# OPENING DOORS: SUPPORTING K12 CYBERSECURITY EDUCATION

**C**ybersecurity is an exciting and rewarding career choice!

Cybersecurity has a wide range of career options and multiple pathways to enter the workforce. Cybersecurity is one of the fastest-growing areas that crosses a substantial number of disciplines and has a deep impact on the economy and society. Unfortunately, many people, young and old, do not understand what a cybersecurity practitioner does or the multiple career pathways to get into the cybersecurity workforce. Students must gain knowledge about potential cybersecurity career opportunities. This can be done by both raising awareness and interest in cybersecurity and by providing students with foundational cyber skills.

With cybersecurity crossing so many career paths and skill sets, K12 schools must promote deeper engagement, providing students with real-world situations in a variety of formal and informal contexts. Students can gain a concrete understanding of topic and competency through experiential learning.

## EQUIP ALL WITH FOUNDATIONAL CYBER SKILLS

Economic competitiveness and security improve when workers have the cyber skills needed to meet workforce demands.

While some may gain foundational cyber skills needed to navigate daily life, others may be inspired to go further and make cybersecurity their career focus.

**Resources**
- CyberSeek: Cybersecurity Job Market
- International Society for Technology in Education (ISTE) Standards
- Common Sense Media: Digital Citizenship
- Collaborative for Academic, Social, and Emotional Learning (CASEL) Standards
- United Nations Educational, Scientific and Cultural Organization (UNESCO) Global Framework
- Preparing Our Country

## TECH FOR GOOD

Cybersecurity professionals make a difference in the world and make a real impact.

The work of cybersecurity professionals is more than the stereotypical picture most people have of a computer science major or a hacker.

**Resources**
- Curated NICE K12 Community of Interest Resources List
- Center for Internet Security (CIS) Rules of Cyber Ethics
- World Economic Forum

## HANDS-ON EXPERIENCE

Students can gain a concrete understanding of career options and cybersecurity competencies through experiential learning. These skills honed through hands-on cybersecurity curriculum in classrooms, clubs, and competitions, are critical in making better digital choices and educating the next generation of cyber-literate workforce.

### Resources

- National Security Agency Resources for Students and Educators
- Office of the Director of National Intelligence Cyber Training Series
- NICE Competition List

## INTERDISCIPLINARY

Cybersecurity has something for everyone.

While some may pursue more technical venues, others might have adjacent disciplines.

Industries include manufacturing, space science, health care, education, retail, finance, utilities, construction, agriculture and much more.

### Resources

- NICE Workforce Framework for Cybersecurity (NICE Framework)
- One in Tech: Multi-Part Cybersecurity Career Exploration

## MULTIPLE PATHWAYS

There are numerous options to enter the cybersecurity workforce. Career Technical Education (CTE), industry certifications, two-year and four-year degree programs, masters, doctoral, and apprenticeships are some of the ways to pursue a career in cybersecurity.

The NICE Framework exemplifies the diversity of cybersecurity work roles, including degree career paths such as Cyber Legal Advisor, Communications Specialist, Instructor, Information Systems Security Manager, as well as Cybersecurity Engineer, Data Scientist, Cryptographer or Cryptanalyst, and more.

### Resources

- The NICE Framework
- NICE Cybersecurity Career Pathways

## DIVERSITY AND INCLUSION

To advance our collective prosperity, security, and well-being, we must draw on the full diversity of our talent pool.

Different backgrounds and diversity in thought is needed to build a secure cybersecurity workforce.

### Resources

- NICE Diversity and Inclusion
- Cyversity
- Women's Society of Cyberjutsu
- Women in Cybersecurity
- International Order of Black Security Executives
- Women in Security and Privacy
- Minorities in Cybersecurity
- NeuroCyber
- Women in Identity
- Queercon
- Executive Women's Forum
- Blacks in Cybersecurity

Teacher preparation, technical limitations, and age-appropriate quality curriculums are additional challenges faced by educators. Teachers must be enabled and empowered to foster the next generation of experts' problem-solving abilities, promote deeper engagement with cybersecurity, and provide students with experience in real-world situations and challenges in K12 education.

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