Erasmus+ 2021-1-SK01-KA220-SCH-000023907

Funded by the European Union

STEALTH

STEam methodology for heALTHhy nutrition awareness - Food as cultural Heritage

Co-funded by the European Union

Toolkit

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Contents

Introduction

The aim of the Stealth project is to raise awareness of the importance of healthy nutrition using the STEAM approach and combat social exclusion associated with obesity. The project will focus on the role of food as a form of cultural heritage and the importance that cultural knowledge holds for understanding food choices and consumer preferences. Real-world implications of project-based learning can excite students and can increase class participation. Integrating useful experiential and problem-based learning into specific situations can enhance understanding. This is particularly important and useful when dealing with subjects that are notoriously difficult for students to understand. The project, therefore, aims to design approaches that best integrate project-based learning into a curriculum in order to increase long-term understanding. The project will show that in order for students to gain full mastery of concepts, they have to be motivated to learn the material. The Stealth Project approach is to use food as a tool to encourage learning in nutrition, and also microbiology, chemistry, biology, health science, humanities and maths. The Stealth Project will use hands-on lessons that allow for interdisciplinary learning in all STEM subjects.

Rationale

Overweight and obesity are important public health problems in the European Region. (WHO, 2018) Globally, 38,3 million children are overweight (with an increase of 8 million more overweight children in 2017 than in 2000) and in Europe today 1 child out of 3 is obese (Unicef). “COVID-19 could potentially amplify one of the most worrying trends in the WHO European Region – growing childhood obesity,” said Dr Hans Henri P. Kluge, WHO Regional Director for Europe. Weight excess is one of the major risk factors for chronic non-communicable diseases such as type 2 diabetes, hypertension, cardiovascular diseases, metabolic syndrome, orthopaedic problems, cancer etc in adulthood. Moreover, overweight and obesity have also important psychological implications, as a matter of fact, they could alter body perception and reduce self–esteem with repercussions on social life.

The prevalence of overweight shows a negative gradient based on social position across Europe. Overall, children belonging to a lower socioeconomic status show the highest prevalence of obesity. In 2013, during the “Vienna Declaration on Nutrition and Non-Communicable Diseases in the Context of Health 2020, among the objectives to promote healthy lifestyles and reduce non-communicable diseases was the role of the implementation of effective programmes to promote healthy diets, encourage physical activity and to prevent childhood obesity.

It is the intention of the Erasmus+ STEALTH project to contribute is some small way to the continuing development of programmes and interventions to address overeating and obesity amongst young people.

Purpose and Goals

This Toolkit has been developed as a key output of the Erasmus+ project STEALTH. The main aim of the project is to raise school students' awareness of the nutritional content and value of the foods they commonly consume and particularly those foods that could be regarded as part of their national and/or cultural heritage.

To this end, the Toolkit contains a range of activities, games and investigations through which pupils might investigate the nutritional content of the food they eat and compare and contrast this with food from other cultures and regions. By so doing, it is hoped that school pupils will develop a greater awareness of nutrition, what is meant by healthy eating and equip them to make better and more informed discussions regarding the food they eat. Furthermore, the project aims to raise students' appreciation for other cultures, cultural diversity and cross-cultural enrichment.

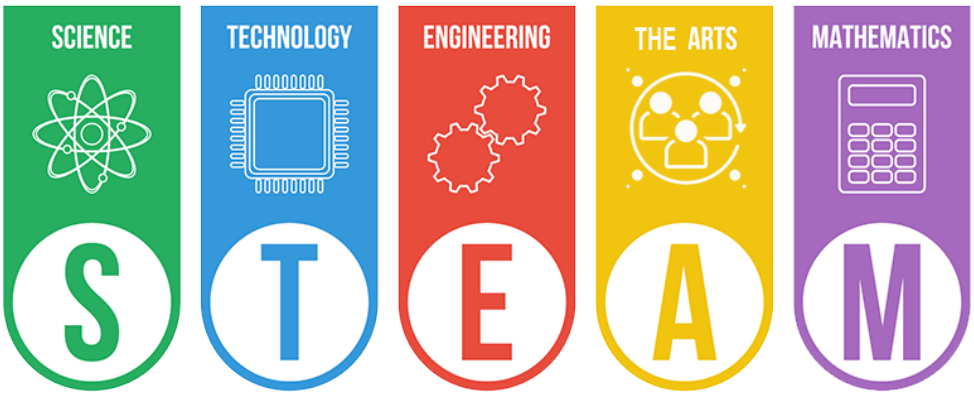
The activities contained within the toolkit are designed to raise 'nutritional literacy' within schools through STEAM approaches to investigating foods that are locally or nationally produced, familiar to pupils and comprising much of their own regular diet.

The Toolkit should not be seen as a scheme of work simply intended to replace or supplement schools' existing subject syllabi. As the project promotes the investigation into the nutritional value of the food student eat, the activities suggested in the toolkit do not include detailed instruction into such topics as life processes, the digestive system, food production and so on. Despite this, teachers are encouraged to include topics or activities of their own in order to fill gaps in learning or ensure pre-learning is secure before delivering the activities within the toolkit. Similarly, it is not the aim of the Stealth Toolkit to simply provide a list of definitions and examples of what is meant by nutrition or what it means to eat healthily. Instead, the Toolkit contains activities that promote a STEAM approach to teaching and learning. It is therefore essential that, as far as possible, pupils are encouraged to carry out investigations independently and arrive at and record their own observations. The teacher's role is to guide the learning and help pupils make sense of what they observe.

STEAM

What is STEAM

For the purposes of this project, the STEAM approach to teaching and learning is defined as combining meaningful Science, Technology, Engineering, Arts and Maths content to solve real-world problems through hands-on learning activities and creative design.



EDUCATION

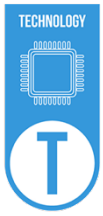
Thus, Science, Technology, Engineering The arts and Mathematics are not regarded as separate and discrete subjects. Instead, STEAM integrates them into "interdependent" learning units to solve problems and facilitate successful inquiry. Despite this, it is clear that some activities may not lend themselves to all STEAM subjects while others focus more specifically on two or three. It is the delivery of a range of activities across different areas of investigation that ultimately allows for a truly STEAM approach.

STEAM or STEM

STEAM only differs from STEM approaches with its inclusion of Arts. The Stealth project regards the Arts as comprising Humanities subjects such as History, Geography, Citizenship and Ethics.

The STEAM Strands of STEALTH

Science investigations for a major focus within the STEALTH project. A number of activities are designed to enable pupils to investigate the nutritional values of the foods they consume. Much of the investigations require some pre-teaching in terms of basic knowledge, understanding and key vocabulary. To this end, key definitions are provided in the appendices of the Toolkit to support teachers although teachers are encouraged to bring their own subject knowledge to the activities.



Technology activities are often considered to be those that relate to digital, information and communications. Although the STEALTH project approaches technology in this way, the working definition is extended to include the application or output or equipment, devices and tools resulting from acquired knowledge to solve problems. Thus, the building of simple robots, creating science equipment or demonstrating processes in innovative ways can be regarded as the application of technology. The use of information and communication technology is encouraged whenever possible and particularly in handling data acquired as a result of investigations. Simple robotics activities are provided in the toolkit with detailed coding instructions.

Engineering is approached through design, development and application of products and tools to facilitate research and model findings. For younger students, there are games and activities designed to develop fine-motor skills while designing visual aids to reinforce learning of nutrition and healthy eating.

As the project explores food as cultural heritage, it is necessary to approach activities through the lens of The Arts. Many investigations will require pupils to look at historical, geographic and cultural influences on food and the food choices that they make. Geography skills and methodologies will be applied when comparing and contrasting the nutritional value of foods from other regions and particularly in countries where schools are participating in the Stealth project.

Mathematics is applied to most of the activities and investigations contained within the Toolkit. Each experiment, test and survey require the handling and interpretation of data. Pupils will be required to apply the rules and conventions associated with presenting data in graph and table form. Pupils will also be required to work with numerical values associated with the key nutrients in food and make calculations using percentages, averages and totals. Although most data can be presented using ICT tools, it is recommended that calculations are made mentally of using pencil and paper approaches.

Key Elements

The Stealth Toolkit is divided into sections with activities having similar objectives and designed to facilitate similar outcomes. Some activities may only be suitable for specific age groups while others can be easily adapted for pupils of any age. The Key Elements are as follows:

Nutrients – Knowledge and Understanding

Pupils will take part in activities and games designed to develop and secure their knowledge and understanding of the key nutrients in the food they eat. The focus throughout is on the nutrients commonly identified on food packaging. Teachers may extend the range of nutrients taught although this is not necessary for the purposes of the project. Students will research, review and revise the nutrients in locally available foods, record observations and consider the nutritional value of the food.

Investigating Nutrients in Food

Building on a secure and clear knowledge and understanding of the nutrients found in the food they regularly eat, pupils carry out a range of scientific investigations to identify specific nutrients in their food. The investigations vary from those that require minimal resources to more sophisticated experiments and each is more or less suited to specific age groups.

Healthy Eating and a Balanced Diet

Pupils use the result of research and their knowledge and understanding of the nutrients in food to make choices and informed decisions regarding healthy eating. Pupils make suggestions as to how school meals could be improved and how they might change their own eating habits to promote health.

Food – Comparative research and Cultural Heritage

Research findings and the conclusions arrived at are shared between pupils from the four partner regions. Pupils compare and contrast the nutritional value of the food from the four regions and develop theories as to the reasons for such differences.

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Elements at a Glance

Pre-teaching

1st ELEMENT

Determine the target students' Knowledge and understanding of nutrition, healthy eating and what is meant by a 'balanced diet'.

Decide on the key facts, knowledge and information that need to be addressed and use activities in this Element, or alternative approaches, to fill the gaps in learning.

Model learning

2nd ELEMENT

Using activities in this Element or alternative approaches, demonstrate ways of determining the presence of key nutrients in foods.

Focus on no more than one or two nutrients if time is limited. Explain procedures, reporting strategies and health and safety issues at this stage.

Investigating

3rd ELEMENT

Decide on food that is specific to the geographic region in which the students live or food that is part of students' cultural heritage.

Students investigate the nutritional value of chosen food using the methods modelled in 2nd Element and record their findings.

Reporting

4th ELEMENT

The students prepare a report for presentation

Students investigate the nutritional value of chosen food using the methods modelled in 2nd Element and record their findings.

At this stage, students may carry out surveys to help inform their choices and provide information that could be compared and contrasted with the results of their research.

Using the Toolkit

Teachers should use their knowledge of their students' learning before deciding on which element of the Toolkit to focus on. If it is felt that pupils have a secure knowledge and understanding of the key concepts and vocabulary covered in Element 1 of the Toolkit (Nutrients – Knowledge and Understanding), it makes sense to move on to the investigative activities contained within Element 2 (Investigating Nutrients in Food).

Teachers are not required to deliver all activities in the toolkit, but instead choose those that are best suited to:

- The needs of the school as determined by what has to be covered in the statutory curriculum.
- Available resources and budgetary considerations.
- The age of the pupils.
- Prior curriculum coverage and prior teaching and learning.

Before delivering any part of the Toolkit content, teachers should keep in mind the following:

1. **The teacher should be in a role of a facilitator and guide**
   Teachers should provide guidance and reflection to students during the exploration of the topic. The goal is to provide students the means to explore and assess the issue by themselves, not by telling them what "how things are.

2. **Teachers should be ready to learn for themselves**
   What we are going to do will be challenging for all participants, so it is important to be ready to explore with the students the subject matter selected.

3. **Teachers must stay open to other opinions, approaches, and assumptions**
   It is vital to understand and appreciate the ideas, opinions and experiences of others as these will help in the development of new and innovative ideas which, in turn, drive future opinions and goals.

4. **Teachers should avoid accepting predefined norms and values other than those of openness and respect to others**
   There is no healthy and unhealthy food in the absolute sense!

Disclaimer

It is important to point out that the concepts presented in this Toolkit are not given facts and there could well be different approaches to them. The goal of the Toolkit is to provide reliable and practical guidance that would suit purposes for teachers. Teachers are in this sense invited to apply the presented approaches and concepts with an open mind.

Learning Objectives

Outcomes and Expectations

Ages 8 to 11

The Stealth project promotes a variety of creative and practical activities to enhance pupils' knowledge, understanding and skills needed to engage in an iterative process of designing, making., researching and presenting. Pupils work in a range of relevant contexts [for example, the home and school, gardens and playgrounds, the local community, industry and the wider environment].

When applying their learning, students should be able to:

- Design menus, and food dishes based on their understanding of the nutrients required in a balanced diet and what it means to eat healthily. Products should also be appealing for themselves and other users based on design aesthetic criteria
- Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where possible, information and communication technology
- Select from and use a range of tools and equipment to perform practical food tasks (for example, cutting, shaping, kneading).
- select from and use a wide, and growing, range of ingredients and materials according to their characteristics and purpose.
- Explore and evaluate a range of existing food products.
- Evaluate their ideas and products against agreed or prescribed criteria and make informed comparisons with other similar products.

Ages 11 to 16

The Stealth project encourages pupils to work in a range of relevant contexts (for example, the home, school, leisure and culture). When designing, planning and making, pupils should be able to apply their knowledge and understanding to:

Planning. Preparation and Design

- Use research and develop design criteria to inform the design of innovative, functional, appealing food products that are fit for purpose, aimed at particular individuals or groups
- Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design

Creating and Making

- Select from and use a wider range of tools and equipment to perform practical culinary tasks [for example, cutting, shaping, blending], accurately.
- Select from and use a wider range of materials and components, including science materials, equipment and ingredients, according to their functional properties and aesthetic qualities.

Evaluating and Assessing

- Investigate and analyse a range of existing products.
- evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.
- Create and justify the assessment criteria based on received knowledge and understanding.

Engagement

- As part of the Stealth project, pupils are given the opportunity to familiar dishes that might be regarded as part of their cultural heritage as well as dishes from other regions and cultures.
- Pupils apply the principles of nutrition and healthy eating throughout with the aim of instilling a love of cooking in pupils which will also open a door to one of the great expressions of human creativity.
- Learning how to cook is a crucial life skill that enables pupils to feed themselves and others affordably and well, now and in later life.

Food Circle and Pyramid

See below for more information

Planning the Project

Backwards Planning

The suggested activities contained within the toolkit do not, in themselves, constitute a STEAM approach to investigating a methodology for healthy nutrition awareness of food as cultural heritage. Although they are intended to raise awareness, knowledge and understanding of healthy nutrition, it is the final outcome of the project in which students apply their knowledge and understanding to investigate the nutritional value of the food they eat as part of their cultural heritage that a cross-curricular STEAM approach is applied. It is for this reason that a 'backward planning' approach is recommended before delivering the content of the toolkit.

The STEALTH project has four key elements:
1st Element - Assess what students already know about nutrition in food and identify activities that would fill gaps in learning, knowledge and understanding.
2nd Element - Demonstrate methods for investigating the nutritional value of food
3rd Element - Provide students the opportunity to apply the knowledge and understanding acquired in the first two elements to investigate the nutritional values of the foods they commonly eat.
4th – Element - Students apply the knowledge, understanding and research results obtained in the first three elements to the creation of a report on the food they commonly eat and which could be considered as part of their national, culinary heritage.

These four key elements provide a developmental roadmap for project completion from formative assessment to final output. Despite this, the 'backward planning' process requires teachers to begin by identifying the final output before deciding on the knowledge, skills and practical experiences that students should be exposed to in order to successfully realise said output.

To support teachers in project planning, the following planning template is provided. A Word copy can be found on the project website or a Google Forms version accessed using the link below or the link under the title on the template.

Backwards Project Planning Template https://docs.google.com/forms/d/e/1FAIpQLSc-kJ0j3AQ_0UibmW_www_6n8KWMyb_oiK8wKtWI3dujWQD-A/viewform				
Region	**Austria**	**Greece**	**Slovakia**	**Portugal**
School:				
Age Group(s):				
Number of Students:				

Section 1 (Element 4) - Identify Final Outcome

The project outcome should report on food that students are familiar with and which could be considered part of their national culinary heritage.

The outcome should report on the following:

1. The research and investigation methods used by students
2. The origins of the food, historical perspectives and/or regional variations
3. The availability of the food, delivery processes, storage and so on
4. Ingredients, recipe, nutritional value
5. Existing and future threats to the food as cultural heritage

Describe the format, content and/or presentation of the project research outcome.
Examples of the format might be:

1. A poster or fact file
2. A documentary or explainer video
3. An in-person presentation and/or PowerPoint presentation
4. A written report

Hypothesis or Essential Question:

Create a question or hypothesis that should be and addressed by the project research. This should be an overarching or open-ended question that goes beyond a yes or no answer.

Section 2 (Element 3) – Identify the research

Which activities might the students carry out in order in order to answer their essential question? Such activities might include:

1. One or more of the activities provided in the toolkit
2. Surveys with parents, teachers and students
3. Online research

Section 3 - Demonstration (Element 2)	Section 4 - Pre-teaching (Element 1)
How will the research activities be demonstrated to the students?	*Identify key activities from the toolkit that enhance or fill gaps in students' knowledge and understanding prior to project investigation.*

Section 5 - Resources

Identify resources and materials needed to research the essential question.

Key Definitions

Theoretical background to nutrition

Proper nutrition leads to the development of a healthy human condition and creates the conditions for disease prevention (heart disease, vascular disease, diabetes or obesity), high productivity or long life. If it is necessary to formulate principles for a healthy diet, these are as follows:

- Optimal energy intake,
- reduced fat intake,
- optimum protein intake,
- optimum carbohydrate and fibre intake,
- optimal intake of vitamins and minerals,
- proper frequency and culture of eating.

The basis of good nutrition is a balanced and diversified diet adjusted to age, sex, and mental and physical demands. A diverse food is also preferable to a monotonous, monotonous diet. The nutritional profile of a diet can be characterised by the macronutrients (carbohydrates, proteins and fats) and micronutrients (vitamins and minerals) it provides.

Carbohydrates

They are the most common natural compounds on the planet and are made up of carbon, hydrogen and oxygen. They are the main source and store of energy and the building blocks for cells. They are formed in the process of photosynthesis, which takes place in the green parts of plants. We recognise sugars that are sweet and water-soluble (e.g. glucose and fructose), but also sugars that are not sweet and not water-soluble (e.g. starch, cellulose).
Carbohydrates should make up 55-60% of the food intake, mainly in the form of polysaccharides and only minimal in the form of simple sugars. Complex carbohydrates that contain fibre are most beneficial. Excess sugars consumed in the diet are metabolised into fat and stored in the body and negatively affect dental health.

Fibre

It is composed of polysaccharides (more complex sugars), which are of plant origin and cannot be metabolized into simpler sugars. We distinguish between soluble (in fruits and vegetables) and insoluble (in plant foods) fibre. The daily requirements for fibre are about 30g, which covers 5-7 portions of fruit, vegetables or whole grains per day.

Fats

They are the primary energy source for humans and are of both plant and animal origin. Among the vegetable ones are e.g. olive oil or cocoa butter and among the animal ones e.g. butter and fish oil. According to their state, they are classified as liquid fats (oils) and solid fats (lard, tallow). They consist of carbon, hydrogen and oxygen and are insoluble in water. Dietary fats are important for the transmission of nerve impulses, which is why nervous tissue contains up to 40% lipids.

Daily consumption of fats should not exceed 30% of daily intake, although the recommended values are lower. It is advisable to opt for rather low-fat products and to pay attention to the labelled fat content. Excessive intake of fat is stored in the tissues.

Proteins

They are the foundation of life and are irreplaceable in the human organism. They are part of tissues (skin, muscles, organs), hair and nails. They are of plant (legumes and cereals) or animal origin (meat, milk, eggs). Their structure is more complex - they are composed of amino acids, which are referred to as their "building blocks".

Protein should make up 10-15% of a person's daily energy intake. In younger people, animal proteins should prevail, in older people plant proteins (from cereals, legumes, soya).
The most important animal proteins are the protein from milk and meat, and the most important plant proteins are those from wheat and cereals.

Minerals

Minerals are an important component of living organisms. Some of the most important include sodium, potassium, calcium, magnesium, copper, iron, or compounds of carbon (carbonates), nitrogen (nitrates), phosphorus (phosphates), sulfur (sulfates), and iodine. Although they are present in minimal to trace amounts in the body, their deficiency or excess can be seriously damaging.

Vitamins

They are substances that, by their presence (or absence), affect the functioning of the body, and their deficiency causes various disorders. There are fat-soluble vitamins (vitamin D, vitamin E, vitamin K and vitamin A) and water-soluble vitamins (vitamin C, biotin, B vitamins). The absence of a vitamin is referred to as avitaminosis and its decreased level as hypovitaminosis. Excess presence of a vitamin is referred to as hypervitaminosis.

Water

The dominating compound in organisms is water. The human cell contains about 80% water and the whole human body in total about 60% water. Life itself originated in water and so water also creates the environment for the important processes that take place in organisms. At the same time, it is important that water is an important solvent and has a high thermal capacity, which is important for maintaining a proper body temperature even when the external temperature fluctuates.

Recommended daily water intake ranges from 1.5 to 2 litres. It is advised to drink unsweetened herbal teas, alternate between mineral water and unsweetened fruit and vegetable juices.

Vitamins

Name	Function	Deficiency symptoms	Source
Biotin (vitamin H)	Growth hormone, healthy skin and healthy hair	Skin changes, brittle nails and hair, mental fatigue	Kidney, liver, brain, egg, milk
Choline	Nervous system activity, concentration	Fatigue, mood changes, headaches, short- or long-term memory loss	Greens, peanuts, legumes, liver, egg yolk
Cobalamine (vitamin B12)	Production of red blood cells, proper function of the nervous system	Anaemia, neurological diseases, growth disorders	Liver, kidney, meat, milk, cheese, eggs
Folate (kyselina listová)	Production and repair of proteins, cardiovascular disease prevention	Fatigue, headaches, mood swings, coldness, constant feeling of hunger	Liver, guts, yolk, cereal sprouts
Niacin (vitamin B3)	Energy metabolism, normal nervous system activity and mental activity	Fatigue, skin rashes, digestive disorders, lack of appetite	Liver, poultry meat, legumes, sourdough, yeast
Panthothenic acid (vitamin B5)	Promoting hair growth, skin quality	Diarrhoea, skin inflammation, fatigue, sleep disorders	Cauliflower, broccoli, egg
Riboflavine (vitamin B2)	Promoting the growth and recovery of the blood cells (red blood cells)	Fatigue, personality disorders, anemia, inflammation	Guts, eggs, spinach, yeast
Thiamin (vitamin B1)	Positive influence in muscles and nervous system	Low concentration, fatigue	Legumes, vegetables, nuts
Pyridoxine (vitamin B6)	Nervous system activity, red blood cells production	Skin inflamation, hair loss, anemia, imune system disorders	Dairy products, meat, fish, vegetables
Vitamin C (acid ascorbicum)	Proper function of organs, bones, teeth, promotes healing, prevents infections	Anemia, tooth loss, proneness to infections	Citrus, kiwi, sauerkraut, blackcurrants
Vitamin A (retinol)	Promotes growth, healthy vision, important for development of bones and teeth	Cornea and retinal disorders, anemia, bone growth disorders	Carrots, broccoli, milk, eggs
Vitamin D	Promotes calcium and magnesium storing in the bones	Bone disorders, fatigue	Skin exposed to sunlight

Vitamin E	Healthy muscle and bone growth, proper blood circulation function	Nervous system and muscle disorders	Nuts, milk, oils, butter
Vitamin K	Effects blood coagulability	Blood coagulation disorders - bruises, nosebleeds	Cabbage, broccoli, parsley

Food as source of energy

The human body uses the energy obtained from food to perform physical and mental work. Therefore, for optimal functioning of the body, it is important that energy intake and energy output are balanced. Disturbance of this balance leads to fatigue and gradual damage to the body's health. The excess of energy intake over energy output will in the longer-term result in the accumulation of fat mass. On the contrary, if the energy output is higher than the energy intake, the loss of muscle mass follows.

The intake of energy that the organism uses is achieved through the food intake or nutrients present in food. Carbohydrates, proteins and fats are present in food and are the source of the so-called available energy. This is the amount of energy that is released from the food in the body after it has been ingested. The energetically optimal amount of food is the amount of food that maintains the body's normal weight.

Dietary reference values

A diet of individuals affects their productivity, life expectancy and especially their disease resistance. In the literature, we encounter so-called Recommended Dietary Allowances (RDAs), which are calculated and, in terms of nutrient content and combination, meet the needs of approximately 90% of the population. However, the need for individual nutrients varies for different groups of people and varies according to age, sex, physical and mental activity and other personal aspects. In practice, however, the Recommended Dietary Allowances (RDAs), which express the recommended nutrient intakes, are commonly used. These may not reflect actual needs and dietary situations, as they tend to take into account traditions and dietary habits. In particular, food composition changes - in relation to changes in food composition, food market demand/supply and also population or population group preferences. At the same time, the food intake should ideally be frequent in 5 portions, but at least 3 portions per day. Food should be taken in an aesthetically and hygienically pleasing room, in a calm and comfortable atmosphere, with sufficient time devoted to it.

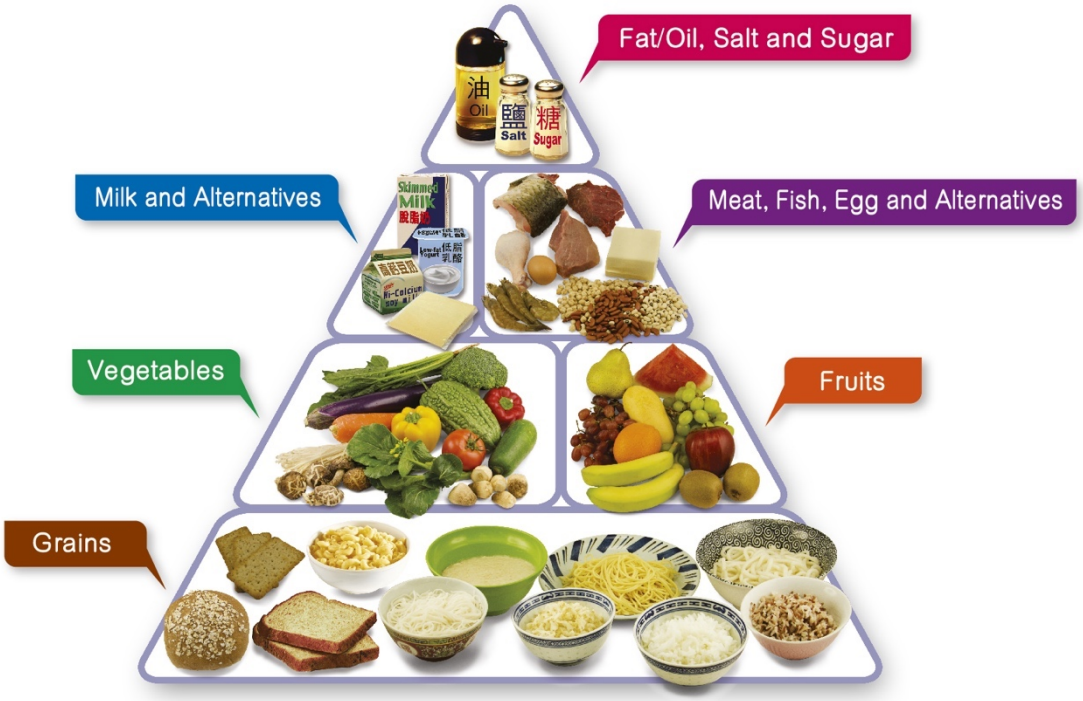
Food pyramids / circles

The recommended ratio of essential nutrients in the diet is 10-15% protein, less than 30% fat and 55-60% carbohydrates. A variety of graphical and informative displays are very effective for visualisation and better understanding of good nutrition.
For example:

- Split plate, in which individual sections represent the distribution of food nutrients,
- a rainbow, in which the individual contents of the nutrients are represented by the length (and thickness) of the stripes of the rainbow in relation to the representation of the macronutrients,

- the food pyramid or health pyramid, which we have seen at least once in a doctor's waiting room or on the Internet.

