Climate box

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IO2 Learning Activities

Project Nr. 2020-1-DE02-KA204-007443

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Content

Module 2: Personal Choice - Waste and Packaging

This module aims at making learners more aware of our global waste problem as a result from mass consumption and single-use packaging. Every year, 2.01 billion tonnes of municipal solid waste are generated around the world (Kaza et al. 2018: 3). This number is expected to increase to 3.40 billion tonnes in the next 30 years, stressing the necessity for an increase in the spread of awareness for the issue of global waste generation and management. Urgent action to reduce waste generation rates and improve waste treatment is required. More than a third of the waste we generate is not handled in an environmentally safe way, contaminating nature, transmitting diseases, causing floods, polluting the air, and seriously jeopardising both animals and humans. Because waste management concerns each and every one of us living on this planet, it is essential for us to become aware of the global scale of our waste generation, and to take the necessary action to handle waste as consciously and responsibly as possible. Fostering participants' awareness for the issue of waste and packaging is thus the aim of this module.

Throughout a variety of activities, learners can familiarise themselves with methods for waste separation, recycling, composting, and alternatives to single-use items. They should develop an awareness of the consequences of non-eco-friendly handling of waste and understand why separating waste, recycling and reduction are vital for our planet. Furthermore, learners should feel competent to handle waste more consciously and responsibly at the end of this module.

Content:

Topic 1: Recycling and Composting

Topic 2: Waste Separation

Topic 3: Re-Usable / Second-Hand Items

Topic 1: Recycling and Composting

In this unit, participants learn about recycling processes and composting.

Masses of plastic end up in a landfill or at sea, where they cause tremendous and irreparable damage to wildlife and nature. This unit raises the learners' awareness of this issue and therein for the need for recycling. Furthermore, learners become familiar with composting and dealing with organic waste in a conscious and responsible manner. By tracking the recycling process of waste, they gain more understanding of how recycling works and why it is important.

Methodology:

All the activities are learner-centred and foster learner autonomy and teamwork. The trainer's main role throughout the activities is to capture the participants' interest by stimulating brainstorming at the beginning of the activity, giving instructions, and monitoring carefully to provide support.

In the first activity, the participants receive input on decomposition and recycling by watching a short video and taking notes by answering given questions to the video. The trainer's main role is to monitor and guide the reflection that will take place after the video.

The second activity revolves around a quiz that gets learners to reflect on, and become aware of the time it takes waste to decompose in nature. The trainer's role is to direct a fun and vivid quiz environment, as well as guide an effective process of contemplation at the end of the activity.

For the last two activities, the trainer monitors one research activity each – one on composting and organic waste, and the other on recycling processes. Familiarising her/himself with the topics by browsing the websites given in the sources section for each activity will form the basis for providing helpful support to the learners.

Learning Objectives:

- To understand the importance of recycling.
- To raise awareness regarding the costs of non-eco-friendly lifestyles.
- To become familiar with composting and organic waste.

Learning Materials:

For the first and second activity, a laptop with Internet connection as well as a projector are required.

Power Point for Activity Nr. M2-U1-A1: M2-U1-A1: M2 – U1 – PPT1.

Quiz for Activity Nr. M2-U1-A1 (App & paper version).

Instructional video for Activity Nr. M2-U1-A2: Bryce, Emma (2015): *What Really Happens to the Plastic you Throw Away*. Last retrieved 26.04.2021, https://www.youtube.com/watch?v=_6xlNyWPpB8.

Infographic Examples for Activity Nr. M2-U1-A4.

Further Reading:

EPA (2021): *Recycling Basics*. Last retrieved 28.4.2021, https://www.epa.gov/recycle/recycling-basics

Leblanc, Rick (2021): *The Decomposition of Waste in Landfills*

A Story of Time and Materials. Last retrieved 30.06.2021, https://www.thebalancesmb.com/how-long-does-it-take-garbage-to-decompose-2878033

Parker, Laura (2018): *Here's How Much Plastic Trash Is Littering the Earth*. Last retrieved 28.4.2021, https://www.nationalgeographic.com/science/article/plastic-produced-recycling-waste-ocean-trash-debris-environment

Learning Activities

Activity Nr.	M2-U1-A1
Activity Name	How long does it take waste to decompose?
Activity Type	Quiz
Duration	Approx. 30 minutes
Nr. of participants	Approx. 15-20 participants
Language Level	✓ Moderate ☐ Progressive
Depth of information	✓ Basic (no required background knowledge) ☐ Advanced
Learning Objectives	Raise awareness regarding the costs of non-eco-friendly lifestyles.

Description

Step 1: The trainer starts by showing the learners pictures of waste in nature (see also the first slide of the power point presentation M2 – U1 – PPT2). They then ask them if they ever see waste discarded in nature, in what places, what kinds of waste and what they think about it.

Step 2: Then, the trainer asks them how long they think waste takes to decompose in nature, e.g., banana peels, plastic bottles or aluminium cans, and collects a few answers. Without verifying, falsifying or commenting on the answers, they then encourage the group to test their best guesses in a quiz.

Step 3: Then, the trainer introduces a quiz. She/he allocates each of the four possible answers (a) – d)) to four areas (e.g., the corners) in the training room, and asks the learners to move to the area which they think is assigned to the correct answer. The quiz questions can be visualized by the power point presentation M2 – U1 – PPT2 (slides 3 – 22), or played with the learning app.

List of items (right answers in bold).

Item	Answer options (right answer in bold)			
Disposable diapers	6 months	5 years	100 years	**450 years**
Banana peels	1 week	**2 – 5 weeks**	7 – 8 weeks	1 year
Paper towels	4 – 7 days	**2 – 4 weeks**	3 months	6 months
Newspapers	3 days	3 weeks	6 weeks	**6 months**
Aluminum cans	6 – 24 weeks	20 – 60 years	**80 – 200 years**	300 – 450 years
Cigarette butts	8 – 12 weeks	6 – 9 months	**1 – 5 years**	10 – 20 years
Glass bottles	20 years	300 years	1,000 years	**1,000,000 years**
Orange peels	1 week	**2 – 5 weeks**	7 – 8 weeks	1 year
Plastic bags	6 – 8 months	2 – 4 years	**10 – 20 years**	40 – 50 years
Plastic beverage bottles	9 months	40 years	100 years	**450 years**

Step 4: After the quiz, the trainer puts the numbers in the quiz into perspective by saying they can differ, depending on the environment (humid salty air speeds up decomposition vs. dry air slows down decomposition). Also, "decomposition" is a vague term – what counts as being decomposed might differ – and waste can leave behind (toxic) residues that never dissolve, such as microplastics.

Then, the trainer asks the learners what they found surprising or shocking about the quiz, and what do they think these facts on the decomposition of waste might entail. Moreover, some pondering questions in terms of alternative behaviours could be asked, for example, how much lower would the costs of using cloth towels instead of paper towels be, both for the individual and for the environment?

The trainer closes the session by summarizing and/or formulating some conclusions.

Additional Remarks	If there is no possibility for a PowerPoint presentation or the game is to be played outdoors, the presentation can also be printed out.
Online Implementation	The quiz is also available on the Climate Box learning app.

Further reading	Leblanc, Rick (2021): *The Decomposition of Waste in Landfills A Story of Time and Materials*. Last retrieved 30.06.2021, https://www.thebalancesmb.com/how-long-does-it-take-garbage-to-decompose-2878033
Sources	Leblanc, Rick (2021): *The Decomposition of Waste in Landfills A Story of Time and Materials*. Last retrieved 30.06.2021, https://www.thebalancesmb.com/how-long-does-it-take-garbage-to-decompose-2878033 Pictures of the waste items from Pixabay (free for commercial use, no attribution required)

Activity Nr.	M2-U1-A2
Activity Name	The importance of recycling
Activity Type	Visual Learning
Duration	Approx. 30 minutes
Nr. of participants	Approx. 15-20 participants
Language Level	☐ Moderate ✓ Progressive
Depth of information	☐ Basic (no required background knowledge) ✓ Advanced
Learning Objectives	Raise awareness regarding the costs of non-eco-friendly lifestyles.

