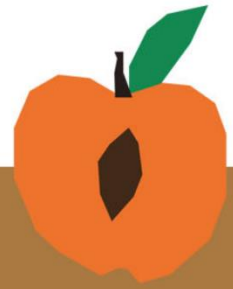


# FOODSHIFT

## Pathways



## Activity 3.6

# Initial Open Learning Scenarios

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**FOODSHIFT**  
Pathways

### A3.6 Initial Open Learning Scenarios

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# 1. Rationale

The main goal of the Open Learning Scenarios (OLS) is to guide teachers to extensively address different topics related with the sustainability of food systems. With the OLS, we move from a unidirectional, passive, teaching-learning approach, to a multidimensional construction of knowledge, where observation and questioning are the starting point.

With OLS, students are the center of the learning process, having an active role in building their own knowledge, not only within the school community, but also by developing collaborations outside the school with the surrounding community, through the engagement of diverse societal actors. In addition to this open schooling approach, OLS also follow the living-lab methodology, adapted to the different context of schools and school communities, where students are at the same level of involvement as societal actors, becoming all together co-creators in real-life scenarios, contributing to the resolution of food system related problems that affect the whole community.

# 2. Development protocol

The overall goal of this process was that the partners would design 10 Open Learning Scenarios (60 in total) from each interactive video (6 in total), that would be later the basis for the implementation in a classroom setting for teachers participating in the planned FoodSHIFT Pathways project evaluations.

## 2.1 Planning

From the moment the storyboard for each video was written, the 10 associated OLS began to be planned in each of the participating countries, following the principle of the preferred pedagogical design that are fully developed in the report *A2.4; Pedagogical Design*, by the respective partners, at the same time as the video was produced. The first step in designing the OLS was to organize a unilateral brainstorming session between *Ciência Viva* and each of the partners, about the subject of each video. In this way, topics summarizing the video contents were identified in a collaborative way. From each of these topics, one or more OLS were developed. Given that the project's target audience are students aged 10 to 16 years old, for some of the identified topics it was decided to develop more than one OLS, distinguishing one another through the complexity of the tasks, the autonomy of the students and/or the level of involvement of the social actors. This distinction led to the development

## A3.6 Initial Open Learning Scenarios

of OLS for two different age groups: students aged 10 to 12 and students aged 13 to 16 years old.

In order to promote homogenous formatting across the project, Ciência Viva created a structured template, common to all OLS. The template included all the key information facilitating the OLS implementation by teachers, including detailed content information, and a step-by-step guide, about the OLS execution in the context of schools and surrounding communities.

## 2.2 Dissemination potential

The 60 developed OLS are already written in English, to promote cross-country accessibility for all the partners. From this work base, each partner is going to translate the OLS into their native language: Portuguese, Spanish, Dutch, Danish, Swedish and Greek.

The Open Learning Scenarios are going to be uploaded on different websites and platforms, to ensure that their dissemination among school communities throughout Europe is maximized. Besides the official website (<https://foodshift-pathways.eu/>), other platforms of dissemination include School of the Future (<https://www.schoolofthefuture.eu/>) and Sustainable Food Systems Network ([sustainable-food-systems-network.mobilize.io](https://sustainable-food-systems-network.mobilize.io)).

# 3. The OLS template

The Open Learning Scenarios (OLS) template was structured into two large sections. One of the sections - Support information - gives immediate information about the characteristics of the OLS, from the theme, through the target audience, to the best way to implement it. The other section - Main contents - has the content of the OLS itself, with all the detailed steps necessary for its implementation.

## 3.1 Support information

**Aims:** A list of the main goals to be achieved with the OLS.

**Sustainability competences:** A list of the key competences in sustainability (identified in WP2.3).

**Societal actors:** A list of the different school and community members engaged in the OLS.

**Key words:** A list of words that facilitate a quick understanding of the topics covered by the OLS.

**Age range:** The target student audience of the OLS, ranging from 10 to 16 years old.

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**Subjects:** School disciplines addressed in the OLS, in connection to the country context.

**Topics:** School topics, within each subject, addressed in the OLS, in connection to the country context.

**Set up:** The list of locations and the necessary arrangements of each location where the different tasks of the OLS are going to take place.

**Materials:** List of materials to be used during the implementation of the OLS.

## 3.2 Main contents

**Introduction:** Contextualization of the OLS starting from the general topic of food systems to the specific topic covered in the OLS.

**The issue:** A list of steps that help the teacher to trigger discussion and reflection on the food system topic. These steps include watching the video associated with the OLS and identifying the problem(s)/dilemma(s) issued in the video.

**Into the community:** A list of steps that take students out of the classroom context into the school and/or local community: school, neighborhood, food markets, restaurants, companies, research centers, etc. Here the students' interaction with one or more social actors begins.

**The co-creation process:** Detailed work methodology that places students side by side with one or more social actors (including families and the school community) to reflect, discuss and plan solutions that contribute to the resolution of the identified problem(s)/dilemma(s) linked to food systems.

**The (suggested) solution:** Proposed solution to the identified problem(s)/dilemma(s), through the development of structures, products, services or campaigns aimed at different sectors of the community, and previously tested by the targeted audience.

## 4. OLS in a nutshell

A summary of the 60 OLS is presented in the table below. The OLS are associated with the respective interactive video, produced in each partner country. For each OLS, the title, keywords and societal actors that can be involved in the learning process, are presented.

Video	Title	Keywords	Societal actors
Portugal “More knowledge, better food choices”	Eat local	Carbon footprint, food geographical origin, local produce, food availability	Families, Visitors of the local market, Representatives of the local community
	Go local	Carbon footprint, food geographical origin, local produce	Produce sellers, Food producers, Food distributors, Companies related with distribution and sale of food
	Say yes to seasonal food	Seasonal food, nature’s cycles, health and environmental benefits, food diversity	Families, Farmer and owners of grocery stores, Nutritionists, School community
	Blind tasting contest	Health and environmental benefits, food diversity	Families, Farmer, Nutritionist, School community
	The plants we (do not) eat	Edible plants, food diversity, plant diversity	Plant producer, Researcher, Canteen staff, School community
	Greener plates for the futures	Plants, healthy diet, environmental benefits, food diversity	Families, Local chef, Nutritionist, School community
	2 m <sup>2</sup> full of biodiversity	Biodiversity, food diversity, vegetable garden	Plant nursery staff, Researchers, Families, School community
	Regional products: a tasty way towards sustainability	Regional products, social and environmental benefits, food diversity, culinary traditions	Families, Farmers and small enterprises, School community
	Try Mediterranean... let's eat together	Mediterranean diet, health and environmental benefits, food diversity	Families, Nutritionist, School community (students, teachers and school canteen catering)
	Towards the opinion of your community	Sustainability, food habits, community choices	Families, Sustainability experts, School community

Video	Title	Keywords	Societal actors
Netherlands “Land Use for Sustainable Food Production”	Digital tools for exploring land use	Digital tools, land use, sustainable food production, urban farming, permaculture	Urban developers, Local authorities, Community members, Land use planners
	School food garden	Sustainable food production, farming practices, local farmers, organic farming, school garden, soil health, biodiversity, sustainable food fair	Local farmers, Organic farms, Farmers' market vendors, School garden coordinators
	Sustainable land use for agriculture	Land use, agriculture, urban development, conservation, sustainability	Farmers/Food producers, School community, Conservation researcher, Urban developers, Local authorities
	Exploring animal vs plant-based diets	Plant-based diet, animal-based diet, environmental footprint, nutrition, food products, food preferences	Nutritionists, Chefs, Supermarkets, Grocery stores, School community
	Digital tools for agriculture	Land use, digital tools, sustainable food production	Urban Planners, Environmental Researchers, Geospatial Analysts, Community Members
	The protein transition menu	Protein transition, alternative protein sources, environmental impact, nutrition, taste-testing, sustainable menu	Nutritionists, Parents, Environmental Organizations, Insect farms, Local food producers

## A3.6 Initial Open Learning Scenarios

	A class cookbook	Sustainable food production, farming practices, environmental impact, food waste	Local farmers, Environmental organizations, Community garden coordinators
	Land use for food production	Land use, agriculture, sustainability	School community, Families, Farmer/food producer, Local authorities
	Exploring plant-based diets	Plant-based food, animal-based food, sustainability	Nutritionists Parents, Local Supermarkets, Environmental Organization
	Meatless Monday	Protein transition, alternative protein sources, environmental impact, nutrition	Local farmers, Environmental organizations, Community garden coordinators

Video	Title	Keywords	Societal actors
Denmark “Sustainable food systems for the new generation”	The impact of food transportation	Carbon emissions, carbon footprint, food geographical origin, organic produce	Families, Market consumers, School community
	Organic products: where are you?	Carbon footprint, local produce, organic products	Local sellers of organic food, Researchers
	To eat or not to eat organic?	Organic/biological foods, benefits for health, environment	Families, Organic food farmers, School or health centre nutritionist, School community
	From good food to great health	Environment, food health benefits, organic food, seasonal food	Families, School or health centre nutritionist, School community
	What is involved in food transportation?	Food geographical origin, food transportation, food treatments, packaging	School community, Producers, Distributors, Representatives of agencies linked to the Ministry of Agriculture
	Animal welfare in meat production	Animal welfare, meat production, sustainable animal production	School community, Local community, Families, Meat producers, Representatives of supervisory entities
	Meatless Monday	Global movement, awareness	Local restaurants and food suppliers, School community (Director, Canteen catering, teachers, and students), Families
	Gastronomic week	Plant-based food; cultural food, local products; health; environment	Local restaurants, School community, Local community, Families
	Zero waste with a real impact	Food waste, zero waste, sustainable consumption	Families, Zero waste restaurant, School community
	Plant-based meals on trial	Food recipes, plants, plant-based meals, protein sources	School community, Canteen staff, Families

Video	Title	Keywords	Societal actors
Spain “Food Waste”	EcoTempe: Learning to Transform Leftovers into Superfood	Responsible consumption, Meal planning	Teacher, facilitator or workshop leader, Fathers, mothers, Host organisation, Food waste organisations or experts, Tempe organisations or experts, Support staff
	Imperfect food - Beauty in diversity	Ugly food, eat imperfect	School administrators, students, local farmer, school cafeteria administrators
	Eco-heroes in training - the compost crew	Composting	Abono KMO (Vermicompost association), Tarpuna
	Bio-Wizard Lab - Became a wizard of nature	Biomaterials, Organic food scraps	Biomaterial designers, Biomaterial experts, Local and school community
	Eco-cleaners - Take care of the planet while you clean	Multi-purpose cleaner, Homemade, Non-toxic products, Circular economy, Family wellness	Local restaurants, School kitchen



## A3.6 Initial Open Learning Scenarios

	Food Waste Awareness Campaign	Responsible consumption, Food reuse, Food donation, Meal planning	Organisations in the sector (local supermarkets, restaurants, or community groups)
	Embracing the imperfect food	Waste reduction	Organisations from the sector (local cooperatives or markets), Les Espigoladors
	Warms to combat food waste (We nourish the soil)	Vermicomposting, Greenmakers, Ecotech, Ecocrafters, Tech and grow, Green tech explorers	Professors from the schools in Barcelona, Fab Lab Barcelona
	Making with biomaterials	Biomaterials, maker space, digital fabrication	Fab Lab / Ateneus de Fabricació - Ajuntament de Barcelona, Local and school community, Biomaterials Experts
	Make candles reusing kitchen oil	Organic Waste, Recycling / Upcycling / Reuse, Sustainability, Environmental awareness, DIY	Local restaurants, Local supermarkets, Family and close environment, School canteen

Video	Title	Keywords	Societal actors
Sweden “Food advertisements”	Raising awareness about digital food advertisement	Digital food advertisements, food choices, digital marketing, nutritional requirements	Physicians/nutritionists, Families, School community, Local authorities
	Exploring supermarket strategies to promote foods	Food marketing, food choices, food promotion strategies, dietary recommendations	Supermarket employees, School community
	Food advertisements across different neighbourhoods	Food advertisements, marketing, food environment	School community, Local politicians, Producers
	Critically exploring supermarket circulars	Food marketing, food choices, food offers, dietary recommendations	Food companies, School community, Families
	Raising awareness about outdoor food advertisement	Food advertisements, food choices, marketing, nutritional requirements	Physicians/nutritionists, Families, School community, Local authorities
	Food advertisements on social media	Digital food advertisements, food choices, digital marketing	Families, School community
	Exploring supermarket strategies to promote food	Food marketing, food choices, food promotion strategies, dietary recommendations	Supermarkets employees, School community, Researcher
	Food advertisement in different neighbourhoods	Food advertisements, food choices, marketing, food environment	Physicians/nutritionists, School community
	Exploring supermarket circulars	Food marketing, food choices, food offers, dietary recommendations	Families, School community
	Food advertisement around us	Food advertisements, food choices, marketing	Families, School community, Local authorities

Video	Title	Keywords	Societal actors
Greece	Let's take care of honeybees!	bees, honeybees, pollinators, biodiversity	Honey producers NGO about bees' protection
	Honey and honey products in our daily lives!	Olives, olive oil	Families Honey producer/beekeeper School community (students, teachers)
	Let's include olive oil in our nutrition!	Olives, olive oil	Families Olive tree producer, oil mill owner Nutritionist School community (students, teachers)

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Olive oil production & waste management	Olives, olive oil	Families Olive tree producer, oil mill owner School community (students, teachers)
Green school...turning cooked olive oil into biodiesel	Olives, olive oil, biodiesel	Families Olive tree producer, oil mill owner Local restaurants School community (students, teachers)
Handmade soap from cooked oil	Olives, olive oil, biodiesel	Families Olive tree producer, oil mill owner Local restaurants School community (students, teachers)
Cooking with Myrtis	Mediterranean diet, health and environmental benefits, food diversity, local products	Families Nutritionist School community (students, teachers and school canteen catering)
A daily meal in Ancient Greece and ...now	Mediterranean diet, health and environmental benefits, food diversity	Families Nutritionist School community (students, teachers and school canteen catering)
The wealth of my region	Mediterranean diet, health and environmental benefits, food local products	Families Nutritionist Food sellers in local open markets School community (students, teachers and school canteen catering)
From school garden to fork!	Plants, environmental benefits, food waste, permaculture	Local farmers Community garden coordinators Municipality

# Appendix

## The 60 Open Learning Scenarios



## DIGITAL TOOLS FOR EXPLORING LAND USE

### INTRODUCTION

With modern digital tools, like satellite and GPS, we can create detailed models of the land and its various uses. It is even possible to predict what will happen if we change the use of the land, so we can use this to design a more sustainable future.

In this activity, students will uncover the fascinating connections between land use and sustainable food production. Through the use of cutting-edge digital tools and platforms, students will analyze land use patterns and explore potential solutions for sustainable food production. By interacting with urban developers, local authorities, and community members, students will dive into the co-creation process of designing digital tools that empower individuals to make informed decisions about land use. Get ready for an exciting journey at the intersection of technology and sustainability!

### THE ISSUE

1. Watch the video “Land Use for Sustainable Food Production” as an introduction to the topic. (Susmetro interactive video for FS Pathways)
2. Introduce the concept of land use and its connection to sustainable food production.
3. Explore digital tools and platforms that provide information on land use and its impact on the environment.
4. Research and compare different types of land use for food production, such as conventional agriculture, urban farming, or permaculture.

### INTO THE COMMUNITY

5. Invite a food producer or a local urban developer or planner to discuss land use and its implications for sustainable food production.

### AIMS

- Understand the concept of land use and its significance for sustainable food production.
- Explore and utilize digital tools for analyzing and evaluating land use patterns.
- Collaborate on designing a digital tool or app prototype for sustainable land use decision-making.
- Communicate findings and recommendations to relevant stakeholders.

### SUSTAINABILITY COMPETENCES

- Valuing the environment
- Critical thinking
- Innovative problem solving
- Experimenting & testing
- Envisioning future scenarios

### SOCIETAL ACTORS

- Urban developers
- Local authorities
- Community members
- Land use planners

### KEYWORDS

Digital tools, land use, sustainable food production, urban farming, permaculture

6. Use digital tools to analyze and compare land use patterns in the local area and identify potential areas for urban farming or green spaces.
7. Conduct interviews or surveys with local authorities or community members involved in land use planning.

### THE CO-CREATION PROCESS

8. Divide students into groups and assign each group a specific type of land use for food production to research and present to the class.
9. Design a digital tool or app prototype that helps individuals make sustainable land use choices for food production. Include previous involved stakeholders in the process.
10. Create a presentation or infographic showcasing the benefits of sustainable land use for food production.

### THE (SUGGESTED) SOLUTION

11. Present the group projects and the digital tool/app prototypes to the class and school community.
12. Share the findings and recommendations with local authorities or urban development organizations.
13. Reflect on the impact of the activities and discuss ways to continue promoting sustainable land use practices.

### AGE RANGE

13-16 years old

### SUBJECTS

Geography, Technology, Citizenship, Science

### TOPICS

#### Geography:

Land use planning, Geographic Information Systems (GIS), Environmental Impact Assessment

#### Technology:

Digital Mapping and Data Analysis, Web Development and Design

#### Citizenship / Civic participation

Sustainable development

#### Science:

Environmental Science, Remote Sensing, Sustainable Land Management

### SETUP

Almost all of the activity will happen inside the classroom, but students are encouraged to visit societal actors and engage with them. If possible, these societal actors are involved in both the research and the development and presentation of the outcome.

### MATERIALS

- Digital tools/platforms, like Google Maps, Google Earth and Maptitude
- Research materials
- Guest speaker arrangements
- Interview/survey materials
- Digital design tools



## SCHOOL FOOD GARDEN

### INTRODUCTION

Did you know it is very easy to grow your own food? Locally grown vegetables have the lowest environmental impact of all food products. All you need is some land, time and a little bit of care.

In this activity, students will delve into the fascinating world of sustainable food production. They will explore the vital role land use plays in the production of food and its impact on the environment. Through hands-on research, field trips, and engaging discussions, students will gain a deeper understanding of the complex challenges and innovative solutions in sustainable food production. By collaborating with experts and the local community, students will have the opportunity to contribute to the development of sustainable practices that can make a difference in their own lives and beyond.

### THE ISSUE

1. Introduce the concept of sustainable food production through a class discussion.
2. Watch the video "Land Use for Sustainable Food Production" as an introduction to the topic. (Susmetro interactive video for FS Pathways)
3. Discuss with the students which crops are being produced in the area.
4. Conduct a research task to explore different sustainable food production methods and their benefits.

### INTO THE COMMUNITY

5. Invite a local farmer or representative from an organic farm to speak to the class about sustainable farming techniques.

### AIMS

- Understand the concept of sustainable food production and its impact on the environment.
- Explore different methods of sustainable farming and their benefits.
- Collaborate and co-create sustainable food production plans and strategies.
- Present findings and engage with the community to promote sustainable food practices.

### SUSTAINABILITY COMPETENCES

- Valuing the environment
- Critical thinking
- Conceptualizing
- Developing creative solutions
- Envisioning future scenarios

### SOCIETAL ACTORS

- Local farmers
- Organic farms
- Farmers' market vendors
- Landscape architects
- School board
- School garden coordinators

6. Organize a field trip to a local farm to observe sustainable food production practices firsthand.
7. Interview a local food producer or visit a farmers' market to learn about local and seasonal food options.
8. Let the students find 'natural areas' in the countryside and observe birds and plants.

### THE CO-CREATION PROCESS

9. Divide students into groups and assign each group a specific sustainable farming method to research and present to the class.
10. In groups, design a sustainable food production plan for a hypothetical school garden, considering factors such as crop selection, composting, and water conservation. Invite a representative of the school board, a landscape architect and a food producer to provide insights and feedback.
11. Conduct an experiment or create a model to explore the impact of different farming techniques on soil health and biodiversity.

### THE (SUGGESTED) SOLUTION

12. Present the group projects to the class, showcasing their sustainable food production plans and strategies.
13. Organize a "Sustainable Food Fair" where students present their findings and engage with the school community and parents.
14. If possible, build one of the plans on the school premises and set up a schedule for garden maintenance.
15. Reflect on the entire project and discuss the importance of sustainable food production for a healthy environment and future generations.

### KEYWORDS

Sustainable food production, farming practices, local farmers, organic farming, school garden, soil health, biodiversity, sustainable food fair

### AGE RANGE

13-16 years old

### SUBJECTS

Science, Geography, Technology, Citizenship

### TOPICS

#### Science:

Food Production Systems, Environmental Sustainability, Climate Change and Agriculture

#### Geography:

Sustainable Agriculture, Land Use, Food Security

#### Citizenship:

Food Waste Management, Sustainable Cooking and Meal Planning

### SETUP

Part of the activity will happen inside the classroom and other parts will be done outside, in the area of the school. Students are encouraged to visit societal actors and engage with them. If possible, these societal actors are involved in both the research and the development and presentation of the outcome.

### MATERIALS

- Videos/documentaries on sustainable farming
- Research materials
- Interview questions
- Field trip arrangements
- Experiment materials
- Presentation materials



## SUSTAINABLE LAND USE FOR AGRICULTURE

### INTRODUCTION

Did you know that meat production has an 8-10 larger ecological footprint, compared to plant-based products? And did you know that large amounts of grain and soy that are being produced is only for the purpose of meat production? This means that large portions of our agricultural land are dedicated to producing feed for animals. Cutting down on meat consumption would allow to cut down on agricultural intensive land use – offering new space for growing vegetables and fruits.

In this Open Learning Scenario, students will delve into the concept of land use and its impact on sustainable food production. They will examine different types of land use, explore their implications, and develop proposals for sustainable land use strategies.

### THE ISSUE

1. Watch the video "Land Use for Sustainable Food Production" as an introduction to the topic. (Susmetro interactive video for FS Pathways)
2. Initiate a class discussion about the importance of responsible land use in relation to food production and environmental sustainability.
3. Discuss with your students the perception they have about land use for sustainable food systems.
4. Tell your students that they are going to explore the possibilities for sustainable land use by analysing various land use practices.

### INTO THE COMMUNITY

5. Assign students to research and analyse various land use practices, such as monocropping, agroforestry or urban farming.
6. Discuss with your students the best methodology to explore the possibilities for sustainable land use in the area around the school.

### AIMS

- To explore the different types of land use in the area around the school
- To evaluate the impact of land use on sustainable food production and the environment
- To work together with societal actors in the development of sustainable land use proposals
- To raise awareness among the school community and local authorities on the possibilities of sustainable land use in the school area

### SUSTAINABILITY COMPETENCES

- Valuing the environment
- Critical thinking
- Conceptualizing
- Experimenting & testing
- Envisioning future scenarios

### SOCIETAL ACTORS

- Farmers/Food producers
- School community
- Conservation researcher
- Urban developers
- Local authorities



One possible methodology would be:

- Divide students into groups
  - Define an area around school (e.g. within a radius of 10 km)
  - Allocate to each group a sub-area within the defined area
  - Ask each group of students to document the types of land use they find in their assigned area
7. Facilitate a group activity where students create visual representations or models to showcase the different land use practices and their impacts.
  8. Encourage students to present their findings and engage in a class discussion to compare and contrast the different land use types.
  9. Discuss with students which societal actors can help them to discuss the issue of sustainable land use.
  10. If possible, visit or invite some of the societal actors to participate in a conversation about the possibilities and difficulties around sustainable land use.

### THE CO-CREATION PROCESS

11. Guide students in collaboratively developing proposals for sustainable land use strategies that balance the needs of food production, urban development, and conservation.
12. Instruct students to create visual representations, such as posters or digital presentations, showcasing the proposed land use strategies.
13. Organise a class exhibition or presentation where students share their proposals and discuss the potential benefits and challenges of implementing sustainable land use practices. Organize the event to take place in the school space, guaranteeing it is an informal moment where the students have the same voice as any other participant.

### THE (SUGGESTED) SOLUTION

14. A prototype for the solutions can be a digital infographic with the suggested solution of sustainable land use in the area.
15. Help students developing the infographics and test it with representatives of the target audience - farmers, urban developers, local authorities - to find out if the prototype needs to be changed or improved (eg. more data, more visual support, etc.).
16. After developing the final version of the infographics, share it with the families and the rest of the school community.
17. If possible, take your students (or class representatives) to a public exhibition to share the infographics with the societal actors.

### KEYWORDS

Land use, agriculture, urban development, conservation, sustainability

### AGE RANGE

13-16 years old

### SUBJECTS

Geography

### TOPICS

#### Geography:

Land Use, Sustainable Agriculture, Food Security

### SETUP

Part of the activity will happen inside the classroom and other parts will be done outside, in the area of the school. Students are encouraged to visit societal actors and engage with them. If possible, these societal actors are involved in both the research and the presentation of the outcome.

### MATERIALS

- Access to relevant books, articles, and online resources.
- Printed map of the area to document land use
- Stationery items to be used for making the infographic



## EXPLORING ANIMAL VS PLANT-BASED DIETS

### INTRODUCTION

Did you know the environmental impact of the production of animal-based food is 8-10 times bigger than the production of plant-based foods? By switching meat products for plant-based alternatives, you can contribute to a healthier planet, but also your own health, as a plant-based diet lowers the risk of obesity, heart diseases and other diseases. Luckily, there are many delicious plant-based alternatives available, so you won't have to miss anything in your favourite meals. In this activity, students will explore the benefits and implications of different dietary choices. Through thought-provoking discussions, visits to local supermarkets, and engaging guest speakers, students will gain insights into the environmental, ethical, and health considerations of plant-based and animal-based diets. By collaborating with nutritionists, chefs, and the school community, students will work towards promoting awareness and understanding of the impact of dietary choices on our planet and personal well-being.

### THE ISSUE

1. Watch the video "Land Use for Sustainable Food Production" as an introduction to the topic. (Susmetro video for FS Pathways)
2. Initiate a class discussion on the differences between plant-based and animal-based food options.
3. Introduce the concept of the environmental footprint of different diets and the impact on natural resources.
4. Research and compare the health and environmental benefits of plant-based and animal-based diets.

### INTO THE COMMUNITY

5. Invite a guest speaker, such as a nutritionist or chef, to discuss the benefits of plant-based diets for health and the environment.
6. Visit a local supermarket or grocery store to identify and compare

### AIMS

- Understand the differences between plant-based and animal-based diets and their impact on health and the environment.
- Explore and evaluate plant-based food options and their benefits.
- Collaborate on organizing a Plant-Based Food Festival.
- Promote awareness and discussion on plant-based vs. animal-based food choices.

