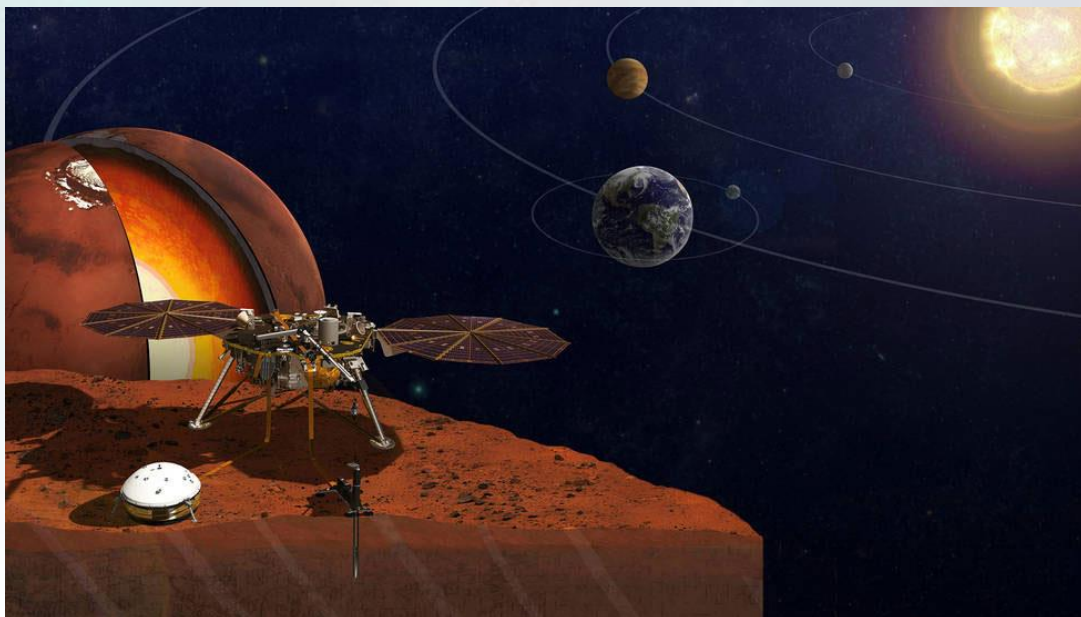



Off to Mars! Programming Ideas for the InSight Launch

The webinar will begin at 1:00 p.m. (MT) and will be recorded.



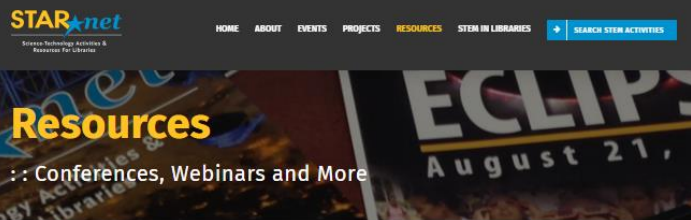
Audio problems? Click and highlight the  button at the top of your screen. You can also click “Meeting” > “Audio Setup Wizard”. You will not need microphone capabilities.

Agenda for Today

- Introduction and Reminders
- What Makes InSight So Special?
- Hands-on STEM: Recipe for a Planet
- Steve Lee Presentation
- Q&A

Join STAR Net!

Professional development resources, including webinars, newsletters, blogs, forums, videos, and much more!



Curated Resources For Professional Development

Building the capacity of public libraries and library staff to deliver engaging, inspirational, and educational STEM programs has the potential to transform the STEM education landscape across the country. What started in libraries some years ago as independent experiments in STEM programming has become a national STEM movement.

Across the country, libraries are redefining their roles. They're becoming primary centers of informal learning, especially STEM learning. And this critical transition is being carried out by many dedicated librarians. To help them, the STAR Library Education Network (STAR_Net) is providing resources to support their efforts to develop new skills and provide quality STEM programming.

Collaboration is the key to transforming libraries into STEM learning centers



Conferences



Webinars



Newsletters



Online Forums



STAR_Net Blog



2017 Solar Eclipse



Exhibition Posters



Books, Videos & More!



Guides, Facts & Tips

Recent Blogs

- Watercraft Design
- The Dirt on Soil
- Do You Have Your Solar Eclipse Glasses? Great - Now Try Them Out!

Upcoming Events

- Discover NASA Exhibition (AZ)
May 3 - July 28
- Summer Learning - Build a Better World
May 15 - August 31
- Discover Tech Exhibition (CO)
May 31 - August 25

[View All Events](#)

FREE Resources

- Reports and Tools for Library Leaders
- STEM Activity Clearinghouse
- Professional Learning Opportunities
- Blogs
- *STAR Net News*

Reminders

STEM In Libraries

:: Resources for Library Leadership

Partnership Opportunities

Learn about possible STEM partnership opportunities which are available through the resources below. For additional connections to STEM learning opportunities that inspire young people to explore, discover, and create, visit [The Connectory](#).