Description

Step 1: First, the learners are asked to watch the following short video (roughly 4 minutes long, and with the option set subtitles in your language by clicking the YouTube setting icon (gearwheel) in the bottom right-hand corner): https://www.youtube.com/watch?v=_6xlNyWPpB8

Step 2: While watching the video, the learners try to answer the following questions:

- What happens to a bottle ending up in a landfill?
- How long does it take for a bottle to decompose?
- What happens to a bottle when it ends up at sea?
- "Most plastics do not biodegrade" – What does that mean?
- What happens to a bottle when it is recycled?

Step 3: Afterwards, the learners form groups, compare their answers, and discuss the importance of recycling – the trainer monitors.

Here are possible questions to discuss:

- Why is it important to recycle?
- What can be done to promote recycling?
- Is it possible to recycle all of our waste?
- What are the limits of recycling?
- What are the alternatives to recycling?
- How was packaging managed in the past? What did people do before there were any plastic containers?

Additional Remarks	In case there is no possibility to discuss the importance of recycling in groups, the learners could also be asked to write a short text. The video contains high-quality subtitles in numerous languages that can be set up in Settings (gearwheel icon at the bottom right). The video with some of the reflection questions incorporated is also available on the Climate Box app.
Online Implementation	In order to facilitate the peer-discussion in small groups, send the learners into breakout rooms. If you have not created breakout rooms before, here is a step-by-step tutorial on managing breakout

	rooms: https://support.zoom.us/hc/en-us/articles/206476313-Managing-Breakout-Rooms.
Further reading	Parker, Laura (2018): *Here's How Much Plastic Trash Is Littering the Earth*. Last retrieved 28.4.2021, https://www.nationalgeographic.com/science/article/plastic-produced-recycling-waste-ocean-trash-debris-environment
Sources	Bryce, Emma (2015): *What Really Happens to the Plastic you Throw Away*. Last retrieved 26.04.2021, https://www.youtube.com/watch?v=_6xlNyWPpB8

Activity Nr.	**M2-U1-A3**
Activity Name	Composting and organic waste
Activity Type	Research activity
Duration	Approx. 30 minutes
Nr. of participants	Approx. 15-20 participants
Language Level	☐ Moderate ✓ Progressive
Depth of information	☐ Basic (no required background knowledge) ✓ Advanced
Learning Objectives	To raise awareness regarding waste separation and to recognize types of waste.

Description

Step 1: First, the participants think about what they do with their food waste. Example questions can be:

- What alternative ways to throwing away food residues in the general waste are there?
- How much food waste do you think you produce?

- How do people you know deal with their food waste?

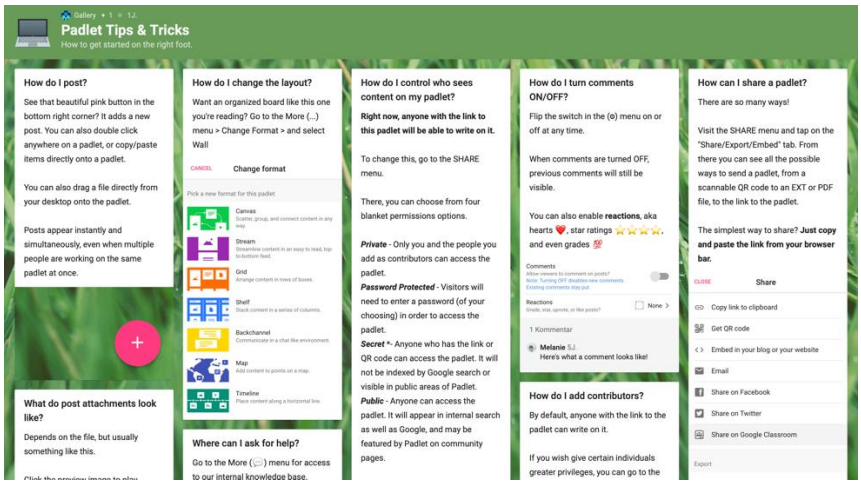
Step 2: Then, the learners research about composting and organic waste by browsing the Internet. The trainer can also assist the search by suggesting specific websites as starting points. Possible research questions are:

- What are the advantages of composting/separating organic waste?
- What can you compost and what can you not compost? / What goes in organic waste and what does not go in organic waste?
- Which mistakes do people often make? How can you avoid them? / How can you start composting/separating organic waste?

Step 3: Once the learners have done some research, they create a poster with the information they have gathered in pairs or groups of three. They are free to focus on one or some of the questions above, or to tackle all of them and give a quick overview over everything. Examples of their poster headings could be: “How to start your own compost”, “Organic waste 101”, or “Why food waste is a huge problem”. They can get creative!

Step 4: Finally, the learners share their findings in plenary and discuss which options are feasible in their area. The trainer asks the group if they’ve found this activity useful, what they learnt and if their new insights will impact their handling of composting and organic waste in the future.

Additional Remarks	Besides the resources provided by the trainer for the research task, the trainer can encourage the learners to find more useful websites by themselves.
Online Implementation	The learners can create their posters on Padlet, a tool that lets a number of people add and edit notes on a virtual “bulletin” board. Here is an example from the platform of what this board can look like:



Alternatively, the learners could also create an online presentation with one or a couple of slides using Google Slides or the free online version of Microsoft PowerPoint.

In order to enable the participants to speak to each other while creating the posters, the learners can be sent into breakout rooms. If you have not created breakout rooms before, here is a step-by-step tutorial on managing breakout rooms: https://support.zoom.us/hc/en-us/articles/206476313-Managing-Breakout-Rooms.

Further reading

Parker, Laura (2018): *Here's How Much Plastic Trash Is Littering the Earth*. Last retrieved 28.4.2021, https://www.nationalgeographic.com/science/article/plastic-produced-recycling-waste-ocean-trash-debris-environment

Sources

EPA (2021): *Composting at Home*. Last retrieved 5.5.2021, https://www.epa.gov/recycle/composting-home

Simon, Julia (2020): *How to Compost at Home*. Last retrieved 5.5.2021, https://www.npr.org/2020/04/07/828918397/how-to-compost-at-home?t=1620206058800

Miller, Randy (2020): *What is Organic Waste and How Should it be Handled?* Last retrieved 5.5.2021, https://millerrecycling.com/organic-waste-and-how-to-handle-it/

Activity Nr.	M2-U1-A4
Activity Name	Tracking recycling process
Activity Type	Research activity
Duration	Approx. 60 minutes
Nr. of participants	Approx. 15-20 participants
Language Level	☐ Moderate ✓ Progressive
Depth of information	☐ Basic (no required background knowledge) ✓ Advanced
Learning Objectives	To raise awareness regarding recycling.

Description

Step 1: The trainer asks the participants what waste items they threw away on the same or the previous day and collects a few answers. Then, he/she asks the group what they think happened or happens with the different items. Finally, he/she explains that they'll get to trace diverse items to find out which processes they go through if they get recycled.

Step 2: The trainer distributes different waste items and asks the learners, who wants to research which item to make sure a variety of waste items is researched evenly.

If the learners have access to the Internet through either smartphones or computers, the learners browse the Internet to trace their item, answering questions regarding the recycling process to guide their research. The learners then trace their item's recycling process from the moment it was thrown away to a possible end product that can be made from the recycled material.