### SUSTAINABILITY COMPETENCES

- Valuing the environment
- Critical thinking
- Taking initiative
- Experimenting & testing

### SOCIETAL ACTORS

- Nutritionists
- Chefs
- Supermarkets
- Grocery stores
- School community

### KEYWORDS

Plant-based diet, animal-based diet, environmental footprint, nutrition, food products, food preferences

plant-based and animal-based food products.

7. Conduct a survey within the school community to gather opinions and preferences regarding plant-based and animal-based food.

### THE CO-CREATION PROCESS

8. Divide students into groups and assign each group a specific plant-based diet to research and present to the class.
9. Create a “Plant-Based Food Festival” with a variety of plant-based dishes from different cuisines. Include the previous guest speaker to help with the creation of the dishes.
10. Organize a debate or panel discussion on the topic of plant-based vs. animal-based diets, considering ethical, health, and environmental aspects.

### THE (SUGGESTED) SOLUTION

11. Present the group projects and the Plant-Based Food Festival to the class and school community.
12. Host the Plant-Based Food Festival, inviting parents and local community members to participate.
13. Reflect on the impact of the activities and discuss ways to continue promoting plant-based food choices.

### AGE RANGE

13-16 years old

### SUBJECTS

Biology, Health Education, Home Economics, Social Studies

### TOPICS

#### Biology:

Food Science and Technology, Environmental Impact of Agriculture,

#### Health Education:

Human Nutrition.

#### Social Studies:

Ethical Considerations in Food Choices, Global Food Systems.

#### Home Economics:

Cooking and Nutrition, Food Choices and Sustainability.

### SETUP

Part of the activity will happen inside the classroom and other parts will be done at supermarkets near the school or homes of the students. Students are encouraged to visit societal actors and engage with them. If possible, these societal actors are involved in both the research and the development and presentation of the outcome.

### MATERIALS

- Research materials,
- Guest speaker arrangements
- Supermarket visit arrangements
- Survey materials
- Festival planning materials



## DIGITAL TOOLS FOR AGRICULTURE

### INTRODUCTION

Before we had satellite images and drones, it was hard to see the impact of agriculture on the land. Now, we have digital tools that can make detailed models of the land and even predict what the future will look like if we continue with our current practice, but also what the impact would be if we decide to change our behaviour and start producing food in a more sustainable way.

In this assignment, students will delve into the fascinating connections between land use and its impact on our environment. Through the use of interactive digital tools and engaging activities, students will analyze land use patterns, investigate the benefits of sustainable farming methods, and develop innovative solutions for land use planning. By collaborating with experts and exploring their local surroundings, students will gain a deeper understanding of the importance of sustainable land use practices.

### THE ISSUE

1. Watch the video “Land Use for Sustainable Food Production” as an introduction to the topic. (Susmetro interactive video for FS Pathways)
2. Introduce the concept of land use and how it affects food production and our environment.
3. Discuss different types of land use, such as farms, gardens, and parks, and their purposes.
4. Learn about the importance of using land sustainably for future generations.

### INTO THE COMMUNITY

5. Use online tools to explore satellite images of your local area and identify different land uses (for example: Google Maps/Google Earth, drone images, ...).

### AIMS

- Understand the concept of land use and its importance for sustainable food production.
- Explore the use of digital tools in analyzing and visualizing land use patterns.
- Collaborate with peers to develop ideas and solutions for sustainable land use.
- Reflect on the significance of digital tools in understanding and addressing environmental challenges

### SUSTAINABILITY COMPETENCES

- Valuing the environment
- Critical thinking
- Conceptualizing
- Envisioning future scenarios

### SOCIETAL ACTORS

- Urban Planners
- Environmental Researchers
- Geospatial Analysts
- Community Members

### KEYWORDS

Land use, digital tools, sustainable food production

6. Interview a local farmer, gardener, or park ranger to learn about land use practices and their impact.
7. Create a simple digital map or drawing of your school or community area, highlighting different land uses.

### THE CO-CREATION PROCESS

8. Work in groups to design a sustainable garden or park layout using digital tools or drawings.
9. Present your sustainable garden or park designs to the class, explaining how they benefit the environment.
10. Engage in a class discussion about the challenges and opportunities of implementing sustainable land use.

### THE (SUGGESTED) SOLUTION

11. Reflect on the collective land use plans and discuss ways to apply sustainable practices in real-life scenarios.
12. Create a class presentation or infographic showcasing the group's findings and recommendations.
13. Share the presentation or infographic with the school community or local authorities to raise awareness about sustainable land use.

### AGE RANGE

10-12 years old

### SUBJECTS

Geography, Science, Technology.

### TOPICS

#### Geography:

Land use planning, Geographic Information Systems

#### Science:

Environmental Studies, Ecosystems

#### Technology:

Digital Mapping, Data Analysis

### SETUP

Part of the activity will be developed outside school, around school premises or at a nearby supermarket or farmer's market. The rest of the activity will be developed inside school. During the activity, students will share and discuss their findings with families. Students are encouraged to engage with experts and involve them in the development and presentation of their solutions.

### MATERIALS

- Digital devices (computers, tablets, or smartphones)
- Internet access
- Research materials



## THE PROTEIN TRANSITION MENU

### INTRODUCTION

A common misconception of plant-based diets is that it does not provide enough protein to keep us strong and healthy. However, there are many plant-based sources that contain plenty of protein, for example legumes and nuts. These sources provide plenty of variation to create delicious meals.

In this activity, students will explore the various sources of protein and their impact on our environment. Through interactive discussions, taste-testing sessions, and engaging visits to local food producers, students will discover alternative protein sources that have the potential to reshape our diets and reduce our ecological footprint. By working together and tapping into the expertise of nutritionists and local food providers, students will delve into the possibilities of transitioning to more sustainable protein choices.

### THE ISSUE

1. Watch the video “Land Use for Sustainable Food Production” as an introduction to the topic. (Susmetro video for FS Pathways)
2. Discuss the importance of protein in the diet and the environmental impact of different protein sources.
3. Watch videos or presentations about alternative protein sources such as plant-based proteins, insects, or lab-grown meat.
4. Research and compare the environmental footprint of traditional protein sources (e.g., beef, poultry) with alternative options.

### INTO THE COMMUNITY

5. Invite a nutritionist or dietician to talk about the nutritional value of various protein sources and their role in a balanced diet.
6. Visit a local food producer who specializes in producing alternative protein products (e.g., a plant-based food company or insect farm).

### AIMS

- Understand the environmental impact of different protein sources and the concept of protein transition.
- Explore and evaluate alternative protein sources and their nutritional value.
- Collaborate on creating a sustainable menu featuring alternative protein choices.
- Promote sustainable protein consumption within the school community.
- Materials: Videos/presentations on alternative proteins, research materials, taste-testing materials, campaign planning materials.

### SUSTAINABILITY COMPETENCES

- Valuing the environment
- Critical thinking
- Conceptualizing
- Experimenting & testing
- Taking initiative

### SOCIETAL ACTORS

- Nutritionists
- Parents
- Environmental Organizations
- Insect farms
- Local food producers

7. Conduct a taste-testing activity with different protein sources to explore the feasibility of incorporating them into daily meals.

### THE CO-CREATION PROCESS

Invite the stakeholders to be involved in the co-creation process, providing insight and feedback to the students, as well as inspiring them to try new things.

8. Divide students into groups and assign each group a specific alternative protein source to research and present to the class.
9. Create a “Protein Transition Menu” with a variety of dishes featuring alternative protein sources.
10. Plan a campaign or initiative to promote the consumption of sustainable protein choices among the school community.

### THE (SUGGESTED) SOLUTION

11. Present the group projects and the Protein Transition Menu to the class and school community.
12. Host a school-wide event (e.g., a “Sustainable Protein Day”) to showcase the campaign and the new menu options.
13. Reflect on the overall impact of the project and discuss ways to continue promoting sustainable protein choices.

### KEYWORDS

Protein transition, alternative protein sources, environmental impact, nutrition, taste-testing, sustainable menu

### AGE RANGE

13-16 years old

### SUBJECTS

Citizenship, Health Education, Science

### TOPICS

#### Citizenship / Civic participation:

Cooking with Plant-based Proteins, Meal Planning for Protein Transition

#### Health Education:

Balanced Diet and Nutrition, Healthy Eating Habits, Plant-based Diets

#### Science:

Nutrition and Health, Sustainable Food Systems, Environmental Impact of Agriculture

### SETUP

Part of the activity will happen inside the classroom and other parts will be done on location. Students are encouraged to visit societal actors and engage with them. If possible, these societal actors are involved in both the research and the development and presentation of the outcome.

### MATERIALS

- Videos/documentaries on sustainable farming
- Research materials
- Interview questions
- Field trip arrangements
- Experiment materials
- Presentation materials.





7. Plan and plant a small garden or herb pots in the classroom or schoolyard.
8. Work in groups to create posters or a short skit about sustainable food production to raise awareness among classmates and other students.
9. Organize a classroom taste test using locally grown or organic fruits and vegetables.
10. Collaborate on creating a class cookbook with sustainable recipes using locally sourced ingredients. Invite the canteen staff to participate and help develop recipes.

#### **THE (SUGGESTED) SOLUTION**

11. Present the posters or skits to the school community during an assembly or class exhibition.
12. Share the class cookbook with family and students of other classes during a festive reveal.
13. Reflect on the importance of sustainable food production and brainstorm ways to continue making a positive impact.

#### **AGE RANGE**

10-12 years old

#### **SUBJECTS**

Science, Geography, Environmental Studies.

#### **TOPICS**

##### **Science:**

Food production, Ecosystem

##### **Geography:**

Sustainable farming

##### **Environmental Studies:**

Food waste

#### **SETUP**

Part of the activity will be developed outside school, around school premises or at a nearby garden or farm. The rest of the activity will be developed inside school. During the activity, students will share and discuss their findings with families. Students are encouraged to engage with experts and involve them in the development and presentation of their solutions.

#### **MATERIALS**

- Research materials
- Field trip preparation
- (local) Food for tasting
- Presentation materials



## LAND USE FOR FOOD PRODUCTION

### INTRODUCTION

Did you know about 90% of the farmland is used for the production of animal-based food products? If we are smart about how we use the land, there can be more space for other practices, like recreational areas and nature.

This activity aims to introduce students to the concept of land use and its connection to sustainable food production. Through interactive discussions and hands-on activities, students will learn about different land uses and their impacts on the environment.

### THE ISSUE

1. Watch the video “Land Use for Sustainable Food Production” as an introduction to the topic. (Susmetro interactive video for FS Pathways)
2. Engage students in a class discussion about different types of land use and their importance for food production and other functions to the city area.
3. Tell your students that they are going to explore the different types of land use in the area around the school.

### INTO THE COMMUNITY

4. Organize a visit to a local farm or community garden where students can observe different land uses and interact with farmers.
5. Facilitate a guided tour or presentation where students learn about sustainable farming practices and their impact on land use.

### AIMS

- To explore the different types of land use in the area around the school
- To evaluate the impact of land use on sustainable food production and the environment
- To raise awareness among the school community and local authorities on the possibilities of sustainable land use in the school area

### SUSTAINABILITY COMPETENCES

- Valuing the environment
- Critical thinking
- Conceptualizing
- Experimenting & testing
- Envisioning future scenarios

### SOCIETAL ACTORS

- School community
- Families
- Farmer/food producer
- Local authorities

### KEYWORDS

Land use, agriculture, sustainability

## THE CO-CREATION PROCESS

6. Engage students in a group discussion with people from the farm to reflect on the importance of responsible land use in ensuring sustainable food production.
7. Develop an outdoor poster to place near the school garden to showcase their solutions and explain how they contribute to sustainable food production.

## THE (SUGGESTED) SOLUTION

8. Conduct an activity where students are given a plot of land and a few types of land use, and ask them to draw a new layout of the land, where they try to apply the output of the previous discussion. You can also give them materials like clay, 3D figures and photographs to visualize what the land should look like.
9. Share the outcomes within the school community.

## AGE RANGE

10-12 years old

## SUBJECTS

Geography

## TOPICS

Geography

Land use, Carbon Footprint

## SETUP

Part of the activity will be developed outside school, around school premises. The rest of the activity will be developed inside school. During the activity, students will share and discuss their findings with families.

## MATERIALS

- Printed map of the area to document land use
- Stationery items to be used for making the poster



## EXPLORING PLANT-BASED FOODS

### INTRODUCTION

Does a burger need to contain meat to be called a burger? Or is the name more dependent on other factors, like the combination with other ingredients, preparation and presentation? Can you think of other meals that are still the same if you would replace the meat with a plant-based alternative?

In this assignment, students will explore the benefits and considerations of plant-based and animal-based diets. Through interactive activities, discussions, and visits to local supermarkets, students will gain insights into the environmental, ethical, and health aspects of these choices. By collaborating with nutritionists, chefs, and the school community, students will work towards promoting awareness and understanding of the impact of dietary choices on personal well-being and the environment.

### THE ISSUE

1. Engage in a class discussion about plant-based and animal-based foods and their characteristics.
2. Watch the video “Land Use for Sustainable Food Production” as an introduction to the topic.(Susmetro video for FS Pathways)
3. Research and present the environmental impact of animal-based food production.
4. Explore the benefits of plant-based diets for personal health and the environment.
5. Conduct a taste test comparing plant-based and animal-based food options, discussing flavors and textures.

### AIMS

- Understand the differences between plant-based and animal-based foods and their impact on personal health and the environment.
- Explore the benefits of plant-based diets and their potential for sustainable food systems.
- Collaborate with peers to develop creative ideas for promoting plant-based food choices.
- Reflect on personal food choices and their influence on personal well-being and the environment.

### SUSTAINABILITY COMPETENCES

- Valuing the environment
- Critical thinking
- Experimenting & testing
- Developing creative solutions

### SOCIETAL ACTORS

- Nutritionists
- Parents
- Local Supermarkets
- Environmental Organizations

### KEYWORDS

Plant-based food, animal-based food, sustainability.

## INTO THE COMMUNITY

6. Invite a nutritionist or a parent to discuss the nutritional value and benefits of plant-based diets.
7. Visit a local supermarket to identify and analyze a variety of plant-based food products.

## THE CO-CREATION PROCESS

8. Collaborate in groups to design and prepare a plant-based meal, considering taste, nutrition, and sustainability. Work together with the nutritionist to provide feedback and information.
9. Present the group's meal to the class, highlighting the plant-based ingredients and their benefits.
10. Create a poster or brochure advocating for plant-based food choices and their positive impact on health and the environment.

## THE (SUGGESTED) SOLUTION

11. Display the posters or brochures in the school cafeteria or common areas to raise awareness among students.
12. Organize a "Plant-Based Food Fair" where students bring and share plant-based dishes.
13. Reflect on the experience and discuss ways to continue incorporating plant-based food choices in daily meals.

## AGE RANGE

10-12 years old

## SUBJECTS

Science, Social Studies, Citizenship.

## TOPICS

### Science:

Food Science and Technology,  
Human Nutrition

### Social Studies:

Ethical Considerations in Food  
Choices, Global Food Systems

### Citizenship:

Cooking and Nutrition, Food Choices  
and Sustainability

## SETUP

Part of the activity will be developed outside school, around school premises or at a nearby supermarket or farmer's market. The rest of the activity will be developed inside school. During the activity, students will share and discuss their findings with families. Students are encouraged to engage with experts and involve them in the development and presentation of their solutions.

## MATERIALS

- Research materials
- Guest speaker preparation
- Food samples for taste tests
- Presentation materials



## MEATLESS MONDAY

### INTRODUCTION

Did you know, that you can save up to 200 animals per year if you don't eat meat for one day per week? Luckily, there are many delicious plant-based alternatives, so you don't have to miss anything!

In this assignment, students will learn about different sources of protein and their impact on our health and the planet. Through engaging activities, taste tests, and discussions, students will discover alternative protein sources, such as plant-based options or insects, and their environmental benefits. By collaborating with nutritionists and exploring local food providers, students will develop an understanding of the importance of making sustainable protein choices.

### THE ISSUE

1. Discuss different sources of protein and their role in our diet.
2. Learn about the environmental impact of raising animals for meat.
3. Explore plant-based protein options and their benefits for our health and the planet.

### INTO THE COMMUNITY

4. Visit a local supermarket or farmer's market to identify and taste different plant-based protein sources.
5. Create a collage or drawing showcasing a variety of plant-based proteins.

### AIMS

- Understand the concept of protein transition and its environmental significance.
- Explore different sources of protein, including plant-based options.
- Collaborate with peers to develop and promote sustainable protein choices.
- Reflect on personal dietary choices and their impact on the environment.

### SUSTAINABILITY COMPETENCES

- Valuing the environment
- Critical thinking
- Collaborating and connecting
- Experimenting & testing
- Envisioning future scenarios

### SOCIETAL ACTORS

- Local farmers
- Environmental organizations
- Community garden coordinators

### KEYWORDS

Protein transition, alternative protein sources, environmental impact, nutrition

## THE CO-CREATION PROCESS

6. Invite a nutritionist or parent to talk about the importance of balanced meals and incorporating plant-based proteins.
7. Work in groups to plan and prepare a vegetarian or vegan dish using plant-based proteins.
8. Host a class potluck where each group shares their dish and discusses their favorite plant-based proteins.
9. Collaborate on designing a poster or infographic about plant-based proteins and their benefits.

## THE (SUGGESTED) SOLUTION

10. Display the posters or infographics in the school cafeteria or hallway to raise awareness among students.
11. Organize a school-wide “Meatless Monday” campaign where students choose plant-based meals for one day each week.
12. Reflect on the experience and discuss the positive impact of incorporating more plant-based proteins into our diet.

## AGE RANGE

10-12 years old

## SUBJECTS

Science, Health Education, Art.

## TOPICS

### Science:

Nutrition and Health, Environmental Impact of Agriculture

### Health Education:

Balanced Diet and Nutrition, Healthy Eating Habits, Plant-based Diets

### Art:

Collage, drawing

## SETUP

Part of the activity will be developed outside school, around school premises or at a nearby supermarket or farmer’s market. The rest of the activity will be developed inside school. During the activity, students will share and discuss their findings with families. Students are encouraged to engage with experts and involve them in the development and presentation of their solutions.

## MATERIALS

- Research materials
- Food samples for taste tests
- Presentation materials



## THE IMPACT OF FOOD TRANSPORTATION

### INTRODUCTION

Organic food is the product of an agriculture process that avoids the use of synthetic fertilisers and pesticides, growth regulators and livestock feed additives. In this way, its environmental impact is significantly low, when compared with conventional methodologies.

Nevertheless, it is very common to find organic food for sale, such as fruits or vegetables, that come from different countries or even continents. What can we infer about the consumption of non-local organic food, considering the impact to the environment?

In this Open Learning Scenario, students are going to calculate the carbon emissions linked to long-distance transportation of produce, to reflect on its environmental impact, and to develop a campaign aiming to raise awareness about carbon footprint of long-distance food transportation.

### THE ISSUE

1. Watch the video “Sustainable food systems for the new generation” with your students.
2. Explore with the students the interactive aspects of the video.
3. Discuss with the students the differences between organic vs. conventional food production.
4. Ask your students what to consider when buying organic food and address the issue of the importance of buying local organic produce.
5. Organize with the class an action plan to explore a local organic market with the purpose of gathering information about the geographical origin of produce and interviewing consumers about their knowledge and awareness level on the theme.

### INTO THE COMMUNITY

6. Take your students to a local organic market.

### AIMS

- To identify the geographical origin of organic produce for sale
- To address the environmental impact of food transportation
- To discuss the importance of consuming local food in order to decrease carbon footprint
- To raise awareness to the importance of choosing local produced organic food

### SOCIETAL ACTORS

- Families
- Market consumers
- School community

### KEYWORDS

Carbon emissions, carbon footprint, food geographical origin, organic produce

### AGE RANGE

- 13-16 years old



7. Ask students to search on the organic market for local produce as well as for imported produce.
8. Ask your students to take notes of the produce characteristics: name, geographical origin and type of transportation (eg. by truck, boat or airplane).
9. Help your students to interview some of the market consumers about their knowledge on the geographical origin of organic produce.
10. Back to the classroom, ask students to organise their collected data and to share the main findings among them.

### THE CO-CREATION PROCESS

11. Help students search for scientific information about carbon emission of different types of transportation - truck, boat, airplane - by amount of transported goods by distance.
12. Ask students to create information cards: one card for each produce, with the information of the geographical origin and type of transportation.
13. Help students to calculate the carbon emissions linked to the transport of organic produce from abroad. For visual purposes, they can use a world map where they mark the points of origin and arrival of each produce and extend a string to join the points, the distance being calculated taking the scale of the map into account. This approach can be done both physical- or digitally.
14. Organize an informal event, with the participation of other classes, other elements of the school community and/or families, with the main goal of sharing students' findings.
15. Encourage the discussion among all participants about the problem "Carbon footprint of food transportation".

### THE (SUGGESTED) SOLUTION

16. One solution for the problem is to develop an awareness campaign aimed at the school community about the impacts of long-distance transportation of food and the importance of choosing locally produced organic food.
17. A prototype for this solution can be a short video about the carbon emissions linked to long-distance food transportation.
18. Help students developing the video and test it with representatives of the target audience to find out if the prototype needs to be changed or improved (eg. more data, more visual support, etc.).
19. After developing the final version of the prototype, make sure the video has a wide distribution (for example, within school online channels and, if possible, within online channels and social media from the local Parish or City Hall).

### SUBJECTS

#### Science

- Science includes elements from physics, chemistry, biology, natural geography and mathematics.
- There is both theoretical and practical work with technology, health, the environment and nature.

### TOPICS

Production and technology  
Man and nature

### SUSTAINABILITY COMPETENCES

- Critical thinking
- Valuing the environment

### SET-UP

The first part of the activity is developed outside school, on a local market

The rest of the activity can be developed within the school premises

### MATERIALS

- Data forms (with space to indicate the name of the produce, its geographical origin and type of transportation)
- Interview forms (with questions selected by the students)



## ORGANIC PRODUCTS: WHERE ARE YOU?

### INTRODUCTION

Where can we find organic products? Should we buy them?

In this Open Learning Scenario, students are going to discover which shops in the community sell organic products, analyse the quantities of these products that are sold and discover their benefits and potential disadvantages. To raise awareness of the importance of organic food, students will create an exposition on the local library to share their findings with the local community.

### THE ISSUE

1. Watch the video “Sustainable food systems for the new generation” with your students.
2. Explore with the students the interactive aspects of the video.
3. Ask your students which are the issues being addressed in the video.
4. Ask your students if they think about the type of food that they eat (organic or non-organic).
5. Discuss with the students if they are aware of the impact to the environment of non-organic food.

### INTO THE COMMUNITY

6. Discuss with your students the best methodology to explore the organic food sold around the school. One possible methodology would be:
  - Divide students into two groups
  - Define an area around school (e.g. within a radius of 200 m)
  - Allocate to each group a sub-area within the defined area
  - Deliver to each group a notepad and a map of the sub-area

### AIMS

- To identify shops that sell organic products near the school
- To discuss the benefits and potential disadvantages of organic products to the environment and the economy
- To raise awareness among the school and local community of the importance of organic products

### SOCIETAL ACTORS

- Local sellers of organic food
- Researchers

### KEYWORDS

- Carbon footprint, local produce, organic products

### AGE RANGE

- 13-16 years old

### SUBJECTS

Food knowledge

### TOPICS

- The student can make reasoned food choices in relation to health.
- The student can make reasoned food choices in relation to quality, taste and sustainability.

7. Take your students to the shops of their sub-area and ask them to take notes on the type of fruits and vegetables that are being sold.
8. Ask your students to question the sellers about the quantities of organic food that are usually sold comparing with non-organic food.
9. Ask the students to mark on their map the shops that sell organic food (even if they also sell non-organic food).

### **THE CO-CREATION PROCESS**

10. Back in the classroom, join the information gathered by the students into a common map and ask them to share their findings. Ask the students to take conclusions about the types of food that were analysed (eg. XX % of the food that is sold in the school surroundings is organic).
11. Discuss with the students which societal actor linked to food (eg. a researcher or food producer) can help them to reflect on the environmental and economic impact of food organic and non-organic food.
12. Organise a meeting between the local actor and the students to discuss the impact of organic food and non-organic food in the environment and the economy.

### **THE (SUGGESTED) SOLUTION**

13. Ask your students to develop a model of the school surroundings with the information that they collected about shops that sell organic food (they can use different kinds of material to pass the message and complement it with posters or other type of cards).
14. Communicate the findings to the community by making an exhibition on the local library where the model is the centrepiece.

- The student can interpret meals with an understanding of values, culture and living conditions

### **SUSTAINABILITY COMPETENCES**

- Collaborating and connecting
- Critical thinking
- Developing creative solutions
- Valuing the environment

### **SET-UP**

The first part of the activity is developed outside school, on the surrounding shops

The rest of the activity can be developed in school context

### **MATERIALS**

- Map of the school surroundings
- Notepad and pen
- Cardboards, strings, coloured pencils and other material of visual arts



## TO EAT OR NOT TO EAT ORGANIC?

### INTRODUCTION

Whenever we go to a local market or a grocery store, we see the label – Organic, what that means exactly?

In this Open Learning Scenario, the students will have the opportunity to visit a farm that produce organic products and register the differences between the way that is produce and what are the main products that you really should by organic).

In this Open Learning Scenario, the students will have an appointment with the nutritionist, and find the benefits for health and organize a campaign to raise awareness for the importance of consuming organic foods for health and environment.

### THE ISSUE

1. Watch the video “Sustainable food systems for the new generation” with your students.
2. Explore with the students the interactive aspects of the video.
3. Ask your students which are the issues being addressed in the video.
4. Ask your students if they ever think about the label – organic food and if they know what it means.
5. Discuss with the students if they are aware of the impact to the health and environment, of the kind of food they eat.

### INTO THE COMMUNITY

6. Take your students to a local farm that produces organic fruits or/ and vegetables
7. Ask half of the classroom to take notes about the differences of the process of producing organic fruits and vegetables, in the farm visit.
8. Ask the other half of the classroom to interview the nutritionist and discover the benefits for health on consuming organic food.

