

National Science Bowl 2021 Cyber Challenge



Lawrence Livermore National Laboratory

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Lawrence Livermore
National Laboratory



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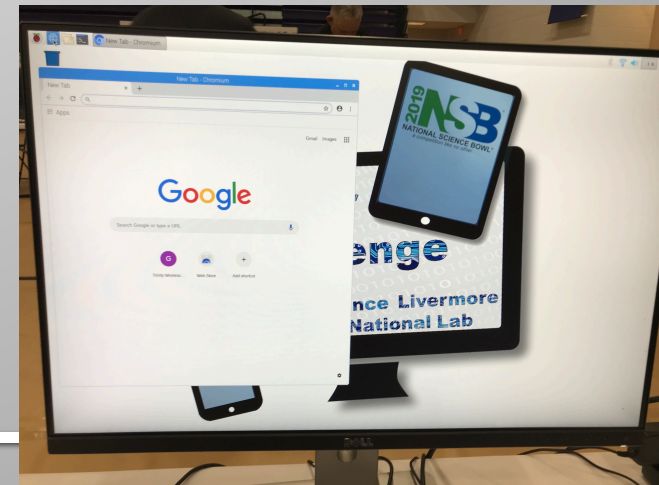
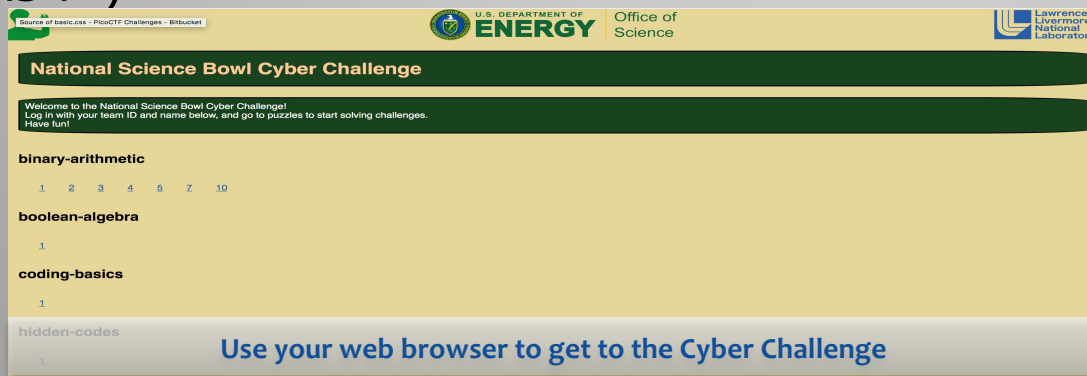


Cyber Challenge

- Jeopardy! style Capture the Flag (CTF) competition
- If stuck on some questions – move on to other problems
- Be persistent – it is not over until it's over
- Scoreboard changes a lot – up until the very last moment
- Read the questions carefully; they provide valuable info!
- Mentors are available in Zoom breakout for assistance (but not for providing you answers). Also, **Email your questions to cybercraft-support@llnl.gov**

Getting Started on the Cyber Challenge

- Point your browser to <https://cybercraft.cyberfire.training>
- Competition system – with Login page
 - You will enter your team token
 - Important to keep track of the problems you have solved – may not be obvious if you have solved it already
- You can use the internet to research solutions
- Many different kinds of puzzles and problems and your team is unlikely to finish all of them
- The team with the highest score at the end of the event, wins. In case of a tie score, the time the solution was submitted is the tie breaker (earliest time is 1st)



Some Rules

- You can submit answers as many times as you want until correct. There is no penalty for a wrong answer
- Every puzzle identifies its points value; higher point value generally means increased difficulty
- NO sharing answers across teams
- Work within your team to solve the problems - create your own team strategy
- Use the internet for research

Have Fun!

