100 CYBERSECURITY ACTIVITY IDEAS

to Incorporate into Students' Everyday Learning at School

Be a cyber-safe Owl!

Édunovis
Développer une posture d'innovation en Éducation et voir plus loin...

Brilliant LABS LABOS Créatifs

Be a cyber-safe owl!

Here is a list of over 100 complementary activities you can do with your students regarding cybersecurity. These activities can, of course, be adapted based on the age and interests of the students.

The main objective is to link everyday learning to practical, real-world contexts in the field of cybersecurity.

These activities are categorized and presented under the following 7 themes:

1. Language and Literature
2. Mathematics and Cryptography
3. Visual and Artistic Creation
4. Fun and Collaborative Activities
5. Research and Investigations
6. Science and Technology
7. Entrepreneurial Projects

Be a cyber-safe owl!

(1) Language and Literature;

- Write a fictional diary of a person experiencing a cyberattack.
- Create a comic strip about a hero protecting people from cyberattacks.
- Write a poem or song about cybersecurity.
- Translate technical cybersecurity terms into simple language.
- Write scripts and record educational podcasts on cybersecurity.
- Debate in class about the benefits and dangers of social media.
- Write an open letter about the importance of protecting personal data.
- Imagine a science fiction scenario where artificial intelligence goes rogue.
- Perform a dialogue between two characters debating the use of passwords.
- Create a mystery story where clues are based on cybersecurity vulnerabilities.
- Prepare and conduct an interview in class or via video conference with a cybersecurity expert.
- Maintain a glossary of cybersecurity terms or important keywords.

Be a cyber-safe owl!

(1) Language and Literature;

- Ask students to write a letter to their parents or family members explaining the importance of staying safe online.
- Invent a cybersecurity adventure story featuring a superhero or “Cyber Owl” defeating a villainous hacker.
- Find and present news articles on cybersecurity to the class or family.
- Invent a cybersecurity superhero and write illustrated booklets about their stories.
- Research the "Caesar Cipher" and create messages for classmates to decode.
- Perform a play about cybersecurity risks.
- Create a quiz game on cybersecurity topics.

(2) Mathematics and Cryptography;

- Solve puzzles based on cryptography (e.g., substitution or transposition codes).
- Organize a contest where students decrypt coded messages.
- Study simple encryption algorithms, such as XOR.
- Design a logic game inspired by cybersecurity protocols.
- Create graphs showing the evolution of cyberattacks over the years.
- Analyze data on the most commonly used passwords.
- Study random numbers in math and their role in cryptography.
- Calculate the entropy of a given password.
- Simulate secure exchanges using simple public and private keys.
- Assess the likelihood of guessing a password based on various parameters.
- Use cybersecurity-inspired scenarios to create and solve math problems.
- Study the "Caesar Cipher" to explore cryptography in class.
- Create a table of pros and cons of connected devices.

Be a cyber-safe owl!

(2) Mathematics and Cryptography;

- Conduct surveys on topics like passwords, social media, or connected devices and present results in charts or graphs.
- Inventory connected devices at home or school and display findings using tables or graphs.

Be a cyber-safe owl!

