Engineering Adventures

A Planner for Girl Scout Volunteers:
Adding an engineering focus to the GIRLtopia® leadership development program
Girl Scouts on a GIRLtopia® Journey envision a perfect world for girls, where girls’ values, needs, and interests are respected. Girls act as visionaries—creative thinkers who are empowered to make a change. Engineers are also visionaries who work to define problems and come up with solutions.

Adding in some fun, hands-on engineering activities gives girls a chance to create, work as teams, and solve problems. You will inspire girls to feel confident about pursuing engineering careers and excited about how they, as engineers, can make the world a better place. Girls can explore techniques and strategies to use on this Journey and throughout their lives, whether or not they pursue a career in science, technology, engineering, and math (STEM).

Of course, the magic, fun, and friendship of Girl Scouting happens not in just what girls do but in how they do it. As you guide activities, keep these three ways of interacting with girls in mind:

**GIRL-LED LEARNING**

Make the sessions or the Journey girl-led by letting girls:
- Choose which activities to do
- Find and invite guest speakers
- Create an opening or closing ceremony

**COOPERATIVE LEARNING**

Help girls learn as a team by encouraging them to:
- Participate and share information with one another
- Play a specific role or take on a responsibility within their teams
- Assess their effectiveness as a group in meeting their goals

**LEARNING BY DOING**

To help girls learn by doing, make sure that they:
- Figure out their own solutions as they do activities
- Test their results, the way a scientist would
- Make mistakes—it’s okay if the activity doesn’t work. That’s learning by doing!

We gratefully acknowledge the support of the Noyce Foundation.
### How to use this planner

As you do the eight GIRLtopia® Journey sessions with your troop, this planner will show you where and how to add an engineering focus. Read across each row to find:

- **Column 1** The Journey session and approximate time the add-on engineering activity will take.
- **Column 2** The page number and a brief description of the GIRLtopia® activity to which you will add an engineering focus.
- **Column 3** The page number and a brief description of the Engineers to the Rescue activity, which you will do as instructed in the Engineers to the Rescue guide.
- **Column 4** How to add an engineering focus to the GIRLtopia® activity—and additional instructions or reflection questions for the Engineers to the Rescue activity, if needed.

### Each session in this planner includes

- Opening Ceremony: An icebreaker to help introduce the session.
- Hands-on STEM activities and where to find step-by-step instructions in Engineers to the Rescue's leader guide.
- Closing Ceremony: Career exploration and Girl Scout leadership connections.

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### MATERIALS

1. **You'll need the GIRLtopia® Adult Guide** and each girl in your group will need a GIRLtopia® Girl Book. See the materials list on the opening page for each session of GIRLtopia® for what you'll need.

2. Techbridge supplies the Engineers to the Rescue leader guide and engineering activity materials in their program box. You can borrow or buy your kit through your council, Techbridge, or the Science Source at thesciencesource.com.

3. A printed version of this planner will come in your Engineers to the Rescue toolkit, or you can download it at www.techbridgegirls.org.

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### You may be wondering...

**Can I use the Engineering Adventures planner on its own?**

No. This planner is designed to work alongside the GIRLtopia® Journey Adult Guide. As you go on the GIRLtopia® Journey with the girls, this planner shows you where and how to add an engineering focus.

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**If girls add an engineering focus to the GIRLtopia® Journey, will they still earn Leadership awards?**

Absolutely! As always, just follow the steps outlined in your GIRLtopia® Adult Guide to help girls earn their Visionary award.
SESSION 1

GIRLtopia® Journey Adult Guide

Opening Ceremony: Introduction to the Journey
About 20 minutes

PREPARE AHEAD
On paper, draw a female shape and write these stats on it:
• By 2018 most jobs will require training in science and math.
• Only 13% of girls interested in STEM pursue a career in it.
• Women currently make up 13% of engineers.
• Girls who choose a career in STEM can earn 26% more than those in other fields.

p. 35, Do Introduction to the Journey
Girls play an icebreaker game to find their “other half” and discover one thing they have in common with that person to share with the group.