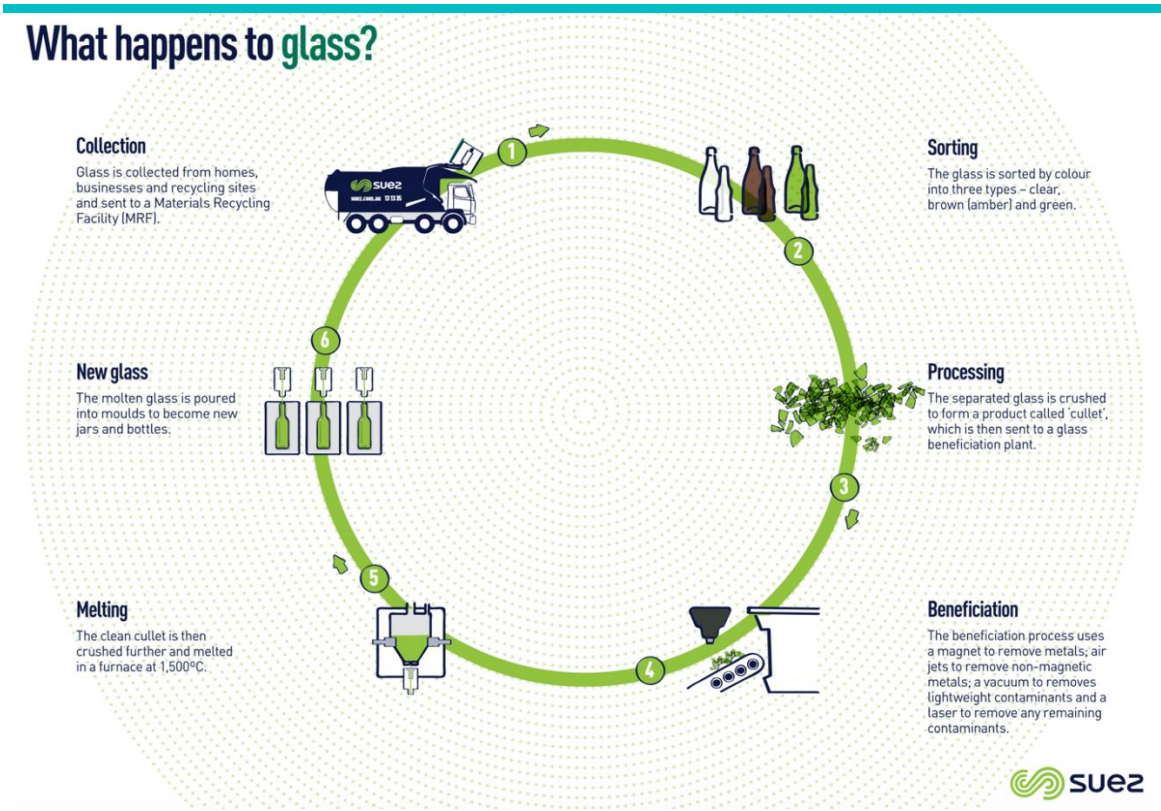
If the learners do not have access to the internet, the trainer can print out some selected websites and offer them to the learners to choose from.

As a starting point, the learners can go to (or the trainer can print) the following website, which offers well-arranged information and videos on a variety of recycling processes: https://www.recyclenow.com/recycling-knowledge/how-is-it-recycled

Here are some questions the learners can set out to answer:

- Where does your waste item go once it has been collected?
- What are the different steps included in the recycling process? What happens at the respective steps?
- What new products can be made from the recycled material?
- What is the environmental impact of the recycling process?
- Why is it important that your waste item gets recycled?

Once the learners have grasped the recycling process, they design an infographic to show to the rest of the group later. They can do this either autonomously, in pairs or groups of three. To show the learners what this could look like, the trainer could give them examples as the two below about the recycling process of a glass bottle:



https://www.suez.com.au/en-au/sustainability-tips/learn-about-waste-streams/general-waste-streams/glass-recycling

http://www.xzperfectglass.com/en/new/Artwork--for--glass--bottle--making.html

Step 3: Afterwards, the infographics can be put on the walls and the learners can walk around and have a look at everyone else's infographics like in a gallery.

Additional Remarks	The website is provided by a UK-based NGO. As recycling processes differ across municipalities and countries, it is recommended that the trainer researches websites for their respective municipality or lets the group research their own ones, depending on the group's research skills. https://www.recyclenow.com/recycling-knowledge/how-is-it-recycled
Further reading	EPA (2021): *Recycling Basics*. Last retrieved 28.4.2021, https://www.epa.gov/recycle/recycling-basics
Sources	SUEZ: *Glass Recycling*. Last retrieved 30.06.2021, https://www.suez.com.au/en-au/sustainability-tips/learn-about-waste-streams/general-waste-streams/glass-recycling The Waste and Resources Action Programme: How Is It Recycled? Last retrieved on 30.06.2021, https://www.recyclenow.com/recycling-knowledge/how-is-it-recycled Xuzhou Perfect Glass (2018): *Glass Recycling Facts.* Last retrieved 30.06.2021, http://www.xzperfectglass.com/en/new/Artwork--for--glass--bottle--making.html

Topic 2: Waste Separation

The unit “Waste Separation” introduces learners to the global waste problem we are facing, thus showing participants why it is necessary to separate waste. Waste generation increases with urbanisation and population growth, and is a lot higher in high-income countries than in low-income countries. Waste composition also changes across income levels and regions, reflecting income-dependent consumption habits. Huge differences exist not only in waste generation and composition but, even more considerably, in the collection and treatment of waste. In order to gain awareness of the global scale of waste generation, the participants get to analyse different charts concerning the amassing of global and European waste, as well as its collection and treatment based on the *What a Waste 2.0* report published by the World Bank Group.

Waste management also differs throughout Europe, which is why the participants can explore the waste separation system in their respective areas through their own, guided hands-on research and discovery learning. They can get creative by designing a waste sorting guide and can practice separating waste correctly, thereby fostering both their awareness and their practical skills for separating waste.

Methodology:

All of the activities are learner-centred and actively engage the participants. The trainer’s main role throughout the activities is hence to capture the participants’ interest by stimulating brainstorming at the beginning of the activity, to give clear instructions, and to monitor carefully to provide support.

In the first activity of this module, the participants move around the room, analysing a variety of charts based on given guiding questions, and the trainer needs to determine the level of structure/autonomy for this activity based on the group dynamics. Monitoring will be particularly important in order to ensure that the learners do the activity correctly.

For the second activity, in which the learners do research on the waste separation system in their area and create a waste sorting guide, the trainer mainly needs to consider relevant websites and support the participants' autonomous research.

The third activity on the topic of "waste separation" allows the participants to practice separating waste correctly. For this activity, the trainer should make sure to highlight common waste separation mistakes in their area and guide a meaningful reflection process at the end of the activity.

Learning Objectives:

- To raise awareness regarding the global scale of our waste production
- To raise awareness regarding waste separation
- To recognize types of waste and separate waste accordingly

Learning Materials (see pages following the respective activities):

- Charts for Activity Nr. M2-U2-A1
- Questions for the charts for Activity Nr. M2-U2-A1
- Examples for waste sorting guides for Activity Nr. M2-U2-A2 (see activity description)
- Matching exercise for separating waste for Activity Nr. M2-U2-A3
- Pictures for separating waste (for the board option) for Activity Nr. M2-U2-A3 (including sources, so trainers can go back to the best quality of the pictures)

Further Reading:

Della Barba, Mariana (2018): *13 Tips on Sorting Waste. How to Recycle More Efficiently*. Last retrieved 21.4.2021, <https://believe.earth/en/13-tips-on-sorting-waste/>

Kaza, Silpa; Yao, Lisa; Bhada-Tata, Perinaz; Van Woerden, Frank (2018): *What a Waste 2.0. A Global Snapshot of Solid Waste Management to 2050.* Urban Development Series. Washington, DC: World Bank.

Learning Activities

Activity Nr.	M2-U2-A1
Activity Name	Global Waste Problem
Activity Type	Discovery Learning
Duration	Approx. 60 minutes
Nr. of participants	Approx. 16 participants
Language Level	☐ Moderate ✓ Progressive
Depth of information	☐ Basic (no required background knowledge) ✓ Advanced
Learning Objectives	To become aware of the global scale of our waste production and realise why separating waste is important.

Description

Step 1: The trainer asks the learners to estimate how much waste we throw away each year globally and collects a few guesses. It is important to give the participants enough time to start thinking about this number. The trainer then shares the number of 2.01 billion tonnes of municipal solid waste and asks the participants what this waste consists of, eliciting examples of waste that can ideally be seen in the training room, e.g., the coca cola can on someone's table, the wrapping of a package, etc. This should get the learners to connect the topic of global waste to their lives, as well as to images in their mind. Then, the trainer asks a range of questions without eliciting or giving answers, to spark the learners' curiosity and stimulate their thinking:

- Who produces most of the waste?
- Which countries produce the most waste?
- Why might waste be (or become) a problem?
- How do the countries do in terms of recycling?

- Is the situation better in urban or rural areas?

The trainer informs the learners they will find the answers to these questions in the following activity. Afterwards, the trainer tells the learners they will get to see different charts concerning global waste production taken from the *What a Waste 2.0* report published by the World Bank Group (see sources).

