

SEAL

Solar Eclipse Activities
for Libraries

SEAL Virtual Training Series

Programming with Citizen Science
for the Eclipses

GORDON AND BETTY
MOORE
FOUNDATION

STAR★net

Science-Technology Activities &
Resources For Libraries

NASA @

My Library

scistarter

Science we can do together.

Presenters

Dillon Connelly (he/they), Education Specialist, Space Science Institute

Darlene Cavalier (she/her), Founder, SciStarter

Claire Ratcliffe Adams (she/her), Education Associate, Space Science Institute

Roland Moundalak (he/him), Program and Quality Assurance Coordinator, SciStarter

Agenda

- **Introduction and Icebreaker**
- **Introduction to the SEAL Project**
- **Step-By-Step Daytime Star Party**
 - **Learn and share the basics of citizen science**
 - **Choose citizen science projects for your audience**
 - **Plan an event/program**
 - **Register your event with SciStarter**
 - **Promote your event**
- **Q&A**

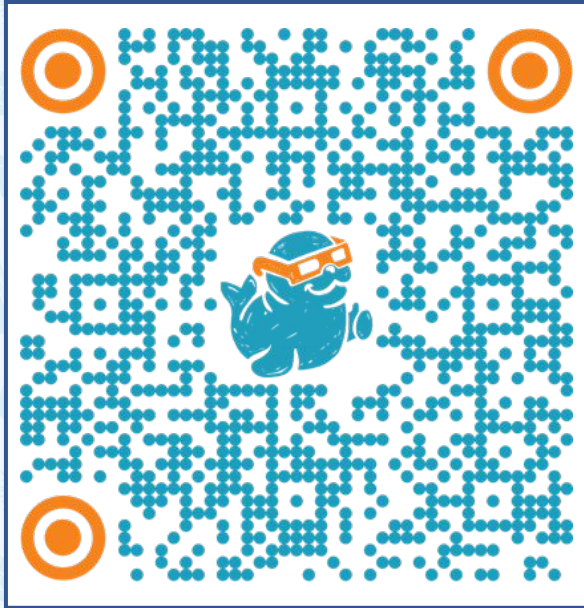
Icebreaker

Citizen science is a great way to connect your community with big ideas about how the world around us. What are some ways you've connected your community to big ideas at your library?

