

Planning a Night Sky Viewing at Your Library

Presenters: Brooks Mitchell (STAR Net) and Keliann LaConte (STAR Net)

The webinar will begin at 2:00 p.m. (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
- 3) Click audio “Join by Computer” – you won’t have microphone access

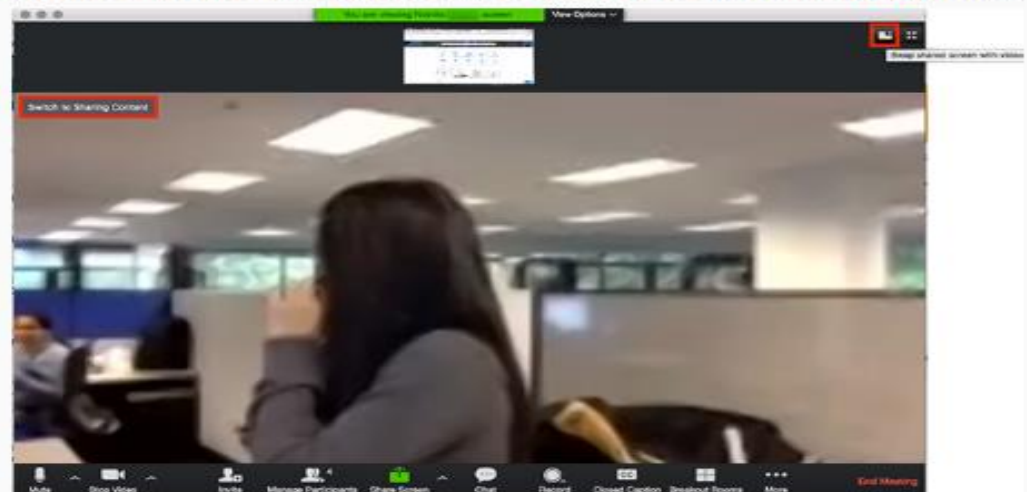
- Find the toolbar – it will either be on the bottom or top of your Zoom window. From here, you can pull up features like “Poll”, “Chat”, and “Q&A”
- Default is “Active Speaker” ... whoever is talking will be displayed primarily. Recommended speaker view.
- Layout when screensharing:
- Help: <https://goo.gl/eF1Jgv>

When you are viewing a screenshare, you can view the screen share with active speaker or gallery view at the top of your screen or in Side-by-Side Mode. [Read more about Side-by-Side Mode.](#)

1. Click the swap icon at the upper right corner of the Zoom window to switch the content for the video feed.



2. Click the icon at the upper right to swap it back or click **Switch to Sharing Content.**



3. Click **View Options**, then **Side-by-Side Mode** to switch into Side-by-Side Mode.

Today's Agenda

1. Introduction and Reminders
2. Hands-on Activity: *Big Dipper Star Clock*
3. What is a Night Sky Viewing?
4. Hands-on Activity: *Planet Party*
5. Hands-on Activity: *Sky Heroes*
6. Hands-on Activity: *What Do You See in Today's Moon?*
7. Hands-on Activity: *Constellation Detectives*
8. Q&A

STAR Net Team Member Introduction

- Keliann LaConte
- Brooks Mitchell
- Stephanie Vierow-Fields
- Claire Ratcliffe
- Greg Mosshammer

A photograph of an astronaut in a white spacesuit standing on the lunar surface. The astronaut is facing away from the camera, looking towards the horizon. An American flag is visible in the background, planted in the ground. The ground is covered in lunar dust and has several footprints. The sky is black.

What's Next?

Universe of Stories

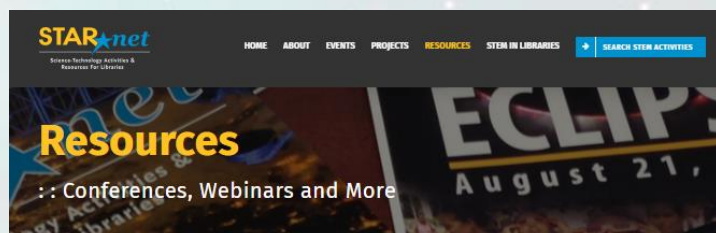
Summer 2019

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

Please join us!!

Join STAR Net!

www.starnetlibraries.org




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 STAR Net Resources

(take a picture of this slide!)

