



Ambassador Space Science Master Badge Workshop

An At-Home Program

Ambassador Space Science Master Badge Workshop (At Home)



- Scientists and engineers who work on NASA space science projects are 21st century explorers. You can explore, observe, design, and communicate what you discover- just like they do. Since space science encompasses the entire Universe, there are lots of topics that might pique your interest. Dive in and explore NASA and space science.

Program Outline

Materials:

- Paper
- Pencil
- Recycled materials
- Computer
- Internet access

Step 1: Discover worlds beyond earth

We live on planet Earth but we are only a small part of our universe. There has been a constant debate to answer the question: “Is there life beyond Earth?” With today’s technology such as telescopes, spacecraft, and rovers, scientists can get a clearer picture of what lies beyond our world. You are going to design a habitat for an alien world. Think about what it would take for humans to live on other celestial bodies. Mars and the Earth’s moon are very rocky – like the Earth – but are very different from the Earth in many ways. What would it take for humans to live on another world? Make a list of the essentials for human life then gather recycled materials to build a model of a livable habitat for the moon or Mars. For more information about Mars, click [here](#). For more information about the moon, click [here](#). You can also take a look at [this](#) interactive map of Mars.

To learn more about the other planets in our solar system, click [here](#).

Step 2: Dive into NASA science

Now that you have done a bit of research into life on other planets, you are going to look at what scientists at NASA are doing. Look into one of their science divisions: [Heliophysics](#), [Planetary sciences](#), [Earth sciences](#), or [Astrophysics](#). What are they looking into? What do we know about the field? What is unknown? What mission do they have in progress or planned for the near future? What are the big questions they are trying to answer? Record what you find and share with your friends, troop, or family.

Step 3: Explore your interests

As a scientist, it is important to dig deep and ask questions. Doing so will lead to more questions and discoveries. Think about what interests you in space science and find out where your observations lead you. Now that you have done some research into fields that NASA has, you are going to learn about the telescopes that make research possible. To use a telescope remotely, check out [MicroObservatory](#), [SkyNetJunior](#), or [Space Weather Action Center](#). Check out the moon, other planets, stars, galaxies, solar storms, auroras, sunspots, or any other space related phenomena that interests you. If you would prefer a more hands on approach, create your own [telescope](#)! Use this to look at the moon or stars.

Step 4: Dig deeper

Would you like to contribute to the science community? Take everything you have learned so far and put it into practice by entering into one of [NASA's competitions](#). They are competitions for students in all fields including art, essay writing, filmmaking, designing experiments, or creating a cube satellite for launch. Check out what competitions are currently open and enter one. This is a great opportunity to further explore fields that interest you. Remember, it is important for scientists to share their findings with others.

Step 5: Share what you've learned

An important part of your research process is sharing what you have discovered. Think of ways that you can share the information that you learned. You can use digital mediums, visual art, or even a performance. Below are some ideas of ways to share your research with friends or family. Once you create your presentation, share it with your family, friends, or troop.

Share your research:

- Create a digital collage about women in STEM. Include pictures of them and their work and share how they inspire you.

- Design a presentation using images from one division of space science, or all four, and share what NASA is exploring.
- Make an ad for a citizen science project that you are participating in.
- Make an image gallery of your remote telescope observations and share it.
- Create a video showing how to build a telescope and upload it to the internet. Then create a teaser video for social media that directs people to the full version.
- Make a comic book or graphic novel.
- Build a model of a spacecraft.
- Print space images on fabric and make a quilt or pillow case.
- Paint space images.
- Create a mobile of the solar system.
- Create a game.
- Design a performance piece and perform it for your family, friends, or troop.

Further information/research

Interested in working for NASA? Check out their [internship](#) and [fellowship](#) opportunities!

Also check out these links to see what other organizations of STEM professionals are doing and what tools they offer to help investigate different paths of study for a variety of careers.

- [Women in Aerospace](#)
- [Society of Women Engineers](#)
- [MAES: Latinos in Science and Engineering](#)
- [National Society of Black Physicists](#)
- [National Society of Black Engineers](#)
- [American Indian Science and Engineering Society](#)
- [American Astronomical Society](#)
- [Division of Planetary Sciences](#)
- [American Geophysical Union](#)
- [IEEE: Institute of Electrical and Electronics Engineers](#)
- [American Institute of Aeronautics and Astronautics](#)

Other helpful links:

- [“A New Universe to Explore: Careers in Astronomy”](#)
- [AGU Blogosphere](#)
- [Careers in Aerospace](#)

Fill this out upon completion:

<https://www.cognitofrms.com/GirlScoutsOfCaliforniasCentralCoast2/GSCCCAmbassadorSpaceScienceMasterBadgeWorkshopAtHome>