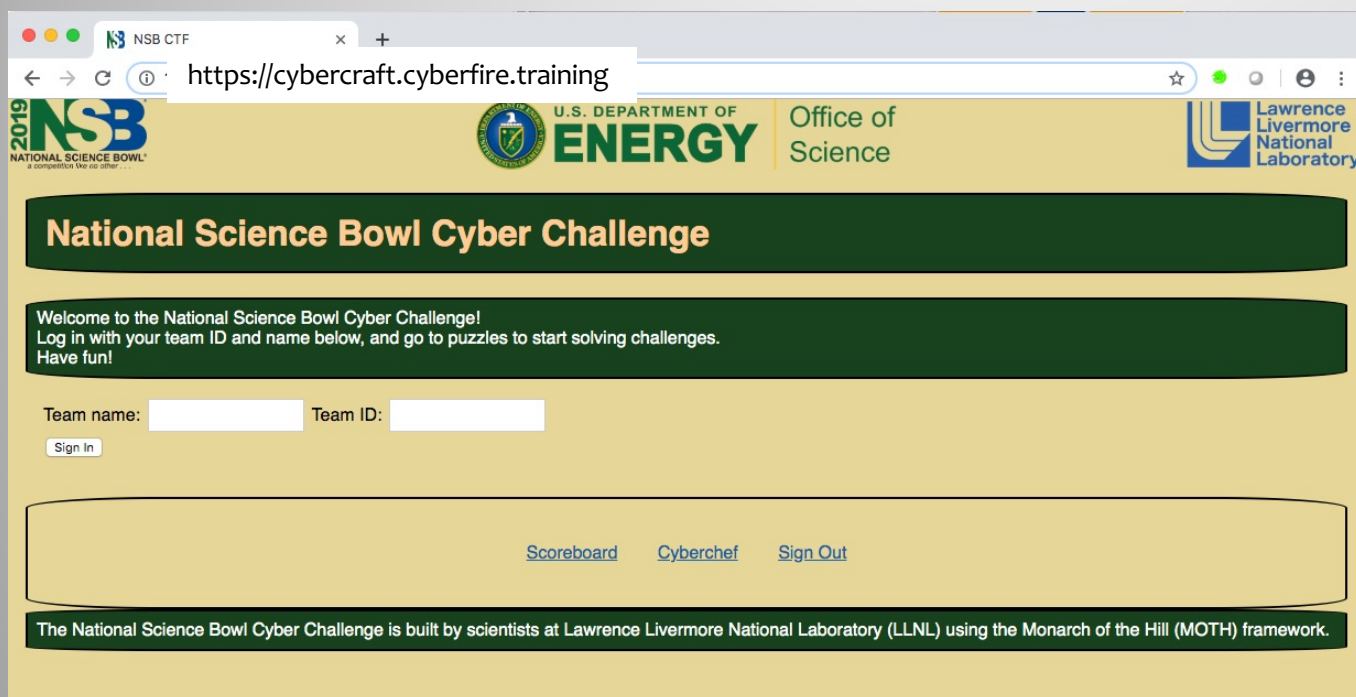
Answers May Require a Specific Format

- How many years ago was Lawrence Livermore National Laboratory founded?
 - sixty seven, Sixty seven, 67 (one or all of these formats may or may not be accepted).
 - If you think you have the right answer maybe try a different format for the answer: try 67 if you entered sixty seven
- Be careful about formats and typos (e.g., spaces may be required or not)
 - Typos: I knw the answr
 - Format: I.know.the answer or I know the answer
 - Format: March 20, 2017 or 3/20/17 or 03/20/2017
- Be specific in your answers: Name at least one founder of Apple Computer Inc.
 - Answer: A Steve guy – (INCORRECT)
 - Answer: Steve Jobs or Steve Wozniak (will work)

Getting Started

Team Information provided by Coach

URL: <https://cybercraft.cyberfire.training>



The screenshot shows a web browser window with the URL <https://cybercraft.cyberfire.training>. The page features logos for the 2019 National Science Bowl, the U.S. Department of Energy, the Office of Science, and Lawrence Livermore National Laboratory. The main heading is "National Science Bowl Cyber Challenge". Below this, a welcome message states: "Welcome to the National Science Bowl Cyber Challenge! Log in with your team ID and name below, and go to puzzles to start solving challenges. Have fun!". The login section includes two input fields: "Team name:" and "Team ID:", followed by a "Sign In" button. At the bottom of the login section, there are links for "Scoreboard", "Cyberchef", and "Sign Out". A footer note mentions that the challenge is built by scientists at LLNL using the Monarch of the Hill (MOTH) framework.

School Name Team 1

Abcd1234



Team ID
(case sensitive)

Team Name
(case sensitive)

Scoreboard is Viewable On Your Own Screen



Source of basic.css - PicoCTF Challenges - Bitbucket

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National Science Bowl Cyber Challenge

Welcome to the National Science Bowl Cyber Challenge!
Log in with your team ID and name below, and go to puzzles to start solving challenges.
Have fun!

binary-arithmetic

1 2 3 4 5 7 10

boolean-algebra

1

trivia

1

[Scoreboard](#) [Cyberchef](#) [Scoring](#) [Sign Out](#)

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Scoreboard

password-complexity: 1	binary-arithmetic: 22	science-and-statistics: 24806	intro-to-linux: 120	Team name
moriarty: 126				Team name
moribir				Team name

[Puzzles](#) [Cyberchef](#) [Scoring](#) [Scoreboard](#) [Timeline](#) [Totals](#)

Return to Puzzles

Timeline and Totals for more in-depth view of scoring

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Cybercraft Resources

- There will be various tools provided by Cybercraft to help along the way
- Cyberchef – Cyber Swiss Army Knife
 - Website that helps transform data from one type to another
- NSB-Shell
 - A linux command line with various tools such as code compiler and debugger, Python, etc.
 - Utilize your team name and token to log in
- Check for links in Cybercraft!



[Scoreboard](#) [Cyberchef](#) [Scoring](#) [Sign Out](#)

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About Scoring

- The contest is made up of multiple categories. Each category is worth one point toward the total score; your team's score in a category is the fraction of the total points unlocked so far in that category.
- The team that has 30% of the points in each of five categories has 1.5 points, whereas the team that has 80% of the points in only one category has 0.8 points. It is typically better to have a few points in many categories, than many points in a few categories.
- When points are unlocked in a category, every other team's score in that category goes down until they too score that point. Unlocking points is the only way to reduce another team's score.

Resources

- Mentors available within Zoom rooms
- **“ask for help”** button – should be to the left of the “reactions” button in the Zoom window
- **Email questions to cybercraft-support@llnl.gov**
- Introductory video:
 - <https://www.youtube.com/watch?v=FodGJS9FHyA>

THE END