Cyber4Schools template lesson plans

Lesson basics according to [O3 are explained here.](https://www.cyber4schools.eu/results/)

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| **Lesson 1** | **CS theory** |
| Goals | explain key concepts of cybersecurity (see Keywords for further content development) |
| Expected outcome | Skills and knowledge acquired by the participants at the end of the training - be able to: ● explain key concepts of cybersecurity (see Keywords for further content development) |
| Instruction and structure | Topic 1: CyberSecurity in EU and learning possibilitiesTeacher introduces EU Digital Competence ModelStudents will evaluate their Competence skillsDiscussion - expectations from teachers, students and industrySelf-test for the students (9 questions)Topic 2: Cyber Security BasicsDiscuss examples of CIA triad with studentsDiscuss terminology meaning with studentsLecture of examples: Malware, hacksVideos: about Windows and Linux securityTopics 3: Actors in CyberSecurityLecture: White, Gray and Black hat conceptVideos: different hats and anonymousExercise: who is who, search (Google image search) |
| Learning materials | Slides 1A Guide to Cyber SecurityTeacher reading material (additional)Report O1 and O3Student print outs (self evaluation, who is who) |

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| **Lesson 2** | **Pre-game** |
| Goals | This module introduces cybersecurity commonly known as gaming type “Capture the flag” (CTF), different goals and needs when one plays games (gamer types). This module introduces the Cyber4Schools project and the developed game mechanics (how it's played as a player (blue and red gamer). Learn how to use supporting materials (topics in the game), hints, etc.  |
| Expected outcome | Skills – be able to:● Explain different CTF types● Give examples of websites where to learn and get experiences of CTFs● Understand different gamer types and their goals while playing the game● Evaluate their gamer type● Knows how to play the game, get help, use the game mechanics  |
| Instruction and structure | Topic 1: Gamer typesVideo: Gamer typeStudents evaluate your gamer typeDiscuss and compare your type to othersTopic 2: Types of gamesLecture, examples and discussion about different kind of gamesStudents learn and choose their role on the game of CTFVideo: European Cyber Security ChallengeTopic 3: Skills in CTF and possibilities to learnVideo: cyber security skillsCTF additional learning resources and environmentsOptional: Topic 4: Simulation of Cyber4Schools scenarioPlaying game scenario table-top version from RED and BLUE point of view (if needed)Topic 5: Simulation of Cyber4Schools scenarioInvestigating Game Mechanics with teacher (if needed) |
| Learning materials | Slides 2Teacher reading material (additional)Cyber4Schools game scenario (for the teachers)How to play Cyber4Schools (for the teachers)Student print out (evaluate your gamer type) |

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| **Lesson 3** | **OnGame**  |
| Goals | This module gives hands-on experience in the game as a red and blue player.  |
| Expected outcome | Specific skillsSkills - be able to:● Play the game as a player (red)● Play the game as a player (blue) |
| Instruction and structure/Learning materials | <https://www.cyber4schools.eu/test-our-game/>Student print out (Book of Instructions) |

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| **Lesson 4** | **After-Game** |
| Goals | This module is helping to wrap up the learning for the students, share ideas and emotions, and ask questions about how one could solve the issues in the game differently and their need for future learning possibilities |
| Expected outcome | Skills - be able to:● Explain how the game is linked to real life and skills that were discussed in module 1.● Wrap-up the learning for the students (self-evaluation sheet)  |
| Instruction and structure | Teacher: explains the lessons learnt from the game and its relations to real worldStudents: do a self-evaluation sheetTeacher: discusses the ethical behavior (skills learned from the game and how to use them to become ethical hacker)Teacher shows where one can study cyber security in EUDiscussion - what the future career shape would be and how it differs from the parents/grandparentsInvestigate occupations of Cyber Security |
| Learning materials | Slides, Student print out |