

GLU 1.2 Food waste

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COUNTRY	Malta
AGE GROUP	8 - 11 years
SUBJECTS	English science social studies
DURATION	2 lessons (60 minutes each) + extra time for hands-on activities
TOPICS	<ul style="list-style-type: none"> ▪ Food waste ▪ Sustainable use of resources ▪ Composting ▪ Ecosystems
SDGs	SDG 2: Zero hunger SDG 12: Sustainable consumption and production SDG 13: Climate action

Competences required

- Communication skills and knowledge of English
- Social and civic skills
- A sense of initiative
- The ability to work in groups

Learning objectives

- To create awareness about food waste: how it happens, how it could be avoided, and why it is important for a sustainable future.
- To show that some parts of food we usually throw away could also be eaten.
- To launch a composting project.
- To avoid disposable packaging.

Materials and equipment

- Interactive whiteboard, or any other video / photo-screening equipment
- Videos
- Material to create posters/charts (e.g. flipchart sheets, crayons)
- Compost bin
- Plastic bag containing a carrot, part of a broccoli, an apple, a potato and a banana
- Fruit/vegetable peeler(s) and/or knife (**strictly to be handled by the teacher only**).
- Compostable food scraps, which students are asked in advance to bring from home (they can be collected in the days before the activity and then be brought to school at the day of the activity). Students should be asked to conduct research (internet, ask family,



friends) about which food waste could be composted. The teacher could also provide the students with one or more pictures about composting.

Teaching tools

- Video clips: *The Food Waste Education Solution* | *Wastebuster Investigates Food Waste*
- Pictures about composting

Questions to discuss

- What type of food do you bring with you to school?
- Do you usually eat all of your lunch?
- What do you do with the food you don't eat?
- How is food wasted in school, at home and in other places?
- How could we reduce food waste?
- What is the meaning of expiry dates?
- Which parts of fruit and vegetables are edible, and which are not?
- What is the function of a compost bin and the compost itself?
- Why is disposable packaging an environmental problem?

Evaluation tools suggested

- **Homework** (essay): What could you and your family do to reduce food waste?
- **Homework**: to design (using drawing, collage, computer or other means) a poster about how to reduce food waste.
- **Class discussion**: Name what you have learnt about food waste which you found most interesting during today's lesson.
- **Homework** (essay): Describe the life of an apple, from tree to compost.
- **Homework**: to design (using drawing, collage, computer or other means) a poster about what could be composted and how.
- **Class discussion**: Name what you have learnt about food waste and composting which you found most interesting during today's lesson.

GLU 1.2 Lesson plans

GLU 1.2 Lesson Plan 1 (60 minutes)

Learning objectives

- To explore the wide range of eating customs that exist, with a focus on breakfast.
- To learn how to follow a recipe.
- How to spot similarities and differences.



- To develop an inquisitive mind and welcoming new experiences offered by different cultures.

Materials and equipment

- Interactive whiteboard or video / photo screening equipment.
- Videos
- Material for creating posters/charts (e.g. flipchart sheets, crayons).

Teaching tools

- Video clips: *The Food Waste Education Solution* | *Wastebuster Investigates Food Waste*

Questions to discuss

- What lunch do you bring with you to school?
- Do you usually eat all of your lunch?
- What do you do with the food you don't eat?
- In which ways is food wasted in school, at home and in other places?
- How could we reduce food waste?
- What is the meaning of expiry dates?

Suggested evaluation tools

- **Homework (essay):** What can you and your family do to reduce food waste?
- **Homework:** To design (using drawing, collage, computer or other means) a poster that informs viewers about how they can reduce food waste.
- **Class discussion:** Name what you have learnt about food waste which you found most interesting during today's lesson.

Activities

Time	Activity description
10 minutes	<p><u>Class discussion:</u></p> <ul style="list-style-type: none"> ▪ What type of food do you usually bring with you to school? ▪ Do you usually eat all of your lunch? If not, what are the reasons? ▪ What do you do with the food you don't eat? <p>Students are then invited to design a questionnaire about lunches brought to school. As a project, the questionnaire will be distributed to all school students; the data could then be collected and analysed, and the findings could be presented during a public address.</p>
10 minutes	In groups, students think of ways as to how food gets wasted: at home, at school, and in other places. Results of the discussion are reported to the class.



7 minutes	First screening of the clip entitled, <i>The Food Waste Education Solution</i> . In groups, the students try to identify the main points emphasised in the video.
5 minutes	Second screening of the above-mentioned clip until 1:22. The teacher asks the questions, to which the students must give 'true/false' answers: <ul style="list-style-type: none"> - People eat fruit and vegetables, no matter the appearance. - We waste or throw away 40% of our food. - People believe that food is cheap, so they buy too much of it. - Portion sizes are too small.
5 minutes	<u>Question:</u> What can we do? Watch second part of clip for the second time (could be stopped at 2:03). Groups are given a few minutes to try to remember all the tips given. Points are awarded to the group with the most correct answers.
5 minutes	<u>Question:</u> In what other ways could we reduce food waste? Pupils try to think of other ideas, and then watch the clip, <i>Wastebuster Investigates Food Waste</i> . The main ideas are discussed, with the keywords being written on the board.
5 minutes	<u>Discussion:</u> What is the meaning of expiry dates? Food does not expire on the expiry date indicate on the label but a couple of days later. <u>Exercise:</u> How could you tell that food is not good anymore? Give some examples, such as: smelling the food, checking for mould, tasting a little bit to see if it is still good to eat.
3 minutes	<u>Question:</u> Is it only food we are wasting when we throw away food? (The discussion should bring out the point that we are also wasting water used in food production, and fuel used to transport food.)
10 minutes	<u>Conclusion:</u> Posters are produced in groups, with pictures and slogans, in order to make the rest of the school aware of food waste.