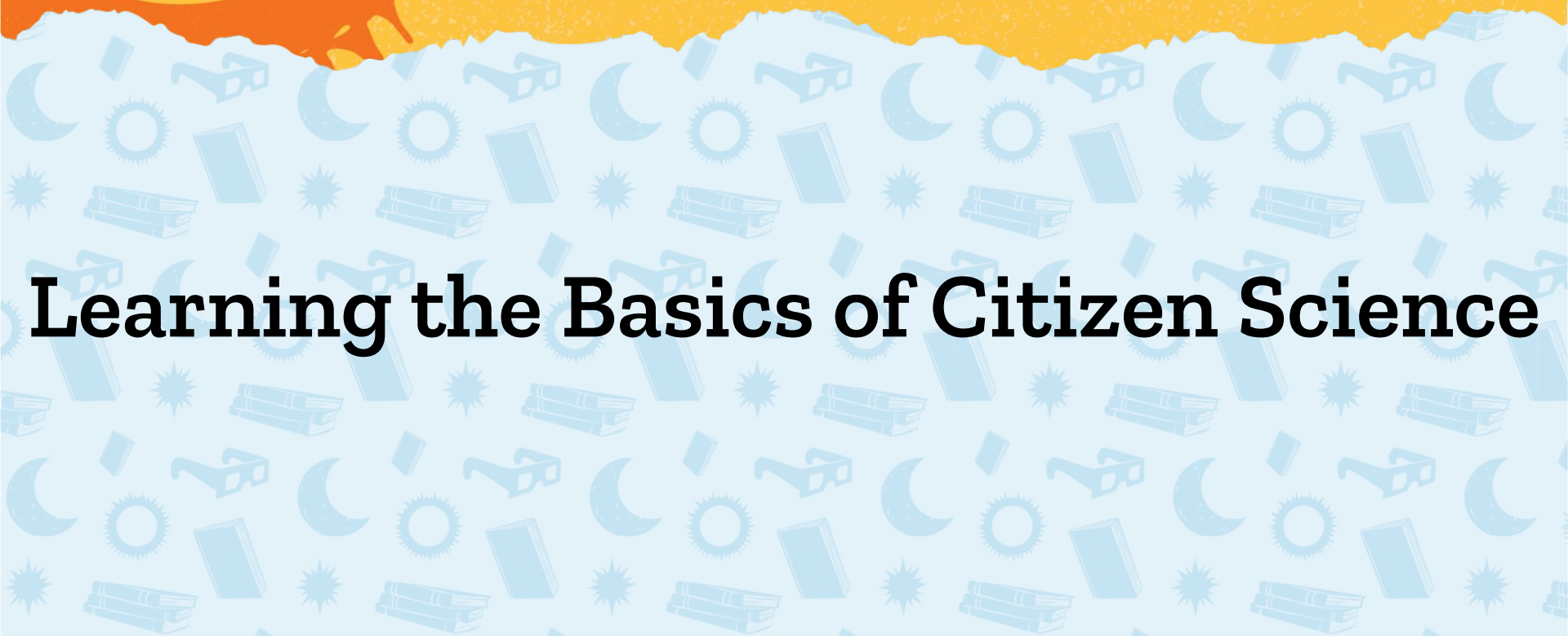
The SEAL Project

- Free eclipse glasses for libraries (up to 2000 per application)
- In-person trainings in all 50 states and 4 territories
- Recorded training videos and virtual workshops
- Circulating kits in state libraries with solar telescopes, books, and activities
- Access to scientists, volunteers, eclipse subject matter experts, and other librarians through the *STAR Net* online community

Getting Started



- SEAL resources blog
- Register for glasses
- Newsletter
- FAQ webinar
- Getting Started with SEAL webinar
 - Monthly (May through August)



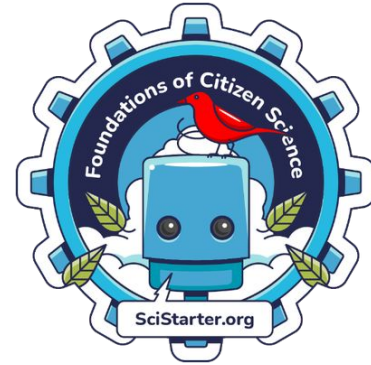
Learning the Basics of Citizen Science

What is Citizen Science?

A global movement that enables people from all walks of life to **collaborate** with scientists by participating in **real scientific research**.

It's how people can make an impact on issues they care about!

