#ANNUALFOODAGENDA

THE SCHOOLKIT

eit Food

Funded by the European Union

food annualagenda

CONTENT

EIT FOOD #ANNUALFOODAGENDA — WHO ARE WE?

food annualagenda

EIT Food #AnnualFoodAgenda aims to engage with consumers of different ages, encouraging them to think about the food they eat and connecting them with different actors of the entire food value chain. Through a set of edutaining events the project wants to **rebuild consumers' trust in the food system,** improve their knowledge on healthy eating habits, as well as raise their understanding on how food production and consumption impacts our environment.

#AnnualFoodAgenda activities are designed to inspire debate and foster dialogue between experts and consumers. Using dynamics of co-creation, the project has been designed to encourage exchange among academia, industry, producers and consumers in everyday environments.

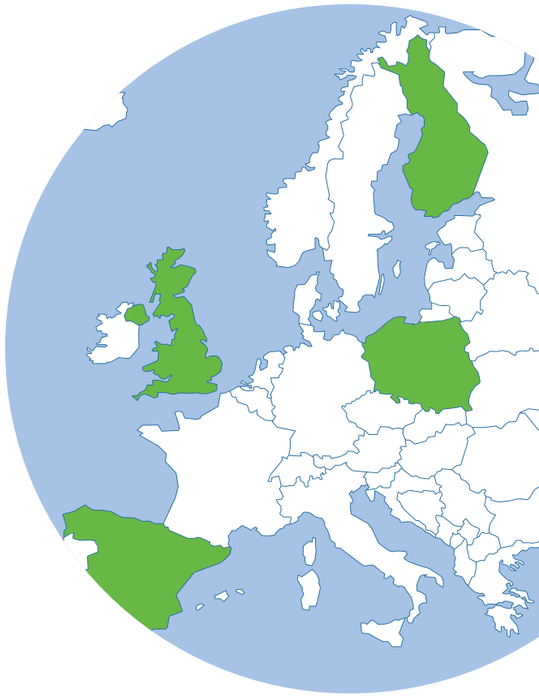
The ultimate goal of this project is to **inspire new generations of consumers** ready to dive into the food journey and take up careers that would help transform our food system.

#AnnualFoodAgenda is a public engagement project powered by **EIT Food.**

eit Food

Funded by the European Union

EIT Food is Europe's leading food innovation initiative, working to make the food system more sustainable, healthy and trusted. The initiative is made up of a consortium of key industry players, startups, research centres and universities from across Europe. It is one of eight Innovation Communities established by the European Institute for Innovation & Technology (EIT), an independent EU body set up in 2008 to drive innovation and entrepreneurship across Europe.



#Annual Food Agenda is coordinated by IMDEA Food with the the participation of **10 key partners** including food industry companies, universities and research centers coming from 4 European countries: Poland (Institute of Animal Reproduction and Food Research of the Polish Academy of Sciences, Maspex and Food Bank in Olsztyn), Spain (Consejo Superior de Investigaciones Científicas, Universidad Autónoma de Madrid, IMDEA Food and Grupo AN), United Kingdom (University of Cambridge and PepsiCo), Finland (VTT) and **external contributors from Turkey and Romania.**

instituto IMDEA alimentación · UAM Universidad Autónoma de Madrid · Institute of Animal Reproduction and Food Research Polish Academy of Sciences in Olsztyn · MASPEX · Bank Żywności w Olsztynie · Grupo AN · VTT · CSIC Consejo Superior de Investigaciones Científicas · PEPSICO · UNIVERSITY OF CAMBRIDGE

THE SCHOOLKIT

The toolkit you hold in your hands was created as a result of almost 3 years of cooperation between food researchers, nutritionists, experts from leading agrifood companies and educators from 4 European countries that have joined forces to address the common goal of EIT Food #AnnualFoodAgenda - **improve eating habits of consumers and increase their trust in the food sector in Europe.** During this time, we organized various food celebration events and created many educational materials for evidence-based dissemination.

Engaging with school teachers and pupils has always been a crucial and integral part of #AnnualFoodAgenda. With a view to further develop activities with this target group, we have prepared **a set of simple guidelines – a toolkit, that could be used to launch off or revisit ways on a successful collaboration with school teachers and pupils.**

Working with schools sounds simple, but how do you get started? In the first part of this toolkit, you will find valuable **tips on how to create, develop and sustain your own network** of contacts based on mutual trust, understanding and successful communication.

In the second part of this toolkit, you will learn how to **put cooperation with schools into practice.** In the years 2019--2020 we organized around 70 food-related events and we want to share with you some selected examples to help you build your own portfolio of exciting activities for school stakeholders.

LET'S CREATE OPPORTUNITIES FOR #ANNUALFOODAGENDA SCHOOLKIT INSPIRE NEXT GENERATIONS OF CONSCIOUS CONSUMERS

- Food & Economy
- Food & Environment
- Food & Lifestyle
- Food & Health
- Food & Trends
- Food & Science

We are also bringing to your attention formats used to deliver the events, e.g. workshops, lab visits, lectures, webinars. Due to coronavirus pandemic, we were forced to creatively adapt our activities to the existing restrictions, as well as to transfer some parts to the online formats.

All our activities have been created with a new, conscious and responsible generation of consumers in mind. Our recipients are part of the success of #AnnualFoodAgenda and their opinion is of a great importance to us. In the next part of this toolkit, you will learn about **evaluation methods and tools** we used to collect feedback from the participants of our activities, and improve our upcoming events.

The toolkit ends with the part addressed to schools, which may also function as a self-stand document. Here we present a set of **ready-to-use lesson scenarios** supported with dissemination materials we developed during #AnnualFoodAgenda. Each scenario contains information about the topical area it fits into, general objectives of the lesson, skills a student will acquire and food-related content to share with the class. Feel free to use these resources in your engagements with schools and share them with your teachers' community.

HOW TO BUILD, DEVELOP AND SUSTAIN YOUR NETWORK WITH SCHOOLS?

LET'S GET STARTED!

There are many opportunities for food researchers, agri-food industry experts and nutrition educators to work with schools. We teach, we inspire, but what is most important, we fuel the change to build a conscious, critical-thinking and healthy (next) generation! **Your collaboration with teachers and pupils is most fertile when built on longer-term partnerships** – it is never too late to give this relationship a start!

10 TIPS ON HOW TO DEVELOP YOUR OWN SCHOOL NETWORK

1. Speak to your communication/public engagement office – probably your institution already has links with local schools.
2. Launch an online recruitment campaign inviting teachers to declare their interest in your communication activities and educational resources. You can use this form click here
3. Create and regularly update a database of teachers who have already engaged with your actions or have expressed intention to do so.
4. Approach schools in your local environment directly. Send regular updates to school offices on your current and upcoming communication initiatives.
5. Seek regional and national associations of teachers and host regular meetings with their members.
6. Sign a formal cooperation agreement with the school(s) to ensure a long-lasting partnership.
7. Stay in touch! At the end of each year send an annual summary of your actions to school offices and invite them to submit a declaration of interest in the future events.
8. Encourage teachers to follow your institutional profiles in the social media.
9. Tag partner schools in the posts they may find relevant and publish footage from your common actions - it's worth sharing joint successes!
10. Try to contact schools and teachers in advance (before the summer holidays), in that way our activity can be included in the upcoming school year programme.

HOW TO SUSTAIN YOUR PARTNERSHIP WITH SCHOOLS?

DIPLOMAS / CERTIFICATES

Creating a network means working with professionals - in this case with teachers who should be able to derive tangible benefits from engagement in your events. Diplomas and certificates are a form of gratitude, but above all, they are a proof of teachers' commitment and work. It can help build their career/promotion.

EQUAL PARTNERS

As soon as you receive photos, videos, and other reportage materials from the event, remember to share them with the partnering school! Make sure you both give publicity to the successful event held. This will help spread the word about your actions among the teachers' community and create possibilities for expanding your professional network.

E-MAILING / INVITATIONS

Sending regular updates on your current and upcoming communication initiatives is crucial to stay in touch with the teachers you are already collaborating with, but also to invite new schools and educators to your network.

ACKNOWLEDGEMENTS

Being appreciated matters! Make a positive impression and acknowledge the efforts of the schools you work with. Remember to mention the school's name in press releases and other dissemination materials.

REGULAR MEETINGS

Even though the Covid-19 pandemic does not make it easier, try to organize regular face-to-face gather-ups with your network. Use the variety of online tools to facilitate your interaction. The meetings do not have to be only informative. Get to know your network of contacts, exchange knowledge and experiences, ask for their feedback. Whenever possible, invite new schools and teachers who might be interested in joining #AnnualFoodAgenda family!

TEACHING WITH EIT FOOD #ANNUALFOODAGENDA

Once you know how to build your relationship with schools, it is now time to engage with the teachers and students in food celebration events that will help inspire new generations of consumers who care about their eating habits and have the sake of the environment at heart. The last years of #AnnualFoodAgenda lifecycle has allowed us to build a portfolio of actions that could act as an inspiration for similar events fit for the school community in your region or country. The below case studies have been selected from around 70 initiatives and have been organized around Focus Areas for your convenience.