Step 2: Then, the learners are asked to choose a partner and group into learning pairs for the next task. The pairs then set to analyse the different charts that the trainer has placed on the walls before the session. As a means of support for analysing and reflecting on the information given in the charts, they obtain a handout per chart with questions for which they should try to find answers. As a procedure it is recommended to let the pairs visit the charts clockwise, moving from one chart to the next one every 5 minutes, discuss it and take notes to answer the questions. The trainer should be available to answer any questions or difficulties with reading the charts or understanding the terms on them.

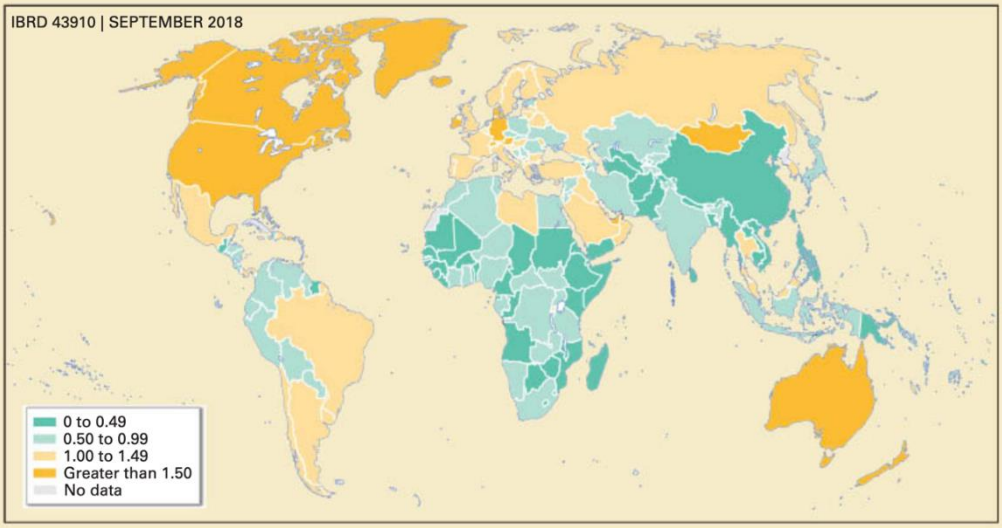
Step 3: Once the learners have analysed the charts, they are asked to share their answers to the questions in plenary.

Additional Remarks	Figure 3.12 is quite complex and advanced. For less advanced groups, it can simply be left out.
Online Implementation	If this activity needs to be implemented online, the learners can discuss the different charts in pairs in breakout rooms, e.g., on Zoom. If you have not created breakout rooms on Zoom before, here is a step-by-step tutorial on managing breakout rooms: https://support.zoom.us/hc/en-us/articles/206476313-Managing-Breakout-Rooms.
Further reading	Kaza, Silpa; Yao, Lisa; Bhada-Tata, Perinaz; Van Woerden, Frank (2018): What a Waste 2.0. A Global Snapshot of Solid Waste Management to 2050. Urban Development Series. Washington, DC: World Bank.

Sources

Kaza, Silpa; Yao, Lisa; Bhada-Tata, Perinaz; Van Woerden, Frank (2018): What a Waste 2.0. A Global Snapshot of Solid Waste Management to 2050. Urban Development Series. Washington, DC: World Bank, 19-21, 47-52.

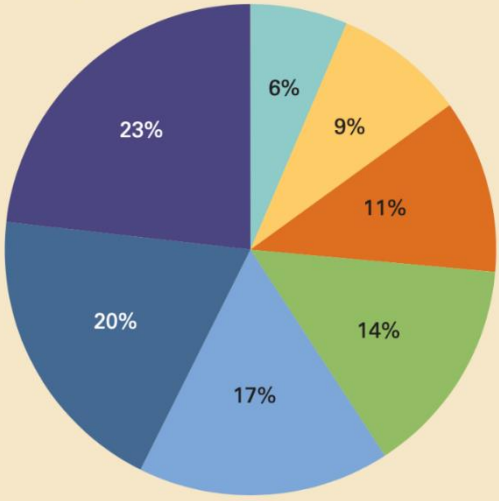
Map 2.1 Waste Generation Per Capita



Note: kg = kilogram.

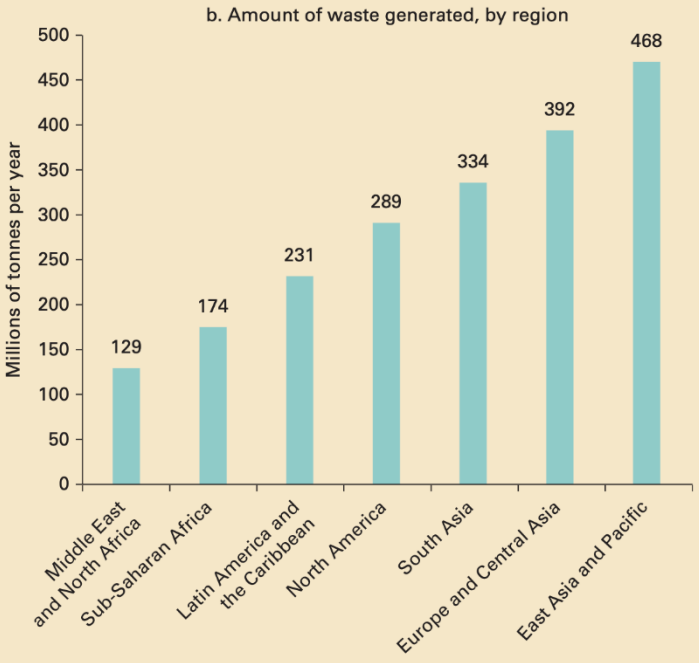
Figure 2.1 Waste Generation by Region

a. Share of waste generated, by region
percent



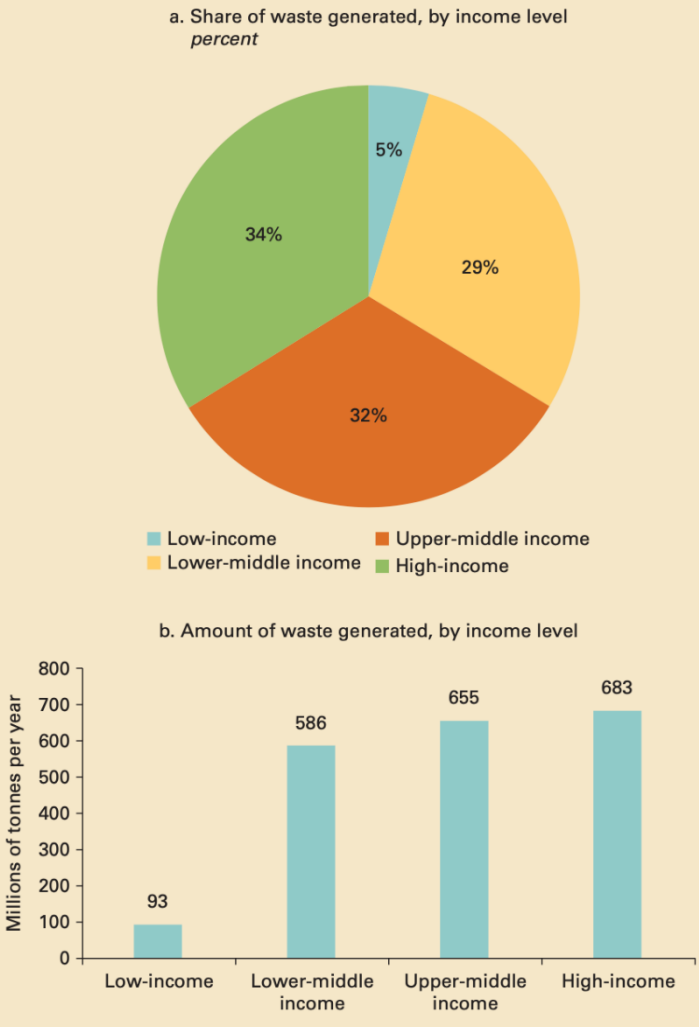
Middle East and North Africa
North America
East Asia and Pacific
Sub-Saharan Africa
South Asia
Latin America and the Caribbean
Europe and Central Asia

Figure 2.1 Waste Generation by Region *(continued)*



Note: Data adjusted to 2016.

