

Recycling e-waste

Modules:	<i>Protecting the environment</i>
Topic:	<i>Recycling e-waste</i>
Title:	<i>An important switch from toxic to green</i>
Target group:	<i>Middle and high school students</i>
Starting Point:	<i>E-waste has been proven to be extremely toxic, as it contains hazardous compounds that accumulate in the environment and ecosystems. To add insult to injury, its recycling rates tend to be distinctively low on a global scale. More specifically, only 20% of the total e-waste is recycled, whereas the remaining 80% is undocumented, implying that the majority of it might be buried in a landfill (UNEP, 2021).</i>
Aim:	<i>This exercise will raise the awareness of the students regarding the excessive production of e-waste and its recycling.</i>
Implementation:	<i>This activity is designed to be implemented in groups.</i>
Estimated Duration:	<i>1 week</i>

More detailed content and instructions:

- At the beginning of the week, the teacher will make a vivid presentation enriched with photos and videos about e-waste and draw students' attention to the negative impacts that are caused by its high rates of production and irresponsible disposal in the landfill.
- During the week, the students will be divided into smaller groups and will bring various digital devices, small household appliances, lamps, IT equipment, or even batteries that don't work anymore and are considered inevitably useless. It is worth noting that, each student can bring more than one electronic device. On the contrary, they are encouraged to bring as many as possible. Furthermore, the carbon footprint of every device represents a number of points.
- At the end of the week, the aforementioned devices will be accumulated and the group with the higher score will be declared the winner. It is also recommended that all the students should visit an e-waste recycling facility. In this way, they will have the chance to fully understand that recycling plays a cardinal role in our lives and can gradually minimize the total carbon dioxide emissions on a global scale.

Taken into account:

The carbon footprint that is created by:

- The manufacturing of an AA battery => approximately 0.107kg of CO₂ eq (1 point)
- The manufacturing of a lamp => 0,33kg of CO₂ eq (5 points)
- The manufacturing of a mobile-phone => 85kg of CO₂ eq (50 points)
- The manufacturing of a typical laptop or a desktop => 300kg of CO₂ eq (150 points)
- The manufacturing of a TV => 300kg of CO₂ eq (150 points)

Sources

- UNEP, 2021. The growing footprint of digitalisation. Retrieved from: <https://wedocs.unep.org/bitstream/handle/20.500.11822/37439/FB027.pdf>