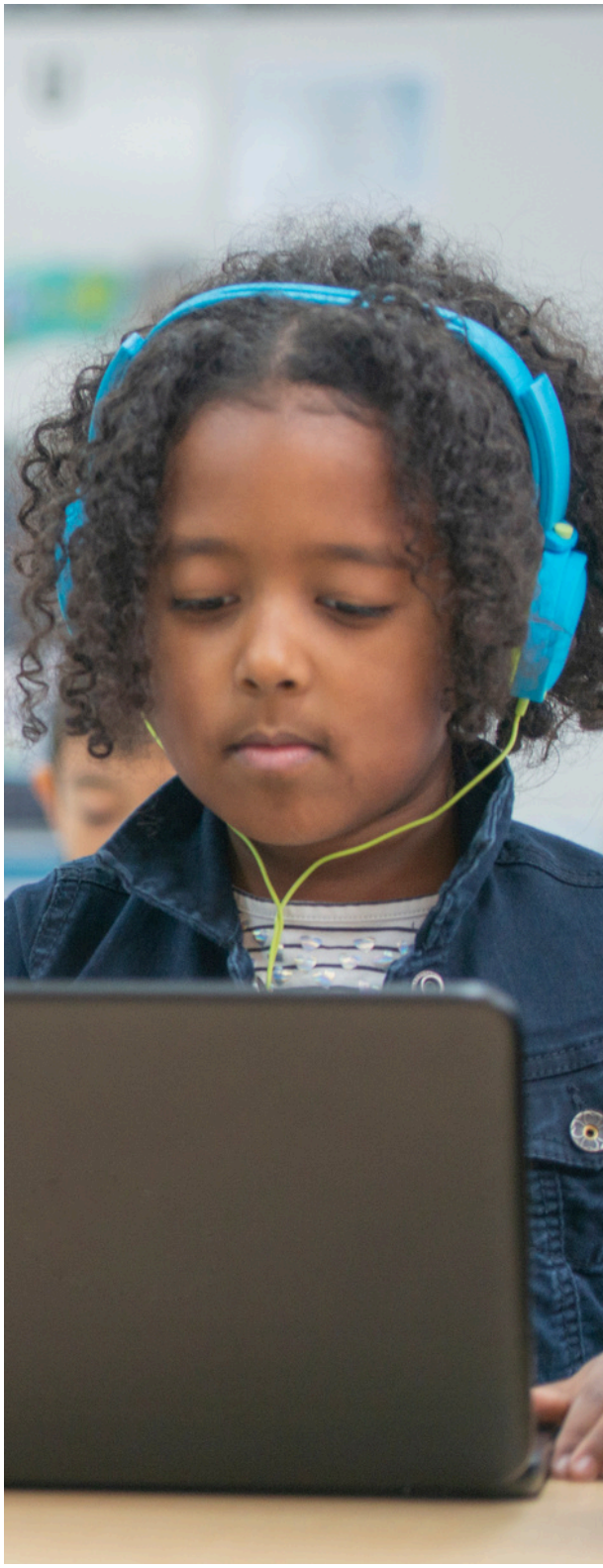
(3) Visual and Artistic Creation;

- Design a poster on the "10 Golden Rules of Cybersecurity."
- Illustrate cards for an educational game about cybersecurity threats and solutions.
- Create a logo for a cybersecurity awareness campaign at school.
- Make an infographic on steps to secure a digital device.
- Create a video about a fictional cyberattack.
- Draw a map of virtual threats in an imaginary world.
- Design a humorous comic strip about common internet mistakes.
- Propose mascot designs promoting good cybersecurity practices.
- Develop a digital animation explaining phishing techniques.
- Paint a mural on cybersecurity in a public area of the school.
- Create posters for:
  - Secure passwords
  - Recognizing fraudulent emails
  - Safe practices on social media
  - Privacy protection

