WELCOME TO THE GIRLS GO CYBERSTART WEBINAR

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Reminder to please turn off video and set your microphone to mute.
Questions for Today’s Session

• Why bring cybersecurity learning into high schools?
• What is Girls Go CyberStart?
• How can Advisors with no cybersecurity knowledge help students succeed in Girls Go CyberStart?
• What technology is needed to play GGCS?
• What about the boys in the class - how can they be included to discover their cybersecurity talent?
• GGCS is a competition - what are the prizes?
• How do I get involved ?!
• (Can I have a hint for Assess challenge # ___?)
Why bring cybersecurity learning into high schools?

- Students need to develop secure digital habits for their own safety.
- The biggest cybersecurity problem is people, so educating users will improve the safety of the networks they join.
- Provide a discovery point for students to find their talent in cybersecurity and move into the cyber workforce.

So ... by teaching cybersecurity we keep students safe, keep our networks safe and keep the world safe by moving talented students into cyber careers.
Opportunities For Challenging & High-Paying Careers

Right now there are **500,000 unfilled jobs in the US** because there aren’t enough cybersecurity professionals - it is expected to go up to **1 million** in the next 5 years.
Inspires girls to believe they can “do tech” - and be good at it!

“Thank you for allowing girls in our state to have this exposure that we are not receiving in school. You have motivated me to pursue cybersecurity as a possible career and believe that I actually have a chance to succeed”

“The cybersecurity challenges were really fun and unlike anything I had ever done”

“The final weekend of the challenge was the beginning of our school vacation week. Three of the four girls spent most of Saturday and Sunday in my classroom with me! There aren’t too many things that would get high school students to sacrifice two days of vacation to work on education!”
What is Girls Go CyberStart?

- Girls Go CyberStart is a fun, free, extracurricular online program to introduce girls to cybersecurity.
- It is made up of 3 stages where girls solve a series of digital challenges by using discovery-based learning. It is made up of three stages.
Stage 1 CyberStart Assess

Open January 13 to February 14, 2020

This is the qualifying stage for Girls Go Cyberstart.

There are 14 interactive challenges ranging in difficulty from Easy (5) to Medium (8) to Hard (1) . . . and one hidden Extremely Hard puzzle!

Girls must solve 5 or more challenges to qualify for the next stage.
Time to try a CyberStart challenge!

The Easy Assess challenges are intended to be accessible to students who have never even tried cybersecurity. All it takes is a bit of logical thinking and persistence. Let’s try out an example.

- Go to http://forum.cyberstart-practice.com/
- Your task is to find a ‘flag’ without leaving the web page at all
- A flag is a string of characters, symbols and numbers that often spell out something funny. Example: FL@g$_D0nT_SI33p!
- Here are a few hints to help you out:
  - First step is to explore and poke around - jiggle all the door handles, click all the things.
  - This is a visual puzzle
  - What are some ways that you can see things that are not immediately visible?
  - How can color be used to hide text?
Our sampler site, **CyberStart Go**, is where you and your students can try out the types of puzzles you will see in Assess and Game.

It’s a great recruiting tool or to use as an Hour of Code activity!

[https://go.girlsgocyberstart.org](https://go.girlsgocyberstart.org)
Stage 2 CyberStart Game

Open February 10 to April 17, 2020

Students will take on the role of a security agent to gather information, crack codes and dissect a cyber criminals digital trail.

Game has over 240 challenges in 3 Bases:

- **HQ Base** - a broad array of cyber puzzles dealing with Cryptography, Linux, Web Vulnerabilities and Binary
- **Moon Base** - learn to program in Python while solving unique coding challenges
- **Forensics Base** - locate and extract clues from digital evidence.
Students develop new skills while playing CyberStart
“Question: Had you used Linux before the Game?
   Answer: No, not at all.
   Question: Where did you learn Linux?
   Answer: In the Game; it teaches you everything you need!”