If we were to convert the pyramid and the different food components into types, types of food, 40% would be cereals, bread, rice and pasta, 35% fruit and vegetables, 20% dairy products, milk, meat, poultry and cheese and only 5% fats, oils or sweets. At the same time, water intake is also key to a healthy diet, ranging from 1.5 to 2 litres of water per day.



1st Element

Nutrients Knowledge and Understanding

In this section, the students will develop and consolidate their knowledge and understanding of the key nutrients that are found in the food they eat. A list of key terms and definitions can be found in Appendices.

Some of the games and activities in this section are designed to teach children about food and healthy eating while having fun at the same time. Play-based learning helps support children's development across many areas such as physical, social, emotional and intellectual. Through play-based food activities, children have the opportunity to explore and learn about foods in an engaging way, separate from mealtimes. Food-related games and activities are also a great way to expose children to new and non-preferred foods in a fun and encouraging way, especially for fussy eaters or children who are anxious about trying new foods. The ideas below can be used to engage children in healthy eating experiences, teach them to recognise different foods and encourage them to experiment with new foods, tastes, flavours and textures.

Contents:

Title: **Gouache Paint**: *Hygiene and Food Safety Activity*	**Target Key Level:** 11 - 16
Learning Objectives: To learn how parts of the hands can be missed even with thorough washing.	**Resources/Materials:** Gouache Paint Soap and Water Paper Towels

Method:

This is classic for hand hygiene training! Very simple to make and also very funny, this dynamic only needs some gouache paint and two volunteers. A volunteer will close the eyes of the colleague who will have to wash his hands with the "soap" that the facilitator will put in his hands, not knowing that, in fact, the "soap" is the ink itself.

When "sanitizing" the hands with the "soap", the ink will mark the parts where the volunteer actually washed his hands and will no longer mark where there was no washing. This activity illustrates very well the parts of the hands most forgotten during hand hygiene.

For more information on food safety and *hygiene*, see appendix 4

Cross Curricular:	**Health and Safety:**
Key vocabulary and understanding required for personal hygiene.	Ensure the water is not too hot for younger children. Prevent younger children from rubbing soap and paint in their eyes.

Title: **Glue Glitter:** *Hygiene and Food Safety Activity*	**Target Key Level:** 11 - 16
Learning Objectives: To see that hands are the vehicle that spreads, contamination and diseases.	**Resources/Materials:** Glue with glitter (those used in children's work), Althylene board (trimming) Disposable gloves Knife Bonbons.

Method:

The facilitator should put on disposable gloves, telling the participants that now they will be shown how to handle the bonbon. Without the participants noticing, the facilitator should put some glitter glue on their hands. The facilitator simulates a sneeze, covering his nose and mouth with his hands. After sneezing, you should rub one hand in the other and say: "let's go to work!".

Hands full of glitter must be shown to the participants. At that moment, the facilitator should take the plate of althylene, open the bonbon, cut the bonbon with a knife and offer it to the participants, suggesting that they eat the bonbon. The objective is for all the glue glitter to spread to the other materials (althylene plate, knife and bonbon) alerting the participants that, when sneezing incorrectly or touching something contaminated, the hands are the vehicle that spreads the contamination.

For more information on food safety and *hygiene*, see appendix 4

TRY OUR FOOD SAFETY QUESTIONNAIRE!

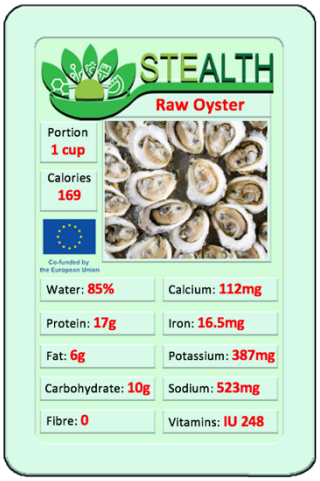
https://forms.gle/5LxCMdspb8MjM22A6

Cross Curricular: Key vocabulary and understanding required for personal hygiene.	**Health and Safety:** Prevent younger children from rubbing glitter glue in their eyes.

Title: **Stealth Trumps** *Nutrients Card Game*	**Target Key Level:** 11 - 16
Learning Objectives: To learn, compare and contrast the nutritional content of the food we eat. To recognise the nutrients commonly displayed on food labels.	**Resources/Materials:** Stealth Trump nutrition cards

Method:

Stealth Trumps is a fun, versatile card game based on the popular Top Trumps game. The game is designed to significantly improve students' knowledge of the nutrients found in the food they eat. Blank templates of the cards are provided so that teachers can customise the cards to reflect the foods eaten as part of their own national heritage. The object of the game is to collect all of the cards in the deck by having the highest numerical values on the card. Any number of players can play as long as the cards are divided evenly and depending on the number of cards available. It is recommended that the minimum card pack should consist of 35 to 50 cards.



Eat Up!

Extension game

Eat It is a card game based on the Apples to Apples award winning card and party game. It combines the nutrient cards from the Stealth Trump game above with additional situation cards which can be found in Appendices.

Resources and rules to both games can be found in the appendices of this toolkit.

Cross Curricular:	**Health and Safety:**
Key vocabulary and understanding required for inquiry and investigations.	None

Title: **Kahoot** *Online Quiz Games*	**Target Key Level:** 11 - 16
Learning Objectives: To learn, compare and contrast foods, nutrients and healthy diets using a fun online game	**Resources/Materials:** Link to existing kahoots Login to Kahoot! To create new games.

Method:

Kahoot! is a game-based learning platform that makes it easy to create, share and play learning games or trivia quizzes in minutes. Unleash the fun in classrooms, offices and living rooms!

Teachers can use the quizzes provided or create their own fun learning game in minutes – these are called 'kahoots'. The format and number of questions is up to you. Add videos, images and diagrams to your questions to amplify engagement.

Guess the Food

https://kahoot.it/challenge/04765273?challenge-id=3d964f8d-b6ce-44b1-9ba8-051900d5b495_1674377421623

Cross Curricular: Students could create their own Kahoot games to reflect their learning in related subjects and activities	**Health and Safety:**

Title: **Guess the Veg'** *Nutrients Guessing Game*	**Target Key Level:** 6 - 10
Learning Objectives: To increase children's recognition and awareness of different vegetables. Children are given the opportunity to learn about new vegetables.	**Resources/Materials:** A selection of different vegetables (they can be real or models) A bag or a pillow slip
Method: Place vegetables inside a bag or pillow slip. Ask children to feel inside the bag and guess which vegetables are in there. You can also blindfold children and place a vegetable from the bag in their hands, then ask them to guess what the vegetable is by feeling, smelling or even tasting it. 	
Cross Curricular: Data handling activities can be used with children creating graphs and charts showing the various properties of the vegetables.	**Health and Safety:** Children should; • Do not eat the vegetables • Wash hands after participating • Do not use small model vegetable that are easy to swallow

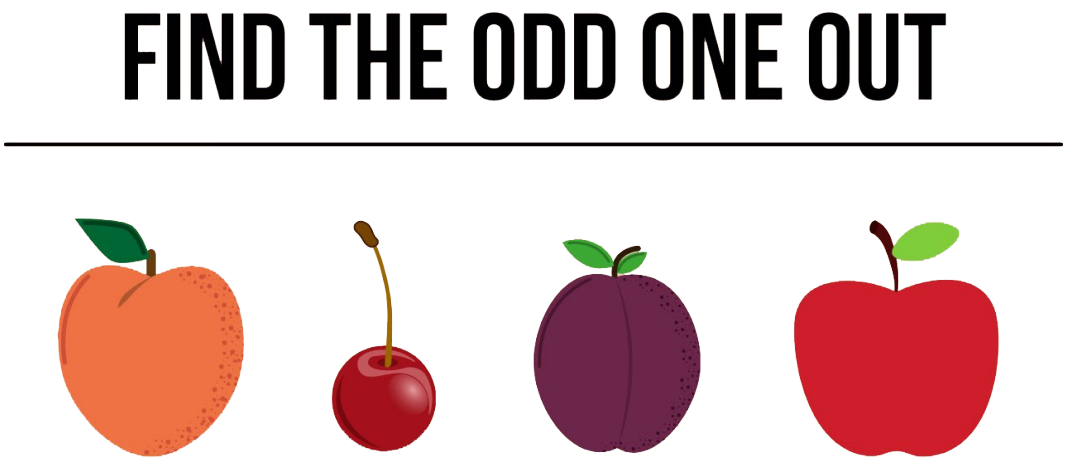
Title: **Food Letters** *Nutrients Card Game*	**Target Key Level:** 6 - 11
Learning Objectives: To provide an opportunity for children to learn about different foods and letters. To Increase children's knowledge of different foods, To increase their vocabulary and literacy skills.	**Resources/Materials:** A poster, whiteboard, pin board, or somewhere to write or add pictures to
Method: Pick a letter of the week. Discuss with the children all the foods they can think of that start with that letter, you can discuss, draw or write a list. Focus the activity on foods from the 5 food groups (vegetables, fruits, grains, dairy, meats & alternatives). Example: M is for... mushroom, mango, milk, meat.  	
Cross Curricular: Literacy and numeracy skills.	**Health and Safety:**

Title: **Odd-one-out** *Logic – deduction game*	**Target Key Level:** 6 - 11
Learning Objectives: To help children increase their problem-solving skills and food literacy. To learn to identify food compared to non-food items. You can also make the game more challenging for older children and teach them about different food groups.	**Resources/Materials:** whiteboard, paper to draw or write on, or you can discuss as a class.

Method:

Say or write a series of four words including three fruits or vegetables and one odd word. For example, carrot, potato, cat, onion. Ask the children to identify the odd word. For the more challenging version, choose three foods of the same food group and one that is the odd one out. For example, celery, capsicum, carrot, and yoghurt. Ask the children to identify the odd one out and explain why it does not belong with the rest of the group.

You can also make the game more challenging for older children and teach them about different food groups.



Cross Curricular: Logic problems, literacy and Numeracy	**Health and Safety:**

Title: **Vegetable People** *Creative activity*	**Target Key Level:** 6 - 14
Learning Objectives: To learn about different fruits and vegetables, what they look like, what they feel like etc. To express creativity. To expose children to new fruits and vegetables in a fun and playful way, with no pressure to eat. To encourage children to eat their vegetable person for morning or afternoon snack if they wish.	**Resources/Materials:** Real fruits or vegetables or pictures. Toothpicks to piece real fruits or veggies together for 3D version A plate or piece of paper for 2D version.

Method:

Chop fruits and/or vegetables into pieces or shapes that can be used as facial or body parts. Demonstrate how to use a toothpick to stick pieces together (if creating a 3D person). Allow children to choose which fruits and/or vegetables they would like to use and allow them to use their creativity to create a person or face.

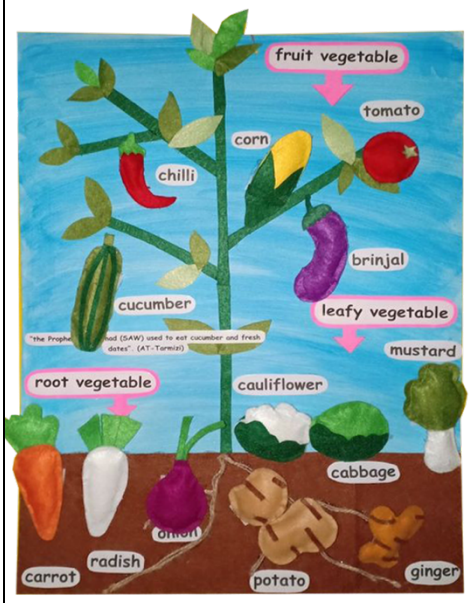
Students could write a description of their character as a Super Hero and explain how they help keep us fit and healthy.

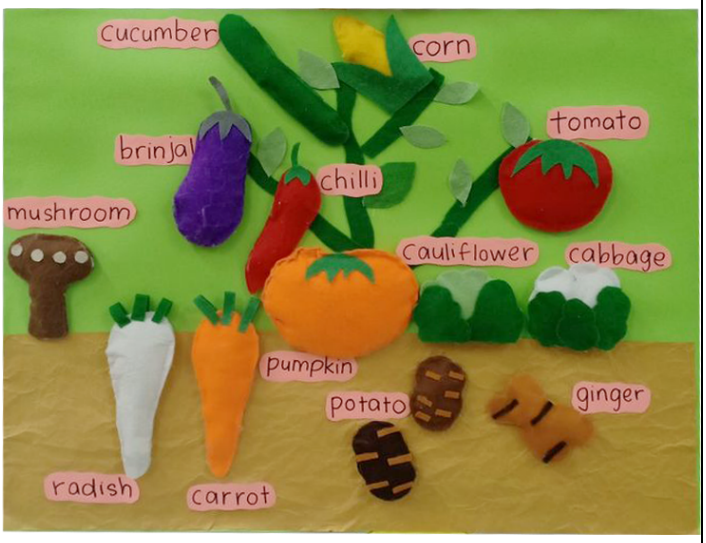
Cross Curricular:	**Health and Safety:**
Science, creative arts, literacy	Pupils should be carefully supervised when using knives or pins. Not attempt to eat the food

Title: **Veggie Poster** *Creative activity*	**Target Key Level:** 6 - 16
Learning Objectives: To encourage children to explore different fruits and vegetables through art and promote their creativity.	**Resources/Materials:** A3 paper, coloured pencils, crayons, cut outs of pictures of fruits and vegetables Glue Laminator

Method:

Each child gets their own piece of A3 paper to either draw or use cut outs of fruits and vegetables to create their own poster or placemat. They can use their creativity to draw their favourites, create a rainbow of different coloured fruits and vegetables or draw a story about fruits and vegetables. Once the poster is completed, they can be laminated to use as placemats at mealtimes or displays in the classroom.



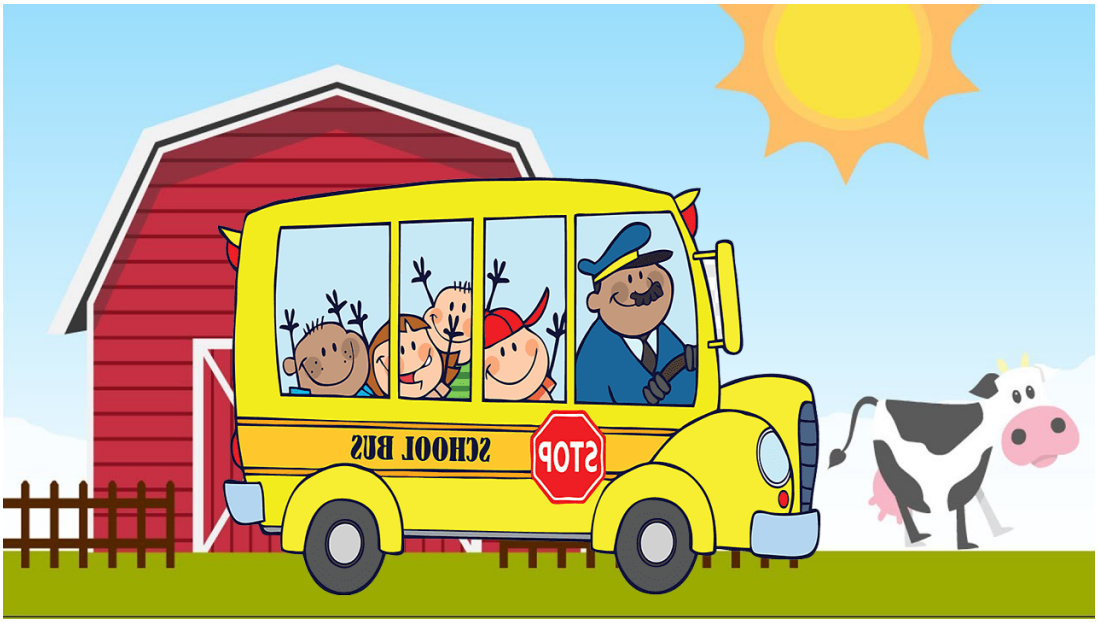


Cross Curricular: Literacy, Science, Creative Arts	**Health and Safety:** Supervise younger students while using knives and glue.

Title: **Food Excursion** *Creative activity*	**Target Key Level:** 6 - 16
Learning Objectives: To increase children's knowledge and understanding of different parts of the food system and supply chain. To teach children more about where food comes from.	**Resources/Materials:** Foody excursion destinations could include a farm, food market, supermarket, bakery, butcher, food factory, food rescue or food relief organisation.

Method:

Try to have a clear objective of the excursion in mind, something you would like the children to gain from the experience. You can also follow up the excursion with related activities to build on the children's learning such as class discussions, drawing pictures or tasting foods relating to the excursion. For example, visiting a dairy farm and watching a cow being milked. You can then discuss with the class how milk comes from the cow, can be made into yoghurt or cheese and how it makes it to our tables.



Cross Curricular:	**Health and Safety:**
Geography, Science, Literacy.	Younger students should be well supervised. A suggestion would be for one adult to attend per chronological age plus one additional adult.

Title: **Tasting Day** *Creative activity*	**Target Key Level:** 6 - 16
Learning Objectives: To help children increase their knowledge of the wide variety of foods and allows them to explore new foods with different colours, textures, tastes etc.	**Resources/Materials:** A variety of different apples for the children to learn about and try if they want to, such as green apples, red apples, dried apples, pureed apples.

Method:

Pick a healthy food theme. For example, it could be 'apple day' or 'tomato day' and bring in a cherry tomato, large tomato, yellow tomato, green tomato, crushed tomatoes.

Place the foods along a table and allow children to explore the different foods, by looking at them, touching and smelling. You can offer some cut up pieces of the foods to allow children the opportunity to taste a piece if they wish. Discuss with the children the differences or similarities between the different varieties of foods and what they taste, smell and/or feel like.

Cross Curricular: Mathematic, Data-handling, Science.	**Health and Safety:** Students should wash hands after each tasting and not use fingers while eating.

Title: **Food Alphabet** *Creative activity*	**Target Key Level:** 6 - 11
Learning Objectives: To provide an opportunity to increase children's literacy and food literacy skills by foods that start with each letter of the alphabet. To increase a child's vocabulary and their knowledge of different foods	**Resources/Materials:** Printouts of the alphabet and pictures and/or words of different healthy foods.

Method:

Stick the letters up around the room. Ask children to help identify healthy foods to place under each letter. You can also add some that the children have missed to teach them about new foods. Children could also cut out or draw pieces of food and put them under the corresponding letter. For example: Aa – apple, asparagus, avocado, apricot, artichoke etc.

Cross Curricular: Creative Arts, Mathematics, Literacy	**Health and Safety:** Younger children should be carefully supervised while using scissors and glue.

Title: **Yummy Snacks** *Creative activity*	**Target Key Level:** 6 - 11
Learning Objectives: To create (with pictures) a healthy snack. To allow children to use their creativity and knowledge about foods that go together. To provide an opportunity for children to learn about nutritious snack options.	**Resources/Materials:** Print out pictures of individual nutritious snack foods or collect cut outs from a food brochure. Paper plates Glue

Method:

Allow children to choose foods from the cut outs to put together a tasty, nutritious snack. Some ideas include wholemeal toast with cheese and tomato, fruit with yoghurt, capsicum or carrot sticks with hummus or mashed avocado, scrambled eggs on an English muffin etc.

The images should be glued to a paper plate and labelled.

Extension:
Older students could extend this activity to produce an image of a balanced meal.

Cross Curricular:	**Health and Safety:**
Creative Arts, Science, Literacy.	Younger children should be carefully supervised when using sharp tools.

Title: **Veggie Garden** *Creative activity*	**Target Key Level:** 6 - 16
Learning Objectives: To teach children about where food comes from and how it grows. To learn new skills, have fun, play and develop self-confidence by spending time in the garden tending to plants and growing their own food.	**Resources/Materials:** A place to plant veggies and/or herbs such as pots, planter boxes or a patch in the yard. Seeds or plants ready to plant. TIP: Try some easy-to-grow edible plants including tomatoes, peas, beans, snow peas and herbs.
Method: Pick where and how you'll establish a vegetable or herb garden, will you have a planter box, or a pot? Plant seeds or plants into the designated area and follow care instructions in regard to soil or fertilisers, watering and sunlight requirements. Students should create graphs and charts to record their observations.  	
Cross Curricular: Science, Mathematics (data-handling), geography	**Health and Safety:** Younger children should be supervised while using gardening tools. Soil should be free of chemicals, animal droppings and so on.

Title: **Memory Game** *Creative activity*	**Target Key Level:** 11 - 16
Learning Objectives: To allow children to develop and improve their attention, concentration, focus and memory skills. To give children the opportunity to identify, explore and discuss different healthy foods.	**Resources/Materials:** Laminated pictures of foods from the 5 food groups (you'll need two copies of each image). TIP: Try to include some unusual or uncommon fruits and vegetables to increase children's exposure to different foods.
Method: Spread out all cards face-down on the floor or at a table. Children then take turns flipping two cards over at a time. If they do not match, the cards are turned back over in the same place and it is then the next child's turn. If the cards match, the child gets to keep those two cards. The child with the most matches at the end of the game is the winner. During the game, encourage children to identify and talk about the foods on the cards.	
Cross Curricular: Mathematics (data-handling) Literacy	**Health and Safety:** Ensure the cards cannot be swallowed when being used by younger students.

Title: **Snap** *Creative activity*	**Target Key Level:** 6 - 11
Learning Objectives: To encourage children to become familiar with foods from the 5 food groups To teach children to take turns and develop attention, concentration and quick reflexes by being the first to call out matching pairs.	**Resources/Materials:** Laminated pictures of foods from the 5 food groups (you'll need two copies of each image). TIP: You could use the same cards from the memory game.
Method: Each child shares half the cards each, but don't look at their cards. They take turns placing the cards down in a pile, face up. When the cards match, the children need to call out the name of the matching food. The player who calls out the correct food match first takes the pair and the game continues. The winner of the game is the one with the most pairs.	
Cross Curricular: Mathematics, Literacy,	**Health and Safety:** None

Title: **Food Cupboard** *Creative activity*	**Target Key Level** 6-11:
Learning Objectives: To allow children time for creative play with pretend foods. To use creativity to cook pretend meals or learn about new foods through pictures and toys.	**Resources/Materials:** There are a few ways you can do this. You can make a "food cupboard" out of a large piece of cardboard by folding in both side edges to form doors. On the inside you can draw shelves and stick cut outs of food pictures. You could also have a real shelf in your room with toy foods.
Method:  Teachers and students could create a food cupboard or shop to display food packages or toy food. These resources can be used for role-play activities and maintain a focus on food topics in the classroom. Allow children to organise the foods and stack the shelves. Children can also take the foods out of the shelf to prepare imaginary meals.	
Cross Curricular: Literacy	**Health and Safety:** Ensure food packages have no sharp edges and to foods are not easy to swallow.

Erasmus+ 2021-1-SK01-KA220-SCH-000023907
Funded by the European Union

2nd Element

Investigating Nutrients in Food

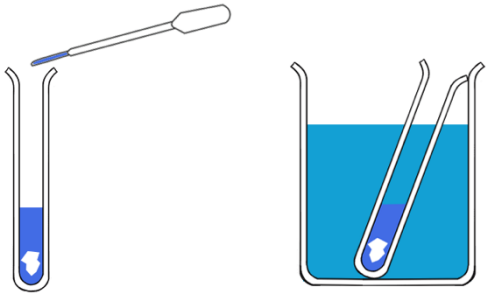
In this section, the students will carry out a number of experiments and investigations into the key nutrients found in the food they eat. A list of key terms and definitions can be found in the appendices.

Contents:

Title: **Test for sugars**	**Target Key Level:** 11 - 16
Learning Objectives: To measure sugar in food. To record observations To identify sugar-rich foods	**Resources/Materials:** Test tube Glass Beaker Pipette Water Benedict's solution

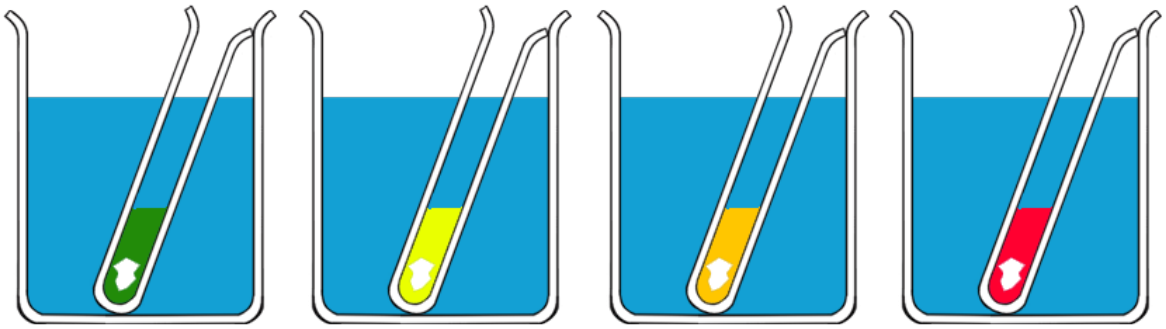
Method:

1. Place food in a test tube or other suitable container and add Benedict's solution.
2. Heat in a water bath.
3. Record the changes of colour in the Benedict's solution.



Observation

After heating the water bath, the Benedict's solution should go through the following stages - green, yellow, orange and red to brown – according to the amount of glucose is present



Sugars such a glucose will react with Benedict's solution after heating for a few minutes.

Sugars give a red-brown precipitate in Benedict's solution. The precipitate takes a while to settle in the tube and students are more likely to see a red or brown colour.

The final colour may be green or yellow, If there's not much glucose present, or orange if there's a little more.

Cross Curricular:	**Health and Safety:**
Mathematics (data-handling)	Wear safety goggles. Benedict's solution is an irritant. Avoid contact with skin and eyes.

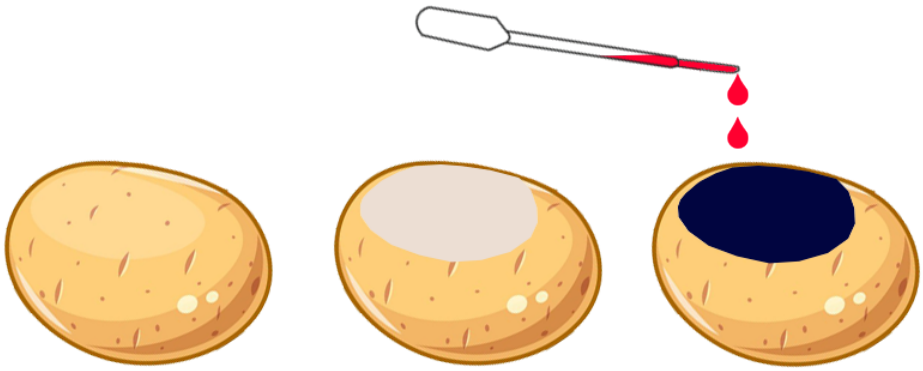
Title: **Test for Starch**	**Target Key Levels KL2 - KL3** **6 - 11**
Learning Objectives: To identify foods containing carbohydrate starch To record observations	**Resources/Materials:** Potato Pipette Iodine Knife

Method:

- Take a whole potato and cut off a slice on one side.
- Drip iodine on the exposed side.
- Observe what happens to the colour of the iodine.
- Repeat the test with a variety of other foods
- Record results.

Observation

The area of the potato covered in iodine should turn a blue-black colour which indicates the presence of starch.



The iodine test can also be used with a microscope to stain starch grains in plant cells.

Cross Curricular:	**Health and Safety:**
Data-handling	Wear safety goggles. Iodine solution is an irritant. Avoid contact with skin and eyes.

Title: **Test for proteins**	**Target Key Level: KL2 – KL3** **11 - 16**
Learning Objectives: To use the biuret test to detect proteins.	**Resources/Materials:** Biuret reagent - sometimes available as a single solution.

Method:

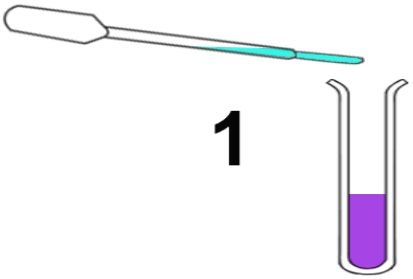
Add 1 cm3 of biuret solution A to a food solution.
Mix the liquids.

