



## Cybersecurity / Children's Cybersecurity Online

**Course Goal:** To study the fundamentals of cybersecurity, learn how to protect personal data, use the internet and social networks safely, and develop responsible behavior skills in the digital space.

### Block 1. What is the Internet?

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**What we will learn:** how the Internet emerged and developed.

**What we will learn to do:** understand what privacy and personal data are, and how to ensure one's confidentiality.

**What we will do:** check the security of home Internet connection and practice safe online communication.

### Module 1. Introduction to Cybersecurity

#### 1. What the Internet and cybersecurity are

- Why is the Internet a network?
- Why do we need a "shield" against threats?
- **Practice:** Group work on an online board: children draw an "Internet map."

#### 2. What is Wi-Fi and mobile Internet

- How Wi-Fi works (home and public), initial data leak risks.
- **Practice:** Invent Wi-Fi.
- How mobile Internet works. What is traffic?
- **Practice:** Calculate how much money we leave on the Internet.

#### 3. Personal data and privacy

- What can/cannot be posted online.
- Confidentiality as a protection tool.
- Privacy settings in social networks, including popular ones like TikTok and VK.
- **Practice:** Group analysis of social network screenshots for privacy issues.

#### 4. Safe online communication

- Anonymity, manipulations.
- Mini-review of the previous topic: personal data rules.
- **Practice:** Role-play simulation of communication with a stranger online.

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## Block 2. The Internet and Devices

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**What we will learn:** how to secure devices with internet access.

**What we will learn to do:** identify scammers, recognize viruses.

**What we will do:** test antivirus software, learn to speed up device performance, get acquainted with Scratch tools.

### Module 2. Dangers for Devices on the Internet

#### 1. Internet threats for devices

- Types of threats: phishing, scams, malicious links.
- **Practice:** Group quiz in Google Forms - children answer questions about real-life scenarios that have happened to people.

#### 2. Protection against viruses and malware

- How viruses spread (through links, files).
- **Practice:** Simulation in Scratch: groups create a "virus attack" on a virtual computer.

#### 3. Wi-Fi dangers for devices

- Public networks, encryption, how data leaks.
- **Practice:** Play the safe/unsafe game.

#### 4. Device security from threats

- Review of the previous topic: threats from this module.
- **Practice:** Collaborative project on an online board: groups create an "anti-threat checklist" for a device (mobile phone).

### Module 3. Protecting Devices and Accounts

#### 1. Protecting smartphones and computers

- Updates, settings, antivirus.
- **Practice:** Conduct a check of antivirus systems on home computers. Research built-in protection, commercial, and free antivirus systems.

#### 2. Passwords, MFA, and account management

- Reliable methods (passwords, 2FA).
- **Practice:** Help characters create strong passwords.

#### 3. Wi-Fi and network security

- Home network, encryption. Let's recall how Wi-Fi works.
- Learn how devices connect to the network, how to prevent unauthorized devices from connecting, and how to make the network safe.
- **Practice:** Learn to identify dangerous/safe Wi-Fi.

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## 4. Comprehensive device protection

- Topic review: viruses, Wi-Fi, and passwords. In conversation, recall the main topics covered and discuss how to make a device as secure as possible.
- **Practice:** Create an ideally protected device for a character.

### *Block 3. The Internet and the Person*

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**What we will learn:** how the Internet affects a person.

**What we will learn to do:** how to protect oneself online, avoid becoming a victim of online hate, create complex passwords, and present oneself competently on social networks.

**What we will do:** create a complex password for ourselves, secure our social network, study time management tools.

### **Module 4. Personal Data, Passwords, and Privacy for the Individual**

**Goal:** Learn how to protect yourself online.

#### 1. Privacy in the browser.

- New methods of data collection (tracking, cookies).
- Learn why a website doesn't need to know everything about you.
- Learn how to prevent a website from collecting and remembering information about you.
- **Practice:** Investigate cookies on a children's store or computer game website, find out how much data it can collect in one visit.

#### 2. Protecting personal information

- Learn what a digital footprint is and how it affects our lives.
- Study ways to reduce the digital footprint.
- **Practice:** Using a special website, study one's own digital footprint and learn to minimize it. Study the profile of a famous person and try to understand how safe their profile is, and learn what stalking is and its dangers.

#### 3. Safe data storage

- Learn what clouds and backups are. How Google Drive, Yandex.Disk, and other cloud systems work.
- Basics of working with them. Safe file uploading.
- **Practice:** Compare how one cloud service works versus local drives for information storage.

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## 4. Introduction to cryptography

- Learn what cryptography is and why it's needed (secret messages from ancient times to today's passwords and messengers).
- Simple ciphers (Caesar, substitution, Atbash cipher).
- How ciphers are related to passwords and modern protection (password hashing, HTTPS, end-to-end encryption in WhatsApp/Telegram).
- **Practice:** Encrypt messages in chat and decrypt them.

