</p> <p>Join our guest educators as they explore the chemistry behind slime.</p> <p>Watch</p>	 <p>Live Animals: Sticky Feet</p> <p>Thursday, Oct. 22 1:00 pm</p> <p>Discover how chemistry can help us better understand our sticky footed animal friends.</p> <p>Watch</p>	 <p>Big Science Show - Chemistry is Fun! with Bassam Shakhashiri</p> <p>Friday, Oct. 23 1:00 pm</p> <p>Prepare to be amazed and inspired by our national guest scientist's "fun" chemistry demonstrations!</p> <p>Watch</p>

www.mos.org/chemistry-week

College Guest Educators



Live Animals: Sticky Feet (10/22/2020)



Live Animals

Local Chem Orgs



Ask a Scientist: Guest Edition - Chemistry in College (10/21/20)



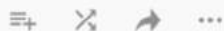
College Panel

CYNTHIA: IT STARTED IN HIGH SCHOOL WHEN WE ARE REQUIRED TO



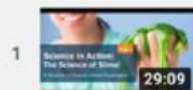
National Chemistry Week

6 videos • 62 views • Last updated on Oct 22, 2020



Museum of
Science, Boston

SUBSCRIBE



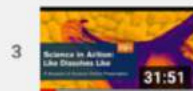
1 Science in Action: The Science of Slime! (10/21/20)

Museum of Science, Boston



2 Ask a Scientist: Guest Edition - Chemistry in College (10/21/20)

Museum of Science, Boston



3 Science in Action: Like Dissolves Like (10/20/2020)

Museum of Science, Boston



4 Science in Action: Sticking with Bioplastics (10/19/2020)

Museum of Science, Boston



5 Science in Action: Making a "Greener" Glue (10/19/2020)

Museum of Science, Boston



6 Live Animals: Sticky Feet (10/22/2020)

Museum of Science, Boston

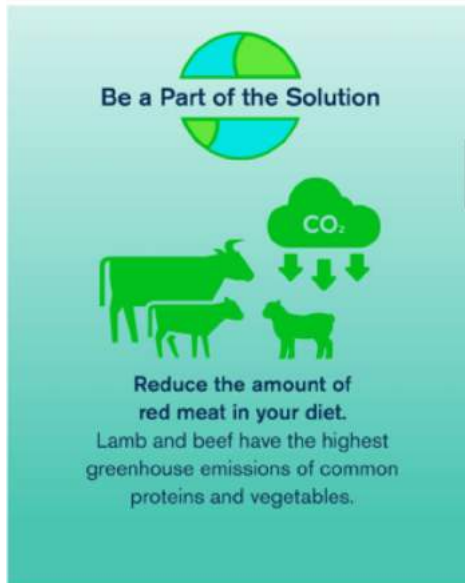
National Chemistry Week 2021

- Online & In-Person experiences
- Create diverse opportunities to engage
 - Teacher workshop
 - Social media posts
 - In person & online activities/demos
- Involve guest educators (volunteers)
- Involve local chemistry organizations





MUSEUMOFSCIENCE
Posts



👤 Liked by katiekatekaitlin and others

museumofscience This September we're taking a deep dive into climate change. Some of the significant impacts of climate change are climate hazards. Swipe to learn more about Extreme Heat, how it's caused, and who it affects. 🌡️🔥
Looking for a way you can reduce your carbon



museumofscience



museumofscience



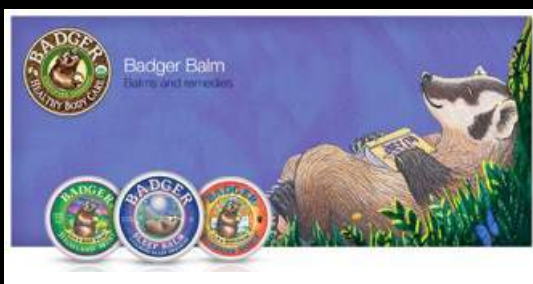


Chemistry Scavenger Hunt in Exhibits



Local College Student Educators


NCW 2021 Brainstorm



Local Chemistry Professionals



Chemistry Teacher Workshop



Bust out that Chemistry kit for National Chemistry Week 2021 - Fast or Slow...Chemistry Makes It Go!

Kate R. Anderson

Director of K-12 Education

Beyond Benign

9/13/21

Beyond Benign, a 501(c)3 non-profit organization, is a leader in green chemistry education -- pioneering a **paradigm shift in science education**.

