


# CyberMiSTS: Curriculum to Broaden Participation in Cybersecurity for Middle School Teachers and Students



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CyberMiSTS

<https://securedecisions.com/cybermists>

 Just **34%** of young adults approached by teacher about cybersecurity careers...

 ... but **47%** would be more interested if they had more info about cybersecurity jobs\*

\*According to "Securing our Future: Closing the Cybersecurity Talent Gap," Raytheon Company, 2016.

Research shows to capture more student interest in the field of cybersecurity, students need to be engaged during middle school.

CyberMiSTS seeks to address this gap by providing middle school teachers the knowledge, skills, and tools they need to actively engage all students and expose them to cybersecurity concepts and careers.

Rather than dive deeply into the underlying math and science, the CyberMiSTS summer workshop and curriculum focuses on **key concepts and big questions** to encourage participation from a broad and diverse set of students.

Teachers learn from experts, gain knowledge & self-efficacy about Web Security, Privacy and Data Protection and the **diverse cybersecurity work roles** and career paths.

Teachers develop customized **curriculum without coding or programming** for their students, with quizzes and answer keys.

- Curriculum includes **hands-on classroom activities** that do not require a computer lab or internet access.
- Each teacher creates a **branching web comic**—where readers make choices for a character and see the consequences of those choices—to show students how cybersecurity can impact them.

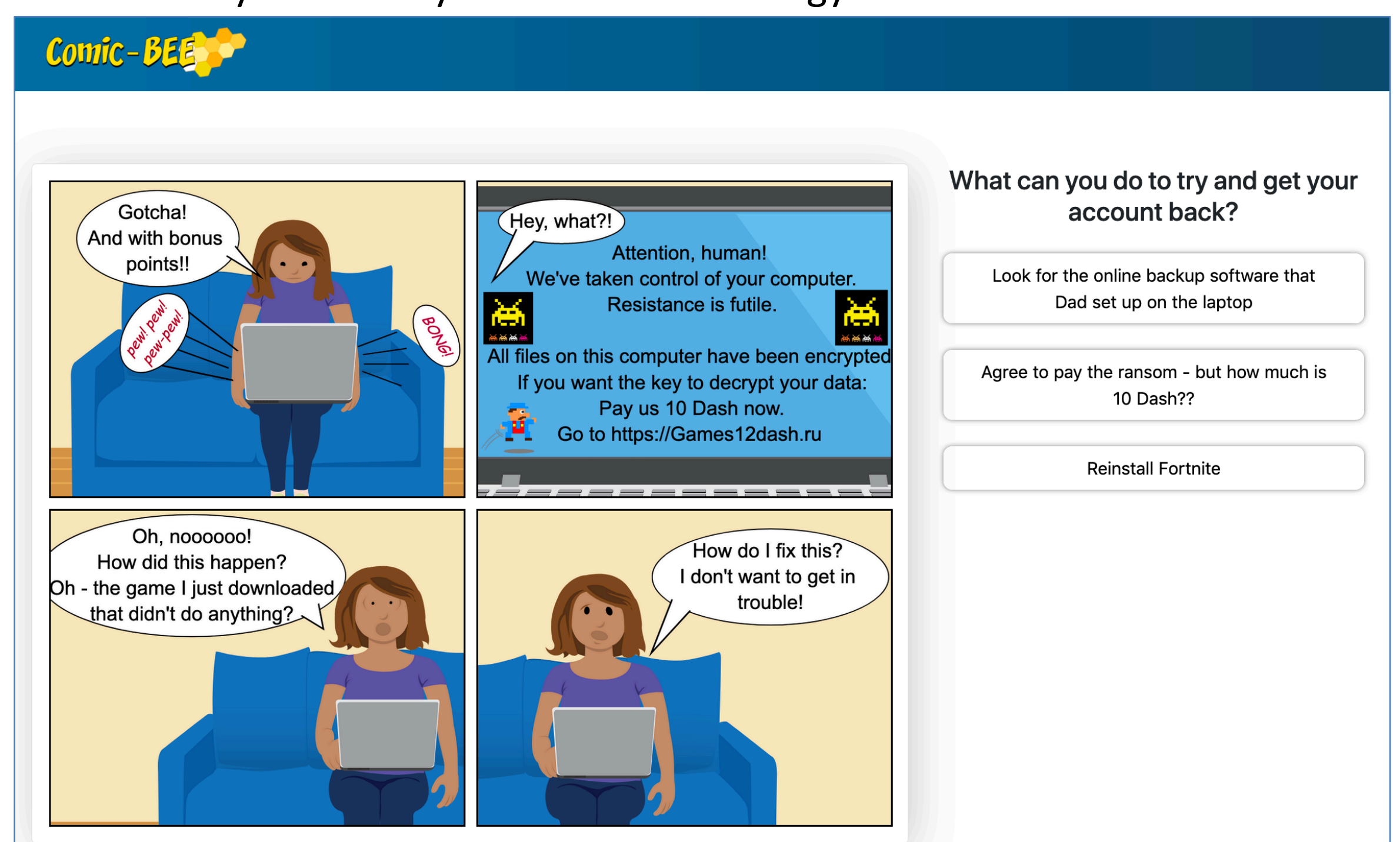
Data on teacher's understanding of key cybersecurity concepts is collected both before and after the workshop.

Data on student learning in the classroom will be collected from these teachers in early 2020.

Together, these will provide insights into what **works in cybersecurity education** for both middle school students and teachers.

The next CyberMiSTS workshop will be in July 2020.

A branching web comic created for CyberMiSTS with Comic-BEE, a cybersecurity education technology from Secure Decisions.



Comic-BEE

Gotcha! And with bonus points!!

Hey, what?!

Attention, human! We've taken control of your computer. Resistance is futile.

All files on this computer have been encrypted. If you want the key to decrypt your data: Pay us 10 Dash now. Go to <https://Games12dash.ru>

What can you do to try and get your account back?

- Look for the online backup software that Dad set up on the laptop
- Agree to pay the ransom - but how much is 10 Dash??
- Reinstall Fortnite

Oh, nooooo! How did this happen? Oh - the game I just downloaded that didn't do anything?

How do I fix this? I don't want to get in trouble!

Early socialization of students in cybersecurity concepts and careers may improve related skills and attitudes in middle school students among underrepresented groups and improve their access to cybersecurity and STEM areas.

A new survey instrument to measure teacher self-efficacy on cybersecurity concepts was created. No prior cybersecurity or computer science experience is required for teachers.

The initial CyberMiSTS cohort of nine teachers have the potential of reaching nearly 300 middle and high school students in just the first year, and may help some students realize that a cybersecurity might be a career for them.

