



P.B.L Lesson Plan

Title

The way of waste

School

Name: Gymnázium P. Pázmaňa s VJM

Country: Slovakia

Web Site: <https://pazmangymnz.edupage.org/>

Subjects involved/potentially involved

Subjects currently involved	Subjects potentially involved
Geography, Biology, Social Studies, English, Maths	Chemistry, Science, Economy, Environmental studies

Description of how the lesson plan was designed and implemented

The lesson plan is based on the growing focus on climate change in recent years and the steps needed to create a more sustainable and climate-friendly world. This attention covers all areas of society, so the issue will be explored from different perspectives, such as sociological, scientific and economic. To include all these viewpoints, different subjects have been incorporated into the project.

The aim of the lesson plan is to develop a deep understanding of human behavior related to climate change. The goal is to foster a comprehensive understanding of environmental issues, particularly pollution and climate change, among students. It seeks to encourage critical thinking and





promote environmentally conscious behaviours by enabling students to explore the causes and effects of these issues, engage in meaningful discussions, and reflect on their personal impact on the environment. Through collaborative group work and creative projects, the lesson plan aspires to empower students to become informed advocates for sustainability and responsible stewardship of natural resources.

Starting the Lesson Plan

Engagement:

Kick off the lesson with an engaging activity or question about waste and pollution to capture students' attention and activate prior knowledge. For instance, show a brief video on waste management, water or air pollution or invite students to share their recycling experiences.

Direct Teaching/Modeling:

Present key information about waste and pollution issues, including relevant facts, statistics, and policies. Introduce the problem using case studies and real-world examples to illustrate its impact on the environment, economy, and society.

Guided Practice:

Involve students in activities to reinforce learning, such as:

- **Group Discussions:** Analyze waste reduction strategies or data.
- **Hands-On Tasks:** Sort recyclable materials or calculate the carbon footprint of various disposal methods.

Output:

Encourage students to explore solutions to waste problems using knowledge gained from social studies.

Assessment and Evaluation:

Determine assessment methods to gauge student understanding through:

- **Formative Assessments:** Quizzes and discussions during the lesson.
- **Summative Assessments:** Written reflections or projects to evaluate overall learning.

Materials and Resources:

List necessary materials (slides, handouts, videos) and ensure access to relevant resources (books, websites, guest speakers..).

Closure:

Summarise the lesson's key points and connect them back to the initial objectives, emphasising the problem at hand.





Competencies and knowledge

Development of prerequisite competencies and/or knowledge

Present and clarify a complex, real-world problem that students must confront, fostering their learning and critical thinking skills so they can identify effective solutions.

Enhance students' awareness of their individual and collective roles in fostering development and driving change from a global perspective.

Analyze information and prioritize key issues related to pollution, waste management, and garbage, enabling them to identify problems and seek solutions.

Investigate and evaluate the relationship between our lifestyles and their environmental consequences.

Develop solutions that raise community awareness about the significant impact of waste on our planet.

Development of competencies and/or knowledge the experience aims to create

Students will be able to:

Integrate knowledge from Geography, Biology, Social Studies, Maths to address contemporary societal challenges.

Analyse waste management issues and prioritise key problems related to waste.

Evaluate information from authoritative sources to facilitate discussions on relevant issues.

Recognize the importance of waste reduction and implement changes in daily habits to minimise environmental impact.

Explore the relationship between technological advancements and social development.

Propose solutions that could influence political decisions regarding waste management.

Topics involved/potentially involved

Topics actually involved

Circular Economy





Waste Generation Trends
Waste Prevention Strategies
Waste Management Policies
Resource Efficiency

Topics additionally involved

Global Partnership Against Climate Change
European Green Deal

Authors

Teachers who worked on the design and implementation

Name	Class	Subject
Başternák Klaudia	1-4	Biology, Physics
Szabó Révész Anita	1-4	Chemistry, Biology

PBL methodology: groupwork

The task for the groups included finding possible solutions, answers to the following **question**:

“What are the impacts and dangers of type A waste on our environment and health, and how can we effectively recycle these materials to minimize their effects? ”

Heterogeneous, **rotating group** formations were created with assigned roles. The **goal** was to create a product that could take the form of a poster, song, video, etc., as long as it engages the attention of other peers.

Tools and applications





ex. Power Point

Learning Apps

Infographics

TicToc

Pedagogical Impact - Feedback

Observed Impact of the PBL "Way of Waste" Lesson Plan

- **Student Engagement:**
Students actively participated in group work and discussions, showing motivation to explore waste-related topics.
- **Understanding:**
Students demonstrated a relatively solid grasp of key waste management concepts, effectively connecting theoretical knowledge to real-world scenarios.

Student Involvement in Pathway Development

- **Engagement:**
Students actively participated in group work, contributing ideas and asking questions. Many showed genuine interest and motivation to learn about waste management.
- **Collaboration:**
Students shared responsibilities, listened to each other, and built on collective knowledge.
- **Understanding:**
They grasped key waste management concepts and connected theory to real-world scenarios.

Critical elements

Although each group had clear roles and responsibilities, some students remained unsure about their specific tasks. Additionally, certain students struggled with collaboration, particularly those with behavioural challenges. Some students took on more responsibilities than others, while some worked harder than their peers.

Produced materials





Type of produced material			
x	POV - TikTok	x	Informative posters or presentations
x	Power Points	x	Mindmaps

Links to the resource(s)
<i>Lesson plans in pdf format.</i>

Evaluation method and tools (grading rubrics etc.)

Continuous **direct observation** throughout the entire process.

Encouragement of **self-reflection** on their own ideas and work.

Utilising **Kahoot** to assess how well they have grasped the concepts.

