

Integrated lesson plan by sySTEAM

School
Vilnius Zemyos gymnasium

Teachers
Danguole Miliauskiene, Tomas Jurgutis

Grade
I C

Duration
45 min

Subjects

- | | | | | | | |
|--------------------------------------|----------------------------------|--------------------------------------|---|--|--------------------------------------|--|
| <input type="checkbox"/> Lithuanian | <input type="checkbox"/> English | <input type="checkbox"/> Geography | <input checked="" type="checkbox"/> Physics | <input type="checkbox"/> Religion | <input type="checkbox"/> Arts | <input type="checkbox"/> Theatre |
| <input type="checkbox"/> Mathematics | <input type="checkbox"/> Russian | <input type="checkbox"/> Citizenship | <input type="checkbox"/> Chemistry | <input type="checkbox"/> Ethics | <input type="checkbox"/> Photography | <input checked="" type="checkbox"/> Others
IT |
| <input type="checkbox"/> German | <input type="checkbox"/> History | <input type="checkbox"/> Biology | <input type="checkbox"/> Technologies | <input type="checkbox"/> Physical
Education | <input type="checkbox"/> Dance | |

Skills and competencies

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|---|---|--|---|
| <input type="checkbox"/> Initiative | <input type="checkbox"/> Leadership | <input type="checkbox"/> Creativity | <input checked="" type="checkbox"/> Complex problem solving |
| <input type="checkbox"/> Responsibility | <input checked="" type="checkbox"/> Cooperation | <input checked="" type="checkbox"/> Communication | <input checked="" type="checkbox"/> Cognitive flexibility |
| <input type="checkbox"/> Autonomy | <input checked="" type="checkbox"/> Critical thinking | <input checked="" type="checkbox"/> Emotional intelligence | <input type="checkbox"/> Others |



Lesson/Project topic
Application of the Law of Ohm using c++ and a simulator of the el.circuit phet.colorado.edu .

Task/problem to solve
Students will be able to apply their knowledge of physics in IT.(programming).

Assessment methods
Students, working in pairs, will be able to solve two tasks and,using IT, to create a program to at least one task.

Notes

	Activity description	Time	Teacher	Resources	Inclusive teaching	Teachers' notes
Lesson structure	Introduction Preparation for the lesson: Stating the topic and the tasks. Putting students into pairs.	3 min		A computer, using a program c++.Hand-outs with tasks.		
	Teaching/development The physics teacher reminds the students of the Ohm Law for a part of the electric circuit. The IT teacher reminds the students of the structure of writing down a program.	2 min				
	Teachers hand out the tasks. Students work on them.	15 min	The teacher consults his students.		The students will be able to do at least 2 tasks working in pairs.	
	Students write down the answers of physics tasks and switch on the electric circuit.	17 min			The students will be able to write the solutions of the tasks correctly in their task papers and to program them.	



	Self-check according to the answer sheet	3 min	Assists his students.	Slides with solutions and answers.		
	Conclusions Students are given questions for the self-evaluation.	5 min	Teachers conclude the activities in the lesson.	A self-assessment system, created by IT teacher.	The students assess the advantages of an integrated lesson.	

Feedback	How?	When?
	We will use the Ohm Law studying different ways of connecting conductors.:parallel,consistent and mixed checking by experiments the regularities of junctions.	According to the curriculum of each program: physics and IT.

Self-evaluation	The pupils enjoyed the integrated lesson in physics and IT. They saw their strengths and weaknesses and they would like to have more integrated lessons.
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