NASA



SPACE SCIENCE



AFTERSCHOOL



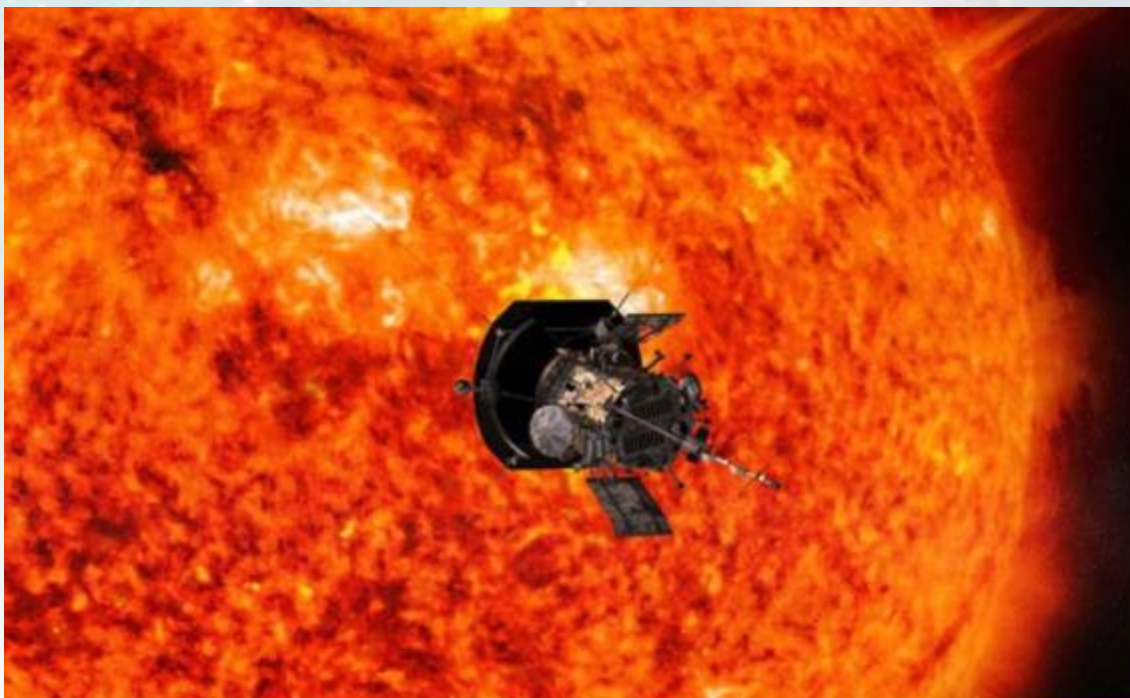
ENGINEERING

- www.starnetlibraries.org/stem-in-libraries/collaboration/partnership-opportunities/

Earth Day

- April 22
- [Earth Day Landing Page](#)
- [Earth Day Collection \(Weather and Citizen Science\)](#)
- [Earth Science Collection](#)
- [Celebrate 60 Years of Earth Observations with NASA](#)

Reminders



[Register Here](#)

The Parker Solar Probe Launch

The Parker Solar Probe Launch: How Will Your Library Be Involved?

Thursday, May 17, 2018 at 3:00 p.m. (EDT), 2:00 p.m. (CDT), 1:00 p.m. (MDT), 12:00 p.m. (PDT)

Why Makes InSight Special?

- 1) First mission to study the deep interior of Mars
- 2) Teach us about planets like our own
- 3) Try to detect Marsquakes for the first time
- 4) First interplanetary launch from the West Coast
- 5) First interplanetary CubeSat
- 6) Could teach us how Martian volcanoes were formed
- 7) Mars is a time machine!

Recipe for a Planet

- [Activity Link](#)

Recipe for a Planet

Overview

Recipe for a Planet is a 45 minute activity in which children ages 8 to 13 build edible models of Earth and Mars to compare their sizes and illustrate their internal layers.

What's the Point?

- Mars is about half the size of Earth.
- Mars and Earth have internal layers, including cores, mantles, and crust.
- Earth has a solid inner core and molten outer core; Mars most likely has a molten core.
- Surface features on a planet provide clues to their internal processes.
- Volcanos on a planet's surface suggest that the interior of the planet is – or was recently – sufficiently hot to create magma, molten rock.
- Models are tools for understanding the natural world.
- Models — such as the children are using here — can be tools for understanding the natural world.
- Geologists use comparisons between features on Earth and other planets, like Mars, to help them identify differences in how the features may have formed or changed.

