

## Cybersecurity Recruitment Event

# Cybersecurity Badges Facilitator Guide

Girls who participate in a cybersecurity recruitment event at your council get a chance to do an activity from the brand-new cybersecurity badges!

They can also get a cybersecurity patch—all they have to do is attend the event and participate in one of the following cybersecurity activities. Because the badges are progressive, each girl should participate in the activity that's appropriate for her age level.

These activities are from the Daisy, Brownie and Junior cybersecurity badges. If you choose to swap out another activity, we highly recommend that you use one from Badge 1: Cybersecurity Basics, since that badge teaches foundational concepts that are built on in badges 2 and 3.

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**Please note:** This guide has been shared with Palo Alto Networks employees who have expressed interest in facilitating some of the activities at your recruitment events. Your council may get calls from them or inquiries via email to get more information on when the events will take place so that they can volunteer.

## Daisy: Protect Your Treasure *Time Allotment: 15 minutes*

### MATERIALS

- Plastic crystal beads (**Optional:** A small toy, coin, or something else girls can think of as “treasure” to put in a box), one for each girl
- One box, large enough for all girls to put their treasure inside
- Material to wrap the box: wrapping paper, bubble wrap, duct tape, regular tape, rope or string, enough for all girls
- Crayons, markers
- Decorating materials: stickers and glitter

### STEPS

**Daisies select a “treasure,” put their treasure inside the box, decorate the box, and then work together to wrap the box for protection.**

#### *Say:*

*First, pick a treasure.*

*Then, everyone place your treasure in the box.*

When girls have placed all their treasure in the box, have them work together to decorate the box.

#### *Say:*

*Now you have a beautiful box with all your treasures inside. How will you protect the box?*

*Protect means to keep something from getting broken, hurt, or taken away.*

*Look at the materials you can use to wrap and protect your box. You can use wrapping paper or bubble wrap. You can tie a string or rope to make sure no one else will take it.*

*Do whatever you think will protect your treasure.*

Encourage girls to use more than one material to protect the box.

#### *Say:*

*What are some ways you protect yourself from getting wet when you go outside and it's raining?*

**Answers:** *Use an umbrella, wear a raincoat or hat.*

*What are some ways you protect yourself from getting sunburn when you play outside?* **Answers:** *Wear sunscreen, wear a hat.*

*Sometimes you do more than one thing to protect yourself. When it's cold, you wear sweaters, gloves, hats, jackets, socks, and boots, right?*

*What did you use to protect your treasure box? Did you find more than one way to protect it?*

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## **Brownie: Layers of Security** Time Allotment: 15 Minutes

### **MATERIALS**

- Plain or graph paper (If you can get sheets larger than 8.5 x 11, even better.)
- Markers
- Pens, Pencils

### **STEPS**

**Girls explore the layers of security and design a castle.**

#### **Say:**

*You may have heard an adult talk about “dressing in layers” when the weather turns colder. You start with a t-shirt, add a longer sleeve shirt, then maybe a jacket and hat.*

*Security is no different. Sometimes you need more than one layer to protect something.*

*Can anyone think of other examples of layering? **Girls may say:** Layer a cake to include different flavors, layering blankets to stay warm at night, etc.*

*A castle has many layers of security to protect it from an attack.*

*Have you ever seen knights defend a castle? Castles have all kinds of traps and tricks that protect them. For example, there might be walls too high to climb. Or, a deep ditch around the castle filled with water, and sometimes alligators, too!*

*Draw a castle on your paper. Then come up with layers of security to protect it.*

*Be creative!*

When girls are done, have them share their castles with the group.

#### **Say:**

*Why do you think layers of security are important?*

*What would happen if you only had one layer of security?*

*On your digital devices, your layer of security is your username and password. You protect yourself with these so other people can't use your digital device. Sometimes you can use your fingerprint to get into your digital device, which is another layer of security.*

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## Junior: Networking *Time Allotment: 25 minutes*

### MATERIALS

- Whiteboard or poster board with markers Thick string or yarn (about 50 feet, cut into varying lengths for each girl to hold as they are in different spots around meeting room. Wait to cut string until girls are in place.)
- Index cards (4 for the group)
- Binder clips (1 per index card)

### STEPS

**Juniors explore how computer networks work by creating a message and having it travel.**

#### **Say:**

*Every day, you have a network of people you connect with. For example, your parents, your brother or sister, your classmates, your teachers, your neighbor, your friends, and many more.*

Have one or two girls go through their day and name all the people they connect with.

