

## Daisy Robotics Badges: Materials List

### What Robots Do 1

#### Activity 1: As Girls Arrive: Pin the Antenna on the Robot

- Draw a simple sketch of a robot on a large piece of paper
- Strips of tin foil
- Masking tape
- Blindfold

#### Activity 2: Opening Ceremony: Discovering Robots

- Flag
- Optional: Poster Board with the Girl Scout Promise and Law

#### Activity 3: Learn About Robots

- Find and print out about ten images of robots and non-robots. Five should be pictures of robots the girls know/are familiar with from pop culture (i.e. Wall-E, C3PO, R2D2, etc.) or pictures of real robots (i.e. Mars Rovers, Roomba, etc.). Five should be things that are not robots. (**Note to Volunteers:** You can add in trick examples or more images of each to up the difficulty level.)
- Prior to the meeting, tape the images around the room in visible, but not very easily seen, places.

#### Activity 4: Find Out What Robots Can Do

- Paper
- Markers, pens, or pencils
- Option 1: Engineering for the Red Planet and LEGO® Robots videos, downloaded or with ability to stream on device (computer, smartphone, tablet, etc.)
- Option 2: Find and print photos of the Mars Rovers, LEGO robots, or other robots.

### What Robots Do 2

#### Activity 1: As Girls Arrive: Helping One Another

- Markers for Activity 3: Team Up to Design Your Own Robots
- Cups
- Paper

#### Activity 2: Opening Ceremony: Robots Solve Problems

- Flag
- Optional: Poster Board with the Girl Scout Promise and Law

#### Activity 3: Team Up to Design Your Own Robots

- Paper
- Markers, pens, or pencils
- Robot drawings girls created on their own for Step 2 in What Robots Do 1

#### Activity 4: Closing Ceremony: Awards

- What Robots Do award

(**Note to Volunteers:** You can buy these awards from your council shop or on the Girl Scouts' website.)

## Daisy Robotics Badges: Materials List

### How Robots Move 1

#### Activity 2: Opening Ceremony: Robots Solve Problems

- Flag
- Optional: Poster Board with the Girl Scout Promise and Law

#### Activity 3: Learn About the Parts of a Robot

- Robot parts like wheels, gears, levers (tongs, scissors, cardboard and brass fasteners, etc.), nuts and bolts, screws, pulleys (paperclip & string), or anything else you have that could be used in a robot. (Note to Volunteers: If you do not have some of the items, print pictures. However, as girls will be encouraged to play with the items, this is not recommended.)
- String
- Cardboard
- Masking tape
- Markers, pens, or pencils
- Prior to the meeting or activity, organize the robot parts around the room for Daisies to discover.

### How Robots Move 2

#### Activity 1: As Girls Arrive: Rainbow Algorithms

- Paper
- Markers, crayons, or colored pencils

#### Activity 2: Opening Ceremony: Programming Algorithms

- Flag
- Optional: Poster Board with the Girl Scout Promise and Law

#### Activity 3: Make a Robot Move

- Prepare masking tape trails made of right angles (one for each group of 3-4 girls). See **Sample Robot Trails** for ideas.
- Masking tape
- Stuffed animals (one for each group of 2-4 girls)
- Prize (one for each group of 2-4 girls). This can be anything (snack, WRAP, etc.)
- Board or flipchart to write on
- **Happy Map Arrows** (one sheet for each group of 2-4 girls)
- Scissors
- Optional: **Worksheet: Move the Flurbs** (one for each girl)  
An “assessment worksheet” sounds a lot like school, but girls will probably see this as a fun puzzle page. If there’s time, girls could do the activities in the meeting or you could give each girl a copy to take home. Perhaps they’d like to show their families what they learned about programs and algorithms by doing the worksheet together

#### Activity 4: Closing Ceremony: Awards

- How Robots Move award

(Note to Volunteers: You can buy these awards from your council shop or on the Girl Scouts’ website.)

## Daisy Robotics Badges: Materials List

### Design a Robot 1

#### Activity 2: Opening Ceremony: Designing Robots

- Flag
- Optional: Poster Board with the Girl Scout Promise and Law

#### Activity 3: Plan Your Robot

- Paper
- Markers, pens, or pencils

#### Activity 4: Create a Prototype

(**Note to Volunteers:** Girls will be creating prototypes of their robots. Materials can vary by what you have available. If you have a robotics kit, please feel free to use it.)

- Pipe cleaners
- String
- Toilet Paper rolls
- Straws
- Cardboard
- Construction Paper
- Brass fasteners
- Tape
- Scissors
- Glue
- Markers, pens, or pencils
- Optional: Robot parts like gears, pulleys, or screws for girls to include.

### Design a Robot 2

#### Activity 1: As Girls Arrive: Program Your Prototype

- Robot prototypes created by Daisies in Design a Robot 1
- Paper
- Markers, pens or pencils

#### Activity 2: Opening Ceremony: Engineering Prototypes

- Flag
- Optional: Poster Board with the Girl Scout Promise and Law

#### Activity 3: Get Feedback on Your Robot

- Robot prototypes created by Daisies in Design a Robot 1
- Robot programs created by Daisies in Activity 1: As Girls Arrive: Program Your Prototype
- Optional: Materials for girls to redesign and improve their prototypes

#### Activity 4: Closing Ceremony: Awards

- Design a Robot award

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