Figure 2.2 Waste Generation by Income Level



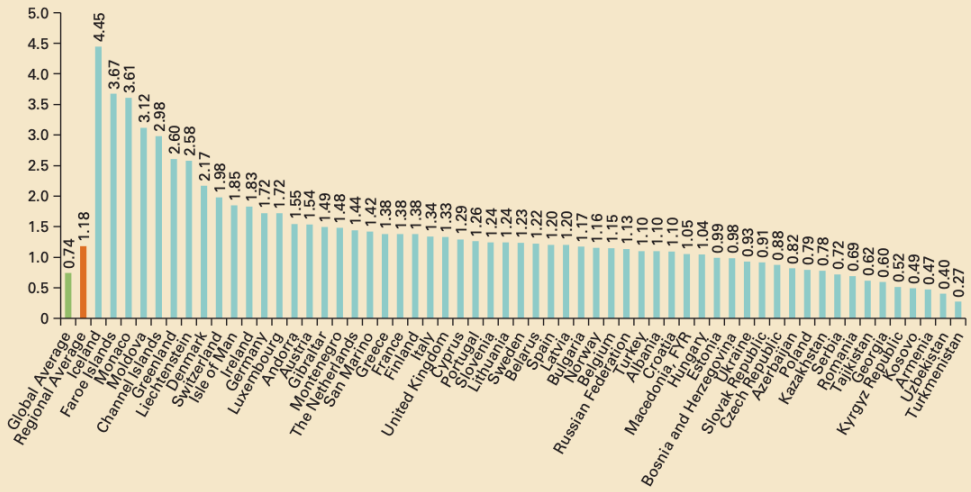
Note: Data adjusted to 2016.

Table 3.1 Countries with High Recycling and Composting Rates in Europe and Central Asia

	Recycling rate (percent)		Composting rate (percent)
Faroe Islands	67	Austria	31
Liechtenstein	64	Netherlands	27
Iceland	56	Liechtenstein	23
Isle of Man	50	Switzerland	21
Germany	48	Luxembourg	20
Slovenia	46	Belgium	19
San Marino	45	Denmark	19
Belgium	34	Germany	18
Ireland	33	Italy	18
Sweden	32	France	17

Note: Rates represent percentage of total waste.

Figure 3.7 Waste Generation Rates: Europe and Central Asia
kg/capita/day



Note: Data adjusted to 2016 as described in box 2.1; kg = kilogram.

Figure 3.8 Waste Composition in Europe and Central Asia
percent

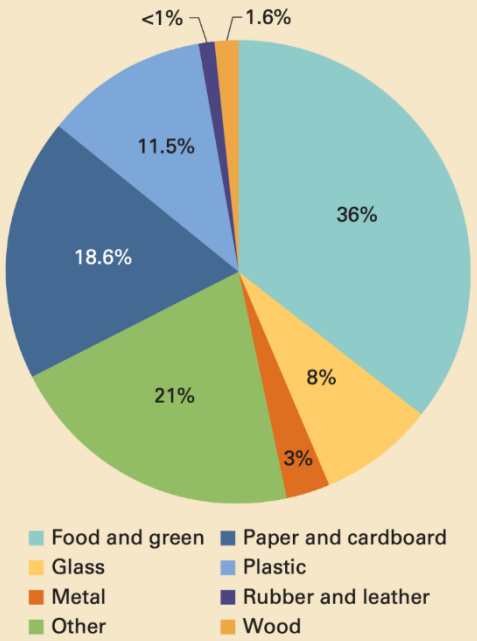


Figure 3.9 Waste Collection Coverage in Europe and Central Asia

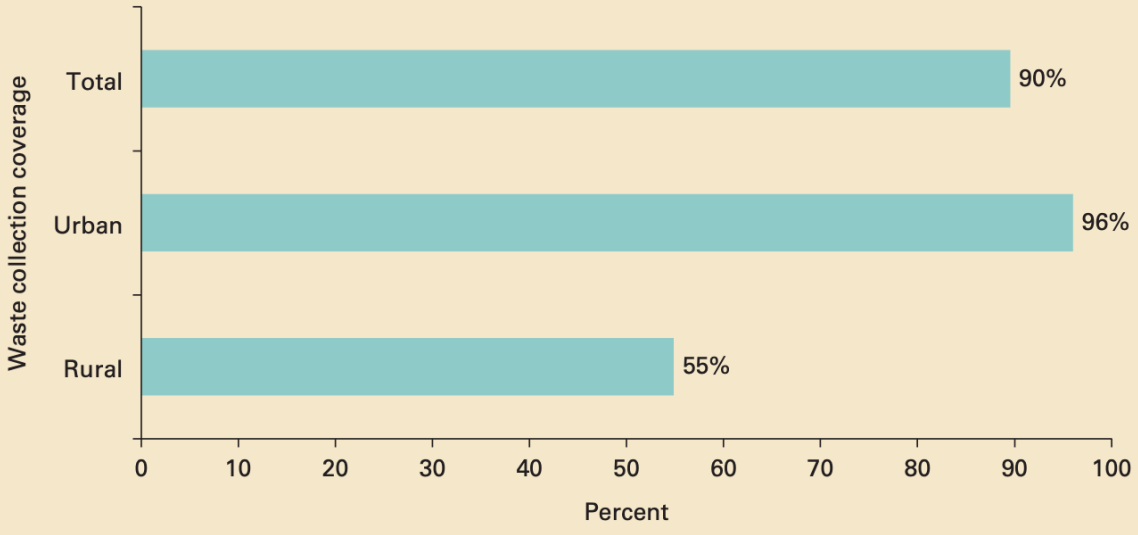
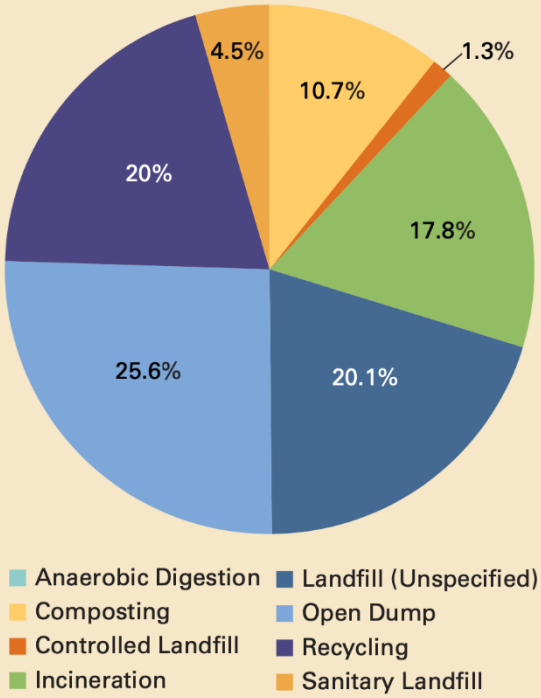


Figure 3.12 Waste Disposal and Treatment in Europe and Central Asia
percent



Questions for the charts

Map 2.1:

1. Which continents/countries produce a lot of waste? Which ones produce little waste? Compare and contrast some continents and countries!

2. Is the generation of waste equally distributed? Why (not)? Think of possible reasons for unequal or equal distribution!

3. For some of the countries, there is no data. Discuss why this could be the case.

Figure 2.1 a + b:

1. Which regions of the world generate the most waste? Which produce the least waste? Compare and contrast the regions regarding both the percentages and the amounts!

2. Is the generation of waste equally distributed? Why (not)? Think of possible reasons for unequal or equal distribution!

Figure 2.2 a + b:

1. How much waste do people of different income levels produce? Compare the different income levels regarding both the percentages and the amount!

2. Why do some of the different income levels lead to similar amounts of waste? Think about possible reasons for this distribution!

Table 3.1:

1. Which countries have the highest recycling rates? Which countries have the highest composting rates?

2. Are you surprised to find any of these countries on these lists?

3. What makes these countries good at recycling and composting? Think about what you know of these countries and give possible reasons for their success in this regard.

4. The rates represent the percentages of total waste. Why is this piece of information important to know when analysing the chart?

