



Teachers' Handbook: Nutrition Education Guide



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### **SAFE - SAFE FOOD ADVOCACY EUROPE (Belgium)**

SAFE – Safe Food Advocacy Europe is the project coordinator.

The association was created to ensure that health and consumer concerns remain at the heart of EU food law. SAFE is the only NGO in Brussels that focuses solely on the protection and representation of EU consumers in the food sector. Its mission is to strengthen the voice of civil society in the EU debate over food regulation, thereby reinforcing participatory democracy in the EU. To achieve these goals and missions, SAFE enjoys the collaboration of its various members from across the EU, monitors the EU food law process and cooperates with EU legislators and stakeholders to develop comprehensive food regulations.

SAFE regularly organises seminars and training for consumers to raise awareness of the food system industry interest and sets up initiatives and projects to sensitize European consumers in the food sectors, including food waste and the search for more sustainable production and consumption patterns.

More information on: <https://www.safefoodadvocacy.eu/>

### **UNIVERSITY OF RZESZÓW (Poland)**

The University of Rzeszów was established by the Parliamentary Act of 7 June 2001. The University of Rzeszów was created by the merger of the Pedagogical University of Rzeszów, the Rzeszów branches of the Maria Curie University Skłodowska in Lublin and the Academy of Agriculture (the Faculty of Economics) in Cracow.

The University pursues the policy of these institutions, develops research projects and participates in various educational programmes of importance for south-eastern Poland. Due to its geographical position, the University acts in cooperation with foreign higher education institutions. It also plays a role of intellectual and cultural transmission between Ukraine and the European Union. It cooperates with 120 foreign higher education institutions (with more than 50 partner universities in Ukraine) and with more than 200 universities under the Erasmus+ programme.

More information on: <http://www.ur.edu.pl/en>

### **SONVE (Italy)**

SONVE is a non-profit and voluntary organization that aims to inform on scientific issues related to plant-based nutrition. SONVE stands for Società Scientifica di Nutrizione Vegetale (Scientific Society of Plant Nutrition) and only accepts memberships from health professionals. It carries out activities in the fields of biomedical research as well as information and training for doctors, biologists, dieticians and other health professionals.

SONVE also provides information and interviews to the media (TV, radio, newspapers, magazines, social services) and brings together scientists and people concerned with plant nutrition in committees, each targeting a specific issue. The committees aim to produce position papers on these issues. The particularity of the Committees is an approach of scientific cooperation between experts in order to exchange and update knowledge on the subject studied, through a re-evaluation of the scientific literature on the subject, and through the design of tailor-made research projects, which SONVE will support.

More information on: <http://www.sonve.eu/>

## **EUROPEAN CHILDHOOD OBESITY GROUP (Belgium)**

The European Group on Childhood Obesity (ECOG) is a pan-European group of professionals specialising in childhood obesity and overweight. ECOG brings together experts from across Europe, including paediatricians, psychologists, nutritionists, geneticists, physical activity experts, economists and many others.

The group was founded in 1991 and its mission is to help the European community as a whole to fully understand the health, social, psychological and economic consequences of childhood obesity and to work together to eliminate this growing problem in Europe.

More information on: <https://www.ecog-obesity.eu/>

## **AMICI OBESI ONLUS – ASSOCIAZIONE NAZIONALE PAZIENTI OBESI (Italy)**

Amici Obesi (ANPO) is the Italian national association of obese patients. It reaches more than 30,000 people who continuously benefit from their expertise in nutrition and obesity treatment.

Created in 2005 to meet the need for information on obesity as an institutionally recognized disease and its possible treatments, ANPO provides counselling and psychological support to obese patients and their families and also helps former obese patients seeking to reintegrate into society.

More information on: <https://www.amiciobesi.it/>

## **ADISPOSITASHILFE DEUTSCHLAND (Germany)**

AdipositasHilfe Deutschland (AHD) is one of the two German patient organizations. The organization specializes in designing therapy programs for obese children and adolescents.

Founded in 2013 as a patient organisation to support obese people, its main objectives are the recognition of obesity as a disease and the prevention of childhood obesity. As the organisation has experience in the participation of adults in training courses for adolescents, it is a valuable collaborator in the creation of educational materials for training.

More information on: <https://www.adipositashilfe-deutschland.de/aktuelles.html>

## **EMOTIFOOD (Italy)**

EmotiFood Ltd was founded (EMOTIFOOD Srl) by Dr. Emanuel Mian,Phd (psychologist) and Dr. Emanuela Russo (dietitian) to bring together nutrition and behavioural analysis for obesity, overweight and diabetes prevention.

The purposes are the management, on all of National territory, of centers specialising in food education, psychotherapy, family mediation and diet with the promotion and organisation training and courses for psychologists, MDs and dieticians.

Furthermore, still in the field of training, the organisation organises courses, advanced classes and specialisation courses focusing on those who work in the social sector and manage patients with eating disorders, difficulties with feeding/ nutrition and swallowing/chewing.

EmotiFood is also involved in the management of prevention and information projects on the subject of nutrition, in schools, companies, with individuals, in groups, in the sport sector, with adults, adolescents and young children.

## THANKING NOTE

The teachers' handbook is part of a larger project called "Tackling adolescent obesity and promoting inclusion through nutrition training for disadvantaged youth", dubbed TAO. This project is coordinated by SAFE - Safe Food Advocacy Europe.

The project runs from September 2018 to February 2021. It brings together 10 partners from 5 different EU Member States (Poland, Germany, Italy, Greece and Belgium). The main objective is to create a comprehensive nutrition education for adolescents, which will address the basic principles of nutrition, physical activity, health risks related to inadequate nutrition, mental health, harassment and discrimination related to weight.

The project consortium has a special thought for Marina Biglia who had this famous quote that symbolizes our project: "Silence is at the heart of eating disorders and it must be broken." Now it's up to us.

## PURPOSE OF THE HANDBOOK

This handbook for teachers aims to give teachers the keys to organize and create evidence-based learning material about nutrition to tackle adolescent obesity. This particular material is intended for teachers and provides educational tools such as typical exercises for the students to do.

This handbook goes hand in hand with the two other intellectual outputs of the project: the students' handbook (IO1) and the e-Learning platform (IO3). Indeed, it complements the students' manual by putting into practice activities and entertaining exercises. Teachers can also use the "Teachers' Room" on the online platform to find and share materials and tips.

As the students' manual, this IO is intended to be tested in the partner schools (Italy, Belgium & Greece) before being disseminated all around Europe for free, particularly through our e-Learning Platform.

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# PART I - GOOD PRACTICES FOR NUTRITION EDUCATION

## How to foster healthy choices in pupils

### Introduction

Food (its acquisition, production, consumption) has always been at the centre of human attention because of its impact on health and fitness. Human nutrition is a phenomenon that goes as far back as the very existence of *Homo sapiens*. For many centuries, diet was primarily determined by the natural (primeval) environment in which man lived.

The food he consumed was unprocessed and full of nutritional value. Subsequently, nutrition was influenced by the development of civilization and, with it, cultural customs and the emergence of religion. In the nineteenth century, proteins, fats, carbohydrates as well as vitamins and minerals were discovered. This allowed action to be taken against deficiency diseases, e.g. growth disorders in children, rickets, malnutrition.

It has been shown that many developmental disorders and diseases of adulthood are the result of faulty, deficient and unbalanced nutrition, often at the developmental age. Researchers have concluded that excessive nutrient intake and inadequate food choices are closely associated with obesity, hypertension, cardiovascular disease, cancer, and tooth decay. This allowed the development of recommended dietary standards that first appeared in the 1930s in Britain, the USA and Canada.

At the end of the 19th century, the first nutrition tables and standards for US residents were published. In 1980, the first nutrition guide was published, and finally in 1992 the first USDA Food Pyramid – The Food Guide Pyramid – was created. The Nutrition Pyramid graphically presents nutritional recommendations.

Both in the past and today, the information it contains aims to increase public awareness of healthy eating and shape specific eating behaviours. The presentation of the amount of food products and their location on the appropriate levels are intended to facilitate the understanding of the size of recommended food portions and the frequency of their recommended consumption during the day or week.

### What exactly are food choices?

**Food choices** are activities and practices that are directly related to satisfying one's nutritional needs. Their character is very diverse and associated with many factors. Food choices are primarily influenced by individual preferences, level of education, food prices, cultural conditions, religion, family traditions and the level of knowledge about healthy eating. Due to the fact that diet closely affects the functioning of the body, healthy eating is promoted.

