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| **Lesson plan** | | |
| **Subject** | | *Interdisciplinary topic:*  *Physics*  *Chemistry*  *Geography* |
| **Teachers:** | | *Biljana Veličković*  *Ana Đurović*  *Danijela Grujičić* |
| **School** | | *JUOŠ „Vuk Karadžić“, Podgorica* |
| **The theme** | | *Climate change* |
| **Age of students** | 11-14 year | |
| **Class time** | **1 class** | |
| **Time required for preparation** | **120 min** | |
| **Teaching materials** | | *Padlet, mobile phones, computer and projector, Petko, 3D printer,* |
| **Resources used** | | <https://www.youtube.com/watch?v=tykLKCT7DyY>  <https://www.youtube.com/watch?v=sVtjRKOGgUE&t=85s>  green package |

*Learning outcomes:*

*• They understand what climate change is,*

*• Understand what causes climate change,*

*• They investigate examples of climate change in their environment,*

*• They find solutions to reduce the negative consequences of climate change,*

*• They promote the circular economy and the 5R principle.*

*Methods:*

***Active learning****: Students are actively involved in teaching through discussions, problem solving, outdoor learning.*

***Project-based learning****: Students face problems from their environment that they need to solve.*

***Outdoor education:*** *Learning outside of school*

***Peer Learning****: Students learn from their peers and provide constructive feedback.*

***STEM learning****: Focus on science, technology, engineering and mathematics.*

***Collaborative learning****: focus on group work and interaction.*

*Skills i21. century*

***Creativity****: by creating videos, students develop creativity.*

***Collaboration****: working in small groups (3-4 students each), students can learn how to work together, share ideas and learn from each other.*

***Communication****: students can improve their communication skills by presenting their findings to their classmates (and the local community) in a successful way.*

***Problem Solving****: Students will face a real-life problem and develop the ability to find a solution.*

***Digital Literacy****: Students will learn to use online tools and create video messages.*

***Leadership and Responsibilities****: Students will develop the ability to direct and motivate one another.*

*Lesson scenario*

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| **Name of activity** | **Procedure** | **Duration** |
| *Brainstorming*  *Padlet*  *Animated movie*  *Padlet*  *Information sheet*    *Discussion*  *Problem tree*  *Video*  *Teams*  *Homework:*  *Research*  *Field work* | On mobile phones, students use Padlet and write down associations on the topic of climate change.  They watch the specially adapted animated film Climate Change For Kids - Global Warming <https://www.youtube.com/watch?v=tykLKCT7DyY>  The teachers guide the students on what they should pay special attention to while watching the film and that the next activity will build on the content they had the opportunity to see in the film.  They use Padlet on their mobile phone and supplement the board with new information about climate change.  They read the information sheet and consider the impact of climate change on the quality of life. (Green Package)  They discuss the causes and consequences of climate change.  They observe human actions in their environment that have a harmful effect on climate change.  They make a tree of the problem highlighting causes, consequences and solutions.  They suggest what they as individuals in their local community can do to reduce the effects of climate change.  They watch a video material that helps them learn about the 5R principle as possible ways to combat climate change.  <https://www.youtube.com/watch?v=sVtjRKOGgUE&t=85s>  The teacher divides the students into 5 teams, using a random sample. Students themselves delegate a representative at the group level.  Team names are one R (Reduce, Reuse, Recycle, Recover, Repair). The name of the team is how the team will solve the waste problem in their neighborhood.  Each team is tasked with investigating waste problems in their neighborhood. After they come up with the idea they want to show, they take photos and videos and come up with a slogan (text). The Recycle team should present the Petko device and the 3D printer in their video. From the collected material, they create video messages and launch a campaign: STOP CLIMATE CHANGE. The video message should be up to 40 seconds.  Conduct the campaign through social networks. Include local media in the campaign.  As part of the campaign, place containers for selective disposal of waste in the school yard. Process plastic bottles into strips for a 3D printer, using the Petko device. The material can be used to print jewelry for the New Year Bazaar. | *5 min*  *10 min*  *5 min*  *10 min*  *10 min*  *5 min* |

*Expected results:*

*A completed board on Padlet.*

*Done problem tree.*

*Created video messages.*

*Placed containers.*

*Collected plastic packaging.*

*Jewelry made on a 3D printer.*

*Description of the evaluation system:*

*Quality of video messages.*

://www.youtube.c