

## Think Like a Programmer pt. 6

### Overview

Daisies celebrate what they've learned and receive their Think Like a Programmer and Take Action awards.

### Notes for Volunteers:

**Use The Talking Points (But Make Them Your Own):** In each session, you'll find suggested talking points under the heading "SAY." Some volunteers, especially new ones, find it helpful to follow the script. Others use the talking points as a guide and deliver the information in their own words. Either way is just fine.

**Be Prepared (It's What Girl Scouts Do!):** Each meeting includes a "Prepare Ahead" section that includes a materials list and what kind of set-up is required. Read it in advance so you have enough time to gather supplies and enlist help, if needed.

**Use Girl Scouts' Three Processes:** Girl-led, learning by doing, cooperative learning — these three processes are the key to making sure Daisies have fun in Girl Scouts and keep coming back.

"Learning by doing" and "cooperative learning" are built into this Journey, thanks to the hands-on activities and tips. You'll also find specific "keep it girl-led" tips in the meeting plans. They'll help you create an experience where Daisies know they can make choices and have their voices heard.

**Solve Big Problems Step By Step:** On this Journey, Daisies will do hands-on activities to learn how computer programmers think through problems. They'll learn to follow and create algorithms, break big problems down into smaller ones, and persist when faced with challenges.

You can help Daisies think this way! Encourage them to keep trying when their first few approaches to solving a problem don't work. Tell them that they can solve any problem if they break it down in smaller ones. And remind them that they can use those skills in their daily lives as well.

**Leave Time For The Closing Ceremony:** If Daisies are having fun doing an activity, you may be tempted to skip the Closing Ceremony so they can keep going — but the Closing Ceremony is absolutely key to their learning. Here's why:

When Daisies leave a meeting, they'll remember how much fun it was to plant a seed, make a suncatcher or play a game of "Programmer Says." However, they may not realize that they just learned how algorithms work — unless you tell them. When you do that, you turn a *hands-on* activity into a *minds-on* activity. During the Closing

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Ceremony, you can connect the dots for girls by:

- Pointing out how they acted as programmers. (For example: They used an algorithm to plant a seed or they created an algorithm to teach a skill to others. They struggled a bit with a challenging activity — but they persisted. Now they know that they can solve hard problems if they keep trying. They worked together to solve problems.)
- Reminding Daisies that they are *already* programmers — and that it's fun to solve problems using programming.
- Letting them know that they have what it takes to continue exploring STEM.

These simple messages can boost girls' confidence and interest in STEM — and end the meeting on an upbeat note!

**Tell Your Troop Story:** As a Girl Scout leader, you're designing experiences that girls will remember their whole lives. Try to capture those memories with photos or videos. Girls love remembering all they did — and it's a great way for parents to see how Girl Scouting helps their girls.

And please share your photos and videos with GSUSA by emailing them to [STEM@girlscouts.org](mailto:STEM@girlscouts.org) (with photo releases if at all possible!).

**Program Pairing:** The Count It Up leaf goes well with this Journey!

**Girl Input:** GSUSA wants to know what girls think about this program. We also want to find out how well the program worked in terms of increasing girls' interest, confidence, and competence in STEM. This information will help us to improve our program and talk about the program's impact. Please encourage your girls to take this survey so that their voices are heard. There are three ways you can help girls do this:

- **Option 1 – Girls Take The Survey At The Last Meeting:** You will need technology (i.e. tablets, laptops, wi-fi) to use this option. Set aside 10-15 minutes for girls to complete the survey. Use this link: <http://www.tinyurl.com/STEMgirlCSd>
- **Option 2 - Send Survey Link To Parents:** Email parents and ask them to have their girls complete the girl survey. Here is some suggested text for your email to parents:

Dear Parent –

GSUSA wants to know what girls think about this program. We also want to find out how well the program worked in terms of increasing girls' interest, confidence, and

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competence in STEM. This information will help us to improve our program and talk about the program's impact.

Please encourage your girl(s) to take our survey by clicking on the following link: <http://www.tinyurl.com/STEMgirlCSd>. It should only take 10-15 minutes. Depending on your girl's age, you may need to help her understand the questions. However, please do not help her select her answers – we want the responses to come from her.

If you have any questions, please email the Girl Scout Research Institute at [gsresearch@girlscouts.org](mailto:gsresearch@girlscouts.org).