### AIMS

- To identify the meaning of organic foods
- To discuss the benefits of organic foods
- To raise awareness about the impacts on health (myths vs reality)
- To discuss the importance of consuming organic foods

### SOCIETAL ACTORS

- Families
- Organic food farmers
- School or health centre nutritionist
- School community

### KEYWORDS

Organic foods, benefits for health, environment

### AGE RANGE

- 10-12 years old

### SUBJECTS

Food knowledge

9. Back to the classroom, ask students to discuss the findings based on the analysed produce and on the interviews.

### THE CO-CREATION PROCESS

10. Discuss with students which societal actors can help them to discuss the issue of organic foods production – half of the class fill the first form.
11. Discuss with students which societal actors can help them to discuss the issue of organic foods use of pesticides – half of the class fill the second form.
12. Organize the co-creation event to take place in the school space, guaranteeing it is an informal moment where the students have the same voice as any other participant.
13. During the co-creation event, discuss the impacts on health and environment that they can use for the awareness campaign.

### THE (SUGGESTED) SOLUTION

14. One solution for the problem is to develop an awareness campaign aimed at the school and local community about the importance of increasing the consumption of organic food.
15. A prototype for this solution can be a brochure about the meaning, the myths and the importance of the consumption of organic food.
16. Help students developing the brochure and test it with representatives of the target audience to find out if the prototype needs to be changed or improved (eg. more data, more visual support, etc.).
17. After developing the final version of the prototype, distribute the brochure among the school community (eg. families) and the local community.

### TOPICS

- The student can make reasoned food choices in relation to health and sustainability
- The student can interpret meals with an understanding of values, culture and living conditions.

### SUSTAINABILITY COMPETENCES

- Collaborating and connecting
- Critical thinking
- Developing creative solutions
- Valuing the environment and healthy habits

### SET-UP

The first part of the activity is developed outside school, on a farm of organic food

The rest of the activity can be developed in school context

### MATERIALS

- Camera
- Registration form (Organic vs Non-Organic – differences about the production process)
- Registration form (with a column for the name of the product that have the highest pesticide levels and its best to buy organic vs products that don't need to buy organic because they are generally low in pesticides)
- Questionnaire about health benefits.



## FROM GOOD FOOD TO GREAT HEALTH!

### INTRODUCTION

Whenever we go to a supermarket or a local market, what organic foods can we find?

In this Open Learning Scenario, students will have the opportunity to search and find organic food in different places and according to different seasons. They will organize a book of recipes using the research made by them and with the help of a nutritionist.

### THE ISSUE

1. Watch the video “Sustainable food systems for the new generation” with your students.
2. Explore with the students the interactive aspects of the video.
3. Ask your students which are the issues being addressed in the video.
4. Ask your students if they ever explore the places where they can find organic food and if they ever think about the availability of these products by season.
5. Discuss with the students possible ways of using these products on a daily basis.

### INTO THE COMMUNITY

6. Take your students to a supermarket or local organic market and register the differences of food available.
7. Back to the classroom, ask half of the classroom to search for the organic foods for each season.
8. Ask the other half of the classroom to search for recipes using the products identified before.
9. Ask students to discuss the findings and select the recipes accordingly to the products and each season.

### AIMS

- To identify organic food on sale
- To discuss the health benefits of organic food
- To look for recipes with organic food
- To raise awareness about the importance of consuming organic seasonal food

### SOCIETAL ACTORS

- Families
- School or health centre nutritionist
- School community

### KEYWORDS

Environment, food health benefits, organic food, seasonal food

### AGE RANGE

- 13-16 years old

### SUBJECTS

- Science
- The subject relates to natural science issues and topics from everyday life and business, and based on the human being in theory, models and practical work, must provide understanding and knowledge of the interaction between man and his environment and nature.

## THE CO-CREATION PROCESS

10. Discuss with students the issue of organic foods availability in the different places.
11. Organize the co-creation event to take place in the school space, guaranteeing it is an informal moment where the students have the same voice as any other participant.
12. During the co-creation event, discuss the impacts of using organic food on health and discuss recipes to do it.

## THE (SUGGESTED) SOLUTION

13. One solution for the problem is to develop an awareness campaign aimed at the school and local community about the importance of increasing the consumption of biological/organic food.
14. A prototype for this solution can be a recipe book using organic food, by season.
15. Help students developing the recipe book and test it with representatives of the target audience to find out if the prototype needs to be changed or improved (eg. availability of the products, food and alternative suggestions, etc.).
16. After developing the final version of the prototype, distribute the recipe book among the school community (eg. families) and the local community.

## TOPICS

Production and technology

## SUSTAINABILITY COMPETENCES

- Collaborating and connecting
- Critical thinking
- Developing creative solutions
- Valuing the environment and healthy habits

## SET-UP

The first part of the activity is developed outside school, on a supermarket or organic market. The rest of the activity can be developed in school context.

## MATERIALS

- Camera
- Registration form – organic foods available in the supermarket and in the organic food local market
- Schedule for each season and each food
- Computer with internet – to search for recipes with the organic foods selected by season



## WHAT IS INVOLVED IN FOOD TRANSPORTATION?

### INTRODUCTION

We have all been to markets and supermarkets and found food on sale, like fruit and vegetables, from the other side of the world. But, have we ever thought about the processes involved in the transport of these foods, which ensure their freshness when they reach the final consumer?

In this Open Learning Scenario, the students are going to explore the processes involved in long distance food transportation and interview societal actors that are associated with this topic. The ultimate goal is to develop a journalistic piece about the theme.

### THE ISSUE

1. Ask your students to search for information about the transportation of food: for example, what foods are most often imported, the main countries of origin and the types of transportation.
2. After the search, organize a discussion among students about their findings.
3. After the discussion (ideally, no more than one or two days after) watch the video “Sustainable food systems for the new generation” with your students and explore its interactive aspects.
4. Ask your students if they are aware of the processes associated with long-distance food transportation, namely the eventual need to freeze or ultra-freeze, to apply anti-fungal or anti-bacterial treatments, to spread waxes or to use extra packaging.

### INTO THE COMMUNITY

5. Help your students to identify different social actors who can discuss, and bring more information, on the mentioned processes associated with long-distance food transportation. For example, producers, distributors and representatives of agencies linked to the Ministry of Agriculture.

### AIMS

- To reflect on the geographical origin of food on sale
- To address the potential treatments and extra packaging when food is transported from long distances
- To develop a journalistic piece about the processes associated with long-distance food transportation

### SOCIETAL ACTORS

- School community
- Producers
- Distributors
- Representatives of agencies linked to the Ministry of Agriculture

### KEYWORDS

Food geographical origin, food transportation, food treatments, packaging

### AGE RANGE

- 13-16 years old

### SUBJECTS

- Science
- Chemistry
- Food Knowledge



6. Help your students to get in touch with all the identified societal actors in order to schedule interviews with each one of them.

### THE CO-CREATION PROCESS

7. Plan with your students each of the interviews to carry out with each of the social actors, ensuring that all questions and doubts of the students will be transposed into the interviews.
8. Ensure that your students have the ideal conditions (considering their age, inexperience and other constraints) to do the interviews. If necessary, involve other members of the school community to support them.
9. After all the interviews have been conducted, help your students to organize the transcription, compilation and editing of the collected information.

### THE (SUGGESTED) SOLUTION

10. Help your students to develop a journalistic piece about the processes associated with long-distance food transportation. This piece can be published online in the school journal or website, but also sent to local or regional information agencies.
11. To facilitate the process, help your students gather examples of other journalistic pieces, to get inspiration and also to explore different communication formats (eg. the Snow Fall multimedia format, by New York Times).
12. Ask students to share the first draft with some people that will be the target audience for the final piece - families, consumers, etc. - in order to get feedback.
13. Help students to add the necessary changes that came out from the feedback received.
14. After developing the final version of the journalistic piece, upload and advertise it to the target audience.

### TOPICS

The student can investigate food production in:

#### Science:

- Production and technology

#### Chemistry:

- Production and technology

#### Food knowledge:

- The student can make reasoned food choices in relation to health

### SUSTAINABILITY COMPETENCES

- Collaborating and connecting
- Critical thinking
- Valuing the environment

### SET-UP

Part of the activity is developed outside school, in different locations, depending on the societal actors that are going to be interviewed by the students.

The rest of the activity can be developed in school context

### MATERIALS

- Interview forms (with questions selected by the students and directed to each one of the societal actors)



## ANIMAL WELFARE IN MEAT PRODUCTION

### INTRODUCTION

A large percentage of the population has meat, namely poultry and mammals, as the main source of protein in their diet. Given the huge consumption of animals, and the consequent industrialization of the processes associated with meat production, animal welfare was not a priority for many years. However, this has changed and nowadays there are many regulations aiming to guarantee that animal welfare is present in all stages of meat production, including the stages of raising, breeding and feeding. Nevertheless, are these regulations enough?

In this Open Learning Scenario, students are going to reflect on the knowledge consumers have on animal welfare linked to meat production, research the current regulations, and discuss with several stakeholders what should be improved.

### THE ISSUE

1. Watch the video “Sustainable food systems for the new generation” with your students and explore its interactive aspects.
2. Ask your students if they eat meat, if they do it regularly, and what kind of meat they eat (ie. what animal species they eat).
3. Ask your students if they ever think about the way animals are treated during the meat production process (including the stages of raising, breeding and feeding).
4. Encourage your students to discuss this issue among them, ensuring that all students have the right to express their opinion and even share their discomfort, if that is the case.

### INTO THE COMMUNITY

5. Help your students to organize a Vox Pop with the purpose of asking the local community if they think they are well informed about animal welfare linked to meat production and, if not, what is the type of information they think is lacking.

### AIMS

- To know the different stages of meat production
- To research about the current regulations on animal welfare in meat production
- To reflect on the animal welfare linked to meat production, namely what could be improved
- To develop a document about what could be improved in animal welfare linked to meat production

### SOCIETAL ACTORS

- School community
- Local community
- Families
- Meat producers
- Representatives of supervisory entities

### KEYWORDS

Animal welfare, meat production, sustainable animal production

### AGE RANGE

- 13-16 years old

### SUBJECTS

- Food knowledge

6. Take your students to a public place (for example, the entrance of a subway station) where they can find a great diversity of people to be interviewed (Vox Pop).
7. After the Vox Pop, help your students organize and edit the gathered information.
8. Organize with your students a research plan about animal welfare in meat production, considering both what they and people from Vox Pop want to know/clarify.

### THE CO-CREATION PROCESS

9. Organize with your students a co-creation process where they invite various elements from the community (families, neighbours, etc.) to reflect on the theme of animal welfare in meat production and to discuss on what should be improved, and how.
10. If possible, invite also animal producers and representatives of supervisory entities, to contribute with their experience and knowledge on the existing regulations.
11. Organize the co-creation event to take place in the school space, guaranteeing it is an informal moment where the students have the same voice as any other participant.
12. At the beginning of the event, ask your students to share their findings on animal welfare applied to meat production.

### THE (SUGGESTED) SOLUTION

13. Help your students to create a document, to be shared with the community, about the status of animal welfare in meat production, what should be improved, and how.
14. After developing the first draft, share it with the participants on the co-creation event, as well as other elements of the community, to get feedback.
15. Help students to add the necessary changes that came out from the feedback received.
16. After developing the final version of the document, share it with the community, for example on the school website, in local newspapers, etc.

### TOPICS

- The student can make reasoned food choices in relation to health
- The student can make reasoned food choices in relation to quality, taste and sustainability.
- The student can interpret meals with an understanding of values, culture and living conditions

### SUSTAINABILITY COMPETENCES

- Collaborating and connecting
- Critical thinking
- Valuing the environment

### SET-UP

Part of the activity is developed in a public place, such as the entrance of a subway station.

The rest of the activity can be developed in school context.

### MATERIALS

- Interview guide for the Vox Pop (with questions selected by the students)
- Interview forms or audio recorder (eg. mobile phone), depending on whether students write or record the answers.



## MEATLESS MONDAY

### INTRODUCTION

What does it mean Meatless Monday? How can we implement Meatless Monday in our weekly routine (at school, at home..)?

In this Open Learning Scenario, students are invited to take action and influence the school Director and local community to participate on the global movement – Meatless Monday. They will meet the school board of directors and present the movement, proposing the adoption of Meatless Monday on the school canteen. They will also, present the movement to local restaurants and food suppliers, using the materials developed by them about the Meatless Monday. Finally, they will influence their own families to adopt Meatless Monday at home.

### THE ISSUE

1. Watch the video “Sustainable food systems for the new generation” with your students.
2. Explore with the students the interactive aspects of the video.
3. Ask your students which are the issues being addressed in the video.
4. Ask your students if they know the global movement Meatless Monday
5. Discuss with the students if they are aware of the impact to their health and to the environment of taking on a Meatless Monday

### INTO THE COMMUNITY

6. Discuss with your students the best strategy to influence societal actors into the movement. One possible strategy could be:
  - Divide students into two groups;
  - One group will be responsible for the research of information and produce a poster;
  - Other group will be responsible for the research of information and produce a brochure;

### AIMS

- To identify the possibility of implementing the Meatless Monday in the school canteen
- To discuss the benefits and potential advantages of reducing meat in their diet (for health and for the planet)
- To raise awareness among the school and local community of the global movement Meatless Monday

### SOCIETAL ACTORS

- Local restaurants and food suppliers
- School community (Director, Canteen catering, teachers, and students)
- Families

### KEYWORDS

Global movement; awareness; ...

### AGE RANGE

- 13-16 years old

### SUBJECTS

- Food knowledge

7. Take your students to the board of directors of the school and schedule a meeting.
8. Both groups should prepare 2 presentations. One of the presentations should be more complete (about 10 minutes) to the board of directors, and other, like a pitch (with 2 or 3 key sentences) to the local restaurants and suppliers;
9. Ask your students to question the board of the school if it's possible to implement the Meatless Monday in the school and ask them to suggest some ideas and recipes to promote the idea.
10. Ask the students to report the results of both interventions with the school community.
11. Ask your students to report their findings and results to their families and propose to do it at home.

### THE CO-CREATION PROCESS

12. Back in the classroom, join the information gathered by the students into a poster and a brochure and ask them to share their findings.
13. Discuss with the students the strategy to promote the implementation of the Meatless Monday into the school and organize the presentation for the board of the school.
14. Discuss with the students the strategy to promote the implementation of the Meatless Monday into the local restaurants and suppliers and the keys sentences that will be used.
15. Schedule and organize a meeting between with the board of the school.
16. Schedule and organize an event to report the results of the several actions that have been taken.

### THE (SUGGESTED) SOLUTION

17. Ask your students to develop a proposal for the implementation of Meatless Monday in the school (with practical suggestions and procedures)
18. Communicate the findings to the school and local community by making an exhibition with photos and testimonials of the different actors, after 2 months of implementation.

### TOPICS

- The student can make reasoned food choices in relation to health.
- The student can make reasoned food choices in relation to quality, taste and sustainability.
- The student can interpret meals with an understanding of values, culture and living conditions.

### SUSTAINABILITY COMPETENCES

- Collaborating and connecting
- Critical thinking
- Developing creative solutions
- Valuing the environment

### SET-UP

The first part of the activity is developed inside the school, with the school community.

The rest of the activity can be developed outside the school (local restaurants/suppliers and families)

### MATERIALS

- Map of the school surrounding restaurants
- Notepad and pen
- Posters and brochures with information about the global movement Meatless Monday



## GASTRONOMIC WEEK

### INTRODUCTION

What if we get to know different ways of using local products, using plant-based and/or local and cultural based recipes? Can we raise health and environment awareness by using a community event that shows simple ways of making big differences?

In this Open Learning Scenario, students are invited to promote a community event, by organizing, engage and promoting participation of the different societal actors. They will present the idea to local restaurants, to school community and families, list the proposals and select the meals, deserts, and drinks, according to the aims of the activity. They will also, prepare posters and flyers to publicize the event and to give information/raise awareness about health and environment concerns applied to the Gastronomic Week.

### THE ISSUE

1. Watch the video “Sustainable food systems for the new generation” with your students.
2. Explore with the students the interactive aspects of the video.
3. Ask your students which are the issues being addressed in the video.
4. Ask your students if they ever think about the diversity applied to food, local and cultural differences, as well as plant-based food
5. Discuss with the students the impact for health and environment, the promotion of diverse food and the involvement of the community in a social event like a Gastronomic Week.

### INTO THE COMMUNITY

6. Discuss with your students the organization of the Gastronomic Week. One possible strategy could be:
  - Produce the flyers with simple information and admission procedures about the Gastronomic week (take into account. plant-based, environment, local and cultural based)
  - Divide students into two groups.

### AIMS

- To identify the diversity of different kinds of meals and food, including plant-based meals, deserts, and drinks
- To discuss the benefits and potential advantages of using plant-based food and how different cultures use their local products – Gastronomic Week
- To raise awareness and promote food diversity among the school and local community – for health and environment

### SOCIETAL ACTORS

- Local restaurants
- School community
- Local community
- Families

### KEYWORDS

Plant-based food; cultural food, local products; health; environment.

### AGE RANGE

- 13-16 years old

### SUBJECTS

- Food knowledge
- Science

- One group will be responsible for the outreach with the societal actors (local restaurants, school and local community, and families); use the flyer to explain the procedures for the proposal and exhibition.
  - Other group will be responsible for the selection of plates, meals, deserts and drinks, as well as the organization of the logistics of the exhibition.
7. Take your students from the first group to the local community with clear instructions and flyers to the local community.
  8. The students from the second group should have an excel table to organize the proposals and selection criteria (trying to use most of them)
  9. Both groups should meet and do a needs assessment for the event. Schedule a meeting with the school board to prepare all the logistics for the event based on the work done and the needs assessment.
  10. Ask your students to make some design about the disposition of the space of Gastronomic Week.
  11. Ask the students to organize a table with responsibilities, like for instance, the students that will give support to meals, the students that will photograph the event...
  12. In the week after of the Gastronomic Week, ask your students to report and publish the photos and testimonials gathered during the Gastronomic Week, as well as, their experience of organizing an event, in the school radio, journal or social networks.

### THE CO-CREATION PROCESS

13. Back in the classroom, join the information gathered by the students into a flyer and clarify all the admission criteria.
14. Discuss with the students the strategy to promote the Gastronomic Week into the school (excel table) and organize the outreach group, by helping them to prioritize the community participation.
15. Discuss with the students the strategy to promote and publicize the Gastronomic Week and the keys sentences that will be used.
16. Schedule and organize a meeting with the board of the school, and other stakeholders if needed.
17. Schedule and organize the presentation of the report (photos, testimonials, and their own experience) of several actions that have been taken.

### THE (SUGGESTED) SOLUTION

18. Ask your students to develop a proposal for the event – Gastronomic Week in the school (with practical suggestions and procedures), that can be replied each year;
19. Communicate the results of the Gastronomic Week, with number of participants and public, photos, testimonials, and their own experience, 1 week after.

### TOPICS

#### Food knowledge:

- The student can make reasoned food choices in relation to health.
- The student can make reasoned food choices in relation to quality, taste and sustainability

#### Science:

- Production and technology
- Man and nature

### SUSTAINABILITY COMPETENCES

- Collaborating and connecting
- Critical thinking
- Developing creative solutions
- Valuing health and the environment

### SET-UP

The first part of the activity is developed inside the school, with the school community.

The rest of the activity can be developed outside the school (local restaurants/suppliers and families)

### MATERIALS

- Map of the school surrounding restaurants – with plant-based meals and local food
- Computer (Excel table with the organization of the event, emails, and other logistic procedures)
- Materials for the exhibition (cards with the name of the meals, tables...)
- Posters and flyers with information about the Gastronomic Week



## ZERO WASTE WITH A REAL IMPACT!

### INTRODUCTION

Food waste is a worldwide problem that has economic, social, and environmental negative impact. In EU alone, more than 50 million tonnes of food waste are generated annually. The total consumption of fresh food may seem a big challenge but with some imagination it is possible to achieve.

In this Open Learning Scenario, students will have the opportunity to discuss about food waste, to explore different ways to achieve zero waste meals and to organize a workshop for the community.

### THE ISSUE

1. Ask your students if they know what is a zero waste meal.
2. Watch the video “Sustainable food systems for the new generation” with your students.
3. Explore with the students the interactive aspects of the video.
4. Ask your students if they have ever eaten a zero waste meal.

### INTO THE COMMUNITY

5. Discuss with your students what questions they would like to make to the owner of a restaurant that is zero waste and prepare an interview form.
6. Take your students to a restaurant that is zero waste (or that is working to achieve it).
7. Ask the students to interview the owner of the restaurant.
8. Back to the classroom, ask students to discuss the findings and do a list of the most important actions to prevent food waste.

### AIMS

- To discuss the negative impacts of food waste
- To search for zero waste recipes
- To raise awareness about the importance of reducing food waste
- To organize a zero waste workshop

### SOCIETAL ACTORS

- Families
- Zero waste restaurant
- School community

### KEYWORDS

- Food waste, zero waste, sustainable consumption

### AGE RANGE

- 13-16 years old

### SUBJECTS

- Science
- Chemistry
- Food knowledge



## THE CO-CREATION PROCESS

9. Ask the students to search on the internet for recipes that are zero waste.
10. Discuss with the students how they could organize a zero waste workshop and which could be the societal actors that could help them.
11. Organise with the students a meeting between them and the societal actors, where they could prepare the workshop.

## THE (SUGGESTED) SOLUTION

12. Organise with your students the zero waste workshop and prepare a booklet with a small group of recipes to distribute to the people who attend it.
13. Help students develop the booklet and show it some parents to find out if it needs to be changed or improved (eg. bigger diversity of ingredients used, etc.).

## TOPICS

### Science:

- Production and technology
- Man and nature

### Chemistry:

- Food production

### Food knowledge:

- The student can make reasoned food choices in relation to quality, taste and sustainability
- The student can make reasoned food choices in relation to quality, taste and sustainability.
- The student can interpret meals with an understanding of values, culture and living conditions.

## SUSTAINABILITY COMPETENCES

- Collaborating and connecting
- Critical thinking
- Developing creative solutions
- Valuing the environment and healthy habits

## SET-UP

The first part of the activity is developed outside school, on a restaurant

The rest of the activity can be developed in school context

## MATERIALS

- Interview forms (with questions selected by the students)
- Computer with internet



## PLANT-BASED MEALS ON TRIAL

### INTRODUCTION

How many plant-based meals do we eat in a week? So few?! Meat is an important source of protein, but proteins can also be found in plants (mainly pulses) and mushrooms.

Although modern agriculture is based on only 12 plants, there are more than 7 000 plant species in the world that are cultivated for human consumption. Not to mention the fungus! It is therefore very important to diversify our diet, increasing the number of plants we eat, through delicious recipes!

In this Open Learning Scenario, students are going to explore plant and fungi ingredients and to search for plant-based recipes, with the ultimate goal of organizing an event where plant-based meals will be on trial!

### THE ISSUE

1. Ask your students how many meals they have, over the course of a week, that include meat (eg. poultry and mammals) and how many are plant-based.
2. With the help of your students, make a quick statistics of their answers.
3. Discuss with the students what plant-based meals they know, and which are their favourite.
4. Watch the video “Sustainable food systems for the new generation” with your students.
5. Challenge your students to develop a project where they search for plant ingredients and plant-based recipes with the purpose of promoting plant-based meals.

### AIMS

- To reflect on the importance of increasing the consumption of plant-based meals
- To search for protein sources, others than meat, such as plants and fungi
- To research on plant-based recipes
- To organize an event where plant-based meals are prepared and presented in a blind tasting

### SOCIETAL ACTORS

- School community
- Canteen staff
- Families

### KEYWORDS

Food recipes, plants, plant-based meals, protein sources

### AGE RANGE

- 13-16 years old

### SUBJECTS

- Chemistry
- Food knowledge

## INTO THE COMMUNITY

6. Help your students to research on plant-based recipes that may seem interesting to them and that young people might like.
7. Take your students to a local market.
8. Help your students to search in the market for plant ingredients that they could add to plant-based meals.
9. Still on the market, draw the students' attention to some non-meat foods that are an important protein base, such as mushrooms and pulses.
10. Back in the classroom, ask students to "revisit" the previously chosen recipes, and discuss any changes needed to include plants or fungi they found on the market. They can also search for other recipes, considering the identified ingredients.

## THE CO-CREATION PROCESS

11. Organize with your students a co-creation process where they invite their families, the school canteen staff, as well as other school staff, to develop new plant-based recipes that are appealing to young people.
12. Organize the co-creation event to take place in the school space, guaranteeing it is an informal moment where the students have the same voice as any other participant.
13. At the beginning of the event, ask your students to share their findings on the plant (and fungi) ingredients they found in the market, as well as the plant-based recipes they search.
14. During the co-creation process, students and the rest of the participants should explore the plant ingredients and the recipes students have search, and discuss the best recipes to promote, and consequently increase the number of plant-based meals.

## THE (SUGGESTED) SOLUTION

15. One solution is to organize an event aimed at students from other classes, or even from another school, where meals are prepared and presented in a blind tasting.
16. Help your students to organize the preparation of the plant-based meals in the school canteen, in a joint initiative between them, the canteen staff and the families' representatives.
17. Before the event, a small amount of each meal should be prepared and tested among the organizers, in order to verify if there is a need to rectify anything in the food recipes.
18. During the event, participants could try to identify the ingredients of each dish and vote for their favourite.
19. The final recipes of the plant-based meals should be shared with the school community and, if possible, the most voted meals should be incorporated in the canteen menu.

## TOPICS

### Chemistry:

- Food production

### Food knowledge:

- The student can make reasoned food choices in relation to health.
- The student can make reasoned food choices in relation to quality, taste and sustainability.
- The student can interpret meals with an understanding of values, culture and living conditions.

## SUSTAINABILITY COMPETENCES

- Collaborating and connecting
- Critical thinking
- Valuing the environment

## SET-UP

Part of the activity is developed outside school, in a food market. The rest of the activity can be developed in school context

## MATERIALS

- Camera or cell phone  
(to take pictures of the ingredients in the market)
- Registration form  
(to take notes on the ingredients)



## RAISING AWARENESS ABOUT DIGITAL FOOD ADVERTISEMENT

### INTRODUCTION

Food advertising is present in everyday life. Today we are not only exposed to food advertising and messages about food outdoors, but also in the digital world.

Do students notice digital food advertising? What kind of food are advertised on social media and what do the students think about this? In this Open Learning Scenario, students are going to explore food advertisements on social media and discuss with societal actors the nutritional value of the food.

### THE ISSUE

1. Watch the video “Food advertisements” with your students.
2. Ask your students which issues are being addressed in the video.
3. Ask your students if they ever noticed any digital food advertisement.
4. Discuss with your students the perception they have of the nutritional value of the foods that are advertised.
5. Tell your students that they are going to explore the food advertisements they are exposed to on social media.