Feel free to get inspired and create new, exciting food festivals!

Among the almost 100 activities developed during the three years of the #AnnualFoodAgenda project, those set with schools and teachers have undoubtedly been the ones that will have the most significant impact on the diet and sustainability of the planet in the near future. For schoolchildren, participating in #AnnualFoodAgenda activities is an opportunity to adopt healthier and more sustainable eating habits for themselves and their families.

Sara Castillo
IMDEA Food, Spain

School kids are the most exciting consumer group to work with. They are hungry for knowledge and it is our privilege to quench this appetite. We get the chance to lay down foundations for the future generation of consumers that will be able to make informed eating choices that are good for our health and our planet.

Iwona Kieda
Institute of Animal Reproduction and Food Research, Polish Academy of Sciences

It is always very pleasant for us to work with schools. In this way, we offer pupils a chance to get an insight into a scientist's work and help them discover ways of improving their eating habits.

Mariana Silva Lopez
CSIC, Spain

In the questionnaires, pupils appreciated our events and declared that they were encouraged to work on healthy eating habits. The teachers emphasized that they needed support in nutritional education and that they liked the workshops formula, because it really engaged pupils. Such comments truly inspire us to prepare more events for pupils and teachers.

Agnieszka Czura
Maspex, Poland

For over 20 years we have pursued the mission of preventing food waste and inspiring change in people's awareness on this global challenge. We encourage consumers to think about the food they eat and put in practice daily food-saving activities. We believe that behaviour change can start at any age, but children are especially receptive to it.

Aneta Janikowska-Kiśluk
Food Bank in Olsztyn, Poland

FOCUS AREA

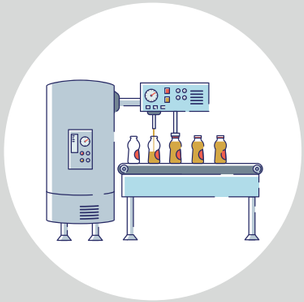
- Food & Economy
- Food & Environment
- Food & Lifestyle
- Food & Health
- Food & Trends
- Food & Science

METHODS 08

HANDS-ON WORKSHOPS

EXPERIMENTS

DEMONSTRATIONS



GUIDED VISITS IN LABS AND PROCESSING PLANTS

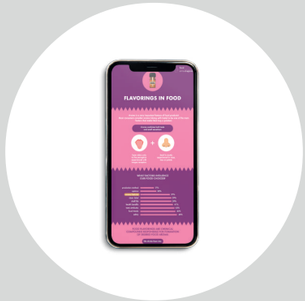
LIVE COOKING CLASSES

ESCAPE-ROOMS

SUMMER CAMPS

ROUNDTABLE DISCUSSIONS

LECTURES/ WEBINARS



ANIMATED INFOGRAPHICS

PODCASTS

GAMES

FOOD & ECONOMY

food safety
labelling
health claims

09

MATERIALS:

click on to open link

The Journeys of Shopping (comic)

#AnnualFoodAgenda - Trust in Food (video)

Flavorings (infographic)

OBJECTIVES:

- to understand what is a nutrition facts' label and how to read it
- to learn about E numbers and dispel myths about food additives
- to healthily navigate between food choices in stores
- to try hands at experiments used in food safety analysis

EXAMPLE NO. 1

I Trust in Food

Hands-on workshops/guided tour

Where: food research laboratories
Who: school children (primary and secondary)
What: A series of on site tours accompanied with hands-on workshops in the laboratories of Microbiology, Sensory Analysis, Metabolomics and Food Immunology, where the pupils got a first-hand insight into the very core of the food products they eat every day. They cracked the nutrition facts' label, analysed compounds in snacks and beverages, learnt simple experiments on detecting valuable bioactives in drinks, and dispelled controversies around some food stuffs that undermine consumers' trust in the food system. Ultimately, the workshops empowered children with the knowledge on how to take responsibility for the food chain themselves and handle food safety at home.

visit site | watch video | open gallery

EXAMPLE NO. 2

I'm a Confused Consumer, Get Me Out of Here!

Lectures/webinars

Where: lecture hall/online
Who: students/consumers at large
What: Every time we go to the supermarket we are overwhelmed by information, new products and marketing strategies, ever changing prices and complicated labelling. Food manufacturers and retailers are more interested than ever in understanding our preferences and behaviour as consumers but, with so much information, how can we healthily navigate between choices and what can the food sector do to help us? In this series of talks, we discovered the science behind consumer behaviour and how both industry and consumers can benefit from it.

watch video | open gallery

FOOD & ENVIRONMENT

11

MATERIALS:

click on to open link

#AnnualFoodAgenda - Food sustainability (video)

Connecting the dots: the complexity of food systems (video)

Circular Aquaculture (video)

OBJECTIVES:

- to understand the environmental footprint of food production
- to be aware of all the actors of the food supply chain
- to understand the need for global access to nutritious food
- to learn about sustainable food and agriculture systems

EXAMPLE NO. 1

Global Food Security, Coffee Break Talks

Lectures/Webinar

Where: online
Who: students (secondary and university)
What: A set of webinars designed as a casual online learning experience and discussion platform for the food security community and students of secondary school and university background. The topics discussed included "Ethics, environment or economics: How can we incentivise the architecture of a sustainable food system?", "The Energy Our Food Eats", "Food Security in a Warming World", "Superbugs in Food: Should we be Worried?", "Farming: What's Best for People, the Planet and Pigs?".

watch video | visit site

EXAMPLE NO. 2

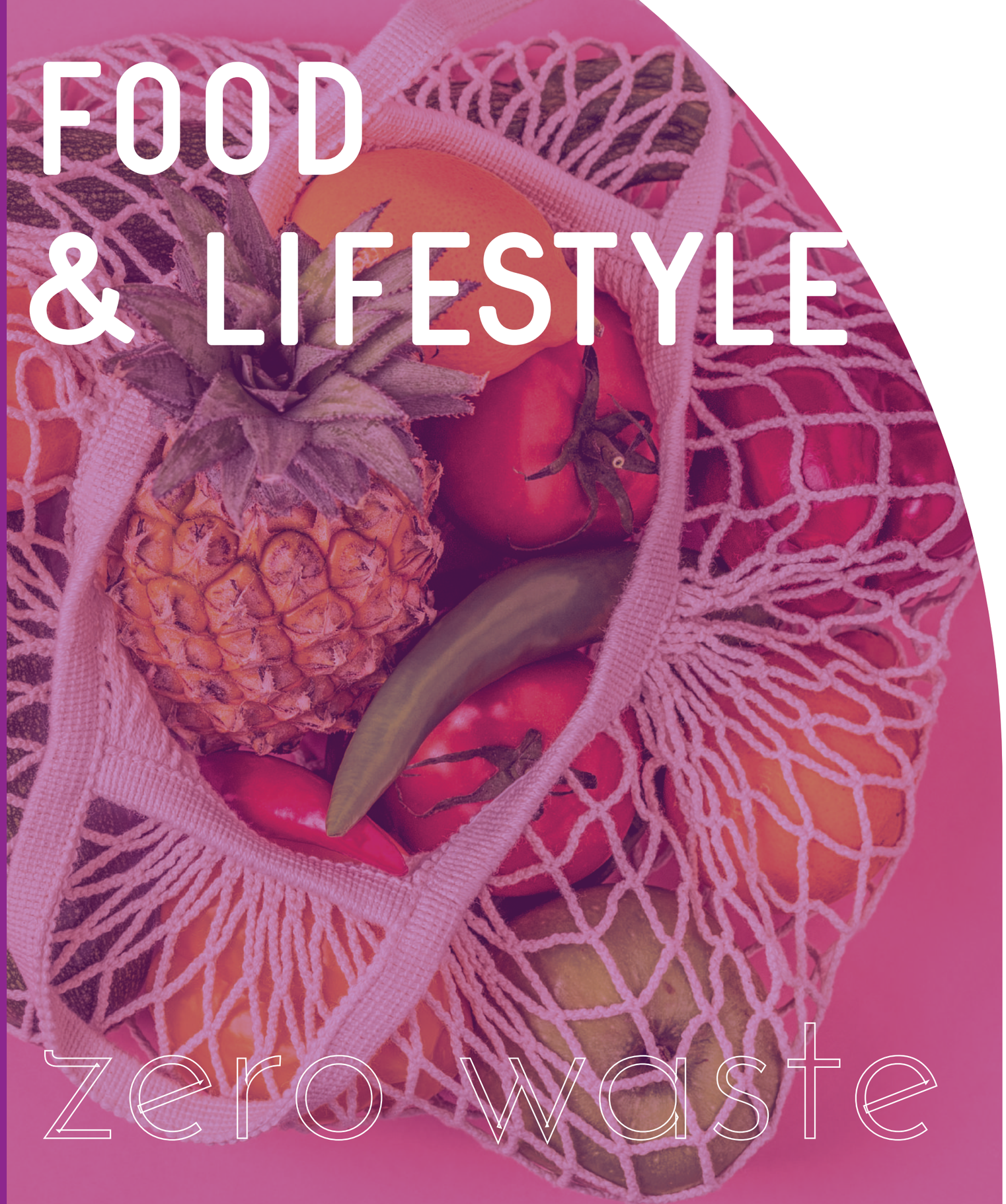
Sustainability for the Planet, Sustainability for Your Body