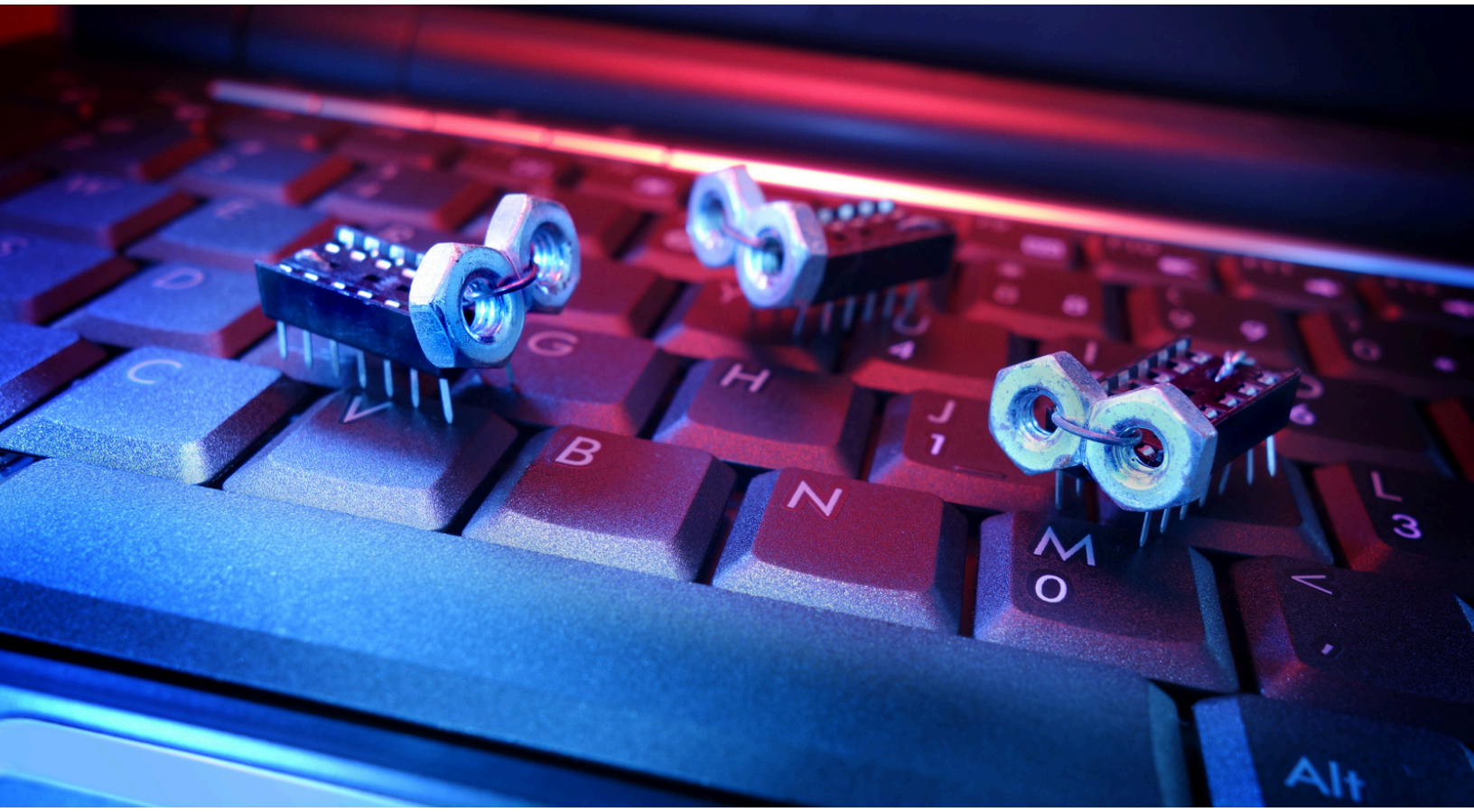
Be a cyber-safe owl!

(4) Fun and Collaborative Activities;

- Organize a cybersecurity-themed escape game.
- Create an interactive quiz using platforms like Kahoot or Quizizz.
- Plan a role-playing game where students simulate cybersecurity scenarios.
- Design a board game about good online practices.
- Organize a digital treasure hunt with coded clues.
- Set up a hackathon with challenges on cybersecurity.
- Host a contest for the most creative (and secure) passwords.
- Create a simulation game where students protect a company from cyberattacks.
- Invite an expert to lead an interactive cybersecurity workshop.
- Host a thematic cybersecurity day with booths, demonstrations, and educational games.



Be a cyber-safe owl!