### INTO THE COMMUNITY

6. Discuss with your students the best methodology to explore food advertisements on social media. One possible methodology would be:
  - Assign the students a social media platform that they regularly use.
  - Ask the students to use the platform like they usually do for 30 minutes.
  - While using the social media platform, ask the students to take screenshots of all food advertising.

### AIMS

- To draw attention to digital food advertisements.
- To explore and evaluate what type of food is advertised on social media.
- To work together with societal actors in the analysis of digital food advertisements.
- To raise awareness among the school community and local authorities on the type of food advertised on social media.

### SUSTAINABILITY COMPETENCES

- Critical thinking
- Developing creative solutions

### SOCIETAL ACTORS

- Physicians/nutritionists
- Families
- School community
- Local authorities

### KEYWORDS

Digital food advertisements, food choices, digital marketing, nutritional requirements

## THE CO-CREATION PROCESS

7. In the classroom, download the screenshots gathered by the students into a common online platform, allowing access for all students.
8. Help students to invite societal actors (e.g., physicians/nutritionists, families, members of the school community) for a co-creation event where they will analyze the advertisements, discuss the nutritional value of the food advertised and compare it with dietary requirements.
9. Discuss the findings in the class. Include discussions about what the students think about digital food advertisements and how it is affecting them.

## THE (SUGGESTED) SOLUTION

10. One solution to the problem is to develop an awareness campaign about the type of food that is being advertised and to which students are exposed daily.
11. A prototype for this solution could be a digital infographic or a class presentation with the main findings of the food advertisements on social media.
12. Share the presentation or infographic with the rest of the school community and the families.
13. If possible, take your students (or class representatives) to a Town Hall meeting to share the presentation or infographics with the local authorities.

## AGE RANGE

13-16 years old

## SUBJECTS

Citizenship / Civic participation,  
Health education, Home economics

## TOPICS

### Citizenship / Civic participation:

Sustainable development

### Health education:

Nutrition

### Home economics:

Food choices

## SETUP

Almost all the activity will happen inside the classroom. During the activity, students will work side by side with their families and physicians or nutritionists. Ideally, students should share their findings in a Town Hall meeting.

## MATERIALS

- Cell phone
- Digital platform to upload pictures
- Presentation materials



## EXPLORING SUPERMARKET STRATEGIES TO PROMOTE FOODS

### INTRODUCTION

Food advertisements are all around us: on television, on websites and social media and on the streets. Have you also thought about supermarkets? How do they advertise products inside the store? What strategies do they use to promote certain products and perhaps to make you buy more?

In this activity students will visit local supermarkets and explore the in-store environment.

### THE ISSUE

1. Watch the video “Food advertisements” with your students.
2. Ask your students what they know about the strategies supermarkets use to promote products inside the store.
3. Tell your students that they are going to explore what type of strategies supermarkets use to promote food and what type of food they promote.

### INTO THE COMMUNITY

4. Divide the students into groups (e.g., 2-4 students in each group).
5. Let the students go to supermarkets in the local area to explore how the stores promote food. Ask them to take notes or pictures. They can for example look at:
  - How the store is organized. Where can you find different types of foods?
  - Offers (e.g., multibuy, special prices).

As an option this can be presented as a home assignment.

6. Ask the students to ask employees in the supermarket about what strategies they use to promote/sell different products.

### AIMS

- To draw attention to what strategies supermarkets, use to promote food.
- To explore and evaluate what type of food is promoted.
- To come up with ideas on how the supermarkets could promote healthier food and share it with societal actors.
- To raise awareness among the school community on the promotion strategies that the supermarkets use.

### SUSTAINABILITY COMPETENCES

- Critical thinking
- Envisioning future scenarios

### SOCIETAL ACTORS

- Supermarket employees
- School community

### KEYWORDS

Food marketing, food choices, food promotion strategies, dietary recommendations

### AGE RANGE

13-16 years old

## THE CO-CREATION PROCESS

7. In the classroom, ask the students (in the same groups as before) to search online for strategies supermarkets use to promote/sell products inside the stores.
8. Ask the students to discuss potential issues with the strategies used to promote/sell products inside the supermarkets.
9. Ask the students to discuss what the supermarket could do to promote healthier and/or sustainable dietary habits. (If needed: look at the national dietary guidelines together with your class prior to this step).
10. Help the students to contact relevant societal actors to schedule an interview (alternatively send written questions).
11. Let the students discuss potential issues with the strategies currently used and discuss what supermarkets could do inside the store to promote more healthy and sustainable dietary habits with the societal actors.

## THE (SUGGESTED) SOLUTION

12. Ask the students to (in groups) create posters creating awareness about potential issues with the way stores are promoting products within their premises as well as their suggestions for what the supermarkets could improve to promote more healthy and sustainable dietary habits.
13. Let the students present their posters to the whole class.
14. Share the posters with the school community and with the societal actors.

## SUBJECTS

Citizenship / Civic participation,  
Home and consumer science

## TOPICS

**Citizenship / Civic participation:**

Sustainable development

**Home and consumer science:**

Food choices

## SETUP

Part of the activity will be developed outside school, around the school premises. The rest of the activity will be developed inside school.

## MATERIALS

- Camera, cell phone or notebooks
- Interview forms (questions selected by the students)
- Presentation materials



## FOOD ADVERTISEMENTS ACROSS DIFFERENT NEIGHBORHOODS

### INTRODUCTION

Food advertisements are all around us: on television, on websites and social media and on the streets. But do they differ in different neighborhoods?

Are students exposed to different kinds of food advertisements depending on what neighborhood they live in?

In this Open Learning Scenario, students are going to explore food advertisements in different neighborhoods and discuss it with societal actors.

### THE ISSUE

1. Watch the video “Food advertisements” with your students.
2. Ask your students which issues are being addressed in the video.
3. Ask your students if they have ever noticed any food advertisement close to where they live.
4. Discuss with your students the perception they have about how the advertisements could differ between different neighborhoods.
5. Tell your students that they are going to explore the food advertisements in different neighborhoods.

### INTO THE COMMUNITY

6. Discuss with your students the best methodology to explore the food advertisements in different neighborhoods. One possible methodology would be:
  - Divide students into groups.
  - Allocate to each group a neighborhood in the city with different characteristics (considering e.g., residence, parks, youth recreation centers etc.).
  - Ask each group of students to photograph all advertisements they can see in their neighborhood.

### AIMS

- To draw attention to different kinds of food advertisements.
- To explore and evaluate if the type of food is advertised in different kinds of neighborhoods.
- To work together with societal actors to get a deeper understanding of food advertising.
- To raise awareness among the school community on the type of food advertised in different neighborhoods.

### SUSTAINABILITY COMPETENCES

- Critical thinking
- Developing creative solutions
- Collaboration and connecting

### SOCIETAL ACTORS

- School community
- Local politicians
- Producers

### KEYWORDS

Food advertisements, marketing, food environment

### AGE RANGE

13-16 years old



## THE CO-CREATION PROCESS

7. Back in the classroom, download the pictures and other information gathered by the students into a common online platform, allowing access for all students.
8. Let the groups analyze the food advertisements in their allocated neighborhood. Divide the advertisements into one of the two categories: “ultra-processed food” (fast food, sugary drinks, artificially sweetened beverages, energy drinks) or “fruits, vegetables, berries and seafood”.
9. Discuss with students if the proportion of the two categories differs between the different neighborhoods. Write down questions that come up during the discussion.
10. Plan with your students the interviews with the societal actors, ensuring that all questions and doubts of the students will be transposed into the interviews.
11. Help your students to conduct the interviews and edit the collected information.

## THE (SUGGESTED) SOLUTION

12. Help your student to write an article about food advertisements across different neighborhoods.
13. Share the article with the rest of the school community, by publishing it in the school journal or website. The article can also be sent to local or regional information agencies.
14. If possible, advertise the article to the people living in the neighborhoods.

## SUBJECTS

Citizenship / Civic participation

## TOPICS

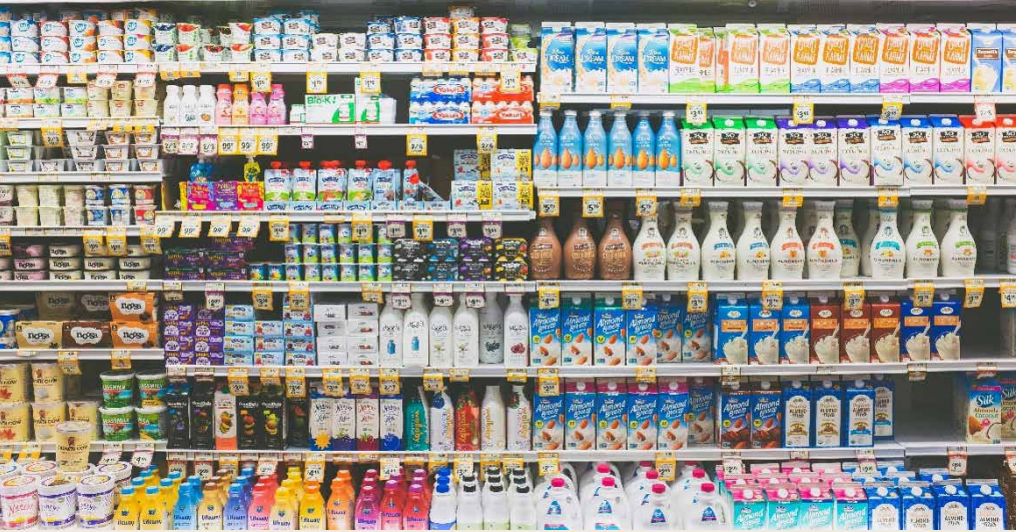
**Citizenship / Civic participation:**  
Sustainable development

## SETUP

Part of the activity will be developed outside school, and the other part inside school. Depending on the societal actors that are going to be interviewed the location can differ.

## MATERIALS

- Camera or cell phone
- Registration form (with columns to register information about each advertisement: e.g., the name of the company, the food advertised and its characteristics)
- Interview forms (questions selected by the students)



## FOOD ADVERTISEMENTS ACROSS DIFFERENT NEIGHBORHOODS

### INTRODUCTION

Food advertisements are all around us: on television, on websites and social media and on the streets. Have you also thought about supermarkets? How do they advertise their products? One way that supermarkets advertise their products, and especially offers, is through circulars.

Do the students ever look at supermarket circulars? What type of food do they advertise? Is there a lot of offers? For what?

In this activity students will explore circulars from different supermarkets and reflect on what type of food is advertised and how this is connected to healthy and sustainable dietary habits.

### THE ISSUE

1. Watch the video “Food advertisements” with your students as an introduction to the topic.
2. Ask your students if they have ever looked at supermarket circulars.
3. Tell your students that they are going to explore circulars from different supermarkets around them and discuss how food offers can influence dietary habits.

### INTO THE COMMUNITY

4. Ask your students to find supermarket circulars. They can be in either physical or digital form. If you want to save time you can ask the student to find a supermarket circular in local stores or from home and bring to the next class as a home assignment.
5. Ask your students to discuss with their families if they ever look at supermarket circulars and what they think about them and the food that they are advertising. advertisements they can see in their neighborhood.

### AIMS

- To explore what type of food is advertised in supermarket circulars.
- To reflect on how food offers can influence dietary habits.
- To create a supermarket circular that better promotes healthy and/or sustainable food consumption and to raise awareness among the school community.
- To discuss with food companies what they can do to promote healthier and more sustainable dietary habits.

### SUSTAINABILITY COMPETENCES

- Critical thinking
- Envisioning future scenarios

### SOCIETAL ACTORS

- Food companies
- School community
- Families

### KEYWORDS

Food marketing, food choices, food offers, dietary recommendations

### AGE RANGE

13-16 years old

## THE CO-CREATION PROCESS

6. In the classroom, divide the students into groups and let them analyze what type of food that is being advertised in the supermarket circulars. Discuss with the students what is the best way to analyze the content of the circulars:
  - What type of food is advertised (e.g., select food groups such as fruits and vegetables, whole grain products, dairy products (sweetened/unsweetened), seafood, red and processed meat, sweets and snacks, premade dishes, sugary drinks etc. and look at how they are represented in the circulars).
  - Food offers (what type of offers and what type of food).
7. Look at the national dietary guidelines together with your class and let them discuss in groups if the dietary guidelines are reflected in the supermarket circulars.
8. Discuss in the class what they have found and share your own thoughts with the class as well.
9. Discuss with the class if and how they think that food offers affect people's dietary choices.
10. Help the students to find food companies that they can contact and ask questions about how they develop their circulars and if they could do something to promote better and more sustainable dietary habits through their circulars/offers.

## THE (SUGGESTED) SOLUTION

11. Ask the students to create a campaign raising awareness about the foods that are advertised in the circulars.
12. As a part of the campaign, let the students create their own circular that better reflects the dietary guidelines both in respect to health and the environment. This can be done by cutting and pasting from physical circulars or it can be done using computers.
13. Share the campaign within the school community and with the food companies that they have been in contact with.

## SUBJECTS

Citizenship / Civic participation,  
Home and consumer science

## TOPICS

**Citizenship / Civic participation:**

Sustainable development

**Home and consumer science:**

Food choices

## SETUP

Part of the activity will be developed outside school, around the school premises. The rest of the activity will be developed inside school.

## MATERIALS

- Supermarket circulars (physical or digital)
- Stationery items to be used for creating a circular, or computers with access to PowerPoint or another program that can be used to create a digital circular



## RAISING AWARENESS ABOUT OUTDOOR FOOD ADVERTISEMENT

### INTRODUCTION

Food advertisements are all around us: on television, on websites and social media and on the streets...What about the school surroundings?

Do students notice the food advertisements that are present around their school? What kind of food advertisements are present and what type of food do they advertise?

In this Open Learning Scenario, students are going to explore food advertisements around school and discuss with societal actors the nutritional value of the food.

### THE ISSUE

1. Watch the video “Food advertisements” with your students.
2. Ask your students which are the issues being addressed in the video.
3. Ask your students if they ever noticed any food advertisement on their way to school and around their school.
4. Discuss with your students the perception they have about the nutritional value of the foods that are advertised.
5. Tell your students that they are going to explore the food advertisements that are present around their school.

### INTO THE COMMUNITY

6. Discuss with your students the best methodology to explore the food advertisements around the school. One possible methodology would be:
  - Divide students into groups
  - Define an area around school (e.g. within a radius of 50 m)
  - Allocate to each group a sub-area within the defined area
  - Ask each group of students to photograph each advertisement that they find in the area

### AIMS

- To draw attention to the food advertisements present around the school
- To explore and evaluate what type of foods are advertised around the school
- To work together with societal actors in the analysis of the food advertisements
- To raise awareness among the school community and local authorities on the type of food advertised around the school

### SUSTAINABILITY COMPETENCES

- Critical thinking
- Developing creative solutions

### SOCIETAL ACTORS

- Physicians/nutritionists
- Families
- School community
- Local authorities

### KEYWORDS

Food advertisements, food choices, marketing, nutritional requirements

7. Take your students around the school to explore the food advertisements with the defined methodology.

### THE CO-CREATION PROCESS

8. Back in the classroom, download the pictures and other information gathered by the students into a common online platform, allowing access for all students.
9. Discuss with students which societal actors can help them to reflect on the nutritional value of the food which is being advertised around school.
10. Help student to invite the identified societal actors (eg. physicians/nutritionists, families, members of the school community) for a co-creation event where they will analyse the advertisements, discuss the nutritional value of the food advertised and compare it with dietary requirements.
11. Organize the co-creation event to take place in the school space, guaranteeing it is an informal moment where the students have the same voice as any other participant.
12. During the co-creation event, discuss possible solutions to draw attention to the food that is being advertised around school.

### THE (SUGGESTED) SOLUTION

13. One solution to the problem is to develop an awareness campaign about the type of food that is being advertised and to which students are exposed on a daily basis.
14. A prototype for this solution can be a digital infographics with the main findings of the food advertisements around school.
15. Help students developing the infographics and test it with representatives of the target audience - families, school community, local authorities - to find out if the prototype needs to be changed or improved (eg. more data, more visual support, etc.).
16. After developing the final version of the infographics, share it with the families and the rest of the school community.
17. If possible, take your students (or class representatives) to a Town Hall meeting to share the infographics with the local authorities.

### AGE RANGE

13-16 years old

### SUBJECTS

Citizenship / Civic participation

### TOPICS

**Citizenship / Civic participation:**  
Sustainable development

### SETUP

Part of the activity will be developed outside school, around school premises, and other part inside school. During the activity, students will work side by side with their families and physicians or nutritionists. Ideally, students should share their findings in a Town Hall meeting.

### MATERIALS

- Camera or cell phone
- Registration form (with columns to register information about each advertisement: e.g., the name of the company, the food advertised and its characteristics)
- Stationery to be used in the co-creation event



## FOOD ADVERTISEMENTS ACROSS DIFFERENT NEIGHBORHOODS

### INTRODUCTION

Food advertisements are all around us: on television, on websites and social media and on the streets.

Do students notice digital food advertisements? What type of food is advertised on social media and how does this affect the students?

### THE ISSUE

1. Watch the video “Food advertisements” with your students.
2. Ask your students which issues are being addressed in the video.
3. Ask your students if they ever noticed any digital food advertisements.
4. Tell your students that they are going to explore the food advertisements that they are exposed to on social media.

### INTO THE COMMUNITY

5. Discuss with your students the best methodology to explore food advertisements on social media. One possible methodology would be:
  - Assign the students a social media platform that they regularly use.
  - Ask the students to use the platform like they usually do for 30 minutes.
  - While using the social media platform, ask the students to take screenshots of all food advertising.

### AIMS

- To draw attention to digital food advertisements.
- To explore and evaluate what type of food is advertised on social media.
- To raise awareness among the school community on the type of food advertised on social media.

### SUSTAINABILITY COMPETENCES

- Critical thinking
- Developing creative solutions

### SOCIETAL ACTORS

- Families
- School community

### KEYWORDS

Digital food advertisements, food choices, digital marketing

### AGE RANGE

13-16 years old

## THE CO-CREATION PROCESS

6. Back in the classroom, download the screenshots into a common online platform, allowing access for all students.
7. Ask students to show at home, to their families, the food advertisements found on social media, and to discuss its characteristics (e.g., type of food, level of processing, nutritional value etc.).
8. Back in school, ask the students to share among them the conclusions they reached with their families.

## THE (SUGGESTED) SOLUTION

9. Ask your students to develop a digital infographic with the main findings of the digital food advertisements on social media, with the purpose of raising awareness about the type of food that is being advertised and to which students are exposed daily.
10. Share the infographics with the school community, including teachers and families.

## SUBJECTS

Citizenship / Civic participation,  
Home economics, Health education

## TOPICS

### Citizenship / Civic participation:

Sustainable development

### Home economics:

Food choices

### Health education:

Nutrition

## SETUP

Almost all the activities will be developed inside school. During the activity, students will share and discuss their findings with families.

## MATERIALS

- Cell phone



## EXPLORING SUPERMARKET STRATEGIES TO PROMOTE FOOD

### INTRODUCTION

Food advertisements are all around us: on television, on websites and social media and on the streets. Have you also thought about supermarkets? How do they advertise products inside the store? What strategies do they use to promote certain products and perhaps to make you buy more?

In this activity students will visit local supermarkets and explore the in-store environment.

### THE ISSUE

1. Watch the video “Food advertisements” with your students as an introduction to the topic.
2. Ask your students what they know about what strategies supermarkets use to market products inside the store.
3. Share your own experiences with the students.
4. Tell your students that they are going to explore what type of strategies supermarkets use to promote food and what type of foods they promote.

### INTO THE COMMUNITY

5. Divide the students into groups (e.g., 2-4 students in each group).
6. Let the students go to supermarkets in the local area to explore how the stores promote food. Ask them to take notes or pictures. They can for example look at:
  - How the store is organized. Where can you find different types of food?
  - Offers e.g., multiply, special prices.

As an option this step can be presented as a home assignment.

### AIMS

- To draw attention to what strategies supermarkets, use to promote food.
- To explore and evaluate what type of foods is promoted.
- To come up with ideas on how the supermarkets could promote healthier foods.
- To raise awareness among the school community on the promotion strategies that the supermarkets use.

### SUSTAINABILITY COMPETENCES

- Critical thinking
- Envisioning future scenarios

### SOCIETAL ACTORS

- Supermarkets employees
- School community
- Researcher

### KEYWORDS

Food marketing, food choices, food promotion strategies, dietary recommendations

### AGE RANGE

13-16 years old



## THE CO-CREATION PROCESS

7. In the classroom, divide the students into new groups (e.g., 4-5 students in each group) and let them discuss their findings with each other.
8. Invite a researcher with relevant expertise (e.g., in food advertising or marketing) to share and discuss the most common marketing strategies with the students. This can be done either in the classroom, or digital via e.g., Zoom.
9. Discuss the findings with the whole group and share your experiences with the students.

## THE (SUGGESTED) SOLUTION

10. Ask the students to come up with suggestions for how the supermarket could promote healthier and/or sustainable dietary habits (If needed: look at the national dietary guidelines together with your class prior to this step).
11. Ask the students to create a poster presenting their suggestions in a creative way (in groups).
12. Ask the students to present their poster for the whole class.
13. Share the posters with the school community,

## SUBJECTS

Citizenship / Civic participation,  
Home and consumer science

## TOPICS

**Citizenship / Civic participation:**

Sustainable development

**Home and consumer science:**

Food choices

## SETUP

Part of the activity will be developed outside school, around the school premises. The rest of the activity will be developed inside school.

## MATERIALS

- Camera, cell phone or notebooks
- Presentation materials



## FOOD ADVERTISEMENTS ACROSS DIFFERENT NEIGHBORHOODS

### INTRODUCTION

Food advertisements are all around us: on television, on websites and social media and on the streets. But do they differ in different neighborhoods?

Are students exposed to different kinds of food advertisements depending on what neighborhood they live in?

### THE ISSUE

1. Watch the video “Food advertisements” with your students.
2. Ask your students which issues are being addressed in the video.
3. Ask your students if they have ever noticed any food advertisement close to where they live.
4. Tell your students that they are going to explore the food advertisements in different neighborhoods.

### INTO THE COMMUNITY

5. Discuss with your students the best methodology to explore the food advertisements in different neighborhoods. One possible methodology would be:
  - Divide students into groups.
  - Allocate to each group a neighborhood in the city with different characteristics (considering e.g., residences, parks, youth recreation center etc.).
  - Ask each group of students to photograph all advertisements they can see in their neighborhood.
6. Invite a physician/nutritionist to discuss the impact of food advertisements.

### AIMS

- To draw attention to different kinds of food advertisements.
- To explore and evaluate what type of food is advertised in different kinds of neighborhoods.
- To work together with a nutritionist to get a deeper understanding of food advertising.
- To raise awareness among the school community on the type of food advertised in different neighborhoods.

### SUSTAINABILITY COMPETENCES

- Critical thinking
- Developing creative solutions

### SOCIETAL ACTORS

- Physicians/nutritionists
- School community

### KEYWORDS

Food advertisements, food choices, marketing, food environment

### AGE RANGE

13-16 years old

## THE CO-CREATION PROCESS

6. Back in the classroom, download the pictures and other information gathered by the students into a common online platform, allowing access for all students.
7. Let the students compare what type of food is advertised in the different neighborhoods. Work together with the physician/nutritionist to discuss the findings and what impact it could possibly have.

## THE (SUGGESTED) SOLUTION

8. Create a poster or brochure describing the findings, informing about the type of food advertisements that exist in neighborhoods around the school, making any differences visible.
9. Display the posters or brochures in common areas at the school to raise awareness among the rest of the school community.
10. Share the posters or brochures with family and students of other classes.

## SUBJECTS

Citizenship / Civic participation

## TOPICS

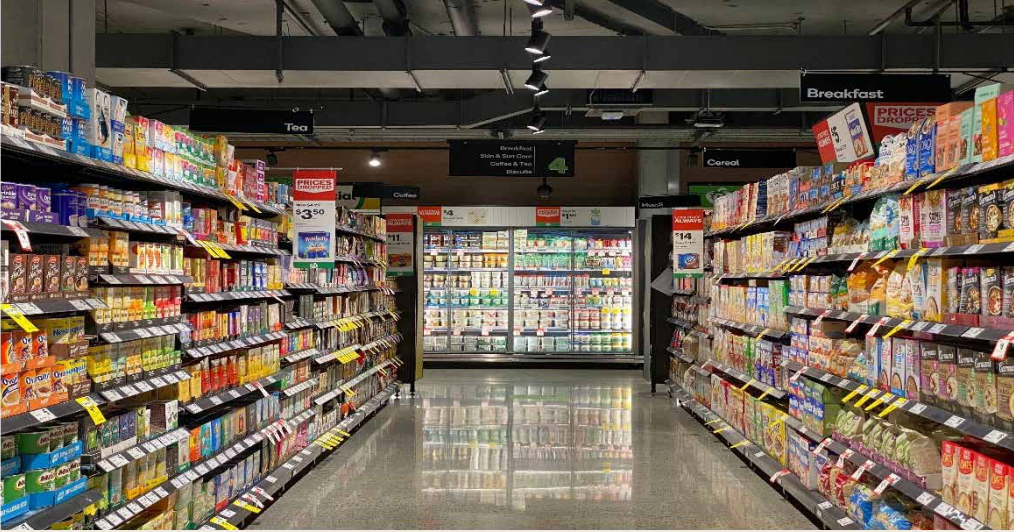
**Citizenship / Civic participation:**  
Sustainable development

## SETUP

Part of the activity will be developed outside school, and the other part inside school.

## MATERIALS

- Camera or cell phone
- Registration form (with columns to register information about each advertisement: e.g., the name of the company, the food advertised and its characteristics)
- Presentation materials



## EXPLORING SUPERMARKET CIRCULARS

### INTRODUCTION

Food advertisements are all around us: on television, on websites and social media and on the streets. Have you also thought about supermarkets? How do they advertise their products? One way that supermarkets advertise their products, and especially offers, is through circulars.

Do students ever look at supermarket circulars? What type of food do they advertise? Are there a lot of offers? For what?

In this activity students will explore circulars from different supermarkets and reflect on what type of food is advertised and how this is connected to healthy and sustainable dietary habits.

### THE ISSUE

1. Watch the video “Food advertisements” with your students as an introduction to the topic.
2. Ask your students if they or their families ever look at supermarket circulars.
3. Tell your students that they are going to explore circulars from different supermarkets around them.