Acquiring credible knowledge about it is not easy, because we are flooded with often conflicting information from the media. Research conducted in the mid-1950s on the determinants of food choices examined the factors driving an individual's choice of specific products.

The list includes: attractive product appearance, the availability of the product, ease of preparation, impact on health and body weight, impact on emotions, e.g. the feeling of pleasure derived from food, knowledge of the product and its brand, its composition and ethical considerations related to the production or origin of the product. In addition, advertisements that provide selected information related to a given product are an important factor associated with food choices and they often mislead young people.

### There are three models of food choices:

**Developmental model of food choices** – among people with this choice model, the possibility of acceptance of a product increases with the frequency of exposure to it. In this model, it is important to gain knowledge about food, both by observing other people and experiencing the feelings after eating the products.

**Cognitive model of food choices** – these bases choices on the norms and principles in force in a given community. The external control of such an entity has a huge impact on dietary decisions. Other cognitive factors are preferences or aversion, and knowledge about the effects of nutrition on health, individual habits, values and life experiences.

**Psychophysiological model of food choices** – this is closely related to the metabolism of the individual and the activity of neurotransmitters such as: noradrenaline, neuropeptide Y, galanin, serotonin. These people's choices are also influenced by the medications they take (e.g. tricyclic antidepressants or selective serotonin reuptake inhibitors), stimulants (nicotine, alcohol) and drugs. It is important to understand that these people make their food choices depending on emotions and, to a large extent, on the stress they experience.

## Setting an example of healthy eating

The awareness that excessive body weight and related problems are increasingly affecting both children and adolescents' prompts reflection on the lifestyle and food choices promoted by their careers. The first years of a child's life are very important in shaping basic nutritional behaviours, but the further influence of society also shapes their behaviour and opinions. Example-setting plays a special role in the process of creating healthy eating habits.

Social influence manifests itself in imitation, i.e. the automatic acquisition of other people's behavioural responses. Another aspect is so-called modelling, i.e. observing the behaviour of others, resulting in a change in one's own behaviour. In addition, we can distinguish the conformity of the individual (yielding to pressure from the majority) or obedience to authority.

During adolescence, young people are particularly susceptible to changes in eating habits under the influence of other people, which is why nutrition education is so important in this period. Parents' lack of time results in this obligation being shifted to schools.

## Practical tips

1. It is worth remembering that food choices can become an expression of a teenager's identity, his internal conflicts, feelings of guilt or sense of stability. A sudden change in the diet of a teenager should interest his guardian and lead to a conversation to find out the cause.
2. Learn the inner motivations for change so that you can support them in times of weakness.
3. Find out if there are difficulties in achieving an effect and help solve them.
4. Remember to avoid the words "you can't" or "forbidden" in education. Direct prohibitions can have the opposite effect.
5. To encourage someone to change their eating habits, different strategies should be chosen depending on the social group that we want to support in making the change. Remember that each group has different priorities. For young people, it is important that the educator allows them to make choices for themselves, but the wrong choice should be corrected. Motivation in making good food choices increases when they can be a means to an end, e.g. building muscle mass, achieving good results in learning, improving the appearance of the skin.
6. Small but precise changes can work better than changing your entire lifestyle at the very beginning. Then there is always the risk of giving up more quickly.

## How to start

7. Analyse the main goal, then set smaller ones that will help you achieve it.
8. It is worth imagining what will happen after you have reached it.
9. Together with young people, analyse their diet. Ask them to write down what they eat for a week. Then ask them to look for nutritional errors that they think have appeared on their menu.
10. You can jointly determine their needs by reading them from generally available standards. Note, however, that the greater the physical activity, the greater the demand becomes, while in the absence of physical activity, food intake should be slightly lower.
11. Encourage them to make small changes.



12. Ask each student to think about “a reward” that they will give themselves after achieving a goal.
13. Some people find it helpful to pursue a goal together. It is worth encouraging the group to share their activities with loved ones.

# PART I - GOOD PRACTICES FOR NUTRITION EDUCATION

## The importance of leading by example

The core idea of leadership is the ability to inspire people and in order to do that you cannot just bark orders. Leaders are not there to tell people what to do, but to show them how and why to do something. In other words, at the basis of leadership there is the principle of “leading by example” which implies showing the example with your own behaviour transferring confidence and dedication and consequently inspire and empower others to do the same and mirror your behaviour.

In the area of kids’ health (awareness and prevention) leading by example is best way to help others.

Whether you are mom or dad or teacher or governments you cannot just wish that your kids or student or citizens struggling with overweight or childhood obesity to go down.

You need to first practice what you are preaching and must show what healthy lifestyle (eating and PA) is supposed to look like. Evidence shows that actions speak louder than words when it comes to encouraging a healthy diet. For example, showing to eat a plateful of their own healthy foods is much more impactful than simply asking kids to eat healthy<sup>1</sup>.

Adolescents needs to take ownership too, but the ultimate responsibility sits with those that are tasked to educate children and through their development teach them how to make good choices so they may have a longer, healthier, and happier life.

And if you help raising healthy students you can influence colleagues, neighbours, cities, countries and son on. Just think if your school is full of healthy classrooms and your neighbours is full of healthy schools and... so on. Action is like throwing a little stone in the water. The action “per se” is small but the effects are much bigger because are spread around.

### **Leading by example to prevent overweight and obesity: super tip!**

Eat healthy and be active but be authentic, do things you really enjoy, explain what you are doing and invite teenagers to join you.

## Food Families and Nutrients

### **Why we need to eat well**

Eating well, in the sense of healthy and tasty food, is one of the pleasures of life. Children and adults that eat healthy, balanced diets have plenty of energy to grow well enjoy life (work, study, play, have fun with friends and siblings) and a strong immune system which means fewer infections and other illnesses.

This section investigates foods, nutrients and their combination and balance to have good meals.

### **Foods and nutrients**

A food is something that provides nutrients. Nutrients are substances that provide energy for the activities of the human body (such as breathing, digesting food, walking, moving, growing, keep the immune system healthy. Nutrients can be divided in two big families:

*Macro (big) nutrients* that we need in large amounts. These are:

- carbohydrates (starches, sugars and dietary fibre)
- fats - there are several kinds (see Box 1 for more details)
- proteins - there are hundreds of different proteins.

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<sup>1</sup> 1 Evaluating Parents and Adult Caregivers as “Agents of Change” for Treating Obese Children: Evidence for Parent Behavior Change Strategies and Research Gaps, Circulation March 6, 2012, Vol 125, Issue 9

*Micro (small) nutrients* that we need in small amounts. There are many of these but for simplicity here we highlight the following two:

- minerals such as calcium, iron, iodine, and zinc
- vitamins – such as vitamin A, B, C and D

#### **BOX 1 · FATS, FATTY ACIDS AND CHOLESTEROL**

Fats are a source of energy and contain different 'fat-nutrients'. These include unsaturated fatty acids, saturated fatty acids, trans fatty acids and cholesterol.

##### **Unsaturated fatty acids**

Examples of foods containing mainly unsaturated fatty acids are:

- olives and olive oil
- avocados
- soybeans
- vegetable oils, such as sunflower oil
- fatty fish, such as salmon and mackerel (rich in omega-3 fatty acids which help to protect the body from heart disease)
- nuts and seeds, such as almonds, peanuts, cashews, and sesame seeds.

##### **Saturated fatty acids**

Examples of foods containing mainly saturated fatty acids are

- butter
- lard/cooking fat
- whole milk
- cheese, fats from meats and meat products (e.g. sausages) and poultry,

##### **Trans fatty acids**

When vegetable oils are processed to make them harder (e.g. for use in margarine and other solid fats), some of the unsaturated fatty acids are changed into trans fatty acids. These behave like saturated fatty acids. We should eat as little of the foods containing trans fatty acids as possible.

Examples of foods containing trans fatty acids are:

- margarine and lard
- fried foods, such as chips (French fries) and doughnuts,
- baked goods such as biscuits and cakes
- ice creams.

##### **Cholesterol**

Cholesterol is found only in animal foods, but the body can make it from other fat nutrients. We need some cholesterol for our bodies to grow and function properly.