180+ Activities Specifically for #STEMINLIB

<http://clearinghouse.starnetlibraries.org/>

**Upcoming and Archived Professional Development
Webinars**

<https://www.starnetlibraries.org/resources/webinars/>

Monthly Newsletter

<https://www.starnetlibraries.org/resources/newsletters/>

Upcoming STEM Events

<https://www.starnetlibraries.org/upcoming-events/>

**STAR Net Blog (for library staff and written
by library staff!)**

<https://www.starnetlibraries.org/blog/>

Partnership Resources

<https://www.starnetlibraries.org/stem-in-libraries/collaboration/partnership-opportunities/>

Community Dialogue Resources

<http://www.starnetlibraries.org/resources/community-dialogues/>

STEM ACTIVITY Clearinghouse

For example:
[DIY Sun Cookies](#)

STEM Activity Clearinghouse

Search

STARnet Science-Technology Activities & Resources For Libraries

CS Cornerstones of Science awakening curiosity, enriching lives

Collections 2017 Total Solar Eclipse

ATTRIBUTES

2017 TOTAL SOLAR ECLIPSE

There are 7 items.

Showing 1 - 7 of 7 items

Content Area

- ☐ Earth Science (0)
- ☐ Astronomy and Space (0)
- ☐ Chemistry (0)
- ☐ Physics (0)
- ☐ Engineering (0)
- ☐ Mathematics (0)
- ☐ Technology and Computing (0)
- ☐ Health Science (0)

Age Group

- ☐ Family (0)
- ☐ Infant (0-2) (0)
- ☐ Pre-K (0)
- ☐ Early Elementary (0)
- ☐ Upper Elementary (0)
- ☐ Tweens (9-12) (0)
- ☐ Teens (0)
- ☐ Adults (0)

Time to Complete Activity

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

How Big, How Far, How Hot, How Old?

This is an activity about scale. Participants will arrange imagery of Earth and many other space objects in order of their size from smallest to largest, their distance from Earth's surface, their temperature from coolest to hottest, and/or their age from youngest to oldest.

[Open Activity](#) Report broken link

Content Area
Earth Science
Astronomy and Space

Age Group
Family
Upper Elementary
Tweens (9-12)

Time to Complete Activity
10-20 minutes

Difficulty Level (by content)
Medium

[View Details](#)

How Can the Little Moon Hide the Giant Sun?

This is an activity exploring the concept that distance affects how we perceive an object's size, specifically pertaining to the size of the Sun and the Moon as seen from Earth.

[Open Activity](#) Report broken link

Content Area
Earth Science
Astronomy and Space

Age Group
Early Elementary
Upper Elementary

Time to Complete Activity
40 minutes to 1 hour

Difficulty Level (by content)
Easy



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" Page



HOME ABOUT **EVENTS** PROJECTS RESOURCES STEM IN LIBRARIES

➔ SEARCH STEM ACTIVITIES

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 [60 years of achievement](#) and its celebration of the [50th anniversary of the Apollo Moon Landing](#).



LEARN MORE ABOUT CSLP



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 StarBlast Telescopes](#) (open to U.S. public libraries only)
- Library representation on STAR Net's "Summer of Space" Map (below)

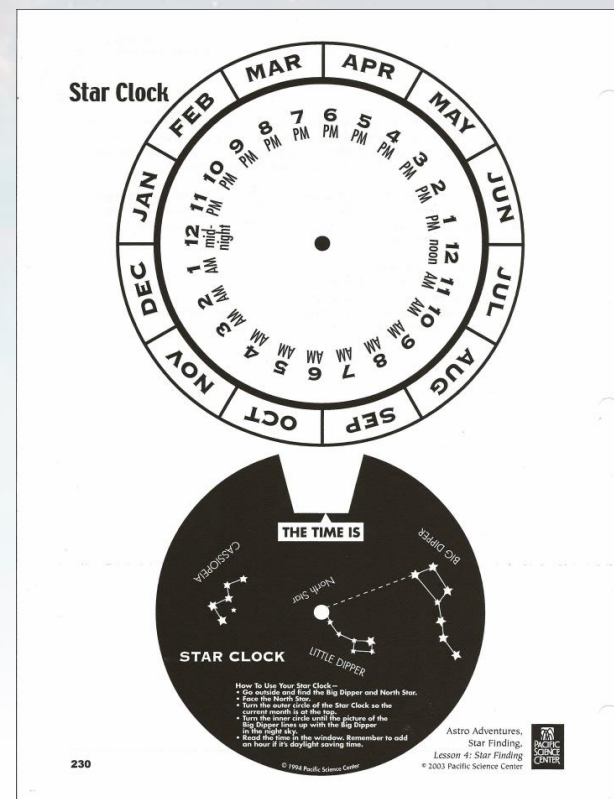
REGISTER YOUR LIBRARY TODAY!

