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## Sciences

### LESSON No. 1

|                         |   |
|-------------------------|---|
|                         | Waste management  |
| Note                    | Age: 15–18<br>Entrepreneurship, Civics education, foreign language, IT,<br>Biology, Ecology<br>Students already familiar with the concepts of SE and CSR  |
| Teacher/trainer/author  | Melba Blažić Grubelić, teacher/author   |
| Topic                   | How to manage waste effectively 1<br>Basics   |
| Objectives and outcomes | Pod (Entr) A.4.1.<br>- Students apply innovative and creative solutions.<br>Pod (Entr) A.4.3.<br>- Students understand and critically observe opportunities of career development and professional growth.<br>- Students can differentiate between a social enterprise and a corporate social responsibility department.<br>Biology.<br>Sustainable development |
| Material                | Internet, poster material, crayons  |
| Duration                | 45 minutes  |

| Lesson procedure | Step-by-step description of the lesson<br>(T – teacher / S – students / T/S – activities) | Skills/<br>Competences | Duration<br>(minutes) |
|------------------|---|------------------------|-----------------------|
|------------------|---|------------------------|-----------------------|

|  |  |  |    |
|--|--|--|----|
| Introduction                                       | 1. Warm-up: students watch a 2-minute video clip about the production of waste. It explains the difference between waste and garbage and presents the waste production of an ordinary person.  | <u>Cognitive competence.</u><br>Subject knowledge and skills:  | 3  |
|  | Students should answer the following questions:<br>What is waste? What is garbage?   | describing the phenomena characteristic of the subject.  |    |
| Main Activity                                      | Each student picks one of four waste material symbols (see below). Students with the same symbol form a group.   | <u>Problem solving/ Critical thinking and Data analysis:</u><br>analysis of data on household waste sorting.   | 2  |
|  | 1 In pairs: Fill out a questionnaire about the amount and types of waste that households produce daily (plastic, glass, paper, metal, batteries, organic, cloth).<br>See below.  |  |    |
|  | 2 Teacher shows the questionnaire results and begins a short discussion on reusing and recycling.  |  | 5  |
|  | 3 Group work<br>- Group A - common citizens (waste producers); which includes the director of an oil refinery, heating plant, etc.<br>- Group B - the managing board of a communal waste management company.<br>can be created by municipality (managing board is nominated by municipal structures) by private company or by a SE doing business based on profit that received a concession from city authorities.<br>- Group C - city officials: the mayor and the heads of urban planning and environment protection lead offices; people that were previously elected and received their mandates from the voters for doing this job manage the city budget as well.<br>-Group D - representatives from the community where the landfill is located. | <u>Cognitive competence.</u><br><u>Critical thinking/problem-solving:</u> by representing the perspectives of different stakeholders, students set concrete, achievable goals, select and develop arguments, make strategic decisions related to waste management. | 5  |
|  | Each group is given a piece of paper and a marker.<br>Each group must make decisions about two issues:<br>1. What should be done with waste? Decide on a GOAL.<br>2. How can this goal be realized? How can the waste be managed as successfully as possible?  |  | 20 |
| Final part<br><br>Students' reflection /evaluation | 4 Presentation<br>Each group will select one representative who will share the group's decisions with the rest of the class.<br>Teacher introduces the concept of NIMBY ("not in my backyard").  | <u>Communication competence.</u><br>Presentation and <u>data-analysis:</u> public speaking, visual   | 10 |

|  |   |   |   |   |  |  |
|--|---|---|---|---|--|--|
|  | At any point, the spokesperson may be interrupted by other workshop participants who want to ask a question. If a discussion starts, the teacher will direct or lead as needed. |   |   |   | presentation of an idea.<br><br><u>Creativity competence.</u><br>Evaluation and reflection: evaluating and reflecting on the effectiveness of decisions. |  |
|  |   | 1 | 2 | 3 |  |  |
|  | I know more about waste management  |   |   |   |  |  |
|  | I will influence others to be more involved in waste management   |   |   |   |  |  |
|  | I enjoyed the group activity  |   |   |   |  |  |
|  |   |   |   |   |  |  |
|  | FOLLOW UP ACTIVITY:<br>Students make note of the type and quantity of waste their families produce at home in a week.   |   |   |   |  |  |