Hang the Engineering Design Process Poster and paper doll (see Prepare Ahead at left for paper doll instructions)
Read Engineering Design Process, p. 5, for an explanation of what it means so you’ll know how to explain it to girls.

BEFORE GIRLS DO INTRODUCTION TO THE JOURNEY

SAY Welcome to Engineering Adventures! What does this mean? On the GIRLtopia® Journey, you’ll be considering problems facing girls around the world. By using the engineer design process, or EDP, you’ll explore how to identify those problems, brainstorm solutions, and test ideas to create a project that makes a difference.

DO Point to the EDP poster and call out each step, then invite girls look at the paper doll and statistics, looking for ways to improve our world.

ASK
• Do any of these statistics surprise you? Which ones? Why?
• What do you think each of these steps in the EDP means?
• Do any of the steps in the EDP seem like something you already do?

AFTER INTRODUCTION TO THE JOURNEY

SAY
• How could science help girls facing problems around the world? Sample responses: “Build bridges to connect towns so girls can go to school.” “Create cheaper, accessible technology for girls to be connected.” “Develop ways to keep girls safe, such as tracking technology.”
• What interests you most about science?
• How would you describe what an engineer does? Sample responses: “Engineers are creative problem-solvers.” “Engineers use math, science, and their imagination to help improve something.”

DO Explain to girls that the word science is shorthand for all the STEM fields: science, technology, engineering, and math; scientists refers to all the people who work in those fields. The EDP is a tool that engineers—and your girls—will use to innovate designs and solve problems.

Engineers to the Rescue

Add an Engineering Focus

BEFORE GIRLS DO INTRODUCTION TO THE JOURNEY

Sample responses:
• Build bridges to connect towns so girls can go to school.
• Create cheaper, accessible technology for girls to be connected.
• Develop ways to keep girls safe, such as tracking technology.

Sample responses:
• Engineers are creative problem-solvers.
• Engineers use math, science, and their imagination to help improve something.

Sample responses:
• Science is shorthand for all the STEM fields: science, technology, engineering, and math.
• Scientists refers to all the people who work in those fields.

Sample responses:
• The EDP is a tool that engineers—and your girls—will use to innovate designs and solve problems.

Share these with the girls to get discussion going or a hands-on activity from Engineers to the Rescue. You can decide what to add to your Journey, depending on your time and the girls’ interests.
### SESSION 1

<table>
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<tr>
<th>Activity 1: Scheduling the Journey + Fractured Facts</th>
<th>GIRLtopia® Journey Adult Guide</th>
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</thead>
<tbody>
<tr>
<td>Activity 1: Scheduling the Journey + Fractured Facts</td>
<td>p. 36, First do Scheduling the Journey</td>
<td>pp. 47–49 Then do Fractured Facts</td>
<td>AFTER GIRLS DO SCHEDULING THE JOURNEY</td>
</tr>
<tr>
<td>About 20 minutes</td>
<td>Girls schedule and plan the GIRLtopia® Journey.</td>
<td>Girls take a look at a few global-engineering facts, problems, and solutions.</td>
<td>SAY To earn your Visionary Award, you will be creating a vision of an ideal world, expressing your vision to others, and completing a take action project to get the world closer to your ideal. Get some ideas for your Visionary Award project by playing this next game.</td>
</tr>
</tbody>
</table>

**DO** Invite girls to do Fractured Facts on p. 47 of Engineers to the Rescue.

**NOTE TO VOLUNTEERS** You can do this activity as described in the leader guide, or make your own Jeopardy-style quiz.

**ASK**
- Which of these facts surprised you?
- Did any of these facts inspire a Take Action project idea?
- Do you see a problem you want to do something about?

