Conversation Starters

Questions

Most people, young and old, don't understand what a cybersecurity professional does or the possible pathways to get into the cybersecurity field. The following set of questions will help you lead a conversation to show them that:

- **Cybersecurity has something for everyone**
  - Whatever your interests and skills, there's an exciting job for you.
  - This variety has an interesting offshoot: Because of the broad skill set required to properly understand modern security challenges, cybersecurity professionals come from a diverse set of backgrounds. In fact, the more variety you have in your background, the better a security professional you'll be!
- **There is a high need for skilled cybersecurity professionals**
  - Currently there is a high demand for cybersecurity skills, and the field is growing in leaps and bounds.
- **Cybersecurity workers are part of a dynamic industry**
  - Cybersecurity evolves quickly, so you will always be learning and developing new skills.
- **Cybersecurity has practically unlimited growth**
  - With an ever-expanding scope, cybersecurity presents the ultimate growth potential—both in your career path and for learning opportunities.
- **You will never be bored in the field of cybersecurity**
  - Creative problem solving will take you into uncharted territory, and the ideas of your colleagues will expose you to different ways of thinking. Be prepared to be fascinated and to have your talents stretched in ways you never expected.
- **You get to solve problems and develop unique solutions**
  - You will be able to come up with solutions no one else has thought of---- allowing you to make your mark on the world.
  - With each new wave of technology, new risks are created. It's the job of cybersecurity professionals to identify, understand, and then help address these risks. Each situation is a unique puzzle and a new opportunity to rise to the challenge.
  - Solving cybersecurity problems is the ultimate challenge.
- **Cybersecurity allows you to earn a great salary**
  - Cybersecurity professionals not only earn lots of respect, but they're highly paid. Even the starting salary for an entry-level job is impressive!

- **Careers in Cybersecurity allow you to enjoy job flexibility**
    - The field of cybersecurity offers you lots of freedom in finding your dream job. It can be a launching pad for jobs in business, design, intelligence, defense, medicine, law, government, and much more.
    - Your analyzing and problem-solving skills are highly transferable enabling you to move anywhere in the world and to any industry.
- **Cybersecurity professionals make a difference in the world and make a real impact**
    - Cybersecurity matters. Everywhere you look you'll see examples of cybersecurity having a positive effect on everyday life. It has impacts that extend beyond the digital world and into the physical one. If you want to work on technology issues that have real-world impact, cybersecurity might be the discipline for you.
- **Cybersecurity touches many areas of interest**
- **The work of cybersecurity professionals is more than the stereotypical picture most people have of a computer science major or a hacker.**

Questions

1. Ask: What kind of impact do you want to have on the world?

You can start the brainstorming by asking some of the following questions.

- Do you want to help people stay safe, secure, healthy?
- Would you like to make it easier for people to communicate with each other?
- Do you want to make sure people can travel by train, plane, or car safely?
- Are you interested in working with agricultural equipment?
- Would you like to help people be better prepared for natural disasters?
- Do you want to make sure people's personal information is secure?
- How else do you want to make a difference in the world?

Share with them that the field of cybersecurity offers you lots of freedom in finding your dream job. It can be a launching pad for jobs in business, defense, medicine, law, government, and much more.

The analyzing and problem-solving skills needed in cybersecurity are highly transferable enabling you to move anywhere in the world and to any industry.

If a person is interested in making a difference in the world, cybersecurity is a great choice as it gives them the skills and expertise to impact thousands of lives every day.

Increasing awareness about careers in cybersecurity and building a national cybersecurity workforce will help enhance America's security and promote economic prosperity.

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2. Ask: What kinds of things do you like to do?

- Do you like to use your imagination to solve problems?
- Do you like to solve puzzles?
- Do you like to work on teams?
- Do you like to design ways to make something better?
- Do you like to organize people, things, or processes to get things done?
- Do you like to travel to new places?
- Do you like being challenged in new and interesting ways?
- Do you like working on big, complex projects?
- Do you like programming, hardware, computers, video games, apps, math, science, engineering?