Link to the online questionnaire

<https://docs.google.com/forms/d/1k4nDrY5LpJigIfC9Okt7y4xf7ZxhDw91ZsfPGeRR2AQ/edit>

Link to the video

[https://www.tampabay.com/news/How-to-tell-the-difference-between-garbage-and-recycling-w-video-\\_163797129/](https://www.tampabay.com/news/How-to-tell-the-difference-between-garbage-and-recycling-w-video-_163797129/)

## LESSON No. 2

|                         |   |
|-------------------------|---|
|                         | Waste management  |
| Note                    | Age: 15–18<br>Entrepreneurship, Civics Education, Foreign language, IT, Biology, Ecology<br>Follow up to the at-home activity, 'Collecting Waste'<br>Students already familiar with the concepts of SE and CSR  |
| Teacher/trainer/author  | Melba Blažić Grubelić, teacher/author   |
| Topic                   | How to manage waste effectively 2<br>SE or CSR plan   |
| Objectives and outcomes | Pod (Entr) A.4.1.<br>- Students create innovative and creative solutions.<br>Pod (Entr) A.4.3.<br>- Students understand and critically observe opportunities of career development and professional growth.<br>- Students can differentiate between a social enterprise and a corporate social responsibility department.<br>Biology<br>Sustainable development |
| Material                | Internet, poster material, crayons  |
| Duration                | 90 minutes  |

| Lesson procedure | Step-by-step description of the lesson<br>(T – teacher / S – students / T/S – activities)   | Skills/<br>competences   | Duration<br>(minutes) |
|------------------|---|--|-----------------------|
| Introduction     | Teacher has collected the students' results from their 7-day collection process.<br><br>1. Warm-up:<br>Students play a game: Make a circle of chairs with one chair in the centre. The total number of chairs is equal to the number of participants. One student sits in the middle and the others in the circle. The student in the middle says a statement related to waste management, based on the at-home activity. Students who agree with the statement must move to a different chair in the circle. The participant left standing sits in the middle and says a statement of their own. | <u>Cognitive competence.</u><br><u>Critical thinking:</u> while actively listening, students critically evaluate statements about waste management, comment on the results obtained. | 7                     |
| Main Activity    | Teacher and students comment on the results of their 7-day collecting process, based on the chart the teacher presents.<br><br>Form groups: each student picks a piece of paper with the name of an object (book, paper bag, wrapper, tissue, credit card, straw, remote control, glass, bottle, light bulb, batteries, medicine, motor oil). Students create 4 groups based on waste type - paper, plastic, hazardous, and glass.<br><br><b>Group work 1</b><br>Each group receives their assignments.   | <u>Data-analysis and</u>   | 7<br><br>3            |