There are two kinds of cholesterol in the blood:

- "Good" (technically called High Density Level Cholesterol = HDL-C) cholesterol which seems to reduce the risk of heart disease. Eating foods containing mainly unsaturated fatty acids tends to *increase* the level of good cholesterol.
- "Bad" cholesterol (technically called Low Density Level Cholesterol = LDL-C) which seems to increase the risk of heart disease. Eating foods containing mainly saturated fats tends to increase the level of bad cholesterol.

##### **Fat needs and health**

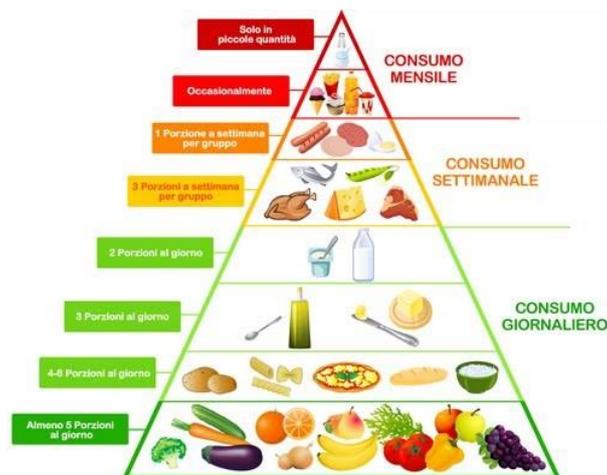
Fat needs are expressed as 'percent of total energy needs. The percent of total energy that should come from fat in a healthy balanced diet is 25-35 percent for children older than two years.

Assuming a lifestyle with enough level of physical activity, of this 25-35%, it is recommended that less than one-third is in the form of saturated fatty acids and trans fatty acids should provide less

than 1 percent of the total energy intake.

This means that children should eat *more* of the foods rich in unsaturated fatty acids, *less* of the foods high in saturated fatty acids, and *much less* of the foods high in trans fatty acids.

Our bodies use different macro- and micronutrients in different ways, the best way to make sure that we get enough of each nutrient and enough energy is to eat a *mixture* of foods. Evidence shows that following a balanced diet which opting for an adequate (in quantity) and varied diet is an important step towards a happy and healthy lifestyle. The food pyramid<sup>2</sup> below outlines a balanced and healthy diets.



### More on different types of foods and provenance of nutrients

**Staple foods** (such as rice, potatoes, legumes, corn, fruits) are usually cheap and supply plenty of starch (for energy), some protein, some micronutrients (especially some of the B-group vitamins) and dietary fibre. They are eaten routinely and vary on the basis of different geographical and cultural contexts. They are consumed in such quantities that constitute a dominant portion and intake of other nutrients of a standard diet for a given people. However, staple foods are not enough to provide all the nutrients the body needs, and other foods must be eaten to provide additional energy, proteins and micronutrients.

**Milk.** Animal milks, and milk foods, such as yoghurts and cheese, are excellent sources of protein, fat and many micronutrients, such as calcium.

**Eggs** are a good source of protein and fat and several micronutrients, mainly the group of vitamins B.

**Meat, poultry and fish are** sources of protein and often of fat. They supply important amounts of iron (especially red meat) and zinc, and many other micronutrients including some B-group vitamins, mainly vitamin B12.

**Sugar** gives only energy and no other nutrients. Eating sugary foods too often can be harmful to health for several reasons. People who often eat sugary foods and consume sweet drinks such as sodas (bottled fizzy drinks) are more likely to become overweight and obese and develop associated non-communicable diseases, including type 2 diabetes, coronary heart disease, stroke, asthma, and several cancers. These people also often eat less of other, more nutrient-rich foods. There is much

<sup>2</sup> M. Caroli, "Healthy eating Mediterranean way tasty tales for children and practical tips for adults", Locorotondo editore

sugar in sweets (candy), lollies, sodas, jam and sweet cakes and biscuits. In addition, sugary food is bad for the teeth if eaten often.

**Vegetables and fruits** are a fundamental source of micronutrients and dietary fibre, but the amounts and the type of vitamins present vary according to the type of vegetable or fruit. So, for example orange vegetables, such as orange sweet potato and carrots are excellent sources of vitamin A. Most fruit and fresh vegetables (not overcooked) provide vitamin C. Dark green vegetables supply folate (is extremely important during periods of rapid growth such as adolescence) and some vitamin A. The best way to make sure we get enough of each micronutrient and enough fibre is to eat at least five fruit and vegetable portion sizes every day.

**Salt.** Everyone uses salt in cooking and there is salt in many processed foods. Too much salt is harmful and can lead to high blood pressure. Iodized salt is an important source of iodine. Herbs, spices, garlic and onions are examples of other flavouring foods that help to make meals tasty, limiting the use of salt.

**Water.** We need about eight cups of water each day and more if we are sweating or are ill (for example we have fever). In addition to drinking water, we get water from tea, soups and from fruits and vegetables. Energy and sport drinks contain water but are unhealthy because are full of sugar (check box 2 for more details)

## BOX 2 ENERGY AND SPORT DRINKS

Energy and sport drinks can include anything from sports beverages to vitamin waters to highly caffeinated drinks. They all have added ingredients that say they "do" something extra, such as increase energy and alertness, boost nutrition, or even enhance athletic performance.

As a matter of fact, teens, even athletes, do not need sports drinks. They need only plain water to stay hydrated.

Let's make an experiment. When you are thirsty drink a sugared beverage and see how much liquid you need to satisfy your thirst; in a second occasion, again when you are thirsty, just drink water and you will see that you will need much less water to satisfy your thirst because in order to hydrate your body, water is much more efficient than sugared drinks.

### Vitamin Waters

These drinks, also known as fitness waters or enhanced waters, come in many flavors and with various combinations of supplemental vitamins and minerals. They may have sugar, artificial sweeteners, herbal ingredients, etc...

Vitamin waters may look like a quick way to fill any nutrition gaps in your diet. But it is best to get these nutrients from healthy meals and snacks. Also, these drinks can provide too much of some vitamins and minerals and getting more than the recommended daily allowance of some vitamins and minerals it is not good for your health.

### Energy Drinks

Energy drinks promise boosts in energy and nutrition and enhanced athletic performance. Most have lots of sugar and caffeine. Both sugar and caffeine can have bad effects on your health. Too much sugar isn't good for your teeth and can lead to weight gain. Too much caffeine can cause nervousness, upset stomach, trouble concentrating and sleeping.

### What Should I Drink?

Drinking water is all you need before, during, and after playing sports.

## Exercises and ideas to do more with your students.

### Ladies and gentlemen welcome to the healthy lifestyle speaker show!

Following the lessons and discussion about food and nutrients, invite students, teachers and staff to “take the floor” and voice their thoughts and opinions on what healthy eating means to them.

To do so, create a “Speaker’s Corner” booth where speeches can be filmed and then, after careful revision and upon receipt of parents’ written authorization to use the videos, promote them on the school’s social media network or TV channel or forward the video link through the school newsletter or website.

A similar approach can be used also to:

- Get ideas on how to proceed with a nutrition campaign and launch a healthy eating campaign.
- Invite them to simulate an advertisement for healthy eating
- Stimulate them to make a critical analysis of junk food advertisement, asking them to identify the sentences, sometimes the lies, that convince them to buy a certain product. It would be fun to shoot a parody of the spot highlighting the marketing techniques used to orientate teenagers buying choices.

### Food Week

Organize one week of activities to celebrate traditions, local or international recipes, people who grow, eat, process, package, transport and cook food, etc....If possible, as part of the week, watch documentaries, organize debates and interviews, dedicate a special issue of the school newsletter/magazine. Wherever possible, concentrate activities during breaks to avoid impact on the curricula.

Promote the week through a social media campaign and as part of it host a healthy food recipe contests getting students and their families to post selfies with the featured foods.

### The winner is...

Promote eating healthy snacks and drinks getting a student checking and stamping a “good eater card” for his peers and the teachers in the classroom. Analyze with the students the cards on a biweekly basis and create a positive dynamic where those that eat healthier foods provide ideas to those that take less healthier options. Coordinate with other teachers and award the best performing class, not individual students, in the school with a nice activity (visit a museum, a day out in the park, go to a concert).

