

## STEM Celebrations! Solar Eclipses, Moon landings, Earth Day 50th anniversary, International Year of Periodic Table

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Simultaneous celebrations are an exciting way for public audiences to engage in STEM content both inside and outside museum walls. Informal Science Education (ISE) institutions can capture audience attention and transform interest in large-scale anniversaries and events into meaningful public engagement in STEM locally. It is also a great way to leverage shared planning and hands-on activities, resources, and tools developed on a national and international scale.

### Solar Eclipses

A solar eclipse occurs when the Moon blocks the Sun causing shadow on the Earth, on average a total eclipse takes place once every eighteen months, but often not in populated areas. A total eclipse took place August 21, 2017 allowing many people in North America to see the eclipse. People in Chile and Argentina were able to see the total eclipse on July 2, 2019. The next North American total eclipse will take place on **April 8, 2024**



2017 Solar Eclipse - Photo courtesy of Science Museum of Minnesota, Saint Paul, MN 2017

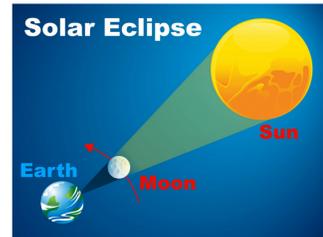


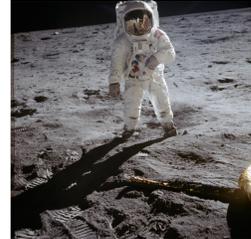
Image courtesy of NASA

#### Resources

- <https://eclipse.gsfc.nasa.gov>
- <https://www.exploratorium.edu/eclipse>
- <https://eclipse2017.nasa.gov>
- <https://www.nisenet.org/events/other/solar-eclipse-august-21-2017>
- <https://informal.jpl.nasa.gov/museum/content/eclipse-2017>

### Apollo 50<sup>th</sup> Anniversary

This summer, the 50<sup>th</sup> anniversary of the Apollo 11 Moon landing brought the world together - once again - to celebrate humans first setting foot on another world. The Apollo anniversaries continue through **2022** and offer opportunities to celebrate the past *plus* look forward to future human exploration of the Moon, Mars, and beyond.



Buzz Aldrin, Apollo 11 astronaut 1969 - Photo courtesy of NASA Johnson Space Center



Apollo 11 Moon landing 50<sup>th</sup> anniversary event 2019 - Solar System Ambassador Nadia Abusimaineh - Photo courtesy of Science Museum of Minnesota, Saint Paul, MN

#### Resources:

- <https://spacestem.nasa.gov>
- <https://www.nisenet.org/moon50>
- <https://informal.jpl.nasa.gov/museum/apollo-50th-resources>
- Planning calendar for all things space and NASA: <https://informal.jpl.nasa.gov/museum/calendar>

### National Chemistry Week

National Chemistry Week is a community based program of the American Chemical Society (ACS). This annual event unites ACS local sections, businesses, schools, and individuals in communicating the importance of chemistry to our quality of life.



Photo courtesy of Museum of Science, Boston, MA, 2018

#### Resources

- <https://www.acs.org/ncw>
- <https://www.nisenet.org/national-chemistry-week>
- <https://www.nisenet.org/chemistry-kit>

### International Year of the Periodic Table

The Periodic Table of Chemical Elements is one of the most significant achievements in science; it is a unique tool capturing the appearance and properties of matter on the Earth and in the rest of the Universe. 2019 is the 150th anniversary since Dmitry Mendeleev discovered this system.



Photo courtesy of Museum of Science, Boston, MA

#### Resources:

- <https://www.iypt2019.org>
- <https://www.acs.org/content/acs/en/education/whatischemistry/periodictable.html>
- <https://www.nisenet.org/events/other/IYPT2019>

### Collaborating with Experts

Subject matter experts can be a powerful ingredient for your special STEM events, plan ahead by:

- recruit early
- communicate expectations and logistics
- offering training and orientation
- partner with diversity serving professional societies



Apollo 11 Moon landing 50<sup>th</sup> anniversary event 2019 - Astronaut Mark T. Vande Hei - Photo courtesy of Science Museum of Minnesota, Saint Paul, MN



National Chemistry Week 2018 - Photo courtesy of Science Museum of Minnesota, Saint Paul, MN 2018

#### Resources

- Serving Professional Societies list: <https://www.nisenet.org/Audiences>
- Finding astronomy volunteers: Solar System Ambassadors Program, Night Sky Network, and Astronomy Ambassadors <https://www.nisenet.org/catalog/finding-astronomy-volunteers>
- Portal to the Public: <https://popnet.instituteforlearninginnovation.org>

### STEM Festivals and Celebrations

#### El Paso Texas and Las Cruces New Mexico Space Festivals

Twice per year, over 25 organizations collaborate to celebrate space exploration and adventure in the Border Region with week-long annual regional space festivals in Las Cruces, NM (spring) and El Paso, TX (fall). Space Festivals provide a dynamic platform for informal educators and industry leaders to spark enthusiasm for space exploration with diverse range of communities.

#### Upcoming events:

- El Paso Space Festival: September 28th - October 5th, 2019
- Las Cruces Space Festival: March 30- April 4th, 2020

#### Resources for festivals

- Science Festival Alliance <https://sciencefestivals.org>



#### Lift Off: Apollo + Beyond North Carolina year-long campaign

A consortium of seven different organizations all dedicated to helping citizens learn about and celebrate the 50th anniversary of the Apollo 11 mission delivered a healthy dose of space mania across NC from October 2018 through December 2019. Participants enjoyed festivals, exhibits, lunar and star parties, movies, rocket launches, space camps, astronomy days, musical performances, educational programming, a few Star Wars-themed events. A local brewery even launched a limited-edition beer called Lift Off!



Collaborating organizations included: Marbles Kids Museum, Morehead Planetarium and Science Center, Museum of Life and Science, North Carolina Museum of History, North Carolina Museum of Natural Sciences, North Carolina Space Grant, and North Carolina

### Resources to Plan Ahead

The National Informal STEM Education Network (NISE Network) has developed many materials to help plan events including: professional development materials, event planning guides, marketing materials, training videos, and hands-on activities.

#### Resources:

- <https://www.nisenet.org/kits>
- <https://www.nisenet.org/pd>



### Upcoming Events

2020 - Earth Day 50<sup>th</sup> anniversary April 22, 2020 [www.earthday.org](http://www.earthday.org)  
 2024 - Total solar eclipse in North America April 8, 2024