|  |   |  |    |   |   |                 |  |  |  |                        |  |  |  |                                  |  |  |  |   |    |
|--|---|--|----|---|---|-----------------|--|--|--|------------------------|--|--|--|----------------------------------|--|--|--|---|----|
|  | <ul style="list-style-type: none"> <li>- Plastic group: research online to find SEs that specialise in waste management.</li> <li>- Glass group: research online to find companies with CSR programmes regarding waste management.</li> <li>- Hazardous waste group: search the internet to find the companies responsible for waste management in your local community.</li> <li>- Paper group: searches the internet to see what official policies regarding waste management are part of their city administration programme</li> </ul> <p>Each group writes the results of their findings on a small poster and presents them.</p> <p><b>Group work 2</b><br/>Groups are put into 4 new groups. Each group has one participant from each of the previous groups (Plastic, Paper, Glass and Hazardous Waste).</p> <p>2 groups create a concept for a social enterprise that deals in waste management.<br/>2 groups create a concept of a CSR programme for a company related to waste management.</p> <p>The plan outline must answer the following questions: Why, How, Who, Where, When, What.</p> <p>The groups will present their plans in the form of an illustration. Each group member will explain one portion of the illustration.</p> | <u>communication competences</u><br>Digital Content: searching, selecting and evaluating information on waste management   | 10 |   |   |                 |  |  |  |                        |  |  |  |                                  |  |  |  |   |    |
|  |   | <u>Innovative competence.</u><br>Generating and creating: using knowledge of entrepreneurship, students generate innovative ideas for developing a business plan for a social enterprise or CSR programme related to waste management. | 10 |   |   |                 |  |  |  |                        |  |  |  |                                  |  |  |  |   |    |
|  |   |  | 8  |   |   |                 |  |  |  |                        |  |  |  |                                  |  |  |  |   |    |
|  |   |  | 30 |   |   |                 |  |  |  |                        |  |  |  |                                  |  |  |  |   |    |
| Final part<br>Students' reflection /evaluation | <p>5 Presentation<br/>Each group presents their ideas to the class. Listeners fill in an evaluation chart.</p> <table border="1"> <tr> <td></td><td>1</td><td>2</td><td>3</td></tr> <tr> <td>I like the idea</td><td></td><td></td><td></td></tr> <tr> <td>I think it is possible</td><td></td><td></td><td></td></tr> <tr> <td>The presentation was interesting</td><td></td><td></td><td></td></tr> </table> <p>At any point, the spokesperson may be interrupted by other workshop participants who want to ask a question. If a discussion starts, the teacher will direct or lead as needed.</p>   |  | 1  | 2 | 3 | I like the idea |  |  |  | I think it is possible |  |  |  | The presentation was interesting |  |  |  | <u>Creativity competence.</u><br>Evaluation and reflection: presenting a business plan, evaluating and reflecting on its effectiveness. | 15 |
|  | 1   | 2  | 3  |   |   |                 |  |  |  |                        |  |  |  |                                  |  |  |  |   |    |
| I like the idea                                |   |  |    |   |   |                 |  |  |  |                        |  |  |  |                                  |  |  |  |   |    |
| I think it is possible                         |   |  |    |   |   |                 |  |  |  |                        |  |  |  |                                  |  |  |  |   |    |
| The presentation was interesting               |   |  |    |   |   |                 |  |  |  |                        |  |  |  |                                  |  |  |  |   |    |

Present interesting local or regional data related to waste management. For example: Western European countries produced 1,5 to 3 kilograms of waste per person in the mid-1990's, while at the same time on the coast of Croatia and Gorski Kotar County, each person produced only 0,5 to 1,5 kilograms of waste. The city of Rijeka already had an incinerator in 1905!

Does your country have laws that regulate all aspects of waste management?

Types of waste: - Pertaining to its production place: - municipal (communal)  
- industrial  
- Pertaining to its characteristics: - inert  
- hazardous (dangerous)

Waste management includes, in this order:

1. Avoid and reduce waste production by:
  - using newer technologies that produce less waste
  - using less packaging (in production and during purchase)
  - influencing buyers' behaviour
2. Evaluate and reuse inevitable waste by:
  - collecting different types of waste separately
  - composting biodegradable waste
  - using waste to produce energy
3. Treatment and disposal of waste: things that cannot be recycled or reused to regulated landfills which must meet the following conditions:
  - impermeable foundation so wastewater cannot leak through to ground water sources
  - waste water must be collected and treated
  - landfill must be covered so unpleasant smells will not spread into the environment
  - must contain outlets for methane and carbon dioxide to escape to prevent explosions (this biogas can be used as an energy source)

Notes:

- separately collecting of different types of waste = primary recycling
- biogas is a mixture containing 55 % CH<sub>4</sub> and 45% CO<sub>2</sub>

LEAFLET FOR THE STUDENT – in green  
(Completed at home before 'How to Manage Waste 2')

1. Instructions concerning primary recycling – for students to complete at home:

- 1) Collect seven different waste types:
  - a) Plastic (PET packaging)
  - b) Glass (no broken glass)
  - c) Aluminium cans
  - d) Paper products
  - e) Biodegradable/organic waste (food waste, garden rubbish)
  - f) Hazardous/dangerous waste (batteries, expired medicine, motor oil)
  - g) Other (packaging made of composite materials, etc.)
- 2) Each piece of waste should be compressed as much as possible to minimise the volume of the rubbish bag. This will ultimately save landfill space, which is one of the biggest problems of recent landfills. It is also important for plastic bottles to be deposited without their tops.
- 3) Each student gets seven rubbish bags of the same volume (bags preferably in seven different colours for each waste category).