Field Manual provides scaffolding
Player support and guidance are built into Game with context stories and hints.
A field manual with information and guidelines is also provided.

Research isn’t cheating!
Students are actively encouraged to use the Internet to find ways to solve challenge (But no walkthroughs)

Progress is saved from previous years
So that students can build their knowledge from year to year, a returning participant will be able to pick up where she left off if she is still eligible
What about the boys in the class? How can they be included to discover their cybersecurity talent?

- When a club has at least 5 girls qualify for CyberStart Game, the Club Advisor is then offered a set of CyberStart Game licenses for any student, regardless of gender, to learn about cybersecurity.

- Access to CyberStart Game is identical to that used by the girls in GGCS but the students are not listed in the Club Advisor dashboard and the scores are not included in the competition.

- Students using non-competitive licenses are also not eligible for prizes or recognition on leaderboards.
ASSESS
MUST complete 5 challenges

Club Teams
5 girls solve 5 Assess challenges
• all registered girls in club move into Game
• boys play CS Game
• club can move on to Compete

Individual Girls
Solve 5 Assess challenges
to move into Game

Dates to move into Game
score 5 by Friday Feb 7\textsuperscript{th} \rightarrow access to Game starts Monday Feb 10\textsuperscript{th}
OR
score 5 by Friday Feb 14\textsuperscript{th} \rightarrow access to Game starts Monday Feb 17\textsuperscript{th}
Stage 3 CyberStart Compete aka National Championship

Takes place from April 23rd to 24th - 48 hours of intense competition!

Schools can qualify to participate in CyberStart Compete by having at least 4 students in their club complete at least 1 challenge in level 8 of CyberStart Game’s HQ base.

Schools who qualify by April 2nd will be invited to select a team of up to four girls to participate in CyberStart Compete, an online Capture the Flag competition.
Pause for Questions?
How can Advisors with no cybersecurity knowledge help students succeed in Girls Go CyberStart?

- The most important thing to remember is you don’t need be a cybersecurity expert!
- Let’s try another Puzzle to show that curiosity, research and persistence are the characteristics you need to encourage in students. Then they will develop the skills
- The last comment is missing its picture - can you find the flag?
RESOURCES TO PRACTICE SOLVING CYBER CHALLENGES

Picoctf.com

Medium.com/Girls-Go-Cyberstart/MrsGCyberStartTips

https://www.sans.org/CyberStartUS/additional-resources
What technology is needed to play GGCS?

Email - make sure that your Girls Go CyberStart students will be able to receive emails from support@girlsgocyberstart.org. This can be a block, here are some options:

- Ask the school IT department to whitelist the *.girlsgocyberstart.org domain.
- Use a private email address such as Gmail.
- Create a new email just for participation in Girls Go CyberStart (but then make sure you check it regularly!)

Whitelist GGCS website - provide IT with the list* of website URLs that students need to access including Google Captcha (!)

* List included on last slide
Access to Developer Tools

- In a browser when you rightclick on a webpage, you can select “View Page Source” and “Inspect” or “Inspect Element”.

- These are known as the browser developer tools and they give the user a behind-the-scenes look at the code that makes up a webpage.

- Let’s do a walkthrough of 2 challenges to see how - and why - students use Developer Tools in cyber competitions.

http://forum.cyberstart-practice.com/

1. rightclick and select View Source - scan the code until you find a green comment that has the flag Br0ws3rSl3uth

2. return to the web page - rightclick and select Inspect - click on the Console Tab - at the top find the flag D3ta11OrientedDeveloer!
Virtualization Software

This is a key technology used in the cyber industry and a valuable tool to learn.

- Inventory what devices are available for your student and determine if they can run VMs
- Download the GGCS Virtual Machine ahead of time to give IT some time to troubleshoot *(see last slides)*

Cloud based Virtualization as a solution to Technology issues

- Have only Chromebooks? The IT department won’t open up Developer Tools?
- One solution is to load the CyberStart Virtual Machine in the cloud hosted by a college or Cyber Range.
- SANS CyberStart is working with a national provider to see if we can offer this solution to all schools in GGCS. We will keep you posted!
GGCS is a competition - there are lots of prizes!