Figure 3.7:

1. Which countries produce the most waste in Europe and Central Asia? Which produce the least waste in Europe and Central Asia? What tendencies can you identify?

2. Compare the countries' waste generation rates to the global and regional average!

3. Have a look at the different countries. Are you surprised to find some of them where they are? Can you find any countries that you were expecting to find further up or down in the column chart?

Figure 3.8:

1. What types of waste are generated the most in Europe and Central Asia? What types of waste are generated the least in Europe and Central Asia?

2. Do these findings surprise you? Why (not)?

3. How could the composition of waste differ in different areas in Europe and Central Asia?

Figure 3.9:

1. What percentage of waste is collected in the cities? What percentage of waste is collected in the rural areas?

2. Do these findings surprise you? Why (not)?

3. What do you know of waste collection in urban and rural areas? Think about possible reasons for the differences in waste collection coverage of urban and rural areas!

Figure 3.12:

1. What are the most frequent types of waste disposal and treatment in Europe and Central Asia?

2. Do you have an idea about how these treatments work? Use your smartphone to *google* the treatments you do not know to get an idea.

3. Which of these types of waste disposal and treatment might be more environmentally friendly? Which might be less environmentally friendly?

Activity Nr.	
M2-U2-A2	
Activity Name	How is waste separated in my country?
Activity Type	Research activity
Duration	Approx. 60 minutes
Nr. of participants	Approx. 15-20 participants
Language Level	☐ Moderate ✓ Progressive
Depth of information	✓ Basic (no required background knowledge) ☐ Advanced
Learning Objectives	*To recognize types of waste and methods for its separation, to raise awareness regarding these topics with peers*

Description

Step 1: The participants research about the system of waste separation in their municipality using the Internet (if the learners do not have access to the Internet and to find more information on the sources for the research, see additional remarks). The research is guided by the following questions and tasks:

- What are the main types of waste in your country? Write them down in a list!
- Which waste items belong in the respective waste types? Are there any items that should not go there? Write them down.
- What items can and cannot be recycled? What are the typical mistakes people make in this regard?
- Are the different waste bins available in your area? Where is the nearest waste separation place?
- What do you do with hazardous waste?

Step 2: Afterwards, the learners get together in pairs or groups of three and compare their findings.

Step 3: Finally, the participants create a waste sorting guide – a leaflet that advises people on how to separate waste correctly – that they can keep for themselves and pass on to friends and family. The learners can still do this with their group.

Here are two examples the trainer can share with the participants to show them what this could look like:

https://sustain.ubc.ca/sites/sustain.ubc.ca/files/images/campusInitiatives/8.5x11-SortitOut-VisualGuide.pdf

https://www.maastrichtuniversity.nl/sites/default/files/styles/full_width_image/public/afvalsscheiding_algemeen_eng.png?itok=8im5n8TJ


Sort it Out
Food Scraps
Food waste (including bones)
Used paper napkins
Paper takeout packaging
Wood chopsticks
Used paper towels
Paper coffee filters and grounds
Paper coffee cups
Plastic bags
Cling wrap
Plastic utensils
Plastic food containers
Recyclable Containers (clean/empty only)
Recyclable plastics #1-7
Milk cartons
Juice boxes (no straw)
Aluminum cans
Glass containers
Clear plastic packaging
Plain paper coffee cups and plastic lids (no sleeve)
Styrofoam takeout containers
Rigid styrofoam packaging
Plastic bags
Ceramic mugs
Paper (clean only)
Magazines
Newspaper
Envelopes
Boxboard packages
Clean cardboard
Cardboard with food residue
Milk cartons
Coffee cups
Garbage
Plastic bags
Styrofoam takeout containers
Straws
Potato chip bags
Chocolate bar or snack bar wrappers
Diapers
Food Scraps
Containers
Paper
Garbage
THE UNIVERSITY OF BRITISH COLUMBIA
UBC sustainability


Trash it right!
Use less. Recycle the rest.
Maastricht University
- Waste sorting guide -
Plastic, Metal cans and Drink cartons
• Plastic bottles
• Drink cartons
• Plastic foil
• Plastic bags
• Plastic cups
• Plastic packaging for food
• Metal containers such as drink cans
General Waste
• Food remains
• Styrofoam packaging
• Coffee cups
• Photo paper
• Paper towels
• Pizza boxes
• Sugarcane plates
• Combined packaging such as crisps and strip packaging
Paper
• Newspapers
• Paperboard
• Magazines
• Paper packaging
• Office paper
• Brochures; without plastic foil
Tip: if in doubt, it's general waste!
For more information visit:
www.maastrichtuniversity.nl/wasteseparation
Or contact Servicepoint Facility Services 043-3882002

Additional Remarks	Since waste management differs from area to area, we cannot provide you with specific websites/resources to serve as a starting point. However, you can usually find information on a municipality's waste separation system on the municipal website or the waste management provider's website. If learners do not have access to the Internet, you can render the research possible by providing the group with the websites' resources or information by printing them before the training. For groups who do have access to the Internet, pointing the participants to the relevant websites can facilitate their research. To make this more competitive and fun, the creation of the waste sorting guide can be transformed into a competition. Once all of the groups have finished their guide, the learners can rate the best three guides with 3, 2, and 1 point. The group with the most points awarded wins!
Online Implementation	The learners can do step 2 and 3 in breakout rooms via Zoom, for example. If you have not created breakout rooms before, here is a step-by-step tutorial on managing breakout rooms: https://support.zoom.us/hc/en-us/articles/206476313-Managing-Breakout-Rooms.
Further reading	Della Barba, Mariana (2018): 13 Tips on Sorting Waste. How to Recycle More Efficiently. Last retrieved 21.4.2021, https://believe.earth/en/13-tips-on-sorting-waste/
Sources	Maastricht University: Trash it Right! Last retrieved 26.04.2021 https://www.maastrichtuniversity.nl/sites/default/files/styles/full_width_image/public/afvalsscheiding_algemeen_eng.png?itok=8im5n8TJ

The University of British Columbia: Sort it Out. Last retrieved 28.04.2021, https://sustain.ubc.ca/sites/sustain.ubc.ca/files/images/campusInitiatives/8.5x11-SortitOut-VisualGuide.pdf

Activity Nr.	M2-U2-A3
Activity Name	Separating waste
Activity Type	Discovery Learning
Duration	Approx. 30 minutes
Nr. of participants	Approx. 15-20 participants
Language Level	✓ Moderate ☐ Progressive
Depth of information	✓ Basic (no required background knowledge) ☐ Advanced
Learning Objectives	To raise awareness regarding waste separation and packaging alternatives, to recognize types of waste and learn how to separate waste accordingly.

Description

Step 1: First, the learners brainstorm what types of waste they produce in their everyday life and where they usually throw them away. Do they throw more waste away outside or when at home? Do they separate waste? The learners also think about why separating waste is important (see activities M2-U2-A2 or M2-U1-A1, for example).

Step 2: Afterwards, the participants get to actively separate waste in class. This can be done in different ways:

1. Learners can separate real (cleaned) waste that the trainer or themselves brought to the class or that is in the classroom already.

2. The trainer can print pictures of waste items and different waste containers on a board (see the following pages). The learners will then need to place the photos into the right waste container on the board (depending on the material of the board, the photos can be fixed with tape, magnets, or pins).

3. The learners can assign pictures of waste items to the right waste containers in a matching exercise (see following handout).

The trainer makes sure to point out the tricky items in their area (e.g., in Vienna, no eggshells should go into the organic waste).

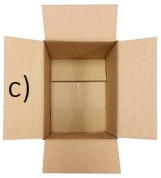
Step 3: Finally, the trainer asks the learners if they have learned anything new, if the activity was useful to them, and if it will impact how they separate waste in the future. You can also ask them how they can get more people to separate waste (correctly).

Additional Remarks	Some countries/municipalities offer information sheets on waste separation. If available, the trainer can hand them out to the learners during the activity. The information sheet for the City of Vienna looks like this, for instance: https://www.wien.gv.at/umwelt/ma48/service/publikationen/pdf/flugblatt-getrennte-sammlung-en.pdf
Online Implementation	If the learners participate in the course online, they can use waste they have nearby and separate it accordingly.
Further reading	Della Barba, Mariana (2018): 13 Tips on Sorting Waste. How to Recycle More Efficiently. Last retrieved 21.4.2021, https://believe.earth/en/13-tips-on-sorting-waste/
Sources	Pictures of the waste items from Pixabay (free for commercial use, no attribution required). Pictures of the waste containers from MA 48.