Poll Question

- What US President started NASA?

Big Dipper Star Clock

- Find the time by using the stars! ...or find the stars by using the time!
- Face north; position the current month at the top of the clock
- During Daylight Savings, add one hour



Poll Question

- Who has hosted a Night Sky Viewing?

Poll Question

- Who has attended a Night Sky Viewing?

Poll Question

- Who has looked through a telescope before?

A Message From Solar System Ambassadors and the Night Sky Network



Navigating NSN/SSA Resources

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

<https://solarsystem1.jpl.nasa.gov/ssa/home.cfm>



Jupiter with four of its moons: Io, Europa, Ganymede and Callisto

Credit: NASA

<https://nasa.tumblr.com/post/160203154374/whats-up-for-may>

A photograph showing the silhouettes of four people against a twilight sky. From left to right: a person holding a camera, a person using binoculars, a person looking through a large telescope mounted on a tripod, and another person standing. The sky is a mix of blue and purple, with a hint of a sunset or sunrise on the horizon. The text 'Night Sky Viewing Events' is centered over the image.

Night Sky Viewing Events

STEM ACTIVITY Clearinghouse



View larger



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Share



Google+



Pinterest



Send to a friend



Print

Planet Party

Visitors view planets, the Moon, and stars in the sky with the naked eye and binoculars or telescopes. Planning resources and tips for partnering with a local astronomical society are provided.

[Open Activity](#)

[Teacher's Guide](#)

[Write a review](#)

Content Area

Astronomy and Space
Physics
Engineering

Age Group

Family
Tweens (9-12)
Adults

Time to Complete Activity

20-40 minutes

Time needed to prep Activity

20-40 minutes

Cost associated with Activity

Materials

\$5-\$10

[Report a broken link](#)

[Categorized Incorrectly? Let us know!](#)

Tip Sheet

Throw a Star Party!

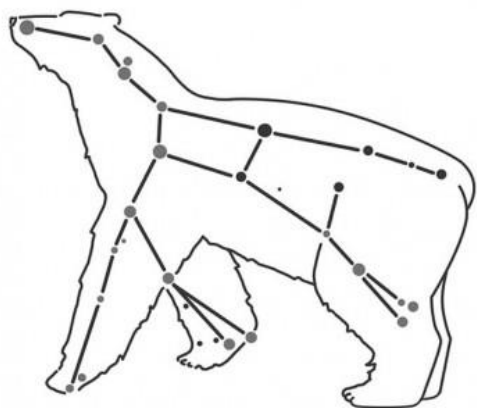
Tips for Offering a Nighttime Viewing Session with Telescopes

1. Pick a date at which one or more bright objects will be high in the evening sky. Select a time when planets will be visible in the early evening sky using sources such as [StarDate](#), the [Planet Finder](#) applet, or other planetarium program. Try to avoid dates when the Moon is full or nearly full (see below), as its light will wash out other nighttime objects. The Moon itself is best viewed when it is a crescent or in first quarter. A brief tour of the month's constellations, deep-sky objects, planets, and events is available through [Tonight's Sky](#). (Note: Venus and Jupiter are almost always bright when visible, Mars is often bright, and Saturn and Mercury are always a bit faint. Uranus and Neptune are too faint to see without telescopes or binoculars.)
2. Identify a start and end time for your program on your intended date. Best viewing times will begin about an hour after sunset. Find sunset times and Moon phases for your area through <http://www.sunrisesunset.com/> or similar sources.
3. Optional: Contact your local astronomy club or other amateur astronomers. To contact your local astronomy club, type in your zip code at [Astronomical League](#) or search at [Sky and Telescope](#). Let them know which planets or other objects you would most like for the children to see.
4. Provide a viewing area, preferably away from bright lights and traffic. Try to avoid nearby obstructions, such as trees or buildings, which will block certain sections of the sky. Will the objects you intend to view be visible from that location in early evening?
5. Plan for access to restrooms, and if possible, to drinks. Have water available for amateur astronomers and visitors.
6. Have a back-up plan in place before the announcement for inclement weather: Will the event be cancelled, postponed, or moved inside with different activities? If the event is cancelled or postponed, at what time or point will the decision be made to do so, and how will the audience hear about it?
7. If appropriate, plan to have the viewing area sprayed for mosquitoes or treated for fire ants in advance of the observing session.
8. If possible, ask for nearby bright overhead lights and sprinkler systems to be turned off during the period of the observing session.

