



CYBERSECURITY

According to the Bureau of Labor Statistics, information security jobs are projected to grow by 37% from 2012 to 2022 – the fastest rate of growth among all occupations. This increase in information security positions will make already high-demand computer science roles even more sought after and critical to our economy.



OVERVIEW

The digital environment is a place where persons can share any type of information they wish – pictures, personal anecdotes, credit card information, names of family members, favorite places to visit, etc. The more information shared, the more important it becomes to protect this information from unauthorized access. This unit will help students explore why codes are important, how they function, and ways to make them as effective as possible. Students will practice writing their own codes using multiple strategies from handwritten notes, to mazes designed to keep robots out, to a two-step authentication scavenger hunt.

MATERIALS

- timer
- paper
- pencils (30)
- Mini Sphero (15)
- measuring tape (15)
- colored pencils (30 sets)
- modeling clay (15 sets)

**Device Required - Tablet - Minimum 15

COPIES OF

- Code Paper 1 (30)
- Code Paper 2 (30)
- Code Paper 3 (30)
- Code Paper 4 (30)
- Copy of PigPen Practice (30)
- Copy of My Password (30)
- Maze Sketch Sheet (30)
- Two-Factor Authentication Paper (30)
- Effective Password Handout (30)



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MATERIALS

- computer or tablet connected to projector (1)
- computer or tablet with Internet access (30)
- Raspberry Pi (15)
- SD card (15)
- touchscreen monitor kit (15)
- USB keyboard (15)
- mouse (15)
- clothes pin (30)

COPIES OF

- Cybersecurity in the News handout (30)
- Video Guide handout (30)
- Prep the Net handout (30)
- IP Address Labels (1) – print using Avery 8160 template
- Definition Cards (1 set)
- Secret Agent Communication handout (30)
- Encrypted Message handout (30)
- Encrypted Message with Cypher Table handout (30)
- White Hat Hacking Activity handout (30)

**Device Required - Any - Minimum 15



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OVERVIEW

The Cybersecurity Level IV Kit covers the critical concept of cybersecurity from the personal to corporate level. Students will take the time to consider their own use of cell phones, social media, and other Internet communication tools and what digital footprint they are leaving behind. Through interactive activities, they will learn about the basics of the Internet – how it works, binary code, and encryption. They will explore the importance of privacy and how to stay safe online. The kit will culminate with students researching cybersecurity jobs and experiencing simulated work as a cybersecurity specialist.

MATERIALS

- 1 pack 30 Brain Teaser puzzles
- 50 snap hooks
- 1 plastic craft lace
- 1 pack red pony beads
- 3 food storage containers
- 100 bamboo Skewers
- 1 scotch Tape
- 6 packs index cards
- 15 scissors
- 15 wooden Rulers
- 15 hole Punch
- 15 permanent Marker
- 1 pack foam Sheets
- 1 pack brass Fasteners
- 30 Cybersecurity Definitions handout
- 30 Cybersecurity Terms and Definitions handout
- 15 sets Cybersecurity Terms and Definitions Terms and Definitions Flashcards
- 6 sets Full-Page Binary Cards
- 6 set Full-page Superhero Binary Cards
- 30 Binary Beads Instructions
- 30 Binary Cards Trick Instructions
- 30 Caesar Cipher Wheel Instructions
- 30 Cypher Wheel Template
- 30 Cryptography with Terminal handout
- 30 Communication Methods handout
- 2 sets Group Privacy Activity Scenario
- 30 Group Privacy Instructions handout
- 30 Individual Privacy Activity handout
- 30 High School Newspaper Staff Uncovers Principal's Secret
- 30 Communication Methods and Data handout
- 30 Jobs in Cybersecurity handout