1. Add 1 cm3 of biuret solution B and shake
   OR
2. Add 1 cm3 of biuret solution B carefully down the side of the test tube so as to form two layers.

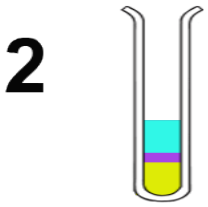
Repeat the process with other food solutions and record observations.

Observation

1. A purple colour indicates the presence of protein.



2. A purple ring between the layers indicates protein is present.



Cross Curricular:	**Health and Safety:**
Mathematics (data-handling)	Wear safety goggles. Biuret solution A is corrosive. Biuret solution B is an irritant. Avoid contact with skin and eyes.

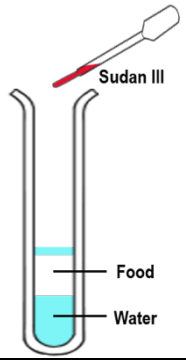
Title: **Test for fats**	**Target Key Level: KL2 – KL3**
Learning Objectives: To carry out the **Sudan III test or Emulsion test** to test for lipids.	**Resources/Materials:** Test tube Water Sudan III solution or ethanol Food stuff

Method:

Add equal amounts of food and water to a test tube.

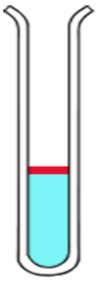
Add drops of Sudan lll to the solution and shake thoroughly.

Repeat the process with other foods and record observations.



Observation

A red-stained layer forms on the surface of the water.

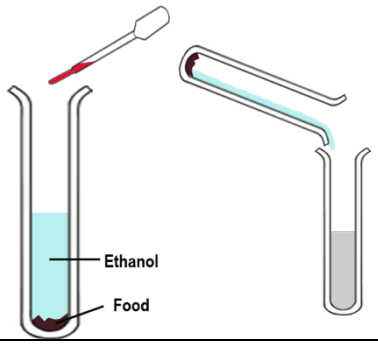


The Emulsion Test

Alternative test to that above.

Add Ethanol to a test tube containing crushed food.

Pour the liquid into a second test tube containing water, leaving solid food behind.



Observation

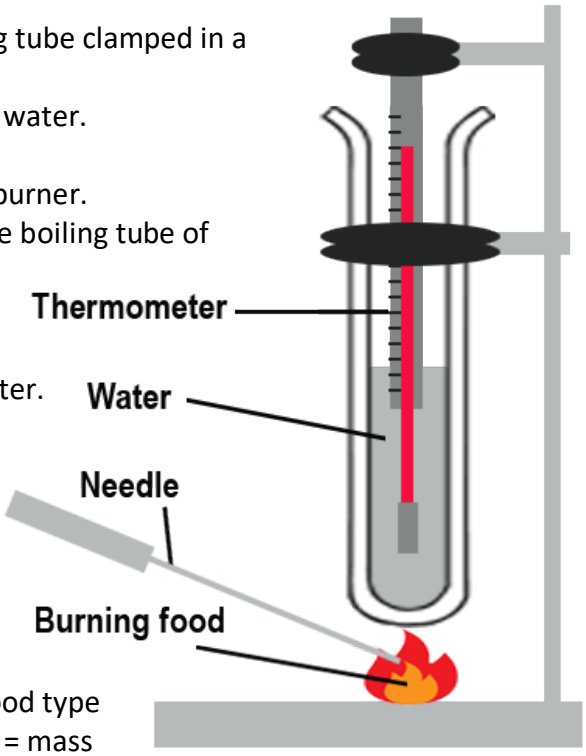
A cloudy liquid indicates the presence of lipid.

Cross Curricular:	**Health and Safety:**
Mathematics (data-handling)	Wear safety goggles. Sudan III solution is flammable as it is dissolved in alcohol. Avoid contact with skin and eyes. Ethanol is flammable.

Title: **Energy Content of Food**	**Target Key Level:** 11 - 16
Learning Objectives: To carry out a simple investigation to determine the energy content of a food sample. To record observations	**Resources/Materials:** Retort stand Test Tube Water Food stuff Ignition Needle with insulated grip

Method:

1. Add water - around 20cm3 - to a boiling tube clamped in a retort stand.
2. Record the starting temperature of the water.
3. Place food sample on mounted needle.
4. Ignite the food sample using a Bunsen burner.
5. Hold the burning food sample under the boiling tube of water until completely burned – it may be necessary to relight the food sample.
6. Record the final temperature of the water.
7. Record results in a table.
8. Calculate the change in temperature caused by the burning food sample.
9. Repeat steps 1- 8 with this food type to increase reliability.
10. Calculate the average change in temperature for this food type.
11. Calculate the energy released by this food type using this equation: Energy released (J) = mass of water (g) x rise in temperature (°C) x 4.2



Repeat steps 1-8 with different food types for comparison.

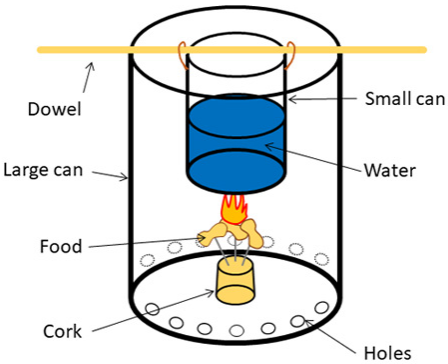
Observation

A large increase in temperature indicates the food contains a lot of energy.

The results obtained from this experiment are usually lower than the actual energy content of the food because during the experiment, the entire food sample may not be burned, some energy is lost to the air and some is used to heat the glass of the boiling tube.

Cross Curricular:	**Health and Safety:** Wear safety goggles and gloves. Hot water can burn. Avoid contact with skin and eyes.

Title: **Calorimeter**	**Target Key Level:** 11 - 16
Learning Objectives: To carry out an experiment and take data to compare the amount of fat in different foods. To learn a simple way to test whether a food has too much fat or not.	**Resources/Materials:** 2 aluminium or metal soda cans (one small, one large) Thermometer (centigrade), Large graduated cylinder, Water, Matches, Large paper clip, Balance, Calculator, Pen, Food samples (such as small squares of bread, cheese, banana, tomato and lettuce)



Method:

Gather all the materials you will need for the experiment. These include2 aluminium or metal soda cans, a thermometer (centigrade), a large graduated cylinder, water, matches, a large paper clip, a balance, a calculator, pen, food samples such as small squares of bread, cheese, banana, tomato, and lettuce. Put on your safety equipment.

- Copy the data chart provided below
- so that you may readily record your data.
- Cut out the opening on both sides of the small soda can. Leave the top and bottom intact. Make sure that the smaller can will fit into the larger can and can sit in a stable position.
- Take your large paper clip and bend it so that the top part is open and can serve to pierce into the pieces of food and that the bottom is able to sit again in a stable position.
- Use your graduated cylinder, measure off 100ml of water and pour it into the uncut soda can.
- Place the thermometer into the water and measure the temperature and record in your data chart.
- Now for each of the pieces of food you will use, measure the mass using your balance and record the data in the data chart.

Full instructions and procedures can be found in the Appendices below.

Cross Curricular:	**Health and Safety:** Be aware of fire hazards.

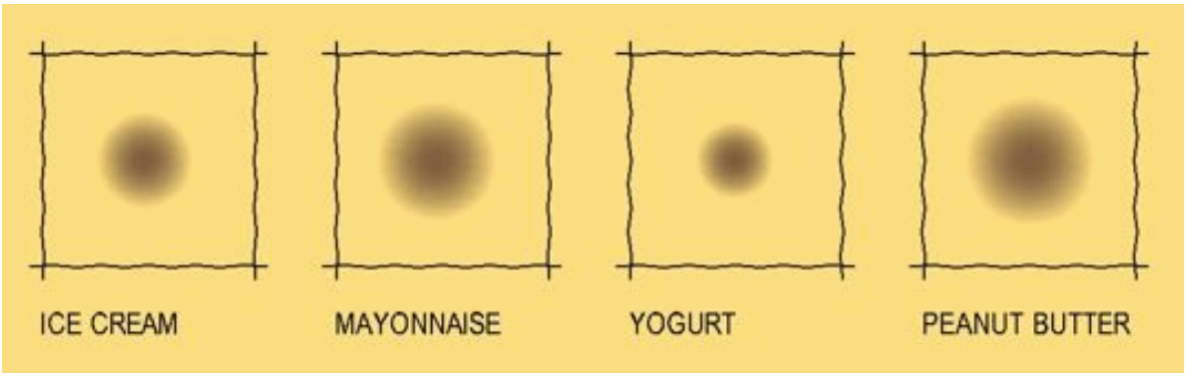
Title: **Paper Bag Fat Test**	**Target Key Level:** 11 - 16
Learning Objectives: To carry out an experiment and take data to compare the amount of fat in different foods. To learn a simple way to test whether a food has too much fat or not.	**Resources/Materials:** Food items (see Data Table) Cutting board and knife Data Table Pencil Brown paper bags Marker Timer Ruler

Method:

1. Slice the food items into pieces if necessary. Make sure each piece of a certain food item is roughly the same.
2. To be more precise, the food samples could be measured out to make sure they are all the same weight, but size shouldn't really affect your results since the comparisons will be between foods with little to no fat and foods with a lot of fat.

What to do:

1. Give each student a brown paper bag, the Data Table, a pencil, a marker and a ruler.
2. Have each student divide their brown paper bag into 9 squares with their marker and label each square with a different food.
3. Give each student every food item listed on the Data Table.
4. Have each student place each food item in the corresponding square and start the timer.
5. Let the food sit on the paper bag for about 5-10 minutes.
6. Ask the students to take the food off the bags and fill out columns 1-3 on the Data Table.
7. Record observations such as the size and colour of the stain in each square.



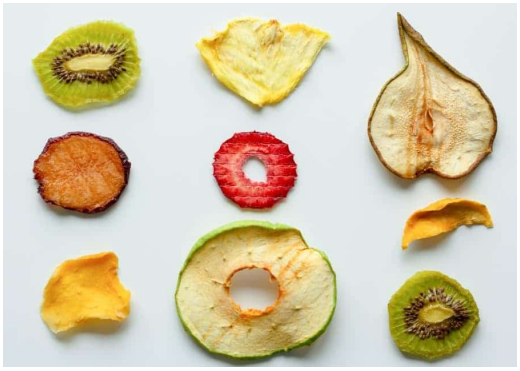
Cross Curricular:	**Health and Safety:**
Data handling – mathematics.	Ensure hands are washed after each activity to prevent cross-contamination.

Title: **Water Content in Fruits and Vegetables**	**Target Key Level:** 11 - 16
Learning Objectives: To investigate and determine the water content of fruits and vegetables. To determine whether water content is related to the nutritional value of food. To think about the properties of healthy foods.	**Resources/Materials:** Orange, pineapple, watermelon, fresh peas, tomato or broccoli Dehydrator Good scale sufficient for measuring mg. (triple beam or electronic) Calculator Internet access

Method:

Weigh the fruit and vegetables separately and note the weight. For some fruits (such as a watermelon), weighing a serving size of the fruit will be more appropriate.

Cut the produce up into thin slices and put it into the dehydrator. You may have to dehydrate each item separately. Just make sure that you dehydrate all of the pieces of a fruit together.



Weigh the dehydrated produce.

Calculate what percentage of the fruit or vegetable is water by subtracting the dehydrated weight from the hydrated weight. Divide this value by the entire weight of the fruit and multiplying by 100.

Make a chart comparing the water content of the fruits and veggies.
Go to the USDA website (found in the Bibliography) and find the nutrient value of each food.
If the student has time, repeat this experiment with other foods.

Cross Curricular:	**Health and Safety:**
Science, Mathematica (data-handling)	Supervise younger students while using sharp tools.

Title: **Iron in Breakfast Cereal**	**Target Key Level:** 11 - 16
Learning Objectives: To extract the metallic iron from a suspension of crushed cereal using a magnet.	**Resources/Materials:** Mortar and pestle of kitchen blender Beaker, 1 dm3 Stirrer plastic bag Forceps or clean tongs Plastic bowl

Method:

- Pour water into a plastic bowl and float a few flakes of cereal on the surface of the water.
- Hold the magnet close to the flakes and see if they stick to the magnet or are moved by it.
- Reduce the size of some dry flakes by crushing them to a fine powder using a pestle and mortar or kitchen blender. Spread the resulting powder on a piece of paper or mix with water so that the solution is well diluted.
- Place a magnet inside a thin plastic bag and move it in and around the cereals powder or solution.
- Observe any effect the magnet may be having on the movement of the powder. Do NOT put the magnet in direct contact with or close to the powder without the plastic bag. With careful manoeuvring it should be possible to separate out fine grey specks of iron from the rest of the powder.
- Hold the plastic bag over a sheet of clean, white paper and remove the magnet. The fine grey specks of iron should fall from the bag and onto the paper, thus making it easier to investigate.

Cross Curricular:	**Health and Safety:**
Science, Mathematics (data-handling)	Care is required when handling powerful magnets. Some cereals have a higher proportion of iron than many other breakfast cereals; see the ingredient lists on packets.

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3rd Element

Healthy Eating and a Balanced Diet

In this Element of the project, students apply the knowledge and skills that they have developed, and which relate to Elements 1 and 2, in the investigation of the foods they commonly eat as part of their national or cultural heritage.

Contents:

Title: **Reading Food Labels 1**	**Target Key Level:** 11 - 16
Learning Objectives: To compare the nutrients in different foods To begin to understand why fresh foods are often more nutritious than processed foods	**Resources/Materials:** Computer with Internet access, Worksheets Pen or pencil Various food labels (students may use actual food packaging or research the labels online)

Method:

Do French fries grow out of the ground? Do fishermen catch fish sticks? In general, the fewer steps between a food's original form and the way it appears on your plate, the better the food is likely to be for you (fresh fruits and vegetables are good examples). But a lot of food is processed. That means it went through a factory before it got to you. Foods often get an unhealthy makeover during processing and end up with added sugar, fat, salt, dyes and preservatives.

Choose two foods. [Note to instructors: Help students pick a less-processed and more-processed version of a similar food. Some examples: brown rice vs. flavoured rice packets; frozen broccoli vs. canned cream of broccoli soup; rolled oats vs. packaged oatmeal cookies.] Get the Nutrition Facts food labels for each for. Then, using the worksheet in the appendices, compare the nutritional information. Of the two foods, which is less processed? Which is the healthier choice?

Extensions:

- Ask a few volunteers to read both ingredient lists aloud. How far can they get before they have trouble pronouncing the words? Explain that, generally, the longer the ingredient list and the more names you can't pronounce, the more processed the food. Have students research some of these "mystery ingredients" and discuss their findings.
- Strawberry is red, and so are lots of candies. Research what gives fresh fruits and veggies their vibrant colours and compare that with how candies get their colour.

Additional materials including regional food labels can be found in the appendices.

Cross Curricular:	**Health and Safety:** Wear gloves while cutting the potato.

Title: **Reading Food Labels 2**	**Target Key Level:** 11 - 16
Learning Objectives: To observe how much sugar is in the foods they eat, and practice math concepts related to sugar quantities To explore the health consequences of consuming too much sugar	**Resources/Materials:** bag of sugar teaspoons clear plastic baggies Food labels (students may use actual food packaging or research the labels online)

Method:

Take the food labels for a favourite snack and a drink and locate the total grams of sugar for each.
Be sure to pay attention to serving size!)
Remember: 4 grams of sugar equals 1 teaspoon. So how many teaspoons are in each of your items?
Measure the total amount of teaspoons of sugar into a baggie.
Is that more or less than you thought?
Discuss your findings as a class. Which snacks, and drinks have the most sugar? Which have the least? Use the "It All Adds Up" handout to solve some sugar math problems.

Extensions:

- Create a bar graph showing the class's findings.
- Sugar may taste good, but too much of it isn't healthy.
- Write a paragraph explaining why.
- Be a sugar detective! In an ingredient list, sugar can hide under at least 50 other names (high-fructose corn syrup, sucrose, lactose, maltose, dextrose, syrup, and cane juice, to name a few). Circle the hidden sugars on food labels.

Additional materials can be found in the appendices.

Cross Curricular:	**Health and Safety:**
Data handling, Science	Wear gloves while cutting the potato.

Title: **Food Ranking**	**Target Key Level:** 11 - 16
Learning Objectives: To learn the important content of food labels To compare and contrast healthy and less healthy foods	**Resources/Materials:** Food packaging with labels

Method:

A food-ranking activity is a way for students to learn what's important on a nutrition label when making healthy food choices. To do this activity, bring in six to eight different foods with labels.

Without looking at the labels, ask students to rank the foods in order of what they think is the healthiest down to the least healthy. Once they determine the order, they can then analyse the nutrition labels to see if they correctly ranked them. A variation on this activity is to rank the foods on a specific component on the label, such as most calories to least calories or the most fibre to the least.

Notes:

Pay close attention to serving sizes.
Products labelled "light" or "lite" must have 1/3 fewer calories or 1/2 the fat of the foods to which they are compared. "Light" also can mean that salt has been reduced by 1/2.
Look for foods with lower levels of saturated fats.
The sodium level tells you how much salt is in food.
Look for products that have more fibre and less sugar.
Vitamins and minerals help your body function properly.
Calcium is important for bones and teeth.
Use the "percentage of daily values" section of the label as a guide for daily planning.
The number of calories a person needs each day depends on many factors, including exercise.

Additional materials can be found in the appendices.

Cross Curricular:	**Health and Safety:** Wear gloves while cutting the potato.

Title: **The Salt Effect**	**Target Key Level:** 11 - 16
Learning Objectives: To see how salt draws out water from a potato. To relate observations to the effect of salt on our bodies. To understand why it is important not to eat too much salt.	**Resources/Materials:** One Potato 3 small saucers/mason jars for water Salt Sugar

Method:

1. Cut the potato into three even pieces. Leave the potato skins attached.
2. Add water to each saucer. Make sure it is enough water to cover the entire piece of potato. Label one plain, one salt, and one sugar.

3. Next, add salt to the saucer labelled salt. Make sure it is at least two tablespoons and stir until it is completely dissolved.
4. In the third saucer labelled sugar, add the same amount of sugar as you did salt.
5. Leave the first saucer with plain water.
6. Leave the potato piece alone in the different types of water for at least 1-2 hours, then come back and observe.

Observation

The salt draws the water out of the potato, causing it to shrivel.
Why is the potato in plain water different from the ones in sugar and salt water?
What would happen if the potato placed the salt water is put back into plain water?

Following the experiment, discuss why salty food and drinks might make people thirsty,

Cross Curricular:	**Health and Safety:** Wear gloves while cutting the potato.

Title: **Sodium Supertasters**	**Target Key Level:** 11 - 16
Learning Objectives: To carryout research into supertasters. To collect and collate data appropriately. To present the data obtained in a clear way and that is suitable for the task. To test a hypothesis.	**Resources/Materials:** Bread, Three sticks of unsalted butter Table salt Toaster Butter knife Measuring spoons Three small mixing bowls

Method:

1. Set your three sticks of unsalted butter on the counter until they are room temperature. This may take a couple of hours.
2. Place one stick of butter in each of the three small mixing bowls.
3. Add no salt to the first bowl, ½ teaspoon of salt to the second and a full teaspoon of salt to the third. Stir the two bowls with added salt, mixing thoroughly.

No salt ½ teaspoon of salt full teaspoon of salt

4. Gather an agreed number of people (preferably more than 5) willing to participate in your experiment.
5. Toast a slice of bread for each subject. Slice the bread lengthwise into three strips. Add butter from each dish to one strip of the toast. Be sure to keep your toast strips in order, but do not tell the participant how salty the butter is.
6. Which butter type do you think the participant will enjoy the most? Why? Use this time to write down your hypothesis, your best guess about what you think is going to happen.
7. Give each of the participants their toast pieces. Ask your participants to report which piece of toast they liked best. Record your results and compare them to your hypothesis.
8. If you want, you can test more participants to observe if people from the same family have similar butter preferences.

Observation

The results from samples tested should correspond with the following:
35% of women and 15% of men are supertasters, so only one or two people from the study should have preferred the saltiest butter. 25% of people overall are supertasters. Another 25% of people are not overly sensitive to any particular flavour at all. The other 50% of people have taste profiles that fall somewhere in the middle.
Are supertasters at a greater risk of eating too much sodium?

Cross Curricular:	**Health and Safety:** Wear gloves when cutting bread and using the hot toaster.

Title: **Absorption in Blood**	**Target Key Level:** 11 - 16
Learning Objectives: • To see how food is absorbed in blood. • To see how the size of food molecules affects its absorption	**Resources/Materials:** Two glasses Corn syrup Red food colour Measuring spoon sugar
Method: Fill two glasses halfway with corn syrup Add two drops of red food colour to each glass to make artificial blood Place 1 teaspoon of sugar on top of the liquid in one glass and 1 teaspoon of flour on top of the liquid in the other glass. Watch how long it takes for the liquid to absorb the sugar and flour.	
Observation Sugar is made of small molecules that dissolve faster than the large starch molecules in flour, so sugar is absorbed faster than the flour. When we eat sugar, these small molecules quickly pass into our blood. When we eat starches (such as something made from flour) the molecules take longer to pass into our blood.	
Cross Curricular:	**Health and Safety:** Supervise younger students if glass containers are used.

Title: **Taste Threshold**	**Target Key Level:** 11 - 16
Learning Objectives: To determine whether salt or sugars are easier to taste.	**Resources/Materials:** Measuring cup plastic cups Water Sugar Salt Paper towels Cotton swabs Tape

Method:

1. Mix 1-2/3 cups water and 1/4 cup sugar -- this will make a 12.5% sugar solution. Pour this into a plastic cup labelled "12.5% SUGAR."
2. Add 1/2 cup of this solution to 1-1/2 cups water -- this will make a 3.1% sugar solution -- and label it "3.1% SUGAR."
3. Add 1/2 cup of the 3.1% SUGAR solution to 1-1/2 cups water -- this will make a 0.78% sugar solution -- and label it "0.78% SUGAR."
4. Add 1/2 cup of the 0.78% SUGAR solution to 1-1/2 cups water -- this will make a 0.19% sugar solution -- and label it "0.19% SUGAR."
5. Make a series of salt solutions, following the above directions but using salt instead of sugar.
6. Rinse your mouth with water and dry your tongue with a paper towel.
7. Keeping the solutions out of your sight, have a partner place a clean cotton swab in one of the solutions and then put it on the middle of your tongue.
8. Tell your partner if you can taste the solution and if it is sweet or salty. Your partner should write down whether or not you could taste the solution.
9. Rinse your mouth and dry it, and have your partner try a different solution and record your response. Keep doing this until all the solutions are tested. Switch roles with your partner and let him or her do the tasting.

Observations:
Which solutions could you taste, and which could you not taste? Was salt harder or easier to detect than sugar?

Cross Curricular:	**Health and Safety:** Ensure paper towels are disposed of after each tasting.

Title: **Digesting Food**	**Target Key Level:** 6 - 11
Learning Objectives: To see how food travels through the intestines. To explore which foods are not digested in the digestive system.	**Resources/Materials:** Tray Stockings Chocolate cake Spatula as teeth

Method:

1. Place the chocolate cake in the tray and explain that the tray represents a mouth.
2. Cut the chocolate cake into small pieces using the end of the spatula. Explain that this is how our front teeth or incisors break up the food.
3. Add water and explain that the food is too dry, and the water represents saliva.
4. Further mash the chocolate cake using a masher and that the masher represents back teeth or molars.
5. Place the mashed-up cake into a zip-lock bag and explain that the bag represents a stomach.
6. Add some fizzy drink to the bag and explain that this is to simulate stomach acid.
7. Squeeze and twist the bag to simulate peristalsis in the stomach.
8. Pour the contents of the bag into a stocking and explain that stocking represents the small intestine.

9. Move the mushed food down the stocking and explain that this part of the stocking represents the large intestine.
10. Place the stocking on absorbent kitchen paper, wrap the paper around the food bulge and squeeze.
11. Push the remaining, drier mushed food to a whole at the end of the stocking and explain that this represents the rectum and the waste squeezed out represents faeces.
12. Students should repeat the process with other food stuffs, particularly fibre.

Observations:

Students should see food and water seeping through the upper section of stocking wall or ilium.
Most water will be released in the lower part of the stocking wall or colon.
The food only travels down the stocking when squeezed much like the process of peristalsis.
Roughage and fibre which is difficult to digest is excreted in the faeces.

Cross Curricular:	**Health and Safety:** Younger students should not eat any of the foods used.

Title: **Nutrition Escape Room**	**Target Key Level:** 11 - 16
Learning Objectives: To learn the correct portions of fruit, vegetables, liquids and cereals to consume each day To learn how often sweets, meat, fruit/vegetables and dairy products should be consumed. To learn which foods to eat to get vitamins (A, B1 to B12, C, D, E, K) To learn about alternative sources of calcium To learn how many times a week they should eat meat (white or red) To appreciate the value of good nutrition To learn to work together to solve a problem	**Resources/Materials:** All resources can be found in the appendices.

Method:

Escape Rooms are live, interactive, team-based games where players discover clues, solve puzzles, and complete tasks in one or more rooms to achieve a specific goal (usually by escaping the room) in a limited amount of time.

The Nutrition Escape Room game we have developed is based on the concept of Escape Rooms. Specifically, it consists of five nutrition-themed missions. To complete each mission, students must work together to answer the questions asked and then discover a word/code to unlock the next mission. The game ends successfully when students discover all five words/code.

The main purpose of the game is for students to learn basic eating habits that they should apply throughout most of their adult life.

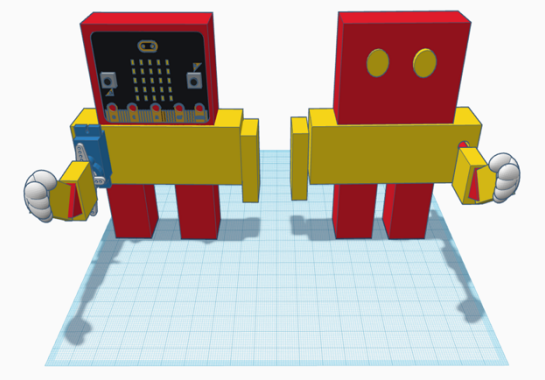
Cross Curricular:	**Health and Safety:**

Title: **The Power of Nutrition**	**Target Key Level:** 11 - 16
Learning Objectives: recognise the energy contained in various foods and fruit.	**Resources/Materials:** Microbit Servomotor Servo to Crocodile Clip Adapter Cable Foam paper Hot Glue or Glue

Method:

This activity is designed for the students, to be involved in the development of a simple robotic mechanism and the programming of the Micro:bit platform to better recognise the energy contained in various foods and fruit which they regularly consume, or which are produced in their area and which are of high nutritional values. Such understanding may help students differentiate different between eating habits of high nutritional value compared and junk food that should be avoided in daily life.

Students explore local fruit and foods of high nutritional value that characterize the food culture of his region, learn about nutritional values versus junk foods, and define the rules of programming in an Arm Wrestling match!



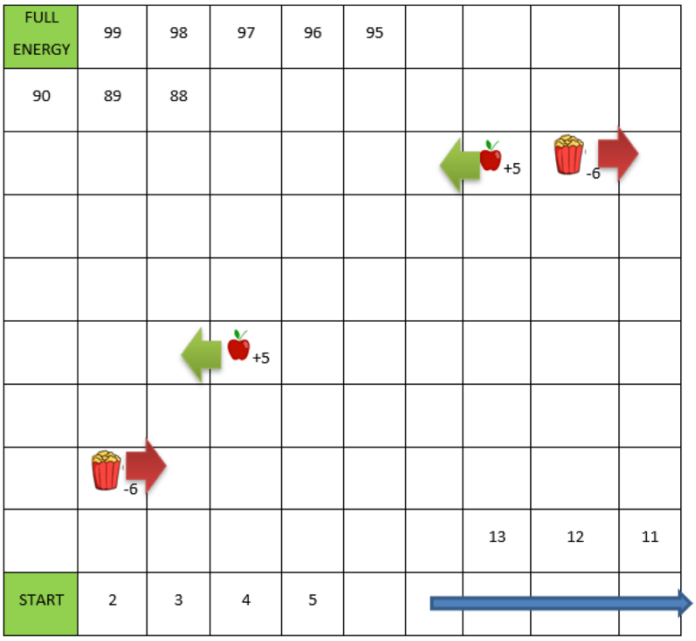
Full instructions, procedures and information on where resources can be accessed are detailed in the Appendices.