Planet Party

Activity Guide: Discussion Prompts

- What color was it?
- How many objects were there? How were they arranged?
- How have the planets moved through the night sky?



Sky Heroes

- Great pre-Night Sky Viewing Activity
- Easy and fun to facilitate
- Strong story-time tie-in
 - What constellation books have you used in the past?

Sky Heroes Extensions

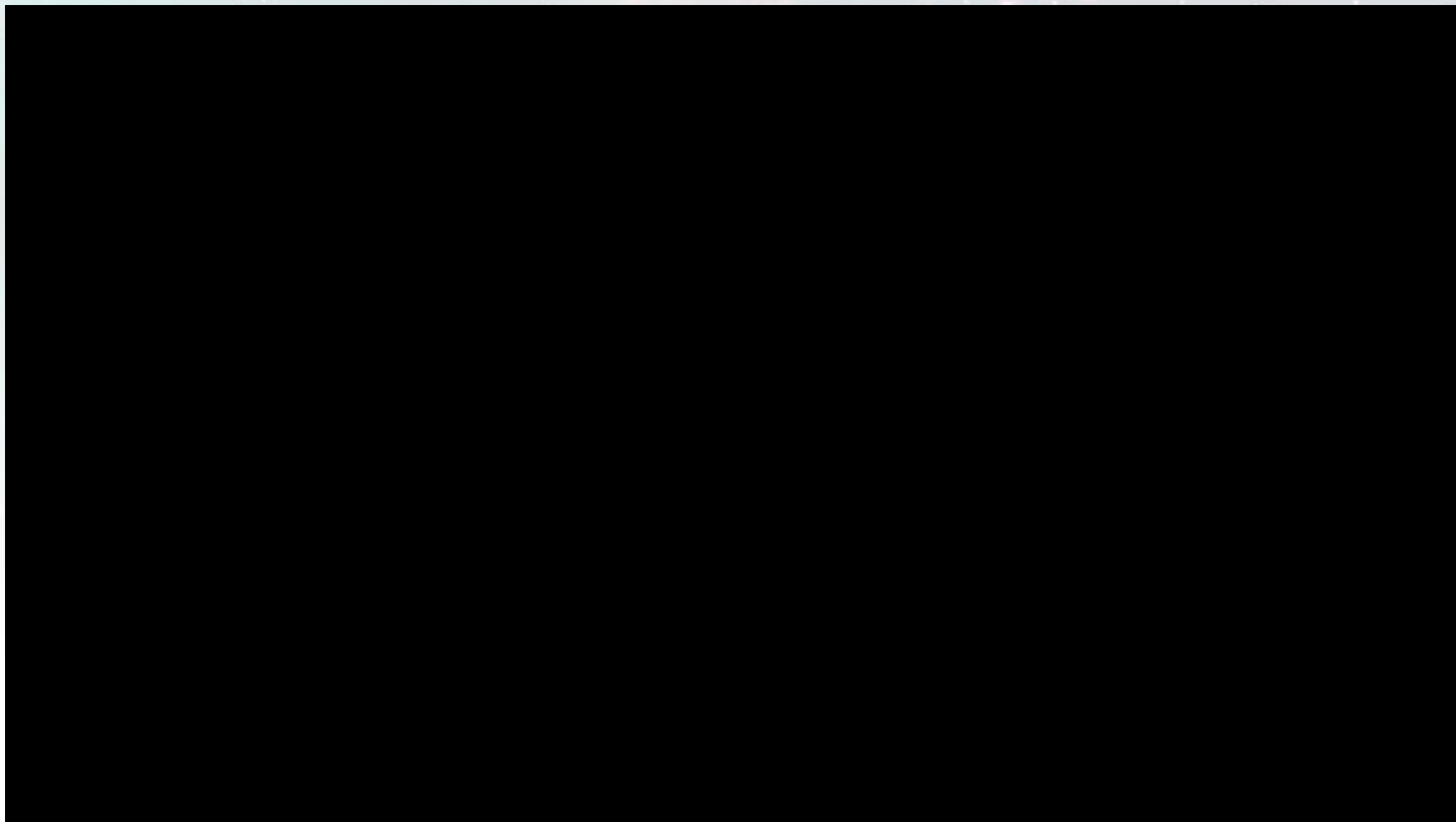
- Combine with the “Star Power” activity to project constellations!
- Patrons create their own fictional hero and story, then create constellations
- Let patrons experiment with a night sky simulator or augmented reality tool, such as Sky Walker or Google Sky



Credit: National Park Service/Patrick Myers

What do you see in the Moon?