Hands-on workshops/guided tour

Where: online
Who: school students (secondary and university)
What: In an online session developed through the Zoom platform, university students were familiarised with the concept of personalised nutrition and had a chance to test their learnings through a gambling experience called 'Feed Your Genes'. In the second part of the event secondary school students were presented with a video "Tomato, Bean and Piquillo: three very healthy friends" available through a link and a QR code. After that a brief and simple nutritional assessment of the foods that appeared in the video was made. The experience ended with a round of discussions to address all the questions, doubts and interests of the students.

play game | visit site | watch video | watch video

FOOD & LIFESTYLE



zero waste

MATERIALS:

click on to open link

- **#AnnualFoodAgenda - Too Good To Waste (video)**
- **#AnnualFoodAgenda - Food Sustainability_Zero Waste attitude (video)**
- **Infographic: Food waste management**
- **Infographic: Bread**

OBJECTIVES:

- to understand food loss and food waste
- to discover ways of preventing food waste
- to identify links between food waste and climate change
- to learn about innovations in food preservation

EXAMPLE NO. 1

Zero Waste St. Nicholas Day with EIT Food

experiments, hands-on workshops

Where: classroom/conference rooms
Who: school students (primary, secondary) and teachers
What: A series of demonstrations, discussions and science shows on ''zero waste'' trends prepared by a team of food researchers and food producers. School students and teachers learnt simple methods of responsible food management that can be successfully used in everyday life, and got familiarized with the idea of 'food sharing' implemented by such organisations as Food Banks. Hand-in-hand with scientists they discovered health benefits of agri-food side streams which are commonly treated as waste, e.g. fruit pomace or coffee grounds. During the event, young adepts have also taken part in workshops on designing personalised food stuffs dedicated to persons suffering from diet-related diseases.

see gallery visit site

EXAMPLE NO. 2

World Food Day with EIT Food

lectures, cooking classes

Where: workshop space/online
Who: school students (primary, secondary)
What: Under the mentorship of chefs and nutritionists, students learned to prepare dishes that have a good impact on both our health and environment. Following a theoretical warmup on sustainable food production and consumption, the students were supposed to put in practice recipes designed in the spirit of zero-waste cooking. They prepared dishes from plant-based leftovers, toss-in-whatever-you've-got salads and healthy alternatives to popular desserts and sweets. The students had also a chance to learn useful tips on how to reduce the environmental footprint of their shopping and eating behaviours.

see gallery watch video

FOOD & HEALTH

balanced nutrition non-communicable disorders

MATERIALS:

click on to open link

- **#AnnualFoodAgenda - Sweet Temptation, train your impulses and learn how to consume sugar! (video)**
- **#AnnualFoodAgenda - Healthier Nutrition_Precision Nutrition to fight childhood obesity (video)**
- **Infographic: Gluten-related disorders**
- **Infographic: Food allergies**
- **Infographic: Antioxidants**

OBJECTIVES:

- to understand the connection between food and health
- to reduce risk for non-communicable diseases
- to learn how to improve eating habits
- to learn about facts and myths around different types of diets

EXAMPLE NO. 1

Researchers' Night with EIT Food

lectures/webinars

Where: classroom/online
Who: school children (secondary)
What: Food researchers conducted a series of 15 online lectures that addressed the most interesting topics in the area of food, nutrition and health. Students learnt about the bacteria that inhabit our intestines and the ways we can strengthen our immune system with food. We checked when we should follow a gluten-free diet and took a closer look at the facts and myths about the quality of farm fish. We got an insight into one of the most serious diseases of the 21st century – obesity – and saw if fatty tissue can devour calories! An interactive session was also held, where the students could engage in a discussion with researchers and test the knowledge gained in Kahoot-based quizzes. Winners –top 45 players - were awarded prizes.

see gallery

EXAMPLE NO. 2

Enjoy and Learn about Healthy Eating in Club Txikipanda #AFANavarraTV

Online workshops

Where: online
Who: school children (primary)
What: The workshop was organised within the "El Club Txikipanda" Show on Navarra TV. Students started with a survey to find out their prior knowledge of healthy eating habits. Next, they were familiarized with a story full of nutritional advice and topics related to healthy eating, e.g. seasonal foods, labeling, sugar. Next, the researchers gave a brief explanation about the concepts of the story and invited students to take part in simple experiments focused on the importance of food additives. After exciting hands-on activities, students had the opportunity to observe the demonstration of uniting water and oil using lecithin. As the final activity of the event, students were asked to carry out a survey to make sure they have increased their knowledge of healthy eating.

visit site watch video

FOOD & TRENDS

MATERIALS:

click on to open link

#AnnualFoodAgenda - Cellular Agriculture (video)

#AnnualFoodAgenda - FutureTrends&FutureConsumers Plant Bees (video)

Infographic: Superbroccoli

OBJECTIVES:

- to learn about major directions for food trends
- to get an insight into modern food production technologies
- discover challenges faced by the food industry
- to meet the new generation of consumers

EXAMPLE NO. 1

Future Trends & Future Consumers

summer camp

Where: science museum

Who: school children (primary)

What: In the CSIC summer camp several activities were carried out for children, in which participants could learn about the importance of eating habits and lifestyle, and above all, enjoy how science can inspire us to make nutritionally informed decisions from the earliest ages. All this within the framework of interactive activities and creative workshops. To co-create with the children, there was an interactive game about the nutritional pyramid, where the pupils had to arrange different foods according to their recommended intakes. In yet another game, they had to discover the amount of sugar present in various foodstuffs. Finally, with a simple colorimetric experiment, they tested whether water is acidic or not.

visit site

watch video

EXAMPLE NO. 2

Trends in Food and Nutrition

webinar

Where: online

Who: consumers at large

What: To bring consumers closer to the trends that are currently shaping the global food market, and thus our daily diet, we organized a webinar that addressed the topic of the future of food system from two perspectives: a scientist and a dietitian. Do food trends shape our shopping cart? Or is the shopping cart shaping the trends? How trends influence 'feeding systems'? What are the most popular food novelties among consumers in Europe? How much are our eating habits still influenced by some myths around healthy nutrition? These questions have been investigated by the experts with an active participation of the consumers during the Q&A session.

watch video

FOOD & SCIENCE

food

analysis

food-oriented

careers

MATERIALS:

click on to open link

- **Infographic: Yeast**
- **Infographic: Prebiotics**
- **Infographic: Tomato**
- **Infographic: Milk**
- **Experimenting in food research labs (video)**

OBJECTIVES:

- to understand the need of food research
- to interpret research findings
- to boost interest in food research careers
- to improve trust towards food scientists

EXAMPLE NO. 1

Check Your Food Following the Steps of Great Microbiologists

experiment, workshop

Where: laboratory/school spaces/online
Who: school students (primary)
What: UAM-IMDEA Food food researchers and nutritionists joined the International Day of Women and Girls in Science 2020 with #AnnualFoodAgenda workshop: "Check your food following the steps of great microbiologists" held at the Fundación Caldeiro School in Madrid. Different microbiological experiments were carried out to determine the authenticity of different foods. Pupils got an insight into the scientific achievements of famous female microbiologists such as Fanny Hesse, who through microbiological cultures, was able to analyse the growth of bacteria and fungi in food which has made it possible to guarantee the quality and safety of food today.

see gallery visit site

EXAMPLE NO. 2

Facts and Myths about Nutrition

Online workshops

Where: classroom/online
Who: school children (secondary)
What: The aim of the workshop was to discuss popular tips around healthy nutrition and boost student's interest into food-related careers. The host of the event - a dietitian and nutritionist - engaged with the youngsters to talk about facts and myths around food and instruct them on how to make informed food choices. During the event, participants had also the opportunity to learn about the profession of a nutritionist, understand the importance of scientific research on the health promoting functions of food and brainstorm ideas for healthy eating together with the expert. At the end of each workshop, students had a surprise competition that not only awakened their creativity, but also encouraged them to reflect on nutrition.

visit site watch video

EVALUATION

Evaluation is an important part of all #AnnualFoodAgenda activities. It allows us to examine how our programme increases consumers' awareness of food system challenges and improves their nutritional choices. The evaluation tools deployed during our events are hence designed to investigate both the scope of consumers' engagement and their progress towards understanding the key issues around food safety, healthy eating, agri-food innovations and waste management. The evaluation methodologies applied include e.g. pre- and post-event questionnaires, feedback forms (satisfaction surveys), knowledge test and quizzes, social media interactions/impressions, participant testimonials via online tools like padlet, votings, media statistics etc.

