SENIOR
Cybersecurity Badges

NOTES TO VOLUNTEERS

In the Cybersecurity badge series, Seniors learn how to keep computers and information safe from hackers.

In Cybersecurity Basics, girls learn about the 10 GenCyber First Principles of cybersecurity and explore how cybersecurity professionals use these principles to keep computer networks safe.

In Cybersecurity Safeguards, girls find out how to keep their data and devices safe when they travel and when they're at home. They learn how to protect their travel documents, Wi-Fi, digital conversations, electronics, and environment.

In Cybersecurity Investigator, girls investigate a fictional cybercrime and simulate how respond to a cybersecurity incident. They run traceroutes and explore different security vulnerabilities for companies and organizations.

About the Badge Series:

Follow the Badge Progression:
The Cybersecurity badges were designed to be earned in a specific order. The badge progression is:

- *Cybersecurity Basics*

- *Cybersecurity Safeguards*

- *Cybersecurity Investigator*

Enhance the Experience: The cybersecurity badges were designed to be "unplugged," so you don't need to have computers for girls to earn these badges. However, if you have access to computers, tablets, or smartphones and the Internet, feel free to have girls use them to complete the badge steps where appropriate. In some activities, there may be video resources where access to a computer and Internet will be helpful.

Girl Leaders: At this point, your girls might be ready to lead the meetings, and that's fantastic! To help, you might decide as a troop on girl leaders for each of the badge meetings. Share the meeting plan and meeting aids with your girl leaders with plenty of time before the meeting to give time to prepare to lead. If they have any ideas or ways to improve the activities for their Girl Scout sisters, give them the opportunity to try it out!

Use the Talking Points (But Make Them Your Own): In each meeting, you'll find suggested talking points under the heading "Things to Know." 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 Seniors have fun in Girl Scouts and keep coming back.

"Learning by doing" and "cooperative learning" are built into this badge, thanks to the hands-on activities and tips. You can look for ways to keep the badges "girl-led", whether it's helping to prepare or lead a meeting, having girls lead the discussion about the issues they'd like to work on for the Take Action project, or planning the final celebration. They'll help you create an experience where Seniors know they can make choices and have their voices heard.

Leave Time for the Closing Ceremony: If Seniors are having fun with 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 Seniors leave a meeting, they'll remember how much fun it was to do an activity, but they may not realize what its relationship to cybersecurity was, unless you tell them.

That's why the Closing Ceremony is so important. It's where you can connect the dots for Seniors by:

- Pointing out how real-world safety rules are just as important to practice when they use computers and other devices.
- Letting them know that they have what it takes to continue exploring ways to keep safe in the cyber world.

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

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

To Prepare for the Meetings:

Before each meeting, you'll find an Overview, notes to Prepare Ahead, and a Materials List, all specific to that meeting.

Go over new words Seniors can learn. In the Prepare Ahead section for each meeting, you'll see a list of words Seniors may or may not know and how to define them. You can find a full list of vocabulary for the badges in the **Senior Cybersecurity Badges – Glossary.**

Before each meeting, read through this guide and any meeting aids. This will help you become familiar with the flow of the meeting. As you prepare, it's important to understand the activity steps and Things to Know, but feel free to adapt the activities to fit your troop, meeting time allotment, and available materials.

Handouts specific to the meetings are listed in the Prepare Ahead section of each meeting. In addition, the following handouts are available in the Meeting Aids for every meeting:

- **Senior Cybersecurity Badges – Materials List***:* Each meeting has its own materials list. However, if you like to do all of your supply shopping at one time, use this handout. It includes the materials needed for all three Senior Cybersecurity badges.

- **Senior Cybersecurity Badges – Glossary:** This is a list of words introduced in the Senior Cybersecurity badges with definitions.

- **Think, Pair, Share:** These facilitation tips will help you ensure that every girl's voice is heard during brainstorming activities.

Gather materials for the meeting. Before each meeting, gather materials for the meeting's activities. If your meeting location doesn't have a flag, bring a small one that you can take turns holding or hang in the room.

Each meeting includes its own materials list. However, if you like to do all your supply shopping at one time, use the **Senior Cybersecurity Badges—Materials List** handout. It includes the materials needed for all of the badges.

Badge Series and Meeting Length

- This series of badges has been designed to fit into six 90 minute troop meetings.

- The times given for each activity may be different depending on how many girls are in your troop. Prior to each meeting, review the activities and time allotment to determine how much time your troop will need to complete the activities. You can adjust times for each activity as needed.