### INTO THE COMMUNITY

4. Help your students to find supermarket circulars. They can be in either physical or digital form. If you want to save time you can ask the students to find a supermarket circular and bring it to the next class as a home assignment.
5. Ask your students to discuss with their families if they ever look at supermarket circulars and what they think about them and the food that they are advertising. Ask your students to write down what they discuss.

### AIMS

- To explore what type of food is advertised in supermarket circulars.
- To raise awareness among the school community families on what type of food is advertised in supermarket circulars.
- To create a supermarket circular that better promotes healthy and/or sustainable food consumption.

### SUSTAINABILITY COMPETENCES

- Critical thinking
- Envisioning future scenarios

### SOCIETAL ACTORS

- Families
- School community

### KEYWORDS

Food marketing, food choices, food offers, dietary recommendations

### AGE RANGE

13-16 years old

### SUBJECTS

Citizenship / Civic participation,  
Home and consumer science

## THE CO-CREATION PROCESS

6. In the classroom, divide the students into groups and let them analyze what type of food is being advertised in the supermarket circulars. Are there any differences between circulars from different stores? Are there many foods on offer? For what type of food?
7. Let the students share what they have discussed with their families. Ask the students to take notes from the family discussion and bring these back to the classroom.
8. Back in the classroom, look at the national dietary guidelines together with your class and let them discuss in groups if the dietary guidelines are reflected in the supermarket circulars.
9. Discuss in the class what they have found and share your own thoughts with the class

## THE (SUGGESTED) SOLUTION

10. Ask the students to create their own circular that better reflects the dietary guidelines. You can also choose to focus extra on sustainability aspects. This can be done by cutting and pasting from physical circular or it can be done using computers.
11. Share the outcomes within the school community and with the students' families.

## TOPICS

**Citizenship / Civic participation:**

Sustainable development

**Home and consumer science:**

Food choices

## SETUP

Part of the activity will be developed outside school, around the school premises. The rest of the activity will be developed inside school. During the activity, students share and discuss their findings with families.

## MATERIALS

- Supermarket circulars (physical or digital)
- Stationery items to be used for creating a circular, or computers with access to PowerPoint or another program that can be used to create a digital circular



## FOOD ADVERTISEMENT AROUND US

### INTRODUCTION

Food advertisements are all around us: on television, on websites and social media and on the streets...What about the school surroundings?

Do students notice the food advertisements that are present around their school? What kind of food advertisements are present and what type of food do they advertise?

### THE ISSUE

1. Watch the video “Food advertisements” with your students.
2. Ask your students which are the issues being addressed in the video.
3. Ask your students if they ever noticed any food advertisement on their way to school and around their school.
4. Tell your students that they are going to explore the food advertisements that are present around their school.

### INTO THE COMMUNITY

5. Discuss with your students the best methodology to explore the food advertisements around the school. One possible methodology would be:
  - Divide students into groups
  - Define an area around school (e.g. within a radius of 50 m)
  - Allocate to each group a sub-area within the defined area
  - Ask each group of students to photograph each advertisement that they find in the area
6. Take your students around the school to explore the food advertisements with the defined methodology.

### AIMS

- To draw attention to the food advertisements present around the school
- To explore and evaluate what type of foods are advertised around the school
- To raise awareness among the school community and local authorities on the type of food advertised around the school

### SUSTAINABILITY COMPETENCES

- Critical thinking
- Developing creative solutions

### SOCIETAL ACTORS

- Families
- School community
- Local authorities

### KEYWORDS

Food advertisements, food choices, marketing

### AGE RANGE

13-16 years old

## THE CO-CREATION PROCESS

7. Back in the classroom, download the pictures and other information gathered by the students into a common online platform, allowing access for all students.
8. Ask students to show at home, to their families, the food advertisements found around the school, and to discuss its characteristics (e.g., type of food, level of processing, nutritional value, etc).
9. Back in school, ask the students to share among them the conclusion they reached with their families.

## THE (SUGGESTED) SOLUTION

10. Ask your students to develop a digital infographics with the main findings of the food advertisements around school, with the purpose of raising awareness about the type of food that is being advertised and to which students are exposed on a daily basis.
11. Share the infographics with the school community, including teachers and families.
12. Send the infographics to the local authorities (e.g., city council, and parish council).

## SUBJECTS

Citizenship / Civic participation

## TOPICS

**Citizenship / Civic participation:**  
Sustainable development

## SETUP

Part of the activity will be developed outside school, around the school premises. The rest of the activity will be developed inside school. During the activity, students will share and discuss their findings with families.

## MATERIALS

- Camera or cell phone
- Registration form (with columns to register information about each advertisement: e.g., the name of the company, the food advertised and its characteristics)



## LET'S TAKE CARE OF HONEYBEES!

### INTRODUCTION

In this Open Learning Scenario, the students are going to realise the importance of bees as pollinators for the food system, identify honeybees from other types, observe the environment near the bees, make conclusions about the plants honeybees prefer and create a bee hotel (in urban environment)

### THE ISSUE

1. Watch the video with your students.
2. Ask your students which the issues are being addressed in the video.
3. Ask your students if they ever think about the importance of bees as pollinators.
4. Discuss with the students if they are aware of the impact to the environment/food system if bees will extinct.

### INTO THE COMMUNITY

5. Take your students to a local park.
6. Ask half of the classroom to take notes of the environment around bees (see worksheet).
7. Ask the other half of the classroom to talk to honey producers regarding challenges that bees are under.
8. Back to the classroom, ask students to discuss the findings based on the analysed produce and on the interviews.

### THE CO-CREATION PROCESS

9. Discuss with students which actors they could consult in order to help them come up with actions they could do in order to support bees not to extinct.
10. Help student to invite the identified societal actors for a co-creation event about the importance of saving the bees.

### AIMS

- To identify the importance of bees as pollinators for all food products
- To raise awareness among the school and local community (particularly in urban environments) about the importance of bees as pollinators and challenges for their extinction

### SOCIETAL ACTORS

- Honey producers
- NGO about bees' protection

### KEYWORDS

bees, honeybees, pollinators, biodiversity

### AGE RANGE

- 10-12 years old

### SUBJECTS

- Biology
- Citizenship / Civic Participation

### TOPICS

**Citizenship / Civic Participation:**

Sustainable development

**Biology:** Biology of insects, bee, biodiversity, study of the environment



11. Organize the co-creation event to take place in the school space, guaranteeing it is an informal moment where the students have the same voice as any other participant.
12. During the co-creation event, discuss the impacts bees extinction and possible solutions to support their population.

### **THE (SUGGESTED) SOLUTION**

13. One solution for the problem is to develop an awareness campaign in students' neighbourhoods about supporting bees (planting the plants/herbs they prefer in gardens/balconies).
14. A prototype for a bee hotel in the school garden; Planting climbing bee plants and wildflowers in school hedges for off-seasons).
15. Help students test the prototype bee hotel with representatives of the target audience to find out if there needs to be changes or improvements.
16. After developing the final version of the prototype, distribute guidelines among local people for creating bee hotels /planting herbs in their balconies & school gardens.

Carry out responsible citizenship interventions (feasible and substantiated) aimed at preventing/minimizing/remedy the problem under study

### **SUSTAINABILITY COMPETENCES**

- Valuing the environment
- Collaborating and connecting
- Critical thinking
- Developing creative solutions

### **SET-UP**

- The first part of the activity is developed outside school, on a local park
- The rest of the activity can be developed in school context

### **MATERIALS**

- Camera or cell phone
- Registration form (with columns for Day of Observation, Season, Temperature, Water, Type of plant)
- Interview forms (with questions selected by the students)



## HONEY & HONEY PRODUCTS IN OUR DAILY LIVES

### INTRODUCTION

In our daily life we use products that often have honey as an ingredient along with other ingredients. In this activity, students will explore the honey production process and how the bees collect the honey. We talked about bees and their community, the cooperation they have with each other and how important they are for the environment and humans.

Students will realise that honey may be used initially as food, giving us energy and strength and in a second stage can also be used in other products that we have at home, such as candles, hand creams, shampoos and soaps, and even perfumes (apart from odour, honey as an ingredient).

### THE ISSUE

1. Watch the video with your students.
2. Explore with the students the interactive aspects of the video.
3. Ask your students which issues are being addressed in the videos.
4. Ask your students if they know production process of honey and products of honey.
5. Discuss with the students if they are aware of the health benefits of consuming honey.
6. Discuss with the students the importance of bees as pollinators.

### INTO THE COMMUNITY

7. Take your students to a local honey producer to discuss about honey production process.
8. Ask the students to interview the honey producer about production process, different types of honey and the products in which honey is contained.
9. Back to the classroom, ask students to discuss the findings based on the visit and/or interview.

### AIMS

- To identify honey products in our daily lives
- To raise awareness about the importance of honey

### SOCIETAL ACTORS

- Families
- Honey producer/beekeeper
- School community (students, teachers)

### KEYWORDS

- Olives, olive oil

### AGE RANGE

- 10-12 years old

### SUBJECTS

- Citizenship / Civic participation
- Natural sciences

### TOPICS

**Citizenship / Civic participation:** Sustainable development  
**Natural Sciences:** Environmental sustainability and human health

## THE CO-CREATION PROCESS

10. Use the discussion findings to collect products which include honey (students bring from home).
11. During the shared lunch, ask the students to discuss with groups of students about the impacts on health of consuming honey.
12. Students in groups make cardboard honeycombs discussing the life of bees.

## THE (SUGGESTED) SOLUTION

13. A prototype can be the creation of candles that contain honey, sesame bars (pasteli).
14. Ask feedback from the honey producer/beekeeper to improve product texture and appearance.
15. Organise a fest in which students sell their honey products and earnings are donated to the local social grocery store.
16. After developing the final version of guidelines for production (e.g., candles containing honey or recipes such as sesame bars with honey) students distribute it to the whole school community.

## SUSTAINABILITY COMPETENCES

- Collaborating and connecting
- Critical thinking
- Developing creative solutions
- Valuing the environment and healthy habits

## SET-UP

The first part of the activity can be developed outside school (olive oil producer).

The activity can be developed in school context.

## MATERIALS

- Questionnaire about the honey products



## LET'S INCLUDE OLIVE OIL IN OUR NUTRITION!

### INTRODUCTION

Did you know how important olive oil is for our health? In this activity, we will investigate the nutritional habits of the students and mainly the use of olive oil in their diet, as olive oil and olives are a local product.

Afterwards, various actions can be organized such as healthy breakfast with food recipes containing olive oil, recipe collection, cooking with oil cookies at school, etc., visits to the local olive press. This will be followed by information from various agencies such as olive growers, agronomists, nutritionists, food technologists, either live or online, simultaneously involving parents in all of this with the aim of increasing the use of olive oil in the families of our students and, above all, including it in their daily diet.

Finally, an event will be organized, on the topic of the value of olive oil in the Mediterranean diet and all stakeholders and parents will be invited to disseminate the results, or a brochure or a poster will be created with drawings, slogans of the students.

### THE ISSUE

1. Watch the video with your students.
2. Explore with the students the interactive aspects of the video.
3. Ask your students which issues are being addressed in the videos.
4. Ask your students if they know production process of olive oil and recipes that contain olive oil.

### INTO THE COMMUNITY

5. Take your students to a local olive oil producer to discuss about olive oil production process and health benefits.
6. Ask the students to interview the olive oil producer about production process, types of oil olive and the products in which olive oil is contained.

### AIMS

- To raise awareness about the benefits of consuming olive oil
- To learn about olive oil production process

### SOCIETAL ACTORS

- Families
- Olive tree producer, oil mill owner
- Nutritionist
- School community (students, teachers)

### KEYWORDS

Olives, olive oil

### AGE RANGE

- 10-12 years old

### SUBJECTS

- Citizenship / Civic participation
- Natural sciences

### TOPICS

**Citizenship / Civic participation:** Sustainable development

**Natural Sciences:** Environmental sustainability and human health

7. Back to the classroom, ask students to discuss the findings based on the visit and/or interview.

### **THE CO-CREATION PROCESS**

8. Use the discussion findings to collect products which include olive oil (students bring from home).
9. During the shared lunch, ask the students to discuss with groups of students about the impacts on health of consuming olive oil.

### **THE (SUGGESTED) SOLUTION**

10. Ask your students to develop a digital infographic/poster with the main findings of olive oil consumption health benefits with the purpose of raising awareness about it.
11. Ask feedback from the nutritionist to improve infographic.
12. A prototype can be students cooking recipes containing olive oil (such as cookies) at school.
13. Organise a fest in which students offer their products containing olive oil and earnings are donated to the local social grocery store.
14. Share the infographics with the school community, including teachers and families.

### **SUSTAINABILITY COMPETENCES**

- Collaborating and connecting
- Critical thinking
- Developing creative solutions
- Valuing the environment and healthy habits

### **SET-UP**

The first part of the activity can be developed outside school (olive oil producer).

The activity can be developed in school context.

### **MATERIALS**

- Questionnaire about the olive oil production process



## OLIVE OIL PRODUCTION & WASTE MANAGEMENT

### INTRODUCTION

Did you know how important olive oil is for our health? In this activity, we will investigate the nutritional habits of the students and mainly the use of olive oil in their diet, as olive oil and olives are a local product.

Afterwards, various actions can be organized such as healthy breakfast with food recipes containing olive oil, recipe collection, cooking with oil cookies at school, etc., visits to the local olive press. This will be followed by information from various agencies such as olive growers, agronomists, nutritionists, food technologists, either live or online, simultaneously involving parents in all of this with the aim of increasing the use of olive oil in the families of our students and, above all, including it in their daily diet.

Finally, an event will be organized, in which students will share the outcomes of their survey regarding olive oil production process, means used to clean the oil mills and waste management.

### THE ISSUE

1. Watch the video with your students.
2. Explore with the students the interactive aspects of the video.
3. Ask your students which issues are being addressed in the videos.
4. Ask your students if they know production process of olive oil and recipes that contain olive oil.

### INTO THE COMMUNITY

5. Take your students to a local olive oil producer to discuss about olive oil production process, waste management, the problems that they face along the way and the challenges of placing olive oil on the market.

### AIMS

- To raise awareness about the benefits of consuming olive oil
- To learn about olive oil production process

### SOCIETAL ACTORS

- Families
- Olive tree producer, oil mill owner
- School community (students, teachers)

### KEYWORDS

Olives, olive oil

### AGE RANGE

- 10-12 years old

### SUBJECTS

- Citizenship / Civic participation
- Natural sciences

### TOPICS

**Citizenship / Civic participation:**

Sustainable development

**Natural Sciences:** Environmental sustainability and human health

6. Ask the students to interview the olive oil producer about production process, types of oil olive and waste management.
7. Back to the classroom, ask students to discuss the findings based on the visit and/or interview.

### **THE CO-CREATION PROCESS**

8. Use the discussion findings to collect products which include honey (students bring from home).
9. During the shared lunch, ask the students to discuss with groups of students about the impacts on health of consuming olive oil.

### **THE (SUGGESTED) SOLUTION**

10. Ask your students to develop a digital infographic/poster with the main findings of olive oil production process and waste management.
11. Ask feedback from the olive mill owner to improve infographic.
12. Share the infographics with the school community, including teachers and families.

### **SUSTAINABILITY COMPETENCES**

- Collaborating and connecting
- Critical thinking
- Developing creative solutions
- Valuing the environment and healthy habits

### **SET-UP**

The first part of the activity can be developed outside school (olive oil producer).

The activity can be developed in school context.

### **MATERIALS**

- Questionnaire about the olive oil production process



## GREEN SCHOOL...TURNING COOKED OLIVE OIL INTO BIODIESEL

### INTRODUCTION

Did you know about air pollution from fossil fuels and water quality degradation from disposing cooked oil? Moreover, as Greece is the third largest olive-oil producing country, the improper disposal of waste cooking oil from households, restaurants and local businesses leads to water quality degradation. On the other hand, creating and using biodiesel instead of crude oil can have positive impacts on the environment and economy. Biodiesel is a renewable, nontoxic, and biodegradable fuel. Also, biodiesel saves the school a little money on gasoline, gives the students lessons in engineering and chemistry and removes oil from the waste stream.

In this activity, we will investigate the benefits of sustainable management of cooked olive oil. Afterwards, cooked olive oil will be collected in a corner of the school and sent to a respective stakeholder for turning it to biodiesel. Biodiesel can be used in any diesel engine (trucks, vehicles, and other equipment). The biodiesel will be made and used locally.

### THE ISSUE

1. Watch the video with your students.
2. Explore with the students the interactive aspects of the video.
3. Ask your students which issues are being addressed in the videos.
4. Ask your students if they know the environmental impact of the production process of olive oil and the disposal of cooked olive oil.

### INTO THE COMMUNITY

5. Take your students to a local olive oil producer to discuss about olive oil production process, waste management, the challenges of disposal of cooked olive oil.

### AIMS

- To raise awareness about the impact of cooked/fried olive oil
- To learn about olive oil production process and waste management
- To learn about the need for sustainable waste management, need for alternative energy sources

### SOCIETAL ACTORS

- Families
- Olive tree producer, oil mill owner
- Local restaurants
- School community (students, teachers)

### KEYWORDS

Olives, olive oil, biodiesel

### AGE RANGE

- 10-12 years old

### SUBJECTS

- Citizenship / Civic participation
- Natural sciences



6. Ask the students to interview the olive oil producer about production process, waste management and methods for sustainable management of cooked olive oil.
7. Back to the classroom, ask students to discuss the findings based on the visit and/or interview.

### THE CO-CREATION PROCESS

8. Discuss with students which societal actors can help them with collection of s cooked olive oil and sustainable management of cooked olive oil.
9. Help students to invite the identified societal actors (families, local restaurants owners) for a co-creation event where they will analyse potential sustainable ways of cooked olive oil disposal.

### THE (SUGGESTED) SOLUTION

10. Create an environmental committee in the school (composed of 3-5 students).
11. Ask your students to develop a digital infographic/brochure with the main findings of olive oil production process, waste management and benefits of reducing emissions from fossil fuels by recycling cooking oil & asking local community (homes, restaurants) to participate in cooked oil collection/recycling.
12. Create a corner in the school yard (asking support from local municipality) where students collect cooked olive oil (from their homes, the school restaurant/canteen and local restaurants) and then send it to respective businesses for turning it to biodiesel.
13. Share the infographics with the school community, including teachers and families in order to raise their awareness.

### TOPICS

#### Citizenship / Civic participation:

Sustainable development

#### Natural Sciences:

Environmental sustainability and human health  
Physics, chemistry, biology

### SUSTAINABILITY COMPETENCES

- Collaborating and connecting
- Critical thinking
- Developing creative solutions
- Valuing the environment and healthy habits

### SET-UP

The first part of the activity can be developed outside school (olive oil producer).

The activity can be developed in school context.

### MATERIALS

- Creating a corner for cooked olive oil collection



## HANDMADE SOAP FROM COOKED OIL

### INTRODUCTION

Did you know about air pollution from fossil fuels and water quality degradation from disposing cooked oil? Moreover, as Greece is the third largest olive-oil producing country, the improper disposal of waste cooking oil from households, restaurants and local businesses leads to water quality degradation. On the other hand, creating and using biodiesel instead of crude oil can have positive impacts on the environment and economy. Biodiesel is a renewable, nontoxic, and biodegradable fuel. Also, biodiesel saves the school a little money on gasoline, gives the students lessons in engineering and chemistry and removes oil from the waste stream.

In this activity, we will investigate the benefits of sustainable management of cooked olive oil. Afterwards, cooked olive oil will be collected in a corner of the school and sent to a respective stakeholder for turning it to biodiesel. Biodiesel can be used in any diesel engine (trucks, vehicles, and other equipment). The biodiesel will be made and used locally.

### THE ISSUE

1. Watch the video with your students.
2. Explore with the students the interactive aspects of the video.
3. Ask your students which issues are being addressed in the videos.
4. Ask your students if they know the environmental impact of the production process of olive oil and the disposal of cooked olive oil.

### INTO THE COMMUNITY

5. Take your students to a local olive oil producer to discuss about olive oil production process, waste management, the challenges of disposal of cooked olive oil.

### AIMS

- To raise awareness about the impact of cooked/fried olive oil
- To learn about olive oil production process and waste management
- To learn about the need for sustainable waste management, need for alternative energy sources
- To realize the magnitude of the problem of not recycling used oils,
- To see in practice how “useless” materials can be exploited, turning them into useful ones.
- To take action, as active citizens, and to inform parents and the local community about the importance of protecting the environment and especially the Phreatic zone of the area and for everyone to mobilize, participating in an expanded program of collection and recycling of used oils developing a dynamic ecological consciousness.

### SOCIETAL ACTORS

- Families
- Olive tree producer, oil mill owner
- Local restaurants
- School community (students, teachers)

6. Ask the students to interview the olive oil producer about production process, waste management and methods for sustainable management of cooked olive oil.
7. Back to the classroom, ask students to discuss the findings based on the visit and/or interview.

### THE CO-CREATION PROCESS

8. Discuss with students which societal actors can help them with collection of s cooked olive oil and sustainable management of cooked olive oil.
9. Help students to invite the identified societal actors (families, local restaurants owners) for a co-creation event where they will analyse potential sustainable ways of cooked olive oil disposal.

### THE (SUGGESTED) SOLUTION

10. Ask your students to develop a digital infographic/brochure with the main findings of olive oil production process, waste management and benefits of reducing emissions from fossil fuels by recycling cooking oil & asking local community (homes, restaurants) to participate in cooked oil collection/recycling.
11. Create a corner in the school yard (asking support from local municipality) where students collect cooked olive oil (from their homes, the school restaurant/canteen and local restaurants).
12. Turn cooked olive oil into hand soap.
13. Organise a fest in which students offer their products (soaps) and earnings are donated to the local social grocery store.

### KEYWORDS

- Olives, olive oil, biodiesel

### AGE RANGE

- 10-12 years old

### SUBJECTS

- Citizenship / Civic participation
- Natural sciences

### TOPICS

#### Citizenship / Civic participation:

Sustainable development

#### Natural Sciences: Environmental

sustainability and human health

Physics, chemistry, biology

### SUSTAINABILITY COMPETENCES

- Collaborating and connecting
- Critical thinking
- Developing creative solutions
- Valuing the environment and healthy habits

### SET-UP

The first part of the activity can be developed outside school (olive oil producer).

The activity can be developed in school context.

### MATERIALS

- Creating a corner for cooked olive oil collection



## COOKING WITH MYRTIS

### INTRODUCTION

Do we know Mediterranean diet and their principles? Can you imagine what are the benefits for health and environment? In which degree do we adopt the Mediterranean diet on a daily basis?

In this Open Learning Scenario, the students will get to know about the benefits of consuming local and traditional products. They will collect local traditional recipes (linkage with history lesson, social sciences), organise a fest and offer cooked traditional honeypies using the knowledge and information collected in the organization/nutritionist. In the co-creation process, they will discuss the impacts on health with a nutritionist and the school community.

With the information gathered, students will create a flyer with the principles of the Mediterranean diet and share it with the community.

### THE ISSUE

1. Watch the video with your students.
2. Explore with the students the interactive aspects of the video.
3. Ask your students which issues are addressed in the video.
4. Ask your students if they know the Mediterranean diet and its principles.
5. Discuss with the students if they are aware of the impact to the health of the Mediterranean diet, as well as, to the environment.
6. Discuss with the students if they are aware of traditional products (in different geographical regions of the country) and local traditional recipes.

### AIMS

- To understand the role of food in history and our daily lives
- To identify the benefits of consuming local traditional products
- To identify the Mediterranean diet
- To discuss the benefits of Mediterranean diet
- To raise awareness about the importance of Mediterranean diet based on food diversity, for health and the environment

### SOCIETAL ACTORS

- Families
- Nutritionist
- School community (students, teachers and school canteen catering)

### KEYWORDS

- Mediterranean diet, health and environmental benefits, food diversity, local products

### AGE RANGE

- 10-12 years old

## INTO THE COMMUNITY

7. Take your students to/invite a nutritionist to learn about Mediterranean diet and its principles.
8. Ask the students to interview the nutritionist about the characteristics of the Mediterranean diet. Use a registration form.
9. Back to the classroom, ask students to discuss the findings based on the visit and/or interview.
10. Ask students to record local products per geographical area of the country and collect local traditional recipes.

## THE CO-CREATION PROCESS

11. Use the discussion findings to organize a meeting with the school restaurant caterer to discuss about the school meal offered daily.
12. Organize with the students a fest at school (logistics, food/recipe selection, and a q/re about following the Mediterranean diet).
13. During lunch time, ask the students to discuss with groups of students about the impacts on health and the environment of Mediterranean diet.

## THE (SUGGESTED) SOLUTION

14. A prototype can be the conception of a flyer with all Mediterranean diet benefits.
15. Help students developing the fest at the school and present the flyer to the audience asking for feedback to find out if the prototype needs to be changed or improved and collect data regarding adherence to the Mediterranean diet.
16. Help students organise a fest in which students cook a traditional recipe (eg honey pie, olive oil & honey containing olive oil and honey and earnings are donated to the local social grocery store
17. After developing the final version of the flyer, distribute it among the families and the local community.

## SUBJECTS

- Citizenship / Civic participation
- Natural sciences

## TOPICS

### Citizenship / Civic participation:

Sustainable development

**Natural Sciences:** Environmental sustainability and human health

## SUSTAINABILITY COMPETENCES

- Collaborating and connecting
- Critical thinking
- Developing creative solutions
- Valuing the environment and healthy habits

## SET-UP

The first part of the activity can be developed outside school (depending on the students finding an organization related to Mediterranean diet in their community or a nutritionist in alternative).

The activity can be developed in school context.

## MATERIALS

- Camera
- Registration form (Mediterranean diet principles)
- Questionnaire about the Mediterranean diet (quiz)



## A DAILY MEAL IN ANCIENT GREECE AND ...NOW

### INTRODUCTION

Do we know Mediterranean diet and their principles? Can you imagine what are the benefits for health and environment? To which degree do we adopt the Mediterranean diet on a daily life?

In this Open Learning Scenario, the students will get to know the age-old food tradition of Mediterranean diet and its relevance to our lives today. They will compare food habits in Ancient Greece and now using the knowledge and information collected online and in collaboration with a historian/nutritionist. In the co-creation process, they will discuss the impacts on health and planet (plant-based diet).

With the information gathered, students will create a flyer with the principles of the Mediterranean diet and share it with the community.