<table>
<thead>
<tr>
<th>Activity 2: Shared Visions of GIRLtopia® + Design Your Tool</th>
<th>p. 39, First do Shared Visions of GIRLtopia®</th>
<th>p. 20, Then do Design Your Tool</th>
<th>AFTER GIRLS DO SHARED VISIONS OF GIRLtopia®</th>
</tr>
</thead>
</table>
| Activity 2: Shared Visions of GIRLtopia® + Design Your Tool | Girls create a master list about an ideal society by sharing ideas. | Girls design a tool prototype that will be helpful in a camp setting. | **ASK**
- Which engineering solutions might you find to remove obstacles that girls face and to improve their living conditions?
- Do any possible solutions require technology or an improvement on an existing device?

**DO** Invite girls to do Design Your Tool on p. 20 of Engineers to the Rescue.

**SAY** Here’s your chance to start using the engineering design process and act like an engineer while you create a camping tool.

**ASK** the reflection questions on p. 20 and add:
- Where else could your tool be helpful?
- What kind of tools do girls need?
### SESSION 1

<table>
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<tr>
<th>GIRLtopia® Journey Adult Guide</th>
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<th>Add an Engineering Focus</th>
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</thead>
<tbody>
<tr>
<td><strong>Closing Ceremony: Career Card</strong>&lt;br&gt; About 10 minutes</td>
<td>No specified activity</td>
<td>p. 31, Share Career Card, Environmental Engineer Cari Ishida to meet a professional who is helping to improve our world.</td>
</tr>
</tbody>
</table>

**BEFORE GIRLS DO CAREER CARD**

**SAY** As you design your ideal world, let’s look at some successful female engineers for inspiration.

**DO** Share the Career Card profile on Cari Ishida in *Engineers to the Rescue*.

**ASK**
- What does Cari hope to achieve by being an environmental engineer?
- What might appeal to you about exploring a career in environmental engineering?
- What problems can environmental engineers help solve?
- How could Cari help you with GIRLtopia®?
- If you were in Cari’s shoes, what would be your environmental priority? Water, soil, animals, air?
### Session 2

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<tr>
<th><strong>SESSION 2</strong></th>
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<th><strong>Engineers to the Rescue</strong></th>
<th><strong>Add an Engineering Focus</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Opening Ceremony:</strong> What’s Our Ideal Group?</td>
<td>p. 45, Do What’s Our Ideal Group?</td>
<td>No specified activity</td>
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</tr>
<tr>
<td>About 15 minutes</td>
<td>Girls define the ideal environment they want for their group.</td>
<td></td>
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<tr>
<td><strong>Activity 1:</strong> Wind-Powered Crank</td>
<td>No specified activity</td>
<td>pp. 21–24, Do Wind-Powered Crank</td>
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</tr>
<tr>
<td>About 60 minutes</td>
<td>Girls work in teams to create a working wind-powered crank.</td>
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</tbody>
</table>

**BEFORE GIRLS DO WIND-POWERED CRANK**

**SAY** You are exploring what it might be like for engineers with different specialties to work as a team. Let’s put it to work.

**NOTE TO VOLUNTEERS** Read the safety information on p. 23 of Engineers to Rescue leader guide about operating a glue gun. For a non-glue option, duct tape is supplied in the kit.

**AFTER WHAT’S OUR IDEAL GROUP**

**SAY** Engineers of different specialties frequently collaborate on projects, working as a team of experts. For example, it takes a software engineer, electrical engineer, and materials science engineer to create a cell phone.