Learn the Basics



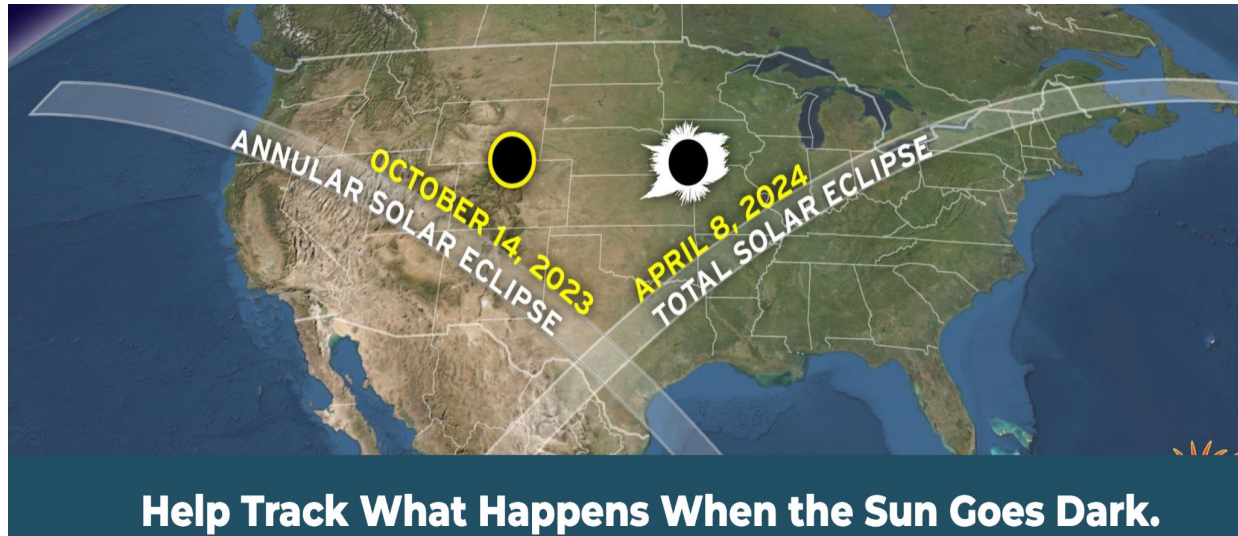
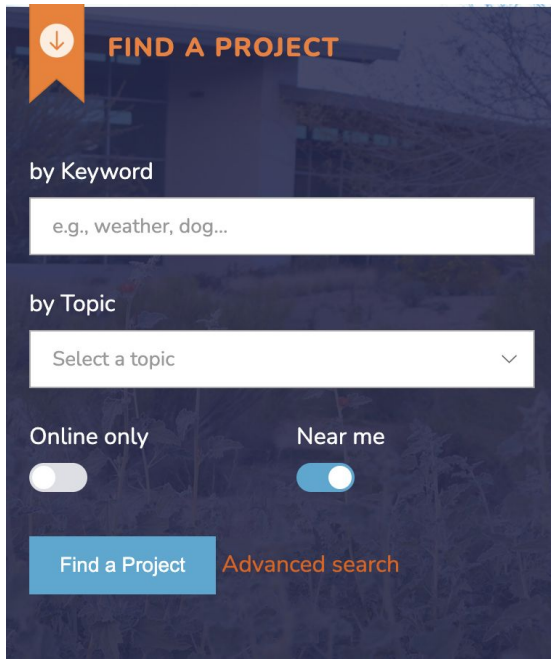
Foundations of Citizen Science Tutorial

Learn the basics of citizen science, participate in simple and fun projects, and discover how to make the most of SciStarter in this self-guided, free training module. Earn a badge!

SciStarter.org/training



Choosing a Citizen Science Project




SciStarter.org Project Finder helps you filter searches among thousands of projects and events.

SciStarter.org/eclipse helps you find eclipse-related citizen science projects to do before, during and after the eclipse and across the U.S.



Planning Your Event



Planning an Event

Consider if you want to participate in a citizen science project before, during, or after the eclipse

- Collecting data before the eclipse can garner enthusiasm!
- You may be too busy the day of the eclipse to devote time to collecting data
- Holding a project after the eclipse can encourage patrons to return
- Remember: there are projects for everyone, even if you are not on the path of annularity/totality

Projects *before* and *after* the eclipse

- Globe at Night: Measure the sky's brightness
- Solar Jet Hunter
- Ham Radio Science Citizen Investigation

Projects *before* and *after* the eclipse (**SciStarter.org/eclipse**)

Aurorasaurus: Submit sightings and classify relevant tweets about auroras.

Citizen CATE: Make observations of the inner and middle solar corona.

Citizen Weather Observer Program: Contribute your weather data and check the data quality of others.

Do-It-Yourself Relativity Test: Measure the gravitational deflection of starlight.

Eclipse Ballooning Project: Students will conduct high-altitude balloon flights.

Eclipse Megamovie: Share photos you take of the sun during the eclipses so scientists can stitch them together to create an expanded view of the Sun's atmosphere.

Eclipse Soundscapes: Observe, share and analyze sound data.

Globe at Night: Measure the night sky brightness.

GLOBE Observer: Eclipse: Observe clouds and make air temperature measurements.

HamSCI: Are you a Ham radio operator? Help us better understand Earth's ionosphere.

iNaturalist: Take photos of biodiversity and upload to iNaturalist.

ISeeChange: Share reports of changes in your local environment.

Solar Active Region Spotter: Identify active regions of the sun, online.

Solar Jet Hunter: Join the hunt for solar jets — enigmatic bursts of energy from the Sun.