- 4) After a week, students should evaluate the volume of each waste type they collected and calculate the waste volume in litres, e.g., an aluminium can bag is filled to 1/4 of the 14-litre bag volume, which is 3.5 litres. Data is to be written in the given table below.

| Waste Types     | Total Volume (Litres) | Number of people in household | Litres per person |
|-----------------|-----------------------|-------------------------------|-------------------|
| Plastic         |                       |                               |                   |
| Glass           |                       |                               |                   |
| Aluminium       |                       |                               |                   |
| Paper products  |                       |                               |                   |
| Organic waste   |                       |                               |                   |
| Dangerous waste |                       |                               |                   |
| Other           |                       |                               |                   |

5) Deposit each type of waste into the proper container if it is available in your neighbourhood. Deposit the rest into a conventional waste bin.

6) In households that do not accumulate specific types of waste (e.g., if organic waste is composted or paper products are used for starting fires), that waste is not collected or measured. The teacher should explain this information to the students.

#### FOR THE TEACHER - AFTER THE STUDENTS' AT-HOME ACTIVITY

Fill in the following table using the students' results in order to gain insight into the amount of waste generated.

| Waste Type      | Total Volume |   | Per Person |   | Per person / per day |   |
|-----------------|--------------|---|------------|---|----------------------|---|
|                 | Litres       | % | Litres     | % | Litres               | % |
| Plastic         |              |   |            |   |                      |   |
| Glass           |              |   |            |   |                      |   |
| Aluminium       |              |   |            |   |                      |   |
| Paper products  |              |   |            |   |                      |   |
| Organic waste   |              |   |            |   |                      |   |
| Dangerous waste |              |   |            |   |                      |   |
| Other           |              |   |            |   |                      |   |

Total number of households:

Total number of people:

#### LESSON No. 3

|                         |   |
|-------------------------|---|
|                         | Waste management  |
| Note                    | Age: 15–18<br>Entrepreneurship, Civics Education, Foreign language, IT, Biology, Ecology<br>Students are already familiar with the concepts of SE and CSR |
| Teacher/trainer/author  | Melba Blažić Grubelić, teacher/author<br>Sanja Padavić, teacher/author  |
| Topic                   | How to Manage Waste Effectively 3<br>Write an open letter / article   |
| Objectives and outcomes | Pod (Entr) A.4.1.<br>- Students apply innovative and creative solutions.  |

|          |   |
|----------|---|
|          | Pod (Entr) A.4.3. <ul style="list-style-type: none"> <li>- Students understand and critically observe opportunities of career development and professional growth.</li> <li>- Students can differentiate between a social enterprise and a corporate social responsibility department / activity</li> </ul> Bio.<br>Sustainable development |
| Material | Laptops, mobile phones, iPads, or IT classroom  |
| Duration | 45 minutes  |