**ASK**

- How do you think engineers of different specialties work together?
  - Sample responses: “By defining one another’s specific skills, talents, strengths, and styles.” “By holding one another accountable for creating a shared goal.” “By presenting ideas and challenges in a clear way.” “By brainstorming solutions everyone can agree on.”
- Which parts of the EDP do engineers use while working together?
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<th>SESSION 2</th>
<th>GIRLtopia® Journey Adult Guide</th>
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<th>Add an Engineering Focus</th>
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</thead>
<tbody>
<tr>
<td><strong>Activity 2:</strong> Assessing Our Team Dynamics</td>
<td>p. 48, Do Assessing Our Team Dynamics</td>
<td>No specified activity</td>
<td>BEFORE GIRLS DO ASSESSING OUR TEAM DYNAMICS</td>
</tr>
<tr>
<td>About 15 minutes</td>
<td>Girls use their “ideal list” from Opening Ceremony: What’s Our Ideal Group to evaluate their group dynamics and practice negotiating common values as a team.</td>
<td></td>
<td>SAY When you created the wind-powered crank you experienced what it was like to work as a team. Use this next activity to evaluate what went well and what was challenging about teamwork.</td>
</tr>
<tr>
<td><strong>Closing Ceremony: Career Card</strong></td>
<td>No specified activity</td>
<td>p. 25, Share Career Card, Civil Engineer Melanie Lapointe to introduce girls to a civil engineer who works with wind turbines, like the wind-powered crank they created.</td>
<td>BEFORE GIRLS DO CAREER CARD</td>
</tr>
<tr>
<td>About 10 minutes</td>
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<td></td>
<td>SAY You are about to meet civil engineer Melanie Lapointe, who supports installation of wind turbines, just like the wind-powered crank you created.</td>
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<td>DO Share the profile on environmental engineer Melanie Lapointe on p. 25 in Engineers to the Rescue.</td>
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<td>ASK • What other engineers does Melanie work with in her job? Sample response: “A city engineer, to make sure she’s following the municipal code.”</td>
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<td>• How do you think Melanie uses the EDP in her work with turbines?</td>
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<td>• How do you think Melanie helps the world?</td>
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<td>• What could she help you with in GIRLtopia®?</td>
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<td>• What appeals to you about exploring a career in civil engineering?</td>
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<td>• What problems can civil engineers help solve?</td>
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</tbody>
</table>
## SESSION 3

### GIRLtopia® Journey Adult Guide

<table>
<thead>
<tr>
<th>Opening Ceremony: Rescue Introduction</th>
<th>No specified activity</th>
<th>pp. 16–17, Do Rescue Introduction, Section 1</th>
<th>BEFORE GIRLS DO RESCUE INTRODUCTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>About 15 minutes</td>
<td></td>
<td>Girls examine the Yellowstone brochures to gain a better understanding of steps in the EDP.</td>
<td>SAY Remember Melanie Lapointe, the civil engineer? When she plants wind turbines in windy, mountainous areas, part of her process is to research and know the environment. Take a minute to study the Yellowstone brochures and become familiar with the territory of our hypothetical camping trip gone wrong.</td>
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<td>DO Have girls do the Rescue Introduction activity on p. 16 of Engineers to the Rescue.</td>
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<td>AFTER RESCUE INTRODUCTION</td>
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<td>ASK</td>
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<td></td>
<td>• What role does shared green space have in your GIRLtopia® vision?</td>
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<td>• What features of a national park appeal most to you? Why?</td>
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<tr>
<td>Activity 1: How’s Our Community Doing?</td>
<td>p. 52, Do How’s Our Community Doing?</td>
<td>No specified activity</td>
<td>ADD THESE QUESTIONS TO HOW’S OUR COMMUNITY DOING</td>
</tr>
<tr>
<td>About 20 minutes</td>
<td>Girls make a map of their community to understand its needs.</td>
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<td>ASK</td>
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<tr>
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<td></td>
<td>• What type of technology is used to create maps today? Sample response: “Global positioning satellites and Google Earth.”</td>
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<td></td>
<td>• What type of deficiencies or “hot spots” did you find in your community that might be solved through engineering? Sample responses: “The need for improved communication systems. “Energy-efficient public transportation and better roads.”</td>
</tr>
<tr>
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<td>• Where do girls feel safe hanging out? Where can girls express themselves?</td>
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</tbody>
</table>

