

Juniors Toolkit

About Girls Get STEM: Unleash Your Inner Scientist

Girl Scouts of the USA has unleashed a new partnership with Discovery Education to spark girls' interest in STEM and help them unleash their G.I.R.L. (Go-getter, Innovator, Risk-taker, Leader)™ potential. Girls Get STEM: Unleash Your Inner Scientist provides educators and Girl Scouts troop leaders with standards-aligned curriculum that aims to address gender equity in STEM education across the country through a series of girl-led, girl-tested, and girl-approved resources for students in grades 2–5.

Quick Facts

- Program Name: Girls Get STEM: Unleash Your Inner Scientist
- URL: <https://www.girlsleadstem.com/educator-resources>
- Audience: Girl Scouts in grades 2–5

About the Girls Get STEM Activities

The Girls Get STEM activities below were created to bridge national science and engineering standards into the Think Like a Citizen Scientist Journey. This can support you as a troop leader in recruiting girls and establishing relationships with educators. In addition to our national standards, non-cognitive skills are factors that predict success in school beyond content knowledge and academic skills. In education, we refer to some of the most popular learning strategies in today's workforce as the "4Cs" for 21st Century Learning. They include critical thinking, communication, collaboration, and creativity. Each of the activities created in this partnership highlight and help develop these important skills.

The table below provides an overview of each Girls Get STEM activity, how to include this activity in your current Think Like a Citizen Scientist Journey, and identifies the 21st Century Learning Skill featured.

Creativity

Design Activity: Creativity

Timing: Approximately 40 minutes, but tailor this activity to fit your troop's needs!

Focus Area: Planning to reach a goal is an important skill that requires both creativity and attention to detail. In this activity, girls will strengthen their ability to plan for success as they design their Take Action project!

Activity Overview: To develop a plan for their Take Action project, girls will be divided into three teams: Pre-Planners, In-Action, and Finishing Strong. Each group will collaborate to brainstorm materials and steps that they will need to complete their part of the project. The three groups will then share their ideas with each other, give and receive feedback, and make sure their ideas will work together for the troop's Take Action project.

Where can this activity fit in?

- Take Action Project: This activity can be used to complement the "Brainstorm and Design" section of "Design Your Take Action Project" in Think Like a Citizen Scientist Pt. 4.
- Any Time: This activity can also be modified to use any time your troop needs to plan for an upcoming project or event!

Materials:

- Three pieces of poster board/chart paper and markers
- Tape, magnets, or thumb tacks (for hanging the poster board/chart paper)
- **Group Roles descriptions**, one copy
- **Pre-Planners**, enough for one-third of the troop
- **In-Action**, enough for one-third of the troop
- **Finishing Strong**, enough for one-third of the troop
- **Prepare Ahead:** Print and cut out the squares from the **Troop Role cards** (one copy total) and **Group Role cards** (6 copies total)

Steps:

Juniors will be divided into three teams: Pre-Planners, In-Action, and Finishing Strong to develop a plan for their Take Action project.

Part 1: Setting the Stage

Begin the activity by reviewing the Take Action project that the girls agreed upon.

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SAY:

- Now, you'll begin planning for your Take Action project.
- Before you get started, turn to the girl next to you and discuss: Can you think of a time that you did not plan for something and you wish you had? (Maybe a school project, a talent show act, or someone's birthday!) What happened? Why would it have been better to plan?

Give girls a couple minutes to discuss in pairs before coming back together to discuss as a troop.

SAY:

- When you plan for something, there are usually two major parts that you need to plan for: 1) What steps will I need to take to accomplish my goal? And 2) What materials will I need to make sure I can accomplish these steps?
- Next, you'll work as a Pre-Planner, In-Action, or Finishing Strong to develop your plan to Take Action.
- If you're in the Pre-Planners group, you'll be in charge of deciding what needs to be done to prepare for the project.
- If you're in the In-Action group, you'll be in charge of deciding what needs to be done to actually run the project,
- If you're in the Finishing Strong group, you'll be in charge of outlining the steps needed to wrap up the project.