| Lesson procedure                | Step-by-step description of the lesson<br>(T – teacher / S – students / T/S – activities)  | Skills/<br>Competences  | Duration<br>(minutes) |
|---------------------------------|--|---|-----------------------|
| Introduction                    | Teacher instructs students to log into Nearpod (or similar platform) so students can see what is being done.   | <u>Communication competence.</u><br>Digital communication: communicating and collaborating using digital technologies   | 5                     |
| Main Activity                   | Students choose if they want to write a letter or an article, then they decide where they would want to have it published.   |   | 10                    |
|                                 | In pairs, students write separate parts of the letter/article that cover different issues: <ul style="list-style-type: none"> <li>- 1. Who is the letter/article intended for?</li> <li>- 2. Introduction</li> <li>- 3. Who is writing the letter?</li> <li>- 4. What is the motivation?</li> <li>- 5. Specific data</li> <li>- 6. Suggestions/propositions for authorities or citizens</li> <li>- 7. Share a positive example</li> <li>- 8. Share a dramatic situation</li> <li>- 9. Responsibility of the city administration</li> <li>- 10. Responsibility of the citizens</li> <li>- 11. Conclusion</li> </ul> | <u>Cognitive competence.</u><br>Subject knowledge and skills: applying letter/article writing strategies when composing a letter or article in a foreign language   | 20                    |
|                                 | Teachers and students combine the elements of the letter into a final draft (this can be finished during a different lesson).  | <u>Citizenship competence.</u><br>Living in the community building a democratic society: the responsibility of the city administration; citizens' responsibilities. | 7                     |
| Final part                      |  | <u>Creativity competence.</u>   | 3                     |
| Students' reflection/evaluation |  | Evaluation and reflection: assessing the learning process, reflecting on  |                       |
|                                 | I enjoyed writing the letter/article as part of a group  |   |                       |
|                                 | I like being   |   |                       |



|  |  |  |  |  |                   |  |
|--|--|--|--|--|-------------------|--|
|  | socially active                                  |  |  |  | social awareness. |  |
|  | I feel good about making changes in my community |  |  |  |                   |  |
|  |  |  |  |  |                   |  |
|  |  |  |  |  |                   |  |

#### Lesson No. 4

|                         |   |
|-------------------------|---|
|                         | Viennese desserts<br>(can be adapted to traditions of different countries)  |
| Note                    | Age: 15–17<br>Entrepreneurship, Civic Education, foreign language classes, IT, cultural heritage, tradition, sustainable development, health (healthy foods), marketing   |
| Teacher/trainer/author  | Sanda Mlačić,<br>Sanja Padavić, teacher/trainer/author  |
| Topic                   | - Organise a fundraiser<br>- Explore, design, manufacture, sell and donate Viennese pastries  |
| Objectives and outcomes | - Recognize cultural influences and opportunities for sustainable development through the preservation of cultural identity within global processes.<br>- Develop empathy for disadvantaged people, by linking production/workmanship to real needs.<br>- Recognize market laws,<br>- Prepare marketing strategies for a product  |
| Material                | Laptop, websites, TV, literature, poster paper, drawing materials.<br><br>During the month of December, students visit Christmas markets in their city and research the pastries that are being sold, their shape, flavours, name, and origin. Students take photographs of the pastries. Students then search online for recipes of the most commonly prepared Viennese pastry recipes. The teacher creates a collection of the recipes and the ingredients and method of making the desserts. |
| Duration                | 90 minutes  |

| Lesson procedure | Step-by-step description of the lesson<br>(T – teacher / S – students / T/S – activities)  | Skills/<br>competences   | Duration<br>(minutes)       |
|------------------|--|--|-----------------------------|
| Preparation      | During December students visit Christmas fairs in their city and research the offer of cakes, their shape, taste, name and origin. They take photographs and search for recipes online for the most commonly prepared Viennese pastry recipes. The teacher makes a collection of recipes, ingredients, and methods of making desserts. | <u>Cultural and communication competences.</u><br>Cultural literacy: using digital technologies students explore and learn about the cultural heritage of other countries. | During the Christmas season |
| Warm-up          | Musical chairs with Christmas Carols<br>Students are placed into groups of 3-5   |  | 8                           |

|               |  |   |   |
|---------------|--|---|---|
| Introduction  | students (Vanillekipferl, Lebcuchen, Rumkuglen, Hussarenkrapferl, Linzer stangerl, etc.) according to their preferences.   |   | 3   |
| Main Activity | <p>Group work:<br/>Each group is provided with a set of recipes. Groups discuss if there are healthy/vegan/vegetarian traditional recipes.</p> <p><u>If there is interest, students can propose a new healthy recipe.</u><br/>Students are given the task of setting up a fundraiser dedicated to Christmas Viennese pastries.</p> <p>In groups:</p> <ul style="list-style-type: none"> <li>- Decide who or what would receive the funds and how they can endorse these people in your campaign</li> <li>- Create a poster to help you explain your idea to others (business presentation)</li> <li>- Create a name and logo, a musical theme or 'jingle,' and a uniform for the "employees"</li> <li>- Explain how the pastry production will be funded (How will the ingredients and necessary materials be acquired?)</li> <li>- How will the cakes be produced?</li> <li>- Present your selection of Viennese pastries</li> <li>- Choose a location, time, method of the fundraiser (e.g., a market booth, door-to-door, etc.)</li> <li>- Decide on a fundraising technique (give what you can vs. setting a fixed price)</li> <li>- Decide how the money raised will be spent (How will the funds be given to the beneficiary? A public/private event? In the media?)</li> </ul> <p><u>Option:</u><br/><u>One group creates a plan for social enterprise that would rely on the production of pastries.</u></p> <p>Contest:<br/>Students present their ideas by using a poster. Each member of the group should contribute to the presentation.</p> <p>After all the groups have presented their ideas, students vote for the best idea, explain why they think it is the best, and suggest improvements if needed.</p> | <p><u>Cognitive competence.</u><br/>Subject knowledge and skills/<u>critical thinking</u>: students learn the basics of fundraising, event planning and financial management, they learn how to create and manage a budget, understand costs, prices and profit margins.</p> <p><u>Data analysis and Communication competences.</u><br/>Report delivery and analysis: presentation/ public speaking</p> | <p>7</p> <p>40</p> <p>15 (depends on the number of groups)</p> <p>7</p> |

|                                  |  |  |    |  |
|----------------------------------|--|--|----|--|
|                                  | <u>If the school is equipped with a kitchen, pastries can be produced there.</u><br><br><u>If it is possible, the idea is put into practice, and the funds used as planned.</u>  |  |    |  |
| Students' reflection /evaluation | Students fill in the assessment chart:   | <u>Creativity competence.</u><br>Assessment and reflection: assessing subject knowledge, cultural awareness, values. | 10 |  |
|                                  | Name & surname   |  |    |  |
|                                  | List the elements of social entrepreneurship in this activity  |  |    |  |
|                                  | How does this fundraiser help the preservation of cultural identity?   |  |    |  |
|                                  | Name the most effective strategies when selling a product  |  |    |  |
|                                  | Explain why you want to help others and how it makes you feel  |  |    |  |
|                                  | <u>OR:</u><br>The analysis is done in 3 groups:<br>Group 1: Students analyse the elements of social entrepreneurship present in this project.<br>Group 2: Students study cultural influences and create opportunities for sustainable development, while preserving cultural identity in the process. They also recognize the need to achieve social balance as a sustainable development strategy.<br>Group 3: Students analyse what they did in order to sell the product, how successful they were, and what they would do differently next time. They analyse marketing laws and strategies used. All three groups present their analyses in an open discussion.<br><br>Students take photos of the posters and presentations. If the fundraiser is organized, collect photos and posters, and present the activity at school. |  |    |  |

### Lesson No. 5

|      | "The Big Water"   |
|------|---|
| Note | <p>Age: 16–18</p> <ul style="list-style-type: none"> <li>- Social entrepreneurship and social entrepreneur</li> <li>- Socially vulnerable categories</li> <li>- Literature and film as inspiration to develop creative skills</li> <li>- Education about the cultural upheaval of socially vulnerable groups</li> </ul> |