### Rethink it

Invite students to discuss the sugar content of drinks. This activity would involve also understanding how to read a drink label. Then, when the information is available, build a “drink bulletin board” like the one in the picture below and present it to other classes. This exercise will provide useful knowledge and for some could be an opportunity to rethink their favourite drink...

Along the same lines it would be interesting to invite students to think about some of the main messages of junk food and soda drinks advertisement. How is it possible that drinking a soda drink makes you the coolest guy in the group or makes you become the best player of all?



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# PART I - GOOD PRACTICES FOR NUTRITION EDUCATION

## Inclusive interaction styles and conflict resolution

*“The mental health effect of discrimination due to weight gain”*

### Summary

*This chapter reflects on the dynamics of weight-based discrimination which teachers encounter during their daily work with pupils in the school environment.*

*Scientific works have shown how, from the age of three, children describe their overweight peers and adults negatively; obese people report being the target of comments and teasing from primary school age up to their university years - and how they have never truly come to terms with the situation.*

*The teachers themselves very often adopt stereotypical attitudes towards the abilities of overweight pupils, stigmatising them as disorderly, highly emotional and less likely to be successful.*

*The research points to the need for awareness and training on obesity also among teachers, motivating them to making a personal commitment to promote a cultural change that overcomes the belief that obese children should suffer discrimination and be viewed as different.*

Goffman (1963) defines social discrimination as a real form of "branding" that confers negative characteristics and attributes on those affected - which profoundly discredits them. It is a complex phenomenon manifested in a series of stigmatising attitudes, negative emotional responses and discriminatory behaviour towards members of a subgroup (Corrigan, 2000; Link & Phelan, 2001).

In social psychology this human behaviour, rich in stereotypes and prejudices, is defined by the concept of "*explicit dehumanisation*": a tendency to believe that one person is somehow less human than another. Dehumanising also implies causing, facilitating and/or justifying the mistreatment inflicted; central to this attitude is the belief that the individuals concerned are fully responsible for the situation in which they find themselves (Weiner, Perry, & Magnusson, 1988).

### Ways of interacting to combat discrimination and conflict resolution

Obesity is the symptom of a collective malaise of an ultra-fast society full of false competition, where the strongest wins and in very rare cases then turns to give a hand to those in need. People have no time for those who are outside the norms and they are unwilling to "waste time" on people who are different; there is no question that they are to blame for their condition. Such feelings are expressed as disappointment, anger, reprobation and lack of empathy, which in turn, give rise to sanctions rather than support. Proof of this is that when referring to the obese, people tend to accentuate their behavioural characteristics (the way obese people dress, conduct themselves, fantasies about what they must be eating, etc.). So prejudices are reinforced, while if an attempt is made to explain the condition with reference to medical and genetic characteristics, the extent of negative stereotypes is reduced.

In general, we can distinguish two types of discrimination:

1. Public stigma or the way in which the general population stigmatises people with physical or psychological problems;
2. Self-stigma refers to the response to public stigma, with reduced levels of self-esteem and autonomy in those who are stigmatised. This category includes both those who are the victims of discrimination and those who take care of them, e.g. caregivers, family members, friends, etc. (Corrigan & Watson, 2002).

In the broad category of overweight and obese adolescents, stigma represents discrimination by society, both adult and peers, against those who are or have in the past experienced profound personal feelings of anxiety. What is hidden away in the extensive universe of stigmatised adolescents who suffer discrimination not perceived by others?

Obese teenagers experience a great desire to live shut away in a fortress; often they are very sensitive to the emotions of others and quickly perceive their pain. However, they do not know how to respond other than with silence, respect and the hope of somehow helping others. They crave affection - not food - and relationships with others in which they can truly express themselves and show what they can offer the world.

Such expectations create a feeling that they are in the position of caterpillars that will sooner or later turn into butterflies - so they become free to fly off and become themselves.

The creation of a vicious circle, imposed by social stigma, if not quickly interrupted, can cause obese young persons to endure extreme situations or significant psychological and emotional distress (eating disorders, serious depressive disorders even leading to suicide) - all signs of wanting to escape from their situation.

The stigma, among the younger ones, manifests disingenuously because very often it is not expressed verbally but through implicit "anti-fat" attitudes.

The response of the young person discriminated against is evidenced by a tendency to internalise the prejudice - and so cause worsening of their condition by adopting unhealthy habits and significant self-neglect in a misguided attempt to avoid criticism.

Discrimination and stigma can also have serious consequences for those who engage in such behaviour. The scientific literature states that violent boys and girls and bullies present a higher risk of: suicide attempts, anxiety and depression, attention disorders, social and school phobia, low self-esteem, substance abuse etc.

In this sense it is necessary to consider that prejudice and discriminatory behaviour very often hide a more or less conscious cry for help.

Teachers could usefully carry out targeted work on Life Skills: the basic cognitive, emotional and relational skills that make individuals able to act in a positive and effective way both individually and socially.

According to the World Health Organization (WHO) "*Life Skills are the skills that lead to positive and adaptive behaviour that make the individual able to effectively meet the demands and challenges of everyday life*".

The core Life Skills identified by WHO comprise 10 basic skills, which relate to both cognitive aspects (problem solving, critical sense or decision-making skills) and the emotional-relational aspects:

1. Self-awareness
2. Management of emotions (emotional intelligence)
3. Stress management
4. Empathy
5. Creativity
6. Critical Sense
7. Making good decisions
8. Solving problems
9. Assertive communication
10. Effective relations

Educational role-play lends itself very much to this type of need, especially for the theme chosen (discrimination due to obesity), the type of users (young people), the place of performance (the school environment) and the practitioners (teachers).

Role-playing is an activity that involves the staging of an encounter-dispute between people playing different roles in which behavioural, emotional-affective, psycho-social and pedagogical values come into play. Such a simulation is instrumental to reaching the rational and emotional aspects of complex phenomena, and situations that must be managed in relationships with others.

The teacher should divide the pupils into groups (maximum four groups in total) and assigning them the task of creating short scenarios in which the central theme is the condition of obesity and the experience of obese people in everyday life. In preparing the activity, the teacher must define the objective, which will always be the acquisition/modification of behaviour through the emotional dimension. Subsequently it is helpful to create an observation and evaluation grid for each scenario played out issued to each pupil, suggesting various indicators for observation made apparent by the simulation and also, reflecting the objectives set.

Each group, in turn, must then play out its scenario according to the time limits set by the teacher; in the meantime, pupils in the other groups will have to fill in the observation form.

At the end of each performance, the actors in each group must describe their tasks and roles, so as to make their scenario clear to the others. At the end of all the scenarios, the teacher initiates a group discussion, based on the results of the observation forms, leading to the sharing of assertive behaviour by all.

It is necessary to underline that during the role play it is essential that the leader-teacher, confronted by conflict, approaches opens up a discussion to reflect on what happened and how individuals reacted; after giving the pupils time for explanations and clarifications, the teacher will accept only possible proposals on resolving the conflict.

The usefulness of this type of exercise, through role-playing games, provides both a preventive approach to conflict between children and an experience-led approach, allowing pupils to experience first-hand the emotions of putting themselves in the shoes of another, to achieve a common goal.

## Conclusions

Young people attach various discriminatory "labels" to their peers; at the top of the list are sexual orientation and physical appearance, in particular being fat. What is disconcerting, in addition to the prevalence of such conduct in recent years, is the fact that the place it frequently occurs is in the school.

The question arises as to what forms of support are most effective in schools - an environment dedicated to the growth and training of children.

It is young people themselves who suggest that they need help understand and combat discrimination specific to their age group.

It is therefore important to reinforce teacher training, which is often inadequate with regard to the issues confronted by young people. This is also evident from the fact that many health improvement programmes actually accentuate the stigmatising of overweight pupils. While aspiring to reduce obesity, support for overweight pupils is essential, together with acceptance of the range of body profiles in adolescents.

## PART I - GOOD PRACTICES FOR NUTRITION EDUCATION

### Development of safe zones in schools

Or: how can we achieve unhealthy foods becoming uninteresting at school without bans? Banning something often provokes a negative attitude in us and offers the allure of the forbidden. In adolescents often even more than in adults.

#### What are the possibilities?

We will certainly take a first step with the handbook and teaching for the students. Enlightenment and knowledge are powerful means that often lead us to rethink. Think, for example, of numerous awareness campaigns on smoking and drugs.