Sincerely –

- **Option 3 – Print The Survey, Have Girls Complete It, & Send The Surveys To GSUSA:** If you are unable to have girls complete the survey at the last meeting and unable to send parents the link to the survey for girls to complete, please print copies of the Girl Survey. You'll find the survey in the Meeting Aids section of this meeting.
  1. Have each girl complete her own survey.
  2. Either scan the surveys and email them to: [GSresearch@girlscouts.org](mailto:GSresearch@girlscouts.org) .

**Or**

  3. Mail the surveys to:  
Girl Scout Research Institute  
GSUSA  
420 Fifth Avenue  
16<sup>th</sup> floor  
New York, NY 10018

### Prepare Ahead (Roughly 100+ minutes)

#### 1. Read through this guide (15 minutes)

This will help you get familiar with the flow of the meeting. Depending on your girls' Take Action project, you may need to prepare or set up specific things.

#### 2. Invite others to the Celebration (15+ minutes)

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Send reminders about the Celebration to the Daisies' families with the meeting date and time.

Invite any special guests, such as people in the community who have helped the Daisies with their Take Action project.

### **3. Gather party supplies and decorations (40 minutes)**

Bring decorations and snacks for your Daisies and their guests. Bring a music system.

Collect all the materials Daisies created from the Journey, photos of their Take Action projects, and photos and videos you've taken along the way.

In particular, you might want to include the girls' algorithm drawings, Plant a Seed worksheets, or their special algorithm posters.

From your council shop or the Girl Scout website, buy the Think Like a Programmer and Take Action awards, one for each Daisy.

If your meeting location doesn't have a flag, bring a small one from home to either hang or have the girls take turns holding.

### **4. Gather support for the Celebration (10 minutes)**

If you need more adult helpers to organize everything for the Celebration, let them know the time and place of the meeting and brief them on what the girls are doing and what they need to have prepared.

### **5. Choose how you and your girls will complete the Girl and Volunteer Surveys (20 minutes)**

Choose how girls will give feedback on the Journey. Look at the three options available for girls to take the survey in the Notes to Volunteers.

Complete your own Volunteer Survey to give feedback on the Journey. You can find this at the end of the Meeting Activity Plan.

## **Get Help from Your Family and Friends Network**

### **Your Friends and Family Network can include:**

- Daisies' parents, aunts, uncles, older siblings, cousins, and friends

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- Other volunteers who have offered to help with the meeting.

### Ask your Network to help:

- Bring snacks for the final celebration.
- Bring a camera, smart phone, or video camera to document the final celebration.
- Supply a CD player and music CDs for the final celebration.

### Award Connection

Daisies will earn two awards:

- Think Like a Programmer award
- Take Action award

Daisies will earn both awards this meeting.

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

### Meeting Length

60 minutes

- The times given for each activity will be different depending on how many Daisies are in your troop.
- There is no snack time scheduled in these meetings. If girls need a snack, add 15 minutes to the overall time for the meeting.
- Give Daisies 10- and 5-minute warnings before they need to wrap up the last activity so you'll have time for the Closing Ceremony.

Daisies celebrate what they've learned and receive their Think Like a Programmer and Take Action awards.

### Materials List

#### Activity 1: As Girls Arrive: Get Ready to Celebrate!

- **Girl Scout Promise and Law poster(s)**
- Any items Daisies want to display (such as photos or videos from their Take Action project)
- Photos and videos from the Journey meetings

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- Music system
- Decorations
- Snacks

### Activity 2: Opening Ceremony: Welcome!

- Flag

### Activity 3: Awards Ceremony and Celebration

- Think Like a Programmer award
- Take Action award

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

### Activity 4: Girl Survey

- If girls are taking the survey online: Laptop/tablet
- If girls are filling out the survey on paper: Copies of Girl Survey (pdf available in Meeting Aids) and pen or pencil

### Activity 5: Closing Ceremony: Closing the Circle

- None

## Detailed Activity Plan

### Activity 1: As Girls Arrive: Get Ready to Celebrate!

#### Time Allotment

10 Minutes

#### Materials

- **Girl Scout Promise and Law poster(s)**
- Any items Daisies want to display (such as photos or videos from their Take Action project)
- Photos and videos from the Journey meetings
- Music system
- Decorations
- Snacks

#### Steps

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Have Daisies help set up the meeting room by putting up posters and decorations. Make sure they greet guests as they walk in and offer them a snack.