Cross Curricular:	**Health and Safety:** Take care over sharp edges and small components.

Title: **The Table Game of Nutrition**	**Target Key Level:** 11 - 16
Learning Objectives: To recognise the energy value of regional foods.	**Resources/Materials:** See appendices for full details.

Method:

The purpose of the board game (table game) is to introduce students to foods and fruit produced in their area of high nutritional values and the junk foods they should avoid in their daily lives. They explore local fruit and foods of high nutritional value that characterize the food culture of his region, learn about nutritional values versus junk foods, and define the rules of the game!



Rules, resources and procedures are described in more detail in Appendices.

Cross Curricular: Science, mathematics, technology	**Health and Safety:** Small components may injure younger students.

Title: **Too Much Energy**	**Target Key Level:** 6 - 16
Learning Objectives: To discover the energy food	**Resources/Materials:** Different food packages

Preparation:

Ask students to bring their favourite snacks or only their packages. Prepare (or let students prepare) a table with these four columns: “snack name”, “energy per 1 piece”, “energy needed per day for individual”, “how many pieces”.

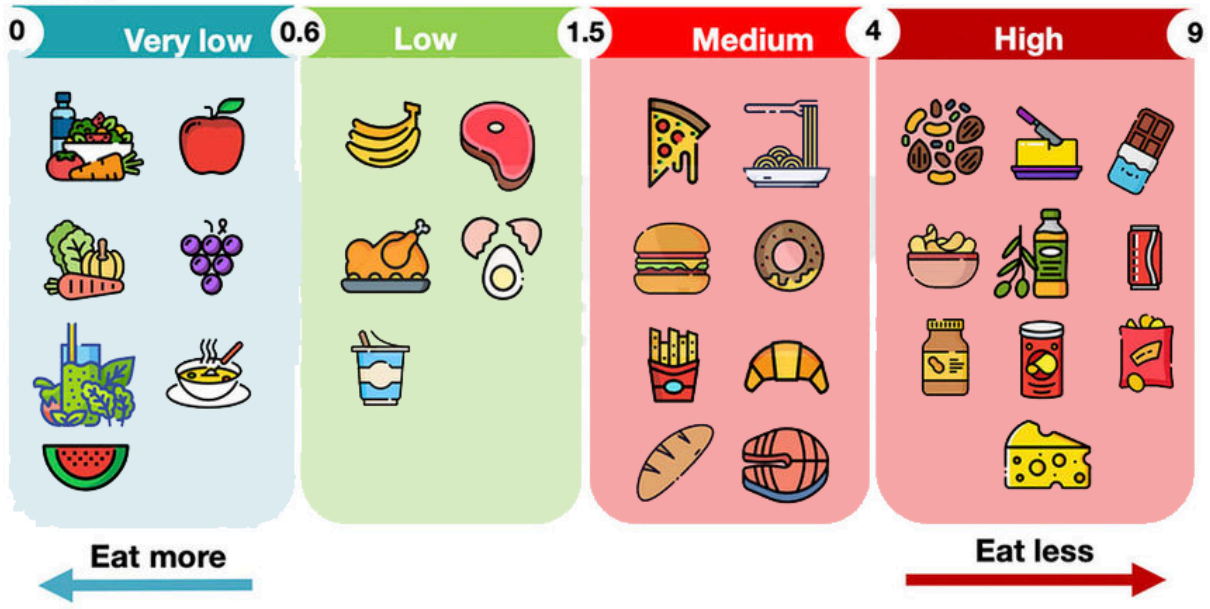
Question: What is the energy of our favourite snacks?

Method:

Ask students to fill the table for each snack. First two columns are to be copied from the package. Third column information should be presented by teacher or googled by students. Fourth column is supposed to be filled after students’ calculations.

Discussion:

Talk with students about their findings. Is it good to eat a lot of snacks daily if we don’t want to gain weight?



Cross Curricular: Literacy, mathematics	**Health and Safety:**

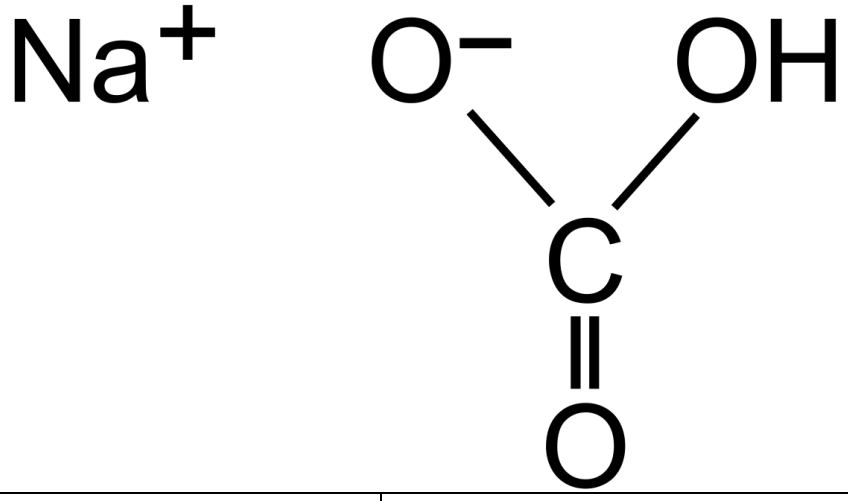
Title: **Sodium Bicarbonate**	**Target Key Level:** 6 - 16
Learning Objectives: To discover the energy food	**Resources/Materials:** Lemon juice Sodium bicarbonate Drinking water spoon

Preparation:
Prepare a plastic bottle, lemon juice/citric acid, sodium bicarbonate, drinking water and spoon. Ask students if they have ever felt burning in throat after eating something with a lot of fat and if they have ever tried to cure it with sodium bicarbonate. Ask them if they can use it to cure any dietary problems.

Method:
Present a plastic bottle filled with water mixed with lemon juice. Ask pupils to taste it and note the taste. Then add a spoon of sodium bicarbonate and quickly close the lid. Observe the reaction in bottle. After a while, try to open the bottle and taste it again.

Discussion:
Has the taste of the liquid changed after adding the sodium bicarbonate?

Question:
How can the simulation be similar to the processes in body?



Cross Curricular: Literacy, mathematics	**Health and Safety:**

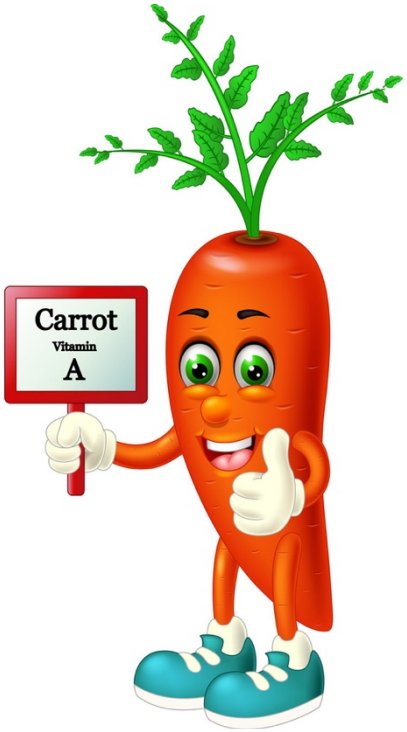
Title: **Carrot Vitamins**	**Target Key Level:** 6 - 16
Learning Objectives: Exploring the vitamin content of food.	**Resources/Materials:** Test tube Small containers Handkerchief Oil lemon juice.

Preparation:

Prepare a carrot, grater, small containers or test tubes, handkerchief, oil, and lemon juice. Rehearse with students that carrot is a good source of vitamin A. Explain that most of provitamin A is present in orange substance.

Question:

Which salad recipe is better for gaining more vitamin A? Salad A: grated carrot with a spoon of lemon juice; salad B: grated carrot with a spoon of olive oil



Method:

Grate carrot and put it into a clean handkerchief and squeeze out as much juice as possible. Place equal amounts of juice into two containers. Put equal parts of lemon juice to container A and oil to container B. Mix well and observe the colour of oil and lemon juice mixture.

Discussion:

Have oil or lemon juice changed their colour after interaction with the carrot juice? What does it indicate about the vitamin A?

Cross Curricular: Literacy, mathematics	**Health and Safety:**

Title: **A Meal Plan**	**Target Key Level:** 6 - 16
Learning Objectives: Learning the cost of eating well.	**Resources/Materials:** Food fliers

Preparation:

Ask students to bring fliers from different supermarkets or grocery stores. Calculate the amount of money that average family of 4 in your country spends on food weekly and set one higher budget and one lower budget.

Question:

Is it possible to eat healthy with any income?

Method:

Ask students to make groups of 3 or 4 and prepare a healthy meal plan for family of 4 in their budget (each group should have different budget). They should list the price of their weekly meals according to the fliers and also check if RDA is met for each day.

Discussion:

Groups present their meal plans and discuss how difficult was it to prepare such plan with their budgets. They can be asked to peer-review their meal plan.

Cross Curricular: Literacy, mathematics	**Health and Safety:**

Title: **Food Generations**	**Target Key Level:** 6 - 16
Learning Objectives: Learning the cost of eating well.	**Resources/Materials:** None

Preparation:
Ask students to interview their grandparents on what they ate in a day when they had been their age, note this information and also note what the students eat in a day. Prepare RDA for each student.

Question: Are we eating healthier than our grandparents?

Method:
Ask students to compare the nutrients present in their daily intake and the daily intake of their grandparent.

Discussion:
Whose diet was healthier?

Cross Curricular: Literacy, mathematics	**Health and Safety:**

Title: **Cheesy Cheese?**	**Target Key Level:** 6 - 16
Learning Objectives: Investigating calcium absorption	**Resources/Materials:** Cheese Processed cheese Coca-Cola

Preparation:
Prepare cheese, processed cheese, Coca-Cola and similar flavoured drinks.

Question: What milk products are best for calcium absorption?

Method: Explain students that calcium present in milk and dairy products may not build strong bones and healthy teeth and hair because it may be hindered by added phosphates. Ask students to study the packages and compare the substances on both processed and unprocessed cheese. They should list ingredients that are similar or identical in both cheeses and in second list find those that are different. Ask students to focus more on ingredients that sound to have something in common with phosphorus.

Discussion:
What dairy products and drinks should we avoid while still growing?

Cross Curricular: Literacy, mathematics	**Health and Safety:**

4th Element

Researching and Reporting

The research process is important. It involves constructing suitable research questions, collecting appropriate primary and secondary data and analysing information for a written report.

This Element of the STEALTH project asks students to apply their knowledge, skills and understanding of nutrition and health eating to research into the food they commonly eat, or which is generally regarded as being of national heritage. The research should address the following:

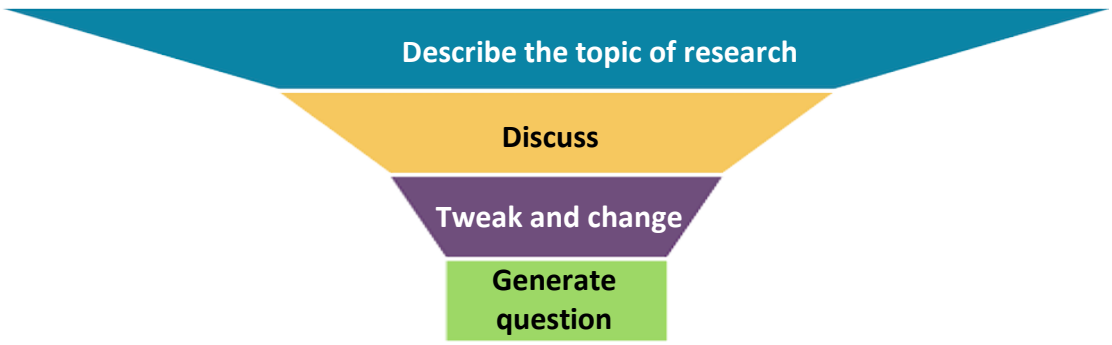
Although research takes time and effort, it can be a rewarding experience.
When carrying out research, there is a process that should be considered.

- Identify the research problem/issue. This may be a hypothesis or simple question that the research aims to answer.
- Conducting the research.
- Collecting Information
- Analysing and Interpreting the Information
- Write a report

The first step is to decide what to research. Will the research focus on the nutritional value of the chosen food or the declining popularity and changing eating habits?

The Funnel Approach

The funnel approach is a good way of coming up with a research idea.
Start with the general topic of food as our national heritage. Then read about and discuss this area with others, such as teacher, classmates and family.
Reflect on the topic. Step back to think about the initial idea. This reflection may involve answering the following questions - What is already known about the topic? Which skills will be applied? What is of particular interest to the researcher?
After the discussion it might be necessary to refine the question further by tweaking or changing the initial idea.
Research questions are usually refined regularly throughout the research process until the final research question is agreed on.



Conducting research - methodology

The methodology used depends on the type of approach taken when undertaking research. Although the STEALTH project is cross-curricular in nature, some disciplines, follow different sets of procedures. These procedures determine how the data will be collected.

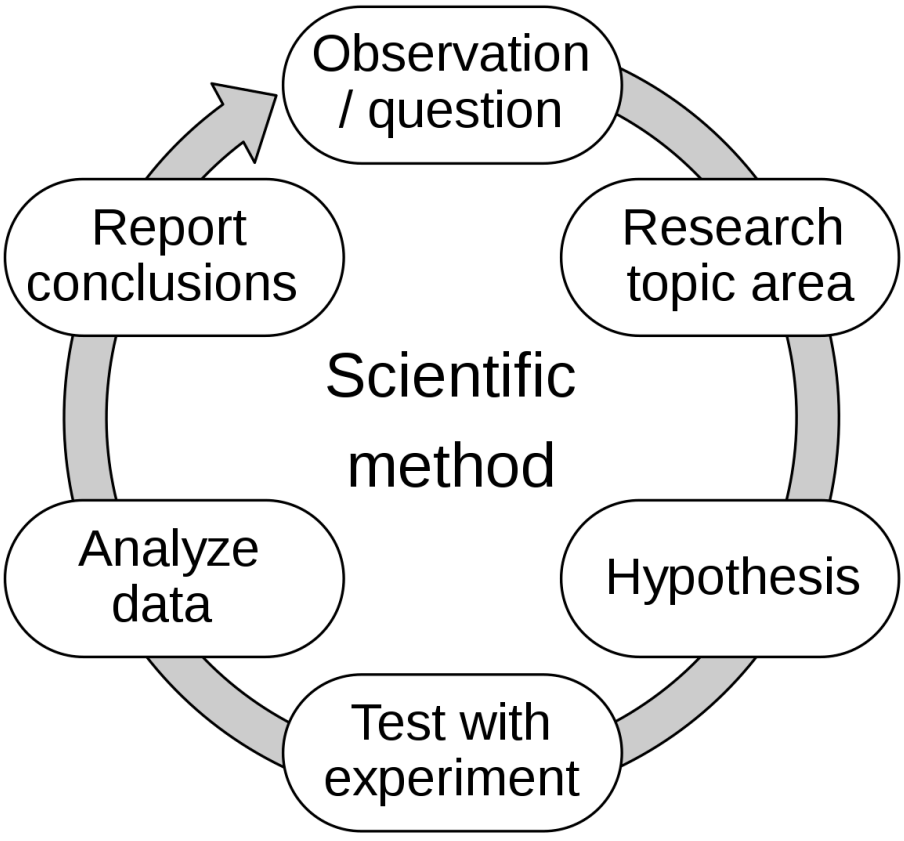
Experimental Approach

If students research uses a scientific discipline they may choose an experimental approach. This involves a testing a hypothesis or answering a **possible answer** to the research question.

For example, if the research question is 'Does the national dish of Slovakia give us far to mush carbohydrates?', the hypothesis might be 'Slovak food is high in carbohydrates. The students will then apply science experiments to determine the validity of their question.

With an experimental approach, students may choose the national dish or specific ingredients to investigate the nutritional value. Use some or more of the experiments contained within the 2nd Element or apply alternative strategies. Explore the fat, sugar, protein content and so on. For the purpose of the report, students should:

- Describe the processes used
- List the equipment needed
- Present results in graph or table form
- Write conclusions from the research



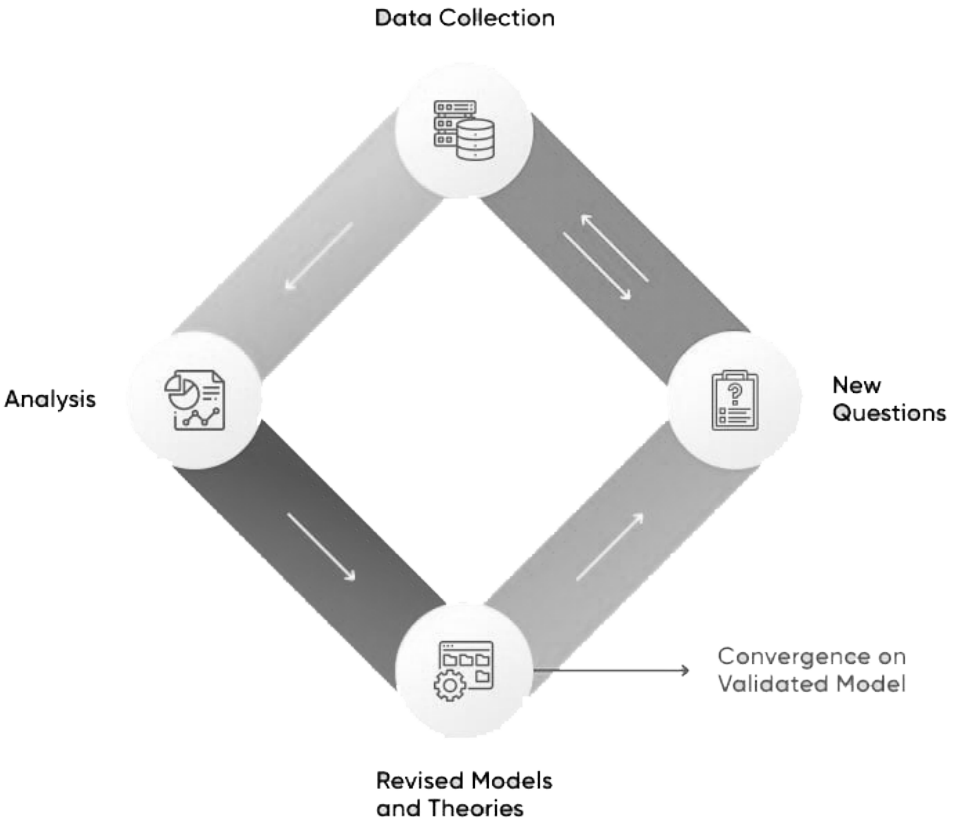
Ethnographic approach

An ethnographic researcher is based in the field of social sciences and will study people and their cultures, customs and habits. They will choose methods that best suit what they are trying to find out, e.g. they may choose to use interviews, so that descriptions and details can be gathered. Another popular method used by ethnographic researchers is observation. By using this method, they can observe people actually performing customs and habits.

Interviews and observations that explore different customs and habits will help researchers understand why these habits occur, which is the aim of ethnography. An ethnographic researcher is not interested in using a scientific approach, so they would not use the experimental method for example, because they don't want to test anything.

Students using an ethnographic approach could:

- Identify food or a national dish for research.
- Research the origins of the food, sources and processing and delivery.
- Use first-hand sources such as parents and grandparents regarding the role the food played in their lives. Was it part of a staple diet or eaten on special occasions.
- Conduct a survey with other students and teachers as to their opinions of the food and how regularly they eat it.
- Explore the importance of the food today and identify modern food habitat that might threaten its continued popularity.
- List ingredients of the chosen food and prepare a recipe.

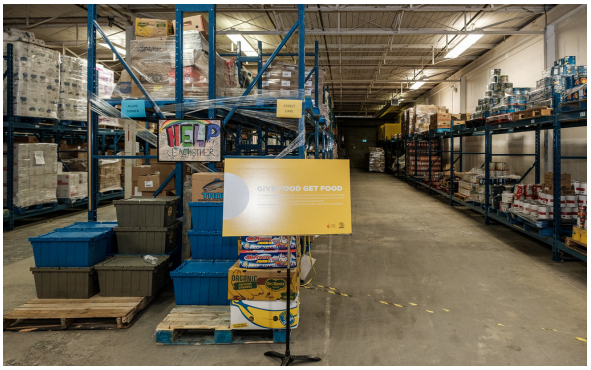


Presentation

The research could be presented in a variety of formats. These might include:

- PowerPoint presentation
- Website, social media page, etc.
- Written research document
- Video presentation such as an explainer video, documentary or promotional video
- In-person presentation to a live audience which should be filmed to record the event
- Scientific journal or magazine including written articles and images.

On completion, each of the research projects should be shared with regional project partners and posted on the STEALTH website. The projects may then be used by projects at a regional level during the end-of-project Multiplier events.



Erasmus+ 2021-1-SK01-KA220-SCH-000023907
Funded by the European Union

Appendix 1

Terms and Definitions

Contents:

How to read Food Labels by Region

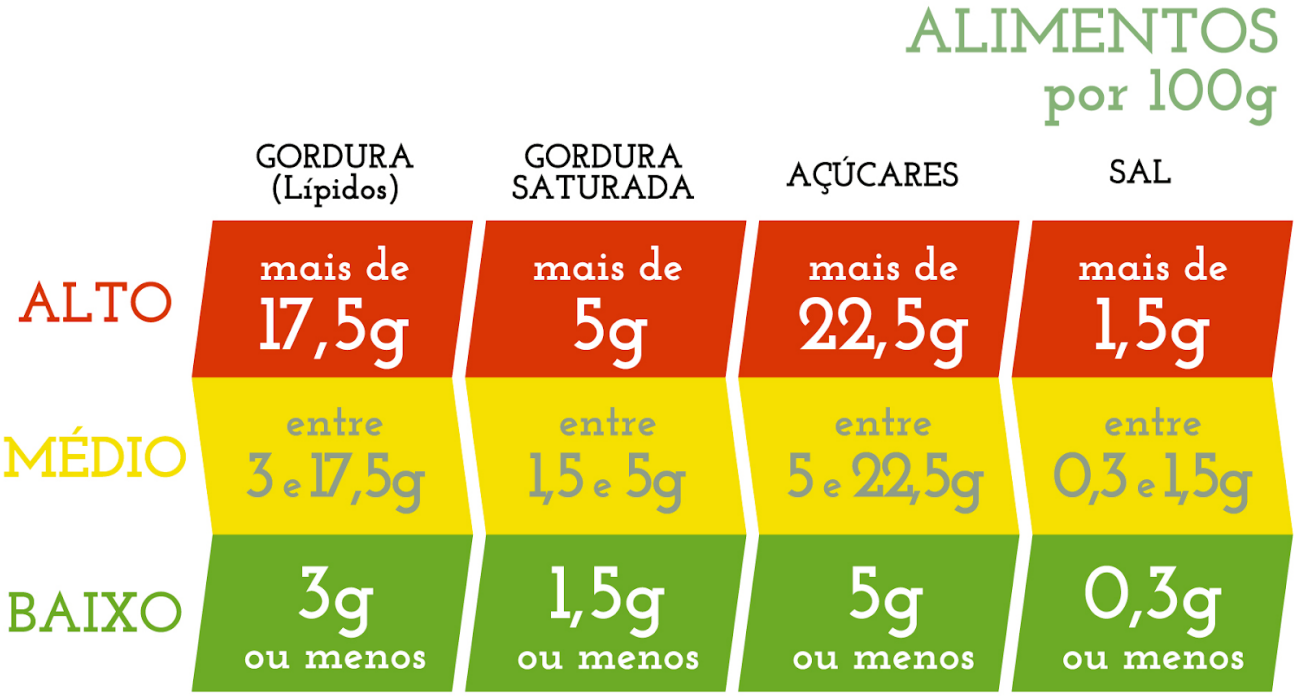
PORTUGAL:

Currently we have to make many food choices in a short period of time and in this sense knowing how to read the nutritional labels of foods is important to make the best decisions. It is with this need in mind that this card was created, which can be easily carried and consulted when shopping:

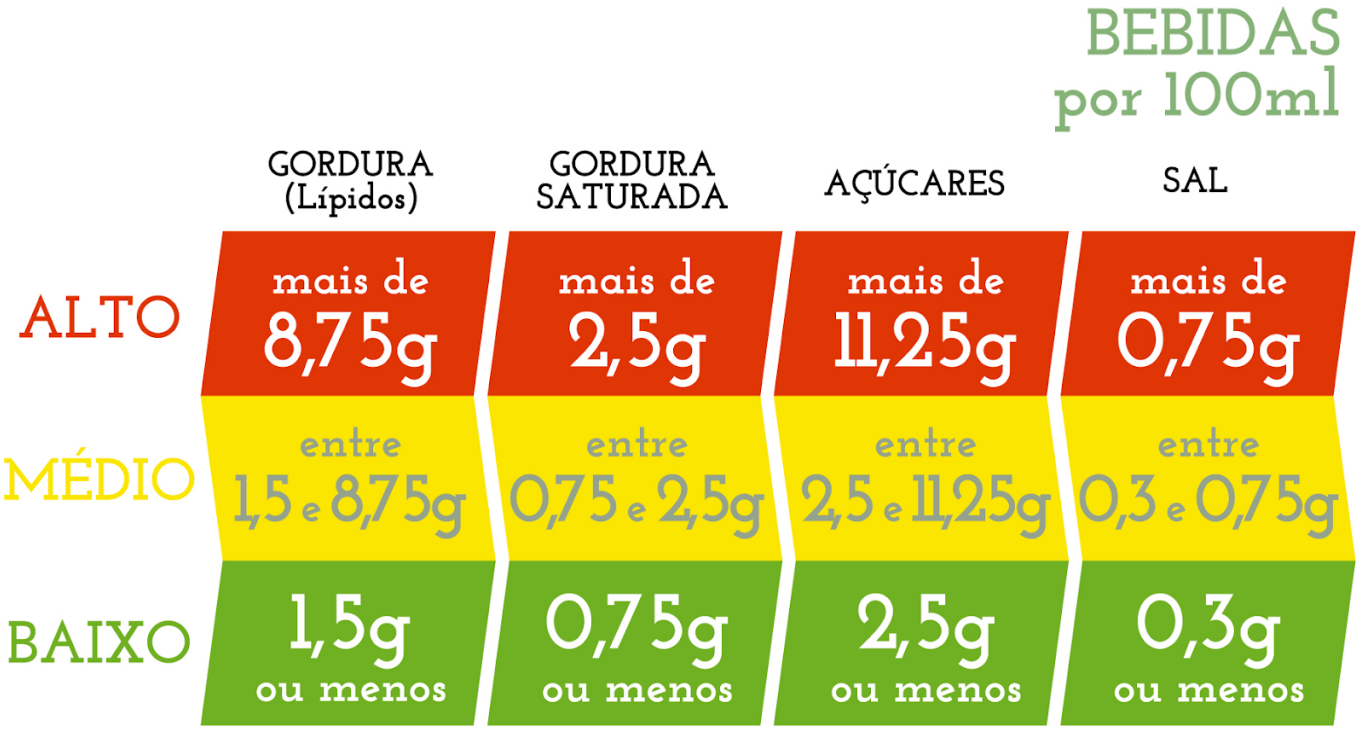
HOW TO USE IT:

Compare the information on the food or drink label per 100g or 100ml, respectively, with the information provided on this card (fat, saturated fat, sugars and salt). It is proposed that you opt for foods and drinks with nutrients mostly in the green category, moderate those with one or more nutrients in the yellow category and avoid those with one or more nutrients in the red category.