Where does the waste go? Throw the different waste items into the right bin by writing their numbers under the right container!

a) 

b) 

c) 

d) 

e) 

f) 

g) 

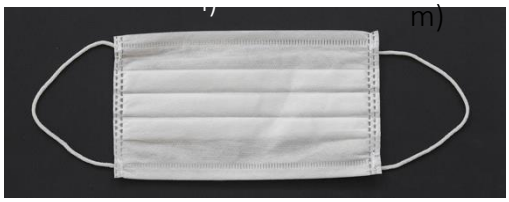
h) 

i) 

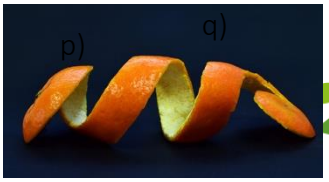
j) 

k) 

n) 

m) 

o) 

p) q) 

s) t)

PLASTIC BOTTLES, DRINK CARTONS, CANS | WASTE PAPER | CLEAR GLASS | COLOURED GLASS | RESIDUAL WASTE | ORGANIC WASTE

https://pixabay.com/photos/banana-peel-fruit-healthy-yellow-3404376/

https://pixabay.com/photos/shell-fruit-bowl-mandarin-3004746/

https://pixabay.com/de/photos/milch-karton-trinken-molkerei-2700595/

https://pixabay.com/de/photos/zeitung-leeuwarder-courant-presse-444448/

https://pixabay.com/de/photos/flasche-öl-500-cl-brown-aroma-6079753/

https://pixabay.com/de/photos/glasbehälter-glas-leer-sauber-1205611/

https://pixabay.com/de/photos/flasche-isoliert-flasche-shampoo-1860617/

https://pixabay.com/de/photos/dose-coladose-cola-getränk-marke-592369/

https://pixabay.com/de/photos/alkohol-bier-flasche-sauber-detail-2460/

https://pixabay.com/de/photos/weinflaschen-etiketten-glas-leer-1668836/

https://pixabay.com/de/photos/box-wellpappe-verpackung-karton-2098116/

https://pixabay.com/de/photos/rollen-sanitär-gewebe-1239215/

https://pixabay.com/de/photos/getränkebecher-becher-plastikbecher-2147903/

https://pixabay.com/de/photos/müll-plastikbecher-recycling-abfall-1255244/

https://pixabay.com/de/photos/umweltverschmutzung-müll-weggeworfen-359017/

https://pixabay.com/de/photos/maske-coronavirus-virus-schutz-5217832/

https://pixabay.com/de/photos/erkältung-schnupfen-krankheit-3835499/

https://pixabay.com/de/photos/leuchtmittel-glühlampe-glühbirne-3366583/

https://pixabay.com/de/photos/batterie-energie-versorgungsmittel-1930833/

https://pixabay.com/de/photos/scherben-glasscherben-glas-scharf-8295/

https://pixabay.com/de/photos/vogel-gebrochen-brown-huhn-2106/

WASTE PAPER

ORGANIC WASTE

COLOURED GLASS

CLEAR GLASS

PLASTIC BOTTLES,
DRINK CARTONS, CANS

HAZARDOUS WASTE AND
OTHER WASTE

RESIDUAL WASTE

Topic 3: Re-usable / second-hand items

This unit focuses on reducing waste, packaging, and single-use items by switching to re-usable and second-hand items.

There is an obvious solution to solving our global waste problem: producing less waste. Therefore, participants learn to consider options to disposing items quickly and easily in this unit. By reflecting on substituting one-time items and their consumption and disposal habits, as well as by hearing stories about second-hand purchases, learners should become aware of consequences and alternatives to one-time items.

Methodology:

Throughout the different activities, the trainer primarily needs to monitor and effectively guide reflection.

The first activity in this module takes place in pairs/small groups and requires the participants to be active and think of possible substitutions for one-time products. The trainer's role is that of a monitor, making sure that the learners are neither over, nor under-challenged and, when necessary, to step in and offer help or stimulating new thoughts. Throughout the activity, the trainer initiates brainstorming by eliciting examples, and motivates the learners to think of examples on their own.

In the second activity, the participants fill out a quiz by themselves, while the trainer monitors the group again. Once the learners are done with the quiz, the trainer's focus shifts to allocating them in appropriate groups (see additional remarks) and getting them to reflect on their answers based on questions that are given in the description of the activity.

For the third activity, explaining the mingling activity that will take place clearly, as well as the post-activity reflection are what is most important. The specific instructions as well as the reflection questions can be found in the activity description.

Learning Objectives:

- To raise awareness regarding re-usable and second-hand items
- To reduce waste, packaging, and single-use items

Learning Materials (see pages following the respective activities):

Quiz for Activity Nr. M2-U3-A2

Handout for Activity Nr. M2-U3-A2

Further Reading:

Addison County Solid Waste Management District: Beginner's Guide to Reducing Waste. Last retrieved 28.6.2021, <https://www.addisoncountyrecycles.org/recycling/reduce-reuse/plastics-reduction>

Astoul, Eva (2020): *How Second-Hand Shopping Can Save the Planet*. Last retrieved 21.04.2021, < https://greenwithless.com/second-hand-shopping-planet/>

Buczynski, Beth (2014): *17 Cheap and Awesome Reusable Replacements for Disposable Products*. Last retrieved 26.4.2021, <https://www.wisebread.com/17-cheap-and-awesome-reusable-replacements-for-disposable-products>

Learning Activities

Activity Nr.	M2-U3-A1
Activity Name	Substituting single-use items
Activity Type	Story/Experience sharing
Duration	Approx. 20 minutes
Nr. of participants	Approx. 15-20 participants
Language Level	✓ Moderate ☐ Progressive
Depth of information	✓ Basic (no required background knowledge) ☐ Advanced
Learning Objectives	To reduce waste, packaging, and single-use items.

Description

Step 1: The trainer opens the exercise with the question: "Is there an item you have used today which you immediately threw away afterwards?" and collects some statements from the learners. (Examples could be such as straws, cotton buds, plastic cutlery, or disposable razors, etc.)

Step 2: In pairs/small groups, the learners are now asked to reflect on the single-use items (i.e., items that get discarded after singular use) people they know and they themselves use and write them down in a common list on a board. They can also include single-use products that, in their eyes, are generally used a lot.

Step 3: Next, the pairs/small groups, think about ways to substitute the one-time items and about what impact this might have for them/people they know personally. Before the learners do this with their respective partners, the trainer can collect a few ideas in the big group to spark ideas, helping the learners by eliciting some examples, such as:

- Cloth shopping bags instead of single plastic or paper bags;
- taking normal, reusable cutlery for picnics instead of taking plastic forks and knives;
- metal razor instead of disposable razors,
- making your own coffee in a travel coffee mug or taking your travel coffee mug to your favourite coffee shop to have coffee on the way instead of using disposable coffee cups;
- reusable containers to store food, or to use instead of aluminium foil or plastic wrap;
- bringing your own container for collecting take-away food rather than receiving single-use packaging; etc.

Step 4: Finally, each pair/group presents their substitutes. Once every group has presented their solutions, participants can also be asked to rate the most useful substitutes and can reflect on which ones they are going to focus on replacing themselves.

Additional Remarks	**Step 2:** Alternatively, the participants could also create a word cloud online if a projector is available in class (see "online implementation"). **Step 3:** This time, the pairs/groups can be mixed up or the learners can form small groups instead of pairs if the trainer feels that some change and new inputs will benefit the group.
Online Implementation	The pair-work can be conducted via breakout rooms on Zoom, for instance. If you have not created breakout rooms before, here is a step-by-step tutorial on managing breakout rooms: https://support.zoom.us/hc/en-us/articles/206476313-Managing-Breakout-Rooms. Online, the participants can share the items they have come up with in a word cloud on Mentimeter, for example. Find out more about what word clouds are and how to create them here: https://www.mentimeter.com/features/word-cloud

Further reading	Buczynski, Beth (2014): 17 Cheap and Awesome Reusable Replacements for Disposable Products. Last retrieved 26.4.2021, https://www.wisebread.com/17-cheap-and-awesome-reusable-replacements-for-disposable-products

Activity Nr.	**M2-U3-A2**
Activity Name	Test Yourself: How Waste-Conscious Are You?
Activity Type	Quiz
Duration	Approx. 20-30 minutes
Nr. of participants	Approx. 15-20 participants
Language Level	✓ Moderate ☐ Progressive
Depth of information	✓ Basic (no required background knowledge) ☐ Advanced
Learning Objectives	To become aware of, and assess one's waste behaviours, to think of ways to become more waste conscious.