BELOW YOU WILL FIND SOME USEFUL EVALUATION TOOLS TO BE DEPLOYED DURING YOUR EVENTS:

MULTIPLE-CHOICE TEST

QUESTIONNAIRES

SOCIAL MEDIA INTERACTIONS

COMMENTS

KNOWLEDGE CONTEST

INTERACTION

GRAPHIC DESIGN

BRAINSTORMING

DATA COLLECTION

EDUCATIONAL SCENARIOS

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DEAR TEACHERS,

we are an international team of science communicators, food researchers, nutritionists, industry experts and educators who for the last 3 years have been working together with a common goal - **to improve the eating habits of consumers and increase their confidence in the food sector in Europe.** Within our collaboration project called **EIT Food #AnnualFoodAgenda**, we organized numerous food celebration events - shows, experiments, workshops, lectures, summer schools, etc., and created a lot of exciting educational materials - infographics, videos, games and podcasts which can be successfully **used as teaching resources on the topics of food and nutrition.**

The time has come now that we wish to share with you the assets we have developed so far, hoping you would find it a useful aid in your teaching experience with students. Regardless of the European country in which you use this study, we are convinced that you will find valuable content in it, which is often missing from the core curricula.

To make it easier for you, we have divided our materials into several areas, which we have coupled with lesson scenarios. In each scenario you will find the objectives of a lesson as well as the skills a student will acquire. Lessons are divided into several activities. We deliberately do not provide the time needed for a given scenario, because it is up to you how much time you want to spend on a particular topic.

Food & Economy - in this area we want to introduce students to the food-related sector in general, as well as propose activities that will support the development of conscious consumer attitudes in students. These will include e.g. understanding nutritional facts' sheets, interpreting health claims, navigating healthily between food choices in stores, and proper handling of food at home.

Food & Environment - in this area we familiarize students with the concept of food sustainability and different actors of the food value chain. Students will learn among others about the impact of food production and consumption on the environment, understand the need for global access to nutritious food and discover innovative agricultural solutions against the challenge of a growing population and scarcity of natural resources.

Food & Lifestyle - in this area we want to draw students' attention to the fact that critical and empathetic responses to the problems we face around food and nutrition should be more than incidental. They should become a lifestyle. In this block we will introduce students to the topics of zero waste movement, ways of preventing food loss, and encourage them to come up with their own solutions that will help reduce the environmental imprint of food waste.

Food & Health - in this area we will look at diet-related diseases, understand the relationship between food and health and debunk myths about popular diets. Students will also learn how to improve their eating habits and make informed food choices. Finally, we will take an insight into the concepts of precision nutrition and functional foods developed for specific groups of consumers.

Food & Future Trends - in this area students will get acquainted with the innovations emerging on the agri-food market and discover the most powerful trends shaping the future of the food sector. In this block, we will talk about alternative protein sources, cellular agriculture, vertical farming, clean labels and other exciting innovations that will help tackle the most burning challenges around food production, including green gas emissions, water scarcity, malnutrition or consumer distrust.

Food & Science - in this area we will look at food from the perspective of science. The students will get familiarised with different research methods used by food scientists to ensure the products we eat are safe and nutritious. Interpreting research findings, they will discover many interesting facts behind food ingredients and understand how important the work of food scientists and nutritionists is. With this thematic block we want to increase students' trust towards food science and boost their interest in food research careers.

We wish you a great adventure in discovering the exciting facts about food, its origins and impacts on our health and our planet. All for the sake of educating and supporting a new, conscious and responsible generation of consumers. Together we can make the food system more healthy, sustainable and trusted!

Join our **#AnnualFoodAgenda** family and engage with our food celebration events in your region. Contact to partners running the project in Spain, Great Britain, Poland and Finland can be found at the end of this document.

See you soon!
#AnnualFoodAgenda Team

SCENARIO NO. 1

A CLOSER LOOK AT WHAT YOU EAT

FOOD & HEALTH

Grades: 5-10 (age 10-16)

ADDITIONAL MATERIALS YOU CAN USE:

click on to open link

#AnnualFoodAgenda - Sweet Temptation, train your impulses and learn how to consume sugar!

Objectives:

- to understand the connection between food and health
- to reduce risk for non-communicable diseases
- to learn how to improve eating habits
- to learn about facts and myths around different types of diets

Outcomes – Students Will Be Able To:

- think of the healthy eating pyramid as a grocery list
- follow healthy eating rules on daily basis
- consciously limit sodium and sugar intake in their diet

Activities:

1. WHY DO WE NEED TO EAT? [introduction]

The teacher explains that the human body needs energy to function properly. Our energy is food – food provides us with nutrients. Nutrients help break down food to give organisms energy. They are used in every process of the body. Some of the processes are growth (building cells), repair (healing a wound) and maintaining life (breathing). The teacher explains what calories are: a calorie is a unit of energy. The energy people get from the food and drink they consume. The more calories a food has, the more energy it can provide to your body. When you eat more calories than you need, your body stores the extra calories as body fat. Yet not only what we eat and how much we eat matters. It is equally important how many meals we have a day and at what time. An unbalanced diet affects our well--being and health. We are tired and vulnerable to infections.

2. SIMPLE RULES FOR HEALTHY EATING watch video

In the video "Healthy eating basics #TrustYourFood", children will find the most important tips related to proper nutrition, simple principles of healthy eating, as well as ways to lead a healthy lifestyle from an early age. Knowledge of how to select age-specific food products and understanding the foundations of a balanced diet is key for children to make informed food choices. Very often some product groups are mistakenly perceived as e.g. fattening, and young consumers skip them in the diet (e.g. bakery products), while the crucial to proper nutrition is the ability to compose a balanced diet based on diversified foodstuffs. Getting an insight into the role of specific food ingredients and the principles of healthy eating will help children better understand the impact of nutrition on their health and have more trust in the food system in the future.

3. OUR EATING HABITS [discussion]

Divide the class into 4-5 small groups. Each group receives key inquiry questions. They work through the topic in their group.

Key inquiry questions:

How would you describe your diet?
What did you have for breakfast?
How many servings of fruits and vegetables do you have per day?
How often do you use salt and sugar as food additives?

Discussion and conclusions.

4. HEALTHY EATING PYRAMID [game]

The aim of the game is to encourage students to group products according to the rules of healthy eating. The game teaches students about the healthy composition of a food pyramid.

You need:

- groceries - fruits, vegetables, dairy (e.g. milk, eggs, cheese), grains (e.g. pasta, bakery product), proteins (e.g. meat, peanut butter)

- a pyramid-shaped equipment with shelves

Task for students:

To arrange different foods according to their recommended intakes.

POST-EVALUATION

1. What is the unit of energy we get from consumed food?

a) Sun
b) Nutrients
c) Fossils fuels

2. The calorie is a unit of energy defined as:

a) the amount of heat or energy needed to increase the temperature of 1 gram of water by 1°C
b) the amount of water in human body
c) the amount of time our body needs to function

3. Calories are present in drinks as well as in food.

a) False
b) True

4. A bad diet affects our well-being and health.

a) False
b) True

5. How many servings of vegetables should you eat every day?

a) 1-2
b) 5-7
c) 3-5

6. What gives us strong bones and teeth?

a) Meat and fish
b) Vegetables
c) Dairy

7. Fats and sweets should be consumed multiple times every day.

a) True
b) False

8. Rice and oats belong to which food group?

a) Dairy
b) Meat and fish
c) Grains

9. Which food group should you eat the most of?

a) Meat and fish
b) Vegetables
c) Grains

10. Which of these foods typically contains the most protein?

a) A chocolate bar
b) An orange
c) A chicken sandwich

SCENARIO NO. 2

SECRETS BEHIND FOOD PRODUCTS

FOOD & SCIENCE

Grades: 9-12 (age 14-19)

Objectives:

- to understand the need of food research
- to interpret research findings
- to boost interest in food research careers
- to improve trust towards food scientists

Outcomes – Students Will Be Able To:

- choose their daily menu more consciously
- perceive food products as a source of nutrients
- acknowledge food as an interesting subject of scientific research

Activities:

1. WARMING UP

The teacher asks the students what they ate for breakfast today. She/he writes down the most frequent answers on the board and points out the most popular products indicated by the students. The class learns that food is not only supposed to satisfy our hunger. It has way more responsible functions, including the most important one - providing our body with energy and the right nutrients. This is why we should pay attention to what we eat. When we skip breakfast, our body has no energy to act, and the mornings are the time when we need it the most!

2. INTRODUCTION

The teacher informs the students about 5 food groups: fruits, vegetables, grains, dairy and proteins. Each group of products has a different function to fulfill in our body. The teacher introduces the concept of elimination diets that gain increasing popularity among the consumers, and emphasizes that giving up a certain group of products from our daily menu might pose a number of health threats to specific groups of consumers. Next, pupils learn about the facts and myths around selected products that are most commonly found in our diet. We will look at two products surrounded with many health-related controversies - milk and bread, and two that evoke extreme emotions in consumers - love or hate - tomato and broccoli.