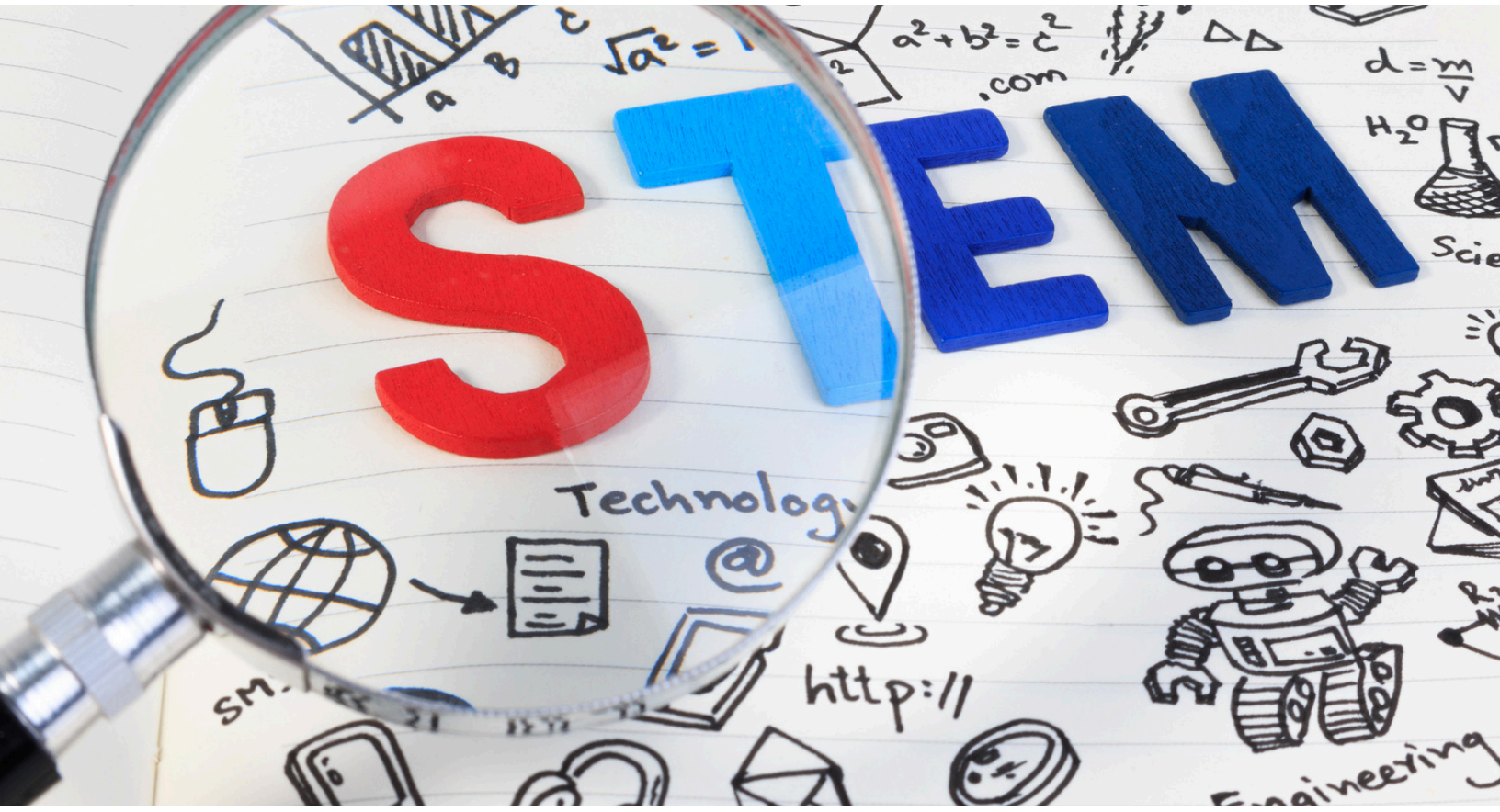
(5) Research and Investigations;

- Analyze real-life case studies of famous cyberattacks.
- Research the history of computer viruses.
- Compare data protection regulations across different countries.
- Investigate the impact of misinformation on social media.
- Study user rights online and GDPR regulations.

Be a cyber-safe owl!

