STEM Careers Coalition

CLASSROOM ACTIVITY

Privacy and Tech

OBJECTIVES

Students will:

- Research and summarize American data privacy laws and regulations.
- Evaluate the potential benefits and risks of a current tech innovation.
- Create a recommendation that outlines how this innovation can be adapted to protect users' privacy and benefit society.
- Compare and contrast recommendations in order to ultimately optimize their own.

OVERARCHING QUESTION

How can new technology be safely used in ways that benefit individuals and society?

ACTIVITY SUMMARY

Students will step into the role of data privacy experts as they explore current regulations regarding internet privacy. They will then focus on privacy issues facing a current tech innovation, and they will provide a recommendation for how that innovation can be used in a way that benefits both the user and society.

MATERIALS

- Devices with internet access, at least enough for half the class
- *Designing Solutions Handout*, one per student

CHALLENGE

1. Two-Minute Brainstorm: Divide the class into groups of three students, and distribute a stack of notecards to each group. Ask: When you think of the intersection (or connection) between *Privacy & Tech*, what comes to mind? Encourage students to jot as many words or topics as they can—recording each one on a separate notecard.
2. When two minutes are up, encourage the groups to categorize their brainstorming into two, three, or four categories. Allow groups a minute to categorize, and then encourage groups to share.
3. After the student groups have shared their categories, summarize the disussion. Then acknowledge that tech and internet privacy is an important worldwide issue. In the United States, there is no single law that regulates our online privacy. Rather, there are different federal and state laws that cover data topics such as healthcare, financial information, data held by government agencies, and children's privacy. The most used law to police companies' internet policies is the Federal Trade Commission (FTC) Act of 1914, which

states that companies are prohibited from engaging in unfair or deceptive acts or practices. In the absence of a federal law that governs internet policy, some states are beginning to create their own.

4. Tell the class that today students will enter the world of cybersecurity as they investigate one kind of new technology, consider its risks and benefits, and design protocols for the technology's safe and continued use. Then distribute one *Designing Solutions Handout* to each student, and elaborate on the challenge by reading aloud the bullets listed under *Step 1: Define the Challenge*.
5. Explain that while student groups work on this challenge, they will take on the role of a Data Privacy Specialist. People in this career are responsible for understanding, supporting, and implementing privacy and data protection for their company or organization.
6. After answering any questions, prepare student groups to perform research to better understand the challenge.
    - Write the following website on the board: northeastern.edu/graduate/blog/what-is-data-privacy/. Explain that this article provides a strong overview of the United States' current data privacy policies, and ask all students to read this article first.
    - Then explain that each group should select one of the three listed technologies and perform internet research to learn more about its benefits and risks. In other words: In what ways can that technology help both individual users and society at large? At the same time, what privacy risks does it pose?
    - Explain that groups will have about 20 minutes to gain a better understanding of the United States' privacy laws, as well as begin to learn more about one of the listed technologies. Remind students to review the Data Privacy website together and then encourage them to split up the remainder of the research.

DESIGN

1. Bring the class back together and explain that it is now time to develop a solution to the challenge. Call on a student to read the handout's *Step 2: Create a Design* section aloud.
2. Explain that as groups develop their privacy recommendations, each group member will continue to look at the challenge through the eyes of a Data Privacy Specialist. However, each student will narrow their focus. One student in each group should work on the recommendation with the individual user in mind, one student should focus on society as a whole, and the third student should approach the challenge from the perspective of a software development company. Give students a moment to select roles.
3. Then tell the class that they will have about 20 minutes to complete the *Design* portion of their handout. Quickly recap and encourage students to:
    - Approach the challenge from the perspective of their career and focus area.
    - Use the information they compiled on current privacy laws and their specific technology to consider its risks and opportunities *and* develop a recommendation for privacy protocols that would benefit individuals and society.
    - Use a separate piece of paper to outline a recommendation that answers the questions provided on the handout.
    - Be ready to share, explain, and justify their recommendation.

SOLVE

1. When there are about 10 minutes left in the class period, pair student groups together. (If possible, pair groups who focused on *different* technologies.)
2. Instruct each group to explain how its technology can benefit individuals and society if the group's recommended safety protocols are followed.
3. As groups share, encourage them to listen for key similarities and differences among recommendations in order to ask questions and provide constructive feedback. Remind groups that while they may not have researched the same technologies, the background knowledge they have acquired should enable them to look critically at their peers' work.
4. Go on to explain that once both groups have shared, groups should complete the *Step 3: Analyze Solutions* portion of the handout in order to optimize their recommendation. If time permits, they may revise their recommendations in order to include these privacy optimizations.

STANDARDS

Next Generation Science Standards

- Engineering Design:
    - ETS1-3: Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, and aesthetics as well as possible social, cultural, and environmental impacts.

ITEEA Standards for Technological Literacy

- Standard 4. Students will develop an understanding of the cultural, social, economic, and political effects of technology. In order to recognize the changes in society caused by the use of technology, students should learn that:
    - I. Making decisions about the use of technology involves weighing the trade-offs between the positive and negative effects.
- Standard 6. Students will develop an understanding of the role of society in the development and use of technology.
    - J. A number of different factors, such as advertising, the strength of the economy, the goals of a company, and the latest fads contribute to shaping the design of and demand for various technologies.

DESIGNING SOLUTIONS

Step 1: Define the CHALLENGE

Your challenge is to:

1. Understand the United States' current data privacy laws.
2. Learn more about a current tech innovation from the list below:
    - Facial recognition software
    - Location (or geo) tracking software
    - Disease tracking apps
3. Identify the technology's benefits to individuals and society, as well as its privacy risks.
4. Design protocols for its safe and continued use.

Jot your research notes below:

Step 2: Create a DESIGN

Overview: Work with your group to develop a privacy recommendation that explains how to use the software you researched in a way that benefits its users and society.

Requirements: Your recommendation must include:

1. **Benefits and risks:** As it currently exists, how could this technology potentially benefit and harm its users? How could it potentially benefit and harm society as a whole?
2. **Software considerations:** What changes or considerations, if any, should the software developer take into account to ensure privacy?
3. **User considerations:** Assuming that these software changes can be implemented, what additional steps (if any) could users take to ensure their privacy?

Jot notes below and then complete your recommendation in a format of your choice on a separate piece of paper.

Step 3: Analyze SOLUTIONS

Think about the similarities and differences among the two privacy recommendations, and consider what you learned that could improve your own set of protocols. Then work as a group to describe at least two changes you could make to strengthen your own recommendation.