

 SUBJECT	Ecology
 LESSON TOPIC	What is created from waste?
 GRADE	16-18 years old
 LEARNING OBJECTIVES	<p>Introduction to the topic of ecology, waste management and recycling.</p> <p>Students will be able to:</p> <ul style="list-style-type: none"> ● Identify the different types of waste and where they come from. ● List the reasons for separating rubbish/waste. ● Recognize eco-labels and separate waste correctly. ● Give examples of items made from recycled waste.
 TIME REQUIRED	<p>2h (2 lessons)</p> <ul style="list-style-type: none"> ● Lesson 1 - 1h: Introduction to the topic of ecology, collecting, separating and recycling waste. ● Lesson 2 - 1h: Reinforcement of knowledge from the previous lesson with the help of fiches. Introduce students to the topic of creating new objects/materials from waste using videos and content.
 PREPARATION	2h

**MATERIALS**

- Computer, interactive whiteboard, tablet/phone.
- Device with internet access for each student.
- Account [Flash Mind](#) (teacher only).
- [Ankiapp](#) software and account for computer/phone (teacher and students).
- Text materials.
- Information on types of waste, methods of waste separation and recycling, eco-labels.
- Flash cards on types of waste, separation methods, eco-labels.
- Presentation on what can be made from waste.
- Resources:
 - [Waste Management Indicators and Policies](#)
 - [Waste disposal](#)
 - [What Is Waste Segregation, and Why Is It Important?](#)
 - [Recycle label images](#)
 - [5 Colour Codes for Waste](#)
 - [Disposal You Should Know](#)

**TECHNIQUES:**

- General discussion with students on waste.

**FORM OF WORK**

- Independent and group work: all students reflect on an issue and then discuss it as a group and finally with the teacher, exchanging their views.

**LESSON PLAN OVERVIEW****Preparation:**

- Select content to be discussed and relevant materials (waste management policy, importance of waste collection and treatment for the environment and ecology, segregation, waste as a secondary raw material, waste treatment, eco-labels on packaging).
- Download and create an account on Ankiapp and create fiches on eco-labels, segregation and waste breakdown (check explanatory tool sheet n°2).
- Create an account on Flash Mind and prepare a lesson on waste treatment (check explanatory tool sheet n°9).
- Prepare handouts.
- Timeline:
 - Teacher discusses lesson content with students.
 - The teacher presents a timeline with specific information about ecology, the importance of waste separation and waste treatment for the environment.
 - The teacher consolidates the knowledge presented with fiches.
 - The teacher gives a presentation on waste treatment and recyclables.
 - Conclusion

Introduction:

The ever-increasing consumption of material goods and the development of technology are generating more and more waste, which comes from a variety of sources e.g. human functioning - municipal, industrial, agricultural, etc. For many years, the European Union has had a policy aimed at increasing the use of waste in reprocessing, which has an impact on environmental protection.

Recycling of secondary raw materials is therefore an opportunity to deal with the growing amount of

rubbish. Segregated waste can be sold at recycling centers, which is not only environmentally sound, but also economically viable.

Recyclable secondary raw materials include:

- metals: aluminum and steel cans, scrap metal, cables;
- glass: both whole containers and cullet;
- waste paper: cardboard and paper;
- plastics: PET bottles, polypropylene and polycarbonate containers, films and more.

Implementation:

Lesson 1: Familiarize students with the problem of waste.

- Discuss together with students about the different types of waste and where waste comes from.
- Ask students to give some examples of the negative impact of waste on the environment.
- Familiarize students with hazardous waste and how to safely dispose it.
- Explain to students the process of waste segregation and ask if they know how to dispose their waste in the right bin.
- Introduce students to the practice of packaging and the types of environmental labels.

Lesson 2: Flash cards and presentation

- Ask students to solve the flashcards on the Ankiapp website from the previous lesson.
- After they have finished with the flashcards, have students watch a Flash Mind presentation on the use of recyclables from waste.

Summary:

- Demonstrate the importance of the problem of waste and its impact on environmental protection.
- Point out the importance of waste separation and obtaining secondary raw materials from it for re-production.

- Take questions/concerns from students and clear out any misconceptions.

Homework:

- As homework after the first lesson, students will be expected to repeat the topics of waste, segregation, eco-labelling and recyclable raw materials.
- In the second lesson there will be a test of knowledge using fiches.
- After the second lesson (after the presentation on reusing waste to make products), students will be expected to list three items each that can be made from recyclable materials from waste that were not included in the presentation.