Making Earth

Earth's inner metallic core: a donut hole

Earth's molten outer core: red icing

Earth's mantle: 3 1/2 Rice Krispies Treats

Earth's oceanic crust: blue sprinkles or "jimmies"

Earth's continental crust: 1/2 of a Rice Krispies treat covered in green sprinkles or "jimmies"

Have each team tear one of their Rice Krispies treats in half and set one half aside. Mash the other half together with 3 more Rice Krispies Treats so they make one "mega treat." Have them form the treat into a flat rectangle, about 4 inches by 6 inches. Starting in the center of the flattened "mega treat," smooth a thin sheet of the red icing to within one inch of each edge; they should use about half of the icing and save the rest for later. Place the donut hole in the middle. Gently wrap the Rice Krispies Treats around the donut hole — with the icing side against the donut hole — to form a ball. Roll it around and squeeze it to make it firm.

Invite the children to add continental and oceanic crusts to their Earth. Have them place their Earth sphere in the baggie with the blue sprinkles. Roll it around until it is thoroughly covered in blue. Remove and set it aside.

Now invite them to make the continental crust — the land on Earth. Ask them to take the Rice Krispies Treat half they set aside earlier and flatten it into a thin layer. Have the children create four or five continent shapes, then gently press one *side* of each continent into the green sprinkles until covered. Have them gently press each continent onto the Earth sphere with the sprinkle side up. In reality, the thicker continental crust does not "sit" on top of the oceanic crust; both sit above the Earth's mantle.

Making Mars

Mars' inner core: 2 tablespoons of red icing

Mars' mantle: 2 Rice Krispies Treats

Mars' crust: red sprinkles

Have the teams shape their Rice Krispies Treats into a rectangle about four inches by two inches. Place the red icing in the center and *gently* wrap the Rice Krispies Treat around it, shaping it into a ball.

- What color is the surface of Mars from space? *Mostly red.*

Have the children place their Mars sphere in the baggie with the red sprinkles and roll it around until it is thoroughly covered in red. Remove and set aside.

Other Mars Activities

- [Search For Life](#)
 - Participants learn about the characteristics of life and conduct an experiment, searching for life in different soil samples
- [Dunking the Planets](#)
 - Participants place scale models of the planets, represented by fruit and other foods, in water to determine their density
- [Mars Match Game](#)
 - Patrons view images of Earth and Mars to compare features, just like a scientist (planetary geologist) would. After matching pairs of Earth features with Mars analogues, they discuss why they matched the pairs together.
- [Build a Space Colony](#)
 - Participants design technology to provide air to breathe, plentiful food, shielding from ultraviolet light, power, and more for space explorers.
- [Strange New Planet](#)
 - In this simulation of space exploration, participants plan and carry out five missions to a “planet” and communicate their discoveries to their family or a friend.

Today's Speaker



Dr. Steve Lee, Space Scientist

- Space Scientist in the Adult & Children's Programs Department at the Denver Museum of Nature and Science (DMNS)
- Senior Research Scientist at the Space Science Institute (SSI) in Boulder, CO.
- Science advisor to the DMNS *Space Odyssey* exhibition, and frequently participates in the development and delivery of Museum public programs – helping to bring the latest discoveries in planetary and space sciences to many of the nearly two million visitors seen at DMNS annually.
- He received a PhD in Planetary Geology from Cornell University, and has been at DMNS since 2001 and SSI since 2006.
- Steve's research focuses on the interaction between the surface and atmosphere of Mars -- primarily by mapping the patterns of wind-blown dust deposits across the planet utilizing spacecraft observations. He was part of a team that observed Mars with the Hubble Space Telescope for more than a decade following launch in 1990.
- He is also a Co-Investigator on two of the camera systems launched aboard the Mars Reconnaissance Orbiter in 2005; data have been streaming back from Mars since late-2006. These observations help refine our understanding of Martian weather and long-term climate variations, and how Martian landforms have been shaped over time.

Questions?

Thank You!

- Survey Monkey - https://www.surveymonkey.com/r/STAR_Net
- Archived and Upcoming Webinars:
<http://www.starnetlibraries.org/resources/webinars/>
- Parker Solar Probe Webinar Registration -
<https://starlibrarynetwork.adobeconnect.com/parkerevent/event/registration.html>
- Main Mission Page - <https://mars.nasa.gov/insight/>
- Questions? Email Brooks at bmitchell@spacescience.org