Have the girls count off by three and divide them into three groups: Pre-Planner, In-Action, and Finishing Strong.

Part 2: Divide and Conquer

Once the girls are in their groups, share the group descriptions on the **Group Roles descriptions** handout with the troop.

SAY:

- For the next part of the activity, each of you will have two roles (participant and something else)!
- As a participant, you are all responsible for sharing your ideas and contributing to the discussion.
- Why is it important for everyone to participate?
Girls may say: Everyone has a chance to share their ideas, participation keeps ideas fresh and creative, etc.

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Next, read through the specific group roles on the **Group Roles descriptions** handout (and below), and distribute the appropriate number of Group Role Cards to each group (based on the group size).

SAY:

- In your group, work together to decide who will take on each of the other roles.
- **Recorder:** One recorder will be responsible for recording your group's ideas on the handout to help everyone remember what your group discussed.
- **Time-Keeper(s):** One or two time-keepers will keep an eye on the clock to help your group stay on track and finish on time.
- **Scheduler(s):** One or two schedulers will be responsible for drawing a large version of your group's timeline on a piece of poster board or chart paper so the entire troop can see it easily!
- **Presenters:** Two presenters will share your group's action plan with the rest of the troop. They should use the Recorder's notes and the Scheduler's timeline to help them!

Give each group a couple minutes to split up the responsibilities.

Note to Volunteers: Every girl must also have one of these roles. If you need to modify the numbers, here are a couple of suggestions:

- **Too many girls?** Add an additional girl to a role. For example, there can be three presenters instead of two!
- **Too few girls?** Double up roles: The time keeper could also be a presenter. Or, the recorder could also be the scheduler.

Once the groups and roles have been decided, give each group their corresponding handout (**Pre-Planner** handout, **In-Action** handout, or **Finish Strong** handout), a piece of chart paper or poster board, and a marker.



Give groups about 15–20 minutes to brainstorm and record their thoughts. Make sure to tell the girls the time when they need to be finished so the time-keepers can keep their group on task. Each girl should take part in the group discussion and perform the job associated with their role.

As they're working, remind groups that they need to complete their handout and then use these notes to create a timeline of what needs to happen on the poster board/chart paper.

Creativity

Part 3: Coming Back Together

Encourage the Pre-Planners to share their timeline first. Once the girls have presented, invite the rest of the troop to ask them questions and provide suggestions.

Next, invite the In-Action presenters and then the Finishing Strong presenters to share their timelines. Hang these two timelines up next to the first, so a large timeline is formed.

After all three groups have presented, divide the girls by an imaginary line. Direct the girls on one side of the line to read through the three timelines from start to finish. Direct the girls on the other side of the line to read through the timeline backwards: from the very last step to the first.

SAY:

- Now, look at the three timelines that have been combined into one for the project.
- Looking at the overall timelines (from start to end or the other way around), are there any overlaps or any steps that may have been forgotten?

Ask girls to share their ideas, and add/remove steps if needed. If the girls have not included “Reflection” as the last step on the Finishing Strong timeline, use a marker to add this now.

SAY:

- Reflection is an important part of any project!
- After you finish a project, make sure to spend time reflecting on what you’ve accomplished, what went well, and what you would change for next time.
- Reflection will help you become an even better project planner in the future!

Save the troops’ timeline to continue planning in the next meeting.

Creativity


Group Roles descriptions

Participants: Everyone! You are *all* responsible for sharing your ideas and contributing to the discussion.

Recorder: One recorder will be responsible for recording your group's ideas on the handout to help everyone remember what your group discussed.

Time-Keeper(s): One or two time-keepers will keep an eye on the clock to help your group stay on track and finish on time.

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Scheduler(s): One or two schedulers will be responsible for drawing a large version of your group's timeline on a piece of poster board or chart paper so the entire troop can see it easily! (Make sure your timeline goes this way: )

Presenters: Two presenters will share your group's action plan with the rest of the troop. They should use the Recorder's notes and the Scheduler's timeline to help them!