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### SESSION 3: GIRLtopia® Journey

| Activity 1: (continued) How’s Our Community | (continued) p. 52, Do How’s Our Community Doing? | (continued) No specified activity | ASK (continued)  
|--------------------------------------------|-------------------------------------------------|---------------------------------|---------------------------------|
| Activity 2: Girls’ Bill of Rights  
About 20 minutes | p. 53, Do Girls’ Bill of Rights  
Girls spell out rights girls need to have. | Hang paper doll with statistics to help girls add an engineering focus to Girls’ Bill of Rights. | BEFORE GIRLS DO GIRLS’ BILL OF RIGHTS  
DO Have girls look at the paper doll statistics before writing their statements.  
ADD AN ENGINEERING FOCUS  
ASK  
- How can the EDP help you create your Girls’ Bill of Rights?  
- How will you use your Bill of Rights to protect and inspire women to go into engineering or STEM careers? Sample responses: “Offer more opportunities for girls in science.” “Encourage more good role models.” “Eliminate negative media stereotyping.”  
- Do you think there is a salary difference between what male and female engineers make? How would you address this in your Bill of Rights?  
Closing Ceremony: Girl Scout Law  
About 10 minutes | Inside front cover: Have girls read the Girl Scout Law. | No specified activity | DO Invite girls to look at The Girl Scout Law and consider how it might match up to their Girls’ Bill of Rights.  
ASK  
- How can we apply the Girl Scout Laws to the EDP? Sample response: “I will think about how the design helps others and the environment.”  
- Does the EDP have anything to contribute to your Girls’ Bill of Rights? |
### SESSION 4

#### GIRLtopia® Journey Adult Guide

<table>
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<tr>
<th>Activity 1:</th>
<th>Opening Ceremony:</th>
<th>What Do You Want to Change?</th>
<th>About 10 minutes</th>
</tr>
</thead>
<tbody>
<tr>
<td>pp. 32–33</td>
<td>p. 58, Do What Do You Want to Change?</td>
<td>Girls review their Take Action ideas.</td>
<td>No specified activity</td>
</tr>
</tbody>
</table>

#### Engineers to the Rescue

<table>
<thead>
<tr>
<th>Activity 2:</th>
<th>Girls’ Bill of Rights</th>
<th>About 20 minutes</th>
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</thead>
<tbody>
<tr>
<td>pp. 53</td>
<td>Girls’ Bill of Rights</td>
<td>Girls spell out rights girls need to have.</td>
</tr>
</tbody>
</table>

#### Add an Engineering Focus

**AFTER GIRLS DO WHAT DO YOU WANT TO CHANGE?**

**DO** Invite girls to ask one another engineering design process questions about their take action project ideas for GIRLtopia®. For example:
- Who will help you brainstorm your project?
- How will you test it?
- When will you share it with others?
- What other steps in the EDP are guiding your project?

**ASK** the reflection questions on p. 32 and add:
- How can you apply teamwork and the EDP when working together on a Take Action project?

**Activity 1:**

<table>
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<th>Activity 1:</th>
<th>Tune In Techbridge</th>
<th>About 40 minutes</th>
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<tbody>
<tr>
<td>pp. 32–33</td>
<td>Do Tune in Techbridge</td>
<td>Girls brainstorm solutions, work as teams, and work within a deadline.</td>
</tr>
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</table>

**Closing Ceremony:**

<table>
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<tr>
<th>Closing Ceremony:</th>
<th>Career Card</th>
<th>About 10 minutes</th>
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<tbody>
<tr>
<td>pp. 45, Share Career Card, Structural Engineer Kittrina McCourt; relate her work to the structure activity the girls just completed.</td>
<td>p. 45, Share Career Card, Structural Engineer Kittrina McCourt; relate her work to the structure activity the girls just completed.</td>
<td>No specified activity</td>
</tr>
</tbody>
</table>

**BEFORE GIRLS DO CAREER CARD**

**SAY** When you did Tune in Techbridge, you worked in teams to create a structure. Now meet a real-life structural engineer, Kittrina McCourt, who will share a typical day on the job.