(6) Science and Technology;

- Study how firewalls work.
- Analyze the differences between antivirus and anti-malware programs.
- Build a simplified model of a computer network.



Be a cyber-safe owl!

(7) Entrepreneurial Projects;

- Propose a school cybersecurity brigade.
- Create a digital guide for cybersecurity beginners.
- Develop a simple app to test password strength.
- Design a chatbot answering cybersecurity questions.
- Organize a simulation where students react to a cyberattack.

Example of Creating a Cybersecurity-Themed Board Game Using Artificial Intelligence (AI)

For this example, ChatGPT was used.

Here is an example of a cybersecurity-themed board game created with the help of ChatGPT. Students can design and build their own version of the game and share it with other classmates or students at their school. This is just an example to inspire creativity. We encourage you to develop innovative and engaging games that make learning about cybersecurity both fun and educational!

Game Name: *The Cyber Challenge*
Objective: Be the first to complete a lap of the board by answering cybersecurity questions and using special cards wisely.

Required Materials:

- **Game Board:** A grid with 100 squares (10 x 10). Some squares have specific effects:
  - Neutral Square: No special action.
  - Question Square: Draw a question card. Answering correctly allows the player to stay on the square; a wrong answer results in moving back 2 squares.
  - Bonus Square: Allows the player to draw a special card.
  - Trap Square: Causes the player to lose a turn or move back 3 squares.

Be a cyber-safe owl!

Required Materials:

- **Question Cards (30):** Simple questions about cybersecurity with multiple-choice or true/false answers.
  - **Example 1:** "A secure password should include: (a) A single word, (b) Numbers and letters, (c) Only your first name."
  - **Example 2:** "True or False: It is safe to share your password with a friend."
- **Special Cards (10):** Powers to help or hinder other players.
  - Examples of Special Cards:
    - "Security Shield": Cancels a trap.
    - "Double Advance": Move forward twice the total of the dice roll.
    - "Virtual Pirate": Forces an opponent to move back 5 squares.
    - "Quick Update": Play another turn immediately.
    - "Technical Issue": An opponent loses a turn.
- **Two Six-Sided Dice:** Used to advance on the board.

Be a cyber-safe owl!

Game Rules:

- **Setup:**
  - Place the game board in the center of the table.
  - Distribute one special card to each player at the start.
  - Shuffle the question cards and the remaining special cards into two separate piles. You can designate specific spots on the game board for the card piles and differentiate them by using colored paper (e.g., blue for question cards and yellow for special cards).
- **Gameplay:**
  - Each player rolls the dice and moves forward according to the total rolled.
  - If a player lands on:
    - **Question Square:** Draw a question card. Answering correctly allows the player to stay on the square; a wrong answer results in moving back 2 squares.
    - **Bonus Square:** Draw a special card and add it to their hand (maximum of 3 cards per player).
    - **Trap Square:** Apply the specified effect (lose a turn or move back).
  - Players may use a special card during their turn, either before or after rolling the dice.
- **Victory Conditions:**
  - The first player to achieve a full lap of the board (return to or pass the starting square) wins the game.

Be a cyber-safe owl!

Ideas for Question Cards (to be customized according to the players' age**):**

- True or False: Using "123456" as a password is a good idea. (Answer: False)
- What should you do if you receive a message from a stranger?
  a. Delete it
  b. Respond immediately
  c. Send them a photo
  (Answer: a)
- Why is it important to update your devices?
  d. To add games
  e. To fix security vulnerabilities
  f. To save battery
  (Answer: b)
- What should you do if a friend asks for your password?
  a. Give it to them
  b. Refuse and explain why
  c. Write it on a piece of paper
  (Answer: b)

Be a cyber-safe owl!

Ideas for Special Cards:

- "Active Antivirus": Immunizes against the next trap card.
- "Digital Speed Boost": Move forward 6 spaces immediately.
- "System Error": All opponents move back 3 spaces.
- "Power Surge": Roll the dice again and move forward.
- "Disconnection": Choose an opponent to lose a turn.