



Purpose of the Team Sponsor Manual for the National Cyber Cup by CYBER.ORG

This manual will provide competition information for team sponsors and help them to prepare their students to compete in the *National Cyber Cup by CYBER.ORG*. We've compiled advice and tips from teachers, coaches and former competitors to help guide team sponsors. The *National Cyber Cup by CYBER.ORG* is more than a competition, it is an opportunity for students to learn more about cybersecurity!

The Competition Vision

There are two virtual events for the *National Cyber Cup by CYBER.ORG*. Both of these events are available at no cost to schools/organizations. The first event is a qualifying event and the second event is the final event. There are three divisions for each competition: elementary (grades 4-5), middle (grades 6-8), and high school (grades 9-12).

Qualifying Event: Held in March

This is a 3-day event where teams compete by state. After the challenges close, the judges will review the final scores to confirm the winning teams. Each state's top three scores for each division will move on to the final event. In the event that a score is tied, time is the determining factor.

Final Event: Held in May

The winners from each state will compete in this 3-day event. After the challenges close, the judges will review the final scores to confirm the winning team. The first place team in each division will be crowned the National Cyber Cup by CYBER.ORG Champion and the school will receive a technology package from CYBER.ORG!

The Inaugural Competition

The 2021-2022 school year is the inaugural year for the *National Cyber Cup by CYBER.ORG*. There is only one competition event this year with three divisions: elementary (grades 4-5), middle (grades 6-8), and high school (grades 9-12). The three day event is held May 3- May 5, 2022. After the challenges close on May 5th, the judges will review the final scores to confirm the winning team. The first place team in each division will be crowned the Inaugural National Cyber Cup by CYBER.ORG Champion and the team will receive a prize package from CYBER.ORG!

Building a Team

In each division, teams can consist of one to four students. Keep the following in mind as teams are selected:

- Each team must be sponsored and registered by a team sponsor. A team sponsor must be an adult that oversees registration activities and receives and relays all communications regarding the National Cyber Cup by CYBER.ORG.
- A team sponsor may be a teacher, club leader, or other adult leader.
- Participants and team sponsors must be citizens within the United States or territories.
- Teams are designated by the team sponsors at registration.
- All students will be registered on a team. This includes students who are working individually (team of one).
- Students on a team should be able to problem solve together.
- Students on a team will need to communicate with each other throughout the competition.

Registration

Registration will open in March 2022.

On the registration site you will be able to create your teams and access a link to release forms. All team sponsors and student participants will be required to submit a release form to participate.

A username and password will be generated for each participant for the qualifying event and if applicable, the final event. After registration, the team sponsors will have access to a spreadsheet with this information along with notification of returned parental release forms.

Equipment/Supplies Required to compete in the National Cyber Cup by CYBER.ORG

- Computer/laptop/tablet with internet connection.
- Additional resources may be needed for competition. A complete list will be released to team sponsors two (2) months prior.
 - This may include printouts or easy to source materials (can of Pringles).
- For high school, a list of sites may be provided for the IT Department to whitelist.

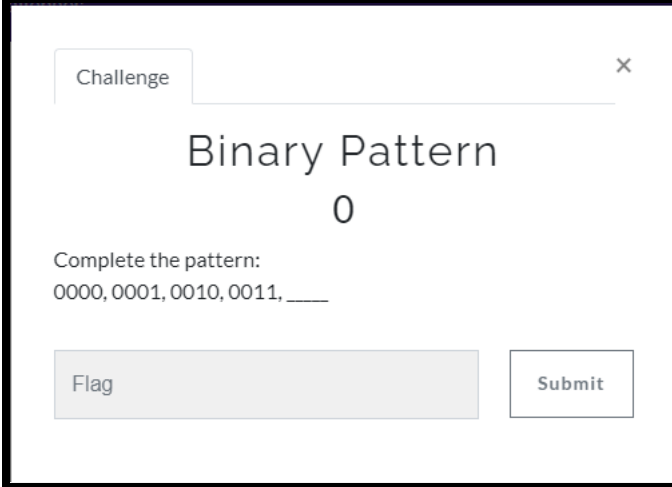
National Cyber Cup by CYBER.ORG Challenges

Our Cybersecurity Learning Standards can be used as a topical guide to prepare. More information on the standards can be found [here](#). Challenges are grouped by the following categories:

Computing Systems (CS)	Digital Citizenship (DC)	Security (SEC)
Communication and Networking	Online Safety	Information Security
Network Communication (COMM)	Cyberbullying (CYBL)	CIA Triad (CIA)
Network Components (COMP)	Digital Footprint (FOOT)	Access Control (ACC)
Cloud Computing (CC)	Public and Private Information (PPI)	Data Security (DATA)
Protocols (PROT)	Ethics	Threats and Vulnerabilities (INFO)
Data Loss (LOSS)	Threat Actors (THRT)	Cryptography (CRY)
Hardware	Ethical Integrity (ETH)	Network Security
Network Hardware Components (HARD)	Policy and Legal Issues	Authentication (AUTH)
Internet of Things (IOT)	Rules, Laws, and Regulations (LAW)	Securing Network Components (COMP)
Operating Systems (OS)	Intellectual Property (IP)	Threats and Vulnerabilities (NET)
Software	Usage and User Agreements (AUP)	Physical Security
Software Updates (SOFT)		Threats and Vulnerabilities (PHYS)
Programming and Scripting (PROG)		Security Controls (CTRL)
Applications (APPS)		

These are examples of challenges that participants may see in each division.