#### **Say:**

*Just like your network, computers or devices have a network that connects them together.*

*Think about railroads—they are networks made up of stations, connected by tracks. Tracks connect towns and cities.*

*Think of computers as railroad stations along the tracks.*

*What do trains carry along their tracks? **Answer:** People and cargo.*

*Think of people and cargo as emails, web pages, photos, text messages, anything that travels on a computer network.*

*Now, you'll form a computer network to see what it looks like.*

*When you send a message on a computer, it doesn't immediately go from your computer to its destination. It travels to many other computers and servers on the network first.*

*If a computer or server on a network is not trusted, then the message goes back to the sender.*

Have the group create one message on a white board or poster board that will be sent along the network.

Something simple like, "Meet me at the park!"

Then, have the girls help you divide the message into 4–5-character chunks (remember that a space counts as a character).

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So, for “Meet me at the park!” the chunks would look like this:

**Card 1: Meet**

**Card 2: me at**

**Card 3: the p**

**Card 4: ark!**

Have girls write each of the 4–5-character chunks on one side of the notecards (be sure to number the backs of the cards).

### **Say:**

*The numbers on the back of the message cards allow the receiving computer to know what order they go in.*

*Right now, you’ll act as a network.*

*Imagine that each of you is a computer on a network. Your string/yarn is your link to each other. The string is like the train tracks and you are like the stations.*

### **VOLUNTEER INSTRUCTIONS:**

Pick one girl to be the **sender**. Have her hold the four index cards (message packets) and stand in a corner of the room.

Pick one girl to be the **receiver**. Have her stand in the opposite corner of the room.

Have the rest of the girls stand anywhere around the room. Tell those girls they will act as computers called “**network friends**.” (**Note:** This would also work with girls sitting in a circle.)

Connect the girls (excluding the sender and receiver) one by one this way:

Connect Girl #1 to Girl #2 by cutting the string and handing the end to Girl #1, who holds it. Unroll the string and walk to Girl #2. Cut the string and hand the other end to Girl #2. Each girl is now holding one end in her hand. Now Girl #1 and Girl #2 are connected as network friends.

Connect Girl #3 to Girl #4 by cutting the string and handing the end to Girl #3, who holds it. Unroll the string and walk to Girl #4. Cut the string and hand the other end to Girl #4. Each girl is now holding one end in her hand. Now Girl #3 and Girl #4 are connected as network friends.

Continue this until all of the girls are connected, except the sender and receiver. Tell the girls who are now connected to each other that they are network friends, which means they are computers that know each other.

Now, take the string and **connect the receiver** to each of the network friends. Cut the strings as each network friend is connected to the receiver. (The network friends will now be holding two strings in one hand. If girls want to use both hands to hold their strings, that’s OK, too. The receiver will now be holding as many strings as there are network friends.)

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Now **connect the sender** to four network friends but not to the receiver. (These four network friends will now be holding three strings in one hand: one connected to their network partner, one connected to the receiver, and one connected to the sender.)

Have the **sender** attach each of the message cards to separate binder clips. Have her spool the string through the binder clip openings.

Have the **sender** slide each of the four message cards across the strings connected to the four different girls—network partners—she is connected to. The sender will do this without moving from her station. The binder clip should slide across the string.

Now, each of those four girls will send the message on the string that is connected to their network friend (not the sender or receiver). Make sure the network friends stay in place and slide the binder clips along the string. If they have to coax the string up and down to move the binder clip to its destination, that's OK.

Once the next four receive the message cards, have them send the message along the string that's connected to the receiver. (Since all girls are attached to the receiver, this should work.)

Once the receiver has all four cards, have her assemble the message in the right order and read it out loud.

### **Say:**

*What was the hardest part of this activity?*

*How would you compare a computer network to a railroad?* **Answer:** Both are linked together.

*Your message arrived to the receiver, which means you were all trusted sources. What would happen if a computer or server is not a trusted source to send information?* **Answer:** The message would go back to the sender.