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Grade: 12- 17 years old	Subject: Sustainable development Goal 6	Country: Türkiye
Duration: 45 mins		Lesson: Biology
Lesson Focus and Goals The lesson focuses on understanding the significance of clean water and sanitation (Sustainable Development Goal 6) from a biological perspective. Lesson Goals: • Understand the Role of Water • Comprehend Water Pollution Impacts • Recognize Sanitation's Importance • Analyze Case Studies • Design Solutions • Apply Biological Concepts • Engage in Hands-On Learning • Reflect on Personal Impact		
Materials needed: • Whiteboard and markers • Projector or screen for videos • Handouts (Worksheet, water cycle diagram, infographic) • Internet access (optional, for video) • Pens and notebooks		Learning Objectives: • Understand the importance of clean water and sanitation for human health and the environment. • Learn about the biological impacts of water pollution and inadequate sanitation. • Explore solutions and actions to improve water quality and access.
Structure / Activity: Introduction (5 minutes) • Warm-Up Discussion: • Question: "Why is clean water important for life?" • Collect responses on the board, emphasizing water's role in health, ecosystems, and sanitation. 2. Learning Objectives:		



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- Present today's objectives: Understanding the significance of clean water, the biological impacts of water pollution, and actions for ensuring water access and sanitation.

Background Information (10 minutes)

1. Presentation: Topic: Importance of Clean Water and Sanitation

- Use a slideshow or whiteboard to explain:

Water cycle and its role in ecosystems / How clean water and proper sanitation prevent diseases / Examples of waterborne diseases (e.g., cholera, dysentery)

2. Visual Aid:

- Display a water cycle diagram and discuss each stage briefly, linking it to water purity.

Water Pollution Impact Analysis (15 minutes)

- Show a short video (3-4 minutes) about water pollution impacts. (Video Introduction)
- Briefly discuss the video's key points and ask students to reflect on how water pollution affects ecosystems and human health. (Discussion)
- Provide a worksheet with a brief case study on a polluted water source and its effects on a local community. (Case Study Analysis)

Worksheet Questions:

- Identify the pollutants mentioned and their sources.
- Explain how these pollutants affect human health and local wildlife.
- Suggest potential solutions to reduce pollution and improve water quality.

4. Students work in pairs to read the case study and answer the questions. (Group Activity)

- Collect responses and discuss as a class.

Exploring Solutions (10 minutes)

1. Brainstorming:

- Question: "What can be done to ensure access to clean water and sanitation?"
- Write responses on the board, focusing on solutions like water treatment, pollution prevention, sustainable practices, and education.

2. Presentation:

- Provide additional information on effective water management practices and innovative solutions (e.g., water purification technologies, rainwater harvesting, waste treatment).

3. Infographic:

- Show an infographic on water-saving tips and effective sanitation practices

Hands-On Activity: Designing a Water Filter (10 minutes)



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- 1. Introduction:
- Explain the basics of water filtration and its role in providing clean drinking water.
- 2. Activity:
- Task: Design a simple water filter using materials like sand, gravel, and charcoal (or discuss the theoretical design if materials are not available).
- Steps:
- Arrange the materials in layers inside a plastic bottle or container.
- Pour dirty water through the filter and observe the results.
- Discuss the filtration process and its effectiveness.
- 3. Discussion:
- What are the limitations of simple filters?
- How can this concept be applied on a larger scale?

Conclusion and Wrap-Up (5 minutes)

1. Summary:

- Review key points discussed: the importance of clean water, impacts of pollution, and potential solutions.

2. Reflection:

- Ask students to think about one action they can take to contribute to clean water and sanitation efforts.

3. Homework:

- Research and write a short report on a local or global initiative that addresses water quality or sanitation.

Assessment:

- Participation in discussions and activities.
- Completion and accuracy of the worksheet.
- Quality of the homework report.