### THE ISSUE

1. Watch the video with your students.
2. Explore with the students the interactive aspects of the video.
3. Ask your students which are the issues being addressed in the video.
4. Ask your students if they know the Mediterranean diet, its principles and the pyramid.
5. Discuss with the students if they are aware of the impact to the health of the Mediterranean diet, as well as, to the environment.

### INTO THE COMMUNITY

6. Take your students to an archaeological site (e.g., Keramikos where Myrtis head was found) and ask about Mediterranean diet or a nutritionist that are familiar with the Mediterranean diet.

### AIMS

- To understand the role of food in history and our daily lives
- To identify the Mediterranean diet
- To discuss the benefits of Mediterranean diet
- To raise awareness about the importance of Mediterranean diet based on food diversity, for health and the environment

### SOCIETAL ACTORS

- Families
- Nutritionist
- School community (students, teachers and school canteen catering)

### KEYWORDS

Mediterranean diet, health and environmental benefits, food diversity

### AGE RANGE

- 10-12 years old

### SUBJECTS

Citizenship / Civic participation  
Natural sciences

7. Ask the students to interview the historian and then possibly a nutritionist about the dietary habits of ancient Greeks and about Mediterranean diet principles back then and now (meat consumption back then and now).
8. Back to the classroom, ask students to discuss the findings based on the visit and/or interview.

### THE CO-CREATION PROCESS

9. During lunch time at the school restaurant students circulate a questionnaire or you're your pyramid card to collect the dietary habits of their fellow students.
10. During the shared lunch, ask the students to discuss with groups of students about the impacts on health and the environment of Mediterranean diet.

### THE (SUGGESTED) SOLUTION

11. One solution can be presentation of outcomes of the survey (regarding adherence with Mediterranean diet).
12. A prototype for this solution can be the conception of a flyer with the updated Mediterranean diet pyramid and the Healthy eating plate with the help of art and science teachers.
13. Help students prepare a healthy and Mediterranean fest in the school and present the flyers to the audience asking for feedback to find out if the prototypes needs to be changed or improved (e.g. more visual support, etc.).
14. After developing the final version of the Flyers, distribute it among the families and the local community.

### TOPICS

**Citizenship / Civic participation:** Sustainable development  
**Natural Sciences:** Environmental sustainability and human health

### SUSTAINABILITY COMPETENCES

- Collaborating and connecting
- Critical thinking
- Developing creative solutions
- Valuing the environment and healthy habits

### SET-UP

The first part of the activity can be developed outside school (starting with an archaeological site, a historian/nutritionist).

The activity can be developed in school context.

### MATERIALS

- Registration form (Mediterranean diet principles)
- Questionnaire about the Mediterranean diet (quiz)



## THE WEALTH OF MY REGION

### INTRODUCTION

The students get to know experientially through the field study the food products of their place, interacting with the local and wider community. In particular, they gather information from experts on both olive cultivation and the honey production process. The knowledge they gain is captured by the use of the Makey Makey-Standard Kit and the construction of an improvised model, which they use to program floor robotic systems (mTiny, Bee bot, Kids First Coding, Botley, Edison).

### THE ISSUE

1. Watch the video with your students.
2. Explore with the students the interactive aspects of the video.
3. Ask your students which are the issues being addressed in the video.
4. Ask your students if they know the Mediterranean diet.
5. Discuss with the students if they are aware of the impact to the health of the Mediterranean diet, as well as, to the environment.

### INTO THE COMMUNITY

6. Take your students to a local organization that develop activities about Mediterranean diet or a nutritionist that are familiar with the Mediterranean diet.
7. Ask the students to interview the representative of the organisation/ nutritionist about the characteristics of the Mediterranean diet. Use a registration form.
8. Back to the classroom, ask students to discuss the findings based on the visit and/or interview.

### AIMS

- To identify the Mediterranean diet
- To discuss the benefits of Mediterranean diet
- Familiarity with the local food products of the area

### SOCIETAL ACTORS

- Families
- Nutritionist
- Food sellers in local open markets
- School community (students, teachers and school canteen catering)

### KEYWORDS

Mediterranean diet, health and environmental benefits, food local products

### AGE RANGE

- 10-12 years old

### SUBJECTS

- Citizenship / Civic participation
- Natural sciences



## THE CO-CREATION PROCESS

9. Use the discussion findings to organize a meeting with the school canteen catering and the nutritionist to organize a shared lunch.
10. Experiential field study and information gathering about local food products.

## THE (SUGGESTED) SOLUTION

11. A prototype for this solution can be Construction of a model showing the map of the country in which students write down different local products and stick pictures of them /use of educational robotics in which the bee takes the route to honey production.

## TOPICS

**Citizenship / Civic participation:** Sustainable development  
**Natural Sciences:** Environmental sustainability and human health

## SUSTAINABILITY COMPETENCES

- Collaborating and connecting
- Critical thinking
- Developing creative solutions
- Valuing the environment and healthy habits

## SET-UP

The first part of the activity can be developed outside school (local open food market producers).  
The activity can be developed in school context.

## MATERIALS

- Questionnaire about local food products



## FROM SCHOOL GARDEN TO FORK!

### INTRODUCTION

In this Open Learning Scenario, the students are going to learn about the whole food cycle from planting till consuming and composting!

### THE ISSUE

1. Watch the video with your students.
2. Explore with the students the interactive aspects of the video.
3. Ask your students which are the issues being addressed in the video.
4. Discuss with the students if they are aware of the impact to the health and environment of the food they eat.

### INTO THE COMMUNITY

5. Visit a local community garden or farm to observe plants growing and learn about sustainable farming practices.
6. Visit a local community garden or farm to observe plants growing and learn about composting practices.

### THE CO-CREATION PROCESS

7. Plan and plant a small garden or herb pots in the classroom or schoolyard.
8. Work in groups to create posters or a short skit about sustainable food production to raise awareness among classmates and other students.
9. Organize a classroom taste test using ingredients produced from the school garden.

### AIMS

- Explore different types of foods and how they are grown or produced.
- Understand the concept of sustainable food production and its importance for the environment.
- Engage with local farmers and environmental organizations to learn about sustainable food production.
- Learn about the concept of food waste and brainstorm ideas for reducing it.

### SOCIETAL ACTORS

- Local farmers
- Community garden coordinators
- Municipality

### KEYWORDS

Plants, environmental benefits, food waste, permaculture

### AGE RANGE

- 10-12 years old

### SUBJECTS

- Citizenship / Civic participation
- Natural sciences

## THE (SUGGESTED) SOLUTION

10. Organise a fest in which students sell their products containing ingredients from the school garden and earnings are used in order to buy a composter for the school or organise meeting with the municipality and/or organise crowd-raising campaigns for collecting the required money.

## TOPICS

**Citizenship / Civic participation:** Sustainable development  
**Natural Sciences:** Environmental sustainability and human health

## SUSTAINABILITY COMPETENCES

- Valuing the environment
- Critical thinking
- Collaborating and connecting
- Experimenting and testing
- Developing creative solutions

## SET-UP

The first part of the activity is developed outside school in a community garden or farm  
The rest of the activity can be developed in school context.

## MATERIALS

- Questionnaire
- School garden flower beds
- Containers for water conservation to be used for garden irrigation



## ECOTEMPE: LEARNING TO TRANSFORM LEFTOVERS INTO SUPERFOOD

### INTRODUCTION

In “EcoTempe,” young participants will learn how to reduce food waste and create a delicious source of plant-based protein using food scraps. During this hands-on workshop, students ages 10 to 13 will develop culinary skills and sustainability knowledge while preparing tempe, a traditional Indonesian food made from fermented soybeans.

### THE ISSUE

1. Ask if students are familiar with food waste.
2. Share interesting details from the workshop to spark curiosity.
3. Begin by showing the class the food waste video (INTRO).
4. Choose the “Reduce waste” section. Action 1.
  - Discussion 1:** Facilitate a brief class discussion, using the 2 questions mentioned in the video as a starting point. Prepare two related questions in advance
  - Discussion 2:** What can be done to address food waste? Facilitate a brief class discussion
  - Discussion 3:** Do you think that leftover food at home, in the school canteen, in your community can be reused?
  - Discussion 4:** Have you heard of the Tempe preparation?
  - Discussion 5:** Introduction to tempe: what is it and how is it made?
  - Discussion 6:** Discussion on how tempe can help reduce food waste?

### INTO THE COMMUNITY

5. Get and prepare the Ingredients.
6. Together with the Tempe Experts (Optional) let’s investigate what food scraps can be used to produce our own homemade tempe.
7. Let’s organise visits to the school cafeteria with the students and ask the cafeteria administrator:

### AIMS

- Sustainable food awareness
- Nutrition awareness
- Culinary skills
- Understanding fermentation
- Teamwork
- Cultural awareness
- Environmental awareness
- Responsibility and sustainability
- Communication and presentation
- Critical evaluation
- Promotion of healthy eating habits

### SUSTAINABILITY COMPETENCES

- Critical thinking
- Collaborating and connecting
- Valuing the environment
- Interpersonal development
- Developing creative solutions
- Understanding society
- Envisioning future scenarios
- Conceptualizing
- Taking initiative

### SOCIETAL ACTORS

- Teacher, facilitator or workshop leader
- Fathers, mothers,
- Host organisation
- Food waste organisations or experts
- Tempe organisations or experts
- Support staff

8. What are the foods that are wasted the most? Can any of these food scraps be reused to create our own homemade tempe? How could we preserve them?
9. Let's investigate at home what foods are wasted and ask the previous questions: What are the foods that are wasted the most? Can any of these food scraps be reused to create our own homemade tempe? How could we preserve them?
10. Let's collect the food that can be used to create our own homemade Tempe and preserve it for the next activity.

### THE CO-CREATION PROCESS

11. Tempe Fermentation and Cultivation. In this phase we recommend that both the Tempe Experts and the cafeteria manager accompany us in the preparation of the tempe.
12. Sorting and cleaning food scraps (e.g. vegetable peelings, leftover grains).
13. Preparation of soybeans (optionally you can use leftover soybeans).
14. Inoculation of soybeans with the spores of *Rhizopus oligosporus* (the fungus that causes tempe to ferment).
15. Suitable growing conditions: temperature and humidity.
16. Waiting for inoculation / preparation.

### THE (SUGGESTED) SOLUTION

17. Tasting and Reflection
18. Tempe disassembly.
19. Preparation of a tempe dish.
20. Tasting of the prepared tempe and discussion about the process and sustainability.
21. Reflection on the importance of reducing food waste and how they can apply what they learn at home.

### KEYWORDS

Responsible consumption, Meal planning

### AGE RANGE

10-12 years old

### SUBJECTS

- Area of autonomy, personal initiative and entrepreneurship.
- Education in values.
- Area of knowledge of the environment. Natural environment. Social and cultural environment

### TOPICS

### SETUP

Duration: The workshop will be conducted in four sessions of 90 minutes each, with one week between each session.

### MATERIALS

- Food scraps (vegetables, grains, etc.).
- Soy beans (optional).
- *Rhizopus oligosporus* spores (can be purchased in specialised stores or online).
- Fermentation containers.
- Thermometer.
- Aluminum foil or plastic sheets.
- Ingredients to accompany the tempe (optional).



## IMPERFECT FOOD: BEAUTY IN DIVERSITY

### INTRODUCTION

Imperfect foods are agricultural products with unconventional appearance, discarded for aesthetic standards. A recent movement seeks to take advantage of their nutritional value and taste, reducing waste. Companies sell or use them in processing, combating waste and promoting sustainability.”

### THE ISSUE

1. Ask if students are familiar with food waste.
2. Begin by showing the class the video on food waste (INTRO).
3. Choose action 2 “Enjoying imperfect food.”
4. Discussion: 10 min: Begin the activity by gathering students in a circle and talking about the importance of diversity in food. Ask them to describe the characteristics of imperfect foods based on the video.
5. Key discussion questions: What are imperfect foods? What do they look like? Are they as delicious and nutritious as perfect foods?

### INTO THE COMMUNITY

6. Observation of imperfect foods: Show the children some real imperfect foods (suggest visiting a local organic garden or farm and if not possible, visit the school canteen to look for these types of foods. Ask the farmer or school cafeteria administrators, if you could discuss the “beauty of diversity” with the students). Encourage them to look closely at the details and unique characteristics of each imperfect food. During the visit take photographs of the imperfect foods or provide cut-outs of imperfect foods.
7. Print on poster board or other paper the imperfect foods. Each shape should be large enough to decorate. Preprint them for the class. Have students cut them out.

### AIMS

- Teach students about healthy eating
- Reduce food waste
- Raise environmental awareness
- Encourage acceptance and inclusion

### SUSTAINABILITY COMPETENCES

- Collaborating and connecting
- Valuing the environment
- Interpersonal development
- Developing creative solutions
- Understanding society
- Envisioning future scenarios
- Critical Thinking
- Developing creative solutions

### SOCIETAL ACTORS

- school administrators
- students
- local farmer
- school cafeteria administrators

### KEYWORDS

Ugly food, eat imperfect

### AGE RANGE

10-12 years old

## THE CO-CREATION PROCESS

8. Once the images or drawings of the imperfect foods are printed, ask the students to make a collage with decorations in a creative way, highlighting the nutritional and taste properties of this type of food, the idea is that this collage will raise awareness among the people who look at the collage and promote the consumption of this type of food. Allow each student to decorate them using markers, crayons or coloured pencils. Encourage them to be creative and add unique details to each food. They can draw smiley faces, interesting patterns, or any other artistic elements. You can provide old magazines or catalogues to enrich the collage.

## CO-CREATE (SUGGESTED) SOLUTIONS

9. Exhibition and discussion: Once the students have completed their artwork, organise a small exhibition in the school or other appropriate space (Involve the school management to elaborate this exhibition space and disseminate it to the whole school) Invite the children to present their work and explain what they have learned about the beauty of diversity in imperfect food.
10. Conduct a brief round of reflections.

## SUBJECTS

- Area of autonomy, personal initiative and entrepreneurship.
- Education in values.
- Area of knowledge of the environment. Natural environment. Social and cultural environment
- Basic competences of the artistic field.

## TOPICS

## SETUP

2 hours

## MATERIALS

- Construction paper or cardboard of various colours.
- Scissors.
- Glue.
- Markers, crayons or coloured pencils.
- Old magazines or catalogues.
- Real imperfect food or printed pictures of imperfect food.



## ECO-HEROES IN TRAINING: THE COMPOST CREW!

### INTRODUCTION

There are hundreds of ways to prevent food waste in your home and community – composting is one of them! Composting is a natural process of breaking down organic matter that results in the production of compost, a valuable organic fertilizer for improving soil health and promoting plant growth. In this activity, I will show you the basics of composting and its importance for the environment and sustainable agriculture.

### THE ISSUE

1. Inquire if the students are familiar with food waste.
2. Begin by showing the class the food waste video (INTRO).
3. Choose a section. Action 3.
4. Brainstorming and discussion: Facilitate a brief class discussion, taking the following questions as a starting point. Have you heard of composting before? What is it about, according to the video?

### INTO THE COMMUNITY

5. Explain the composting process (You could invite a composting expert to inspire and explain the technique to the students) and teach the children which items are compostable and which are not. Alternate layers of green material (fruit and vegetable scraps) and brown material (cardboard, paper, and dried leaves).
6. Construction of the composter:
  - distribute the materials among the groups of students and guide them to start building their compost piles.
  - Wash the 2 litre soda bottle with water.
  - With the scissors we cut one of the bottles by the neck just when it begins to narrow. This bottle will hold the waste mixture for composting. We cut the other bottle in half according to the following figure.

### AIMS

- Environmental awareness
- Plant nutrition
- Practical learning
- Resource Saving

### SUSTAINABILITY COMPETENCES

- Collaborating and connecting
- Valuing the environment
- Interpersonal development
- Developing creative solutions
- Understanding society
- Envisioning future scenarios
- Critical Thinking
- Developing creative solutions
- Taking initiative
- Conceptualizing
- Experimenting and testing

### SOCIETAL ACTORS

- Abono KMO (Vermicompost association): <https://abonokm0.com/> Tarpuna: <https://www.tarpuna.org/>

### KEYWORDS

Composting

### AGE RANGE

8-12 years old



- The base of the bottle will serve to collect any leachate that may be generated.
- Pierce the first bottle at different heights to favour aeration and to be able to take the temperature. We also pierce the cap of the first bottle to collect any leachate that may be generated.
- We fill the bottle in the following way: We add soil until the base of the bottle is covered (2-3 cm). Add recycling paper cut into small pieces. Add a volume of bio-waste cut into small pieces (4-5 cm). We add a 1-2 cm layer of soil and a 1-2 cm layer of cut paper.
- Repeat the above until 80% of the first bottle is filled.
- Add a top layer of 1-2 cm of soil.

7. Remember students should wear gloves and handle the waste carefully.
8. Observing and caring for the compost, encourages the students to observe and care for the compost over time.
9. Explain that they should keep the compost moist but not too wet, and they can add more materials as they generate them.

### THE CO-CREATION PROCESS

10. (In this phase, you can ask composting experts to provide us with support)
11. Design a Blog with your learnings, here are some ideas:
12. Catchy Title and Design: You can use illustrations, bright colours and elements related to composting.
13. Introduction and Explanation: Includes an introduction to what composting is and why it is important for the environment. Explain how composting helps reduce waste and how students can contribute to this cause.
14. Observation Record: Create sections for students to record their observations throughout the composting process. It includes questions like: What organic materials have we added to the composter today? How does the composter look and smell today? Did you notice any change or transformation in the waste?
15. Illustrations and Photos: Leave space for students to draw or paste pictures of the composting process. This will allow them to visualise and document changes that occur over time.
16. Educational Activities: Add interactive and educational activities related to composting. For example, crossword puzzles, riddles or mazes with composting concepts.
17. Curious Facts: Includes curious and fun facts about composting and how waste is turned into useful fertiliser.
18. Goals and Results Pages: Add pages where students can set goals for composting and record the results as the compost develops.
19. Recycling Ideas: Offers suggestions on how students can recycle at

### SUBJECTS

- Area of autonomy, personal initiative and entrepreneurship.
- Education in values.
- Area of knowledge of the environment. Natural environment. Social and cultural environment.
- Basic competences of the artistic field.
- Basic competences of the digital area.

### TOPICS

#### SETUP

In-class and in-school activity 2 hours. Preparation of the area: Locate the composting site and distribute the necessary materials. Organise the students into small groups to facilitate collaboration.

#### MATERIALS

- One or two empty 2-liter soda bottles
- Scissors
- Pushpin or utensil to pierce the bottle
- Sifted garden soil
- Recycling paper
- A scale for weighing
- Adhesive tape.
- Marker pen.
- Ruler.
- Camera.
- Kitchen biowaste: vegetable scraps, tea bags, fruit scraps, etc. (avoid meat, fish and dairy scraps). It should be cut into small pieces.
- A thermometer
- A wooden stick to stir the mixture

home and add them to the compost.

20. **Care Tips:** Provides tips on how to properly maintain your composter, such as the importance of mixing your waste, maintaining a proper carbon to nitrogen ratio, etc.
21. **Note Space:** Leave enough space for students to write their own notes.

### **THE (SUGGESTED) SOLUTION**

22. **Sharing Experiences:** Encourage children to share their experiences and knowledge about composting with their friends, family, or classmates. Remember that the key to making the blog interesting and engaging is to involve children in the design and creation, allowing them to add their ideas and personal touches.



## FOOD ADVERTISEMENTS ACROSS DIFFERENT NEIGHBORHOODS

### INTRODUCTION

Biomaterials are special materials used in medicine and biology to help our bodies heal or replace damaged parts, or they can be used in everyday inventions that benefit people in their daily lives, such as biodegradable packaging for food and beverages. This means that these containers break down naturally in the environment, helping to reduce the amount of plastic waste and protecting the environment.

### THE ISSUE

1. Inquire if the students are familiar with food waste.
2. Begin by showing the class the food waste video (INTRO).
3. Choose the “making bio materials” section. Action 4.
4. Brainstorming and discussion (10 minutes): Facilitate a brief discussion in class, starting with the following questions: Have you heard about biomaterials before? Where can we use them? Would you like to create your own biomaterials? What organic waste do we have around us that we can use to create our own biomaterials? The debate will shed light on what kind of biomaterial we can work with and what food waste. These can come from the school cafeteria, from shops around the school or from our homes.

### INTO THE COMMUNITY

5. (In this phase, you can ask Biomaterials experts for help to explain the type of materials we can use in more depth and how to manufacture our biomaterials)
6. Once we decide what food waste we want to work with, we follow these steps:
  - Collect organic food scraps and make sure they are clean and free of pesticides or chemicals. You can ask the children to bring the remains from their homes or visit some markets or stores near the school.

### AIMS

- Examples of Biomaterials
- Biomaterials
- Importance of Biomaterials
- Science and Technology Impact
- Creativity and Innovation
- Sustainability
- Hands-on Activities
- Teamwork
- Sharing Findings

### SUSTAINABILITY COMPETENCES

- Collaborating and connecting
- Valuing the environment
- Interpersonal development
- Understanding society
- Envisioning future scenarios
- Taking initiative
- Experimenting and testing

### SOCIETAL ACTORS

Biomaterial designers: For more inspiration, Fab Lab Barcelona has designed some recipes as part of the REMIX THE SCHOOL project, in the following link choose the one you like the most as a reference. Biomaterial experts. Local and school community.

### KEYWORDS

Biomaterials, Organic food scraps

- Cut leftover food into smaller pieces for easier processing. For example, the peels of fruits and vegetables can be cut into strips or small pieces.
- Place the food chunks in the blender. Add a little water to help it mix and form a paste.
- Crush the remains of food until you get a uniform paste. Children can take turns helping at this stage, always under adult supervision.
- Prepare the plastic containers or moulds in which the mixture will be placed. The moulds can have different shapes, such as cookie sheets or disposable containers.
- Cover the pans with kitchen paper or paper towels to absorb excess moisture.
- Pour the mashed food paste into the moulds and use your fingers or a spatula to smooth the surface. Make sure the mixture is evenly distributed in the pans.
- Let the biomaterials air dry for several days. Drying time may vary depending on the size and moisture content of the materials. It is important that students understand that the drying process takes time and patience.

### THE CO-CREATION PROCESS

7. Once the biomaterials are completely dry, remove them from the moulds or fabric. They can decorate them by painting or using non-toxic markers

### THE (SUGGESTED) SOLUTION

8. As a reflection, Some questions to reflect on what you have learned and experienced: What is a biomaterial and what was the biomaterial you made in the workshop? Describe its characteristics and possible applications. What are the advantages of using biomaterials compared to conventional synthetic materials? What did you find most interesting or exciting about the biomaterial manufacturing process? Because? These questions will help you reflect on what you have learned and deepen the subject of biomaterials. Share your models in a kind of open exhibition. Ask for support from the school administration to select this space and help us spread the word about this small exhibition.

### AGE RANGE

10-12 years old

### SUBJECTS

- Area of autonomy, personal initiative and entrepreneurship.
- Education in values.
- Area of knowledge of the environment. Natural environment. Social and cultural environment
- Basic competences of the digital area.

### TOPICS

### SETUP

4 hours

### MATERIALS

- Organic food scraps (such as fruit peels, vegetables, coffee grounds, egg shells, etc.)
- Water
- Blender or food processor
- Plastic containers or moulds
- Kitchen paper or paper towels
- Nylon fabrics or meshes
- Scotch tape
- Other optional decorating materials (such as paint, markers, etc.)



## ECO-CLEANERS: TAKE CARE OF THE PLANET WHILE YOU CLEAN!

### INTRODUCTION

In this workshop we will discover how to make something incredible: a homemade all-purpose cleaner, but not just any old one! We will do it using organic waste, that is, things that we normally throw away in our kitchen. Can you imagine being able to clean and, at the same time, take care of our planet? Well, today we will make it possible! Throughout this workshop, we will learn the importance of reducing, reusing and recycling, and how small actions can have a big impact on our environment.

### THE ISSUE

1. Inquire if the children are familiar with food waste.
2. Begin by showing the class the food waste video (INTRO).
3. Choose the section Action 5. At the end of the video, he talks about the importance of reducing the use of harmful chemicals in our homes and how the homemade all-purpose cleaner can help protect the environment and health. Workshop Introduction. Discusses workshop safety and the need to follow instructions carefully. Shows the materials and their proper use.

### INTO THE COMMUNITY

4. Select what food scraps you will need to produce your homemade products and locate where you can find them, you can ask the local canteen to donate the food scraps from the kitchen, you can also go to local supermarkets or bring them from home. (Consult an expert manufacturer of homemade cleaning products for advice on this type of product)

### AIMS

- Promote environmental awareness
- Teach about organic waste
- Learn how to make homemade all-purpose cleaner
- Develop practical skills
- Encourage creativity
- Promote collaboration and teamwork

### SUSTAINABILITY COMPETENCES

- Collaborating and connecting
- Valuing the environment
- Interpersonal development
- Taking initiative
- Experimenting and testing
- Conceptualizing
- Innovative problem solving
- Envisioning future scenarios
- Understanding society
- Critical Thinking;
- Developing creative solutions

### SOCIETAL ACTORS

- Local restaurants
- School kitchen

### KEYWORDS

Multi-purpose cleaner, Homemade, Non-toxic products, Circular economy, Family wellness.

5. Guide students through the basic recipe for homemade all-purpose cleaner:
6. 1) Fill about 1/4 of the spray bottle with organic waste (e.g., citrus peels or mint leaves). 2) Add distilled white vinegar until half the bottle is filled. 3) Fill the rest of the bottle with water. 4) Allow them to experiment and add other ingredients if they want to try different combinations. 5) Labelling and decorating (10 min.): 5.1) Once each group has created their all-purpose cleaner, give each child a sticker and marker. 5.2) Ask the students to write “Eco-Friendly All-Purpose Cleaner” on the label and decorate the bottle with drawings and messages related to environmental stewardship.

### THE CO-CREATION PROCESS

7. Invite each group to present their homemade multi-purpose cleaner and explain what ingredients they used and why they chose those organic materials. Welcome the students and encourage them to share their thoughts on creating more environmentally-friendly cleaners and how they can make other changes in their daily lives to protect the planet. (You can invite an ecological organisation to present their homemade all-purpose cleaner and explain what ingredients they used and why they chose those organic materials and get feedback from them about our products)

### THE (SUGGESTED) SOLUTION

8. Final reflection: Ask the youth about their experience in the workshop and what they learned about creating homemade products with food waste. Encourage students to use the products at home.