3. FIND OUT THE TRUTH ABOUT MILK!

Infographic: Milk ← Use this infographic

3.1. The teacher presents the students with an infographic on milk and explains what it actually is. Then she/he analyzes together with the students the composition of the most popular milk - cow's milk. She/he explains to the students that phosphorus contained in milk, among others, mineralizes teeth and bones, supports the proper functioning of the kidneys and heart, accelerates the regeneration of damaged tissues, and affects the overall vitality. Calcium, on the other hand, contributes to strong bones, healthy teeth and proper blood clotting. Another valuable component of cow's milk are B vitamins which affect our entire body: skin, heart, muscles and nervous and vascular system. Next, the teacher introduces the fermentation process and explains that lactic acid bacteria and other microorganisms take part in the production of such foodstuffs as cheese, yoghurt and cream. Then, the teacher asks the students if they know milk substitutes that are of plant origin.

3.1.1 *Task for students:* researching popular plant-based alternatives to dairy products. Will we also find good bacteria in them? How are they made? What are the most common ingredients?

3.2. The teacher introduces the students to a part of the infographic that shows who and when should be careful about the consumption of milk (allergy to milk proteins, lactose intolerance, galactosemia). What can we do about it?

4. FOCUS ON BREAD

Infographic: Bread ← Use this infographic

4.1. The teacher presents the students with an infographic on bread and explains that we need only four basic ingredients to make bread: flour, water, salt and sourdough/yeast. She/he asks students if they have ever had the opportunity to prepare bread on their own. They then ask the students about their favorite bakery products and write down their answers on a blackboard. Finally, the class learns about the nutritious value of bread and its content of minerals, fiber, complex carbohydrates, B vitamins, as well as gets familiarized with the global problem of bread waste.

4.2. Task for students (class): Come up with a list of ways we can reduce the quantity of bread wasted.

4.3. Task for students (home): prepare a bakery product by yourself (bread or rolls).

5. TOMATO!

Infographic: Tomato ← Use this infographic

5.1. The teacher asks the students what kinds of tomatoes they know - they describe them according to the following parameters: size, color, taste. Then, she/he presents the students with an infographic on tomato, in which they learn that there are over 10,000 varieties of tomato in the world! In Europe, most tomatoes are produced in Italy. With another curiosity saying that the average European eats twice as many processed tomatoes compared to fresh tomatoes, the teacher asks students what products we can get from tomatoes (e.g. tomato puree, ketchup)? What do we use them for?

5.2. Why is the presence of tomatoes in our diet so important? Because they have a wide spectrum of pro-health activities! Tomatoes are a rich source of vitamins: C, A, K, E. Lycopene in tomatoes has anti-cancer properties, chromium affects the correct blood sugar level, potassium lowers the concentration of "bad" cholesterol in the blood - and this is just the beginning!

5.3. The teacher speaks about the composition of tomato. She/he asks the students if they are eating the whole tomato. Why should we consume tomatoes together with the skin? Tomato peel contains flavonoids - natural bioactive compounds with anti-inflammatory and antioxidant properties - so we should not get rid of it.

5.4. *Task for students*: During your next grocery shopping, pay attention to what tomatoes are available in the store. What is their origin?

6. BROCCOLI

Infographic: Broccoli ← Use this infographic

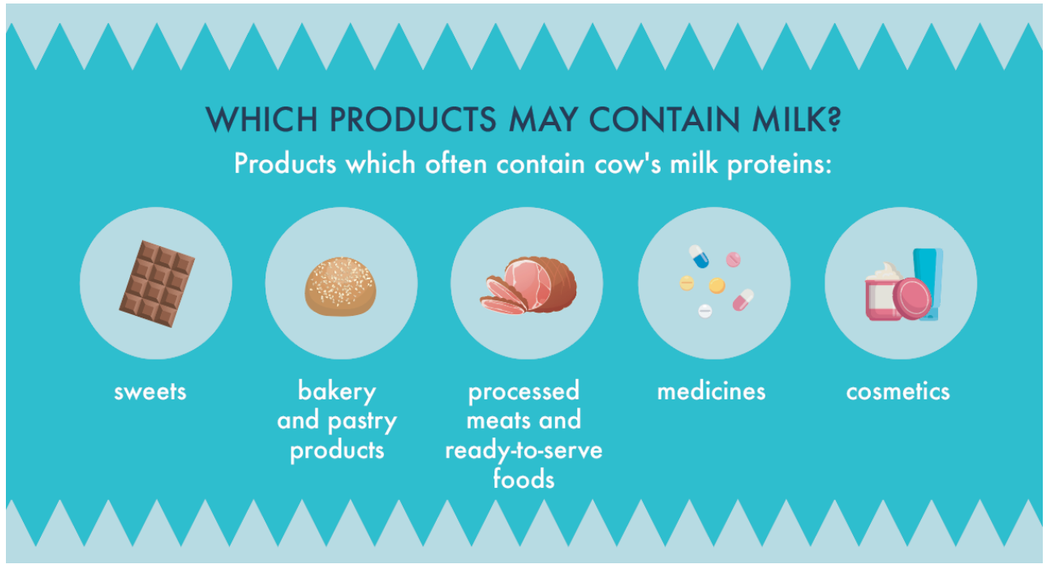
6.1. The teacher presents the students with an infographic on broccoli and starts with facts and curiosities. She/he then asks the students if they like and eat broccoli, and if so, what parts of it? How do they prepare this vegetable? Most often we eat the flower itself, but this is not the only edible part of broccoli. The other edible parts include sprouts, leaves and stem. What are the best ways to process broccoli to avoid losing its valuable compounds? The students will get an insight into various ways of home processing of this vegetable, e.g. cooking, stir-frying, steaming, which each have a different impact of maintaining broccoli's nutritional value.

6.2. What "good" compounds can we find in broccoli? Lots of minerals, incl. potassium, phosphorus, calcium, and vitamins, incl. C, E, B5, B6, K.

6.2.1. *Task for students:* With the help of literature and other sources, check what minerals and vitamins found in broccoli do for our body.

7. DYI INFOGRAPHIC

Task for students: prepare an infographic about the selected food product. You can use literature and the Internet. However, always remember to check the source when using information from the Internet!



POST-EVALUATION

MILK-QUIZ

1. Milk is:
a) A powder used in food production
b) A liquid food secreted by female mammals
c) A by-product of dairy production

2. Which animal provides milk to the greatest number of people worldwide?
a) Yak
b) Goat
c) Cow

3. People with lactose intolerance can drink goat's milk.
a) True
b) False

4. What is pasteurization?
a) A theory of how milk is produced
b) Cooling of milk
c) Heating milk to 72 °C and rapidly cooling it to 4 °C

5. Milk is rich source of:
a) Calcium
b) Vitamin C
c) Iron

6. I should be careful with milk consumption when:
a) I have migraines
b) I'm lactose intolerant
c) I have asthma

7. An example of fermented milk product is:
a) a banana
b) a chocolate bar
c) cheese

8. Milk can be used as a material to build biodegradable, but water-insoluble, plastic or biogasoline.
a) True
b) False

9. The nutrients calcium and vitamin D work together to:
a) prevent a stroke
b) build strong bones
c) prevent arthritis

10. Milk is an essential part of a balanced diet.
a) True
b) False

SCENARIO NO. 3

A CLOSER LOOK AT WHAT IS GLUTEN AND GLUTEN-RELATED DISORDERS

FOOD & HEALTH

Grades: 6-10 (age 12-16)

Objectives:

- to understand the dual nature of gluten
- to increase knowledge and awareness of gluten-related diseases
- to change the myth of health benefits of a gluten-free diet

Outcomes – Students Will Be Able To:

- distinguish between gluten-containing and gluten-free products
- identify symptoms related to gluten-related diseases
- comprehend the principles of a gluten-free diet

Activities:

PRELIMINARY EXPERIMENT

1. LOOKING FOR GLUTEN

You need: wheat flour, tap water, a bowl

Students search for gluten by trying to wash it out with water from wheat flour dough samples.

The teacher explains what is gluten, in which cereals and cereals-derived products it is present and what are the technological properties of gluten. In general, "gluten" is a collective term used to define the storage proteins - prolamins that can be found in the mature kernels of some cereals from the Poacea family, including gliadins and glutenins of wheat, secalin of rye, and hordein of barley. It has unique viscoelastic properties and is responsible for the qualities of wheat dough. Hydrated glutenins are responsible for dough elasticity and strength, whereas gliadins are less elastic and cohesive, and contribute mainly to the viscosity and extensibility of the dough. In bakery practice, gluten is formed when wheat flour and water are simply mixed. Wheat dough is developed under sufficient flour hydration and only in such conditions the three-dimensional elastic structure of gluten is formed.