Description

Step 1: In order to have the learners reflect on their waste habits, they do a quiz to test their waste-consciousness (see following page). The trainer tells them to answer the questions honestly, that it is a quiz for them to see where they are at, and that they will not be judged for their results.

Then, the learners answer ten questions about their relationship to waste separation and generation. Once the participants have answered all of the questions, they add up their points according to the point scheme. The trainer tells them that the more points they have, the more conscious they are of producing little waste and taking care of their waste responsibly.

Step 2: Then, the participants reflect on the quiz in groups of three or four: They look at each question and think about why some options are better than others, what keeps them from / makes them go for the more sustainable options, why it is important to act waste-consciously. E.g.,

- Why do they or other people (not) recycle?
- Why is it important to recycle?
- What can be done to shift from not recycling or recycling occasionally to recycling diligently?
- What needs to be overcome/adapted/put into place to facilitate the change?

If some of the participants have scored very well, they can reflect on further, broader questions such as:

- What can be done to promote changes towards more waste-consciousness?
- What must be done on an individual level?
- What could/should the government do?
- How do you spread the word?

See additional remarks.

Additional Remarks	**Step 2**: The trainer can achieve different effects through the composition of the groups, if necessary. If there seem to be very different results in the group, the trainer can have the participants form groups according to their point ranges. This way, the learners with high scores can focus their reflection on how to handle waste responsibly beyond the questions included in the quiz, whereas the participants with less points can reflect on feasible ways to improve their waste habits. Mixing learners with high and low scores up, however, will allow for a different perspective in each group.

Online Implementation	The group work can be conducted via breakout rooms in Zoom, for instance. If you have not created breakout rooms before, here is a step-by-step tutorial on managing breakout rooms: https://support.zoom.us/hc/en-us/articles/206476313-Managing-Breakout-Rooms.
Further reading	Addison County Solid Waste Management District: Beginner's Guide to Reducing Waste. Last retrieved 28.6.2021, https://www.addisoncountyrecycles.org/recycling/reduce-reuse/plastics-reduction.

How waste-conscious are you?

1. Do you recycle?
   a) Never.
   b) When I remember to.
   c) (Almost) Always.

2. What do you do with used glass jars and plastic containers?
   a) I just throw them away in my bin.
   b) I collect them to recycle them once I have collected enough.
   c) I reuse them. (e.g., to store food or miscellaneous items) If I have absolutely no use for them, I dispose of them.

3. Do you get/use second-hand goods?
   a) Never. I just do not like the idea that what I buy belonged to other people before.
   b) Sometimes, e.g., when I find a good deal or get it as a gift.
   c) Yes, often. I try to get/use second-hand as much as possible.

4. What do you use to carry your groceries?
   a) I just get a plastic or paper bag from the shops.
   b) I mostly use plastic or paper bags, but I try to reuse them often!
   c) I always make sure to bring my backpack or cloth bag with me to carry my groceries home.

5. Which of the following do you do to reduce single-use plastic? (For this question you can select multiple answers.)
   a) I bring my own containers for take-away food.
   b) I always take my reusable water bottle with me, so I never have to buy plastic bottles.

c) I use reusable containers for packing lunches rather than aluminium foil or plastic wrap.

d) None of the above really, to be honest…

6. What do you do with clothes that do not fit or that you do not like anymore?

a) I normally just throw them away.

b) They usually just end up in the back of my closet, to be honest.

c) I donate or sell them, or I just give them away to friends.

7. You're at a restaurant and your dish was too much for you to finish. What do you do with the leftovers?

a) I ask the waiter/waitress to clear the desk. What else?

b) I let the waiter/waitress collect the leftovers to throw them away. I feel a bit bad, but I cannot force myself to overeat, right?

c) I always ask the waiter/waitress if they could wrap it up for me, so I can have the rest at home when I am hungry again.

8. What do you do with used batteries?

a) I throw them in the bin.

b) I collect them at home to drop them off at the closest recycling station for batteries.

c) I simply charge them, as I (almost) only use rechargeable batteries.

9. What do you do when you find a clothing (or tech, decoration, e.g.) item that you like?

a) I immediately buy it. It might sell out soon, after all! And I also do not want to have to go back to the shop later if I can just buy it now.

b) If I really want it, I will buy it.

c) I usually hold myself back and think "Do I really need it?" If I'm honest to myself, the answer is "no" most of the time.

10. Do you have a re-usable drinking container for coffee or water?

a) No, because I do not like the idea of cleaning it.

b) Yes, but I do not always use it because I either forget or am too lazy.

c) Yes, and I use it every day!

Now, look at your answers again and add up the following points:

For each a): 0 points

For each b): 1 point

For each c): 2 points

Except for question 5: add 1 point for each answer a)-c), 0 point for d)

Total score: __ / 21

The more points you have, the more waste-conscious you are!

Activity Nr.	
M2-U3-A3	
Activity Name	Find someone who…
Activity Type	Story/Experience sharing
Duration	Approx. 40 minutes
Nr. of participants	Approx. 15-20 participants
Language Level	✓ Moderate ☐ Progressive
Depth of information	✓ Basic (no required background knowledge) ☐ Advanced
Learning Objectives	To raise awareness regarding alternatives to buying new.

Description

Step 1: First, the participants receive a handout (see the following page) and take a look at the "Find someone who…" statements. The last two statements are left empty, so the learners can complete them with an item of their choice.

Step 2: Afterwards, the participants get up, mingle with the rest, and ask each other the following question: Have you ever repaired, upcycled or bought by second-hand? If they find someone who has, they ask follow-up questions, such as: How did you do it? Was it difficult? How did you get the idea? Where and when did you buy it? etc. They should get in touch with as many people as possible and write down the name of the person they find, as well as any additional information.

Step 3: Finally, the participants can share with the group who they have found and what their story was. In plenary, the group reflect on the alternatives of buying new: What are the differences between buying a new item rather than repairing or upcycling an old one, or buying second-hand? What are the respective impacts on the environment? They can also discuss the following question: Many people believe it does not make a difference if they buy new or not. What do you think about that statement?

Additional Remarks	**Step 2**: To encourage the participants to speak to a variety of people, the number of times the participants are allowed to write down the same person's name can be restricted (to e.g., 2 or 3 times, depending on the group size). To fulfil the task as a "homework" widens the opportunities to find people who meet the criteria.
Online Implementation	Even though mingling exercises are difficult to implement online, it is possible to do this activity via Zoom by creating ten breakout rooms and allowing learners to choose rooms themselves rather than assigning them (for instructions on how to do this, see "Options for breakout rooms" https://support.zoom.us/hc/en-us/articles/206476313-Managing-Breakout-Rooms). Half of the participants can be assigned to stay in their room, while the other half switches every time. This way, the learners can speak to different participants one-on-one/in small groups.
Further reading	Astoul, Eva (2020): How Second-Hand Shopping Can Save the Planet. Last retrieved 21.04.2021, https://greenwithless.com/second-hand-shopping-planet/

Find someone who…

	Name	Extra information
… has repaired, upcycled, or purchased a shirt second-hand.		
… has repaired, upcycled, or purchased a pair of jeans second-hand.		
… has repaired, upcycled, or purchased shoes second-hand.		
… has repaired, upcycled, or purchased a piece of furniture second-hand.		
… has repaired, upcycled, or purchased a coat second-hand.		
… has repaired, upcycled, or purchased sports equipment second-hand.		
… has repaired, upcycled, or purchased a phone second-hand.		
… has repaired, upcycled, or purchased a monitor second-hand.		

… has repaired, upcycled, or purchased _____.		
… has repaired, upcycled, or purchased _____.		

References

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