- Give girls 10- and 5-minute warnings before they need to wrap up the last activity so you'll have time for the Closing Ceremony.

Get Help from Your Family and Friends Network

Your Friends and Family Network can include:

- Seniors' parents, aunts, uncles, older siblings, cousins, friends, etc.

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

Ask your Network to help:

- *Bring supplies or other materials for the meetings.*

Award Connection

Girls earn three badges:

- *Cybersecurity Basics*

- *Cybersecurity Safeguards*

- *Cybersecurity Investigator*

Note to Volunteers: *You can purchase the awards from the Girl Scouts Shop or from your council.*

Cybersecurity BADGE BREAKDOWN

CYBERSECURITY BASICS 1

1: As Everyone Arrives: First Principles of Cybersecurity

2: Opening Ceremony: Jump Into Cybersecurity Basics

3: Find Out How Computers Run Multiple Programs

4: Identify Functions and Privileges

5: Learn How Computers Hide Information

6: Closing Ceremony: Cybersecurity Principles

- Seniors are introduced to GenCyber's 10 First Principles of cybersecurity. Cybersecurity professionals use these principles to keep computer networks safe.
- They play multitasking games and group themselves to explore process isolation and domain separation.
- They label objects based on their functions and privileges to learn about least privilege and encapsulation.
- They assemble a puzzle, simulating how websites load, to learn about abstraction and data.

CYBERSECURITY BASICS 2

1: As Everyone Arrives: Design a Pie

2: Opening Ceremony: The First Principles of Cybersecurity

3: Design a Layered Security System

4: Build a Rube Goldberg Machine

5: Closing Ceremony: Cybersecurity Basics Awards

- Seniors demonstrate and discuss real-world examples of the 10 First Principles to understand how they work in the cyber world.
- They create a pie recipe using modularity.
- They work together to design and test layered security networks to explore layering.
- They design a Rube Goldberg machine and learn about minimization and simplicity.
- They earn their Cybersecurity Basics badge at the end of this meeting.

CYBERSECURITY SAFEGUARDS 1

1: As Everyone Arrives: Which Wi-Fi Would You Connect To?

2: Opening Ceremony: Jump Into Cybersecurity Safeguards

3: Protect Your Travel Documents

4: Protect Your Wi-Fi

5: Protect Your Conversations

6: Closing Ceremony: Cybersecurity Safeguards Flash Chat

- Seniors learn how to keep their data safe when they travel.
- They find out how information can be accessed through barcodes and learn how to protect their travel documents.
- They play a paper-toss game to learn about Wi-Fi safety.
- They guess the meaning of real-world occupational code words in a game.

CYBERSECURITY SAFEGUARDS 2

1: As Everyone Arrives: Where in the World?

2: Opening Ceremony: Protecting Your Data

3: Protect Your Electronics

4: Protect Your Home

5: Closing Ceremony: Cybersecurity Safeguards Awards

- Seniors learn how to protect their electronics.
- They create a working Faraday cage.
- They design smart devices and discuss security vulnerabilities.
- They earn their Cybersecurity Safeguards badge at the end of this meeting.

CYBERSECURITY INVESTIGATOR 1

1: As Everyone Arrives: Logo Design

2: Opening Ceremony: Jump Into Cybersecurity Investigator

3: Look for Clues About a Fictional Hack

4: Learn How Traceroutes Work

5: Solve a Cybercrime

6: Cybersecurity Investigator Flash Chat

- Seniors learn about corporate cybersecurity threats and investigate a fictional cybercrime.
- They sort through customer feedback to look for clues about what happened.
- They learn how traceroutes can help to solve network problems.
- They identify suspicious activity in traceroutes to solve the fictional cybercrime.

CYBERSECURITY INVESTIGATOR 2

1: As Everyone Arrives: Tabletop Discussion Cards

2: Opening Ceremony: Responding to Cybersecurity Crises

3: Role-Play How to Handle a Crisis

4: Play a Life-sized Game of "Minesweeper"

5: Closing Ceremony: Cybersecurity Investigator Awards

- Seniors continue the roleplay and simulate how to respond to a cybersecurity incident.
- They respond to the fictional company's security breach, learn about stakeholders, and create crisis communication plans.
- They play a life-sized game of Minesweeper to explore threats and security vulnerabilities for companies and organizations.
- They earn their Cybersecurity Investigator badge at the end of this meeting.