Mars Activities for “A Universe of Stories”

Presenters: Brooks Mitchell (STAR Net) and Claire Ratcliffe (STAR Net)

The webinar will begin at 2:00 pm (MT) and will be recorded.

While you’re waiting:
1) Find the toolbar – it will either be on the bottom or top of your Zoom window
2) Introduce yourself in the chat box (please select “Share with All” not “Share with Panelists”)
3) Click audio “Join by Computer” – you won’t have microphone access

Tip for viewing: You can resize and move the location of the video and slide screens by clicking and dragging them
STAR Net Team Member

Introduction

- Brooks Mitchell
- Greg Mosshammer
- Claire Ratcliffe
Today’s Agenda

1. Clearinghouse Overview
2. Poll Question
3. Mission Update: Mars InSight
4. Hands-on Activity: *Recipe for a Planet*
5. Hands-on Activity: *My Trip to Mars*
6. Hands-on Activity: *Search for Life*
7. Poll Question
8. Hands-on Activity: *Mars Engineering*
9. Q&A
Poll Question

Would you rather go to:

a. Mars
b. Moon
c. Pluto
d. Alpha Centauri
e. Alderaan
Like an activity and think other library staff should know how great it is? Didn’t like an activity or have modifications to make it better? **Make sure to leave a review!**
Join STAR Net’s “Summer of Space”

STAR Net Partners with the Collaborative Summer Library Program (CSLP) for the 2019 Summer Learning Program

In the summer of 2019, 16,000 libraries across the country will celebrate space exploration in their summer reading programs. The slogan “A Universe of Stories” was chosen by library professionals to help inspire children of all ages to dream big, believe in themselves, and create their own story. CSLP and STAR Net are partnering to share STEM resources with these libraries.

This summer learning program will coincide with NASA’s 50 years of achievement and its celebration of the 50th anniversary of the Apollo Moon Landing.

Register Your Library and Get Notified of Valuable Resources!

If you’re interested in getting important resource notifications (and other news) for 2019’s Summer Learning Program, register your library’s participation to receive this important event newsletter.

Registration Benefits:
- A monthly newsletter curated with valuable resources and opportunities
- Automatic entry for chance to win 1 of 2 FREE Orion Starlifter Telescopes (open to U.S. public libraries only)
- Library representation on STAR Net’s “Summer of Space” Map (below)

REGISTER YOUR LIBRARY TODAY!
STAR Net recently entered a video in the STEM For All Video Showcase - https://stemforall2019.videohall.com/

STAR Net’s 3-minute video focuses on how the organization has prepared libraries for the 2019 Collaborative Summer Library Program summer learning theme, “A Universe of Stories.”

Online showcase and voting takes place from 5/13 – 5/20

Read more on our blog - https://bit.ly/2V6tj9p

See a sneak peak of the video here - https://bit.ly/2UQ4dXx
InSight Update

- Launched May 5, 2018
- Landed November 26, 2018
  - First data arrived back to Earth ~16 minutes later
- Instruments rolled out in the following weeks

Did anyone do programming for the InSight launch or landing?
How’s the Weather on Mars?

Latest Weather at Elysium Planitia

InSight is taking daily weather measurements (temperature, wind, pressure) on the surface of Mars at Elysium Planitia, a flat, smooth plain near Mars' equator.

**Sol 151**
April 30

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On April 6, 2019, InSight recorded its first clear seismic event on the surface on Mars
Hands-On Activity: Recipe for a Planet

Materials:

- Rice Krispies treats
- Red icing
- Regular size chocolate chips
- Red sprinkles in a baggie
- Plastic knife
- Plate
- Wet wipes!
Hands-On Activity: My Trip to Mars

A game that steps through a human mission to Mars!

Materials:
2-4 dice
Print-outs of “Poster Scenarios”
6 poster boards for mission stages
The weather is too stormy! Try again on another day.

Roll again.
Ground Control reports that the communication system is not working. Roll again.
All systems check out and you’re ready to go.

Your launch is successful!

Go to Step Two: Travel.
Hands-On Activity: Search for Life

Patrons discuss how life is defined and look for signs of life in three different “soil” samples.

**Materials**
- 3 clear plastic cups
- 1 cup sand
- 3 tsp sugar
- 1 tsp dry yeast
- 1 tablet of crushed Alka-Seltzer
- Hot water
Discussion

How would you define a living thing?
Hands-On Activity: Search for Life

- Participants work in groups
- Observe the cups before and after hot water is added
- To describe their observations, consider providing younger patrons with possible words; older participants may use their own words

1. Compare the three cups of material before adding the hot water. Observe without touching or tasting any of the samples: (smelling is okay, as is touching the outside of the cup). Circle the words you would use to describe each cup and draw each in the cup-shaped space below. Do any show any signs of life?

Cup A
- Growing
- Slushy
- Foamy
- Warm
- Cold
- Moving
- Shrinking
- Bubbly
- Smelly

Cup B
- Growing
- Slushy
- Foamy
- Warm
- Cold
- Moving
- Shrinking
- Bubbly
- Smelly

Cup C
- Growing
- Slushy
- Foamy
- Warm
- Cold
- Moving
- Shrinking
- Bubbly
- Smelly

(add your own description)
Poll Question

• We know that summer is a busy time for library staff! How likely is it that you could attend STAR Net webinars during the summer?

  Not happening
  Unlikely, but there's a chance I could attend summertime webinars
  More likely to attend during the summer
  I couldn't attend, but would view it later
Engineering Design Process

...in SPACE!
Mars Engineering

• Each team’s mission: design and build a rover out of the materials available that can pick up, move, and set a rock down into a (fake) scientific instrument on the rover body
Mars Engineering Materials

*Mandatory:* variety of tape, scissors, markers, glue, foil, 3 small rocks

*Miscellaneous Craft and Everyday Items:* Straws, pencil top erasers, beads of various sizes, foil cupcake holders, screens, wooden miniatures, aluminum foil, plastic wrap (of all colors), old CDs, pipe cleaners, toothpicks, wire, wire cutters, Legos, construction paper (variety of colors, black), tinsel, ribbon, fabric, gauze, wood dowels/skewers, rubber bands, shiny streamers, etc.

*For Rover Wheels:* Wooden spools, large buttons, bottle caps, plastic cups (sturdy), empty (clean) Play-Doh® containers, old CDs, etc.

*For Rover Body:* Pint-sized milk containers, coffee cans, soup cans (tape any sharp edges), paper or Styrofoam cups, or other objects for the spacecraft body, empty DVD cases, black plastic or biodegradable seedling (plant) trays, empty egg cartons, cereal boxes, 2-liter soda bottles, different-sized Styrofoam blocks, other empty plastic or cardboard containers/boxes, etc.
Other Mars Activities

**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.
Universe of Stories
Summer 2019

NASA@ My Library and STAR Net are partnering with the Collaborative Summer Library Program to support 16,000 libraries.

Please join us!!

Learn more about how to register:
www.starnetlibraries.org/summer-of-space
Join STAR Net!
www.starnetlibraries.org

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