Goddard Visualization Studios



Grown-up Moon: What do you see in today's Moon?

Write your own story about these features here:



Well, team, I see how everything came together to form the Moon we know and love. It's beautiful!

I learned a lot about the Moon through our journey back in time, but now I have more questions! Our jobs as scientists are never done. What are your questions about the Moon?




Trace out the Moon's surface features to show what shapes you see in the Moon.


AN EARTH-BASED TOUR OF THE MOON

A quick look at the Moon in the night sky (even without binoculars) shows light areas and dark, somewhat circular areas. These different features record our Moon's history. Can you find them? Use the map to help guide your viewing.


The binoculars symbol () means that the feature is too small to see with just your eyes and you will need binoculars (a tripod will help) or a telescope.


 **Sea of Rains (Mare Imbrium)** — Imbrium Basin, one of the largest impact basins on the Moon, formed when a huge impactor hit the lunar surface a little more than 3.8 billion years ago. Floods of lava filled the basin floor 500 million years later. This cooled to form a dark, fine-grained igneous rock — basalt — Creating the dark, smooth surface of the mare.


 **Apennine Mountains** — The lunar surface is punctuated by mountain ranges — the uplifted rims of impact basins. Apollo 15 astronauts worked in the shadow of Mount Hadley, one of the peaks of the Apennine Mountains that form the rim of Imbrium Basin. Mount Hadley is almost 3 miles (4.6 kilometers) high!

 **Sea of Serenity (Mare Serenitatis)** — Apollo 17 astronauts sampled some of the oldest rocks on the Moon from the basin walls surrounding the Sea of Serenity. These ancient rocks formed in the Moon's magma ocean 4.5 billion years ago. They were exposed at the lunar surface when a huge impactor struck the Moon 3.9 billion years ago, forming Serenitatis Basin.

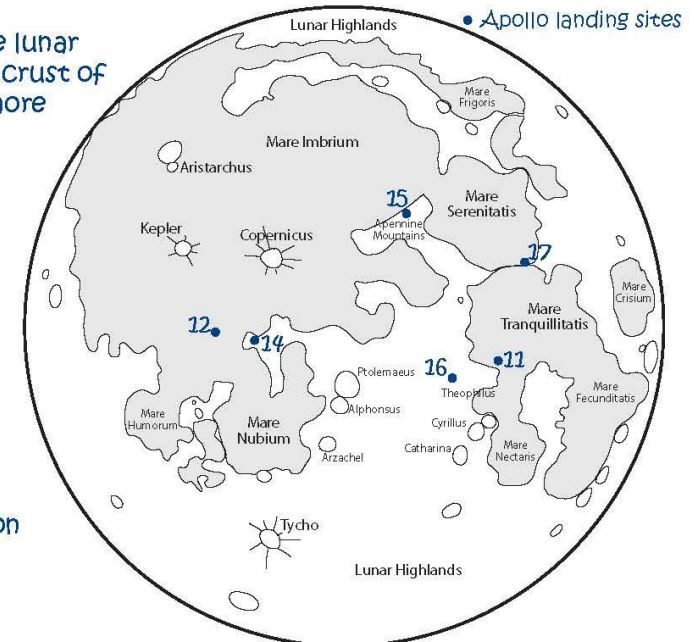
 **Sea of Tranquility (Mare Tranquillitatis)** — This 500-mile-wide (800-kilometer) basalt lava plain is the site of the Apollo 11 landing in 1969. It fills an ancient basin, created when a huge impactor struck the Moon more than 3.8 billion years ago.