### AGE RANGE

10-12 years old

### SUBJECTS

- Area of autonomy, personal initiative and entrepreneurship.
- Education in values.
- Area of knowledge of the environment. Natural environment. Social and cultural environment.
- Basic competences of the artistic field.

### TOPICS

#### SETUP

Approximately 60 minutes. Before conducting the workshop, it is important to make sure that no student has known allergies to the ingredients that will be used. Also, supervise and guide the students during the workshop to ensure safety and proper handling of the materials.

#### MATERIALS

- Clean, empty spray bottles.
- Common organic waste, such as citrus peels (lemons, oranges, etc.), vinegar, mint or lavender leaves.
- Distilled white vinegar.
- Water.
- Small funnel, Paper towels or cleaning cloths.
- Stickers and markers.



## FOOD WASTE AWARENESS CAMPAIGN

### INTRODUCTION

By creating a food waste awareness campaign, the students will have the opportunity to engage in activities that stimulate valuable skills such as research, critical thinking, creativity, effective communication, teamwork, planning and social awareness. These skills can be beneficial not only in addressing the problem of food waste, but also in other aspects of their personal and professional lives. Informative text to read together in class:

**15 short tips** to reduce food waste and become a hero in the food sector.

[fao.org/fao-stories/article/en/c/1309609/](https://fao.org/fao-stories/article/en/c/1309609/)

### THE ISSUE

1. Be open and friendly; introduce yourself.
2. Inquire if the students are familiar with food waste.
3. Share intriguing workshop details to pique curiosity.
4. Begin by showing the video's "Reducing waste" section. Action 1.
5. Brainstorming and discussion (20 min.): Facilitate a brief class discussion, taking as a starting point the 2 questions mentioned in the video: What can you do to avoid food waste on your daily basis? Encourage students to share ideas about how they could contribute to solve food waste issues. Encourage students to be imaginative and creative.

### INTO THE COMMUNITY

6. Preliminary research: Start by asking the students to research about food waste, its causes and consequences. Students may explore local and global information like statistics that we have shared with you in the toolkit for this course, as well as success stories from previous campaigns that they have observed in the city.
7. Key message and Brainstorming: Help the students identify a core

### AIMS

- Research
- Critical Thinking
- Creativity
- Effective Communication
- Teamwork
- Planning and Organisation
- Empathy and Social Awareness

### SUSTAINABILITY COMPETENCES

- Developing creative solutions
- Collaborating and connecting
- Critical Thinking
- Experimenting and testing
- Innovative problem solving
- Envisioning future scenarios
- Interpersonal development
- Understanding society
- Navigating politics
- Conceptualizing

### SOCIETAL ACTORS

Organisations in the sector (local supermarkets, restaurants, or community groups).

### KEYWORDS

Responsible consumption, Food reuse, Food donation, Meal planning

### AGE RANGE

13-16 years old

message for their campaign. It can be something like “Every Food Counts” or “Together Against Food Waste”. The message should be clear, memorable and motivating.

8. **Design materials:** Ask the students to create visual materials to communicate their message. They can design posters, brochures, infographics or even short videos. Encourage the use of eye-catching images and powerful messages.

### THE CO-CREATION PROCESS

9. **Interactive activities:** Organise interactive activities to involve the community. For example, you can hold creative cooking workshops using “forgotten” ingredients.
10. **Social networking and website:** Help students to create social networking profiles/web presence to spread their message. They can share their visuals, tips on how to reduce food waste and updates on campaign activities.

### THE (SUGGESTED) SOLUTION

11. **Collaborations:** Encourage students to seek collaborations with local supermarkets, restaurants or community groups. They could organise joint events, special promotions or workshops together to amplify their impact.
12. **Final reflection:** At the end of the campaign, ask the students to evaluate its effectiveness. collect community feedback, analyse social media metrics and reflect on challenges and achievements. This will help them learn and improve for future initiatives.
13. Remember that this activity is an opportunity for students to develop research, design, collaboration and social awareness skills - I hope they enjoy it and make a positive impact in the fight against food waste!

### SUBJECTS

- Core competencies of the artistic field
- Basic competencies in the area of culture and values (philosophy)
- Basic personal and social competencies
- Basic competencies in the digital domain
- Basic competencies in the area of culture and values
- Basic competences of the scientific-technological field

### TOPICS

### SETUP

4 hours

### MATERIALS

- Paper
- Scissors
- Glue
- Cut-outs
- Markers





## EMBRACING THE IMPERFECT FOOD

### INTRODUCTION

Imperfect foods, also known as ugly foods, defy conventional aesthetics. These agricultural items, with their odd shapes and colors, were once discarded due to beauty standards. Yet, a burgeoning movement seeks transformation. People increasingly recognize the equivalence in taste and nutrition. This initiative strives to curtail food waste and foster sustainability. Businesses now offer these products directly to consumers or incorporate them into processed goods. Embracing imperfect food safeguards nourishment and reduces waste, a vital stride toward conserving our environment's riches.

### THE ISSUE

1. Be open and friendly; introduce yourself.
2. Inquire if the students are familiar with food waste.
3. Share intriguing workshop details to pique curiosity.
4. Begin by showing the class the food waste video (INTRO).
5. Choose the "Enjoying imperfect food" Action 2.
6. Begin the activity by gathering the students in a circle and talking about the importance of diversity in food. Ask them to describe the characteristics of imperfect foods according to the video,
7. Key questions for discussion
8. What are imperfect foods?
9. What do they look like?
10. Are they just as delicious and nutritious as perfect foods?

### INTO THE COMMUNITY

11. Research and learning: Organise a research session in which students can delve deeper into the topic of imperfect food, exploring statistics, environmental impact and possible solutions. Encourage students to look for examples of campaigns, projects or initiatives related to reducing food waste and valuing imperfect food. Students can also look for local coops or markets where we can find imperfect products. Preferably you can take them to a place with

### AIMS

- Encourage healthy eating
- Reduce food waste
- Raise environmental awareness
- Promote acceptance and inclusion

### SUSTAINABILITY COMPETENCES

- Developing creative solutions
- Collaborating and connecting
- Critical Thinking
- Experimenting and testing
- Innovative problem solving
- Envisioning future scenarios
- Interpersonal development
- Understanding society
- Navigating politics
- Conceptualizing

### SOCIETAL ACTORS

Organisations from the sector (local cooperatives or markets)  
Les Espigoladors [https://  
espigoladors.cat/en/](https://espigoladors.cat/en/)

### KEYWORDS

Waste reduction

### AGE RANGE

13-16 years old

these characteristics.

12. Planning the exhibition: Explain to students that they will have the opportunity to create a photo exhibit to showcase the beauty of imperfect foods. Divide students into small groups and assign each group a specific aspect of imperfect foods, such as odd shapes, unconventional sizes, or different colours. Each group should plan what foods they want to photograph and how they want to present the photographs in the exhibit.

### THE CO-CREATION PROCESS

13. Participatory photography sessions: Visit a local cooperative, orchards, or organic farms. Using students' mobile devices, host hands-on imperfect food photography sessions. Encourage creativity and critical thinking as students capture unique images.
14. Photo selection and editing: After the photography sessions, ask students to select the best images from their group and edit them if necessary. Provide guidance on how to improve the quality of photographs by using editing tools such as colour, contrast, and cropping adjustments (You could include representatives of cooperatives, orchards or organic farms to select the photographs to display)

### THE (SUGGESTED) SOLUTION

15. Exhibition preparation: Arrange a space in the school where students can creatively display their photographs. This can be a classroom, hallway, or community space. Help students design informative posters and labels to accompany each photograph and highlight the importance of valuing imperfect food.
16. Opening of the exhibition: Invite the school community, parents, representatives of participating cooperatives, orchards or farms and other students to the opening of the exhibition. Ask students to briefly introduce the project and share what they have learned about imperfect foods.
17. Encourage visitors to reflect on the beauty and value of imperfect foods and how they can help reduce food waste.
18. Teacher's Notes: This activity suggests visiting a local cooperative or market.
19. Organising a field trip to a nearby farm that promotes imperfect foods for 13-year-old students can be an educational and enjoyable experience. Here are the steps to organise the trip:
20. Research local farms: Look for farms in your area that focus on imperfect foods or offer educational programs for students.
21. Contact the farm: Get in touch with the farm's owner or manager to discuss the possibility of arranging a field trip for students. Plan the itinerary: Work with the farm to plan the field trip, including a visit to the areas where foods are grown and an explanation of how they

### SUBJECTS

- Core competencies of the artistic field
- Basic competencies in the area of culture and values (philosophy)
- Basic personal and social competencies
- Basic competencies in the digital domain
- Basic competencies in the area of culture and value
- Basic competencies of the scientific-technological field

### TOPICS

#### SETUP

The teacher should facilitate everything necessary for the visit between the students and the local farmers. He/she should then coordinate the preparations for the exhibition, either physical and/or virtual.

#### MATERIALS

- Camera (It can be the one of the mobile phone)

are cultivated.

22. Interactive activities: Design interactive activities for the students, such as picking and photographing imperfect foods, and let them harvest products themselves. Talks and demonstrations: Arrange talks by farmers or staff to explain the importance of imperfect foods and how to reduce food waste. Tastings and snacks: Include a tasting session with samples of imperfect foods, so students can experience their deliciousness and nutritional value. Reflection and follow-up: After the trip, have a session for students to share their impressions and learnings. Provide additional resources for them to continue learning about imperfect foods and reducing food waste.

**FOODSHIFT**  
Pathways 

The logo graphic consists of a stylized white outline of a leaf or drop shape with a curved line underneath it, positioned to the right of the text.



## WORMS TO COMBAT FOOD WASTE (WE NOURISH THE SOIL)

### INTRODUCTION

There are many ways to avoid food waste in your home and community. However, no matter how good we are at avoiding waste, there will always be leftovers that we can't consume, at least we humans can! But guess what? Worms love to eat all kinds of organic matter that we can't or don't usually eat. This practice is called vermicomposting. Worms eat food scraps and produce humus. Join us as Green Tech Explorers to learn about rapid prototyping, coding and creating vermicomposting containers.

### THE ISSUE

1. Inquire if the students are familiar with food waste.
2. Begin by showing the class the food waste video (INTRO). Choose the "composting" Action 3.
3. Discussion 1: how does composting help reduce food waste?

### INTO THE COMMUNITY

4. (The accompaniment of an expert in digital manufacturing is suggested)
5. Search for design references of the composter. Visit the nearest digital fabrication laboratory available. Apply the use of digital manufacturing tools. Apply the use of digital manufacturing tools to create your composter.

### THE CO-CREATION PROCESS

6. Assembly: Once you have all the pieces printed or cut, proceed to assemble the composter. Use bolts and nuts to join the different parts and make sure they are secure. Add hinges at the top so you can easily open and close the lid.
7. Internal preparation: Line the interior of the composter with a mesh or permeable fabric that prevents waste from falling and allows

### AIMS

- Environmental awareness
- Soil nutrition
- Practical learning
- Knowing food waste

### SUSTAINABILITY COMPETENCES

- Collaborating and connecting
- Critical Thinking
- Experimenting and testing
- Innovative problem solving
- Envisioning future scenarios
- Interpersonal development
- Understanding society
- Navigating politics
- Conceptualising
- Developing creative solutions

### SOCIETAL ACTORS

Professors from the schools in Barcelona (Ana Amat and Vicente, and their schools)  
Fab Lab Barcelona

### KEYWORDS

Vermicomposting, Greenmakers, Ecotech, Ecocrafters, Tech and grow, Green tech explorers

### AGE RANGE

13-16 years old

adequate ventilation of the compost. This mesh will prevent the compost from becoming too compact and will ensure that there is enough airflow for the decomposition process.

8. Use of the composter: Place the composter in a suitable place in your garden or backyard. Make sure it is on a level and stable surface. Start adding compostable materials, such as food scraps, yard waste, leaves, etc.
9. Maintenance: Stir the materials inside the composter regularly to promote decomposition and aerate the contents. Be sure to keep the composter moist, but not too soggy, to facilitate the decomposition process.

## THE (SUGGESTED) SOLUTION

(In this phase, you can ask composting experts to provide us with support)

10. Design a Blog with your learnings, here are some ideas:
  - Catchy Title and Design: You can use illustrations, bright colours and elements related to composting.
  - Introduction and Explanation: Includes an introduction to what composting is and why it is important for the environment. Explain how composting helps reduce waste and how students can contribute to this cause.
  - Observation Record: Create sections for students to record their observations throughout the composting process. It includes questions like: What organic materials have we added to the composter today? How does the composter look and smell today? Did you notice any change or transformation in the waste?
  - Illustrations and Photos: Leave space for students to draw or paste pictures of the composting process. This will allow the to visualise and document changes that occur over time.
  - Educational Activities: Add interactive and educational activities related to composting. For example, crossword puzzles, riddles or mazes with composting concepts.
  - Curious Facts: Includes curious and fun facts about composting and how waste is turned into useful fertiliser.
  - Goals and Results Pages: Add pages where students can set goals for composting and record the results as the compost develops.
  - Recycling Ideas: Offers suggestions on how students can recycle at home and add them to the compost.
  - Care Tips: Provides tips on how to properly maintain your composter, such as the importance of mixing your waste, maintaining a proper carbon to nitrogen ratio, etc.
  - Note Space: Leave enough space for students to write their own notes.

Organize knowledge transfer sessions with colleagues from other classrooms.

## SUBJECTS

- Basic competencies in the area of culture and values (philosophy)
- Basic personal and social competencies
- Basic competencies in the digital domain
- Basic competencies in the area of culture and values
- Basic competences of the scientific-technological field

## TOPICS

### SETUP

Home + School + Fab Lab  
Preparatory Meetings with the Fab Lab Barcelona Team (or other local fab lab). 20 hours

### MATERIALS

- Trained teacher in digital fabrication (required)
- Tutors from the rapid prototyping space (required)
- Access to a 3D printer or laser cutting machine
- Biodegradable plastic or suitable recycled material for digital fabrication
- Screws and nuts
- Etc.



## MAKING WITH BIOMATERIALS

### INTRODUCTION

Biomaterials are special materials used in medicine and biology to help our bodies heal or replace damaged parts, or they can be used in everyday inventions that benefit people in their daily lives, such as biodegradable packaging for food and beverages. This means that these containers break down naturally in the environment, helping to reduce the amount of plastic waste and protecting the environment.

### THE ISSUE

1. Inquire if the students are familiar with food waste.
2. Begin by showing the class the food waste video (INTRO).
3. Choose the “Making with biomaterials” Action 4.
4. Brainstorming and discussion (10 min.): Facilitate a brief discussion in class, starting with the following questions: Have you heard about biomaterials before? Where can we use them? Would you like to create your own biomaterials? Do you know what digital manufacturing is? What organic waste do we have around us that we can use to create our own biomaterials? The debate will shed light on what kind of biomaterial we can work with and what food waste. These can come from the school cafeteria, from shops around the school or from our homes.

### INTO THE COMMUNITY

*(In this phase, you can ask Biomaterials experts for help to explain the type of materials we can use in more depth and how to manufacture our biomaterials and also you could visit a Digital fab lab)*

*(For more inspiration, Fab Lab Barcelona has designed some recipes as part of the REMIX THE SCHOOL project, in the following link you can choose the one you like the most and develop it)*

The above discussion will shed light on what kind of biomaterial we can work with and what food waste. These can come from the school

### AIMS

- Introduce young people to the field of biomaterials and digital manufacturing.
- Encourage creativity and innovative thinking in the development of biomedical solutions.
- Teach basic concepts about biomaterials and their application in everyday life.

### SUSTAINABILITY COMPETENCES

- Developing creative solutions
- Collaborating and connecting
- Critical Thinking
- Experimenting and testing
- Innovative problem solving
- Envisioning future scenarios
- Interpersonal development
- Understanding society
- Navigating politics
- Conceptualizing

### SOCIETAL ACTORS

Fab Lab / Ateneus de Fabricació  
- Ajuntament de Barcelona, Local and school community Biomaterials Experts.

### KEYWORDS

Biomaterials, maker space, digital fabrication

cafeteria, from the school shops or from our homes. (Ask the experts about biomaterials manufacturing)

5. Once we decide what food waste we want to work with, we follow these steps:

- 1) Collect organic food scraps and make sure they are clean and free of pesticides or chemicals. You can ask the children to bring the remains from their homes.
- 2) Cut leftover food into smaller pieces for easier processing. For example, the peels of fruits and vegetables can be cut into strips or small pieces.
- 3) Place the food chunks in the blender. Add a little water to help it mix and form a paste.
- 4) Crush the remains of food until you get a uniform paste. Children can take turns helping at this stage, always under adult supervision.
- 5) Prepare the plastic containers or moulds in which the mixture will be placed. The moulds can have different shapes, such as cookie sheets or disposable containers.
- 6) Cover the pans with kitchen paper or paper towels to absorb excess moisture.
- 7) Pour the mashed food paste into the moulds and use your fingers or a spatula to smooth the surface. Make sure the mixture is evenly distributed in the pans.
- 8) Let the biomaterials air dry for several days. Drying time may vary depending on the size and moisture content of the materials. It is important that students understand that the drying process takes time and patience.

#### **THE CO-CREATION PROCESS**

6. Once the biomaterials are completely dry, remove them from the moulds or fabric. They can decorate them by painting or using non-toxic markers

#### **THE (SUGGESTED) SOLUTION**

7. Organise an exhibition and sale of pieces made with Biomaterials in the neighbourhood, school or nearest environment.

#### **AGE RANGE**

13-16 years old

#### **SUBJECTS**

- Core competencies of the artistic field
- Basic competencies in the area of culture and values (philosophy)
- Basic personal and social competencies
- Basic competencies in the digital domain
- Basic competencies in the area of culture and values
- Basic competences of the scientific-technological field

#### **TOPICS**

#### **SETUP**

School + Fab Lab. Preparatory Meetings with the Fab Lab Barcelona Team (or other local fab lab). 20 hours

#### **MATERIALS**

- Experts in biomaterials (required)
- Access to digital fabrication facility
- Biomaterials) and other natural materials
- Basic materials for experimentation with biomaterials, such as gelatin, alginate or even fruits and vegetables.
- Safety glasses and disposable gloves for safety during material handling.



## MAKE CANDLES REUSING KITCHEN OIL

### INTRODUCTION

Welcome to the candle making workshop with organic waste! In this exciting meeting we will learn how to give a second life to natural materials and reduce our environmental impact by creating beautiful recycled candles. We will dive into the world of creativity and sustainability by combining two essential elements: imagination and organic waste. Through this workshop, we will discover how reusing materials can be a powerful tool to create unique and environmentally friendly objects. personalities. Let's begin this journey of ecological and artistic learning and start lighting our way in a sustainable and creative way.

### THE ISSUE

1. Inquire if the children are familiar with food waste.
2. Begin by showing the class the food waste video (INTRO). Then, choose Action 5.
3. Explain to young people the importance of recycling and reusing used oil to avoid environmental pollution. Show some examples of candles made from recycled materials to inspire their creativity. Ask them to look for recycled materials in their neighbourhood or within the school.

### INTO THE COMMUNITY

(You can invite an expert biomaterials designer for this activity)  
Make a round among the local restaurants in the neighbourhood, the school canteen or our homes to collect used cooking oil and some other waste that may be interesting to create our candles (Example: Orange or lemon peels, etc.. )

### AIMS

- Environmental awareness
- Encourage practical skills
- Teamwork
- Develop creativity
- Safety and responsibility

### SUSTAINABILITY COMPETENCES

- Developing creative solutions
- Collaborating and connecting
- Critical Thinking
- Innovative problem solving
- Navigating politics
- Envisioning future scenarios
- Interpersonal development
- Understanding society
- Conceptualizing

### SOCIETAL ACTORS

Local restaurants, Local super markets, Family and close environment, School canteen

### KEYWORDS

Organic Waste, Recycling / Upcycling / Reuse, Sustainability, Environmental awareness, DIY (Do it yourself)

### AGE RANGE

13-16 years old



## THE CO-CREATION PROCESS

4. Distribute gloves and aprons to ensure the safety of participants.
5. Place the used oil in a large container and filter out impurities with a strainer or coffee filter.
6. Transfer the clean oil to suitable bottles or containers for later use.
7. Each youth chooses a container for his or her candle and cleans it properly.
8. Cut the wicks so that they are a few inches longer than the container selected.
9. Tie the end of each wick to a stick or skewer for ease of placement. If you have beeswax, melt it in a separate container and mix a small amount with the used oil to improve the quality of the candles.
10. Fill each container with the oil (and beeswax, if used). Hold the stick or skewer over the container to keep the wick in the centre while the oil solidifies. If desired, a small amount of aromatic essence can be added to the oil to fragrance the candles. Remember that very little is needed.
11. Let the candles cool and solidify in a safe, draft-free place

## THE (SUGGESTED) SOLUTION

12. You could plan a school project that includes selling the candles produced by the group and raising awareness about recycling with food waste and also encourage participants to take their candles home and use them as a reminder of the importance of caring for the environment.

## SUBJECTS

- Core competencies of the artistic field
- Basic competencies in the area of culture and values (philosophy)
- Economics and Entrepreneurship Entrepreneurship
- Basic competencies in the area of culture and values Personal dimension
- Basic competences of the scientific-technological field

## TOPICS

### SETUP

1.5 - 2 hours

## MATERIALS

- Used oil (preferably vegetable oil).
- Containers for the candles (cans, glass cups, fruit peels, etc.).
- Wicks (can be purchased at craft stores).
- Sticks or skewers to hold the wicks.
- Beeswax (optional, to improve the quality of the candles).
- Aromatic essence (optional, to add fragrance).
- Scissors.
- Newspaper or cardboard to protect the work surface.
- Gloves and aprons for safety.



## EAT LOCAL!

### INTRODUCTION

Whenever we go to a local market, do we ever think about the geographical origin of the food we are buying? How much of the fruits and vegetables we consume are from our region or country?

In this Open Learning Scenario, the students are going to evaluate the geographical origin of the fruits and vegetables from a local market, and organize a campaign to raise awareness for the importance of eating local produce.

### THE ISSUE

1. Watch the video “More knowledge, better food choices” with your students.
2. Explore with the students the interactive aspects of the video.
3. Ask your students which are the issues being addressed in the video.
4. Ask your students if they ever think about the geographical origin of the food they eat.
5. Discuss with the students if they are aware of the impact to the environment, if any, of food transportation.

### INTO THE COMMUNITY

6. Take your students to a local market.
7. Delineate an area of the market and ask half of the classroom to take notes of the geographical origin of fruits and vegetables.
8. Ask the other half of the classroom to interview the visitors of the market about the geographical origin of the produce they buy.
9. Back to the classroom, ask students to discuss the findings based on the analysed produce and on the interviews.

### AIMS

- To identify the geographical origin of the vegetables and fruit we consume
- To address the environmental impact of food transportation
- To discuss the importance of consuming local or regional food
- To raise awareness among the school and local community to the importance of choosing local produce

### SOCIETAL ACTORS

- Families
- Visitors of the local market
- Representatives of the local community

### KEYWORDS

- Carbon footprint, food geographical origin, local produce, food availability

### AGE RANGE

- 10-12 years old

### SUBJECTS

- Citizenship / Civic participation

## THE CO-CREATION PROCESS

10. Discuss with students which societal actors can help them to discuss the issue of buying local produce.
11. Organize with the students the invitations to the societal actors for a co-creation event about the importance of buying local produce.
12. Organize the co-creation event to take place in the school space, guaranteeing it is an informal moment where the students have the same voice as any other participant.
13. During the co-creation event, discuss the impacts of non-local food consumption and possible solutions to promote the consumption of local produce.

## THE (SUGGESTED) SOLUTION

14. One solution for the problem is to develop an awareness campaign aimed at the school and local community about the importance of increasing the consumption of local produce.
15. A prototype for this solution can be a leaflet pinpointing the benefits to the environment when the consumption of local produce is increased.
16. Help students developing the leaflet and test it with representatives of the target audience to find out if the prototype needs to be changed or improved (eg. more data, more visual support, etc.).
17. After developing the final version of the prototype, distribute the leaflet among the school community (eg. families) and the local community.

## TOPICS

- **Citizenship / Civic participation:**  
Sustainable development

## SUSTAINABILITY COMPETENCES

- Collaborating and connecting
- Critical thinking
- Developing creative solutions
- Valuing the environment

## SET-UP

- The first part of the activity is developed outside school, on a local market
- The rest of the activity can be developed in school context

## MATERIALS

- Camera or cell phone
- Registration form (with a column for the name of the product and another for the geographical origin)
- Interview forms (with questions selected by the students)



## GO LOCAL!

### INTRODUCTION

Whenever we go to a local market or a supermarket, do we ever think about the geographical origin of the food we are buying? How much of the fruits and vegetables we consume are from our region or country?

In this Open Learning Scenario, the students are going to evaluate the geographical origin of the fruits and vegetables from a local market, and organize a campaign to raise awareness among producers and sellers for the importance of increasing the amount of local produce for sale in markets.

### THE ISSUE

1. Watch the video “More knowledge, better food choices” with your students.
2. Ask your students which are the issues being addressed in the video.
3. Ask your students if they ever think about the geographical origin of the food they eat.
4. Discuss with the students if they are aware of the impact to the environment, if any, of food transportation.

### INTO THE COMMUNITY

5. Take your students to a local market.
6. Delineate an area of the market and ask half of the classroom to take notes of the geographical origin of fruits and vegetables.
7. Ask the other half of the classroom to talk to vendors in the market about the way they choose the produce to sell.
8. Back to the classroom, ask students to discuss the findings based on the analysed produce and on the interviews.

### AIMS

- To identify the geographical origin of the vegetables and fruit available in a local market
- To address the environmental impact of food transportation
- To discuss the importance of consuming local or regional food
- To raise awareness among produce sellers to the importance of increasing the availability of local produce

### SOCIETAL ACTORS

- Produce sellers
- Food producers
- Food distributors
- Companies related with distribution and sale of food

### KEYWORDS

- Carbon footprint, food geographical origin, local produce

### AGE RANGE

- 13-16 years old

### SUBJECTS

- Biology
- Citizenship / Civic Participation

## THE CO-CREATION PROCESS

9. Discuss with students which societal actors can help them to reflect on the issue of selling and buying local produce.
10. Help student to invite the identified societal actors for a co-creation event about the importance of promoting local produce.
11. Organize the co-creation event to take place in the school space, guaranteeing it is an informal moment where the students have the same voice as any other participant.
12. During the co-creation event, discuss the impacts of non-local food consumption and possible solutions to promote the availability of local produce.

