

Brownie – Space Science Adventurer

While you're home, chilling with the family, it's the perfect time to act like a space scientist and learn more about some of our interesting neighbors in the sky!

Steps:

1. Meet the neighbors
2. See more than before
3. Investigate the moon
4. Be a stargazer
5. Celebrate and share

Purpose:

When I've earned this badge, I will know how to investigate and learn about the sun, moon, planet, and stars.

Step 1: Meet the neighbors

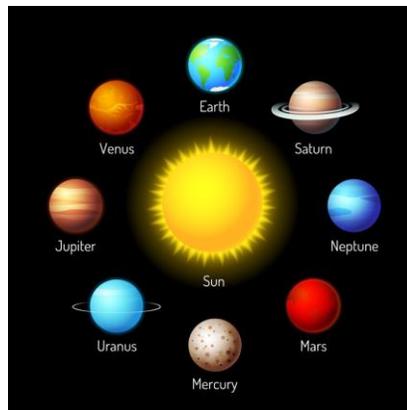
You most likely know who your neighbors are near your house, but do you know who our closest neighbors are in space? Who are our neighboring planets and how close are they?

Name those planets

Pick one of the following activities to choose from.

Once completed - please send an image to Kristen Bruna (kbruna@girlscoutsindiana.org). We would love to see your creativity!

Here is an image to help you with your colors for either one!



Build a solar system bracelet. Find nine different colored beads. Try to pick a color that best represents each planet and the sun.



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Lego planets. Using Legos (or any other type of building material), try to build the eight different planets and the sun and place them in order.

- For more fun! Check out the book - [Going Around the Sun: Some Planetary Fun](#) by Marianne Berkes
- Looking for a cool website to learn about the solar system? NASA has the perfect one - [click here!](#)



Step 2: See more than before

In order to see our space neighbors, we need to have special tools most of the time because of how far away they are.

Pick one of the activities to complete based on materials available.

Use a telescope or binoculars. If your family has one of these special tools to see far away, have them take a few minutes to explain how they work. Then on a clear night, check out the moon or try to check out some of our closer stars and planets!

See the stars with an app. Go to the app store and download SkyPortal. Play around with it to figure out which stars are directly overhead. You can also explore to see which direction several moons are from your own bedroom. If you explore satellites, you can even track its orbit across the sky.

- For more fun! Learn more about telescopes including one of the most famous ones by checking out this [video!](#)

Step 3: Investigate the moon

Have you ever noticed that the moon does not look the same? What exactly is going on to make it look different? As the moon rotates around us, we see different “shapes.” Each shape has its own name known as a phase.

Meet the moon phases. Check out this fun [link](#) to explore the phases of the moon. As you change time (by hour or day) you can explore how the moon appears to look different to us versus what is happening in space. What is the phase when we cannot see the moon? (It hasn't disappeared!) What is the phase when we can see the entire moon?

- For more fun! Check the current status of our moon! Check out this [link!](#) Be sure to click on phases on the right-hand side.

Step 4: Be a stargazer

Being a stargazer means looking for the patterns in the sky. On Earth, we have grouped stars together into shapes and call them constellations. Most of the constellations have stories that explain what they are doing and why we see them at certain times of the year. They also are used for directional purposes.

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Create a constellation and tell a story. Find some pom poms (or other small objects) and gently toss them into the air! After they have landed, try to figure out a shape that you see. Create a story that goes along with that shape. [Here is an example](#) using the constellation Orion.

- For more fun! Check out this [video](#) on constellations!
- Would you like to learn more about the stories of the different constellations? Check out this [link](#) with a parent!

Step 5: Celebrate and share

You have learned a lot about our solar system. The best thing to do with all that knowledge is to share it! Here are a few options to do that and still stay safe!

Sharing with friends and loved ones.

- A. Make a card with some of the new information and mail it to one of your local nursing homes. (They love to get mail!)
- B. Share your new information with a fellow Girl Scout by calling them.
- C. Video chat with a grandparent or other relative.

Now that I have earned this badge, I can give service by:

- Showing my family the connections between the earth, moon, and sun.
- Sharing how to use tools to view the night sky.
- Teaching a Daisy what I learned about the neighbors in our solar system.

Loved what you have learned? Would you like to read about some important female space scientists? Check out these books!

[Katherine Johnson, You Should Meet](#)

[Mae Jemison, You Should Meet](#)