1st card: This card makes reference to the foods per 100g being the first the fat (lipids), the second the saturated fat, the third the sugars, and the forth the salt. Red is high level, yellow is medium and in green, it means that the presence of fat or sugar is low.



2nd Card: This card makes reference to the drinks per 100ml being the first the fat (lipids), the second the saturated fat, the third the sugars, and the forth the salt. Red is high level, yellow is medium and in green, it means that the presence of fat or sugar is low.



AUSTRIA:

In Austria, every product needs a name, a fantasy name or a designation. Based on the product designation, consumers shall be able to tell which product it is, for example apple juice or ham etc.

In Austria, a large part of this designation is regulated in the Austrian food book, the Codex alimentarius austriacus where you can find out what is meant by extra sausage, what distinguishes orange juice from orange nectar or how certain types of cheese are made up and which cheeses can bear the technical designation Emmental.

In addition to the description of the product, the list of ingredients provides information about the product. What is included, what can you expect, how does the product differ from other products with the same designation. The ingredients must be listed in descending order of their weight in the list of ingredients. Sometimes the list of ingredients also says after an ingredient: in variable proportions by weight This can be appropriate for fruit and vegetable mixtures.

Additives must also be labelled: the class name must always be given, e.g. B. Antioxidants.

Quantity identification Quid

Quid: Quantitative Ingredient Declaration
Sometimes an ingredient is followed by a % value. This indicates how much of an ingredient is contained in the product.

Which oil was used?

With the validity of the food information regulation, oils and Fats are defined in more detail. The name of the oil used must appear in the list of ingredients. The
sole statement "vegetable oil" is no longer sufficient, but it must e.g. B. sunflower oil or rapeseed oil or palm oil to be given.

Not all products require an ingredient list

There are exceptions to the rule – Single-ingredient products do not require an ingredient list (e.g. E.g. flour, eggs, sugar, salt, apple juice 100%, honey)

Allergens

The allergens must also be identified in the list of ingredients. This can be done in bold or underlined or in CAPITAL LETTERS.

In the case of packaged products, the allergenic ingredients must be visually highlighted in the list of ingredients. There are 14 foods (groups) that are among the main allergens and must be labeled in accordance with EU regulations.

- Cereals containing gluten and products made from them
- Crustaceans and crustacean products
- Eggs and egg products
- Fish and fish products
- Peanuts and peanut products
- Soya and soya products
- Milk and milk products (including lactose)
- Nuts (e.g. almonds, hazelnuts, walnuts, pistachios and products made from it)
- Celery and celery products
- Mustard and mustard products
- Sesame seeds and sesame seed products
- Sulphur dioxide and sulphites

Name and address of the food business operator

Consumers must always be able to see who is responsible for the product. Therefore, not only the company name but also the full postal address
should be on a label. It could be that you want to complain or find words of praise for the product - these have to be addressed.

Nominal capacity

The nominal filling quantity or net filling quantity indicates the weight of the food: in grams or kilograms for solid products and in ml/cl/ l for liquid products
The net filling quantity must be indicated in the field of vision of the packaging or the label.

Best before date/Use by date

Most packaged foods require a sell-by date or a use-by date. The best-before date indicates the point in time up to which the foodstuff, if stored correctly, will at least retain its characteristic properties. If a shelf life is only possible under certain storage conditions or temperatures, these conditions should be indicated e.g. Best before at 4 – 6 °C.

Exceptions:

Some foods may be sold to consumers without a best-before date or use-by date: Fresh fruit, fresh vegetables and potatoes (unless they have been peeled, cut or otherwise treated).

Storage Instructions

Appropriate information on for proper storage are requested. (e.g. Store frozen at – 18°C or Store
Refrigerated between 0 – 9°C)

Instructions for use

If special instructions are required for the correct use or preparation of the food, these must be specified.

Nutritional Declaration

The food information regulation prescribes a mandatory nutritional declaration for almost all packaged food from the end of 2016.
Packaged foods will have to be accompanied by a breakdown of the nutritional values they contain, using a new selection of substances,

These must be given in the form of a table unless space is limited. The following order must be observed:
Average nutritional values per 100 g or per 100 ml kJ/ kcal

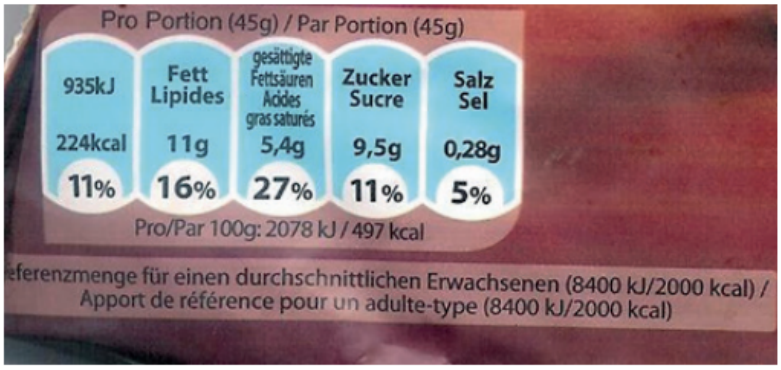
- Energy
- Fat (saturated fatty acids)
- Carbohydrates (Sugar)
- Protein
- Salt

In addition to the seven mandatory values, the following substances may also be declared voluntarily:

- Monounsaturated fatty acids
- Polyunsaturated fatty acids
- Polyhydric alcohols
- Starch
- Roughage
- Vitamins
- Minerals

Specification of the units

The calorific value/energy content is specified in kilojoules (kJ) and kilocalories (kcal) per 100 g for solid foods or 100 ml for liquid foods. The rest of the information is in grams (g) per 100 g or 100 ml. For vitamins and minerals, the information is in mg.
In addition, for vitamins and minerals, information is required as to what percentage of the average daily requirement (%)



GREECE

In Greece we have adopted the GDAS system, the way of reading the label is explained below.

Ενδεικτική Ημερήσια Πρόσληψη (GDA)

	ΑΝΔΡΕΣ	ΓΥΝΑΙΚΕΣ
Ενέργεια (kcal)	2500	2000
Λιπαρά (g)	95	70
Κορεσμένα λιπαρά (g)	30	20
Υδατάνθρακες (g)	300	230
Συνολικά σάκχαρα (g)	120	90
Πρωτεΐνες (g)	55	45
Φυτικές ίνες (g)	24	24
Νάτριο (g)	2,4	2,4
Αλάτι (g)	6	6

On the labels used in Greece we can find information about the energy and nutrient content per 100 g or per 100 ml or per serving of a product. We can find the following information:

Energy: This concerns the calories an individual should eat from the consumption of a portion. It is expressed in kcal and/or kJ. This information helps us to control our caloric intake and maintain our weight. As a guide, a normal BMI woman needs around 2000 calories a day, while a normal BMI man needs around 2500 calories as presented in the above figure. Some foods are high in sugar and fat, meaning they are energy dense, which, in turn, means they contain more calories, weight for weight, than other foods. More specifically, energy-dense foods contain more than 225-275 kcal per 100g.

Proteins: This part of a label refers to the amount of protein contained in a portion. Protein is the second value on food labels and is expressed in grams (g). Sources of protein include meat, poultry, fish, dairy products, pulses, nuts and cereals. The human body, on average, needs small amounts and should meet the minimum of at least 50 grams per day. Some fatty cuts of red meat can be high in saturated fat, so it is best to choose lean cuts of meat and eat them in moderation. The suggestion is to try to consume less than 500g (cooked weight) of red meat (700-750 raw weight) per week and avoid processed meat. Think of a "portion" of meat as the size of a pack of cards.

Carbohydrates: This field contains the amount of carbohydrates contained in a serving of both total carbohydrates and sugars. Particular attention should be paid to reducing the intake of sugars and from processed foods.

Fat: The amount of fat contained in a serving. The tables show total fat and saturated fat. It is good to keep saturated fat as low as possible in order to maintain better health indicators. On average, women should aim for no more than 70g of fat per day, of which 20g may be saturated, men aim for less than 95g of fat per day of which 30g may be saturated.

Salt: The amount of salt contained in a serving. Most foods already have an amount of salt even if no additional is added to the recipe. The latest dietary guidelines mention great care in the use of salt. The recommended amount of salt should be less than 6g (or 2.4g of sodium) per day.

Reading labels

Foods in Greece are required to have a list of ingredients on the label. Food labels must list the ingredients of the products in order of weight, with the ingredient contained in the largest quantity listed first. The ingredient contained in the smallest quantity shall be listed last. If a food contains or is likely to contain even traces of ingredients that may cause allergic reactions, it is mandatory to mention them either descriptively as "contains traces of..." or in bold letters in the list of ingredients.

Food Additives

Food additives are substances which are not normally consumed as food on their own, whether or not they have nutritional value, and which are added to foods for technological reasons. Their addition, during the various stages of production, processing, preparation, treatment, packaging and transport, is intended to improve the production, appearance and preservation of foods.

Finally, additives can be divided into the following categories:

- Anti-caking agents
- Antioxidants
- Flour improvers
- Flavour enhancers
- Sweeteners
- Bakery raising agents
- Flavour enhancers
- Emulsifiers
- Clarifying agents
- Acidifying agents
- Acidity regulators
- Hardening agents
- Stabilizers
- Preservatives
- Pigments, etc.

Nutrients Defined

Key Nutrients	Minerals	Vitamins
Carbohydrates Fibre Fats Protein Minerals Vitamins Water	Calcium Chromium Copper Fluoride Iodine Iron Magnesium Manganese Molybdenum Phosphorus Potassium Selenium Zinc.	Biotin Choline Cobalamin Folate Niacin Pantothenic acid Riboflavin Thiamin Vitamin A Vitamin B6 Vitamin C Vitamin D Vitamin E as a-tocopherol Vitamin K
4.4. Fluoride 4.5. Iodine 4.6. Iron 4.7. Magnesium 4.8. Manganese 4.9. Molybdenum 4.10. Phosphorus 4.11. Potassium 4.12. Selenium 4.13. Zinc		

An adequate and balanced diet combined with regular physical activity are key points in promoting health. A good diet leads to a good nutritional status, being an important factor for having a good state of health, thus having an influence on:

- Physical changes – weight, height, muscle mass, injuries…
- Functional changes – energy, stamina… affecting our ability to work and learn
- Psychological changes – concentration, interest, mental performance

A good diet is a good ally for preventing and fighting diseases, maintaining a healthy body weight and good physical development.

Food is involved in the prevention and treatment of several diseases, including some that are highly prevalent in the world, such as obesity, type II diabetes and cardiovascular disorders. The usual diet directly influences performance in sports training and competitions, but not only, performance in common day-to-day activities, such as working, studying, walking, dancing, and many others, can also be improved by adopting a balanced diet.

Diet composition plays a significant role in facial and body aesthetics, helping to improve skin, nails, hair and body contour.

Adequate nutrients offer antioxidant protection against the exacerbated production of free radicals, responsible for premature aging and the development of various diseases. What we eat can influence neurological functions and even mood. Diet is one of the most important environmental factors related to gene expression, directly influencing an individual's state of health and well-being throughout life.

What is a Healthy Diet

Healthy eating presupposes that it should be complete, varied and balanced, providing adequate energy and physical well-being throughout the day.

Foods rich in fibre such as vegetables, fruits, cereals and legumes, vitamins, mineral salts and low in fat should be the everyday “basic foods” for a healthy diet. A healthy diet means ensuring a varied, balanced food choice with nutritional quality, combined with correct culinary manipulation, which provides physical and psychological well-being.

Along with a healthy diet, we should practice regular physical activity and ensure we get enough rest each day.

There are some golden rules that we should embrace on a healthy diet:

- Eat 5 to 6 meals a day, not spending more than 3 and a half hours without eating;
- Always have breakfast in the first hour after waking up;
- Consume at least 5 servings of fruit and vegetables a day;
- Starting main meals with soup, which helps to control appetite;
- Chew food well;
- Privilege a calm and peaceful environment for meals;
- Drink at least 1.5 litres of water a day;
- Ingest daily foods present in the Food Wheel;
- Avoid foods that are not part of the Food Wheel;
- Choose to consume more fish than meat, alternating consumption between lunch and dinner;
- Give preference to white meat (such as turkey, chicken and rabbit) and limit the consumption of red meat (such as pork, beef and lamb) to once or twice a week
- Cook food properly, controlling the amount of fat and choosing to use olive oil;
- Reduce salt added in cooking. Season using a larger amount of onion, garlic, tomato, pepper, aromatic herbs and spices;
- Favour foods rich in fibre, such as legumes, fruit and vegetables and whole grains;
- Cook food properly, preventing nutritional losses.

Appendix 2

Rules, Materials and Procedures

1. Nutrition Escape Room
2. Stealth Trumps
3. Eat Up!
4. The Power of Nutrition
5. The Table Game of Nutrition
6. Make a Calorimeter
7. Food Labels - Worksheets

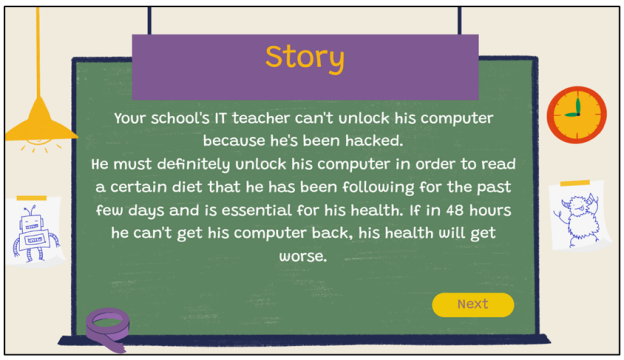
Nutrition Escape Room

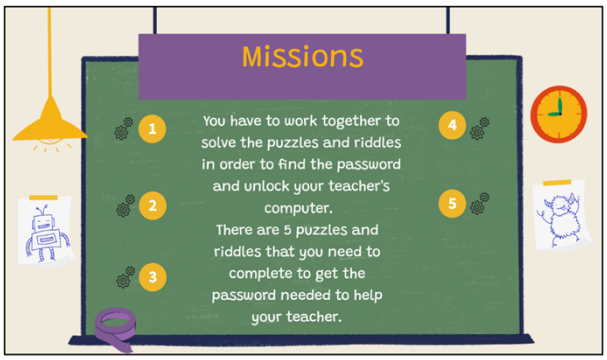
Step 1

To run the game, click on the link below and then click on the Start button (Figure 1).

https://view.genial.ly/6305fb39583d470015b96867/interactive-content-nutrition-escape-room-en

On the next 2 screens the story of the game is presented, and students are asked to complete 5 missions to help their school's IT teacher, who, according to the story, has 48 hours to unlock his computer in order to find a special diet that he follows and is very important for his health. After completing the 5 missions, the students find the code that unlocks their favourite teacher's computer.





On the missions screen (Figure 3) you can switch to any of the 5 missions by pressing the corresponding button. Except for mission 1, which is the first mission, the other missions require you to know the code that unlocks them. The first time you run the game you need to start from mission 1 to discover the code that unlocks mission 2, then in mission 2 discover the code that unlocks mission 3, and so on.

Step 2

On the missions screen (Figure 3), click on the button with number 1 to start your first mission.

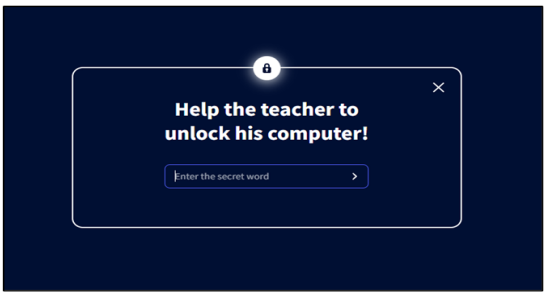
In the first mission (Figure 4) you have to match the fruit with the nutritional recommendations and discover the code that unlocks the next mission. On the screen of each mission there is a Help button that contains important instructions for finding the code. Drag the foods to the bottom of the screen (Figure 4) and place them next to the nutritional recommendation.

If you do the mapping correctly (as shown in Figure 5), then the letters in brackets will result in the word milk, which is the code that unlocks the next shipment.

Step 3

Write down the milk code in your notebook and then click Next. On the screen that appears (Figure 6), click the YES button.

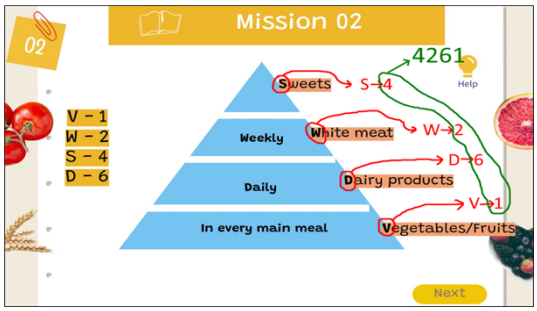
Then enter (Figure 7) the milk code to go to mission 2.



Step 4

Place the food items at the bottom of the screen on the food pyramid (Figure 8) and then try to find the code that will unlock the 3rd track. Try to make use of the data next to the tomatoes.

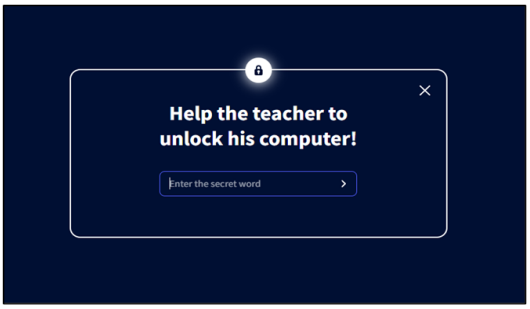
Once you have placed the food correctly on the food pyramid (Figure 9), you need to discover the code to unlock the next track. As you can see in Figure 9, if you take the first letter of each food and make the match according to the data next to the tomatoes, the code 4261 is obtained.



Step 5

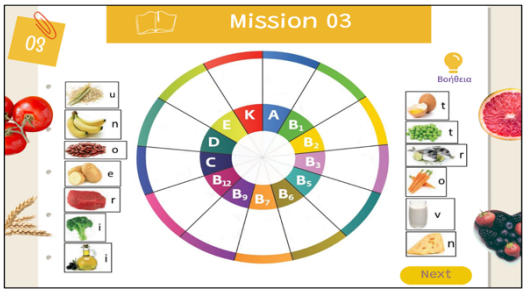
Write down the code 4261 in your notebook and then click on the Next button. On the screen that appears (Figure 10), click the YES button.

Then enter (Figure 11) the code 4261 to go to mission 3.

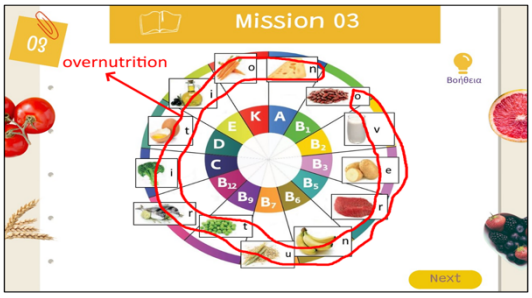


Step 6

Place the food in the circular tray (Figure 12) and find out the code that will unlock mission 4.

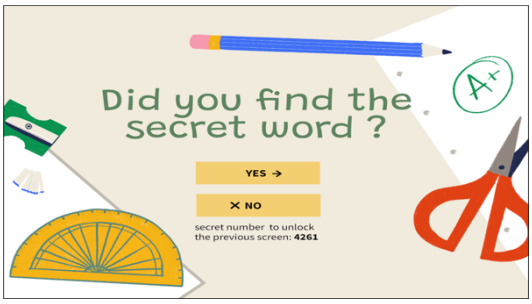


Once you have correctly placed the food on the circular tray (Figure 13), you need to find the code to unlock the next track. As you can see in Figure 13 if you take the first letter of each food item the word overnutrition is obtained.

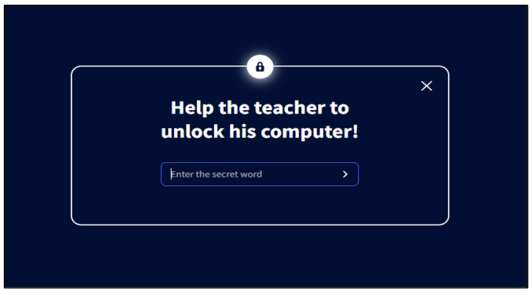


Step 7

Write down the code overnutrition in your notebook and then click on the Next button. On the screen that appears (Figure 14), click the YES button.



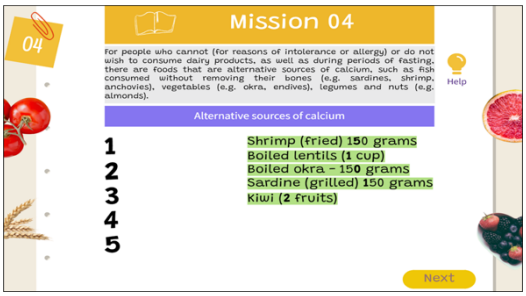
Then enter (Figure 15) the over-nutrition code to go to mission 4.



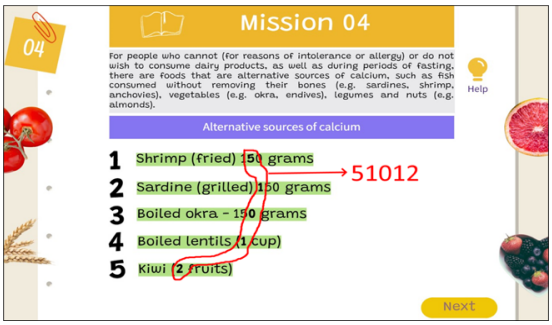
Step 8

Arrange the foods in descending order (based on calcium content) and try to discover the number that will unlock mission 5.

Hint: in each food item, identify a numerical digit that stands out.



Once you have placed the food correctly (Figure 17), you must discover the code to unlock the next track. As you can see in Figure 17 if you take the numeric digit that stands out in each food item the code 51012 is obtained.

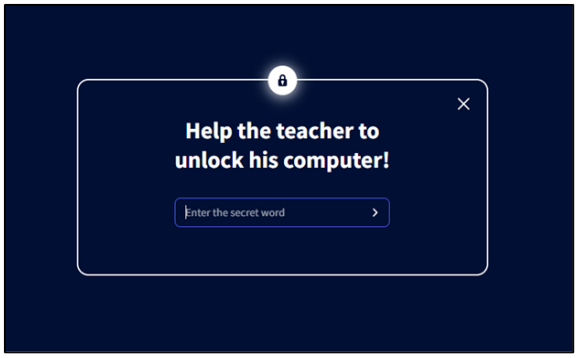


Step 9

Write down the code 51012 in your notebook and then click on the Next button.

On the screen that appears (Figure 18), click the YES button.

Then enter (Figure 19) the code 51012 to go to mission 5.

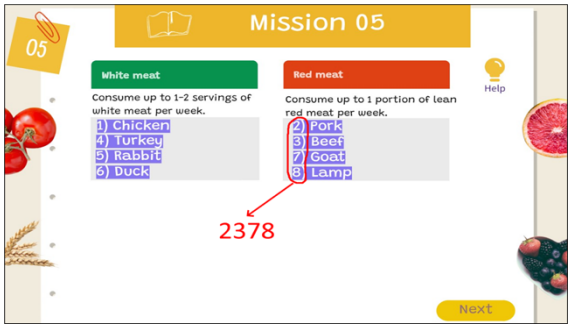


Step 10

Place the foods in the correct category (Figure 20) one by one in order. Try to discover the number that will unlock the teacher's computer.

Hint: Take note of the numbers on the red meat.

Once you have placed the food correctly (Figure 21), you need to find out the code to unlock the next track. As you can see in Figure 21 if you take the numerical digit corresponding to each food item, the code 2378 results.

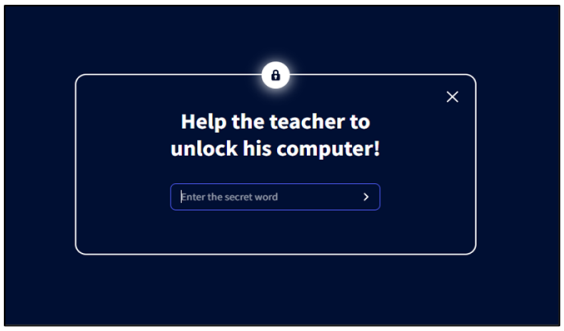


Step 11

Write down the code 2378 in your notebook and then click on the Next button.

On the screen that appears (Figure 22), click the YES button.

Then type (Figure 23) the code 2378 to see the code that will unlock the teacher's computer.



Step 12

Congratulations on completing all five missions.

The secret word to unlock your professor's computer is: **MAVERICK**

Stealth Trumps

Aims and Objectives

Stealth Trumps is a fun, versatile card game based on the popular Top Trumps game. The game is designed to significantly improve students' knowledge of the nutrients found in the food they eat. Blank templates of the cards are provided so that teachers can customise the cards to reflect the foods eaten as part of their own national heritage. The object of the game is to collect all of the cards in the deck by having the highest numerical values on the card. Any number of players can play as long as the cards are divided evenly and depending on the number of cards available. It is recommended that the minimum card pack should consist of 35 to 50 cards.

Rules

1. Choose a player to shuffle the cards, making sure that they're all mixed evenly throughout the deck. This player will be the Dealer and determine the play order.
2. The Dealer divide the cards evenly between all the players. If there is an uneven ratio of cards to players, a few cards should be set aside.
3. Players hold their own cards face-up in a stack so only the top card is visible. As players collect cards throughout the game, they add them to bottom of their stack.
4. The player left of the Dealer chooses a card and reads just one of the nutrient titles. The player then invites the next player to read out the numerical value for same nutrient on their card and then place the card face-up in the centre of the table. The first player continues Inviting other players to compare the same nutrient value on their cards until each player has shared their information. *For instance, the first player of three might compare the carbohydrate value on each player's card the first 3 players say that their carbohydrate values stats are 5, 12, and 23 respectively, then the third player would be the winner of the round.*
5. The first player is the last to reveal the value on their card and the player with the highest nutrient value wins and collects all of the players' cards. These cards are then placed at the bottom of the winning players card pile.
6. A new round starts with the winning player calling out a nutritional from the top card of their pile and sharing it with the rest of the group. As before, the game goes around in a circle and values shared for the chosen nutrient.
7. If there's a tie, all cards should remain in the centre of the table. At this point, start a new round, with the last winning player sharing their highest stat with the other players. The new winner from this round will add the losing cards to their own hand, as well as the cards from the previous round.

The overall goal is to have a larger stack than all the other players.

Tips:

1. It is possible to add a rule that players with less than 3 cards can view and have the option to play with any of their remaining cards.
2. Take some time to talk about the foods displayed and discuss any surprises.

STEALTH Trumps Card Templates

Completed and blank versions of these cards can be downloaded from the project website.

Eat Up!

Eat It is a card game based on the Apples to Apples award winning card and party game. It combines the nutrient cards from the Stealth Trump game with additional situation cards.

Rules

1. Choose one player to be the dealer for the whole of the game.
2. The dealer should then deal the Stealth Trump cards to the other players so that each player has five cards. The remaining Stealth Trump cards remain with the dealer.
3. The dealer is given the pack of Situation Cards and is the judge for the first round.
4. This dealer/judge then picks the card from the top of the Situation Card stack, reads the situation aloud, and places it face-up on the table.
5. Players (except the judge) quickly choose a Stealth Trump card from their hand that best relates food to the situation described on the Situation Card and places it face-down on the table.
6. The judge mixes the Stealth Trump Cards, so no one knows who played which card.
7. The judge turns over each Stealth Trump card, reads it aloud, and players argue why the food on the card best relates, or does not relate, to the to the situation on the Situation Card. Following the discussion, the judge chooses the Stealth Trump card that best fits with the situation.
8. The player of the selected Situation Card is awarded the Situation Card by the judge.
9. To keep score, players keep the cards they have won on the table, until the end of the game.
10. The judge collects all of the Stealth Cards played during that round and discards them.
11. The card decks, and the role of judge, passes to the player on the left. The new judge deals each player a new Stealth Trump card to bring each hand back up to five.
12. The player with the most Stealth Trump cards at the end of the game is the winner.