GLU 1.2

Lesson Plan 2

(60 minutes + extra time for additional activity)

Learning objectives

To become aware that:

- some parts of food that we usually throw away could also be eaten;



- what cannot be eaten and raw fruit and vegetables could be turned into compost;
- disposable packaging should be avoided.

Materials and equipment

- Interactive whiteboard or video / photo screening equipment
- Videos
- Compost bin
- Plastic bag containing a carrot, a piece of broccoli, a celery stick, an apple, a potato and a banana
- Fruit/vegetable peeler(s) and/or knife (**strictly to be handled by the teacher only**).
- Compostable food scraps – the teacher will request the students in advance to bring from home (they could be collected in the days before the activity and then be brought to school at the day of the activity). Students should be asked to conduct research (internet, ask family, friends) concerning which food waste can be composted. The teacher can also provide the students with one or more the pictures.

Teaching tools

- Pictures about composting

Questions to discuss

- Which parts of fruit and vegetables are edible, and which are not?
- What is the function of a compost bin and the compost itself?
- Why is disposable packaging an environmental problem?

Suggested evaluation tools

- **Homework** (essay): Describe the life of an apple, from tree to compost.
- **Homework**: to design (using drawing, collage, computer or other means) a poster about what could be composted and how.
- **Class discussion**: Name what you have you found most interesting about food waste and composting from what you've learnt during today's lesson.

Activities

Time	Activity description	Additional tips
10 minutes	<p><u>Introduction:</u></p> <p>Show a plastic bag containing a carrot, a piece of broccoli, a stick of celery, an apple, a potato and a banana.</p> <p>One by one, discuss which parts of the above fruit and vegetables could be eaten, and which parts are to be thrown away. This should be a hands-on activity with teacher and/or students peeling the items, or preparing them for cooking or consumption. As a follow up, the students could create labels distinguishing between bulbs, tubers, roots and fruit. Secondly,</p>	<p><u>Optional:</u></p> <p>There could be a further investigation entailing the students' growing their own crops from leftovers – carrot tops could be sown to grow new carrots; potato shoots could be broken off the vegetable and re-sown;</p>



	they could create labels identifying which section of the fruit or vegetable comprises the main edible part, e.g.: broccoli → florets / blossom; carrot → root; celery → stem and leaves, and so on.	similarly, the inner seed pulp of tomatoes, which is often discarded. The students could be encouraged to take the initiative to grow and consume home produce, where possible, thus contributing towards reducing food miles on some of the fruit and vegetables they consume.
10 minutes	This activity involves a pile of edible food and a pile of waste. Teacher shows that the pile of 'waste' is relatively large. <u>Question:</u> Should we throw it away? Is there a solution?	<u>Optional:</u> The students could carry out some class/lab research on the benefits of composting food scraps.
10 minutes	<u>Discussion:</u> The students should become aware that: <ul style="list-style-type: none"> ▪ Carrots don't need to be peeled, while the leafy tops of carrots could be used in salads if fresh – otherwise they could be given to pets, such as rabbits or guinea pigs. ▪ Broccoli stems could be eaten as well; if tough, they could be used in soups, as stock. ▪ Apples don't need to be peeled, and the core (which we often throw away) still contains lots of edible parts. ▪ Potatoes don't need to be peeled. They could be scrubbed well and then cooked and eaten with the peel on.¹ ▪ What about banana peel? 	
5 minutes	The teacher points back at the fruit and vegetables, and shows that nothing will be thrown away. Parts will be eaten, whereas others will be composted. The teacher then points out that there is something left: the plastic bag , and proceeds to explain that disposable packaging is a huge environmental problem and that packed lunches should be brought to school in reusable containers, rather than disposable bags. The children are given the task to notice and list how much disposable packaging is thrown away in their households during one week. This could lead to further activities about waste management.	

¹ Vitamins and other important nutrients in fruits and vegetables that have an edible peel are directly under the peel. For instance, the peel of apples and pears has seven times as many vitamins as the pulp. Therefore, removing the peel means that the healthiest parts are being discarded.

25 minutes	<p><u>Hands-on activity:</u></p> <p>For this activity, the children will bring food scraps from home to make compost. These are then being composted in the school's compost bin. During the activity, the teacher discusses with the students the benefits of composting, such as:</p> <ul style="list-style-type: none"> ▪ It could be used as fertiliser ▪ It improves the soil (builds up nutrients) ▪ It is good for the environment (doesn't pollute the water and doesn't harm insects and other animals living in the soil, as chemical fertiliser does). <p>The teacher should also encourage the students to set up a compost bin at home (if they have room for it).</p>	

