

CyberMontana Example STEM Camp Schedules

Planning examples for middle school cybersecurity camps

These schedules are meant to give prospective hosts starting points for camps of different lengths. Hosts may adapt to the topics, timing, technology and activities to match expertise, participant ages, equipment and local facilities.

Common planning assumptions

Planning area	Suggested approach
Audience	Middle school students, with no prior cybersecurity experience required
Camp size	Approximately 15 to 24 participants but could be significantly lower or higher
Instruction	Hands-on activities, short demonstrations, teamwork and daily reflection
Safety	Use age-appropriate, isolated environments for cybersecurity demonstrations and challenges
Flexibility	Include low-tech backup activities when devices, networks or accounts are unavailable

Topic examples

Hosts may combine different topics such as:

- Digital safety
- Cryptography
- Networking
- Linux or command-line basics
- Programming
- Electronics
- Phishing awareness
- Open-source intelligence
- Digital forensics
- Final capture-the-flag or showcase activity.

Example 1: Five-Day Half Day Camp

Suggested Hours: 9:00 a.m. to 1:00 p.m. Each day could include two activity blocks, a short break and a closing challenge or reflection.

Day	Theme	First block	Second block	Closing
Day 1	Cybersecurity foundations and digital safety	Welcome, camp norms, cyber ethics, threat basics, password activity	Micro: bit introduction or low-tech cyber safety challenge	Exit ticket and team reflection
Day 2	Networks and Linux	How computers communicate, IP addresses, packets, basic networking	Linux or command-line scavenger hunt and message-capture demonstration	Network defense recap
Day 3	Codes and cryptography	Caesar cipher, pattern recognition, encryption concepts	Build a physical cipher, create encrypted messages, digital signatures	Cipher exchange challenge
Day 4	Phishing and digital footprints	Phishing clues, social engineering, privacy, geotagging	Build and analyze sample messages in a safe classroom exercise	Personal cyber safety checklist
Day 5	Digital forensics and final challenge	Logs, deleted files, evidence handling, career connections	Team capture-the-flag, escape room or investigation challenge	Showcase, survey and certificates

Example 2: Five-Day Full Day Camp

Suggested hours: 8:30 a.m. to 4:00 p.m. Plan morning and afternoon breaks plus at least 45 minutes for lunch and movement.

Day	Theme	Morning	Afternoon
Day 1	Foundations and electronics	Welcome, cybersecurity basics, ethics, password security, introductory electronics or microcontroller activity	Programming basics, device setup, maker challenge, outdoor break, daily reflection
Day 2	Networks and connected devices	Networking concepts, IP addresses, packets, smart-home or Internet of Things build	Program sensors or lights, discuss wireless security, test and improve the build
Day 3	Cryptography and identity	Codes, ciphers, encryption, hashing and digital signatures	Physical cipher build, secure-message challenge, programming or circuit activity
Day 4	Social engineering and defense	Phishing, cyber hygiene, online privacy, digital footprints and open-source intelligence	Safe phishing analysis, password hardening, Linux challenges, incident-response game
Day 5	Forensics and final challenge	Digital evidence, logs, file recovery and team investigation	Capture-the-flag or escape room, project showcase, careers, survey and celebration

Suggested daily rhythm

Time	Activity
8:30-9:00	Check-in, Arrival activity and informal exploration
9:00-10:30	Instruction and guided hands-on activity
10:30-10:45	Snack and movement break
10:45-12:00	Team challenge or lab
12:00-1:00	Lunch and outdoor activity
1:00-2:30	Project work or maker activity
2:30-2:45	Break
2:45-3:45	Applied challenge, testing and revision
3:45-4:00	Reflection, cleanup, pickup and check-out

Example 3: Two Week Half Day Camp

Suggested hours: 8:30 a.m. to 12:30 p.m., Monday through Thursday for two weeks. Week one emphasizes programming. Week two applies to cybersecurity concepts and tools.

Day	Focus	Suggested activities
Week 1 Day 1	Computing foundations	Binary, basic computation, computer components, and an unplugged coding activity
Week 1 Day 2	Programming basics	Variables, input and output, loops, and a guided Scratch or Python activity
Week 1 Day 3	Programming projects	Functions, graphics, debugging and a small team challenge
Week 1 Day 4	Student project	Choose a challenge, modify a game or program, test and present
Week 2 Day 1	Online safety and passwords	Digital safety, phishing awareness, password strength, and a guessing-game activity
Week 2 Day 2	Linux and networking	Command-line basics, IP addresses, packets and a safe network demonstration
Week 2 Day 3	Digital forensics	Logs, deleted files, metadata, geotagging and a team investigation
Week 2 Day 4	Cryptography and final challenge	Hashing, ciphers, a capture-the-flag or escape room, careers and reflection

Implementation notes

- Build extra time for device setup, account access, updates and troubleshooting.
- Use short activity blocks for younger learners and alternate screen-based work with building, movement, or outdoor activities.
- Differentiate challenges by offering a guided path, an extension task, and an optional advanced challenge.
- End each day with a short reflection so instructors can adjust the next day based on participant progress.

Blank Five-Day Schedule Template

Day	Theme	First block	Second block	Closing
Day 1				
Day 2				
Day 3				
Day 4				
Day 5				

Daily logistics

Planning item	Local plan
Camp hours	
Drop-off and pickup plan	
Break and lunch plan	
Technology and account setup	
Low-tech backup activities	
Final showcase or challenge	