#### Nudging

Another approach is "nudging". Nudging originates from behavioural economics and is a method of influencing people's behavior without forcing them. The term was first used by Richard H. Thaler and Cass R. Sunstein. (Source: <http://www.princeton.edu/~tleonard/reviews/nudge.pdf>)

Nudging is meant to subconsciously encourage people to behave in a certain way. They are kind of nudge. In principle, nudging is supposed to get us to do the right thing. We know negative examples from the food industry and supermarkets. Two examples:

14. Candy at the checkouts. These are positioned in such a way that you inevitably always keep an eye on them in the queue. Rarely do you see fruit in the checkout zone. This is now easy to observe in children. A relaxed shopping at the supermarket checkout develops into a stress test for all involved. We are almost stunned by it.
15. Food packaging  
Often, we find seemingly healthy foods with less fat/sugar. This is displayed large on the packaging. Keyword "Light". On closer inspection, however, it is noted that the reduced components are compensated with other unhealthy additives.

So, we are controlled unconsciously. You could even choose the term "manipulated". We can use this principle excellently in a positive sense in the school and use it for ourselves. A good solution would be to implement such "nudging" in the context of a school project with the participation of the students. Here we would have several advantages:

- Internalization of the contents of the manual
- Development of own ideas for the possible implementation
- Use as multipliers within the school
- Promoting involvement of students in everyday school life, which further increases acceptance.

In addition, such projects also promote soft skills such as teamwork, goal-orientation, conflict resolution and empathy. What could such a project look like?

#### Healthy School Project

In several phases we turn our school into a healthy place without placing prohibitions.

- **Step 1 - Enlightenment**

Creation of posters that indicate healthy and unhealthy foods.

- Example 1: Various posters with pictures of chocolate bars on which the corresponding number of sugar cubes are also shown. With an indication of how high the recommended amount of sugar is during the day.
- Example 2: Picture of a student at the school eating an apple. Here's a striking saying, such as "An apple a day keep the Doctor away" Of course, this also works with other foods and guidelines that are better known in the region.

- Example 3: Posters with pictures of students pushing away a fast food with a slightly disgusted look.
- Example 4: A nutritional table of a remaining but unhealthy food on a poster and display the dangerous components in red color.

Development of an information stand on the topic of healthy eating with competitions. This can be done with fairly simple questions, but students are dealing with the topic.

There are almost no limits to the imagination of the students. One is often surprised how innovative the students can be.

- **Step 2 - Parental involvement**

- Inform parents about the project and explain it.  
Parents may even want to support the project.  
The best nutrition training is of no use if the parents are acting the opposite way at home.  
This can also lead to family conflicts that are counterproductive.  
Parents can usually be reached with the health risks for their children. In addition to being overweight, the consequences of diabetes and cardiovascular disease are good arguments for persuading parents.
- Cooking together with the parents  
Here have always been good experiences. Parents cook together with the children at school under professional guidance.  
In addition to the learning effect, the young people and their parents have a common experience.

- **Step 3 - Adjusting dietary offers in school**

Frequently we find in the school in the kiosks and canteens foods that are adapted to the wishes of the students. Unfortunately, these desires do not always coincide with a healthy lifestyle. With the help of nudging and the experience of the supermarkets, one has the opportunity to awaken a demand that goes in the healthy direction.

Here are a few examples:

- Kiosk - Positioning of the assortment in the first step it would be possible to change the positioning of the assortment. Healthy foods – in some kiosks you may already find fruit – are positioned in front. Almost in such a way that you can access quickly. For sweets and unhealthy foods, choose a place out of reach.  
Here you can wonderfully involve the students or the working group and let them decide on the positioning.
- Pricing  
Here it is possible to raise the price of the sweets in such a way that the purchase becomes unattractive for students. The financial surpluses could, in theory, even subsidize healthy food.
- School canteen  
If there is a canteen or a cafeteria in your school, it is possible to redesign the menu accordingly.
  - Position healthy offers accordingly
  - Introduce nutrition labelling for food
  - Make unhealthy meals more expensive and thus subsidize unhealthy meals.

- **Step 4 – Monitoring**

Frequently sold items in the kiosk are already recorded numerically.

If you now record the number of sweets sold over a period of 2-3 weeks before the start of the project, then you have a starting size.

From the start of the project, we now record the sales figures at the kiosks and canteens on a

weekly basis.

Ideally, from the start of the project, sales of unhealthy foods will fall from week to week. If this does not happen, one can discuss with the students the reasons.

In addition to measuring a project success, the students also learn how important the evaluation of a project is. In addition, there is the learning effect that during a project you can also work on various factors to get the project in the desired direction.

Finally.

Don't be discouraged if the beginning is a bit difficult. A project with this objective takes time and patience.

[1 Evaluating Parents and Adult Caregivers as “Agents of Change” for Treating Obese Children: Evidence for Parent Behavior Change Strategies and Research Gaps](#), Circulation March 6, 2012, Vol 125, Issue 9

## PART II – EDUCATIONAL TOOLS/ GUIDANCE

### CHAPTER I – THE FUNDAMENTALS OF NUTRITION

#### Section 1: IDENTIFYING THE RELEVANT FOOD FAMILY

**Nota Bene:** In order to help you writing lesson plans, feel free to contact partner schools (preferably one which speaks your language):

- **Doukas School (GR)**, contact person: Thomas Economou ([t.economou@doukas.gr](mailto:t.economou@doukas.gr))
- **Liceo Scientifico Enrico Fermi (IT)**, contact persons: Costanza Chirico ([costanzachirico74@gmail.com](mailto:costanzachirico74@gmail.com)) & Marco Varletta ([jose\\_varletta@hotmail.it](mailto:jose_varletta@hotmail.it))
- **Athénée Royale de la Rive Gauche (BE)**, contact person: Abbas Armut ([a.armut@arrq.be](mailto:a.armut@arrq.be))

Lesson Plan Information		
<b>Subject:</b> Food Families and Nutrients		<b>Curriculum alignment:</b> (Sciences/Sports)
<b>Topic:</b> Nutrients and eating well		<b>Duration:</b> 1,5 hours
<b>Grade Level:</b> High School	<b>Age Range:</b> 12-14	<b>Language:</b> English

Prior Knowledge and Skills Needed
<i>(Prior knowledge is the knowledge the learner already has before they meet new information)</i>
<b>What prior experiences, knowledge and skills do the learners bring with them to this learning experience?</b> The students do not need any particular prior knowledge or skills.

Objectives
<i>(Learning outcomes are what students are expected to learn after completing the lesson plan)</i>
<b>Main frame:</b> Eating well, in the sense of healthy and tasty food, is one of the pleasures of life. Children and adults that eat healthy, balanced diets have plenty of energy to grow well enjoy life (work, study, play, have fun with friends and siblings) and a strong immune system which means fewer infections and other illnesses.
<b>What is the topic of the lesson?</b> This section touches upon food families and nutrients.
<b>What do I want students to learn?</b> The students will learn about foods and nutrients (macro and micro), about fats, fatty acids and cholesterol, about the different types of foods and the provenance of nutrients and receive interesting information about energy drinks.
<b>What do I want them to understand and be able to do at the end of class?</b> That we are what we eat! That nutrients are divided in two big families. That fats are a source of energy and contain different ‘fat-nutrients’. That our bodies use different macro- and micronutrients in different ways, and that the best way to make sure that we get enough of each nutrient and enough energy is to eat a balanced mix of foods. They will be able to discern the different types of foods and the provenance of nutrients. That teens and even athletes do not need sports drinks, but only plain water to stay hydrated.
<b>What do I want them to take away from this particular lesson?</b>

Adolescents need to take ownership of the way they consume food. This lesson will raise awareness about the food and nutrients that teenagers consume and help them opt for a balanced and varied diet.

### **Why are they important?**

This section is important because it brings them essential information on topics which have an impact on their everyday life and their future.

## **Instructional Strategies**

*(Teacher approach to helping students achieve the learning objectives and meet their needs)*

### **How can I help my students reach the learning goals?**

Through the use of:

- Practical representation of exercises (ex: organize one week of activities to celebrate traditions, local or international recipes. Understanding how to read a drink label and assess the sugar content of drinks).
- Group discussion (ex: inviting students, teachers and staff to “take the floor”).
- Peer and teacher assessment (ex: promote eating healthy snacks and drinks getting a student checking and stamping a “good eater card”).

