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| **Lesson plan** |
| **Subject** | *Interdisciplinary topic:**Nature**Informatics* *Art* |
| **Teachers:** | *Ivana Kurtović**Šenida Kajević**Mila Medin* |
| **School** | *JUOŠ „Mirko Srzentić“, Petrovac* |
| **The theme** | **Introduction to Circular Economy** |
| **Age of students** | 10 year |
| **Class time** | **1-2 class** |
| **Time required for preparation** | **60 min** |
| **Teaching materials** | ***Materials:**** *Textbook or relevant reading material*
* *Projector and screen*
* *Images related to the circular economy, including examples from nature*
* *Printed handouts with relevant vocabulary words and pictures*
* *Art supplies (colored pencils, markers, or crayons)*
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| **Resources used** | [Explaining the Circular Economy and How Society Can Re-think Progress | Animated Video Essay - YouTube](https://www.youtube.com/watch?v=zCRKvDyyHmI)[Circular Economy: definition & examples | Sustainability Environment - YouTube](https://www.youtube.com/watch?v=X6HDcubgxRk&t=57s) |

***Learning outcomes:***

*By the end of this lesson, students will be able to:*

1. *Understand the concept of the circular economy: Explain the principles and benefits of the circular economy, emphasizing its role in reducing waste and promoting sustainability.*
2. *Recognize nature as a model for sustainability: Identify examples from the natural world that demonstrate circular systems, waste reduction, and resource efficiency.*
3. *Utilize relevant vocabulary: Use key vocabulary words related to the circular economy to describe and discuss concepts accurately.*
4. *Express understanding through visual representation: Create visual representations (drawings or diagrams) that illustrate their interpretation of the circular economy concept, with inspiration from nature.*
5. *Participate in class discussions: Engage in discussions about the circular economy, the role of nature as a model, and the importance of resource efficiency in both natural and human-made systems.*

***Teaching Methods:***

1. *Introduction (5 minutes): Begin with a brief discussion to introduce the concept of the circular economy and its importance. Emphasize the role of nature as a model for circular systems.*
2. *Reading and Discussion (15 minutes): Use a textbook or reading material to introduce the circular economy concept. Use a projector to display relevant images and foster class discussion.*
3. *Vocabulary Introduction (10 minutes): Provide printed handouts with key vocabulary words. Discuss the meanings and importance of these terms and encourage questions and clarifications.*
4. *Informatics Exploration (10 minutes): Show images and examples of circular systems in nature using the projector. Discuss how nature efficiently uses resources and minimizes waste.*
5. *Artistic Expression (10 minutes): Distribute art supplies to students. Instruct them to create visual representations of circular economy concepts inspired by nature.*
6. *Art Sharing and Discussion (5 minutes): Have students share their artwork and explain how it reflects the circular economy concept, using the projector to display their art if possible.*
7. *Class Discussion (5 minutes): Engage the class in a discussion about how nature serves as a model for sustainability and waste reduction.*
8. *Conclusion (5 minutes): Summarize the key points and emphasize the connections between the circular economy, nature, and resource efficiency.*

***21st-Century Skills:***

1. *Creativity: Students express their understanding through creative visual representations inspired by nature, fostering creative thinking and problem-solving.*
2. *Communication: Students engage in class discussions, explaining their interpretations and ideas clearly and persuasively, enhancing their communication skills.*
3. *Critical Thinking: Through discussions, students analyze and evaluate the concept of the circular economy and its relationship with nature.*
4. *Digital Literacy: Utilizing projectors and digital resources for the presentation of images enhances digital literacy.*
5. *Environmental Awareness: Students gain an appreciation for nature's sustainable practices and learn how these principles apply to the circular economy.*
6. *Adaptability: By understanding the circular economy and nature's role, students develop adaptable thinking for future challenges in sustainability and resource management.*

***Lesson scenario***

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| **Name of activity** | **Procedure** | **Duration** |
| *Introduction*  *Reading and Discussion**Vocabulary Introduction**Informatics Exploration* *Artistic Expression* *Art Sharing and Discussion* *Class Discussion* *Conclusion* | 1. **Welcome and Setup:** Welcome the students and introduce the lesson's topic, "Circular Economy: A Visual Exploration." Set up the projector and screen for visual presentations.
2. **Discussion:** Initiate a brief discussion about the importance of reducing waste, promoting sustainability, and how nature can serve as a model for circular systems.
3. **Textbook Introduction:** Use the textbook or relevant reading material to introduce the concept of the circular economy. Discuss the principles and benefits of a circular economy.
4. **Visual Aids:** Use the projector to display relevant images related to the circular economy, including examples from nature. Encourage students to engage in a class discussion about what they see in the images and how they relate to the circular economy.

1. **Handout Distribution:** Provide printed handouts with key vocabulary words related to the circular economy.
2. **Vocabulary Discussion:** Discuss the meanings and importance of these terms. Encourage students to ask questions and clarify any doubts related to the vocabulary.
3. **Visual Presentation:** Use the projector to show students more images and examples of circular systems in nature. Highlight natural processes like nutrient cycling in ecosystems or animal behaviors that minimize waste.
4. **Discussion:** Facilitate a discussion on how nature efficiently uses resources and minimizes waste, drawing connections to the circular economy concept.
5. **Art Supplies Distribution:** Distribute art supplies to the students, including colored pencils, markers, or crayons.
6. **Art Creation:** Instruct students to create a visual representation (drawing or diagram) of a circular economy concept they've learned, inspired by nature. Encourage them to incorporate elements from the discussion and images presented.
7. **Art Presentation:** Have students share their artistic representations with the class. Ask them to explain how their art reflects a circular economy concept and the role of nature as an example.
8. **Closing Discussion:** Engage the class in a discussion about how nature serves as a model for sustainability and waste reduction. Discuss the significance of applying nature's principles to human-made systems.
9. **Summary:** Summarize the key points of the lesson and emphasize the connections between the circular economy, nature, and the importance of resource efficiency.

Top of Form | *5 min**15 min**10 min**10 min**5 min**5 min**5 min**5 min* |

***Expected Results:***Students are expected to gain a thorough understanding of the circular economy, recognize nature's role as a model, acquire relevant vocabulary, develop visual representation skills, improve critical thinking and communication, become more environmentally aware, apply circular economy principles in their lives, and cultivate a keen interest in sustainability and exploration.

***Description of the Evaluation System:***The evaluation system encompasses both formative and summative assessments, including class participation, artistic expression, vocabulary assessment, written reflections, visual representation assessments, and optional homework assignments. It evaluates students' knowledge, skills, and application of circular economy concepts, fostering critical thinking, creativity, and communication skills.

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