These knowledge areas, skills, and abilities are all elements of how cybersecurity practitioners do their work.

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3. Ask: Is there an area you are interested in or considering?

Make a list of all the types of work the audience shares. In most cases you can tie what they are interested in to a career in cybersecurity. Here are few examples:

Medicine

Medical devices, like other computer systems, can be vulnerable to security compromises, potentially impacting the safety and availability of the device. Medical device vulnerability increases as medical devices are increasingly connected to the Internet and part of hospital networks or connected to other medical devices.

All medical devices carry a certain amount of risk. The increased use of wireless technology and software in medical devices also increases the risks of potential cybersecurity vulnerabilities; electronic medical devices also improve healthcare and increase the ability of healthcare providers to treat patients.

Addressing cybersecurity vulnerabilities, and thus reducing information security risks, is especially challenging because cybersecurity threats cannot be completely eliminated; consequently, manufacturers of medical devices, hospitals that deploy them, and medical professionals must work to mitigate risks. There is a growing need to consider protecting patient safety and promoting the development of innovative technologies and improved device performance.

Agriculture

Today's agricultural industry is becoming ever more reliant on Internet of Things (IoT) technologies leading to potential vulnerabilities through agritech devices.

The Internet of Things has become popular with agritech firms. The wide network of connected sensors that characterizes IoT systems are ideal for farming as they can alleviate the time-heavy monitoring aspect of the industry through devices that can measure weather, water levels, and soil properties.

IoT technologies are used to automate irrigation and fertilization systems on farms, to add new precision to operations and reduce waste, and to automate farming machinery. But the new tech devices come with the challenge of defending against cyber-based attacks.

Industrial Control Systems

Cybersecurity is a critical aspect to automation architectures such as Human Machine Interfaces (HMI) and Supervisory Control and Data Acquisition (SCADA) systems. It becomes even more important with increased connectivity, data exchange, and the use of Industrial Internet of Things (IIoT). It is important to make sure the process data is protected against cyber-attacks.

Banking

Banks today are dependent on technology to conduct business operations. The threat and impact of cyberattacks on the financial sector is increasing, and financial sector authorities are increasingly looking to address cyber risk.

For example, ATMs may expose your bank to ATM cash-out scams, and Web-based services may be vulnerable to distributed denial-of-service attacks. Other technologies banks use, such as cloud computing and mobile applications, add additional risks.

No bank can afford to ignore mobile banking. Many customers now demand the convenience of such services as remote deposits, mobile bill-paying and person-to-person payments, and the ability to perform them at any time and from anywhere on a smartphone or tablet. Mobile banking benefits banks, too, enabling them to expand their geographic reach without adding physical branches. But these conveniences add additional cybersecurity risks.

Fashion & Entertainment

Computer science engineers develop cutting-edge music software; create shopping apps that helps customers choose styles—and then recommends matching accessories, and where to buy them; and produce digital set design programs that add virtual platforms. It is important for security to be built in from the onset.

Entrepreneur & Business

Cybersecurity is a great platform on which to build a successful career in business. Cybersecurity practitioners can work in nearly every area of technology, from aerospace and automotive to computers and biotechnology. Others can organize people, places, equipment, and information, ensuring that complex and large-scale systems operate safely and efficiently.

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4. Ask: Who makes a good cybersecurity practitioner?

Explain to the audience that there is no one “type” of person who works in the cybersecurity field.

Cybersecurity practitioners . . .

- Are creative and imaginative
- Like collaborating with others

- Are curious and persistent
- Want to make a difference
- Like solving problems or improving processes

As you go through this list, ask your students if they are surprised that “excels at math, science, programming, and technical skills” are not on this list. Tell them that it is important that cybersecurity practitioners have a solid background in these area, but, ultimately, the best cybersecurity workers are people who use their communication skills, imagination, and analytical abilities to invent, design, and create solutions that matter.