## **Learning Activities**

*(Opportunities provided for students to develop knowledge and skills of the learning objectives)*

### **Detailing list of activities composing the lesson plan**

Possible use of pedagogical tools: **Please refer to the extensions for concrete examples.**

- multimedia tools
- pictures, illustrations, tables
- exercises
- craft projects
- Discussions
- etc.

## **Assessment and Evaluation**

*(Assessment(s) before, during, and after the lesson)*

**The assessment is present in various stages throughout the lesson.**

The student’s knowledge can be assessed through a simple test on the lesson’s content or through activities or project around the lesson’s content. (For examples see extensions below).

## **Resources**

**(Materials / Equipment)**

### **What do I need to have in order to complete this lesson?**

Visual material supporting the different points of the lesson can facilitate the student’s comprehension and participation. (example: food pyramid, actual amount of sugar in a drink, etc.)

### **Other handy sources:**

- **European Childhood Obesity Group (ECOG):** [The free ECOG Obesity ebook, Chapter – Nutrition, Food Choices & Eating Behavior](#), 2019 - “Healthy eating Mediterranean way tasty tales for children and practical tips for adults”, M. Caroli, Locorotondo editore
- **World Health Organization (WHO):** [FAO/WHO technical consultation on national food-based dietary guidelines](#), 2006, [Healthy Diet](#), 2018
- **Food and Agriculture Organization of the United Nation (FAO):** <http://www.fao.org/3/y5740e/y5740e00.htm#Contents>

## Extensions

### What can I do after the lesson is finished?

#### 16. Ladies and gentlemen welcome to the healthy lifestyle speaker show!

Following the lessons and discussion about food and nutrients, invite students, teachers and staff to “take the floor” and voice their thoughts and opinions on what healthy eating means to them.

To do so, create a “Speaker’s Corner” booth where speeches can be filmed and then, after careful revision and upon receipt of parents’ written authorization to use the videos, promote them on the school’s social media network or TV channel or forward the video link through the school newsletter or website.

A similar approach can be used also to:

- Get ideas on how to proceed with a nutrition campaign and launch a healthy eating campaign.
- Invite them to simulate an advertisement for healthy eating
- Stimulate them to make a critical analysis of junk food advertisement, asking them to identify the sentences, sometimes the lies, that convince them to buy a certain product. It would be fun to shoot a parody of the spot highlighting the marketing techniques used to orientate teenagers buying choices.

#### 17. Food Week

Organize one week of activities to celebrate traditions, local or international recipes, people who grow, eat, process, package, transport and cook food, etc....If possible, as part of the week, watch documentaries, organize debates and interviews, dedicate a special issue of the school newsletter/magazine. Wherever possible, concentrate activities during breaks to avoid impact on the curricula.

Promote the week through a social media campaign and as part of it host a healthy food recipe contests getting students and their families to post selfies with the featured foods.

#### 18. The winner is...

Promote eating healthy snacks and drinks getting a student checking and stamping a “good eater card” for his peers and the teachers in the classroom. Analyze with the students the cards on a biweekly basis and create a positive dynamic where those that eat healthier foods provide ideas to those that take less healthier options. Coordinate with other teachers and award the best performing class, not individual students, in the school with a nice activity (visit a museum, a day out in the park, go to a concert).

#### 19. Rethink it

Invite students to discuss the sugar content of drinks. This activity would involve also understanding how to read a drink label. Then, when the information is available, build a “drink bulletin board” like the one in the picture below and present it to other classes. This exercise will provide useful knowledge and for some could be an opportunity to rethink their favourite drink...

Along the same lines it would be interesting to invite students to think about some of the main messages of junk food and soda drinks advertisement. How is it possible that drinking a soda drink makes you the coolest guy in the group or makes you become the best player of all?

## PART II – EDUCATIONAL TOOLS/ GUIDANCE

### CHAPTER I – THE FUNDAMENTALS OF NUTRITION

#### Section 2: UNDERSTANDING THE ROLE OF NUTRIENTS IN THE BODY MONITORING - PROTEIN INTAKES (1)

##### Lesson Plan Information

<b>Subject:</b> Chemistry/ biology	<b>Curriculum alignment:</b>	
<b>Topic:</b> Monitoring protein intakes	<b>Duration:</b> 1.5 hours	
<b>Grade Level:</b> I-III High School	<b>Age Range:</b> 16-18	<b>Language:</b> English

##### Prior Knowledge and Skills Needed

*(Prior knowledge is the knowledge the learner already has before they meet new information)*

- Knowledge of what macronutrients are
- Knowledge of how to read product label ingredients and table of food nutrient contents
- Knowledge of daily recommended macronutrients intakes

##### Objectives

*(Learning outcomes are what students are expected to learn after completing the lesson plan)*

**Topic:** Monitoring protein intakes

**Goals:**

- Students can plan a meal focusing on protein content
- Students have knowledge of the main protein-rich food
- Students know what main roles proteins have in the body
- Students are aware of main risks related to protein deficiency or excess

##### Instructional Strategies

*(Teacher approach to helping students achieve the learning objectives and meet their needs)*

**How can I help my students reach the learning goals?**

Through the use of:  
Group discussion  
Work in pair  
Teacher assessment

##### Learning Activities

*(Opportunities provided for students to develop knowledge and skills of the learning objectives)*

###### Exercise 1. (20 minutes)

The teacher asks students to write 3-6 protein-rich food they know and then to list them to the class, while the teacher writes cited food on the blackboard (or analogue).

###### Exercise 2. (20 minutes)

Students will be divided into couples and asked to spot the wrong and right food listed by other students on the basis of their own knowledge, writing them on the blackboard (or analogue) in turn.

###### Exercise 3. (20 minutes)

The teacher will provide students with a list of the main food which are rich in proteins, both from animal and plant origin. Together, they will discuss about the differences between animal and plant proteins, focusing on the need of complementing dietary vegetable proteins by eating a variety of foods from different plant-based groups. Discussion will need to underline the well-known health consequences of red and processed meat according to WHO 2015 position. Main health problems related to protein excess or deficiency need to be highlighted and the teacher should stress the importance of proteins when an active sport is performed.

**Exercise 4. (30 minutes)**

Students are divided into groups of 2 each.

They are asked to plan a one-day menu, which could provide a correct amount of proteins, according to physical activity level and body weight.

Using the food protein list provided by the teacher, they will calculate the amount of proteins in the menu.

They can enter in the following table their food protein content per serving:

Type of meal	protein-rich food	Other food included	Total protein (g)
breakfast			
lunch			
dinner			
snack			

**Assessment and Evaluation**

*(Assessment(s) before, during, and after the lesson)*

Assessment: students will be assigned with one point for each exercise well performed

- Exercise 1 - Students able to list 3 food will be assigned half point, while if listing 6 food they will gain one point.
- Exercise 2 - Students will successfully conclude the exercise by listing in pairs the wrong/right food
- Exercise 3 - Students complete the task by actively participating to the discussion
- Exercise 4 - Students will successfully conclude the exercise by planning a minimum of 2 out of 4 meals correctly (right food and right counting of the protein meal content), gaining half point, while correctly planning 4 meals they will receive one point

**Resources**

**(Materials / Equipment)**

**What do I need to have in order to complete this lesson?**

- blackboard or similar
- blank sheets of paper and pens
- calculator
- optional: a computer with internet connection to search composition of food mentioned by the students and not included in the teacher list.

### Extensions

Each student will record which protein-rich food they consume at home in one day. They are called to calculate if their family menu is meeting or overpassing the recommended daily amount of proteins.

