

# Waste Management

## 1. Preparing the Lesson Plan

<b>Brief description</b>	<p>The lesson objective is meant to develop a positive attitude towards the environment and respect for nature.</p> <p>Selective waste collecting and recycling reduce the negative impact of waste on the environment and our society. The lesson highlights not only waste management but also aspects related to its storage in different categories and getting it ready for recycling.</p> <p>Web 2.0 tools will be used.</p>
<b>Age group</b>	Lower Secondary (11 to 14 years)
<b>Learning space</b>	<p>The activity can take place in the classroom.</p> <p>Students will be arranged in a semicircle.</p>
<b>Learning Objectives</b>	<p>O1- identify different categories of the household waste;</p> <p>O2- establishing the way of collecting, storage, transport and recovery of household waste;</p> <p>O3- exemplify waste disposal methods;</p> <p>O4 - determine students to keep the school spaces clean, collecting waste selectively;</p>
<b>Materials</b>	<ul style="list-style-type: none"><li>-worksheets</li><li>- different categories of waste</li><li>- educational videos</li><li>- computer</li><li>- smart board</li><li>- flipchart</li><li>- post-it</li><li>- markers.</li></ul>

## 2. Developing the Lesson Plan

Method	Details and description	Time
1. Warming up: raise awareness towards the waste management issue.	- students watch a short video in order to understand the importance of selective waste collecting: <a href="https://www.youtube.com/watch?v=_NkqwMitQ8o">youtube.com/watch?v=_NkqwMitQ8o</a>	9 min
2. Announcing the topic and the objectives.	The topic of the lesson is: Management of selective household waste collecting.  Learning objectives:  O1- identification of different categories of household waste; O2- establishing the way of collection, storage, transport and recovery of household waste; O3- exemplification of waste disposal methods O4 - empowering the students to keep the school spaces clean, selectively collecting waste.	3 min
3. Presentation of content	<ul style="list-style-type: none"><li>• Explain the concept of environment;</li><li>• Presentation of theoretical concepts related to household waste;</li><li>• Identification of ways for classifying household waste;</li><li>• Waste collecting and separation;</li></ul>	10 min

4. Consolidation	<ul style="list-style-type: none"> <li>- teacher distributes worksheets to all students;</li> <li>- students answer activities I and II in the worksheet. (answers are checked orally);</li> <li>- students colour the containers in the picture (activity III);</li> <li>- students match (by arrows) the waste with the correct container;</li> <li>- students to give solutions for a correct selective collecting;</li> <li>- students write a slogan that will determine the citizens to respect the indications marked on the containers;</li> <li>- the teacher brings 3 boxes in front of the students. One of which is full of different categories of waste and students have to sort the waste in the two empty boxes in two categories: recyclable waste and non-recyclable waste;</li> <li>- students to present the advantages of the recycling process.</li> </ul>	20 min
5. Giving feed-back	<ul style="list-style-type: none"> <li>- checks the way of solving the work task and provides feedback to the students</li> <li>- presents to the students a film about waste recycling</li> </ul>	5 min
6. Assessment and recommendations	<ul style="list-style-type: none"> <li>- the teacher makes comments regarding the activities that took place and asks for students' opinion about the lesson. If it is the case, the teacher writes down possible suggestions.</li> </ul>	3 min

### **Blended and remote learning environments**

The lesson can be organized in an online environment too if you have access to a learning platform such as Google classroom and Google meet. A Smartboard, laptops/computer/tablets and internet connection are also needed.

The worksheets can be easily posted on Classroom and the videos can be shared to the students. Worksheets can be answered simultaneously by all students using the interactive whiteboard <https://whiteboard.fi>.

The waste sorting activity can be done by the teacher guided by students' answers.  
The slogan can be made by each student and then it can be posted on <https://padlet.com>.

You can also make a presentation about household waste using <https://www.storyjumper.com>, or brochures, flyers, posters in <https://www.canva.com>.

Tests can be given using Google forms or [www.quizizz.com](http://www.quizizz.com).

### 3. Follow up of the Lesson Plan

<b>Follow material and/or homework</b>	I always guide students to use Internet resources carefully, to follow the rules of plagiarism and to quote the sources they use.
<b>Evaluation</b>	Students will be asked to suggest a waste management plan in their school.

## Worksheet

I. Choose the correct answer:

a) Following the composting of the waste, the following are obtained:

- a. sawdust, manure;
- b. ash, harmful gases
- c. a product that resembles humus

b) The main advantage of waste incineration is:

- a. low cost of construction, operation and maintenance;
- b. destruction of recyclable materials;
- c. reduction of the volume of residual matter.

c) Household waste is:

- a. rubbish produced in our household;
- b. debris collected in the streets;
- c. toxic, infectious waste

II. Mark with T the true statements and with F the false ones:

- a. The composition of waste can vary according to the socio-economic level of the population.
- b. Compost reduces the capacity of the soil to retain water.
- c. The location of a landfill has to be 1 km away from the outskirts of populated areas.
- d. Glass containers can degrade naturally in a period of about 4,000 years.



VIII. Fill in the table below:

Waste that can be recycled	Waste that cannot be recycled

IX. Choose from the images below the vehicles that can be used for waste transportation:

