



# Lesson Plan for Positive Actions

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## 2. Has the lesson plan tried in a classroom (Please write a brief)

This lesson plan was performed in a class with students aged from 12 to 14 years old. The students walked through different places of the school which include the classroom, the canteen, playgrounds and school halls. With this approach we gave the possibility to the students to explore and search all kinds of plastics materials that they use not only in their daily classes but also during their breaks. In the end, the students were challenged to take this activity also to their family members. The challenge was so well accepted that the students brought the subject back in the next class, expecting a follow up on "what to do next?"

## 3. The lesson plan

### A. Introduction:

This lesson plan was designed to explore several concepts such as: water pollution, soil pollution, waste separation, recycling, water cycle, public health, terrestrial ecosystem, aquatic ecosystem and environmental awareness. The plan contemplates the following Sustainable Development Goals (SDGs):

- Quality education (4),
- Clean water and sanitation (6),
- Industry, innovation and infrastructure (9),
- Responsible consumption and production (12),
- Climate action (13),
- Life below water (14),
- Life on land (15),
- Partnerships for the goals (17).

### B. Age Group:

The lesson plan is suitable for students aged from 10 to 18 years old.

C. Objectives or Learning Outcome/s

<b>SDG</b>	<b>Learning Outcome</b>
4 (quality education)	<ul style="list-style-type: none"> <li>- To ensure that all students acquire the knowledge and skills necessary to promote sustainable development, such as education for sustainable development and sustainable lifestyles.</li> <li>- Contribute to a culture of sustainable development.</li> </ul>
6 (clean water and sanitation)	<ul style="list-style-type: none"> <li>-Improve water quality by reducing pollution, eliminating waste and minimizing the release of plastics.</li> <li>-Encourage recycling and reuse.</li> <li>-Protect and restore water-related ecosystems.</li> <li>-To encourage the participation of the families of the students, in the improvement of water and sanitation management.</li> </ul>
9 (industry, innovation and infrastructure)	<ul style="list-style-type: none"> <li>-Encourage and support innovation.</li> <li>-Support technological development.</li> <li>-Increase the supply / demand of environmentally friendly products by students and their families.</li> </ul>
12 (responsible consumption and production)	<ul style="list-style-type: none"> <li>-Make sustainable management and efficient use of natural resources.</li> <li>-Make environmentally sound management of all waste throughout their entire life cycle and significantly reduce the release of waste to air, water and soil, minimizing its negative impacts on human health and the environment.</li> <li>- Encourage students and their families to adopt sustainable practices.</li> <li>-Promote sustainable purchasing practices.</li> <li>-To ensure that students, their families and the whole community have relevant information and awareness for sustainable development and lifestyles in harmony with nature.</li> <li>-Practice sustainable tourism.</li> <li>-Reflect on the environmental impacts, minimizing the possible adverse impacts.</li> </ul>
13 (climate action)	<ul style="list-style-type: none"> <li>- Improve education, raise human and institutional awareness and capacity for mitigation, adaptation, impact reduction and early warning on climate change.</li> <li>-To promote mechanisms for capacity building for effective climate change planning and management from the school environment.</li> </ul>
14 (life below water)	<ul style="list-style-type: none"> <li>-Prevent and significantly reduce maritime pollution of all types.</li> <li>-Conscience for the sustainable use of marine resources, including through sustainable management of fisheries, aquaculture and tourism.</li> <li>-Increase scientific knowledge and develop research capacities.</li> <li>-To ensure the conservation and sustainable use of the oceans and their resources.</li> </ul>
15 (life on land).	<ul style="list-style-type: none"> <li>-To ensure the conservation, recovery and sustainable use of terrestrial and freshwater ecosystems and their services.</li> <li>- Take urgent and significant measures to reduce the degradation of natural habitats.</li> <li>- Implement measures to prevent the introduction and significantly reduce the impact of invasive alien species on terrestrial and aquatic ecosystems, and control or eradicate priority species.</li> </ul>
17 (Partnerships for the goals)	<ul style="list-style-type: none"> <li>-Increase existing initiatives to develop measures for the progress of sustainable development, starting with the school environment.</li> </ul>

D. Time required to deliver the lesson plan:

The lesson plan is designed to have the duration of 90 minutes.

