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| **LESSON PLAN** |
| **Teacher:** | **Vesna Mučalica** |
| **Subject:** | **Biology** | **Class: IX**  | **Date: 5.5.2023.** |
| **School:** | Primary School "Pavle Kovačević" Grahovo, Nikšić  |
| **Number of students:** | 3 |
| **Learning outcome:** | Students will be able to:* Compare natural systems with systems created by a man;
* Identify that the current system of prodiction and consumption is a linear flow;
* Differentiate linear from circular flow razlikuju linearni od kružnog toka
* Investigate circular economy.
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| **Type of class:**  | * Acquisition of new knowledge;
* Expanding knowledge.
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| **Work form:** | * + Frontal
	+ Group
	+ Individual
 |
| **Methods:** | * Method of oral presentation;
* Dialogue method;
* Demonstration method;
* Mind map.
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| **Concepts-contents:** | Circular economy, waste |
| **Material and means for work:** | Self-adhesive papers, table;Different materials (plastic bottle, glass cup, metal key, paper) |
| **Correlation****Intercourse topics:** | EcologySustainable development, Environmental protection |
| **Duration:** | 45 minutes  |

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| **STUDENTS’ ACTIVITIES:** |
| **Warm-up**:* Students talk about the systems they know in nature, such as the circulation of water and matter in nature, the flow of energy, food chains...
* Through the discussion, they come to the conclusion that there are no waste materials in nature, nor any kind of waste, but that nature decomposes all remains and uses them again in the form of food or energy.
* They list some man-made systems and associate them with a huge amount of waste and pollution.

**The main part:*** The students in the group are given the task to write about the materials in front of them (plastic bottle, glass cup, metal key, paper) a "life story" through which these materials went while reaching their table, but also where they will end up after using them in class. For each item, they write down the paths they think they went through on sticky notes and paste them on the board, with a stick between them, which actually shows the flow from raw material to the finished product. The teacher can assist the students to show as many ways as possible.
* The teacher explains that this production has a linear flow, with principle take-make-use-throw, so that this method has a huge impact on the environment and disturbing the balance in nature.
* By watching the 4-minute video "Thinking about Progess"\*, students become familiar with the concept of circular flow in production, i.e. circular economy, which includes the use of renewable energy sources, the creation of products with greater durability and the possibility of repairing them, recycling, creating systems and service with minimal or no waste, etc
* (\*video link: <https://youtube.com/watch?v=zCRKvDyyHml> )
* The students understand the importance of the circular economy in our everyday life

**Finish:*** In the final part, the students give suggestions on how the linear flow of the products they made could be transformed into a circular one, that is, with which changes it could be realized.

**Homework:**  Using the Internet and other literature, research something more about the concept of **biomimetry** and bring the collected data to the next class. |
| **Implementation review**: All planned outcomes have been realized. The students were active and interested in the given topic. |