The Power of Nutrition

Target age: 12-16

Methodology

The activity includes the below 5 phases;

Phase 1 (Using the WORKSHEET N1)

1. Students, discuss of local fruit and foods of high nutritional value with their teacher.
2. Students make a list of the proposed local fruit and foods of high nutritional value.
3. Students search on the internet pictures in order to have them on a list.
4. Students, sets a positive number as nutation value for their fruit or food in their list, after a discuss with their teacher

Phase 2 (Using the WORKSHEET N2)

1. Students and teacher talk about junk foods and the effects they have on their body's energy.
2. Students make a list of the proposed junk foods
3. Students search on the internet pictures in order to have them on a list
4. Students, sets a negative number as nutation value for their junk foods in their list, after a discuss with their teacher.

Phase 3 (Using the WORKSHEET N3)

Students record their diet for one day in a card. The sum of the nutritional value of the foods consisting of the positive nutritional value (Phase 1) minus the negative nutritional value (Phase 2) defines the value of the variable (POWER OF NUTRITION).

POWER OF NUTRITION = Positive Nutrition value - Junk Nutrition value

Phase 4 (Using the WORKSHEET N4)

Using the Micro:bit platform, a servo motor and simple materials, the students design, construct and programming a robotic bradefer athlete in a Robotic Arm Wrestling competition!!!

Phase 5 (Using the WORKSHEET N5)

Programming rules for the robot.

- When the variable (POWER OF NUTRITION) has a value above 60 then the servo motor rotates to the right by 90° and the microbit display shows the message "I am fed healthy»!
- When the variable (POWER OF NUTRITION) has a value below 60 then the servo motor rotates to the right by 90° and the microbit display shows the message "I am fed junk!"

Worksheet N1

Research 5 foods (vegetables, fruits) of high nutritional value on the internet and complete the table below according to below example.

Nutritional product	Photography	Nutritional characteristics	Positive Nutrition value
Apple		1. Energy 2. Vitamins 3. Minerals 4. Vegetable Fibres 5. Antioxidants	+70

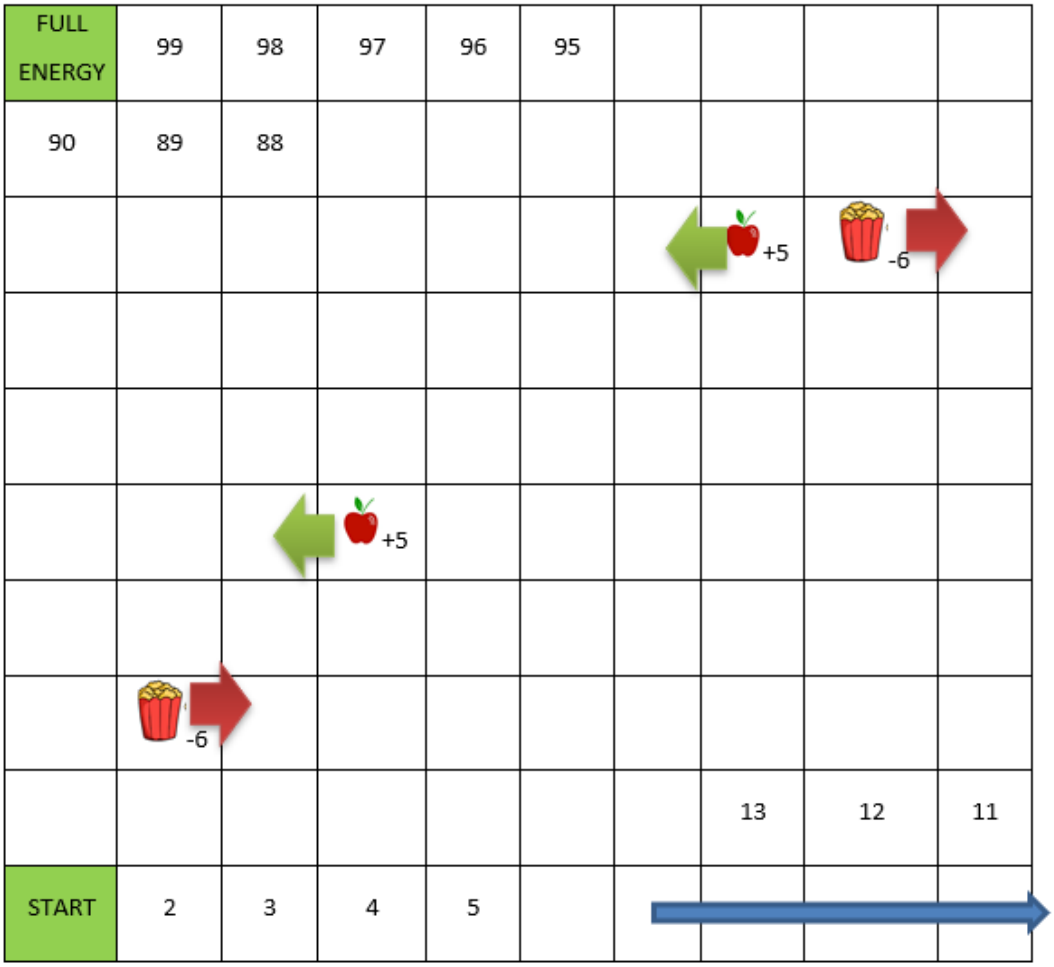
Worksheet N2

Search on the internet 5 foods (crisps, chocolates) of low nutritional value and complete the table below according to below example.

Nutritional product	Photography	Nutritional Characteristics	junk Nutrition value
chips		1. Chips are full of chemicals 2. Chips are high in calories 3. Chips have no nutritional benefit 4. Chips raise blood pressure 5. Chips cause high cholesterol	-60

Worksheet N2

Example of the design of the dashboard



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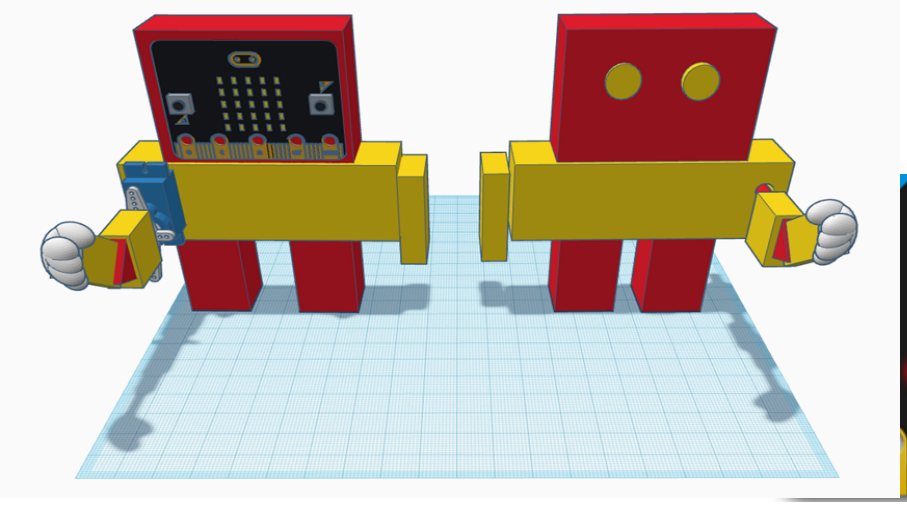
Worksheet N3

Card Diet

DAY	
Food choice	**NUTRITION VALUE**
Apple	+50
Bag of chips	-60
Beans	+70
White meat	+80
Soda	-80
SUM	60

Worksheet N4

Build two (2) robots according to the instructions below and place the microbit and servo motor on robot A.



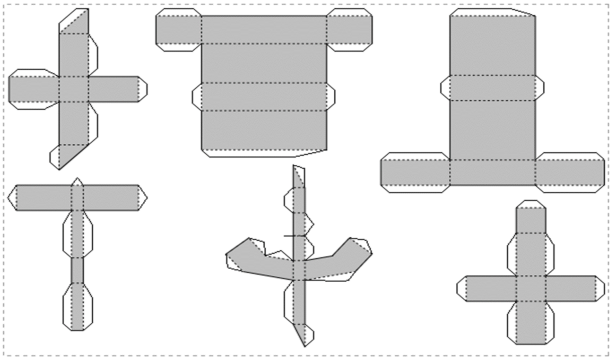
Materials

Microbit: The BBC micro:bit is a pocket-sized computer that introduces you to how software and hardware work together. It has an LED light display, buttons, sensors and many input/output features that, when programmed, let it interact with you and your world.

Servomotor: Servo motors or "servos", as they are known, are electronic devices and rotary or linear actuators that rotate and push parts of a machine with precision.

Servo to Crocodile Clip Adapter Cable

Construction: Using the below unfold shapes, build the form (structure) of robots A and B using the development. You can construct the robot by changing the scale to a larger dimension.



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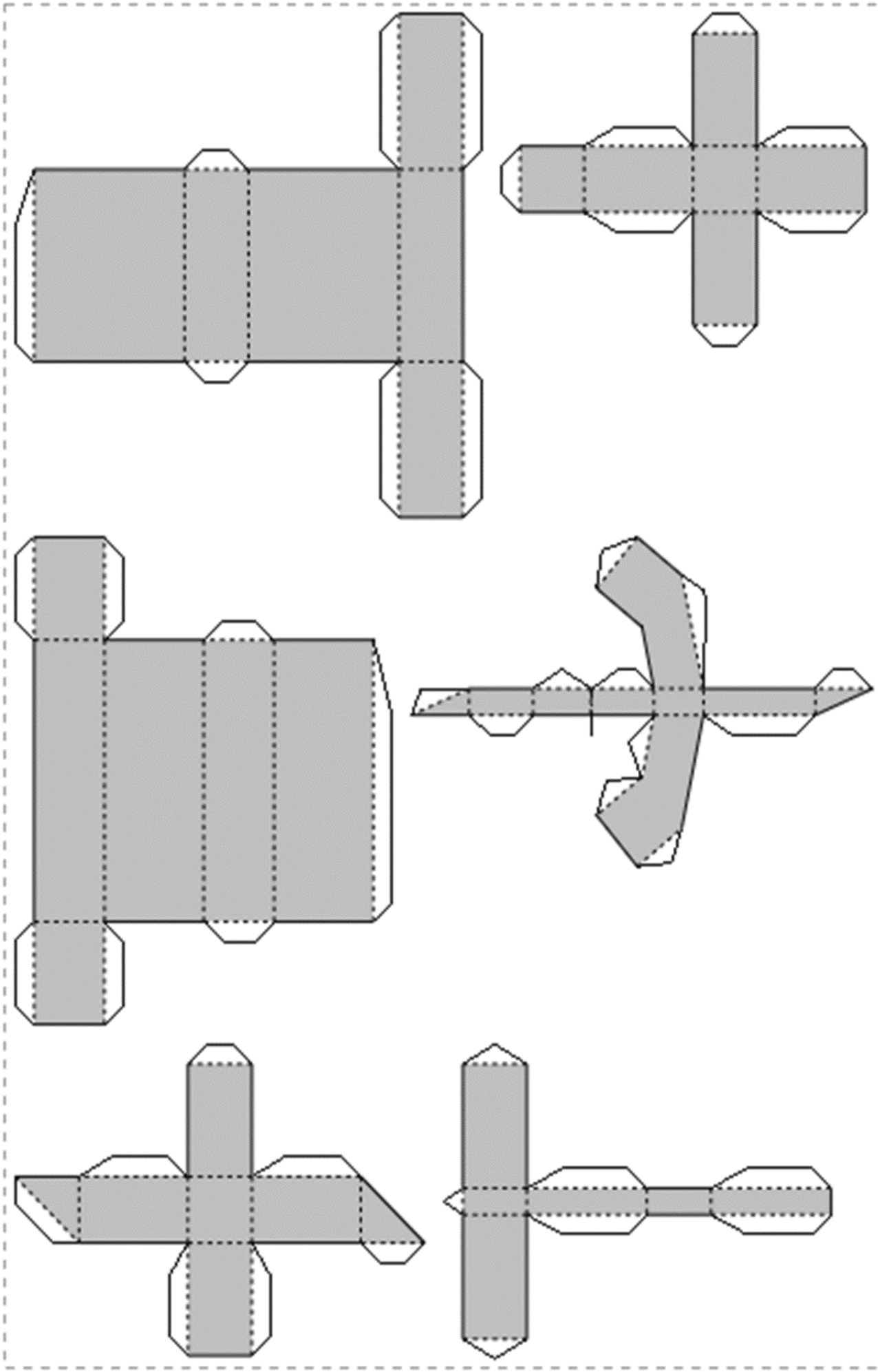
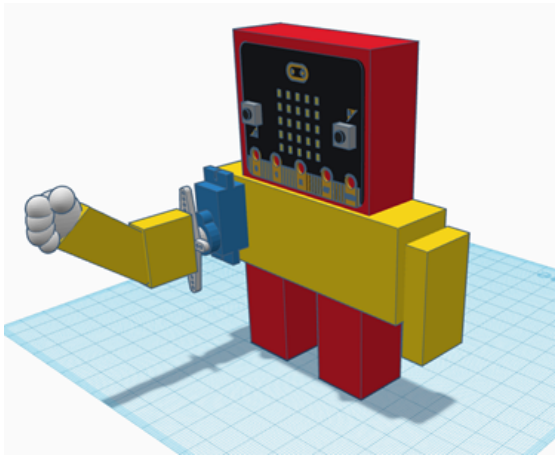
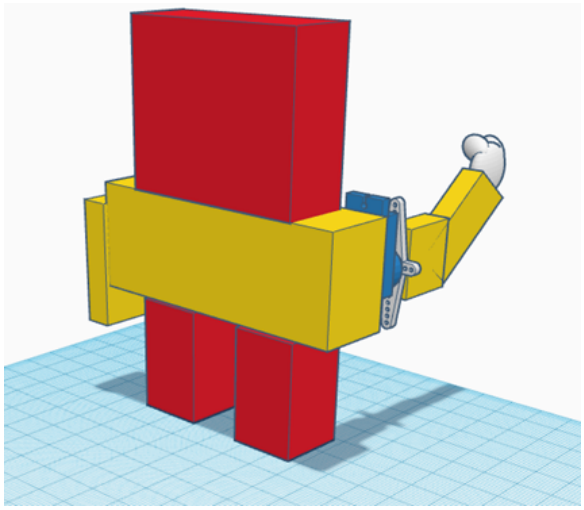
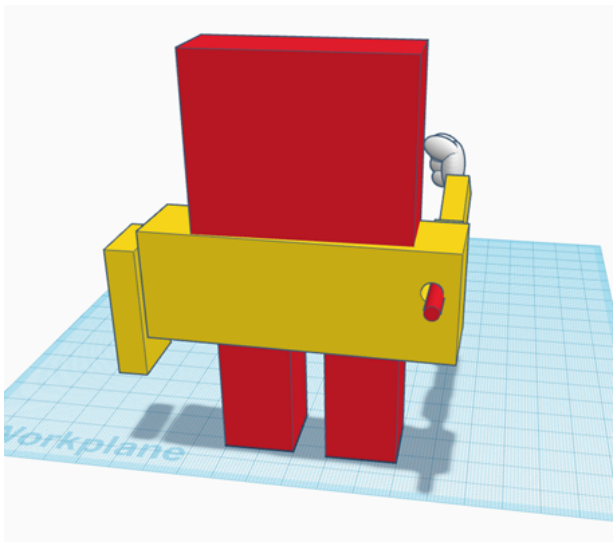
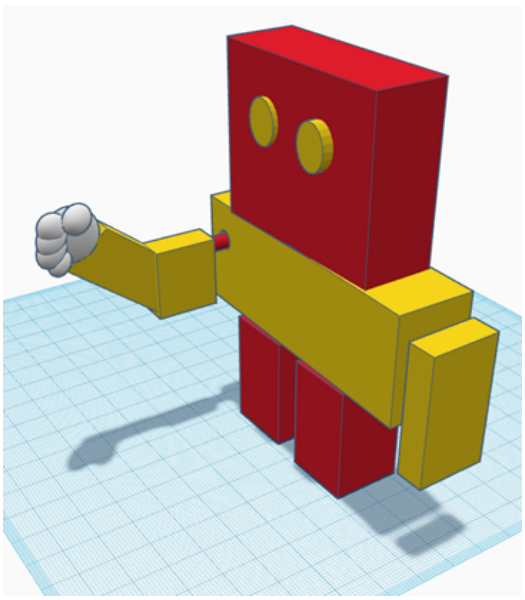
STEALTH
STEam methodology for heALTHy nutrition awareness - Food as cultural Heritage



Construction details for robot A

Mounting microbit and servomotor	
	

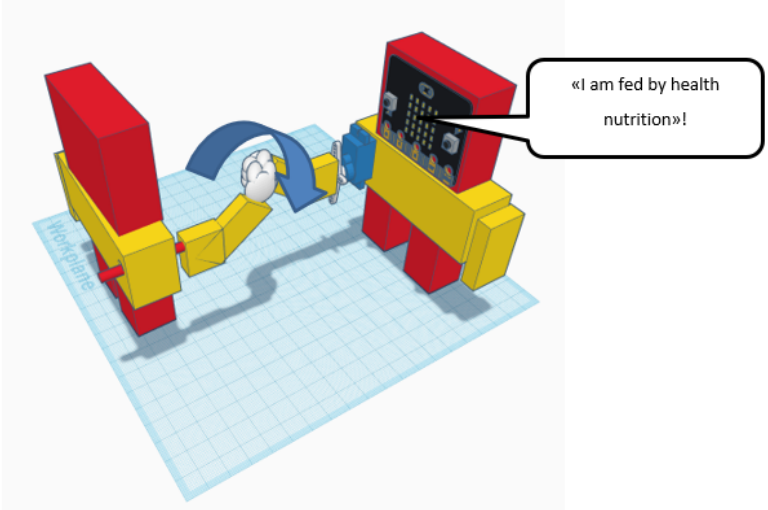
Construction details for robot B

Setting up the shaft for free rotation of the arm	
	

Program robot A with the following behaviour. When the variable (POWER OF NUTRITION) has a value above 60 then the air motor rotates to the right by 90°.

Setting up the robots for the fight of nutrition!

Scene of the Arm Wrestling match!



The Table Game of Nutrition

Target age 8-12

Students will develop an electronic die for their game.

Methodology

The activity consists of 4 phases.

Phase 1 (Using the WORKSHEET N1)

1. Students, discuss of local fruit and foods of high nutritional value with their teacher.
2. Students make a list of the proposed local fruit and foods of high nutritional value
3. Students search on the internet pictures in order to have them on a list.
4. Students, sets a **positive** number as nutation value for their fruit or food in their list, after discussion with their teacher.

Phase 2 (Using the WORKSHEET N2)

1. Students and teacher talk about junk foods and the effects they have on their body's energy.
2. Students make a list of the proposed junk foods.
3. Students search on the internet pictures in order to have them on a list.
4. Students, sets a **negative** number as nutation value for their junk foods in their list, after discussing with their teacher.

Phase 3 (Using the WORKSHEET N3)

Students design the board of the board game following the below instructions.

1. The Board has 100 cells as a traditional board game.
2. Student creates the board game using a table 10x10 in a word document.
3. From the worksheet 1, Student paste the icon (and the positive nutrition value) of a fruit or a food on a cell of their choice.
4. From the worksheet 2, Student paste the icon (and the negative nutrition value) of junk foods on a cell of their choice.

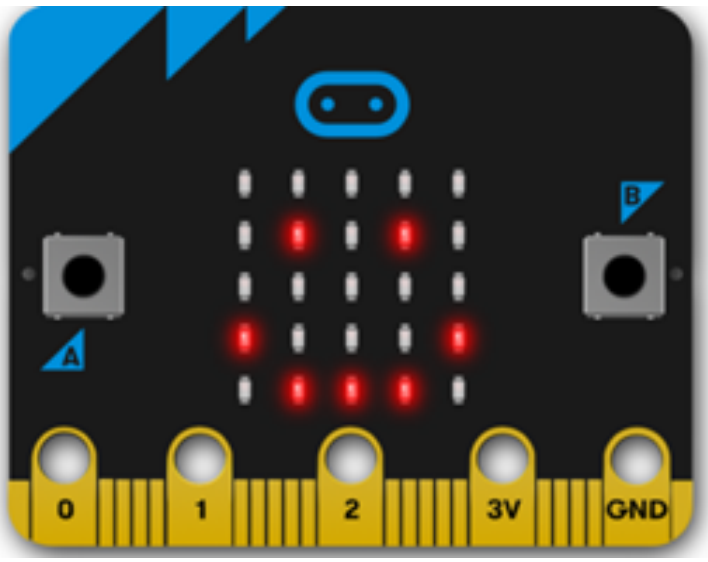
Rules

1. Each player has his own checker of a different colour.
2. Using an electronic dicer, the player moves the checker on the board (forward).
3. When the player find himself on a cell of a local product (e.g. an apple), he must go forward a number of steps show by the number next to icon.
4. When the player find himself on a cell of a junk food (e.g. chips), he must go backward a number of steps show by the number next to icon.
5. The player wins when he put his checker on the cell by number 100.

Phase 4 Development of an electronic dice

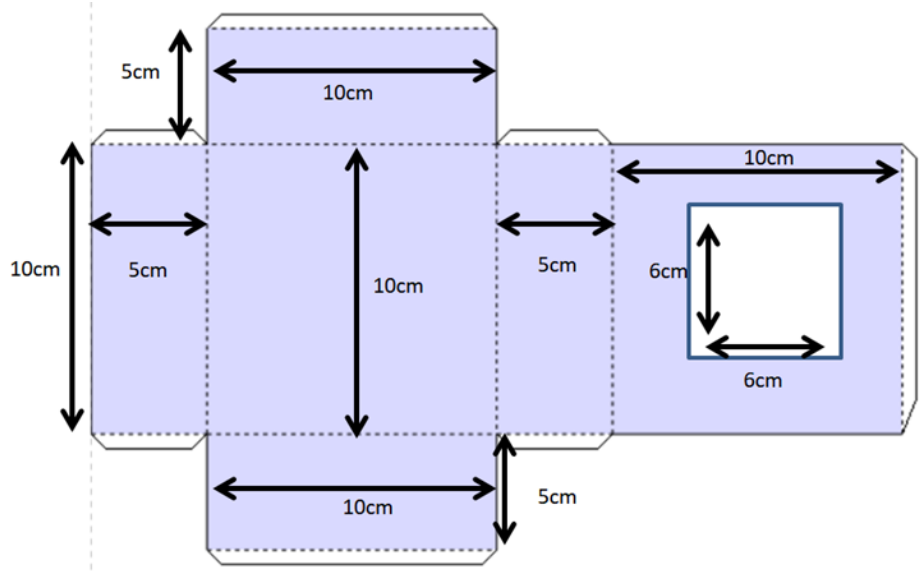
An electronic dice will be used for the game. The students develop the dice using a Micro:bit platform. The Micro:bit platform includes an accelerometer sensor. Micro:bit senses the movement of the body on which the Micro:bit is placed on. When the students vibrate the platform, the built-in LED panel turn on the LEDs like a like a real dice.	
For the construction, the students will need the following materials. • Micro:bit platform • Battery case 1.5Vx2 • USB cable • 1.5V AA batteries • Foam paper 50x70 cm • Hot Glue or Glue	

Microbit: The BBC micro:bit is a pocket-sized computer that introduces you to how software and hardware work together. It has an LED light display, buttons, sensors and many input/output features that, when programmed, let it interact with you and your world.



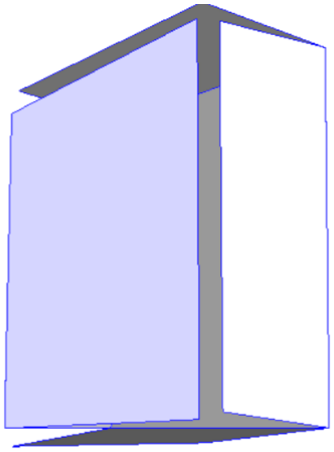
Instructions:

The students construct a box using the foam paper.



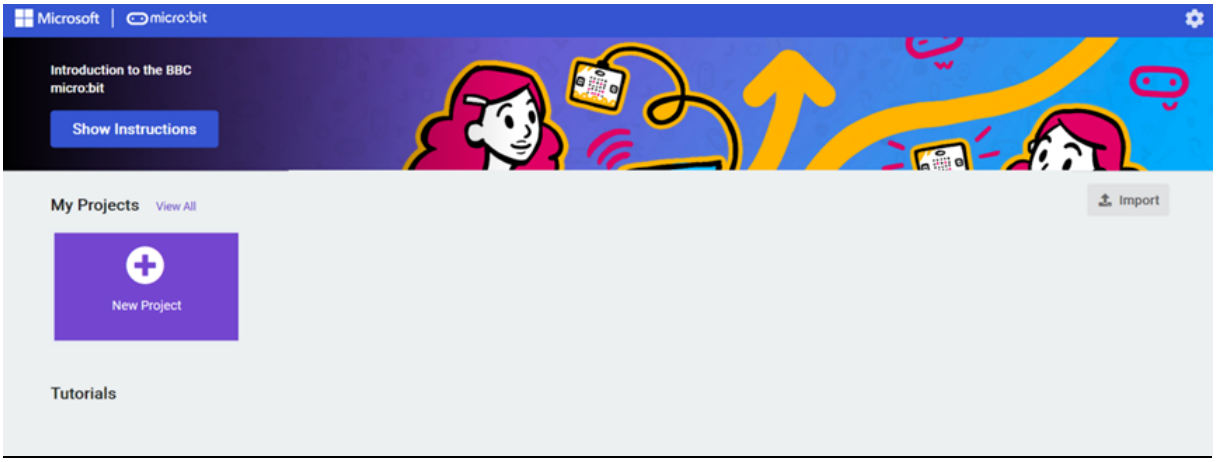
A hole is drilled in the pattern paper to fit the battery case.