## PART II – EDUCATIONAL TOOLS/ GUIDANCE

### CHAPTER I – THE FUNDAMENTALS OF NUTRITION

#### Section 2: UNDERSTANDING THE ROLE OF NUTRIENTS IN THE BODY - IRON AND ZINC (2)

##### Lesson Plan Information

<b>Subject:</b> Chemistry/ biology		<b>Curriculum alignment:</b>
<b>Topic:</b> Monitoring iron/zinc intakes		<b>Duration:</b> 2 hours
<b>Grade Level:</b> I-III High School	<b>Age Range:</b> 16-18	<b>Language:</b> Italian

##### Prior Knowledge and Skills Needed

*(Prior knowledge is the knowledge the learner already has before they meet new information)*

- Knowledge of what micronutrients are
- Knowledge of how to read product label ingredients and table of food nutrient contents
- Knowledge of daily recommended micronutrients intakes

##### Objectives

*(Learning outcomes are what students are expected to learn after completing the lesson plan)*

**Topic:** Monitoring iron/zinc intakes

**Goals:**

- Students can plan a meal focusing on iron/zinc/vitamin C contents
- Students have knowledge of the main iron/zinc/vitamin C-rich food
- Students know what main roles micronutrients have in the body
- Students are aware of the best methods of cooking to preserve food vitamin C
- Students know the role of positive/negative elements in relation to the bioavailability of iron/zinc minerals
- Students are aware of the main risks related to iron and zinc deficiency

##### Instructional Strategies

*(Teacher approach to helping students achieve the learning objectives and meet their needs)*

**How can I help my students reach the learning goals?**

- Through the use of:
- Group discussion
- Work in pair
- Teacher assessment

##### Learning Activities

*(Opportunities provided for students to develop knowledge and skills of the learning objectives)*

**Exercise 1. (15 minutes)** (or

The teacher asks students to write 3-6 iron/zinc-rich food they know and then to list them to the class, while the teacher writes cited food on the blackboard analogue).

**Exercise 2. (20 minutes)**

Students will be divided in couples and asked to spot wrong and right food listed by other students, writing them on the blackboard (or analogue) in turn.

**Exercise 3. (15 minutes)**

The teacher asks students to write 3-6 vitamin C-rich food they know and then to list them to the class, while the teacher writes cited food on the blackboard (or analogue).

**Exercise 4. (20 minutes)**

Students will be divided into couples and asked to spot wrong and right food mentioned by other students, writing them on the blackboard (or analogue) in turn.

**Exercise 5. (15 minutes)**

The teacher will provide students with a list of the main food which are reach in vitamins C, iron and zinc (animal and plant origin). Together, they will discuss about the influence of the quality of food on its micronutrient content, as well as whether the food is organic or not, coming from abroad or not, cooked or raw, produced according to its natural growing season. Also, main health problems due to micronutrients deficiency or excess will be mentioned. Concepts of bioavailability and anti-nutrients should be explained in order to allow students to efficiently plan their meals.

**Exercise 6. (35 minutes)**

Students are divided into groups of 2 each.

They are asked to plan a one-day menu, adding a vitamin C-reach food at each meal together with an iron-reach food and a zinc-reach food.

Using the list provided by the teacher, they will also calculate the amount of iron, zinc and vitamin C in the menu.

They can enter in the following table their food nutrient contents per serving:

Type of meal	Iron-reach food	Zinc-reach food	Vit. C-reach food	Total iron (mg)	Total Vit C (mg)	Other food included
breakfast						
lunch						
dinner						
snack						

**Assessment and Evaluation**

*(Assessment(s) before, during, and after the lesson)*

Assessment: students will be assigned with one point for each exercise well performed

- Exercise 1 - Students able to list 3 food will be assigned half point, while if listing 6 food they will gain one point.
- Exercise 2 – Students will successfully conclude the exercise by listing in pairs the wrong/right food
- Exercise 3 - Students able to list 3 food will be assigned half point, while if listing 6 food they will gain one point.
- Exercise 4 – Students will successfully conclude the exercise by listing in pairs the wrong/right food
- Exercise 5 - Students complete the task by actively participating to the discussion
- Exercise 6 - Students will successfully conclude the exercise by planning a minimum of 2

out of 4 meals correctly (right food and right counting of the nutrient meal content), gaining half point, while correctly planning 4 meals they will receive one point

### Resources (Materials / Equipment)

#### What do I need to have in order to complete this lesson?

- blackboard or similar
- blank sheets of paper and pens
- calculator
- optional: a computer with internet connection to search composition of food mentioned by the students and not included in the teacher list.

### Extensions

Each student will record which iron/vitamin C-rich food they consume at home, in one day. Also, which zinc-rich food they consume at home, in one day. They are called to calculate if their family menu is providing the mentioned micronutrients according to the recommended daily amounts.

## PART II – EDUCATIONAL TOOLS/ GUIDANCE

### CHAPTER II – HOW NUTRITION AFFECTS YOUR BODY & MIND

#### Section 1 – ESTABLISHING A STARTING POINT FOR STUDENTS

Lesson Plan Information		
<b>Subject:</b> Biology		<b>Curriculum alignment:</b>
<b>Topic:</b> What do I do with nutrients?		<b>Duration:</b> 1.5 hours
<b>Grade Level:</b> I-III High School	<b>Age Range:</b> 16-18	<b>Language:</b> English

Prior Knowledge and Skills Needed
<i>(Prior knowledge is the knowledge the learner already has before they meet new information)</i>
<ul style="list-style-type: none"> <li>• Basic knowledge of main food composition</li> <li>• Knowledge of macronutrient and micronutrient definitions</li> <li>• Basic knowledge of anatomy and physiology of the human body</li> </ul>

Objectives
<i>(Learning outcomes are what students are expected to learn after completing the lesson plan)</i>
<p><b>Topic:</b> What do I do with nutrients?</p> <p><b>Goals:</b></p> <ul style="list-style-type: none"> <li>• Students can choose best food for specific nutrients</li> <li>• Students know which types of preventive food are best to keep their body healthy and well nourished</li> <li>• Students know what food to avoid in order to prevent common non-communicable diseases</li> </ul>

Instructional Strategies
<i>(Teacher approach to helping students achieve the learning objectives and meet their needs)</i>
<p><b>How can I help my students reach the learning goals?</b></p> <ul style="list-style-type: none"> <li>• Through the use of:</li> <li>• Group discussion</li> <li>• Work in pair</li> <li>• Teacher assessment</li> </ul>

Learning Activities
<i>(Opportunities provided for students to develop knowledge and skills of the learning objectives)</i>
<p><b>Exercise 1. (20 minutes)</b></p> <p>The teacher asks students to make groups of three, each group will search the web for the best sources of proteins, fat, iron, calcium, folate, antioxidants, within food categories. Each group will provide two foods for all mentioned sources.</p> <p><b>Exercise 2. (40 minutes)</b></p> <p>Discussion will focus on general anatomical and physiological characteristics of the human body and how food, through their nutrients, can help its correct functioning. Student groups, previously</p>

formed, can create schematic drawings of some human body organs (i.e. brain, blood, muscles, bones), pasting on them pictures of two types of food which contains those nutrients, good to keep healthy organs (i.e. walnut/brain, eggs/muscles, beetroot/blood, kale/bones). Alternatively, drawings can be made using a suitable pc programme.

**Exercise 3. (30 minutes)**

The teacher asks students to fill in the following table, specifying that components of each group of food can contain more than one main nutrient, as with the case of nuts, which are rich of proteins, as well as fat, or some green leafy vegetables, which are rich of folate as well as bioavailable calcium.

Categories of food	Main nutrient(S)	Role in the body
cereals		
legumes		
nuts		
vegetables		
meat		
fish		
eggs		
milk and cheese		
fruit		

**Assessment and Evaluation**

*(Assessment(s) before, during, and after the lesson)*

Assessment: students will be assigned with one-two points for each exercise well performed

- Exercise 1 - Students able to list 2 food within their group will be assigned half point, while if listing 4 food they will gain one point.
- Exercise 2 – Students actively participating to the discussion will be assigned half point, while if listing 1 food they will gain one point.
- Exercise 3 – Students able to list roles of nutrients for 4 categories will be assigned 1 point, while if listing them for 9 categories they will gain two points.

**Resources**

*(Materials / Equipment)*

**What do I need to have in order to complete this lesson?**

- Blackboard or similar
- Blank sheets of paper, coloured pencils
- A computer with internet connection and a printer

### Extensions

Students will interview their families, enquiring about diseases among uncles and cousins and their typical family meals. A possible connection between deficiency or excess of nutrients and recorded diseases should be hypothesized and then discussed with the teacher and other students.

## PART II – EDUCATIONAL TOOLS/ GUIDANCE

### CHAPTER II – HOW NUTRITION AFFECTS YOUR BODY & MIND

#### Section 2: THE IMPACT OF AN EXCESSIVE CONSUMPTION OF SATURATED/ TRANS FATS

Lesson Plan Information		
<b>Subject:</b> Chemistry/ biology		<b>Curriculum alignment:</b>
<b>Topic:</b> Impact on the body of an excessive consumption of saturated/trans fats		<b>Duration:</b> 45 minutes
<b>Grade Level:</b> I-III High School	<b>Age Range:</b> 16-18	<b>Language:</b> English

Prior Knowledge and Skills Needed
<i>(Prior knowledge is the knowledge the learner already has before they meet new information)</i>
Knowledge of basic chemistry of fats: breakdown, structure. Knowledge of health and safety rules in a chemical laboratory.