The Sungrazer Project: Find comets in our solar system, online.

Projects *during* the eclipse

- iNaturalist
- GLOBE Observer:
Eclipse
- Eclipse Soundscapes



Prep for your event

- Do you have all of the tech equipment you need?
- Download apps ahead of time

Invite speakers

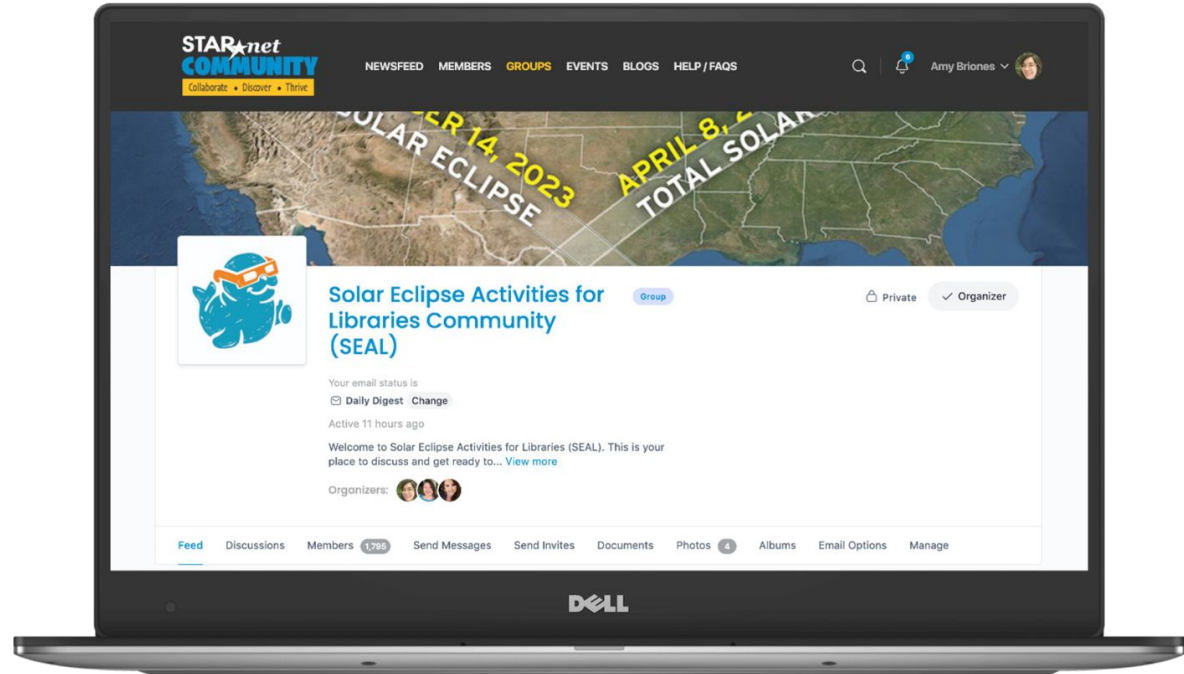
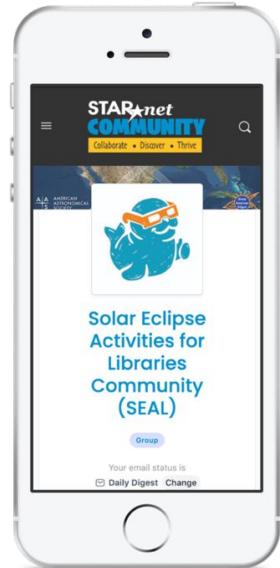
NASA's Night Sky Network