## Module 5. Social Networks and Digital Content

**Goal:** To study the influence of social networks on a person's life, their benefits and dangers, and safe behavior.

### 1. Social networks: risks and opportunities

- How social networks appeared and their significance in the modern world.
- How to register and behave safely on them.
- The benefits and harms of social networks.
- **Practice:** Group work - setting up a safe social network profile for a character or for each other.

### 2. Dangers of social networks

- Fakes, bullying, scammers. What threats social networks pose and how to deal with them.
- **Practice:** "Fact or Fake" game in a group chat.

### 3. Creating safe content

- How to properly create and upload content.
- Personal data when recording videos or writing posts.
- What are trends and viral videos.
- **Practice:** Analysis of well and poorly designed posts, fake and real accounts.

### 4. Time management in social networks

- Why it's important to manage your time on social networks.
- What is time management and how to learn it.
- **Practice:** Collaborative time-plan in Google Docs (planning a day with social networks and lessons).

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## Module 6. Safety in Games and Emotions

**Goal:** To learn what can be dangerous about online games and how to protect oneself in them.

### 1. Safe online games

- History of computer games.
- Choosing platforms, ratings.
- How computer games can be useful.
- **Practice:** Children share their favorite games, vote for those they consider safe.

### 2. In-game purchases and communication

- Learn what can be bought in online games.
- What are donations and how can one get into toxic relationships.
- Who are pirates and what does fraud have to do with it.
- **Practice:** Role-play - making purchases in a computer game and downloading unsafe pirated materials.

### 3. Emotions and honesty in games

- What is a cheater, and how not to become one.
- How to be able to stop in time even if the game is very interesting and why it's necessary.
- **Practice:** Analysis of a real case of a person addicted to computer games.

### 4. Healthy behavior in games

- Review of the previously covered topic: what are boundaries in gaming relationships and what is the gamer's code.
- **Practice:** Audit of a new computer game through the eyes of a cybersecurity specialist.

## Module 7. Information, Creativity, and Online Learning

**Goal:** To learn to search for convenient and accessible online learning formats for children.

### 1. Searching for information and evaluating sources

- What does it mean to surf the internet and do fact-checking.
- How to distinguish fake news from real news.
- **Practice:** Matching game: social media information post + original source. Group activity - game on how rumors spread.

### 2. Creativity online

- Safe tools for creativity on the internet. Online boards, apps for design and website creation.
- **Practice:** Collaborative creative project in Supa, Flyvi.

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## 3. Online learning and safety

- How online learning works. Benefits and harms.
- What makes online learning interesting.
- **Practice:** Analysis of online school cases, which would be interesting for children and which wouldn't.

## 4. Creating a blog or channel

- How to create a safe and attractive channel or blog.
- How TikTok, Instagram, Telegram, and VKontakte differ.
- What is hate, hype, and trolling.
- Review of the topic on safety in social networks.
- **Practice:** Shoot short promotional videos in the style of social networks about the Cuddy school.

## Module 8. Ethical Norms and Modern Digital Behavior

**Goal:** To learn ethical behavior online.

### 1. Digital ethics

- What is digital ethics. Why it is needed and its main rules.
- **Practice:** Check one's own ethics online, evaluate anonymous comments on the internet.

### 2. Copyright and plagiarism

- What is copyright and why it is needed. Recall the material about piracy. What happens to those who violate copyright and what to do if you upload your own creative work to the internet.
- How to legally download videos or pictures from open sources.
- What is a watermark and how to add it to your own creative works.
- **Practice:** Find free and safe resources for downloading materials.

### 3. Responsible use of social networks

- Ethical communication in chats. Personal data, privacy, and comments. Recall what hate, trolling, and shaming are.
- **Practice:** Simulate hate communication and trolling and ways to respond to it.

### 4. Cyberethics and future challenges

- What are Deepfakes and their threat.
- The harm of short videos for brain development and mental abilities.
- **Practice:** Come up with future internet scenarios.

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## Module 9. Modern Technologies and the Future of Cybersecurity

**Goal:** To conclude with a look into the future (AI, smart devices as threats/protection for humans).

### 1. Artificial Intelligence

- AI in life, risks and benefits. How AI can help and harm us in school life. How to turn AI into a useful tool without making it your brain.
- **Practice:** Group introduction to AI and comparison of different models.

### 2. Internet of Things (IoT)

- What is the Internet of Things?
- Why homes are called smart.
- Audit of own smart devices at home.
- What are Arduino and Raspberry boards and how they can help in creating smart devices for the home.
- **Practice:** Develop your own smart device for home or study.

### 3. VR/AR and safety

- What are VR/AR, how they differ, and what they are for.
- Risks in virtuality.
- **Practice:** Review of apps for learning and developing one's own virtual reality in a special app.

### 4. Final Project

- The child chooses a favorite character and creates an ideally protected laptop for them. As a protected device and a device with secure accounts, minimal digital footprint, etc.
- The child adds necessary programs, files, and Wi-Fi settings, ensuring data security.
- The child invents passwords, antiviruses, and rules for safe online behavior so the device is fully protected and defends their project.