



Green ² Troops – Ambassador Space Science Master Badge

This badge will provide the girls with important knowledge regarding NASA's science and the exploration of worlds beyond Earth. Each activity will help to further expand their understanding on ways they can be a part of NASA both now and in the future, while also promoting eco-consciousness.

Activity 1: Green Habitat For Alien World

Objective: Promotes creativity and use of imagination. During this activity, the girls will design a habitat for an alien world using only recycled materials.

Materials Needed:

Any recycled materials (EX: straws, plastic tubes, egg carton)
Reusable writing utensil

Recycled paper
Digital device (optional)

Steps:

1. Life Essentials List: Using either a recycled sheet of paper or a digital device, create a list of all the items that you believe are considered essential for survival.
 2. Create The Habitat: Collect any recycled materials that you can find to assist in building a prototype for a livable habitat for Mars or the Moon. You may use the internet for examples or inspiration.
 3. Present and Share: Each girl will take turns presenting their habitat creations and will provide an explanation for why each part is included.
 4. Reflection: Gather the girls together to reflect back on their life essentials list. Ask them to compare and discuss the reasonings behind what they chose. What was the most common item listed?
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Activity 2: Discover NASA Careers

Objective: Teaches the girls about the different career paths at NASA. This activity will help give the girls better experience with answering questions, while also enhancing their confidence and communication skills.

Materials Needed:

Digital device

Eco-friendly notebook (optional)

Reusable writing utensil (optional)

Steps:

1. NASA Careers Introduction: Discuss with the girls about the various career opportunities available at NASA. Teach them about the responsibilities that come with each position and the needed skills required to take on these roles.
2. Assign Roles: Assign each girl with a NASA career related to science, sustainability, or space exploration.
3. Research Your Career: Using a digital device, search for any significant information about the career you were assigned and document it using either an eco-friendly notebook or Word document. Be sure to include:

- Career name and responsibilities
 - How your job supports space exploration or protects the Earth
 - Tools/technology used
 - Years of college required
4. Reflection: What was the most interesting piece of information you found regarding your assigned career? Do you think that a profession in this field of work would interest you in the future? Why or why not?
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Activity 3: Mock Podcast

Objective: Provides the girls with an opportunity to further expand their knowledge on different NASA careers others have researched. Additionally, this activity will help to boost their confidence in responding to spontaneous questions and public speaking.

Materials Needed:

Recycled paper Reusable writing utensil

Steps:

1. Partner Up: Assign the girls into pairs to participate in a mock podcast episode. Have them share the name of their designated career.
 2. Create a Questions List: Using recycled sheets of paper, both partners will write out a list of 5-10 questions about the other person's career path.
 3. Begin the Mock Podcast: Each partner will take turns asking each other their questions. Girls can use the research documents they created in Activity 2 to answer the questions, if needed.
 4. Reflection: Gather all the girls together and discuss what they learned. What was the most interesting thing? Which job did they find more interesting?
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Activity 4: Sustainable NASA Tech Idea

Objective: Promotes creativity, critical thinking, and teamwork.

Materials Needed:

Any reusable, natural, or upcycled items found at home Recycled paper
Reusable writing utensil Digital device (optional)

Steps:

1. NASA Technology Introduction: Teach the girls about the importance of NASA technology, and why it is needed for space exploration, aeronautics, and Earth applications.
2. Group Up: Divide the girls into teams of 3-4. Each team will design a piece of technology that NASA would be able to use during a mission.
3. Brainstorm: As a group, using a sheet of recycled paper, draw and write out your ideas. Think about what problems it would solve, which NASA careers it would be connected to, and why it is important.
4. Create a 3D Model: Gather as many reusable, natural, or upcycled materials you feel is necessary. Make sure that none of the materials used in this project are purchased. Work together with your team to design and create the model using the collected items.

5. **Present and Share:** Each team will take turns presenting their designs. Girls should act as if they are presenting to the NASA tech board. They should explain their ideas with confidence and clear understanding. Girls should ask:
 - What problem are we solving?
 - How will our technology function in a space environment?
 - How long is it designed to last on a mission?
 6. **Reflection:** Gather the girls to share their thoughts on their designs and presentations. If you were to go back, how would you improve your idea? Which idea presented was your favorite and why?
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Activity 5: Share Your Knowledge

Objective: Gives the girls a chance to truly showcase what they have learned throughout these activities, while also encouraging public speaking and creativity.

Materials Needed: Digital device

Steps:

1. **Group Up:** Divide the girls into groups of 3-4. During this activity, each group will create a presentation project using Powerpoint, Google Slides, or Canva to share with an audience.
 2. **Create the Presentation:** With the chosen digital, girls develop a presentation that includes all the information they learned during these activities. Coach them to use clear and understandable language, along with relevant visuals.
 3. **Find an Audience:** Have the girls find a group of people to present what they learned. This could be a class affiliated with a school, a club, an after school program, etc.
 4. **Reflection:** Gather the girls together and discuss how they think their presentations went. Ask: How did you feel when presenting your projects? Is there anything you wish you would have explained differently? What part of your presentation do you think went really well?
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Conclusion and Badge Completion:

Gather the girls to discuss what they learned about NASA's science. Ask them which activity contributed the most to their knowledge and understanding of the topic, and which skills they believe are most important to have when a part of a career affiliated with NASA. Encourage them to keep using the skills that they have learned throughout their daily lives.

Key Points For the Plan:

- Focus on innovation, collaboration, and problem-solving to help the girls learn to become more confident in the area of Space Science.
- All activities are 100% waste free by using only reusable, recycled, nature found items, or no materials at all.
- Encourage the girls to use strong communication, think critically, and reflect on real-world challenges faced by NASA teams.

This plan helps Ambassador Girl Scouts develop skills in public speaking, leadership, and creativity, all while enhancing their knowledge of science and promoting environmental awareness.