During registration

- **Club of the Week** - Post a Club picture along with “what you're excited to learn in GGCS” along with the hashtag #GirlsGoCyberStart. Our favorite post each week will win GGCS swag PLUS a cybersecurity speaker from Microsoft will come to their school!

- **Drawing for $1,000** - Clubs that qualify for CyberStart Game will receive one entry into a prize drawing for $1,000. The drawing takes place after Assess and 3 lucky schools will win $1,000 each!

Twitter: @GGCyberStart      Instagram: @ggcyberstart
Facebook: Girls Go Cyberstart
GGCS is a competition - there are lots of prizes!

National Championship for GGCS

Top scoring teams nationally:
- 1st prize = $400 per team member and $250 for their school
- 2nd prize = $300 per team member and $250 for their school
- 3rd prize = $200 per team member and $250 for their school

Top scoring teams in each state:
- 1st prize = $100 per team member and $100 for their school
- 2nd prize = $75 per team member and $100 for their school
- 3rd prize = $50 per team member and $100 for their school
GGCS is a competition - there are lots of prizes!

**Team trip to the 2021 WiCys Conference**

All clubs that qualify for Complete - National Championship for Girls Go CyberStart will go into a drawing to win an all-expenses paid trip to the 2021 *Women in Cybersecurity* Conference.

Four girls plus a chaperone will attend the conference to be highlighted and enjoy the networking and learning opportunities.

And explore whatever exciting city is selected for 2021 WyCis!!
Opportunity is also a prize 😊

Competing in Girls Go CyberStart the last two years REALLY made a big impact on my daughter. After that first year of competing, she decided to take AP Comp Sci A and get a team together for year 2 of GGCS. Not only did she win a prize, she also secured a summer internship next year at the NJ Cyber Security Office!!!

Her future is bright, and you helped to ignite that fire in her!”

Sherry Graziano, NJ parent
Get involved - Running a Girls Go CyberStart club

Steps
1. Register as an Advisor
2. Create a club in the GGCS system
3. Generate a Club Access Code
4. Recruit girls and give them the Club Access code to use in registration.
5. Assess stage opens and you watch the girls fly!

Or just spread the word in your school and encourage girls to play as individuals!
Make your state proud and reward your governor for supporting computer and cybersecurity education!

The leaderboard shows how many schools and girls are registered in each state. Spread the word in your state! [http://bit.ly/statesGGCS](http://bit.ly/statesGGCS)
Questions?

Thanks for coming to our Webinar!
Domains to whitelist for Girls Go CyberStart

- *.girlsgocyberstart.org* (whitelist this domain generally, as we use subdomains of this)

- We use google.com recaptcha tool for logging into the system to prevent brute force attacks, so the script from google.com will also need to be whitelisted.

- Within CyberStart Game we use:
  - *.cyberprotection.agency*, specific subdomains below
    - --- services
    - --- coder

The **below domains** are owned by us and are used in various challenges in CyberStart Game, though you should not technically need to whitelist any of them for the challenges to function:

- www.bondogge.com
- www.bulldoghax.com
- www.chiquitooenterprise.com
- www.jiaozi-restaurants.com
- www.slowlaneshipping.com
- www.wespeektogther.com
- www.yakoocars.com
Preparing to use the CyberStart Virtual Machine

Download ahead of time:

- For CyberStart Game, will run on VMware:
  https://game.joincyberstart.com/vm/current/64bit/vm-vmware.zip

- For CyberStart Game, will run on VirtualBox:
  https://game.joincyberstart.com/vm/current/64bit/vm-vbox.zip

You can read our FAQ on the VM on our blog here: https://medium.com/cyberstart-family/preparing-for-cyberstart-game-the-virtual-machine-2bb1b7aadf15