<https://nightsky.jpl.nasa.gov/>

NASA's Solar System Ambassadors

<https://solarsystem.nasa.gov/solar-system-ambassadors/events/>

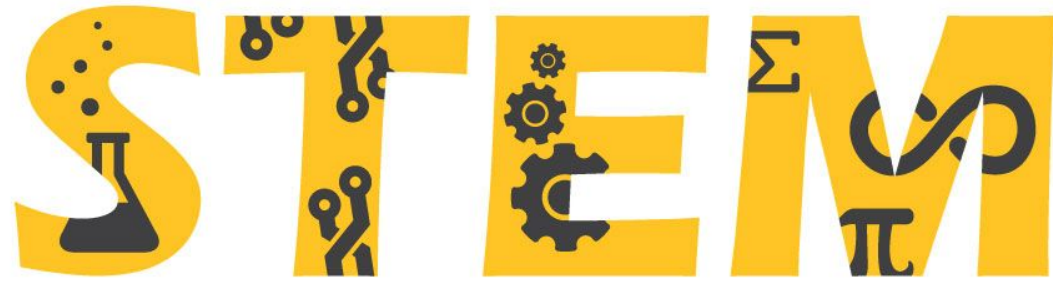
Solar Eclipse Activities for Libraries (SEAL) Group on the STAR Net Online Community





Finding Activities

STEM

The word "STEM" is written in large, bold, yellow capital letters. Each letter contains a black icon: 'S' has a flask with bubbles, 'T' has a circuit board, 'E' has two interlocking gears, and 'M' has the Greek letters sigma (Σ) and pi (π).

ACTIVITY

Clearinghouse

clearinghouse.starnetlibraries.org

VIEWED ITEMS



Diversión con Burbujas

¡Diviértate con Burbujas de Explora...



Water Cycle Paper Craft

Patrons learn about how the water...



UV Kid

In this activity, children use common...

NEW ITEMS



Walk Through Time: Water in the Four Corners Region Virtual Photo Gallery



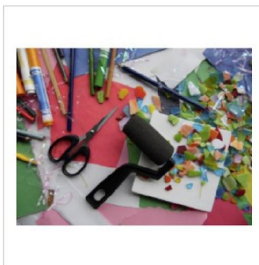
Browse and Filter All Activities

In the STEM Activity Clearinghouse, librarians and library staff can find high quality, vetted STEM activities that are appropriate for library use. STEM stands for Science, Technology, Engineering, and Math.

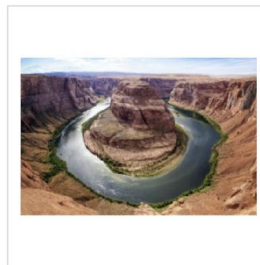
You can search by audience, content level, and difficulty, among others. You can also browse collections that we've curated just for you! Almost all the activities in the Clearinghouse have pictures or videos of real libraries doing these activities. Activities developed outside the STAR_Net Project will include tips and tricks for implementing in your library, and will link you back to the original source content so you can explore more.

FEATURED COLLECTIONS

[All Collections >](#)