2. GLUTEN-RELATED DISORDERS AND A GLUTEN-FREE DIET

Infographic: Gluten Free Diet

Infographic: Gluten-Related Disorders

Use this infographic

Generally, gluten is safe for the vast majority of consumers. There are only a few cases it has an adverse effect on the human body. Based on infographics, children learn how gluten may affect the body of a sensitive person, and discover the disturbing symptoms that should not be ignored. They will be familiarized with gluten-related diseases and the main differences in their pathogenesis and occurrence. Moreover, children will learn the principles of a gluten-free diet, get the guidelines on how to follow this therapeutic diet that is the only available therapy for gluten-related diseases. As gluten is commonly used in the food industry as a thickener, carrier of flavor, and aroma, children will be additionally informed about its hidden sources.

3. RED FLAGS FOR GLUTEN-RELATED DISORDERS [DISCUSSION]

Divide the class into 4-5 small groups. Each group receives key inquiry questions. They work through the topic in their group.

Key inquiry questions:
What are the symptoms of gluten-related disorders?
What symptoms call for diagnostics towards gluten-related disorders?

Discussion and conclusions.

4. EVALUATION - CHECK YOUR KNOWLEDGE ABOUT GLUTEN-FREE DIET [quiz]

Questions:

1. What is gluten?
a. storage proteins found in cereals
b. animal proteins
c. plant sugar
d. dairy sugar

2. How gluten is formed?
a. during frying meat
b. during cooking potato starch
c. when flour is mixed with water
d. during drying of flour

3. Gluten-related disorders include:
a. osteoporosis
b. atherosclerosis
c. pneumonia
d. non-celiac gluten sensitivity

4. What causes celiac disease?
a. grass pollen
b. eating foods that contain gluten
c. house dust mites
d. eating foods that contain lactose

5. What is the purpose of a gluten-free diet?
a. weight loss
b. diabetes treatment
c. migraine treatment
d. gluten-related disorders treatment

6. What foods should you avoid on a gluten-free diet?
a. dairy and eggs
b. wheat flour and other wheat products
c. simple carbs foods
d. meat and meat products

7. What is a symbol for gluten-free?
a. green grain
b. crossed milk
c. crossed grain
d. there is no gluten-free symbol

8. When should you go on gluten-free?
a. when you are diagnosed with celiac disease
b. with frequent stomach pain
c. when body weight drops alarmingly
d. after consulting a dentist

SCENARIO NO. 4

DISCOVER THE BACTERIAL NEIGHBOURHOOD OF YOUR MICROBIOTA

FOOD & HEALTH

Grades: 12 up (secondary school ES system)

Objectives:

- inform students about the food habits impact in the microbiota

- explore how the consumption of different foods increases the biodiversity of our gut bacteria

- explain how food choices are linked to their future health

Outcomes – Students Will Be Able To:

- understand and use terms related to the microbiota (bacteria, microorganisms)

- critically analyse foods that are more positive for the health of the microbiota

- make more informed nutritional choices to prevent development of diet-related diseases

Activities:

PRE-EVALUATION

1. WHAT DO YOU KNOW ABOUT MICROBIOTA?

A researcher will conduct an initial assessment test using interactive tools (e.g. Kahoot, Mentimeter, Genially) to investigate pupils' knowledge on the concepts of microbiota, intestinal flora, bacteria, microorganisms, etc.,

1) Are all microorganisms bad?
a) Yes, that's why they cause diseases
b) No, there are also good microorganisms.

2) What can good microorganisms be used for?
a) To break down food.
b) To produce food, medicines (e.g., vaccines) and other products.
c) To make notebooks.
d) They are not used for anything good.

3) What foods are made with the help of microorganisms?
a) Milk, cheeses, yogurts, bread.
b) Fruits
c) Meat and fish.
d) Soft drinks.

4) Do we have bacteria in our body?
a) Yes, but only on the skin.
b) No
c) No, we only have bacteria if we are sick with an infection.
d) Yes, we have bacteria in many parts of the body such as the skin and the entire digestive system (mouth, esophagus, intestines).

5) What is the microbiota?
a) All the microorganisms that live in a specific place.
b) A book
c) I don't know
d) Another name for bacteria

2. INTRODUCTION TO KEY TERMS

Interactive lesson on the most important concepts you need to know in order to play the "Bichindario" game. The teacher introduces pupils to the following topics:

WHAT IS THE MICROBIOTA? WHERE IS IT?

The microbiota is the set of bacteria that colonize the skin, the digestive tract, including the mouth, and the genital tract. These bacteria colonize our organism from the mother's womb, but mainly from the moment of birth, especially if the birth is vaginal. The microbiota develops as life progresses, so that its composition will be different in childhood, adolescence and adulthood.

The relationship between the microbiota and the organism is symbiotic: while the bacteria perform a protective function against diseases and pathogens and help in the metabolism of ingested food, the organism offers them a place to live. The microbiota is composed of 100 trillion bacteria in the digestive tract alone. In fact, the microbiota is already considered by science as another organ of the body, albeit an acquired one.

FUNCTIONS OF THE MICROBIOTA

Protection from pathogenic bacteria that can cause disease: the microbiota is a barrier that protects the body from i.a. pathogenic microorganisms, carcinogenic substances, toxic metals, harmful chemicals present in the environment, dust and dirt particles.

Maintenance of the immune system: studies suggest that up to 70% of the immune system depends on the microbiota. It helps the defense system to function properly.

Regulation of metabolism and energy balance.

Food digestion: the microbiota allows digesting some food components that the organism cannot digest and metabolize by itself. For example, foods that generate unsaturated short-chain fatty acids, which are powerful antioxidants and help balance cholesterol and triglyceride levels.

Production of vitamins: some of which are essential for the maintenance of health, such as vitamin K and B12.

Regulating the secretion of intestinal neurotransmitters, insulin and peptides essential for vital processes.

WHAT CAN MODIFY THE MICROBIOTA AND WHAT ARE THE CONSEQUENCES?

When the microbiota is altered and there is an imbalance between the different bacterial strains, the organism is affected. It is currently known that there is an increased risk of infections and the development of autoimmune diseases, obesity, diabetes, some digestive cancers, fibromyalgia, Parkinson's disease, etc. However, in most cases, the alteration of the microbiota (dysbiosis) usually generates all kinds of intestinal discomfort, headaches and loss of energy.

The alteration of the microbiota can be produced by different factors: poor diet, sedentary lifestyle, stress, environmental pollution, excess and misuse of antibiotics, etc. However, these factors can be counteracted with a healthy and balanced diet, regular exercise, proper sleep hygiene, avoiding self-medication and over-medication, and activities that minimize the effects of stress.

After this explanation, the class shall watch the below video to receive instructions on how to play the game

watch video

3. LET'S PLAY #BICHINDARIO!

visit site

Game objectives:

In the building resides a community of microscopic neighbors who need to unite to prevent the neighbors on the 8th floor from taking control of the building.

however, although all the misfortunes of the building are blamed on the neighbors on the 8th floor, with your help as players, this peculiar neighborhood will discover that they are facing a different mystery than expected.

Through this game we seek to raise awareness of the role of microbiota in the maintenance of intestinal health. For this, we will advance through the floors of the #Bichindario while learning about the microorganisms and their role in our body.

If there are enough computers in the classroom, students can play individually through the platform just by logging in. Otherwise the teacher can access the platform and hold a game session for the whole class.

If the game is individual, there is a final wall of fame that scores the best and can be commented on in the classroom.

3. OUR FUTURE HABITS [discussion]

The teachers discusses with students food choices and consumption habits that are most beneficial for the health of our microbiota. You can use these challenge questions:

- Now that you know your microbiota, are you going to take care of it?
- What recommendations would you give to someone who eats unhealthily?
- Do you think your lifestyle habits will change after this class?

POST-EVALUATION

Afterwards, the students' understanding of the topics introduced will be tested again in a final questionnaire:

1) In which parts of the body are there bacteria and other microorganisms?
a) Digestive system, reproductive system, respiratory system, skin.
b) Only in the skin
c) Only in the digestive system
d) In the heart

2) The microbiota is formed by:
a) Only bacteria
b) Bacteria, fungi, viruses and protists.
c) Viruses and bacteria
d) Fungi

3) What functions do microorganisms help to fulfill in our body?
(a) They participate in digestion.
b) They participate in digestion, in the maintenance of the immune system (the body's defenses), and protect the body from other bad microorganisms.
c) They do not fulfill any function, they only live as parasites.
d) They only cause diseases.

4) How do microorganisms enter the human body?
a) We are born with them.
b) Through the nose and travel to the lungs, by touching them (skin), by eating them (digestive system).
c) When vaccines are not given
d) With food

5) What is the function of bacteria in the intestine (intestinal microbiota)?
a) They ferment certain foods that we eat.
b) They help us digest the fiber in food.
c) They create substances that have positive effects on the body.
d) All are correct.

