



P.B.L Lesson Plan

Title

The Way of Waste

School

Name: Istituto Omnicomprensivo Europeo di Arconate e Buscate

Country: Italy

Web Site: <https://www.omnicomprensivoeuropeo.edu.it/>

Subjects involved/potentially involved

Subjects currently involved	Subjects potentially involved
English, Italian, Maths, Physics, Biology, Human Sciences, Citizenship	History, Geography

Description of how the lesson plan was designed and implemented

This "Way of Waste" lesson plan was developed by a multi disciplinary group of teachers with the aim to use it as part of the curriculum of Citizenship/Civic Education in third year classes. The general topic had been chosen by the Erasmus+ DID international group of teachers. The Italian teachers' first step in designing it was the definition of the objectives and learning outcomes in order to make sure they were in line with the ones agreed upon for Citizenship education by third year class teachers.

The second step consisted of identifying the main problem the students should focus on finding solutions to. That required an initial research by the team and a couple of brainstorming meetings. The analysis of waste management at the local level led the group to detail the task quite easily and to define the PBL group work activity first. The municipality of Arconate was not present in the list of the best Municipal Waste recycling programmes, an initiative promoted by 'Legambiente', Italy's most prominent non-profit environmental organisation, with the support of the Ministry for the Environment. So our students were asked to take action





and to draw a plan and project for the municipality of Arconate to reduce waste collection and improve waste management.

The next step was to draw up a detailed outline of all the necessary learning activities, complete with materials and resources, which could allow the learners to reach the objectives and to create an effective proposal.

The lesson plan "The Way of Waste" is a detailed roadmap to explore the concept of 'zero waste', to be informed of waste management rules from EU to local level, to select reliable information about the topic and to tackle the whole topic in English.

A part of the activities were carried out in the anticipatory phase in each class while the remaining ones were implemented on three days in June 2023 on an open class activity first (nearly 75 students) and then with the PBL methodology group work, dividing the students in small groups of 5/6. While in 2024 both the preparatory phase and the PBL group work activities were carried out within each class (nearly 95 students).

In both cases each group was asked to produce any kind of product (brochure, presentation, video) in which they presented their proposal to the local municipality in Arconate to promote the Legambiente initiative and eventually reduce unrecyclable/undifferentiated waste. Every group was also asked to write a group work report in word format in English.

Every group also had to present their proposal to the other groups.

Assessment was carried out as follows:

- Assessment of product and report (for each group)
- Assessment of Public Presentation in English (individual contribution)

A rubric was used (attachment)

Competencies and knowledge

Development of prerequisite competencies and/or knowledge

Basic knowledge of waste management and recycling rules on a national and local level

Basic Knowledge of specific vocabulary in English related to the topic.

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





Presentation of a complex real problem to stimulate the students' learning and critical thinking skills.

Promotion of team working and communication skills.

Promotion of active citizenship and development of students' awareness and engagement.

Students will be able to:

- apply and combine knowledge of sociology, economics and politics to explain current challenges in our society
- examine current national political decisions, considering the role of the EU
- analyse problems and selecting priority issues with regards to waste and waste management
- select information from authoritative sources (academic works/articles) to discuss about a problem concerning nowadays society;
- understand why it is important to reduce waste and how to contribute concretely to reduce the impact of waste changing one's own habits in everyday life
- investigate the interaction between technological development and the social development (science + technology)
- suggest possible solutions

Topics involved/potentially involved

Topics actually involved

- EU policy: targeting Zero waste
- Types of recycling in Italy by region
- Waste prevention strategies
- From waste to energy
- Graphs and statistics analysis





Topics additionally involved

Role of local governments in waste management
Impact of EU on people's lives

Authors

Teachers who worked on the design and implementation

Name	Class	Subject
Biasibetti Luca		Maths/Physics
Bucci Lucilla		Biology
Fornara Noemi		Human sciences
Pellanda Laura		Maths/Physics
Petruzio Elena		English
Re Monica		English
Zammito Francesca		Italian

PBL methodology: groupwork

After the preparatory phase over the two previous months, three classes of third year form students worked in groups of 6 for three whole school days in June 2023 as part of the Erasmus+ project. The same Lesson Plan was implemented the following year as part of the curriculum of Citizenship with all the four third year classes and a total of 95 students.

The task was the following

- **LEARNING BY DOING:** Separate waste collection to make a difference
 - a. Discover the initiative started by Legambiente, Italy's most prominent non-profit environmental organisation, with the support of the Ministry for the Environment.





Since 1994 an award has been granted to the municipalities and local communities which have reached significant results in waste management.

b. Analyse the data present in the latest report regarding your Region

<https://www.ricicloni.it/iniziativa>

https://ricicloni.it/media/edition/pdf/Dossier_CR_Lombardia_20221209094372.pdf (page 10 and 11)

c. Problem Analysis: our municipality is not present in the list of the best Municipal Waste Recycling Programme

d. **PBL TASK** : Taking action. What can be done to have Arconate be enlisted among the greenest municipalities in Lombardy? Why has this not happened so far?

e. Draw up your own plan and project for the municipality of Arconate to reduce waste collection and improve waste management

Tools and applications

- *Canva*
- *Powerpoint*
- *Genially*
- *SlidesGo*
- *Google Doc*

Pedagogical Impact - Feedback

Two main forms of impact were observed.

First of all it was observed that the students were more receptive during the lessons. As a result, the students' level of participation and contribution during the learning process was extremely positive. In June 2023 the working session involved three classes and overall 75 students and it took place in the local cultural centre which offers a large venue with a well equipped and versatile open space. All the participants worked actively and orderly.

The second involves the group of teachers. They had to learn to work together and to find their own different role in the management of the activities and the students. Some were teacher led but in most cases teachers acted as facilitators and guides.. That helped create a very agreeable constructive atmosphere which will foster future cooperation and teamwork.

Student Involvement in Pathway Development

The students' general level of engagement was overall quite high. They actively participated in group work and didn't hesitate to ask the teachers if they had any doubts or needed more guidance.





In most groups they defined and assigned specific roles, set up a plan and worked hard to stick to it. They also had to write a report of all the decisions and activities.

Critical elements

The most difficult aspect of Pbl activities regards assessment: it would be fundamental to be able to design and use a detailed 'observation grid' to evaluate also the students' individual participation, contribution and actual engagement in each activity in order to monitor and eventually correct the learning process of each student.

On the teachers' side, the critical element has been time: it was sometimes not that easy to match the different educational objectives of each discipline and the topic to be dealt with in the national syllabus.

Produced materials

Type of produced material			
x	Slides	x	Group work report
x	Infographics		
x	Ppt presentations		

Other

Links to the resource(s)
<i>Lesson plans in pdf format + any useful material (ex: worksheets)</i>

Evaluation method and tools (grading rubrics etc)

The attached rubric was used to assess both the result of the group work (product and report) and the public presentation by the members of each group.