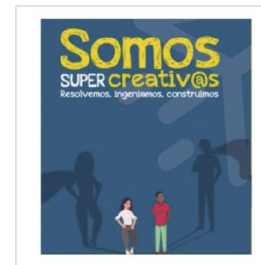
Take & Make



We Are Water



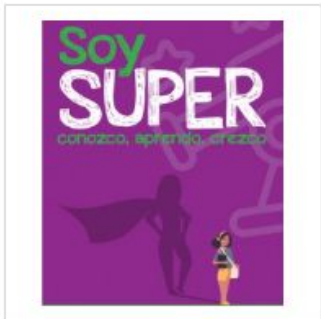
I'm Super



We're Super Creative



We Are Water



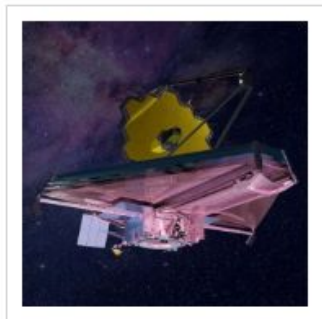
I'm Super



We're Super Creative



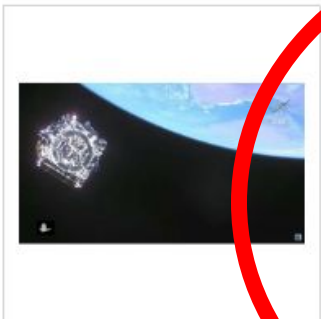
I'm Super Curious



Look Up! Explore Our Universe



Moon, Mars, and Beyond

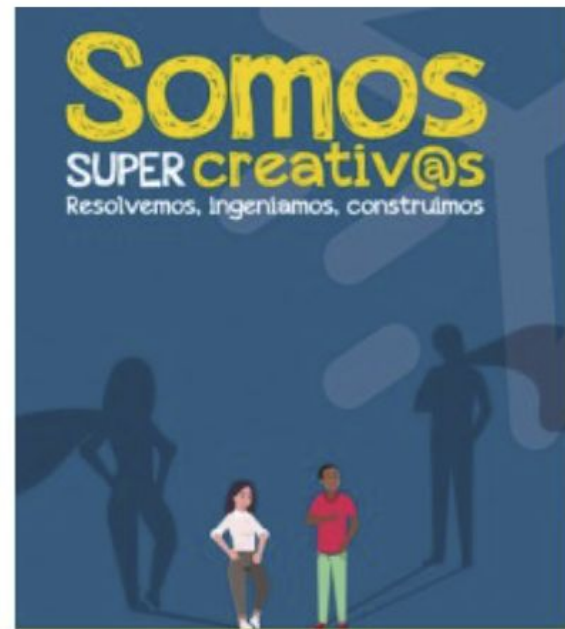
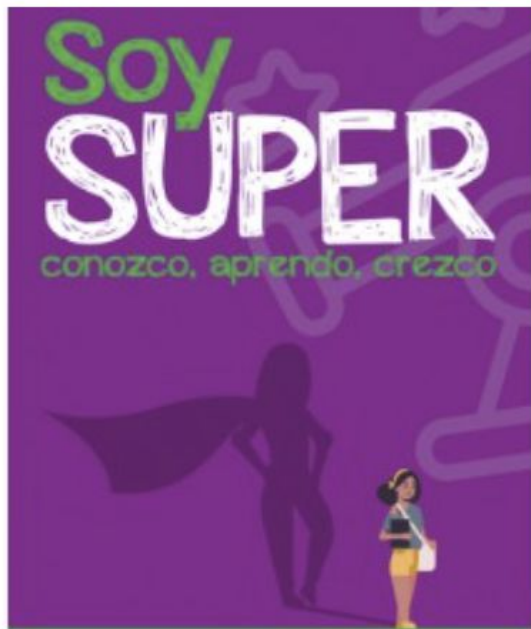


Look Up! First Image



Solar Eclipse Activities for Libraries

All Collections >



VIEWED ITEMS



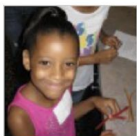
Diversión con Burbujas

¡Diviértate con Burbujas de Explora...



Water Cycle Paper Craft

Patrons learn about how the water...



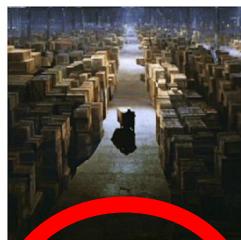
UV Kid

In this activity, children use common...

NEW ITEMS



Walk Through Time: Water in the Four Corners Region Virtual Photo Gallery



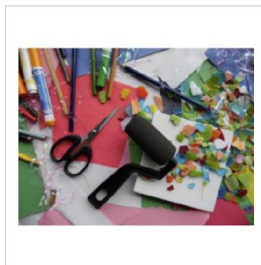
**Browse and Filter
All Activities**

In the STEM Activity Clearinghouse, librarians and library staff can find high quality, vetted STEM activities that are appropriate for library use. STEM stands for Science, Technology, Engineering, and Math.

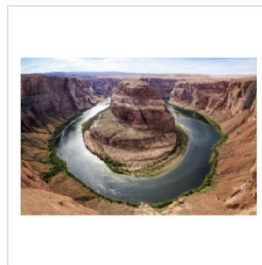
You can search by audience, content level, and difficulty, among others. You can also browse collections that we've curated just for you! Almost all the activities in the Clearinghouse have pictures or videos of real libraries doing these activities. Activities developed outside the STAR_Net Project will include tips and tricks for implementing in your library, and will link you back to the original source content so you can explore more.