❖ **Elementary**



Challenge ×

Binary Pattern

0

Complete the pattern:
0000, 0001, 0010, 0011, ____

Flag

Submit

❖ **Middle School**



Challenge 0 Solves ×

Hostage

10

What type of malware encrypts your data and demands a ransom (usually in cryptocurrency) for the decryption key?

Flag

Submit


❖ High School

Challenge ×

Exif Data

0

Find out where the picture what taken.



Flag Submit

Additionally, having a positive attitude, perseverance and being able to problem solve are helpful skills for students competing.

Practice Site

The practice site can be accessed at <https://practice.nationalcybercup.org/>. It is designed to be a resource that team sponsors should utilize to help students prepare for the competition. The practice site has examples of some of the types of challenges that students will encounter during the competition. There are different types of challenges for each of the three divisions, and the site will remain open throughout the school year. Some challenges are accompanied with hints and/or suggestions to solve.

The practice site can be used in different ways:

- The practice site can familiarize students on how to submit flags(answers). Sometimes entered flags must be identical to the correct flag. This includes spacing, punctuation, and case. If a student feels that the entered flag is correct, they should try different variations of the same answer.
- Skills required for this competition can be taught during class time. Some challenges found on the practice site will have further information detailing how to solve them or how they work. The team sponsor can teach a short lesson to familiarize students. However, the team sponsor should not solve the practice challenges for students. Part of being successful during this competition is learning how to solve problems and troubleshoot.
- Students can go through the practice site and attempt to solve challenges making a list of challenges that are more difficult for them. The list can be used as a guide for challenge types to research/practice.
- Tips for success on the practice site
 1. Students should read the challenges thoroughly and review possible answers before attempting to solve a challenge.
 2. Some challenges will have hints that are provided underneath the challenge itself.
 3. Check the resource page (elementary and middle)

Elementary and Middle School Resource Page

The Elementary and Middle school competition divisions are designed with the intent for students NOT to use Internet search engines to find answers. To help protect students, a virtual resource page will be available to these divisions during the competition. The required information will often be linked on the resource page, but some challenges will require students to think outside of the box.

While the resource page will be designed to eliminate a student's need to search the internet for information, teachers, coaches, and sponsors must provide their own supervision while students are online with the competition. The competition environment has no way of preventing students from navigating elsewhere on the world wide web.

2021-2022 Professional Development for Sponsors

The virtual professional development workshop “Introduction to National Cyber Cup by CYBER.ORG” is a great opportunity for team sponsors and prospective team sponsors to learn more and ask questions of competition organizers. Attendees can expect to learn the basics of the competition, from how to lead students through practice challenges to the nuts and bolts of registration. This workshop will be held on four dates throughout the school year.

- October 18, 2021
- November 30, 2021
- January 19, 2022
- March 24, 2022

A more challenge-specific PD will also be available for team sponsors. This virtual professional development workshop is for team sponsors to get an in depth look at how to work through challenges their students might encounter during the competition. This workshop will allow sponsors to take the role of the students. There are three separate PD sessions that are tailored for each competition division. Attendees can expect to learn how to work through various levels of competition type challenges through step by step instructions, utilize resources available, better prepare teams to efficiently work through challenges together, and provide strategies to guide students who are stuck on challenges. This workshop will be held on January 8, 2022

Team sponsors can register for these FREE workshops here: <https://cyber.org/events>

Competition Etiquette for the National Cyber Cup by CYBER.ORG

- Competition challenges should only be answered by students during all events.
- The role of the team sponsor is to guide students and encourage perseverance throughout the competition.
- All participants should have the opportunity to learn how to work through these challenges. Flags should NEVER be shared among students in other teams, given to an entire class, or posted online.

Competition Rules and Regulations for the National Cyber Cup by CYBER.ORG

(Note that rules and regulations may be added prior to registration)

- Challenges may be hidden behind challenges. This means that a new challenge may not display until a prerequisite flag is submitted. These challenges will not be identified to participants.
- Some challenges may have a limited number of allowed attempts to submit the correct flag. These challenges will be identified.
- New challenges will be released throughout the competition..
- Flag submissions will be monitored. Any submission that contains inappropriate content will be reported to the participant's team sponsor and may result in immediate disqualification from this event.
- There is a place for participants to submit questions to the event organizers. Responses to questions that *can be answered* will be sent to the sponsor of that school. Event organizers will not communicate directly with students.
- Participants should not add identifying information such as school/organization or contact email to their user profile.
- Submitted flags are also monitored by timestamp. We are monitoring for actions such as:
 - Multiple correct flag submissions from a participant at a rate that is not possible due to the nature of the challenges.
 - Multiple participants from a school submitting a correct flag within seconds of each other.These types of submissions raise concerns that the correct answer is being shared by a team sponsor or other competitors without teams having an opportunity to solve the challenge on their own.
- Repeated instances of this may result in hidden scores(participants are still allowed to participate but scores are hidden on the scoreboard for the duration of the competition, and the team is not eligible for any recognition).
- Answers to challenges are not released after competition.
- Participant and team sponsor conduct that the judges determine to conflict with the overall mission of the competition will be further analyzed and could result in actions taken including disqualification.