GREEN CHEMISTRY IS:

“design of chemical products and processes that reduce and/or eliminate the use of hazardous substances”



Vision: Beyond Benign envisions a world where the chemical building blocks of products used every day are healthy and safe for humans and the environment.



Mission: Empower educators to transform chemistry education for a sustainable future.



**Invest in
Educators**



**Develop Tools
and Resources**



**Build Peer
Support Networks**



Instill DEBR
(Diversity, Equity, Belonging, Respect)



**Foster Strategic
Alliances**



Museum of Science

NATIONAL CHEMISTRY WEEK

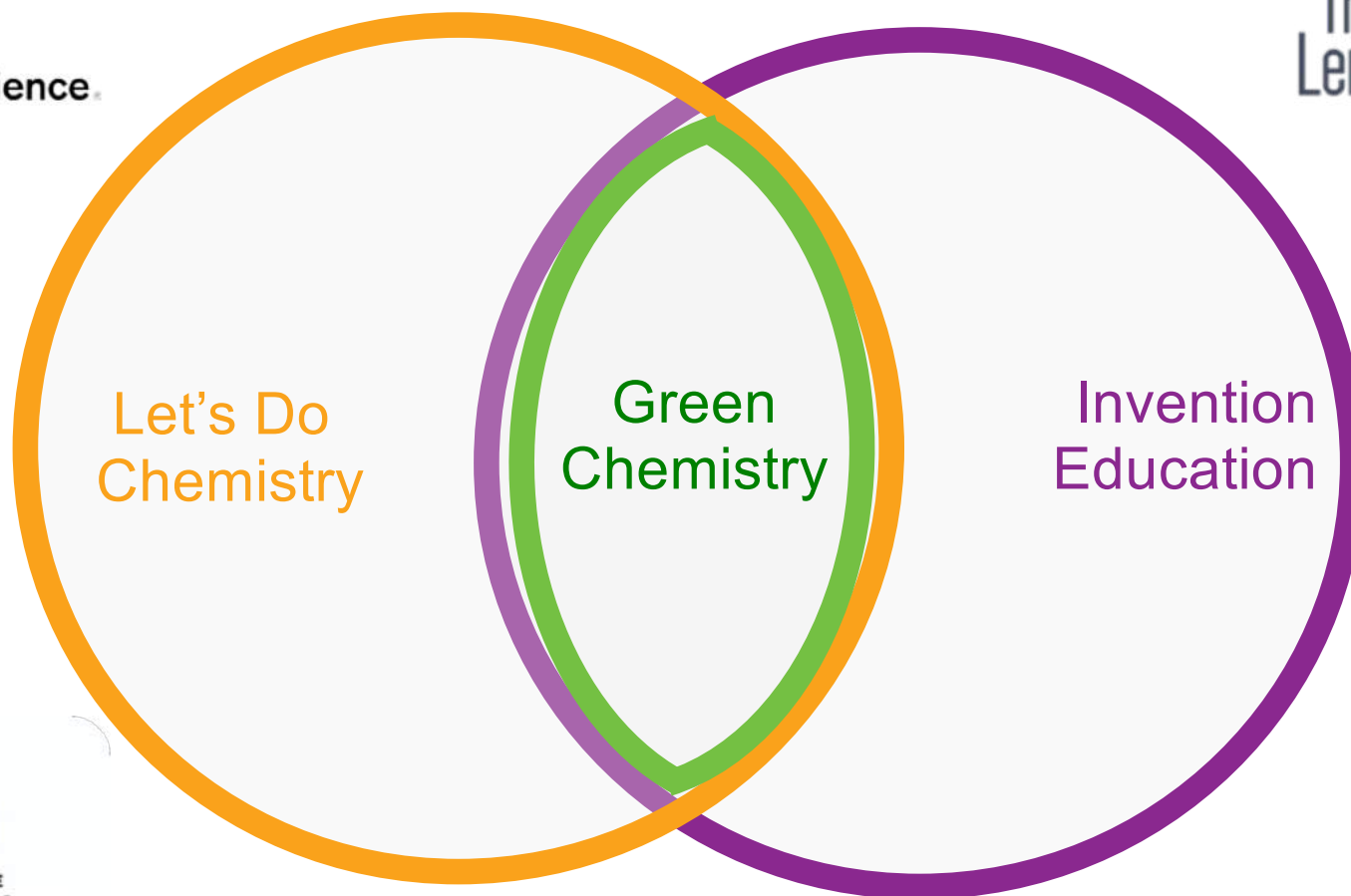




Museum of Science®



The
Lemelson Foundation

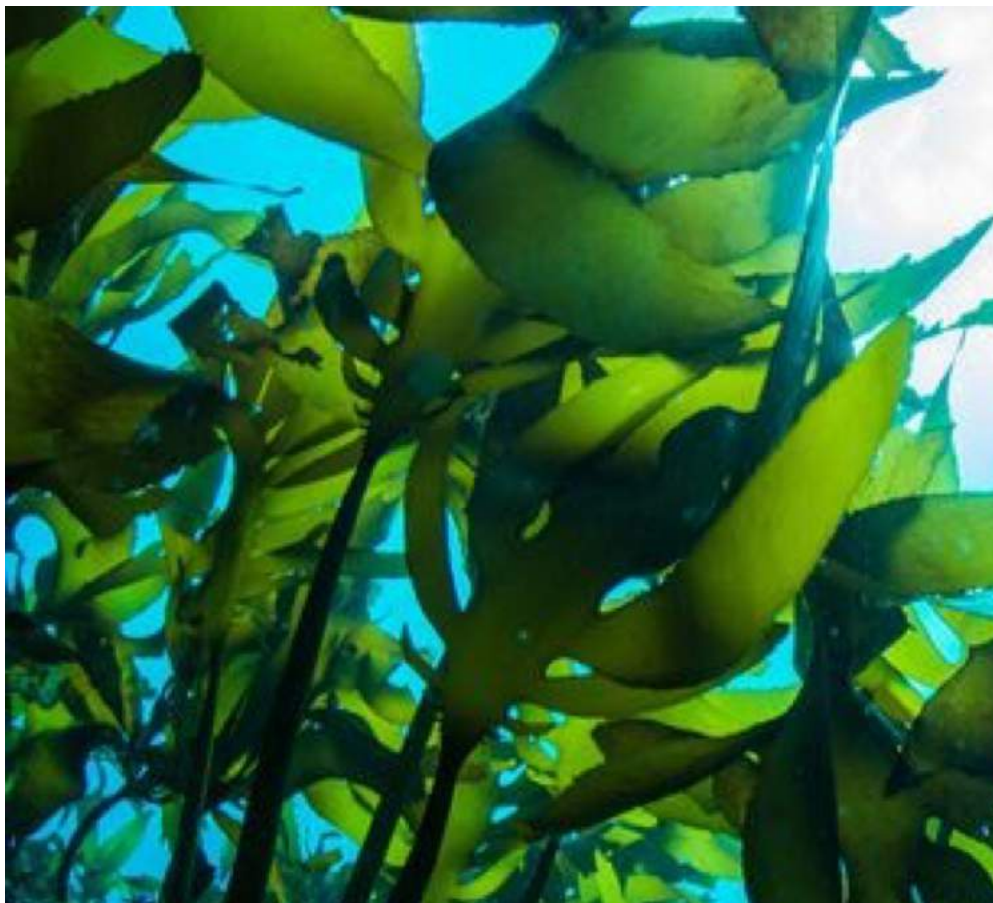


EXPLORE SCIENCE

Let's Do Chemistry



beyondbenign
green chemistry education



Intersection of Chemistry & Invention: Applications and uses of chemistry & Sustainable Innovation



Student Voice

“Chemistry has some seriously significant applications with respect to building environmentally conscious societies.”



Community Outreach Resources



Videos



Hands-on
Labs



Virtual
Resources

Upcoming Events

- Pathways for Sustainable Invention Speaker Series (Oct. 13)
- USA Science & Engineering Fest (Oct. 18-14)





Questions?

Thank you!

Join us on:



@beyondbenign
#GreenChemistry

Q & A

- **Ideas for activities that...**
 - Work for preschool audiences - ways to let this age explore early ideas in chemistry
 - New activities - more than the basics
 - COVID restriction friendly
 - Modifications that allow participants to not share manipulatives but still provide meaningful experiences
 - Virtual programs
 - Best reaction/finale
 - Kits
- **Community Resources**
 - How-to collaborate with chemistry departments at universities and businesses
 - How to get older youth to engage guests during National Chemistry Week
- **Hosting an event? Tell us about it!**

Future Online Workshops

**Evaluating Educational Experiences
During Times of Limited Social
Interactions - Adventures in Team-
Based Inquiry**

Tuesday, November 16, 2021
2pm-3pm Eastern / 11am-12pm
Pacific

Learn more at nisenet.org/events



Get Involved

Learn more and access the
NISE Network's online digital resources
nisenet.org



**Subscribe to the
monthly newsletter**
nisenet.org/newsletter



**Continue the online
conversation**
bit.ly/nisenetryver



Follow NISE Net on social networking
nisenet.org/social

Thank You



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