When guests have all arrived, have Daisies give a warm welcome to their guests by saying together: *“Welcome, everyone!”*

### Activity 2: Opening Ceremony: Welcome!

#### Time Allotment

10 Minutes

#### Materials

- Flag

#### Steps

Have Daisies recite the Pledge of Allegiance and the Girl Scout Promise and Law. Then, have them introduce any special guests.

### Activity 3: Awards Ceremony and Celebration

#### Time Allotment

20 Minutes

#### Materials

- Think Like a Programmer award
- Take Action award

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

#### Steps

Daisies share their Take Action project and what they learned about programming.

#### SAY:

*Please show or tell our guests what you did to Think Like a Programmer. Share your special algorithm that you can use to teach others.*

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Daisies can share photos of their "Building a Foundation" and "Plant a Seed" projects, their algorithm drawings, special algorithm posters, or photos and videos from their Take Action project. Daisies might also want to show their special Daisy Handshake!

*Please show or tell our guests what you did to Take Action.*

Daisies share their Take Action project.

Daisies get their Think Like a Programmer and Take Action awards.

**SAY:**

*Please step forward when I say your name to accept your awards.*

Lead a round of applause for each Daisy as she steps forward.

**SAY:**

*You have earned your Think Like a Programmer award, which means you learned how to see needs in the world and come up with algorithms to teach others and solve problems.*

*And you have earned your Take Action award because you did something to make the world a better place.*

*Now you'll start your celebration!*

Include any activities — such as taking photos, dancing or singing a special song—that Daisies decided to do as part of the celebration.

### Activity 4: Girl Survey

#### Time Allotment

10 minutes if you are doing the survey during the last meeting

#### Materials

- If girls are taking the survey online: Laptop/tablet
- If girls are filling out the survey on paper: Copies of Girl Survey (pdf available in Meeting Aids) and pen or pencil

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### Steps

Daisies complete the Girl Survey about the Think Like a Programmer Journey.

#### **SAY:**

*The people at the Girl Scouts' national office want to know what you think about it, how you think it could be improved, and what you think of STEM in general. This is a great chance for you to help Girl Scouts create STEM programs that other girls will enjoy!*

*It will take about 10 – 15 minutes.*

Explain to girls how they will be taking the survey – either online or by filling out a printed version.

**(Note to Volunteers:** We hope that all girls will complete the survey—we want every girl's voice to be heard. However, the survey is voluntary, so girls don't have to take the survey if they don't want to. Also, for young girls, we encourage you to read the questions aloud while girls individually complete the survey.)

### Activity 5: Closing Ceremony: Closing the Circle

#### **Time Allotment**

10 Minutes

#### **Materials**

- None

#### **Steps**

Have Daisies and guests stand in a Friendship Circle. Daisies lead the Closing Ceremony.

#### **SAY:**

*Daisies would like to end this time together with a Closing Ceremony.*

Have Daisies lead the close of the meeting in the way they chose—for example, a song, poem, or a cheer.

#### **SAY:**

*And now we'll finish with our Girl Scout tradition, a Friendship Squeeze.*

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End the meeting with a Friendship Squeeze with Daisies and guests.

On your honor!

## Think Like a Programmer Journey

### Glossary for Daisies

Daisies may not know some of the words used on this Journey. Here are definitions you can share with them:

**Persistence** is trying again and again, even when something is very hard.

An **algorithm** is a list of steps that you can follow to finish a task. A recipe is an example of an algorithm; it tells you how to cook a dish by following step-by-step instructions.

A **program** is an algorithm that has been coded into something that can be run by a machine.