SCENARIO NO. 5

HOW NOT TO WASTE FOOD

FOOD & LIFESTYLE

Grades: 4-12 (age 10-19)

Objectives:

- to understand the environmental footprint of food production

- to understand the need for global access to nutritious food

- to learn about sustainable food and agriculture systems

Outcomes – Students Will Be Able To:

- recognize the causes and indicate the consequences of food waste,

- learn the rules of preventing food waste in everyday life - distinguish between the terms "use by" and "best before ..." on food labels

Activities:

1. WHICH FOOD IS MOST WASTED? [introduction]

Infographic: Food Waste ← Use this infographic

Teacher explains that almost 1.3 billion tonnes of food is wasted globally each year, which is 1/3 of all the food produced! 89 million tonnes of food is thrown away in Europe. What are the most wasted food products? Bread (62%), fruits (47%), and cured meat (46%).

Task for students: What are the food products they throw away most often at their households? [discussion]

2. HOW NOT TO WASTE FOOD [brainstorming]

Too good to waste (video)

Teacher familiarizes students with the reasons behind food waste, e.g. buying poor quality products, missing the expiry date, buying too many products, too big meal portions, improper storage of food. What can we do to prevent food waste? Teacher asks students to generate as many ideas as possible.

Task for students: Propose 3 pieces of advice on the issue – *What actions should be taken to prevent food waste in a specific situation?*

a. Before going shopping;
b. During shopping;
c. At home, after shopping.

3. HOW ARE FOOD PRODUCTS LABELLED? [discussion]

Teacher introduces students to the definition of use-by dates: "use by" and "best before". "Use by" informs us about food safety. Food can be eaten up until the end of this date but no after, even if it looks and smells fine. Contrary to "use by date", food can be consumed after "best before date" but it may no longer be at its best quality. The "best before" date inform us about food quality.

It is estimated that up to 10% of food waste is linked to date labelling on food products.

Being presented with various food stuffs, students analyse the information on the packaging according to the following scheme: product name, composition, manufacturer, use-by date, country of origin, preparation method, storage instructions. Next, they indicate the information that could have an impact on reducing food waste.

4. HOW TO STORE FOOD? [brainstorming + game]

Students learn about the rules of storing food in the refrigerator:
Top and middle shelf: ready-to-eat foods (e.g. packaged foods, dairy products, leftovers) that should be covered or kept in sealed containers.

Bottom shelf: raw meat, fish, poultry that should always be kept wrapped or in sealed containers at the bottom of the fridge to prevent cross-contamination.

Bottom drawer: fruit, vegetables, salads, ideally wrapped in paper.

Game: Students are presented with different food products and asked to call out the fridge's shelf a given item should be placed into.

5. PRODUCT'S JOURNEY [group work]

Students' task is to arrange the path a given food product travels through, starting from the farmer's field, through processing plant, distribution, marketing, until it reaches a store's shelf. The participants do this by sticking the elements in the right order on the roll-up drawing paper roll.

Bread's journey:

1. Farmer's field
a) Planting grain and caring for cereals
In order to obtain 1 kg of wheat, the farmer has to allocate 1000 l of water so that the grain is turned into an ear from which the crop will be extracted.
b) Harvest and transport of grains to the mill

Agricultural machineries are powered by fuel what cause the emission of gases into the atmosphere

2. Mill
The miller grinds the grains and thus we get flour. Today's mills are equipped with modern machines that consume electricity. Their maintenance, including cleaning, is another litre of used water.

The flour in bags goes to the bakery. The transport of flour also causes the emission of gases into the atmosphere.

3. Bakery
To obtain fresh bread, the baker mixes the flour with water, forms a loaf and bakes it in the oven.

To create 1 loaf, we need an average of 462 l of water. The energy use to produce 1 kg of bread is 2.47 mJ.

4. Stores
Every day the loaves go to the store shelf. This is again related to distribution by cars so it causes gas emission again.

POST-EVALUATION

1. What kind of food products are most often thrown away?
a) Fruits
b) Vegetables
c) Bread
d) Dairy

2. What behaviour contributes to reducing food waste?
a) Preparing a shopping list
b) Buying the so-called "ugly products", e. g. deformed carrots
c) Appropriate storage and/or preservation of food
d) All answers are correct

3. The term "best before" means that:
a) Product can be eaten even after "best before" date
b) Product should not be eaten past this date
c) The quality of product after the "best before" date could be lower but product is still safety
d) Answers A and C are correct

4. Indicate the correct sentence:
a) Hot products/dishes can be placed in the refrigerator
b) Prepared food and raw meat can be stored in the refrigerator side by side
c) Products with the shortest date of minimum durability should be stored at the front of the fridge.
d) Some products, e.g. meat and ice creams can be frozen 2 or more times.

5. To reduce food waste, the food chain should be:
a) As long as possible
b) As short as possible
c) Length of the food chain does not matter

SCENARIO NO. 6

TRUTHS AND MYTHS ABOUT NUTRITION

FOOD & HEALTH

Grades: 10-12 (high school and technical school pupils; age 16-19)

Objectives:

- to improve pupils' nutrition habits
- to understand the common rules of nutrition

Outcomes – Students Will Be Able To:

- develop their healthy lifestyle and boost their creativity
- follow healthy eating rules on daily basis
- improve their diet and prepare healthier meals and snacks

Activities:

PRE-EVALUATION

1. What are your expectations from the workshop?
2. What would you like to learn thanks to workshops?
3. Are there any questions you would like to ask to expert in the field of dietetics?
4. Do you know how much water you should drink a day?
5. Do you know how many portions of vegetables and fruits you should eat per day?
6. Do you know what Zero Waste attitude means?
7. Do you like working in a team?
8. Do you like solving quizzes?

2. WHAT IS NUTRITION? [introduction]

Truths and myths about nutrition ← You can use this presentation

Teacher explains that nutrition is about eating a healthy and balanced diet. Food and drink provide us the energy and nutrients we need to be healthy. Understanding these nutrition terms will make it easier for students to make better food choices. What are popular myths about nutrition?

3. 7 FACTS ABOUT NUTRITION [video]

watch video

In the developed video pupils find out 7 facts about nutrition. The material was recorded by Dr. Agnieszka Piskała-Topczewska - a dietitian, nutrition specialist, founder of the NUTRITION LAB Institute, which aims to build awareness of proper nutrition among consumers and promote nutridietetics. The goal of the video is to boost students' interest in healthy eating and help them recognize between food facts and food myths. i. How many meals should we eat a day? Why we should not snack between meals? Is skipping a meal bad?

4. WHAT IS A HEALTHY LIFESTYLE? [discussion]

During the workshops pupils have the opportunity to actively brainstorm ideas for healthy lifestyle. At the beginning the teacher explains the rules of creative work (described below) and then he/she divides pupils into 5 small groups. Students try to generate the highest number of ideas in a response to the question: "What should teenagers do in order to improve their healthy lifestyle?". All answers given in the groups are discussed with the teacher and the rest of the participants. Students can work via Jamboard.

**Please note: If the teacher wants to use Jamboard, he/she should create 5 boards before the workshop. Here are the links to Jamboards which can be used:*

Jamboards

Rule 1: Don't judge ideas at the generation stage

Every idea is a good idea. Don't worry, in the next stage there will be time for discussing our ideas, but we should avoid judging during this session.

Rule 2: Write down and appreciate each idea

Write down and appreciate everything that comes to your mind, every idea is important! There is no bad or stupid ideas!

Rule 3: Generate (save) lots of ideas

At this stage quantity is more important than quality. Big number of ideas gives you more inspiration and then new ideas may come to your mind.

Rule 4: Combine, develop & improve ideas

It's about adding details to your ideas and/or developing ideas of others - inspire yourself, think about what can be changed in someone's idea. Don't stick to your ideas!

Rule 5: Humor is a catalyst for creativity

If you think of something funny - go ahead and share it.

5. TASK FOR STUDENTS:

Prepare a chosen artwork (e.g. painting, sculpture, graphic, poem, poster, short story, song, etc.) where you will present how people's nutrition habits have changed over the years.

6. CONCLUSIONS

visit site

10 TAKE-HOME MESSAGES:

1. You should eat at least 5 portions of vegetables and fruits daily.
2. A glass of juice can be counted as a portion of vegetables and fruits.
3. You should drink at least 1,5 liters of water daily.
4. A lifestyle according to which a person tries to generate as little waste as possible, and thus not to pollute the environment, is called "Zero Waste".
5. Pasta is an important component of a healthy, balanced diet. It provides the body complex carbohydrates and small amounts of protein.
6. It's a good idea to write down all the ideas that come to your mind.
7. A successful idea generation session is one with a lot of ideas.
8. Creativity is the ability to create a large number of diverse and original ideas.
9. One of the rules of creative work is to write down and appreciate each idea.
10. According to the rule "combine, improve, develop an idea" we should add details to your ideas and/or develop others' ideas.