|                         |  |
|-------------------------|--|
|                         | (children without parents)   |
| Teacher/trainer/author  | Mitra Blazhevskaja, Master of Philological Sciences, Macedonian language and Literature teacher  |
| Topic                   | “The Big Water” (“Golemata Voda”) by Živko Čingo – a literary work (and film) that shows the lives of children without parents   |
| Objectives and outcomes | <p>Goals:</p> <ul style="list-style-type: none"> <li>- To inspire students to think and act with empathy towards socially vulnerable people.</li> <li>- To encourage students to act like young entrepreneurs and to develop entrepreneurship skills at a young age to prepare them for their future professions.</li> <li>- To develop an analytical approach and creativity.</li> <li>- To expand their knowledge of humanitarian events and of gathering funds for those in need.</li> </ul> <p>Expected results:</p> <ul style="list-style-type: none"> <li>- To help children in homeless shelters regarding education, cultural elevation, and an awareness of needs.</li> <li>- To allow students to find answers to any questions that elude them, in order to broaden their horizons for the future.</li> <li>- To ease their transition into careers and help them specialise in areas in which they are talented.</li> <li>- To gather funds to help children without parents.</li> </ul> |
| Material                | Laptop, websites, TV, coloured pencils, book, box.   |
| Duration                | 45–50 min.   |

| Lesson procedure | Step-by-step description of the lesson<br>(T – teacher / S – students / T/S – activities)   | Skills   | Duration<br>(minutes) |
|------------------|---|--|-----------------------|
| Before class     | After completing the literary analysis of “The Big Water” by Živko Čingo, they should watch the movie “The Big Water” for homework.   |  |                       |
| Introduction     | <p>Begin the class with these questions:</p> <ul style="list-style-type: none"> <li>- What are socially vulnerable categories?</li> <li>- Have you ever had contact with socially vulnerable groups? If so, what was your experience?</li> </ul> <p>T: Write the phrase ‘homeless shelter’ on the board and have the students think of examples from literature, film, and drama that explore this topic.</p> <p>The goal of this exercise is for students to develop empathy and the ability to analyse a problem, as well as come up with creative solutions.</p> | <p><u>Cognitive competence.</u></p> <p><u>Critical thinking:</u></p> <p>identifying problems, finding solutions, evaluating and reasoning.</p> | 10                    |
| Main Activity    | <p>Watch a segment of the movie before discussion:</p> <p><a href="https://www.youtube.com/watch?v=tovWwFKzKLg">https://www.youtube.com/watch?v=tovWwFKzKLg</a></p>   |  | 30                    |

|  |  |   |  |
|--|--|---|--|
|  | <p>As a class, discuss the main problems that the children in the shelter face in the film.</p> <p>Teacher can explain the definitions of social entrepreneurship and social entrepreneurs:</p> <ul style="list-style-type: none"> <li>- Social entrepreneurship is, at its most basic level, doing business for a social cause. It might also be referred to as 'altruistic entrepreneurship.'</li> <li>- Social entrepreneurs combine commerce and social issues in a way that improves the lives of people connected to the cause. They do not measure their success in terms of profit alone – to social entrepreneurs, success means that they have improved the world, however they define that.</li> </ul> <p>Optional:<br/> <a href="https://www.onlinecollege.org/2012/06/26/the-10-greatest-social-entrepreneurs-all-time/">https://www.onlinecollege.org/2012/06/26/the-10-greatest-social-entrepreneurs-all-time/</a></p> <p>T: Currently, our local and global communities are facing a wide range of complex and challenging social issues. These issues require creative and motivated people to develop innovative solutions that will contribute to long-term, sustainable change. Social entrepreneurs are people who can identify problems or issues within communities and build profit-generating businesses that address these issues and support lasting social change.</p> <p>T: Imagine that you are an entrepreneur. How would you help this group of vulnerable people?</p> <p>T: How can we change their lives? Or at least contribute to their happiness?</p> <p>S: Give examples (e.g., do something for them, a cultural event, poetry, theatre play, discussion, etc.).</p> <p>T: How do we help them become aware of the opportunities and abilities they have that could be used to help society?</p> <p>S: Give examples (e.g., include them in organising a cultural event, write poetry, a theatre production in a Skopje theatre, a discussion with guests that they would be interested in, etc.).</p> <p>T: How would these ideas be financed?</p> <p>S: Share ideas (e.g., a donation box at school events, coffee shop customers could be asked if they would like to donate, etc.).</p> | <p><u>Financial literacy competence.</u><br/> Develop skills to navigate the complexities of personal and business finances</p> <p><u>Social, emotional and healthy living competences.</u><br/> Responsible decision-making: analytical skills, social entrepreneurial skills and altruistic entrepreneurship.</p> |  |
|--|--|---|--|