## THE (SUGGESTED) SOLUTION

13. One solution for the problem is to develop an awareness campaign aimed at the food sellers about the importance of increasing the amount of local produce they sell.
14. A prototype for this solution can be an infographics with data about the availability of local vs. non-local produce.
15. Help students developing the infographics and test it with representatives of the target audience to find out if the prototype needs to be changed or improved (eg. more data, more visual support, etc.).
16. After developing the final version of the prototype, distribute the infographics among the sellers from the market.

## TOPICS

- **Citizenship / Civic Participation:** Sustainable development
- **Biology:** Carry out responsible citizenship interventions (feasible and substantiated) aimed at preventing/minimizing/remedy the problem under study and promote the use sustainable use of natural resources.

## SUSTAINABILITY COMPETENCES

- Assessing economic aspects
- Collaborating and connecting
- Critical thinking
- Developing creative solutions
- Valuing the environment

## SET-UP

- The first part of the activity is developed outside school, on a local market
- The rest of the activity can be developed in school context

## MATERIALS

- Camera or cell phone
- Registration form (with a column for the name of the product and another for the geographical origin)
- Interview forms (with questions selected by the students)



## SAY YES TO SEASONAL FOOD!

### INTRODUCTION

In grocery stores, fruits and vegetables tend to be local almost the same all year round. But is this the reality in farms and nature? Should we choose our foods according to the seasons?

In this Open Learning Scenario, the students will meet with farmers and discover the benefits of eating seasonally. They will go to local grocery stores and compare the availability of seasonal food and non-seasonal food. In the co-creation process, they will discuss the impacts on health and the environment of seasonal vs non-seasonal food.

With the information gathered, students will create a Seasonality Calendar, enriched with the nutritional value of the fruits and vegetables, and share it with the community.

### THE ISSUE

1. Watch the video “More knowledge, better food choices” with your students.
2. Explore with the students the interactive aspects of the video.
3. Ask your students which are the issues being addressed in the video.
4. Ask your students if they ever think about seasonality of the food they buy and if they know what it means.
5. Discuss with the students if they are aware of the impact to the health and environment, of the seasonality of food they eat.

### AIMS

- To identify the meaning of seasonal food
- To discuss the benefits of seasonal food
- To raise awareness about the importance of non-seasonal food for health and the environment

### SOCIETAL ACTORS

- Families
- Farmer and owners of grocery stores
- Nutritionists
- School community

### KEYWORDS

- Seasonal food, nature's cycles, health and environmental benefits, food diversity

### AGE RANGE

- 10-12 years old

### SUBJECTS

- Citizenship / Civic participation
- Natural sciences

## INTO THE COMMUNITY

6. Take your students to a local farm that produces seasonal fruits or/ and vegetables
7. Ask the students to interview the farmer about the seasonality of the farm production and the farmer's view on the importance of seasonal food.
8. Take your students to a local grocery store and ask them to take notes of the seasonality of fruits and vegetables presented. They can also interview the owner of the shop about the topic.
9. Back to the classroom, ask students to discuss the findings based on what they analysed and on the interviews.

## THE CO-CREATION PROCESS

10. Discuss with students which societal actors can help them to discuss further the issue of seasonality production.
11. Organize with the students the approach to the societal actors for a co-creation event.
12. Organize with the students the co-creation event – it can be at school or at the societal actor workplace.
13. During the co-creation event, discuss the impacts on health and the environment of seasonal food vs non-seasonal food.

## THE (SUGGESTED) SOLUTION

14. One solution for the problem is to develop a visually attractive Seasonality Calendar and share it with the community.
15. A prototype for this solution can be a sketch of this calendar, which can be done in an interdisciplinary way, with the help of art and science teachers.
16. Help students developing the calendar and test it with representatives of the target audience to find out if the prototype needs to be changed or improved (eg. more visual support, etc.).
17. After developing the final version of the prototype, distribute the calendar among the families and the local community.

## TOPICS

- **Citizenship / Civic participation:** Sustainable development
- **Natural Sciences:** Environmental sustainability and human health

## SUSTAINABILITY COMPETENCES

- Collaborating and connecting
- Critical thinking
- Developing creative solutions
- Valuing the environment and healthy habits

## SET-UP

- The first part of the activity is developed outside school, on a farm and on a local grocery store
- The rest of the activity can be developed in school context

## MATERIALS

- Camera
- Registration form (Seasonal vs Non-Seasonal)
- Questionnaire about seasonal food benefits



## BLIND TASTING CONTEST!

### INTRODUCTION

Do we already tasted all the vegetables and fruits that we have available on farms and grocery stores? Do we know the textures, characteristics, and the health potential on food diversity?

In this Open Learning Scenario, the students will meet with farmers and discover the characteristics and benefits of different vegetables and fruits. They will organize a blind taste contest for the school students using the knowledge and information collected in the farm. In the co-creation process, they will discuss the impacts on health with a nutritionist.

With the information gathered, students will create a flyer with the nutritional value of the fruits and vegetables and share it with the community.

### THE ISSUE

1. Watch the video “More knowledge, better food choices” with your students.
2. Explore with the students the interactive aspects of the video.
3. Ask your students which are the issues being addressed in the video.
4. Ask your students if they ever think about food diversity.
5. Discuss with the students if they are aware of the impact to the health and environment, of the food diversity (especially vegetables and fruits)

### AIMS

- To identify different kinds of food
- To discuss the benefits of diversity in food
- To raise awareness about the importance of diversity in food, for health and the environment

### SOCIETAL ACTORS

- Families
- Farmer
- Nutritionist
- School community

### KEYWORDS

- Health and environmental benefits, food diversity

### AGE RANGE

- 10-12 years old

### SUBJECTS

- Citizenship / Civic participation
- Natural sciences



## INTO THE COMMUNITY

6. Take your students to a local farm that produces fruits and vegetables.
7. Ask the students to interview the farmer about the characteristics of the vegetables and fruits produced. Use a registration form.
8. Back to the classroom, ask students to discuss the findings based on the visit and interview with the farmer.

## THE CO-CREATION PROCESS

9. Use the discussion findings to organize a meeting with the nutritionist and organize a blind taste contest.
10. Discuss with the nutritionist the impacts on health of using diverse food. Ask him/her the nutritional value of different vegetables and fruits.
11. Organize with the students the Blind Taste contest (place, logistics, food selection, and a quiz about the food used)
12. During the Blind taste event, prepare a session with the farmer and the nutritionist to discuss the impacts on health and the environment of food diversity.

## THE (SUGGESTED) SOLUTION

13. One solution can be registering the characteristics of each product and the nutritional value of each one used on tasting and others.
14. A prototype for this solution can be the conception of a flyer with all the information gathered (farmer and nutritionist) with the help of art and science teachers.
15. Help students developing the Blind Taste contest in the school and present the flyer to the audience asking for feedback to find out if the prototype needs to be changed or improved (eg. more visual support, etc.).
16. After developing the final version of the Flyer, distribute it among the families and the local community.

## TOPICS

- **Citizenship / Civic participation:** Sustainable development
- **Natural Sciences:** Environmental sustainability and human health

## • SUSTAINABILITY COMPETENCES

- Collaborating and connecting
- Critical thinking
- Developing creative solutions
- Valuing the environment and healthy habits

## • SET-UP

- The first part of the activity is developed outside school, on a farm that produces vegetables and fruits.
- The rest of the activity can be developed in school context.

## • MATERIALS

- Camera
- Registration form (blind food tasting)
- Questionnaire about the food used on a blind food tasting (quiz)



## THE PLANTS WE (DO NOT) EAT

### INTRODUCTION

There are around 7 000 species of plants grown for consumption in the world, but only 30 are often used as food. What about your region? How many different plants can you find in a local market? And, from those plants, how many do your students consume at least once a month? And how many have they never tasted or even heard of?

In this Open Learning Scenario, the students will get to know a large number of edible plants that are not part of their diet. They will also promote the consumption of these non-conventional plants, thus contributing to diversify the community's diet.

### THE ISSUE

1. Watch the video “More knowledge, better food choices” with your students.
2. Ask your students if they think they eat a great diversity of food.
3. Promote a discussion among students about the different plants they eat on a regular basis (at least once a month). Ask one of the students to list all the plants referred to during the discussion.
4. With the help of the students, make a quick statistic of the number of different plants that are part of the students' meals.
5. Talk with your students about the importance of eating a great diversity of food, namely plants, both for their health and for the environment.
6. Challenge your students to develop a project where they are going to search (both online and onsite) for edible plants that they have never ate.

### INTO THE COMMUNITY

7. Help your students to research online for edible plants that can be found on their country/region but they have never eaten (as far as they know) or even heard of.

### AIMS

- To reflect on the plant diversity of human's diet
- To identify edible plant species that are not part of students' diet
- To discuss the importance of consuming a great diversity of food
- To draw attention of the community to edible plants that can be included in the diet

### SOCIETAL ACTORS

- Plant producer
- Researcher
- Canteen staff
- School community

### KEYWORDS

- Edible plants, food diversity, plant diversity

### AGE RANGE

- 10-12 years old
- 13-16 years old

### SUBJECTS

- Biology
- Citizenship / Civic Participation

8. To facilitate the selection of unknown edible plants, you can consider, for example, plants that are unknown to (or not eaten by) 80% of the class.
9. Plants found in this search should be listed in a computer document, together with a photograph of each plant.
10. Take your students to a local market.
11. Help your students to search in the market for plants that they have never eaten (as far as they know) or even heard of. They should photograph each plant (including the name) and leave it to the classroom to analyse the percentage of students who have never really tried / do not know each of the plants.
12. Back in the classroom, analyse with students the plants they found in the market and add to the document (see point 9) only the ones that are unknown to (or not eaten by) 80% of the class.

### THE CO-CREATION PROCESS

13. Help your students to identify a food producer who works with non-conventional plants for consumption and a scientist who investigates the biodiversity associated with food systems.
14. Organize an initiative with your students (in person or online) where they can talk to the producer and the researcher, and learn more about the importance of increasing the diversity of the plants we eat, as well as which non-conventional plants can more easily be included in our diet in regular basis.

### THE (SUGGESTED) SOLUTION

15. In order to promote the diversity of edible plants that are available in the region/country but are not being regularly consumed, challenge your students to develop an infographics with a selection of plants (for example, the ones that were highlighted in the previous initiative).
16. The infographics should include the name of the plant, a photograph, the benefits for human health and some suggestions on how should it be consumed.
17. Test the infographics with students' families and canteen staff, to find out if it needs to be changed or improved (for example, the canteen staff can give suggestions on how to consume the non-conventional plants).
18. After developing the final version of the infographics, upload a digital version in the school website and distribute a physical version among the market consumers.

### TOPICS

- **Citizenship / Civic Participation:** Sustainable development
- **Biology:** Carry out responsible citizenship interventions (feasible and substantiated) aimed at preventing/minimizing/remedy the problem under study and promote the use sustainable use of natural resources.

### SUSTAINABILITY COMPETENCES

- Collaborating and connecting
- Critical thinking
- Developing creative solutions

### SET-UP

- Part of the activity is developed outside school, on a local market
- The rest of the activity can be developed in school context

### MATERIALS

- Camera or cell phone
- Form to list the plants from the market



## GREENER PLATES FOR THE FUTURE!

### INTRODUCTION

Nowadays there is a growing tendency to have plant-based options in supermarkets and restaurants. But why should we increase our daily consumption of plants?

In this Open Learning Scenario, the students are going to learn about the importance of including plants in their diet by searching information in the local library and they are going to interview a local chef to learn about the plants he or she usually uses in the recipes. In the co-creation process, they will discuss with nutritionists ways of reaching a balanced diet with a higher amount of plants. In the end, students will organise a soup contest where their families and the local community can participate.

### THE ISSUE

1. Watch the video “More knowledge, better food choices” with your students.
2. Explore with the students the interactive aspects of the video.
3. Ask your students which are the issues being addressed in the video.
4. Discuss with the students if they are aware of the impact to the health and environment of the food they eat.

### INTO THE COMMUNITY

5. Take your students to the local library and ask the students to search for information about the importance of including plants in their diet.
6. Take your students to a local restaurant.
7. Ask the students to interview the local chef about the plants he or she usually incorporates in the dishes. The chef can also make some cooking demonstrations with plants.
8. Back to the classroom, ask students to discuss the findings based on what they analysed.

### AIMS

- To discuss the positive impacts of consuming plant-based dishes
- To discover new and original plant-based recipes
- To reflect about the importance of incorporating plants in our diet

### SOCIETAL ACTORS

- Families
- Local chef
- Nutritionist
- School community

### KEYWORDS

- Plants, healthy diet, environmental benefits, food diversity

### AGE RANGE

- 10-12 years old

### SUBJECTS

- Citizenship / Civic participation
- Natural sciences

### TOPICS

- **Citizenship / Civic participation:** Sustainable development
- **Natural Sciences:** Environmental sustainability and human health

## THE CO-CREATION PROCESS

9. Discuss with students which societal actors can help them to discuss further this issue. A possible suggestion would be a nutritionist.
10. Organize with them the approach to the societal actors for a co-creation event – they can send an online invitation, for example.
11. Organize with the students the co-creation event – it can be at school or at the societal actor workplace.
12. During the co-creation event, discuss about the importance of a balanced diet. The societal actors can share practical tips for adding more plants and discuss the impacts on health and the environment of a greener diet.

## THE (SUGGESTED) SOLUTION

13. One solution for the problem is to develop a soup contest where members of the school and the local community are invited to prepare and bring their favourite soup to share with the community. Encourage them to explain the nutritional benefits of their creations to others.
14. To prepare the soup contest, the students can make a simulation of the contest in a smaller scale, where the students can present some of their favourite soups.

## SUSTAINABILITY COMPETENCES

- Collaborating and connecting
- Critical thinking
- Developing creative solutions
- Valuing the environment and healthy habits

## SET-UP

- The first part of the activity is developed outside school, on the local library and on a local chefs' restaurant.
- The rest of the activity can be developed in school context.

## MATERIALS

- Questionnaire



## 2 M<sup>2</sup> FULL OF BIODIVERSITY!

### INTRODUCTION

Have you ever taken your students to explore the school's biodiversity? What about the biodiversity of the vegetable garden?

We all know that we should diversify our diet, but why not start with the plants we eat? Even in a very small area, it is possible to build a small vegetable garden full of biodiversity, promoting at the same time the importance of a more diversified diet.

In this Open Learning Scenario, students will explore the school's biodiversity, learn how a vegetable garden can contribute to increase the biodiversity and build a vegetable garden in just 2m<sup>2</sup>.

### THE ISSUE

1. Take your students on a tour through the schoolyard to observe its biodiversity. During the tour, ask the students if they know any of the species of plants and animals they are observing.
2. If the school has a vegetable garden, take your students to this space with the same goal of observing biodiversity.
3. Still in the schoolyard, ask your students if they think the school is rich on biodiversity and why. If the school has a vegetable garden, also ask students if they think this space is biodiverse.
4. Back to the classroom, debate with your students the importance of biodiversity, including in this discussion the importance of biodiversity in the food we consume.
5. Watch the video "More knowledge, better food choices" with your students.
6. Challenge your students to build (or rebuild) a small vegetable garden at school, in just 2 m<sup>2</sup>, but as biodiverse as possible.

### INTO THE COMMUNITY

7. Identify with your students a faculty or research centre where permaculture is studied.

### AIMS

- To explore biodiversity in the schoolyard, including the vegetable garden
- To address the importance of diversify the plants we eat
- To learn how to develop a small vegetable garden full of biodiversity
- To build a 2m<sup>2</sup> vegetable garden in the schoolyard

### SOCIETAL ACTORS

- Plant nursery staff
- Researchers
- Families
- School community

### KEYWORDS

- Biodiversity, food diversity, vegetable garden

### AGE RANGE

- 10-12 years old

### SUBJECTS

- Citizenship / Civic Participation

### TOPICS

- **Citizenship / Civic Participation:** Sustainable development

8. Identify a researcher who can talk to students (in person or online) about the biodiversity associated with permaculture vegetable gardens, and how this biodiversity can be enhanced.
9. If the faculty / research centre has a vegetable garden of its own, try to organize a visit for your students to this space.
10. Also identify with your students one or more local plant nurseries (these can also be nurseries from the Parish) that the students can visit to explore the plants that could be added to the vegetable garden.
11. During the visit to the plant nursery, encourage your students to talk to a member of the staff about their goal of building a 2m<sup>2</sup> vegetable garden.

### THE CO-CREATION PROCESS

12. Organize with your students a co-creation event with the presence of the researcher and the member of the nursery staff, as well as representatives of the students' families and school community.
13. The purpose of the co-creation event is to discuss together the best way to build the vegetable garden at school, namely with regard to the species that can be placed in association and the best way to maintain the garden in an environmentally sustainable way.
14. Organize the co-creation event to take place in the school space, guaranteeing it is an informal moment where the students have the same voice as any other participant.

### THE (SUGGESTED) SOLUTION

15. Select one or more students for, at the beginning of the co-creation event, explain that by building the 2m<sup>2</sup> vegetable garden, students are contributing to the increase of the school biodiversity, at the same time they raise awareness to the importance of diversifying the food we eat.
16. During the event, students and the rest of the partners should build a simple prototype of the vegetable garden. For example, they can build together a simple model of the garden, so they can easily see the position of the plants, the irrigation system, etc.
17. Students should have time, even after the event, to test the prototype with the school community (for example, with the ones that are going to be responsible to maintain the vegetable garden, to collect the plants, etc.) to find out if they should change anything.
18. After developing the final version of the prototype, organize with the students the acquisition of plants and seeds, the installation of the irrigation system and, finally, the construction of the 2m<sup>2</sup> vegetable garden.

### SUSTAINABILITY COMPETENCES

- Collaborating and connecting
- Critical thinking
- Developing creative solutions
- Valuing the environment

### SET-UP

- The activity takes place inside the school, in the schoolyard and in the classroom, with the exception of visits to vegetable gardens and plant nurseries.
- During the activity it will be necessary to (re)build a vegetable garden.

### MATERIALS

- Materials for building a model (eg. Lego pieces, plasticine, etc.)
- Plants and seeds
- Materials to the installation of an irrigation system
- Soil
- Compost
- Garden tools



## REGIONAL PRODUCTS: A TASTY WAY TOWARDS SUSTAINABILITY!

### INTRODUCTION

Regional products are usually associated with high quality products from a specific region, that promote the natural and cultural heritage. In this Open Learning Scenario, the students will meet with farmers and small enterprises and discuss the social and environmental benefits of regional products. They will get to know the regional products that exist in their community and will plan and organise a fair with regional products for their families and local community.

### THE ISSUE

1. Watch the video “More knowledge, better food choices” with your students.
2. Explore with the students the interactive aspects of the video.
3. Ask your students which issues are addressed in the video and if they ever buy regional products.
4. Discuss with the students if they are aware of the social and environmental benefits of regional products.

### INTO THE COMMUNITY

5. Take your students to a small trip around the town to look for farms and small enterprises that produce regional products.
6. Encourage students to see and to take notes on how regional products are grown, harvested and process in those places.
7. Ask the students to register the farms and enterprises and collect their contact information for later to schedule interviews with them.

### AIMS

- To discover the variety of regional products surrounding the community
- To discuss the social and environmental benefits of regional products
- To raise awareness about the importance of regional products

### SOCIETAL ACTORS

- Families
- Farmers and small enterprises
- School community

### KEYWORDS

- Regional products, social and environmental benefits, food diversity, culinary traditions

### AGE RANGE

- 13-16 years old

### SUBJECTS

- Citizenship / Civic participation
- Natural sciences



## THE CO-CREATION PROCESS

8. Organize with the students the approach to the farmers and enterprisers for a co-creation event.
9. Organize with the students the co-creation event at school, where each stakeholder can present their regional products and students can taste them so that they can learn to appreciate the flavours of regional products.
10. During the co-creation event, discuss the social and environmental benefits of regional products.
11. After the co-creation event, ask students to discuss the findings and reach conclusion about how regional products support the local economy and help preserving culinary traditions.

## THE (SUGGESTED) SOLUTION

12. One possible solution for the problem is to organise a regional food fair for the students' families and local community.
13. A prototype for this solution can be a digital model of the fair, with the planning of the location of the different stands.
14. Ask the students to show the digital model to their families and gather possible suggestions for it to be improved.

## TOPICS

- **Citizenship / Civic participation:** Sustainable development
- **Natural Sciences:** Environmental sustainability and human health

## SUSTAINABILITY COMPETENCES

- Collaborating and connecting
- Critical thinking
- Developing creative solutions
- Valuing the environment and healthy habits

## SET-UP

- The first part of the activity is developed outside school, on a farm and a small enterprise
- The rest of the activity can be developed in school context

## MATERIALS

- Registration form



## TRY MEDITERRANEAN...LET'S EAT TOGETHER!

### INTRODUCTION

Do we know Mediterranean diet and their principles? Can you imagine what are the benefits for health and environment? How can we adopt the Mediterranean diet on a daily basis?

In this Open Learning Scenario, the students will meet with an organization that develop work about Mediterranean diet and discover the characteristics and benefits of this diet. They will organize a shared lunch for the school community using the knowledge and information collected in the organization/nutritionist. In the co-creation process, they will discuss the impacts on health with a nutritionist and the school community.

With the information gathered, students will create a flyer with the principles of the Mediterranean diet and share it with the community.

### THE ISSUE

1. Watch the video “More knowledge, better food choices” with your students.
2. Explore with the students the interactive aspects of the video.
3. Ask your students which are the issues being addressed in the video.
4. Ask your students if they know the Mediterranean diet.
5. Discuss with the students if they are aware of the impact to the health of the Mediterranean diet, as well as, to the environment.

### AIMS

- To identify the Mediterranean diet
- To discuss the benefits of Mediterranean diet
- To raise awareness about the importance of Mediterranean diet based on food diversity, for health and the environment

### SOCIETAL ACTORS

- Families
- Nutritionist
- School community (students, teachers and school canteen catering)

### KEYWORDS

- Mediterranean diet, health and environmental benefits, food diversity

### AGE RANGE

- 10-12 years old

### SUBJECTS

- Citizenship / Civic participation
- Natural sciences

## INTO THE COMMUNITY

6. Take your students to a local organization that develop activities about Mediterranean diet or a nutritionist that are familiar with the Mediterranean diet.
7. Ask the students to interview the representative of the organisation/ nutritionist about the characteristics of the Mediterranean diet. Use a registration form.
8. Back to the classroom, ask students to discuss the findings based on the visit and/or interview.

## THE CO-CREATION PROCESS

9. Use the discussion findings to organize a meeting with the school canteen catering and the nutritionist to organize a shared lunch.
10. Organize with the students the shared lunch (place, logistics, food selection, and a quiz about the Mediterranean diet).
11. During the shared lunch, ask the students to discuss with groups of students about the impacts on health and the environment of Mediterranean diet.

## THE (SUGGESTED) SOLUTION

12. One solution can be registering the characteristics of the Mediterranean diet.
13. A prototype for this solution can be the conception of a flyer with all the information gathered with the help of art and science teachers.
14. Help students developing the Shared lunch in the school and present the flyer to the audience asking for feedback to find out if the prototype needs to be changed or improved (eg. more visual support, etc.).
15. After developing the final version of the Flyer, distribute it among the families and the local community.

## TOPICS

- **Citizenship / Civic participation:** Sustainable development
- **Natural Sciences:** Environmental sustainability and human health

## SUSTAINABILITY COMPETENCES

- Collaborating and connecting
- Critical thinking
- Developing creative solutions
- Valuing the environment and healthy habits

## SET-UP

- The first part of the activity can be developed outside school (depending on the students finding an organization related to Mediterranean diet in their community or a nutritionist in alternative).
- The activity can be developed in school context.

## MATERIALS

- Camera
- Registration form (Mediterranean diet principles)
- Questionnaire about the Mediterranean diet (quiz)



## TOWARDS THE OPINION OF YOUR COMMUNITY!

### INTRODUCTION

The community choices regarding food are very important to understand if consumers are aware of the value of sustainable food habits.

In this Open Learning Scenario, the students are going to attend a public meeting about sustainability and are going to interview the community about their choices regarding food. In the end, students will share the information they gathered with the community, in a film session where they will show a small documentary prepared by them.

### THE ISSUE

1. Watch the video “More knowledge, better food choices” with your students.
2. Explore with the students the interactive aspects of the video.
3. Ask your students which are the issues being addressed in the video.
4. Discuss with the students if they are aware of their community choices or preferences regarding food.

### INTO THE COMMUNITY

5. Attend with the students to a public meeting or forum related to food sustainability where they can observe community discussions and take notes on the opinions expressed by the different stakeholders.
6. Back to the classroom, ask students to discuss the findings based on what they analysed.

### THE CO-CREATION PROCESS

7. Divide students into groups and ask them to discuss which questions about food production and consumption they would like to ask to their families and friends, besides those on the video.

### AIMS

- To understand the importance of making sustainable food choices
- To collect and treat information about the choices of the community related to food
- To show conclusions to the community in an original way and promote sustainable food habits

### SOCIETAL ACTORS

- Families
- Sustainability experts
- School community

### KEYWORDS

- Sustainability, food habits, community choices

### AGE RANGE

- 13-16 years old

### SUBJECTS

- Citizenship / Civic participation
- Natural sciences

8. Ask the students to present their questions to the class and then make a vote session to choose the questions that will integrate the questionnaire.
9. Ask your students to show to their families the video and to make them the interviews (that will gather their opinion on the questions of the video and of the questionnaire).
10. Discuss with your students the findings they collected and reach conclusions.

#### **THE (SUGGESTED) SOLUTION**

11. One possible solution is to develop a small documentary where students present the results of the interviews and discuss the importance of sustainable food choices.
12. Students can make a sketch of the video and show it to representatives of the target audience to find out if it needs to be improved.
13. After developing the final version of the documentary, organise with the students a film session on the school library open to the community.

#### **TOPICS**

- **Citizenship / Civic participation:** Sustainable development
- **Natural Sciences:** Environmental sustainability and human health

#### **SUSTAINABILITY COMPETENCES**

- Collaborating and connecting
- Critical thinking
- Developing creative solutions
- Valuing the environment and healthy habits

#### **SET-UP**

- The first part of the activity is developed outside school, on a public meeting or forum.
- The rest of the activity can be developed in school context.

#### **MATERIALS**

- Questionnaire