Creativity

Troop Role Cards

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| <p><u>Participant:</u> You are responsible for sharing your ideas and contributing to the discussion.</p> | <p><u>Participant:</u> You are responsible for sharing your ideas and contributing to the discussion.</p> | <p><u>Participant:</u> You are responsible for sharing your ideas and contributing to the discussion.</p> | <p><u>Participant:</u> You are responsible for sharing your ideas and contributing to the discussion.</p> | <p><u>Participant:</u> You are responsible for sharing your ideas and contributing to the discussion.</p> |
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Creativity

Group Role Cards

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| <p><u>Group Roles:</u></p> <p>Each group should consist of at least:</p> <ul style="list-style-type: none"> • 1 Recorder • 1 or 2 Time-Keepers • 1 or 2 Schedulers • 2 Presenters | <p><u>Recorder:</u></p> <p>You will write your group's ideas on the handout so everyone can remember what was discussed and decided.</p> | <p><u>Time-Keeper:</u></p> <p>You will keep an eye on the clock to help your group stay on track and finish on time.</p> | <p><u>Time-Keeper:</u></p> <p>You will keep an eye on the clock to help your group stay on track and finish on time.</p> |
| <p><u>Scheduler</u></p> <p>You will draw a large version of your group's timeline on a piece of poster board or chart paper so the entire troop can see it easily!</p> | <p><u>Scheduler</u></p> <p>You will draw a large version of your group's timeline on a piece of poster board or chart paper so the entire troop can see it easily!</p> | <p><u>Presenter:</u></p> <p>You and the other presenter will share your group's action plan steps. Use the Recorder's notes and the Scheduler's timeline as your guide!</p> | <p><u>Presenter:</u></p> <p>You and the other presenter will share your group's action plan steps. Use the Recorder's notes and the Scheduler's timeline as your guide!</p> |

Creativity

Pre-Planners

It is your job to think about the steps that need to happen *before* you can complete your actual project. For example, if your project is creating posters to promote recycling in your school, you may need to gather materials, ask permission to hang the posters, research what poster messages would have the biggest impact, etc.

Tip: You don't need to complete every row below...Just fill in as many as you need to!

| What do we need to do? | When does this need to be done? (Think about specific days and/or times.) | What materials will we need (if any)? |
|--|---|--|
| For instance: <i>First, we need to see if we have supplies that could be used for making posters.</i> | <i>By next meeting</i> | <i>None! (But hopefully we'll find some supplies!)</i> |
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Creativity

In-Action

Once all of the preparation is done (For instance: You know your location, you have the materials, you've contacted everyone, etc.), what steps does your troop need to take to actually make your project happen?

It may be helpful to think about the goal of your project and work backwards from there. For instance: If the goal of your project is to hang posters around the school to promote recycling, and you've already done all of the preparation (such as gathering materials and getting permission to hang the posters), what else do you need to do?

Tip: You don't need to complete every row below...Just fill in as many as you need to!

| What do we need to do? | When does this need to be done? (Think about specific days and/or times.) | What materials will we need (if any)? |
|---|---|---|
| <i>For instance: First, we will decide how many posters each girl will be responsible for making.</i> | <u>date</u> | <i>Paper and pencil to keep track of how many posters are being made.</i> |
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Creativity

Finishing Strong

It's your job to think about the steps your troop will need to accomplish to wrap up your project. If your project is creating posters to promote recycling in your school, for instance, your campaign doesn't just end once all the posters have been hung. What else do you need to do to make sure the project is a success?

Tip: You don't need to complete every row below...Just fill in as many as you need to!!

| What do we need to do? | When does this need to be done? (Think about specific days and/or times.) | What materials will we need (if any)? |
|---|---|--|
| <i>For instance: First, we need to make an announcement on the school loudspeaker so students are aware of the posters we put up.</i> | <i>The day after the posters are hung</i> | <i>A script of what to announce on the loudspeaker</i> |
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