E. Resources required to deliver the lesson plan:

In order to deliver this lesson plan successfully the following materials are required:

- Note paper,
- Video,
- Computer,
- Speakers,
- Internet connection,
- Blank Sheets for mapping concepts (size A4 or A3),
- Writing material,
- Online Quiz.

F. Activity:

The lesson plan is composed by six different phases which will be performed inside and outside the classroom.

In the initial phase the students are divided into several working groups. The number of groups and students per group will vary depending on the available spaces of the school. Each group is limited to explore the maximum of two spaces, otherwise this phase can take longer than expected. Before the groups leave the classroom the teacher provides a note paper (Annex 1) to each group which shall be used to note down all the plastic made objects that are found in the different places of the school (canteen, playground, library, bar, teachers room, secretariat, garden, classrooms). The duration of this phase is 20 minutes.

After returning to the classroom, we start with phase two of the lesson plan. In this phase each group presents the list of the plastic materials found and the replacement solution, for non-plastic materials, that they proposed for each one. This presentation shall last approximately 20 minutes.

The third part of the lesson plan consists only in showing the students a video regarding the amount of plastics used worldwide and what are the consequences that these materials cause in the environment and different ecosystems. The video is also focused in really important subjects such as: global warming, dysfunctional change in the stable water cycle, importance of recycling and reusability of plastic materials and reduction of waste associated with consumerism. The duration of the video and this phase are 10 minutes.

After watching the video we jump into the fourth phase. In this phase the groups are invited to perform an Online Quiz designed by the teacher, where they are asked to answer several questions about the duration of different plastic materials, select solutions to decrease the amount of plastic used, make choices based on quality and price, identify which products can replace some plastic materials, etc. This quiz shall have the maximum duration of 15 minutes.

In the sixth phase each group start writing a concept map of the activity. This report will be later posted in the common spaces of the school with the aim of alerting and raising awareness of the educational community. This phase should last 20 minutes.

In the final phase and last 5 minutes of class a new note paper is given to each student and they are challenged to bring this activity to home and do a similar practice with their family members. This challenge not only promotes the collaboration of family members, but also helps to increase the awareness and accountability of families and the entire community for the environment.

G. Evaluation and Assessment:

The evaluation is done in two different parts. First part corresponds to a more individual evaluation where each student are evaluated for the work performed, focusing on their involvement, interest and participation both in the observation and registration of plastic materials. Second part of evaluation is based on the group which encompass the result of the Online Quiz and elaborated concept map.

H. Suggestions of variation or further reading of the lesson plan:

Considering the fact that the activity is finished before the planned 90 minutes the teacher can use the remaining time to make the connection to another big thematic which is Recycling. The students are encouraged to start recycling at school and, the teacher can also suggest this new theme as a possible new activity that can be performed on the upcoming classes. This activity consists in the accounting in kilograms of the garbage produced from the school every week. At the end of the year in partnership with the discipline of mathematics and TIC a data processing is performed in order to verify if there is an decrease or increase of plastic usage.

I. References (websites):

<https://zerowastehome.com>

<https://www.natgeo.pt/planeta-ou-plastico/2018/06/10-praticas-para-reduzir-o-plastico-que-consumimos>

<https://www.herplanetearth.com/reduce-plastic-waste.html>

<http://www.greeneducationfoundation.org/nationalgreenweeksub/waste-reduction-tips/tips-to-use-less-plastic.html>

<https://www.ods.pt>

[https://www.apambiente.pt/\\_zdata/Políticas/DesenvolvimentoSustentavel/2012\\_Declaracao\\_Rio.pdf](https://www.apambiente.pt/_zdata/Políticas/DesenvolvimentoSustentavel/2012_Declaracao_Rio.pdf)

<https://www.ecoschools.global/lesson-plans-for-teachers>

<https://static1.squarespace.com/static/552bcd30e4b02ed06b97c76d/t/5beea4806d2a73433f390809/1542366371761/Eco-Schools+SDGs+Publication+-+FINAL+version.pdf>

**Annex 1 – Note paper**

This paper contains a table with three columns and several rows. The first column is used to indicate the name of the plastic material found, the second column is used to indicate the proposed change and third column contains a space to draw or paste a photograph of the plastic object.

<b>Name of the plastic material</b>	<b>Proposed new material</b>	<b>Draw / photograph of the plastic object</b>