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|                                  | <p>T: How will the profit be used and where will it be invested?</p> <p>S: Decide how the profit will be spent (e.g., in further education - like a foreign language school, arts and crafts courses at trade schools, visits to classes that interest them, providing help if needed, etc.).</p>  |   |    |
| Students' reflection /evaluation | <p>The students are divided into groups of 5. Each group should create a strategy that answers the above questions, which they will present at the end of class. Each member of the group should complete a portion of the work. Each group will present their solution in only a few sentences.</p> <p>Homework: Students should further develop their idea using their own opinions, which will be presented during the next class. They will make a schedule of events.</p> | <p><u>Creativity competence.</u></p> <p>Generation: generating ideas, selecting meaningful ideas, organisational and communication skills, data analysis.</p> | 10 |

### Lesson No. 6

|                         |   |
|-------------------------|---|
|                         | Work and the Power of Electrical Currents   |
| Note                    | Age: 17–18<br>Physics   |
| Teacher/trainer/author  | Jurgita Caporkienė, Mathematics and Physics teacher   |
| Topic                   | Work and the power of electrical currents   |
| Objectives and outcomes | <ul style="list-style-type: none"> <li>- Improve knowledge of the work and the power of electrical currents.</li> <li>- Develop mathematical skills for processing scientific information.</li> <li>- Improve social responsibility skills, including thoughts and behaviours.</li> </ul> <p>Consider the responsible use of scientific resources, the effective use of ecological and ethical product consumption, and initiatives for recycling and reusing. Demonstrate a hostile attitude (boycotting or not buying products) and strive to save society and the environment.</p> |
| Material                | Computer, projector, smart phones, coloured pencils, flip chart   |
| Duration                | 45 min.   |

| Lesson procedure | Step-by-step description of the lesson (T – teacher / S – students / T/S – activities)  | Skills  | Duration (minutes) |
|------------------|---|---|--------------------|
| Introduction     | <p>T– presents the lesson topic, objectives, and expectations: work, the power of electrical currents, units of measurement, and measurement equipment. Students will also learn the formula for calculating electrical currents' work and power.</p>   | <p><u>Cognitive competence.</u></p> <p>Subject knowledge and skills:<br/>Use scientific concepts and formulas;<br/>process scientific information using mathematics;<br/><u>Communication competence.</u></p> <p>Present the results of practical work schematically.</p> | 10                 |
|                  | <p>T– asks students to calculate the cost of electricity for a year if you boil enough water for a cup of tea every day. Start to bring a teacup to boiling.</p> <p>S – Watch, listen, take notes, and ask questions. Discuss which data they need to do calculations.</p> <p>S - Observe, fix necessary data, and find</p> |   | 15                 |

|                                  |  |  |    |
|----------------------------------|--|--|----|
| Main Activity                    | <p>lacking information online.</p> <p>Task for Group 1:<br/>Calculate the amount of electricity needed for one year of printer use. Prepare recommendations on how to save electricity while using electrical equipment (refrigerator, washing machine, stove).</p> <p>Task for Group 2:<br/>Calculate how much electricity is needed for one year of computer use. Prepare recommendations on how to save electricity while using the computer.</p> <p>Task for Group 3:<br/>Calculate how much electricity is needed for one year of electric bulb use.</p> <p>S – work in pairs to complete the tasks.</p> <p>S – present advice on how to save electricity while using electric equipment.</p> | <p><u>Creativity and communication competences.</u> Exploration: by communicating and collaborating students find the information needed.</p> <p><u>Social, emotional and healthy living competences.</u> Responsible decision-making: by advising others on how to save electricity, students promote responsible and ethical behaviour towards resource consumption.</p> | 13 |
| Students' reflection/ evaluation | <p>T – applies “rain of thoughts“ - encourage students to express their opinions about what they learned: what was the most difficult and why it is necessary to learn this material.</p>  | <p><u>Creativity competence.</u> Assessment and reflection: students reflect on their learning experience.</p>   | 7  |

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