

Integrated lesson plan by **STEAM**

School	Teachers	Grade	Duration
Vilnius Zemy nos gymnasium	Evelina Macijauskienė, Miglė Parachnevičienė, Remigija Mickuvienė	4E	45 min

Subjects

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|--------------------------------------|---|---|---|---|--------------------------------------|----------------------------------|
| <input type="checkbox"/> Lithuanian | <input checked="" type="checkbox"/> English | <input type="checkbox"/> Geography | <input 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 checked="" type="checkbox"/> Chemistry | <input type="checkbox"/> Ethics | <input type="checkbox"/> Photography | <input type="checkbox"/> Others |
| <input type="checkbox"/> German | <input type="checkbox"/> History | <input checked="" 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 checked="" type="checkbox"/> Leadership | <input checked="" type="checkbox"/> Creativity | <input type="checkbox"/> Complex problem solving |
| <input checked="" 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
Future foods

Task/problem to solve
To find out the ways how to solve food shortages by 2050

Assessment methods
Discussions, critical thinking, watching - listening, team work, practice and accumulative assessment

Notes

	Activity description	Time	Teacher	Resources	Inclusive teaching	Teachers' notes
Lesson structure	Introduction <ul style="list-style-type: none"> • Aims of the lesson; • Topic of the lesson; 	2 min	Presents the aims and the topic of the lesson.	<ul style="list-style-type: none"> • English Student book (vocabulary bank) • Biology Student book • Chemistry Student book • https://www.youtube.com/watch?v=G29NRlx1Bh8 • Computer • Projector 		
	Teaching/development Team work: Think of 3 top future foods and give the arguments.	8 min	Lead- in activities (questions about future foods, the big global problems that are affecting the world) discussions.		The results of the work shop is presented by one member of the group. He/she presents three top future foods and gives the arguments of their choice.	Team work, monitoring, mingling around the groups. Students use knowledge acquired in biology and chemistry
	Short video about future foods by 2050	10 min	Presents the film about future foods by 2050 which have already been created by scientists		Students give a short summary about the film.	



	<p>https://www.youtube.com/watch?v=G29NRlx1Bh8</p> <p>Discussions</p>	10 min			<p>Groups compare their ideas about future foods with the ideas given in the film. After watching the film and discussions students will learn more about future foods and how nutritious they can be.</p>	
	Practice	13 min	The teachers supervise the process(they have liquid nitrogen)	<p>https://www.youtube.com/watch?v=2jUFdH7gvfY</p>	<p>Students properly mix all ingredients together. (Teachers bring liquid nitrogen to each group and slowly pour it into their mixture) Students mix it up. Future ice cream is ready to taste. Students will acquire more knowledge not only about future foods and improve their vocabulary in English, but they will perceive how liquid nitrogen is</p>	<p>Their Homework was to watch the film and find out how to make future ice cream with liquid nitrogen. For making ice cream each group has to bring the products: different kinds of fresh berries, sugar, milk and vanilla.</p>



					useful making future foods.	(Team work)
	<p>Conclusions</p> <p>Output:</p> <ul style="list-style-type: none"> • Students have learned about solutions to a global food shortage; • Improved the vocabulary of future foods; • Found out how to solve food shortage problems with the help of science. • Students have learned how to make use of liquid nitrogen. 	2 min	Concludes the lesson evaluating students' input			Reflections of the lesson

	How?	When?
Feedback	Further and deeper discussions in biology and chemistry lessons	According to study program in related subjects

Self-evaluation	Groups evaluate each other according to the activeness in the lesson and ability to analyze and generalize the most interesting ideas of the given material (accumulative assessment).
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