**AFTER CAREER CARD**

**ASK**
- What skills led Kittrina to become a structural engineer?
- What does Kittrina hope to achieve by being a structural engineer?
- What might appeal to you about exploring a career in structural engineering?
- What problems can structural engineers help solve?
## SESSION 5

<table>
<thead>
<tr>
<th>GIRLtopia® Journey Adult Guide</th>
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</table>
| **Opening Ceremony:**
  *Take Action Update Conversation*
  About 10 minutes | No specified activity | **ASK** the reflection questions on p. 64 and add:
  - How did the EDP help you plan your Take Action project?
  - Which part of the EDP do you think is most important? Why? |
| **Activity 1:**
  *Clean This Water*
  About 1 hour | pp. 26–30
  *Do Clean This Water*
  Girls use common materials to create solutions for water contamination. | **BEFORE GIRLS DO CLEAN THIS WATER**
  **SAY** As you learned in Fractured Facts, 884 million people do not have access to clean drinking water. This activity will inspire you to help find a way to address the problem. In this activity, you will act as engineers and use the EDP to find possible solutions. |
| **Closing Ceremony:**
  *Ethical Decision Making*
  About 20 minutes | No specified activity | **AFTER GIRLS DO ETHICAL DECISION MAKING**
  **ASK** the reflection questions on p. 65 and add:
  - What are some situations in our community where water supply and pollution could be concerns? (Hint: “Where does our wastewater go? What happens during flash floods in our communities?”)
  - Who are the people making decisions about water?
  - What ethical dilemmas come to mind about water, how we use it, and who has access to it? |

**NOTE TO VOLUNTEERS**
Hopefully girls will come to the consensus that all parts of the EDP are equally needed—that one step can’t be skipped.
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</table>
| **Opening Ceremony:**  
Sound Off: Thinking Outside the Box  
About 15 minutes | p. 68, Do Sound Off: Thinking Outside the Box  
Girls brainstorm qualities that make “a nice girl” and “a leader.” | No specified activity | **AFTER GIRLS DO SOUND OFF**  
ASK  
• How do you think engineers think outside the box?  
• What qualities do you think make for a good leader in engineering?  
• Where are opportunities for you to show your problem-solving and leadership qualities? |
| **Activity 1:**  
Give Me Shelter  
About 1 hour | No specified activity | p. 36–41, Do Give Me Shelter  
Girls examine soil types and build a structure. | **AFTER GIRLS DO GIVE ME SHELTER**  
ASK the reflection questions on pp. 37–38 and add:  
• How do engineers figure out what circumstances they’re working with?  
• How do they get their information, gather data, and generate ideas about what could happen?  
• How did you feel about your role in the team?  
• What did you like or not like about how you worked with your partner? |
| **Closing Ceremony:**  
Career Card  
About 20 minutes | No specified activity | p. 46, Share Career Card, Geologist Jeanette Hummel for girls to meet a scientist who studies environmental condition as they relate to the land. | **BEFORE GIRLS DO CAREER CARD**  
SAY You’ve just built a structure that can hopefully withstand an earthquake and rainstorm. Geologist Jeanette Hummel shares what she knows about sand, volcanoes, and earthquakes.  
DO Share Jeanette’s profile.  
**AFTER CAREER CARD**  
ASK  
• What was Jeanette’s main motivation for becoming a geologist?  
• What does Jeanette hope to achieve by being a geologist?  
• How do geologists help people?  
• What might appeal to you about exploring a career in geology?  
• What problems can geologists help solve? |
### SESSION 7