FEATURED COLLECTIONS

[All Collections >](#)



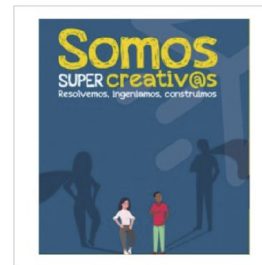
Take & Make



We Are Water



I'm Super



We're Super Creative



Home Activities

SORT

Age Group

- All Ages (10)
- Family (464)
- Infant (0-2) (1)
- Pre-K (81)
- Early Elementary (255)
- Upper Elementary (425)
- Tweens (9-12) (402)

Time to Complete Activity

- Under 10 minutes (21)
- 10-20 minutes (114)
- 20-40 minutes (206)
- 40 minutes to 1 hour (237)
- 1-2 hours (77)
- 2-4 hours (10)
- Long Duration (days-months) (27)

ACTIVITIES

There are 531 items.

Sort by Show 12 per page

Showing 1 - 12 of 531 items

[← Previous](#)
 1 2 3 ... 45 [Next >](#)

[Show all](#)



Can a Toaster Make Wind?

★★★★☆ 1 Review(s)

In this demo, patrons investigate the source of wind by using a toaster to heat air while they observe its effect on a small aluminum foil kite.

[Check It Out](#)

[How-to Video](#)

[Teacher's Guide](#)

Content Area

Earth Science

Age Group

Family
 Upper Elementary
 Tweens (9-12)
 Teens

Time to Complete Activity

Under 10 minutes

Cost associated with Activity Materials

\$0 ("found" items)

Difficulty Level (by content)

Medium

STEM Tools

Age Group

- All Ages (10)
- Family (464)
- Infant (0-2) (1)
- Pre-K (81)
- Early Elementary (255)
- Upper Elementary (425)
- Tweens (9-12) (402)

 Tweens

Time to Complete Activity

- Under 10 minutes (21)
- 10-20 minutes (114)
- 20-40 minutes (206)
- 40 minutes to 1 hour (237)
- 1-2 hours (77)
- 2-4 hours (10)
- Long Duration (days to months) (27)

✍ Tweens

✍ One hour

Difficulty Level (by content)

- Easy (258)
- Medium (236)
- Rocket Scientist (21)

- ✓ Tweens
- ✓ One hour
- ✓ Easy

Additional Languages Available

Española / Spanish (37)

- ✓ Tweens
- ✓ One hour
- ✓ Easy
- ✓ Instructions in Spanish

Search



Activities

SORT

Age Group

- Family (14)
- Pre-K (1)
- Early Elementary (6)
- Upper Elementary (13)
- Tweens (9-12) (14)
- Teens (2)
- All Ages (0)

Time to Complete Activity

- 10-20 minutes (1)
- 20-40 minutes (4)
- 40 minutes to 1 hour (14)
- 1-2 hours (1)
- Under 10 minutes (0)
- 2-4 hours (0)
- Long Duration (days to months) (0)

ACTIVITIES > AGE GROUP TWEENS-9-12 > TIME TO COMPLETE ACTIVITY 40-MINUTES-TO-1-HOUR > DIFFICULTY LEVEL (BY CONTENT) EASY > ADDITIONAL LANGUAGES AVAILABLE ESPANOLA-SPANISH

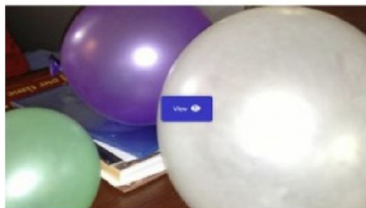
There are 14 items.

Sort by -- Show 12 per page

Showing 1 - 12 of 14 items

< Previous 1 2 Next >

Show all



Globos Rebotantes

Deportes + Ingeniería = ¡Gran Diversión! La ingeniería en deportes se centra en el diseño, desarrollo y prueba de implementos deportivos, tales como las pelotas.

Check It Out

Age Group

Family
Upper Elementary
Tweens (9-12)

Time to Complete Activity

40 minutes to 1 hour

Cost associated with Activity

Materials
\$5-\$10

Difficulty Level (by content)

Easy

Additional Languages Available

Española / Spanish



View larger 



Tweet



Share



Google+



Pinterest



Send to a friend



Print

Diversión con Burbujas

¡Diviértate con Burbujas de Explora en casa!