POST-EVALUATION

Teacher explains how to use Kahoot and starts a quiz.

visit site

Instructions on Kahoot can be found here (slide 16)

1. How many portions of vegetables and fruits should you eat per day?

a) 1
b) 4
c) 5
d) 10

2. Can a portion of vegetables and fruits be replaced by a glass of juice?

a) Yes
b) No
c) Yes, but only apple juice
d) Yes, but only freshly squeezed juice

3. How much water should you drink daily?

a) 0,5 liters
b) Min. 1,5 liters
c) 4 liters
d) 5 liters

4. A lifestyle according to which a person tries to generate as little waste as possible (less environmental pollution) is:

a) Zero Waste
b) No Waste
c) Recycling
d) Zero Food

5. Pasta is an important component of a healthy, balanced diet. What provides the body with macronutrients?

a) Complex carbohydrates and small amounts of protein
b) Proteins
c) Fats
d) Carbohydrates and fats

6. Creativity is the ability to:

a) creating a large number of beneficial and original ideas
b) creating a large number of cost-free and diverse ideas
c) creating a large number of innovative and time-consuming ideas
d) creating a large number of original and diverse ideas

7. We can talk about a good idea generation session when:

a) lasts at least half an hour
b) there are many ideas
c) there is a limit of ideas per participant
d) all ideas are quick to introduce

8. One of the rules of creative work is:

a) focus only on your idea
b) appreciate and write down every idea
c) be serious and don't fun with different associations
d) don't write down every idea which came to your mind

SCENARIO NO. 7

FUTURE FOOD INGREDIENTS PRODUCED WITH CELLULAR AGRICULTURE

FOOD & TRENDS

Grades: 10-12 (high school and technical school pupils; age 16-18)

Time required: 2-3 hours

Objectives:

The aim is to teach students to think how the novel future technologies, particularly cellular agriculture, are affecting the future food system

Activities:

INTRODUCTION

1) As an introduction to the cellular agriculture watch the following:

#AnnualFoodAgenda_Cellular_agriculture (video)

2) Search information with terms cellular agriculture and food

3) Read one scientific publication related to future food production and cellular agriculture e.g.

Cellular agriculture - industrial biotechnology for food and materials

GROUP WORK:

The students should make three groups. The below three future scenarios of the Year 2100 are divided between the groups. Each group should describe what kind of life people are living in their own country and/or in Europe, in Asia, in Africa. What is the status of the environment and what kind of societal impacts that scenario holds. They should also create paths what has led to the scenario - what has happened in respect of the climate change, population growth, natural resources, biodiversity. What kind of diets people are having - how their lives look like.

Scenario 1 for 2100. The food is produced with traditional farming with the same methods, varieties, species and efficacy as today in 2021.

Scenario 2 for 2100. The food is produced with several means with traditional farming, vertical/urban farming and with help of technologies like cellular agriculture.

Scenario 3 for 2100. The traditional farming and agriculture has disappeared and all food is produced in fermenters.

There are FUTURE CARDS – FOOD PRODUCTION 2100 available that might help in building the scenarios. Each team could randomly pick five cards and start by discussing them. After first debate round, they should select the three most important ones impacting their scenario of 2100 and use those as guidance in scenario building.

FUTURE CARDS – FOOD PRODUCTION 2100

The groups should present their works and others should ask questions and the whole class should have an end discussion

There could be a Kahoot questions also in the end:

1. What is one of the main global challenges threatening our food system?
a. Urbanisation
b. Climate change
c. Digitalization
d. Population decline

2. What does cellular agriculture mean?
a. Rearing chicken in the back yard
b. Organic farming in a roof top in a big city
c. Planting herbs in between the potatoes and vegetables in the garden
d. Growing microbes in bioreactors to produce food

3. What is not a cellular product?
a. Single Cell protein
b. Lipid
c. Plant cell culture
d. Cultured meat

4. What is an acellular product?
a. Microbial biomass
b. Protein
c. Plant cell culture
d. Cultured meat

5. How much less water is needed to produce 1kg of SOLEIN when compared to meat production?
a. 500 times less
b. 550 times less
c. 600 times less
d. 650 times less

6. How much less land is required if egg white is produced by microbes instead of rearing chicken?
a. 60 %
b. 70 %
c. 80 %
d. 90 %

7. How much less greenhouse gases production of egg white by microbes generates than rearing chicken?
a. 22 %
b. 47 %
c. 74 %
d. 87 %

SCENARIO NO. 8

LEARNING HOW TO MAKE YOUR SHOPPING SUSTAINABLE

FOOD & ENVIRONMENT

Grades: 5-10 (age 10-14)

Objectives:

- to understand the concept of sustainable eating

- to improve students' eating habits

- to explain how food choices are linked to their future health and future of the planet

Outcomes – Students Will Be Able To:

- identify their ecological footprint

- make informed shopping choices

- lower the carbon footprint of their dietary habits

Activities:

1. WATCH THE VIDEO ON FOOD SAFETY [video]

watch video

2. PRE-EVALUATION

Teacher welcomes students and asks about their expectations towards the workshops. Judging by the topical scope of these classes, what would you like to have as take-away lessons from this experience? Do you know what the zero waste attitude means? Do you know what circular or sustainable eating is? Do you know what carbon footprint means? Do you know the origin of the food you eat?

Students participate in the survey to check their Ecological Footprint

3. GOING TO THE SUPERMARKET [game]

The objective of this game is to choose the most and the least sustainable food stuffs. Once the products are chosen, the sustainability points will be assigned.

You need (use a ppt as an alternative):
- a variety of food products such as seasonal and imported foods, local foods, fresh and processed foods, loose foods and packaged foods.

Sustainability points:

Seasonal foods - 3
Local foods - 3
Fresh foods - 3
Loose foods - 3
Imported foods - 1
Ultra-processed foods - 1
Packaged foods - 1

Game:

We divide the students into groups of 3 or 4 to encourage discussion and cooperation. Each group gets 2 baskets – 1 for food they consider sustainable and 1 for the items they think otherwise. We can do this game in a face-to-face environment with actual food products or create a Power Point presentation with a graphical representation of the food items. Having students made their choices, the teacher counts the points and informs the groups about their score. Later the groups and the teacher discuss the suitability of each product - why it is more or less sustainable, what alternatives we can use?

Your total score:

From 4 to 7 points: Your purchase can improve!
You probably like to eat cherries and avocados all year round and buy chopped fruits and vegetables. You should pay more attention to the seasonal treasures of your region. With a little effort, you sure can improve your shopping cart.

From 8 to 10 points: You are doing great, but...
You have made some good choices when it comes to the sustainability of your food products, but surely you still have some plastics left in your shopping cart. Put a little more effort, so you can be proud to contribute to the improvement of our environment.

From 11 to 12 points: You are the king of sustainability!
You make sure you buy products that are local and fresh. You always carry cloth bags when you go shopping and do not use extra plastics. You avoid ultra-processed foods and look for clean label products. Congratulations!

Concepts to explain:

Sustainable eating involves selecting foods that are healthy for our bodies and the environment. This means foods that provide a balanced diet for the body but also facilitate the conservation of the environment. These are foods grown and processed in a manner that does not harm the environment or compromise its ability to meet the needs of future generations (source: https://nctce.com.au/what-is-sustainable-food-a-guide-to-eating-more-sustainably/).

Food's carbon footprint is the greenhouse gas emissions produced by growing, rearing, farming, processing, transporting, storing, cooking and disposing of the food you eat. In this link you can check the carbon foodprint of different food products:

foods carbon footprint

Seasonal food refers to the times of year when the harvest or the flavour of a given type food is at its peak. This is usually the time when the item is harvested, with some exceptions. The teacher and the students can consult the different seasonal foods in their region here:

Explore Seasonal Fruit and Vegetables in Europe

Ultra-Processed foods most likely have many added ingredients such as sugar, salt, fat, and artificial colors or preservatives. They are made mostly from substances extracted from foods, such as fats, starches, added sugars, and hydrogenated fats. Examples of these foods are frozen ready-to-eat meals, soft drinks, hot dogs and cold cuts, fast food, packaged cookies, cakes, and salty snacks.

4. CONCLUSIONS

The student will be able to make informed shopping choices when it comes to perceived sustainability of a given food product. They will also gain tools to check what is the environmental footprint of their eating habits. What's more, using the EUFIC toolkit (see 'Seasonal Food' section), they will be able to see what seasonal foodstuffs are naturally available in their regions at a particular time of the year.

5. POST-EVALUATION

1. What is the best way to go shopping:

a) Walking
b) By car
c) Online

2. If it is December, the best fruit to eat is:

a) Orange
b) Strawberries
c) Grapes

3. If I go to the supermarket, the best way to buy fruit is:

a) Cut and peeled
b) Packed
c) Loose

4. What percent of food never gets eaten worldwide?

a) 30%
b) 50%
c) 85%

5. One way to reduce your carbon footprint is:

a) Buy products in individual packages
b) Buy products that come from far away
c) Buy seasonal and local products

6. Where can I find most reliable information on food?

a) Internet
b) Label
c) Friends

CONTACT US

Go to annualfoodagenda.com
to downolad educating materials
in your local langauge!

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