Image of Constructed Box

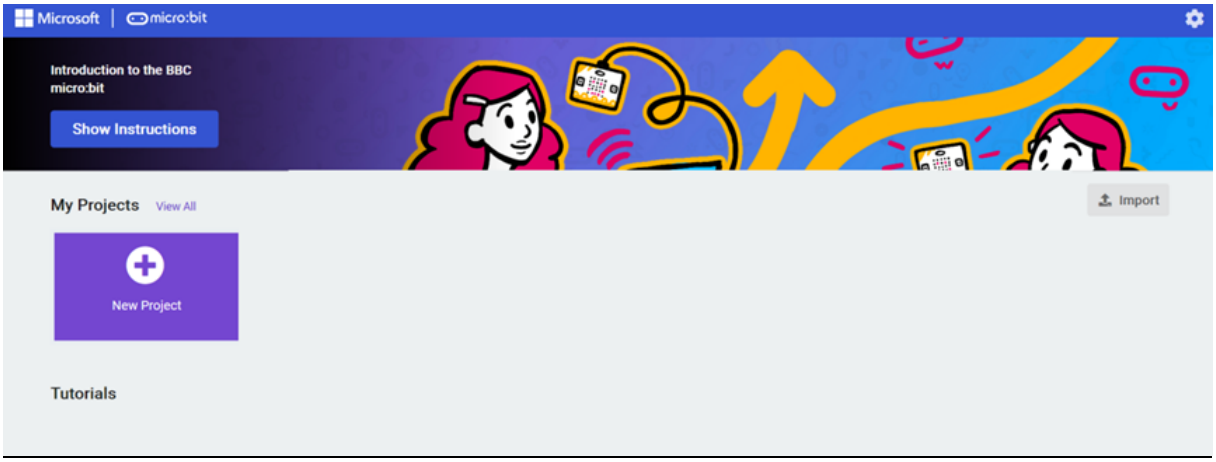


Programming the electronic dice

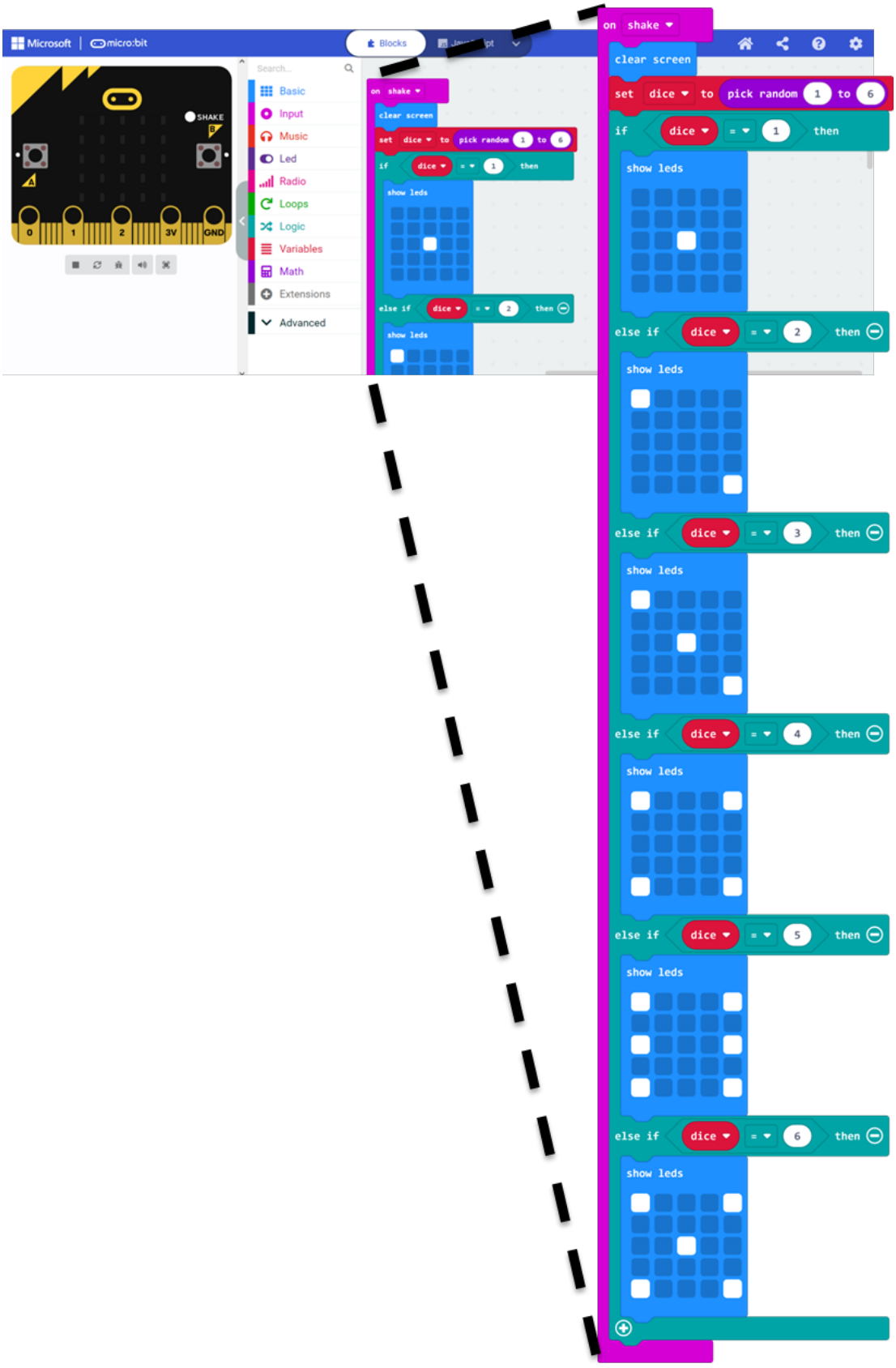
Step1: The students use the platform https://makecode.microbit.org/



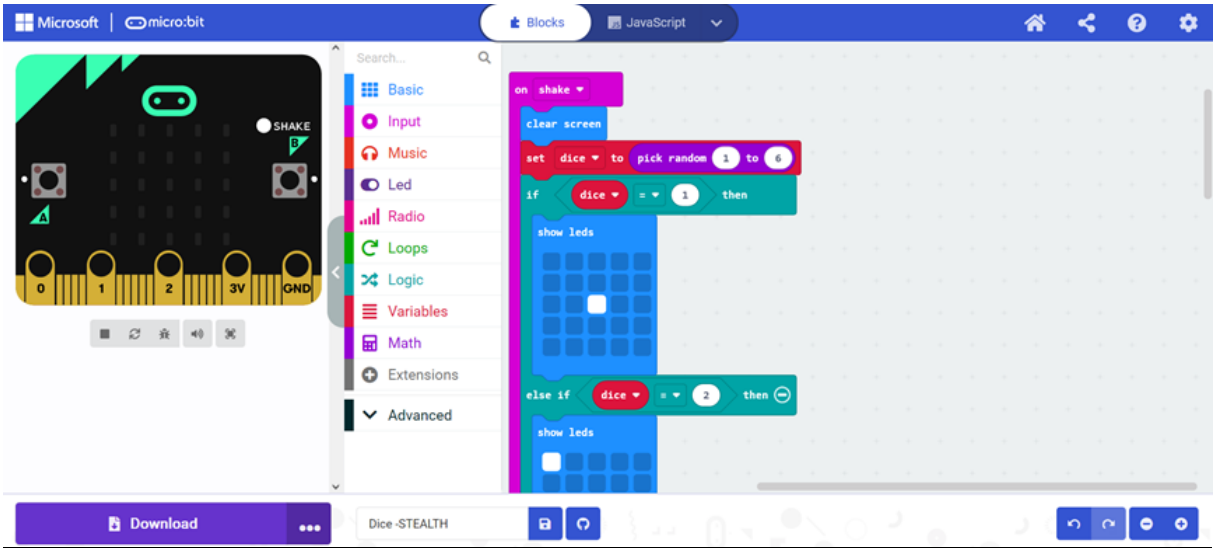
Step2: Create a new project.



Step3: Write the following code.



Step 4: Download the code to Micro:bit by selecting the button Download



Make a Calorimeter

- In this project the student will learn how to measure how much energy is stored in different types of food. What will be measured is the amount of heat released in the process of burning different foods. Your calorimeter has a reservoir of water. When the heat of the burning food is released it serves to heat the water in the reservoir in the calorimeter. You will measure the temperature of the water before and after the burning of specific foods.
- The increase in the temperature (Degrees C) times the mass of water in grams will tell us the amount of energy we obtained in the calorimeter in calorie units. We use the formula Q of water =mc times change in temperature.
- Note: Q of water is the heat captured in calories, m is the mass of water in grams, c is the specific heat capacity of water namely 1cal/g per degree Celsius and ^T is the amount of change in temperature in degrees C.
- Gather all the materials you will need for the experiment. These include2 aluminium or metal soda cans, a thermometer (centigrade), a large graduated cylinder, water, matches, a large paper clip, a balance, a calculator, pen, food samples such as small squares of bread, cheese, banana, tomato, and lettuce.
- Put on your safety equipment.
- Copy the data chart provided below so that you may readily record your data.
- Cut out the opening on both sides of the small soda can. Leave the top and bottom intact.
- Make sure that the smaller can will fit into the larger can and can sit in a stable position.
- Take your large paper clip and bend it so that the top part is open and can serve to pierce into the pieces of food and that the bottom is able to sit again in a stable position.
- Use your graduated cylinder, measure off 100ml of water and pour it into the uncut soda can.
- Place the thermometer into the water and measure the temperature and record in your data chart.
- Now for each of the pieces of food you will use, measure the mass using your balance and record the data in the data chart.
- Now you will repeat the following procedure for each of the pieces of food and record your observations in the data chart. Measure the mass of each piece of food and record the data. Start by placing the piece of bread on the clip, pierce it on the clip and place the clip and the bread into the cut can. Now carefully, very carefully place the whole can containing the water on top of the cut can. Now light the bread with the match and let it burn. When it is finished burning, take the temperature of the water in the top can. And then measure the remaining mass. Record your data. Repeat this with all of the food samples, measure the temperature of the water each time, measure the remaining mass and record the data. Yes, use fresh water each time!
- Using the data, you have obtained, apply the formula, Q of water = mc change in temperature for each of the foods and determine the caloric value of each of the foods.
- Record the data in your chart.
- Write up your report. Include your armchair research and bibliography.
- Data Chart
- Sample Foods
- Initial Mass

- Final Mass
- Initial Water Temperature

Reading Food Labels
Nutritional Content

Instructions: Use the worksheet below to compare the nutritional information of two foods.

Food 1 _____	
Serving Size _____	
Servings Per Container _____	
Calories	
Total Fat	grams
Dietary Fiber	grams
Sugars	grams
Protein	grams
Vitamins and/or Minerals (most to least):	
_____, % Daily Value_____	
_____, % Daily Value_____	
_____, % Daily Value_____	
_____, % Daily Value_____	
_____, % Daily Value_____	
First 3 Ingredients:	
1. _____	
2. _____	
3. _____	

Food 2 _____	
Serving Size _____	
Servings Per Container _____	
Calories	
Total Fat	grams
Dietary Fiber	grams
Sugars	grams
Protein	grams
Vitamins and/or Minerals (most to least):	
_____, % Daily Value_____	
_____, % Daily Value_____	
_____, % Daily Value_____	
_____, % Daily Value_____	
_____, % Daily Value_____	
First 3 Ingredients:	
1. _____	
2. _____	
3. _____	

1. Which food has more calories? _____
2. Which has more sugar? _____
3. Which has more fat? _____
4. Which has more protein? _____
5. Which has more fiber? _____
6. Which is the healthier choice? _____

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Reading Food Labels
Sugar Content

Instructions: Find out how much sugar is in your favorite snack and drink, and then solve the word problems below.

Snack _____	**Drink** _____
Serving Size _____	Serving Size _____
Servings Per Container _____	Servings Per Container _____
Sugar (Grams) in 1 Serving _____	Sugar (Grams) in 1 Serving _____

How much sugar would you be eating or drinking if you:

1. Ate the entire snack and drank all of the drink?

   _____

2. Ate three servings of the snack and drank two servings of the drink?

   _____

3. Split one serving of the snack and one serving of the drink with a friend?

   _____

4. Had two servings of the snack and of the drink every day for a week?

   _____

If 1 teaspoon of sugar has 16 calories, how many calories from sugar is in your snack and in your drink?

_____

Appendix 3

Regional Cuisine as Cultural Heritage

Austria
Greece
Portugal
Slovakia

Regional Cuisine as Cultural Heritage

AUSTRIA

Austria is geographically located in the centre of Europe. The culinary tradition of the Habsburg Empire is linked to its central location and its history. The Habsburg Empire exerted great influence in Europe for centuries, first leading the Holy Roman Empire (from the 15th to the 19th century) and then, after the age of the French Revolution and Napoleon, as Austrian Empire (from 19th to 20th century). The Austrian culinary tradition is based on the typically 'multinational' structure of the empire. The Habsburg Monarchy counted more than 16 nations with different gastronomic traditions from each province of the Empire.

The influence of the Ottoman Empire was also very important. Even if the Turks never made it to Vienna, it was thanks to them that coffee was introduced to Austria. Coffee has become a tradition in the traditional “Viennese Cafés”. Furthermore, each region of Austria has developed specific characteristics. Carinthia, on the border with Italy and Slovenia, cultivates a particular white asparagus and a tradition of filled pasta, the "Taschen"; Styria, rich in forests and lakes, has developed a rich and fish-based cuisine. Characteristic for Austria is pumpkin seed oil. This traditional culinary specialty is also present in some Croatian and Hungarian regions. It has obtained the protection of the European Union through the PGI mark (Protected Geographical Indication). Pumpkin seed oil has particular phytotherapeutic and nutritional qualities.

The main river of Austria is the Danube, which crosses the "Niederösterrerich", an area rich in vineyards and fruit where the famous apricots (Marillen) are grown, whose jam is used in the preparation of the Sacher Torte. The capital of the "Salzkammergut" region is Salzburg, famous for Knodel, savory or sweet, filled with meat, vegetables or fish. A specialty is the “Marillenknödel”, sweet potato-based dumplings filled with apricots, served with melted butter and cinnamon.

Meats are also very important in Austrian cuisine. Perhaps the most famous dish is the Wienerschniztel (Viennese schnitzel). According to a legend, Wiener Schnitzel is a dish of Italian origin. A variant of the Milanese cutlet brought to Austria by Josef Radetzky when the Italian regions of Lombardy-Venetia were under the rule of the Habsburg Empire.
One of the famous meat-based dishes is the Wiener tafelspitz, lean boiled beef cooked in a vegetable broth;

To remember is the "Zwiebelrostbraten" or beef steak with onions and the "Kalbsgulasch", a veal stew. This dish has Ottoman influences. It is in fact slightly spicy and is served with abundant peppers.
Austria is rich in forests and for this reason "game meat" has a very special place. Wild boar, chamois and roe deer meat are often accompanied by blueberry-based sauces which give them a unique taste.

Traditional cuisine has been rediscovered and valued in recent years. The less expensive meats are in fact the basis of tasty dishes of the Austrian culinary tradition such as Bruckfleisch (beef entrails stew), or the various types of Beuschel, based on heart and lungs.

The Austrian Diet

Popular ingredients in Austria cuisine are:

Pork:

Traditional dishes based on pork are:

- Cuts of ham, smoked bacon (Speck), sausages.
- Pork Wiener Schnitzel

Beef:

Traditional dishes based on beef are:

- Tafelspitz; (beef in broth with apples and horseradish),
- Wiener Schnitzel (breaded, pan-fried veal cutlet
- Rindsgulasch (beef goulash)

Chicken:

Traditional dishes based on chicken are:

- Backhendl (spicy fried chicken).

Goose

Traditional dishes based on goose:

Roast goose with chestnuts, plums, red cabbage and potato dumplings. This dish is mainly prepared on St. Martin's Day (11 November). St. Martin was bishop of Tours, a French town. Legend says that the saint did not want to become a bishop. To hide from the cheering citizens, he hid in a stable full of geese, but the geese, squawking more than usual, attracted the people to his hiding place. Since then, in Austria the tradition of eating goose on the occasion of the feast of San Martino spread.

Fish

Traditional dishes based on fish are:
Pannonian Fish Soup
Forelle Müllerin ("trout miller's wife") served with salad and buttered potatoes and parsley.
The Carp fried in butter with vegetables and potatoes.

Vegetables

Traditional dishes based on fish are:

- Erdäpfelgulasch (potato goulash),
- Fleischlaberln,
- Erdäpfelsalat (Austrian-style potato salad).

Popular vegetables are onions, carrots, cucumber lettuce, cabbage, and asparagus

Fruit

Traditional dishes based on fish are:

- Marillenknödel are Austrian apricot dumplings

Cheese and Dairy Products

Traditional dishes based on fish are:

- Käsespätzle (cheesy noodles)
- Käsekuchen (cheesecake),
- Topfenknödel (Austrian dumplings)
- Apfel Strudel
- Austrian desserts and coffee are normally served with cream.

Herbs and Sauces

Traditional herbs used in austrian dishes:

- Horseradish
- Chives
- Caraway seeds
- Parsley
- Dill
- Mustard

Traditional Austrian Recipes

Wiener Schnitzel

Ingredients
800 g veal rump
flour
bread crumbs
2 eggs
butter
salt and pepper– Put the butter in a low and wide saucepan and let it melt. Prepare the breadcrumbs, the flour and the beaten eggs.
Take a slice of veal about 5mm thick.
Coat the cutlet starting by passing it in the flour, then in the egg and finally in the breadcrumbs.
Dip the cutlet in the butter and let it fry for about 5 minutes on each side.

Käsespätzle

Ingredients
For the spaetzle:
250 g of flour
5 eggs + 1 yolk
A good pinch of salt
2-3 tablespoons of water (if needed)
30 g of butter
150 - 200 g grated cheese (Emmenthaler, Gruyere or similar)
For the onions
70 g of butter
2 medium sized onions, cut into rings
Combine flour, eggs and salt and mix. Cut the spaetzle and cook the spaetzle for about 2-3 minutes until they come to the surface.
Put the spaetzle in the pot then add the cheese and mix well. Add the browned onions and chopped chives.

Tafelspitz

Ingredients for 4-6 portions
1 kg of beef
3 beef bones with marrow
1 golden onion
1 leek
3 carrots
1 stalk of celery
2 bay leaves
8 grains of black pepper
4 juniper berries
2 cloves
salt

Erdäpfelgulasch – stew with potatoes.

Ingredients:
500 g of potatoes
50 g of smoked lard
1 white onion
1 clove of garlic
1 teaspoon paprika powder
½ teaspoon cumin
1 tablespoon of white vinegar
1 teaspoon of tomato paste
1 bay leaf
pinch of marjoram
200ml of water

Preparation:
Cut the potatoes into small pieces. In a saucepan, prepare the minced lard, then add the onion and garlic. Add the paprika and blend with the white vinegar. Add the potatoes, bay leaf, marjoram, cumin and tomato.

Sachertorte,

INGREDIENTS FOR AN 18 CM MOLD
60% dark chocolate 75 g
Yolks (about 3) 60 g
Egg whites (about 3) 90 g
Butter 65 g
Flour 00 65 g
Icing sugar 20 g
Sugar 90 g
Vanilla pod 1
Salt 1 pinch
FOR THE FILLING
Apricot jam 150 g
FOR COVERAGE
Dark chocolate 60% 185 g
Liquid fresh cream (preferably 30-35% fat) 125 g

Apfelstrudel,

Ingredients
Flour 250 g
Eggs 1
Sugar 100g
Butter 150 g
Raisins 50 g
Rennet apples 800 g
Salt 1 pinch
Bread 3 tbsp
Pine nuts 50 g
Ground cinnamon 1 tsp
Powdered sugar 1 tsp
Lemon zest 1

Esterhazy Torte

Ingredients
240 g of flour
9 egg whites
180 g of chopped hazelnuts
180 g of sugar
For the vanilla cream:
2 yolks
150g Butter
100 g of sugar
350ml of milk
2 tablespoons of flour
2 tablespoons of rum or brandy
For the glaze:
150 g of icing sugar
2 egg whites
50 of milk chocolate
3 tablespoons of lemon juice

Greece

Introduction

In Greece, the preparation and consumption of a meal is something that is not restricted to these two aspects. It brings together people of all ages and social classes and is the central piece of the cultural identity and continuity of communities. The Greek diet includes proportionally high consumption of legumes, unprocessed cereals, olive oil, fruits, and vegetables, moderate consumption of fish and dairy products (mostly cheese and yogurt), and small consumption of meat products. These foods are part of the so-called Mediterranean diet and it is based on the dietary preferences of the places found around the Mediterranean basin, of which Greece is a part.

However, just like the Greek diet, the Mediterranean diet as well is not only a set of recipes. It is more than that as it involves a set of skills, knowledge, traditions concerning crops, harvesting, fishing, cooking, and particularly the sharing and consumption of food. The Mediterranean diet emphasizes the values of hospitality, and a way of life guided by respect for diversity. It plays a vital role in cultural spaces, festivals and celebrations. Finally, the role of women is crucial in preserving the knowledge and techniques of the Mediterranean diet and passing them to future generations.

Olives and Olive oil

Greece has excellent oil that is renowned around the world and it is commonly called the “Greek Gold”. Greek Olive oil is used for both cooking and pastry in Greece, but it is, also, equally preferred around the world as well. It is renowned for its fine flavour and health benefits and it comes in a great variety. Olive oil originates from the olive fruit, which is traditionally cultivated throughout Greece as well as in the broader area of the Mediterranean basin. The most renowned variety of olive fruit and oil comes from the vicinity of Messinia. The majority of the olive fruit cultivation and production of the olive oil is mostly done by small, family-owned olive groves. Since antiquity, its healing properties were known and today is one of Greece’s leading exports as the country produces 350,000 tons a year. This accounts for 16% of the world production, and, thus, it makes Greece the largest exporter of extra virgin olive oil.

Vegetables

Roikio

On the island of Kasos in the South Aegean, a species of spiny chicory known as roikio grows wild. The plant's leaves are typically preserved in coarse salt for later use by locals, who customarily gather it in late winter and early spring. Its leaves are prized for its flavour, which is sweet and a little bit bitter, and are also said to be a fantastic source of healthful nutrients. Roikio is commonly used in salads or stews, although it can also be eaten raw, boiled, or pickled. Roikio yiahni, a form of stew in which the roikio leaves are cooked with lots of tomatoes and olive oil, is one of the oldest methods of making it. The Aegean Sea's neighboring islands, like Crete, Astypalea and Karpathos are also home to this untamed plant.

Patata Kato Nevrokopiou

The towns of Kato Nevrokopi, Kato Vrontos, Perithori, Dasoto, Lefkogia, Khrisokefalos, Okhiro, Vathitopos, and Katafitos are among those where this potato is grown. Since its introduction to the region in the 1920s, these potatoes have proven immensely popular with consumers due to their outstanding quality. The great climatic conditions and sandy soils of the area have resulted in them being abundant in proteins, carbs, and starch. They are grown throughout the summer and harvested in September, when it is cooler and there is more precipitation. They are prized for their flavour in Greece and the major component of many recipes, but they can also be industrially processed to create a variety of goods, including potato flour, chips, and other things.

Patata Naxou

The Naxos Island is where these potatoes are raised. They have a bright, silky skin and more than 18% starch but only 1% sugar. Twice a year, in mid-February to early-March and in late August to early-September, they are manually collected. They are more in demand and sell for more money on the market because they are harvested earlier than other potatoes. Greece is known for its famed patata naxou, which is used as a key component in many dishes. The Annual Naxos Potato Festival, which has seen attendance rise by 10% annually to promote this delectable potato, is held by the local government of Naxos every August.

Tomataki Santorinis

These little tomatoes are grown on the Cyclades islands in the southern Aegean Sea, specifically on Santorini, Thirasia, Palea Kameni, Nea Kameni, and Aspro. To prevent a decline in the quality of this delicate fruit, all production, handling, and processing of these tomatoes must take place in this region. The flesh of Tomataki Santorinis is firm, not overly wet, and contains a lot of seeds. It is a rich crimson hue. These tomatoes' unique traits are a result of the local climate factors and the limey, alkaline soils. Due to the alkaline soil, it has high amounts of acidity and, when ripe, high levels of sugar. Tomato farming is said to have started on the island of Santorini since 1870.

Florina Peppers

Florina is the name of a Greek pepper that is grown in Florina, Western Macedonia. The peppers are cow's horn shaped and are a rich red colour. They mature after the middle of August, and the harvest can take up to 18 weeks. According to legend, an excellent Florina pepper should be thick, firm, colorful, and sweet-tasting. These adaptable peppers can be stuffed with feta, meat, rice, or shrimp and then roasted before being added to salads, sauces, pasta dishes, or meat meals. Florina peppers can be roasted, sliced, and paired with olive oil, sea salt, and garlic for a wonderful appetizer to make things even easier.

Tsakoniki Melitzana Leonidiou

The Arcadia prefecture is the only place where this eggplant is cultivated. These unusually striped, purple, somewhat bent aubergines are grown outdoors on the local sandy soils. Between May and November, they are harvested. They differ from other varieties of eggplant due to their white stripes and relatively mild, almost sweet flavor that lacks bitterness. It is a common ingredient in many dishes and is sometimes made into the spoon-sized dessert known as "melitzanaki." Every year in August, a festival is conducted to highlight these

regional eggplants, during which more than 50 different dishes are produced and competitions for the best eggplant recipes are held.

Cheese and dairy products

Greek Yogurt (Yiaourti)

Yiaourti, or Greek yogurt, is a rich, creamy yogurt. Greece has a long tradition of using yogurt, and because of its incredible adaptability, it can be used for anything from breakfast to dips, sauces, and sweets. Although cow's milk yogurt appears to be the most popular option nowadays, traditional Greek yogurt is typically made with either sheep's milk or goat's milk. Consuming Greek yogurt in any form is beneficial to our health because it is packed with nutrients. Because it is high in calcium and protein, one of its advantages is that it helps to strengthen bone health. Studies have also shown that it can help lower the risk of osteoporosis. Additionally, Greek yogurt has 20 grams of protein, and studies show that eating meals high in protein might improve the number of calories expended.

Greek Yellow Cheese and Greek “Feta”

Feta is a product with a Protected Designation of Origin and is possibly the most well-known Greek cheese in the world. A variety of fresh cheeses are also produced in Greece, including Anthotiro and Myzithra, which may be utilized in many dishes and give food a premium feel. In addition to Kasseri, one of the most well-known Greek cheeses, the list of notable Greek cheeses also includes ladotyri, galotyri, manouri, and metsovone. Kefalotyri is a firm yellow sheep's or goat's milk cheese. Graviera is a delightful, sweet, mellow, and nutty cheese.

Ice Cream of Greece

According to historians, Greeks have been consuming frozen desserts since antiquity. Snow was often flavoured with fruit and honey in ancient times and was regarded as a classic dessert. This sweet changed over time to become ice cream as we know it today. Greek ice cream is available in a huge selection of flavours, and in addition to the more traditional ones, you may discover varieties prepared with mastic, salepi, kataifi, yogurt, and olive oil.

Recipes

Mousakas

Greek moussaka is the nation's most well-known and enduring dish. It is a dish that is frequently served in traditional restaurants (known as tavernas) and in households, especially on special occasions. A rich, tomato flavoured beef or lamb mince sauce, potatoes, baked or fried eggplants (aubergines), and a delightfully creamy bechamel sauce are all ingredients in the classic Greek dish known as moussaka. Although creating moussaka is thought to be challenging, it really just requires the following four easy steps:

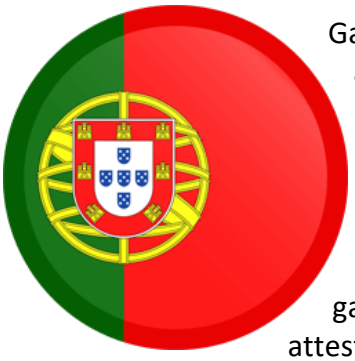
1. preparing the moussaka eggplants (aubergines) and potatoes,
2. preparing the lamb or beef tomato sauce,
3. preparing the béchamel sauce and
4. assembling it and baking it until perfectly golden brown

The base of the Greek moussaka is made up of potatoes and eggplants (aubergines), which have two very different functions. The dish's foundation is made of sliced potatoes, which also give it strength and make it simple to cut and serve. The aubergines, on the other hand, behave like tiny sponges. They add wonderful juiciness and creaminess to the meal by soaking up the delectable tomato sauce. In the classic recipe for Moussaka, the potatoes and eggplants are shallow-fried till golden brown. The majority of tavernas prepare their moussaka in this manner because shallow frying gives the meal an incomparable lusciousness that is difficult to resist. However, roasting the aubergines and potatoes results in a much lighter moussaka that is not overly fatty and greasy. The meat sauce in traditional Greek moussaka is quite reminiscent of a basic Bolognese sauce and is made from either lamb mince or a combination of lamb and beef. With onions, garlic, and olive oil, ground meat is sautéed. Then it is deglazed with some red wine, and finally it is thickened by simmering with chopped tomatoes. The hardest element to do properly is making and cooking the bechamel sauce, which comes next. It needs to be the appropriate thickness, regularly whisked while cooking, enriched with eggs and cheese, and finished with the perfect amount of salt. The assembling of the dish starts by arranging the potatoes in the bottom of the baking dish and dividing the aubergines into two groups. The first batch will cover the potatoes, while the second batch will cover the meat sauce. Pour the beef sauce over the aubergines and spread it out evenly using a wide ladle or spoon. The béchamel should next be added and evenly spread across the entire moussaka using a large ladle. Grated cheese can be used as an option to add flavour to the bechamel. Finally, there are three methods for making Moussaka ahead of time. It can be baked, refrigerated, then reheated, or baked straight from the freezer.

Skyros Fava

In the area of Skyros as well as on the Greek mainland, Skyros Fava is a highly-liked dish. You can cook them by putting them in a saucepan with 2 cups of hot water to hasten the boiling process. After it boils, skim it, add a whole peeled onion and some coarse salt, and wait for it to simmer, turn to mush, and eventually change into a puree that has the consistency of gel. You can combine it or push it with a fork to give it an even smoother texture. Then, pour it into a bowl and top with a chopped onion, plenty of oil, salt, fennel, capers, olives, and any other additional ingredients you want.