<table>
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<tr>
<td><strong>Opening Ceremony:</strong></td>
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<td><strong>ASK</strong> the reflection questions on p. 74 and add:</td>
</tr>
<tr>
<td><em>Take Action Project Discussion</em></td>
<td>No specified activity</td>
<td>• How did you use the EDP to move your Take Action project forward?</td>
</tr>
<tr>
<td>About 10 minutes</td>
<td></td>
<td>• What skills do engineers have (that you’ve practiced in these sessions) that could help your Take Action project?</td>
</tr>
<tr>
<td><strong>Activity 1:</strong></td>
<td></td>
<td><strong>AFTER GIRLS DO CAR TO THE RESCUE</strong></td>
</tr>
<tr>
<td><em>Car to the Rescue</em></td>
<td>No specified activity</td>
<td><strong>ASK</strong> the reflection questions on p. 52 and add:</td>
</tr>
<tr>
<td>About 45 minutes</td>
<td>pp. 50–53 Do <em>Car to the Rescue</em></td>
<td>• What do engineers do when something doesn’t work?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• What can you try differently in your journey?</td>
</tr>
<tr>
<td><strong>Closing Ceremony:</strong></td>
<td></td>
<td><strong>BEFORE GIRLS DO CAREER CARD</strong></td>
</tr>
<tr>
<td><em>Career Card</em></td>
<td>No specified activity</td>
<td>SAY Mechanical engineers design and test all kinds of mechanical devices, much like the car activity you just did. Meet Judy Lee, a mechanical engineer who designs products from toys to laptops.</td>
</tr>
<tr>
<td>About 20 minutes</td>
<td>p. 54, Share Career Card, Mechanical Engineer Judy Lee so girls find what she can dream, design, and build.</td>
<td><strong>AFTER CAREER CARD</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>ASK</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• What led Judy to become a mechanical engineer?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• What does Judy hope to achieve by being a mechanical engineer?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• What might appeal to you about exploring a career in mechanical engineering?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• What problems can mechanical engineers help solve?</td>
</tr>
</tbody>
</table>

**DO** Invite girls to think about their final session. Do they want to have a celebration? Do they want to showcase the activities they’ve done? Invite guests, such as local STEM role models? Have snacks? Perhaps they want to bring engineering-themed snacks such as pretzel rods made into a tower or bridge or cupcakes with building block candles. Encourage girls to get creative!
## SESSION 8
### GIRLtopia® Journey
#### Adult Guide

<table>
<thead>
<tr>
<th>Session</th>
<th>Activity</th>
<th>Description</th>
<th>Materials</th>
<th>Activity Time</th>
<th>DO</th>
<th>SAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opening Ceremony: Your Career Card</td>
<td>No specified activity</td>
<td>p. 34, Do Your Career Card</td>
<td>Girls think about their future STEM dreams and create a career card about themselves.</td>
<td>About 20 minutes</td>
<td>Distribute career cards and encourage girls to think about the activities they've done in Engineering Adventures.</td>
<td>This activity is a way for you to start thinking about your future. Will you go to college? If so, what will you study? Where do you think you will live? What type of career do you want?</td>
</tr>
<tr>
<td>Activity 1: Kid of the Year</td>
<td>No specified activity</td>
<td>p. 55, Do Kid of the Year</td>
<td>Girls highlight their successes.</td>
<td>About 20 minutes</td>
<td>Invite girls to do the Kid of the Year activity, including the Praise Page on p. 56.</td>
<td>Does any part of your future include STEM?</td>
</tr>
<tr>
<td>Activity 2: Celebrate Engineering Adventures</td>
<td>No specified activity</td>
<td>Have girls present their Techbridge activity projects.</td>
<td></td>
<td>About 10 minutes</td>
<td>Encourage girls to showcase their hands-on projects: the water filter, the wind-crank, the car, the shelter-soil combination, and the Tune In Techbridge tower. Ask them how they think each project might help in their vision for GIRLtopia®.</td>
<td>In this Journey, you explored engineering careers, how to do the EDP steps, and ways of overcoming obstacles that girls and women face. You've become a better problem solver!</td>
</tr>
<tr>
<td>Closing Ceremony</td>
<td>No specified activity</td>
<td>No specified activity</td>
<td></td>
<td>About 10 minutes</td>
<td></td>
<td>What was the most valuable thing you learned?</td>
</tr>
</tbody>
</table>