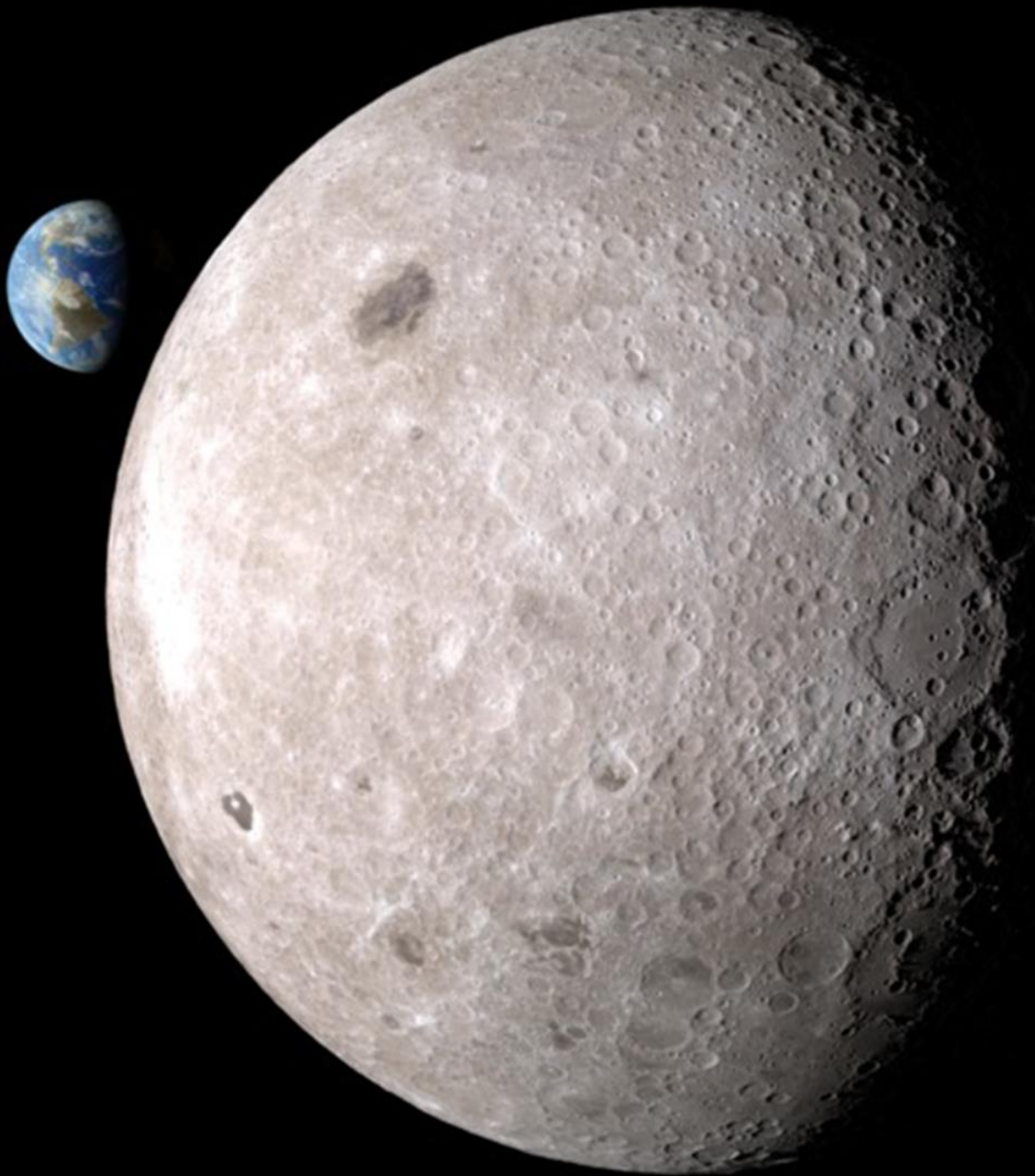
 **Lunar Highlands** — The brighter, light-colored regions on the Moon are the lunar highlands. These areas, formed from the magma ocean, make up the oldest crust of the Moon. Because they are so old, they have been hit by impactors many more times than the dark, smooth basalt plains, making the highlands very rough.

 **Copernicus Crater** — A small, bright circle south of Imbrium Basin, with rays spreading up to 500 miles (800 kilometers) in all directions, marks Copernicus Crater. Its sharp rays and crisp rim indicate Copernicus is geologically young. Rocks suspected to have been formed by the impact are 800 million years old.

 **Tycho Crater** — A bright star of material stands out on the light-colored lunar highlands of the Moon's southern hemisphere. This is Tycho Crater, which is 53 miles (85 kilometers) wide, and has ejecta rays stretching over 1200 miles (2000 kilometers) north to the Apollo 17 landing site. The age of material collected near this site suggests the crater formed about 110 million years ago.

How many features can you identify on a clear night?





Constellation Detectives

- Short, sweet, and cheap!
- Good activity for:
 - Younger Patrons
 - Stations
 - Take-home