Portugal



Gastronomy is, for all people, a great heritage. Culture is also served at the table, in such a way that UNESCO has decided to include in the list of intangible heritage of humanity, since 2008, the typical food of countries or regions. It was on the 26th of July 2000 that Portuguese Gastronomy was elevated to an Intangible Asset of the Cultural Heritage of Portugal. Through a document on the subject published in the *Diário da República*, it is read that Portuguese gastronomy is "understood as the result of traditional knowledge that attests to the historical and social evolution of the Portuguese people, national gastronomy, therefore, integrates the intangible heritage that must safeguard and promote". It being considered one of the healthiest diets in the world, having a great sense of community, involving not only the preparation of food and dining but also agriculture, fishing, livestock and respect for the seasonality of food.

UNESCO includes in its distinction, since 2013, the handicraft that produces traditional containers for transporting, consuming, and preserving food, having the name of Portugal on the list. Portugal is therefore considered a very rich country in terms of gastronomy, with different typical dishes throughout the country, if in the North we talk and find the famous dish "papas" from "sarrabulho" and rice from "sarrabulho", if we go further south the bet will be on fish and cheeses. The gastronomic offer and traditions of Portugal vary according to the region, as well as the traditions that change according to the geographical area of the country. But, as typical foods throughout the country, we can emphasize:

Sardine on bread

The current passion of the Portuguese for sardines has its origins in the territory of the Iberian Peninsula before our nationality. It is thought that the Phoenicians already salted sardines. With the Romans, sardines, after being salted, travelled in amphoras, from Iberia to the entire Roman world. The fish reached the Italian peninsula, Gaul, England and Africa.

In Lisbon in the 13th century, the poor population fed on cod and sardines and in the 14th century, the surplus of this fish was salted in appropriate places in the Ribeira area, where it was purchased fresh, salted and smoked. It was 1387 and the reign of D. João I, Master of Avis, when sardine fishing was protected by charter, allowing the residents of Porto to capture the species in Lisbon and Setúbal waters. In 1456, the capture of sardines was allowed on Sundays and on holy days, with the exception of the feasts of Jesus Christ and the Virgin Mary. The current passion of the Portuguese for sardines has its origins in the territory of the Iberian Peninsula before their nationality!

The habit of eating sardines on bread dates back to the 17th century. The practice was common among the poorest populations, who rubbed the grilled sardines on the crust to give it flavour and thus deceive the scarcity of the food.
Nowadays, sardines are eaten in every Portuguese house, with parties celebrating this delicacy!

Like the cod recipes, there are several dishes that have sardines as the main ingredient, but the grilled sardine is a gastronomic landmark of traditional Portuguese cuisine, having been one of the finalists in the election of the 7 Wonders of Gastronomy of Portugal, in the category of dishes of fish. Grilled sardines are cooked and eaten throughout the year, but gain special prominence in the summer, being one of the hallmarks of the traditional *Santos Populares* festivities, in Lisbon, where they are savoured on a slice of bread.

Ingredients:
For 4 people:

- 1 kg of sardines
- Salt as much as you need

Confection:

- Prepare the sardines the day before and season them with coarse salt.
- Prepare the embers and place the sardines on the grill, roasting over low heat, taking care to keep the heat only from the embers, without allowing them to flare up.
- You can take the opportunity to grill the peppers together with the sardines.
- Accompany the grilled sardines with roasted pepper on a thick slice of bread or cornbread that absorbs the fat from the fish, making the meal a wonderful moment of pleasure.

Christmas Eve codfish

The first signs related to cod fishing and salting in Portugal date back to the 14th century. It was at the time of the Discoveries, that the Portuguese saw cod as the ideal fish, which resisted the long sea crossings. The tradition of eating codfish begins there in the Middle Ages, where Christians needed to enter into mandatory fasting and could not eat any kind of meat on the main Catholic festivals, such as Christmas. As cod was the cheapest fish, fish began to be eaten on these dates. The codfish have countless recipes; however, we are going to introduce you to the most typical cod and the dish that is eaten in the Minho region, especially on Christmas, Bacalhau da Consoada. This becomes an exquisite dish since the Cod is served in thick chips and without bones. The same is served with Portuguese olive oil.

Ingredients:

- 4 slices of desalted cod
- 4 large potatoes
- 1 large Portuguese cabbage
- 4 carrots
- 4 eggs
- 4 garlic cloves
- 2 dl olive oil
- 4 turnips
- Salt

Confection:

- Place the cod in a container with a lid. Bring a pan of water to a boil for 15 minutes.
- Peel the potatoes, turnips and carrots.
- Choose and wash the cabbage well. Put water seasoned with salt in a pan and when it comes to a boil, add the cabbage.
- Remove it when it is tender, drain it and reserve it, keeping it warm.
- Cook the potatoes together with the carrots and turnips in that water. Boil the eggs for 8 minutes.
- Arrange on a platter and drizzle with Portuguese olive oil.

Alheira with Fries

Alheira is a typical Portuguese sausage whose main ingredients are poultry, bread, olive oil, lard, garlic and paprika.

According to tradition, this sausage was created by New Christians who, in secret, continued to keep the customs of their renegade Jewish religion, in order to make society understand that they were committed and well integrated Christians. As Judaism forbids the consumption of pork meat, some of the supposedly recent converts would have invented a chorizo where poultry meat discreetly replaced pork, traditional among Christians. In this way, in the first alheiras several alternative meats to pork were used, such as turkey, chicken and other poultry.

The most famous of the alheiras comes from Mirandela, in the Trás-os-Montes region, often considered the best quality, having been named one of the 7 Wonders of Gastronomy in Portugal.

Ingredients:

- 1*alheira*
- 2 eggs
- Potatoes for frying
- Frying oil

Confection:

The first step to do is to fry the potatoes. You can buy pre-frozen French fries at the supermarket, but they are not the same thing. The tastiest thing is to peel 3 large potatoes and cut them into long, thick sticks. Then fry them in very hot oil in a deep fryer. Let them fry until golden brown. Be careful not to burn them too much.

Now it's time to prepare the *alheira*. Make a cut on the outside along the entire length of the sausage, so that, when frying, it does not shrink or explode. In a frying pan big enough to place the sausage, fill it with oil and heat it up. And when it is very hot, add the alheira. Cover the skillet and wait. You will not need to turn the alheira. When it becomes golden, remove it with a spatula and place on absorbent paper. Reserve. The next step is then to fry the eggs that will accompany the alheira. In a smaller frying pan, with a drizzle of oil, fry 2 eggs.

Francesinha

The Francesinha sandwich was created in the 1950s by the Portuguese Daniel Silva while living in France. According to popular legend, he was inspired by the French dish *Croque Monsieur*.

Upon his return to Portugal, Daniel modified the dish with ingredients and tastes from northern Portugal and served it at Regaleira restaurant in Porto. The original recipe was a bit simpler, and it used bijou bread and baked beef. The delicacy became famous and spread across the city. It has been adapted many times and is now one of Porto's most beloved dishes.

Many restaurants like to innovate and put their own identity on the plate. Today, everyone can enjoy Francesinha in various ways, including vegetarian options with tofu, veggie sausages, and vegetables (the original is pure meat!).

Side dishes can vary. Francesinha is often served with french fries and a fried egg on top.

Francesinha has become so well-known that many cities host Festivals and Competitions to award Francesinha recipes and, especially, the sauce.

Ingredients for the Sauce:

- Olive oil 300 ml
- Garlic 1 head
- 1 large onion
- bay leaves 3
- salt to taste
- pepper to taste
- Tomato pulp 6 tablespoons
- beer 450 ml
- whiskey 50 ml
- Port wine 50 ml
- chilli q.b
- mustard to taste
- Beef broth 1
- Instant seafood cream 1

Confection for the Sauce:

1. Place the olive oil, chopped garlic, chopped onion, bay leaves, salt and pepper in a saucepan.
2. Let it cook, stirring occasionally

Preparation of the Sauce:

- Place the olive oil, chopped garlic, chopped onion, bay leaves, salt and pepper in a saucepan.

- Allow to cool, stirring occasionally.
- When it starts to brown, add the beer, tomato paste, chilli, whiskey, port wine, mustard and meat broth.
- Let it boil for about ten minutes, stirring occasionally.
- Take out the bay leaf.
- Reduce the sauce with the magic wand or the kitchen robot.
- Prepare the instant seafood chowder separately (takes about ten minutes) and then add directly to the main sauce.
- Shred again with the magic wand or kitchen robot (about 2 minutes).

Sandwich:

- Bread 4 slices
- Steaks 2
- Fresh sausages 2
- Fresh sausages 2
- Sliced cheese 2 slices
- Mortadella with olive 2 slices
- Ham 2 slices
- Eggs 2

Confection for the Sandwich:

Season the steaks with salt and bring to the grill. Do the same for the fresh sausage and sausage (preferably grill open in half).

Take a slice of bread and arrange it as follows:

- 1st a slice of ham
- 2nd a slice of mortadella
- 3rd the steak
- 4th the sausage and sausage
- 5th a slice of cheese
- 6th another slice of bread on top
- 7th fried egg on top of the last slice of bread (optional)
- 8th cover with cheese
- Take to the grill or oven to melt the cheese.
- Pour the hot sauce on top and serve with fries (on the side).

Cozido à portuguesa

It is a typical dish from Portugal and is capable of filling the stomach of the most voracious appetites. It is usually served on a very large platter, revealing the variety of meats, sausages and vegetables that shape it. The "Cozido à Portuguesa" is recognized as one of the oldest dishes in the country. It is claimed by the Portuguese as the Monument of National Gastronomy, being part of the menu of almost all typical restaurants. This dish was born in Portugal, due to the economic needs of Portuguese families in the 17th century, taking advantage of leftovers from meals and less noble meats, putting them in a pot to cook to improve their flavour. This was the cheapest and most efficient way to cook food. The dish was nicknamed "Cozido à Portuguesa", because it is essentially prepared with products from the country. Despite this fact, each village, town or city has a very authorial interpretation of the recipe. For example, in the northern region, in the heart of Minho, the stew is made with chicken, beef, *salpicão, orelheira*, smoked ox snout, *tronchuda* cabbage – typical Portuguese cabbage -, carrots, potatoes and rice with chicken giblets and ham. In the region of Beiras, in central Portugal, this dish is garnished with chorizo, black pudding (sausage made with pig's blood), *farinheira* (typical Portuguese sausage made with flour, peppers, wine and pig fat), ham, chispe (pig's foot), ear, ribs, beef, red beans, turnips, carrots and potatoes. In the islands, more precisely in the Azores (São Miguel Island), the stew is cooked in a pot, in the sulphur caves, in the volcanic zone. This includes beef (*chambão* – from the leg of the cow or veal), pork, chicken, smoked bacon and black pudding.

Ingredients:

- 300 grams of beef for stewing
- ½ spark
- 1 small pig ear
- 300 grams of streaky bacon
- 300 grams of spare ribs
- 1 Beef Chorizo
- 1 black pudding
- 1 blood sausage
- 1 flour maker
- 1 small Portuguese cabbage
- 1 small savoy cabbage
- 2 medium turnips
- 2 Medium Potatoes
- 2 carrots
- 1 measure of rice (350ml)
- 1 measure of the broth in which the meat was cooked
- 1 measure of water
- 2 cans of white beans 400gr

Confection:

1. Start by cooking the meat with the sausages all in the same pan, with water, salt and pepper. And as they are cooked, reserve.
2. First the farinheira and the blood sausage, then the black pudding and the meat sausage. Then the spare ribs and the streaky bacon. Finally, the chispe, ear and beef, which take the longest.
3. Then use the meat broth to prepare the remaining ingredients for the stew.
4. Start by heating 1 drizzle of olive oil in a pan, fry 1 mug of rice – about 350ml – and add 1 measure of broth and another of water. Season with pepper and cook for 18-20 minutes. Rectify the salt if you think the broth is thick.
5. In another pan, reserve the broth to heat 2 small cans of white beans.
6. Next, take care of the vegetables! Separate the leaves of a Portuguese kale, wash well, remove the stalk and central vein, break into pieces and add to the pan.
7. Then the 1 savoy cabbage: remove the toughest leaves, cut into 4 without the central stalk and gather.
8. Finally, potatoes, turnips and carrots. Peel, cut into pieces and add to the cabbage. Cover and let it cook until tender
9. In the meantime, cut the meat and sausages.
10. When everything is cooked, and the meats are reheated, it's time to plate. Vegetables at the base, vegetables on the side, rice, beans, meat and sausages.
11. All served à la grande and à l'Portuguese!

Slovakia

Traditional Slovak cuisine varied and still varies according to region, however conventional ingredients were mostly identical: potatoes, wheat flour, legumes like peas, beans or lentils and cabbage. The ingredients used to originate from local gardens or fields. Meat was originally rarer in traditional cuisine in comparison with present eating habits of Slovak people. Nevertheless, the presence of meat and its frequency in dishes used to depend on social status of an individual. People used to eat 3 to 5 times per day, depending on season; in summer the Slovak ancestors ate more frequently as they needed more energy because of manual work in fields.

The important part of daily meals were grains in form of bread or pasta or eaten in soups or served as a side dish. In daily meal plan cabbage, potatoes and onions dominated along with Legumes as important source of proteins, since meat was considered a festive meal and was not financially available for everyone. Dairy products were similarly consumed according to social background, but Slovak ancestors produced butter, cream and various kinds of cheese including sheep cottage cheese. These were used for thickening soups or to flavour them. Most accessible meat was poultry, but meat products from bowels and lower quality meat were often consumed. Fish was perceived as fasting meal.

Bryndzové halušky or dumplings with sheep cheese recipe

Ingredients:

- 2 medium potatoes
- 1 cup flour
- 1 teaspoon salt
- 1 tablespoon vegetable oil
- Bacon (the more the better)
- bryndza (or other soft cheese, goat or sheep cheese preferably)
- some cream

Grate the potatoes finely or use a food processor to get a smooth consistency. Add salt and flour and mix until you get a nice batter. Boil water in bigger pot, add salt and use a grater or something with openings about 0,5 wide and press the batter through it using a spoon. You should get small drop-shaped dumplings. Cook them until soft, but don't overcook them! Fish them out from water and put on a plate.

Cut the bacon into small cubes and fry them on a pan until they are bit crunchy. Mix the bryndza cheese with cream to make its taste less dominant. Pour the bryndza mixture on dumplings and top with crunchy bacon cubes. Enjoy your meal- "dobrú chuť!".

Sarrabulho

Its origin dates back to the Middle Ages during the crisis of the 14th century, where due to the enormous impact of the Black Death in previous centuries, food production was practically nil. During this crisis, a large part of the population relied on bread as their only food. Since it was a poor diet, people who did not have access to other resources began to add blood that was offered to them by others, whenever an animal was killed.

In the 20th century and in the Alto-Minho region, in particular, in Ponte de Lima, Sarrabulho gained special importance and was no longer just made in family and ethnic kitchens but started to be prepared and served in the various restaurants in Ribeira Lima. This alteration was made by Clara Penha (1836-1924), owner of one of the most important pensions in Ponte de Lima. Clara Penha is a great reference for the origin of Sarrabulho Rice à la Ponte de Lima and a pioneer of contemporary catering. The originality of Sarrabulho à Moda de Ponte de Lima was maintained by Clara Penha's niece, Belozinha Penha Varela (1908-2002). D. Belozinha and D. Maria do Carmo toured the country as ambassadors for Arroz de Sarrabulho à Moda de Ponte de Lima. Minho's gastronomic heritage is promoted at the Santarém Gastronomy Festival, at receptions in Lisbon and at tastings at Casino Estoril.

Ingredients:

- 2 bay leaves
- 1 onion
- 1 small beef chorizo
- 1 pork tenderloin
- 1 fresh spine bone
- 1 sprig of parsley
- 1/2 chicken
- 700 g of rice
- 300 g of beef for stewing
- 250 g pork meat
- 250 g spare ribs
- 1.5 dl pig's blood
- 3margarine tablespoons
- Salt
- Pepper

Method of Preparation

- Start by placing all the listed ingredients close to your disposal.
- First, in the pressure cooker, put the meat and the bone.
- Then add half the parsley, 1 bay leaf and the onion skin.
- Then cook in water seasoned with salt.
- Meanwhile, chop the onion and brown it in another pan with the Vaqueiro margarine.
- Then add the remaining parsley and the other bay leaf.
- Afterwards, drizzle with the meat cooking water (3 times the rice volume).
- Then let it boil and clear.
- Afterwards, season with salt and pepper.
- Then introduce the rice.
- Then remove the meat from the pan and shred it.
- Afterwards, reserve the meat and the chorizo meat.
- Then, halfway through cooking, add the blood and the shredded meat.
- Then stir well, rectify the seasonings and let it finish cooking.
- Then, when serving the rice, decorate with the reserved meats.

Lamprey

History tells that, at the time of the Portucalense County, D. Teresa, mother of D. Afonso Henriques, granted in 1125 to the Archbishopric of Tui the privilege of taking as their own the lampreys that they caught in the river Minho in order to supply the monasteries and convents on the occasion of the Lenten fasts. More recently, a masterpiece of Portuguese cuisine was found on the shelves of the Library of Naples, dating back to the 16th century, with the title “Livro de Cozinha da Infanta D. Maria”. In fact, there are countless historical references to the famous specialty of our traditional cuisine.

Ingredients:

- For 6 to 8 people:
- 1 lamprey;
- 2 onions;
- 2 carrots;
- 2 tablespoons of lard;
- 2 tablespoons olive oil;
- 2 garlic cloves;
- 1 bunch of parsley;
- 1 bay leaf;
- 2 dl of red wine;
- salt;
- chili.

Method of Preparation:

- For the rice: 600 g of rice, 1 onion, 3 tablespoons of olive oil; parsley; 1 bay leaf; salt; chili.
- The lamprey is cut into regular pieces and placed in a saucepan with the lard, oil, carrots and onions cut into thick slices, garlic cloves, parsley and bay leaf. Season with salt and pepper and bring to a simmer over high heat.
- When the lamprey is cooked, it is watered with the red wine, which, in the meantime, served to keep liquid the blood that flowed from the lamprey while it was being prepared and cut. Let it boil for approximately another 5 minutes.
- Preparing the rice: start by making a mixture of onion, olive oil, parsley and bay leaf. Afterwards, it is poured with water (three times the volume of the rice), seasoned with salt and pepper and, as soon as the broth starts to boil, the rice and a little of the stewed lamprey sauce are added.
- The lamprey is served with rice or on slices of fried bread, in which case the rice is served separately.

Speaking in particular of the Alto-Minho Region, Ponte de Lima, the municipality of Ponte de Lima is visited annually by thousands of outsiders who seek out its famous cuisine such as Arroz de Sarrabulho à Moda de Ponte de Lima, an ex-libris of Lima's gastronomy, but also other dishes with a strong local tradition such as codfish onion, lamprey among many others. For this reason, Ponte de Lima is considered one of the greatest gastronomic centres in Portugal.

The significant growth of gastronomy as a tourist attraction gives visibility to all those who work in the area, both professional and amateur cooks, who thus launch new trends. The gastronomic heritage of Lima is a celebration of the territory, the landscape, and the people of this land. The deep connection to the land and, despite everything, far beyond the aforementioned 'social distinction' and known hierarchies, the constant relationship between the classes present in the agrarian landscape, allowed, not only in gastronomy but also in dances and songs. It is in the recipe book, preserved in family archives and in the homes of the simplest families, that allows fidelity to the linguistic authenticity of the name of traditional Portuguese and Lima dishes. The gastronomy of Ponte de Lima continues to be maintained with the same traditional recipes and passed down from generation to generation. Thus, anyone visiting Portugal will certainly be visiting a country rich in gastronomy as a cultural heritage.

Erasmus+ 2021-1-SK01-KA220-SCH-000023907
Funded by the European Union

Appendix 4

Food Safety and Healthy Eating

Contents:

Food Safety

If there is something we should encourage from an early age in children, it is the habit of food hygiene and safety. By definition, hygiene is a set of knowledge and techniques to prevent infectious diseases using disinfection, sterilization and other cleaning methods with the aim of preserving and strengthening health. The importance of hygiene must begin in childhood, as it is at this time that hygiene habits are acquired and remain in adult life, and it is up to parents to encourage this task of education and awareness. In the early years, schools do this job of teaching and informing, but reinforcing habits to do inside and outside the home is very important for children's health. These habits must be shown, but it's no use asking if you don't have demonstrations and examples.

The consumption of safe foods depends on habits that directly influence food choices, such as worrying about the storage temperature, origin and expiration date of food, for example. We know that the first habits are acquired in childhood, often influenced by people around the children, such as family members, colleagues, babysitters and teachers. Therefore, improving the teaching of Food Safety in schools could contribute, even if indirectly, to the prevention of epidemiological outbreaks. So how can we teach good practices to little ones and ensure food safety becomes a habit from childhood?

Playful stimuli are known to enrich learning processes and children's games are very important for healthy development and retention of school learning. Activities like these stimulate memorization, reasoning and imagination, in addition to making everything much more fun, it helps learning.

Before presenting two didactic activities, we will present basic and important rules regarding food hygiene:

1. WASH HANDS THOROUGHLY BEFORE STARTING COOKING ACTIVITIES AND WASH FREQUENTLY THROUGHOUT THE PROCESS

It is very important that children learn to wash their hands correctly as it is one of the most important steps to maintain hygiene and food safety standards, especially if food preparation involves touching raw meat or fish.

Process:

- Wet your hands and forearms with running water;
- Soap with disinfectant liquid soap for 30 seconds;
- Brush your nails with an individual brush;
- Rinse to remove soap;
- Dry hands and forearms with disposable paper towels or hand dryers.

2. WHEN TO WASH YOUR HANDS:

- Before starting, during and at the end of any task;
- Whenever you change tasks;
- Whenever the sanitary facilities are used;
- When touching the hair, nose or other part of the body;
- Before and after handling raw food;
- After handling and/or transporting garbage, packages;
- Whenever you cough or sneeze;
- After eating or smoking;
- After handling chemical products (cleaning and disinfection)

3. USE OF GLOVES

- Wash hands properly before using gloves;
- Whenever a handler has wounds on the fingers or hands, even if they are protected with a weight;
- Handling of ready-to-eat foods;
- Change gloves whenever you change tasks;
- Replace in case of rupture;
- They must be disposable, waterproof and always clean.

4. WEAR AN APRON AND CATCH LONG HAIR

- It must be light in colour and must be kept in perfect hygienic conditions, being exclusively used in the kitchen;
- Hair completely protected by a cap, hat or cap, to avoid contamination by (Staphylococcus aureus).

5. CLEAN WORKTOPS BEFORE STARTING PREPARATION AND BEFORE COOKING FOOD

- Countertops must always be cleaned with disposable towels before starting food preparation and cooking.

6. AVOID USING THE SAME KNIFE, FORK OR SPOON FOR DIFFERENT FOODS

- It is expressly forbidden to use the same utensils for different foods in order to avoid contamination;
- With regard to knives, there must be different knives for each type of food.

7. DO NOT MIX RAW AND COOKED FOOD DURING FOOD PREPARATION

- Prohibited the existence of raw and cooked foods on the same counter

8. WASH VEGETABLES AND FRUIT WELL BEFORE USE

- Discard the outer leaves of vegetables, they are the ones that accumulate the most nitrates among other pollutants, insects and larvae. Also discard the old or trampled parts;
- Wash with running water to remove all dust and other contaminants;
- Dip both fruits and vegetables in an active chlorine disinfectant solution;
- Rinse again thoroughly with running cold water to ensure complete elimination of any disinfectant residue;
- After being washed, disinfected and prepared, products to be served raw must be stored in a refrigeration chamber, duly covered with an adherent film;
- To plate, use gloves and tweezers.

9. PERSONAL BEHAVIOR

- Completely prohibited the use of adornments (rings, earrings, bracelets, necklaces) in the workplace;
- Keep nails short, clean and free of varnish;
- Food handlers must have adequate body hygiene;
- Avoid passing your fingers in your nose, ears, mouth or scratching any part of your body;
- You cannot smoke, eat, drink, chew gum or take medication when preparing meals;
- Avoid coughing, sneezing or blowing your nose near work benches;
- When food handlers suffer from any infectious-contagious disease, namely abdominal pain, diarrhoea, nausea, vomiting, cough, runny nose, inflammatory processes of the mouth, ears, eyes and skin lesions, contact with food for consumption is prohibited;
- Do not blow into bags to open them easily;
- Do not place the bucket used for washing the floor inside the sink to fill it with water, use another container to fill it and then pour it into the bucket.
- These are just some of the basic and essential food safety rules that we must take into account. We now present two dynamic games that demonstrate the importance of food security:

QUESTIONNAIRE ABOUT FOOD SAFETY https://forms.gle/5LxCMdspb8MjM22A6				
Age		**Country:**		
06 - 10			**Yes**	**No**
11 - 15		**1 - Are you familiar with the term Food Safety?**		
16 - 18		**2 - Have you learned food safety at school?**		
18 - 20		**3 - Do you think it is important to adopt food safety measures?**		
		4 - Do you consider that you adopt food safety measures at home?		
5 - If yes, what kind of measures?				
Questions about food safety….			**Yes**	**No**
6 - Should vegetables and fruits, after being washed in running water, be passed through a chlorinated solution?				
7 - We must wear the uniform, gown and/or uniform when:				**Tick**
a) After having breakfast				
b) When leaving home				
c) Upon arrival at the workplace				
d) Does not wear a uniform				
8 - Nails must be maintained:				
a) Clean and unvarnished				
b) In any way				
c) Clean and short				
d) Clean, short and varnished				
9 - In the kitchen it is mandatory:				
a) Cap and uniform;				
b) Cap, apron, uniform and open shoes so as not to sweat your feet,				
c) Protective gloves, uniform, apron, closed shoes and cap				
d) Cap				
10 - Usually used inside the kitchen:				
a) Earrings, rings and bracelets				
b) No jewellery, just a wristwatch to tell the time				
c) No kind of adornments				
d) Piercing				
			Yes	**No**
11 - We should use the same knife, fork or spoon for different foods:				
				Tick
12 - When should we wash our hands:				

a) Before starting, during and at the end of any task and whenever you change tasks;	
b) Whenever the sanitary facilities are used;	
c) When touching the hair, nose or other part of the body or before and after handling raw food;	
d) After handling and/or transporting garbage, packages;	
e) Whenever you cough or sneeze;	
f) After eating or smoking;	
c) After handling chemical products (cleaning and disinfection);	
d) None of the above	
e) All of the above	

Twelve steps to healthy eating

1. Eat a nutritious diet based on a variety of foods originating mainly from plants, rather than animals.
2. Eat bread, grains, pasta, rice or potatoes several times a day
3. Eat a variety of vegetables and fruits, preferably fresh and local, several times per day (at least 400g per day)
4. Maintain a body weight between the recommended limits (a BMI9 of 20-25) by taking moderate levels of physical activity, preferably daily.
5. Control fat intake (not more than 30% of daily energy) and replace most saturated fats with unsaturated vegetable oils or soft margarines.
6. Replace fatty meat and meat products with beans, legumes, lentils, fish, poultry or lean meat.
7. Use milk and dairy products (kefir, sour milk, yoghurt and cheese) that are low in both fat and salt.
8. Select foods that are low in sugar, and eat refined sugar sparingly, limiting the frequency of sugary drinks and sweets.
9. Choose a low-salt diet. Total salt intake should not be more than one teaspoon (6g) per day, including the salt in bread and processed, cured and preserved foods. (Salt iodisation should be universal where iodine deficiency is endemic.)
10. If alcohol is consumed, limit intake to no more than 2 drinks (each containing 10g of alcohol) per day.
11. Prepare food in a safe and hygienic way. Steam, bake, boil or microwave to help reduce the amount of added fat.
12. Promote exclusive breastfeeding and the introduction of safe and adequate complementary foods from the age of 6 months while breastfeeding continues during the first years of life.

(source FAO Food based dietary guidelines in the WHO European Region)