**Debugging** is finding and fixing problems in your algorithm or program.

## Think Like a Programmer Journey: Materials List

### Think Like a Programmer 1

#### Activity 2: Opening Ceremony: All About Programmers

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

#### Activity 3: Building a Foundation

- Building Elements (about 30 per group, each group has 3 – 4 girls): Gumdrops and Toothpicks OR Marshmallows and Popsicle Sticks OR Popsicle Sticks and Tape
- Mini Paper Cup for checking height (1 per group)
- Book for testing strength (1 per group)
- Optional: Sample towers
- Optional: Computer, tablet or other device with ability to show girls the Never Give Up (Mouse vs. Cookie) video

#### Activity 4: Closing Ceremony: Take Action Like Programmers

- Take Action Guide

### Think Like a Programmer 2

#### Activity 1: As Girls Arrive: Algorithm Drawings

- Paper
- Markers or crayons

#### Activity 2: Opening Ceremony: Algorithms in Everyday Life

- Flag
- Flip chart, white board, poster or large piece of paper
- Marker
- Optional: Poster Board with the Girl Scout Promise and Law

#### Activity 3: Happy Maps

- Prior to the activity, create different tape trails for each group of girls to navigate stuffed animals through to a prize. These can be simple trails made out of 90 degree angles with a prize at one end and stuffed animal at the other. See **Sample Happy Map 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

## Think Like a Programmer Journey: Materials List

### Think Like a Programmer 2 (continued)

#### Activity 4: Closing Ceremony: Brainstorming Our Take Action Project

- Take Action Guide

### Think Like a Programmer 3

#### Activity 1: As Girls Arrive: Daisy Planting Power!

- Containers (such as empty milk cartons) to plant seeds in Activity 3: Plant a Seed. If you have a small troop, you may want to bring a container for each girl. For larger troops, bring a container that 3 – 4 girls can share.
- Construction paper strips to fit around containers
- Markers
- Stickers
- Tape
- Scissors

#### Activity 2: Opening Ceremony: All About Algorithms

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

#### Activity 3: Plant A Seed

- Decorated Containers from Activity 1: As Girls Arrive: Daisy Planting Power!
- **Plant a Seed Worksheet** (one for each girl) Tip: To save time, you can cut out the pictures ahead of time and put them in envelopes (one worksheet per envelope).
- Blank paper
- Glue or tape
- Potting soil
- Seeds
- Water
- Flip chart, white board, poster or large piece of paper
- Marker
- Optional: **Worksheet: Real Life Algorithms** (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 algorithms by doing the puzzles together.

#### Activity 4: Closing Ceremony: Time to Decide on Take Action!

- List of Daisies’ Take Action ideas from the last meeting, written a whiteboard or poster board (if Daisies can read)
- Marker

## Think Like a Programmer Journey: Materials List

### Think Like a Programmer 4

#### Activity 1: As Girls Arrive: Draw Your Algorithm

- Paper
- Crayons or colored markers

#### Activity 2: Opening Ceremony: Share Your Special Algorithms

- Flag
- Optional: Computer/tablet or other device with ability to show girls the Computer Science is Changing Everything video
- Optional: Poster Board with the Girl Scout Promise and Law

#### Activity 3: Designing Our Take Action Project

- Poster boards
- Markers or crayons
- Pens and pencils
- Paper

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#### Activity 2: Opening Ceremony: Getting Ready to Take Action

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

#### Activity 3: Creating Take Action

- Any materials Daisies need for their Take Action project

### Think Like a Programmer 6

#### Activity 1: As Girls Arrive: Get Ready to Celebrate!

- Girl Scout Promise and Law poster(s)
- Any items Daisies want to display (such as photos or videos from their Take Action project)
- Photos and videos from the Journey meetings
- Music system
- Decorations
- Snacks

#### Activity 2: Opening Ceremony: Welcome!

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

#### Activity 3: Awards Ceremony and Celebration

- Think Like a Programmer award
- Take Action award

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

## Think Like a Programmer Journey: Materials List

### Think Like a Programmer 6 (continued)

#### Activity 4: Girl Survey

- If girls are taking the survey online: Laptop/tablet
- If girls are filling out the survey on paper: Copies of Girl Survey (pdf available in Meeting Aids) and pen or pencil

## **The Girl Scout Promise**

**On my honor, I will try:**

**To serve God and my country,**

**To help people at all times,**

**And to live by the Girl Scout Law.**

## **The Girl Scout Law**

**I will do my best to be**

**honest and fair,**

**friendly and helpful,**

**considerate and caring,**

**courageous and strong, and**

**responsible for what I say and do,**

**and to**

**respect myself and others,**

**respect authority,**

**use resources wisely,**

**make the world a better place, and**

**be a sister to every Girl Scout.**