Open Activity



Write a review

Age Group

Family
Early Elementary
Upper Elementary
Tweens (9-12)

Time to Complete Activity

20-40 minutes
40 minutes to 1 hour

Cost associated with Activity Materials

\$5-\$10

Difficulty Level (by content)

Easy

Mess Level

High

Additional Languages Available

Española / Spanish

Report a broken link

Categorized Incorrectly? Let us know!

RELATED PROGRAMMING RESOURCES

RELATED PROGRAMMING RESOURCES

Hints for uses in your library	Patrons of all ages will love experimenting with bubbles! This activity is best done outside for easy cleanup.
Related Links	How to Make Bubbles The Science Behind Bubbles Science World: Bubbles Science World: Bubble Tricks
Originating Source	Explora
Related Books [Suggest a book]	Science Magic for Kids: 68 Simple and Safe Experiments by William R Wellnitz Bubble Fun by Neville Astley and Mark Baker Bubble Trouble by Tom Percival

REVIEWS

Be the first to write your review!

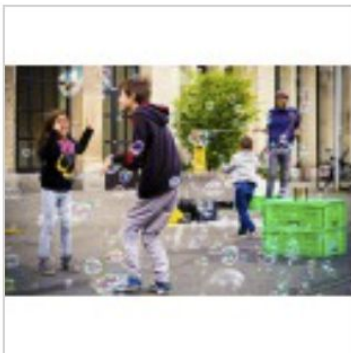
RELATED PROGRAMMING RESOURCES

Hints for uses in your library	Patrons of all ages will love experimenting with bubbles! This activity is best done outside for easy cleanup.
Related Links	How to Make Bubbles The Science Behind Bubbles Science World: Bubbles Science World: Bubble Tricks
Originating Source	Explora
Related Books [Suggest a book]	Science Magic for Kids: 68 Simple and Safe Experiments by William R Wellnitz Bubble Fun by Neville Astley and Mark Baker Bubble Trouble by Tom Percival

REVIEWS

Be the first to write your review!

WRITE A REVIEW



Diversión con Burbujas

¡Diviértate con Burbujas de Explora en casa!

Participants Enjoyed the Activity:



Participants Learned from This Activity:



Activity Instructions Were Clear and Easy to Follow:

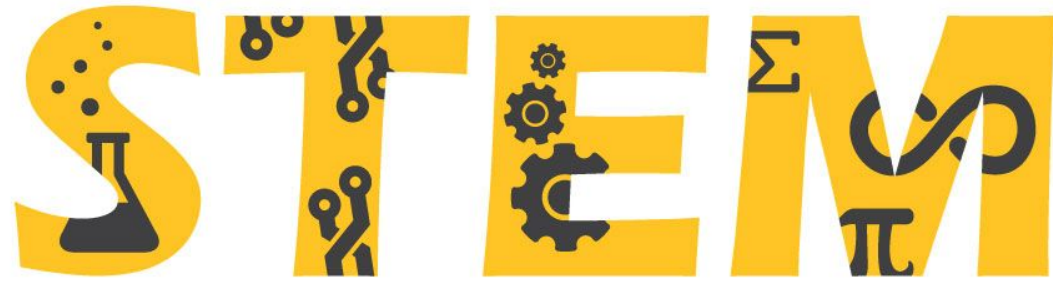


Would Recommend:



Title: *

STEM

The word "STEM" is written in large, bold, yellow capital letters. Each letter contains a black icon: 'S' has a flask with bubbles, 'T' has a circuit board, 'E' has two interlocking gears, and 'M' has the Greek letters sigma (Σ) and pi (π).

ACTIVITY

Clearinghouse

clearinghouse.starnetlibraries.org



Registering Your Event

Registering Your Event

<https://SciStarter.org/add-event>



Promoting Your Event

Promoting Your Event

- SciStarter free resources (social media assets, images, etc)
 - <https://scistarter.org/library-promotional-resources>
- SEAL Logos and Graphics blog post
 - <https://community.starnetlibraries.org/graphics-flyers-and-illustrations-for-the-seal-project/>



Q&A