

JUNIOR PRODUCT DESIGNER BADGE - MEETING 2

Badge Purpose: When girls have earned this badge, they will know how to think like a product designer.

Activity Plan Length: 1.5 hours

Time	Activity	Materials Needed
15 minutes	Getting Started <ul style="list-style-type: none"> Girls recite the Girl Scout Promise + Law 	<input type="checkbox"/> (Optional) Girl Scout Promise and Law poster
15 minutes	Observe and Record <ul style="list-style-type: none"> Girls become innovation detectives. 	<input type="checkbox"/> Common household items <input type="checkbox"/> Writing utensils <input type="checkbox"/> Paper
25 minutes	Design a Prototype <ul style="list-style-type: none"> Girls create prototypes for new versions of household items. 	<input type="checkbox"/> Big paper or whiteboard <input type="checkbox"/> Markers <input type="checkbox"/> Graph paper <input type="checkbox"/> Modeling clay or thick play dough <input type="checkbox"/> Cardstock, index cards, tagboard, and/or cereal boxes <input type="checkbox"/> Scissors <input type="checkbox"/> Glue and/or tape <input type="checkbox"/> Coloring and drawing utensils
10 minutes	Invention Fair <ul style="list-style-type: none"> Girls present their completed prototypes. 	<input type="checkbox"/> Prototypes from Activity #2 <input type="checkbox"/> Paper or small cards <input type="checkbox"/> Writing utensils
10 minutes	Snack Chat <ul style="list-style-type: none"> Girls enjoy a healthy snack while discussing what they have learned. 	<input type="checkbox"/> Healthy snack
15 minutes	Wrapping Up	<input type="checkbox"/> (Optional) Make New Friends lyrics poster

Getting Started

Time: 15 minutes

Materials Needed: (Optional) Girl Scout Promise and Law poster

Welcome everyone to the meeting, recite the Girl Scout Promise and Law.



Activity #1: Observe and Record

Time: 15 minutes

Badge Connection: Step 2 – Be an innovation detective

Materials Needed: Household item; writing utensils; paper

Prep Needed:

- Let the girls know in advance that they can bring one common household item from home. It should be small enough to easily carry, used on a regular basis, and durable enough to be unlikely to break. Girls should also have permission to bring that particular item.
 - Bring an assortment of extra items (hand tools for kitchen or shop, small appliances or electronics, toys, etc.).
1. Make sure everyone has an item to demonstrate or present. Girls who did not bring an item can pick one out from the collection of extras.
 2. Divide girls into small teams (2-4 girls).
 3. Have the girl with the first name closest to the front of the alphabet start first. She will take about two minutes to describe (or demonstrate, if appropriate) how this item is typically used in her family. She should mention as many of its different features and uses as possible. Keep an eye on the time, so everyone will have a chance to present.
 4. The other girls will take notes on how the item is used, based only on the presenter's experience (if it's used differently in the recorder's household, that's a separate question.) Then they should ask: what does the item do best? What do you wish could change? What other items could do something similar? Again, the others are only recording the presenter's experience.
 5. Switch and repeat until every girl has a chance to present.
 6. Compare notes. What did the recorders write that was different, interesting, or surprising to the presenter?

Activity #2: Design a Prototype

Time: 25 minutes

Badge Connection: Step 5 – Mess up so you can try again

Materials Needed: Big paper or whiteboard; markers, graph paper; modeling clay or thick play dough; cardstock, index cards, tagboard, and/or cereal boxes; scissors; glue and/or tape; coloring and drawing utensils

Prep Needed:

- Make a large poster with the SCAMPER acronym, or use the poster from the previous Session 1 meeting.
1. Explain that a prototype is a model or example of a finished product, which can be used to explain the use of the product and advertise, and to test a design for errors or possible improvements.
 2. Review the SCAMPER acronym to remind girls of the ways that an existing product can be changed.
 3. Have the girls share the household items they brought with them, or choose one from the items you brought. What is their item used for? Why did someone choose to make it out of that material? Can you use it? What's the best thing about it? What would you change if you could?
 4. Each girl should choose one item for which they are making a prototype of a new version. They can also choose anything from the last session if they have some ideas they want to work on. They can also choose from a variety of building materials.
 5. They are to create a new and improved version of the item. Remember to try to keep the things that were good about the project, while still improving the things that you think need work.
 6. Give the girls set time limits. Let them know when time is running up at ten minutes remaining and three minutes remaining.
 7. Have the girls document their thoughts about what worked and what didn't.



Activity #3: Invention Fair

Time: 10 minutes

Badge Connection: Step 5 – Mess up so you can try again

Materials Needed: Prototypes from Activity #2; writing utensils; small cards

Prep Needed:

- You'll need space for the girls to set out the prototypes. You can use tables or find room on the floor for them.
1. As girls or groups finish, have them find a spot for their completed prototypes. They should also make a tag that says what the item is and what it's used for, as well as their names and any other fun info they want to include.
 2. Assign everyone to either group A or group B. Group A will share their prototypes first, while group B starts rotating between the examples, asking questions and admiring their fellow inventors' work.
 3. Have them ask the designer – what made you choose this? What was most important aspect to leave unchanged, and what need the most work?
 4. After group B has had a chance to see each prototype, have the groups switch roles.

Activity #4: Snack Chat

Time: 10 minutes

Badge Connection: Questions link to multiple badge steps

Materials Needed: Healthy snack

While enjoying snack, here are some things for girls to talk about:

- What are some inventions that you wish could be made right now?
- If you could be in charge of any company or kind of company, what would it be, and what would be the coolest thing that your company would make?
- Talk about a time you are proud of when you changed something or made something new.
- Which do you like better: coming up with lots of new ideas (and let someone else make them work), or being the person to figure out how to make a dream idea actually work in the real world?
- Imagine you could build yourself a new house, from scratch, without worrying about budget. What kinds of things would you make sure were in your dream house?

Wrapping Up

Time: 15 minutes

Materials Needed: (Optional) Make New Friends lyrics

Close the meeting by singing Make New Friends and doing a friendship circle.



More to Explore

- Field Trip Ideas:
 - Visit a place that uses reclaimed or recycled items and find out more about what happens to the new products.
 - Attend a science or inventors fair.
- Speaker Ideas:
 - Invite a graphic designer or someone who uses computers to make models and/or prototypes.
 - Ask someone whose job requires working in teams to talk about how groups solve problems together.