Objectives
<i>(Learning outcomes are what students are expected to learn after completing the lesson plan)</i>
Impact on the body of an excessive consumption of saturated/trans fats. Students will acquire knowledge about saturated, unsaturated and trans fats. Students will acquire knowledge about the impact of fats on human health. Students will acquire knowledge about the impact on health of excessive consumption of saturated / trans-fat. Students will acquire knowledge about the sources of fats. Students will acquire knowledge about the interpretation of labels. Thanks to the knowledge acquired, students will be able to make appropriate food choices in everyday life and limit excessive consumption of saturated / trans fats.

Instructional Strategies
<i>(Teacher approach to helping students achieve the learning objectives and meet their needs)</i>
Practical representation of experiment <ul style="list-style-type: none"> <li>• Group discussion</li> <li>• Peer-assessment</li> <li>• Teacher assessment</li> </ul>

Learning Activities
<i>(Opportunities provided for students to develop knowledge and skills of the learning objectives)</i>
<b>Exercise 1. (5 minutes)</b> The teacher gives each student cards with the "true / false" exercise and explains how to complete the task. What do you know about fats? True / false:

- a. The source of saturated fatty acids is meat and animal products: ..... (true)
- b. Consumption of trans fats contributes to longer life: ..... (false)
- c. Fats in the daily diet should constitute 50% of energy: ..... (false)
- d. Excessive consumption of saturated fat can lead to cardiovascular disease: ..... (true).
- e. 1 gram of fat provides 9 kcal: ..... (true)

**Exercise 2. (10 minutes)**

In pairs, students write on a piece of paper 16 products that they eat most often. The teacher asks questions and writes them on the board:

20. Which of the products on your list are rich in saturated fatty acids?
21. Which of the products on your list are high in unsaturated fatty acids?
22. Which of the products on your list are high in trans fats?
23. Which fats on your list are the most (good/bad)? Compare results in pairs?
24. What can you change in your diet to include more healthy fats?

Open discussion: the impact of excessive consumption of saturated and trans fats on health.

**Exercise 3. (10 minutes)**

From a collection of food labels prepared by the teacher, students draw 2 labels at random and have the task of comparing the compositions of the products and assessing them for the presence of good/bad fats.

Examples of labels to prepare for the following products:

- butter,
- margarine,
- chocolate wafers,
- salty snacks,
- crisps,
- chocolate,
- fruit yoghurt,
- natural yogurt,
- hard cheese,
- ham (cold cuts),
- olive oil,
- nuts,
- sunflower seeds/pumpkin seeds,

- milk,
- cream cheese,
- mayonnaise.

#### **Exercise 4. Experiment (25 minutes)**

The teacher prepares equipment and reagents necessary for the implementation of the experiment. The teacher performs the experiment and observe its progress. Together with the teacher they discuss about result of the experiment.

**Research problem:** What is the structure of vegetable and animal fats?

**Hypothesis:** Animal fats, in a solid state, are mainly saturated compounds, and vegetable – unsaturated compounds.

**What you will need:** butter, lard, sunflower oil, rapeseed oil, bromine water, test tubes, test tube clamp, burner.

**Instructions:** Place the butter in the first tube, lard in the second, sunflower oil in the third, and rapeseed oil in the fourth.

Heat the tubes with the butter and lard so that these substances melt. Add 3 cm<sup>3</sup> of bromine water to all of the test tubes and shake.

#### **Summary**

During the experiment, discoloration of bromine water was observed in the presence of sunflower and rapeseed oil. After addition of bromine water to melted butter and lard, no such changes were noted. Unsaturated compounds discolour bromine water. On this basis, we conclude that vegetable oils are unsaturated compounds whose molecules contain a multiple bond between carbon atoms.

Animal fats are saturated compounds containing single bonds.

#### **Assessment and Evaluation**

*(Assessment(s) before, during, and after the lesson)*

**Assessment:**

- Exercise 1. The student receives 1 point for each correct answer. The student completes the exercise by answering a minimum of 3 answers correctly.
- Exercise 2. The student completes the exercise by participating in the discussion and answering the questions in pairs.
- Exercise 3: The student passes the exercise by correctly comparing the composition of the labels and choosing the right product.
- Exercise 4: The student completes the task by actively taking part in the experiment and

correctly formulating conclusions.

### Resources (Materials / Equipment)

Materials/equipment needed for the lesson:

- blackboard and marker
- sheets of paper
- labels and bag for labels
- butter, lard, sunflower oil, rapeseed oil
- bromine water, test tubes, test tube clamp, burner

### Extensions

A task for each student to do at home:

Each student writes down their menu for one day from a selected day of the week and marks on it the products that are rich in good/bad fats. They assess their menu in terms of the dietary fat content.

## PART II – EDUCATIONAL TOOLS/ GUIDANCE

### CHAPTER II – HOW NUTRITION AFFECTS YOUR BODY & MIND

#### Section 3: THE IMPACT ON THE BODY OF AN EXCESSIVE CONSUMPTION OF SUGARS AND ADDITIVES

Lesson Plan Information		
<b>Subject:</b> Chemistry/ biology		<b>Curriculum alignment:</b>
<b>Topic:</b> The impact on the body of an excessive consumption of sugars and additives		<b>Duration:</b> 45 minutes
<b>Grade Level:</b> I-III High School	<b>Age Range:</b> 16-18	<b>Language:</b> native

Prior Knowledge and Skills Needed
<i>(Prior knowledge is the knowledge the learner already has before they meet new information)</i>
Knowledge of OHS Rules in the chemical laboratory.

Objectives
<i>(Learning outcomes are what students are expected to learn after completing the lesson plan)</i>
<p><b>Topic:</b></p> <ul style="list-style-type: none"> <li>• The impact on body of an excessive consumption of sugars and additives</li> </ul> <p><b>Goals:</b></p> <ul style="list-style-type: none"> <li>• The student is able to define food additives</li> <li>• The student can identify the group of food additives based on the first digit of the "E" code, e.g. colourings, preservatives, etc.</li> <li>• The student knows that there are natural, synthetic (identical to natural), artificial (synthetic) additives</li> <li>• The student is able to determine the potential harm to health (no, small or significant risk in the event of high consumption)</li> <li>• The student knows how to avoid excessive consumption of food additives along with the diet</li> </ul>

Instructional Strategies
<i>(Teacher's approach to helping students achieve the learning objectives and meet their needs)</i>
<ul style="list-style-type: none"> <li>• Short lecture</li> <li>• Brainstorm</li> <li>• Group discussion</li> <li>• Practical representation of experiment</li> </ul>

- Group discussion
- Peer-assessment
- Teacher assessment

### Learning Activities

*(Opportunities provided for students to develop knowledge and skills of the learning objectives)*

#### 1. A brief introduction to food additives (15 minutes).

- Explanation of the concept
- Division of food additives according to the INS (International Numbering System)
- Breakdown by origin: natural, synthetic (identical to natural), artificial (synthetic)
- Discussion of their further division by their role as food additives: colourings, preservatives, antioxidants, thickeners, emulsifiers, aromas, acidity regulators, sweeteners. The teacher explains the purpose of their use and gives examples of additives.

#### 2. Exercises #1 Brainstorming and teamwork (10 minutes)

Food labels brought by the teacher. They can be in a form printed from the Internet or in the form of photos taken in a shop. In the lesson, students read and evaluate the number of additives used (how many different additives are in the product) and their type together with the teacher. They recognize additive groups, harmless additives and compounds with some health risk if consumed. The teacher assesses student responses and corrects incorrect answers. Students write the 5 most common food additives on sheets of paper.

Food additive	Action in the body	Examples of products

The teacher emphasizes the importance of reading food labels.

#### 4. Exercise #2 (20 minutes)

The teacher shows the students a Coca Cola label, then asks one of the willing students to read the composition. Students find **orthophosphoric acid (E338)** on the label.

The students perform tasks, the teacher asks them about their observations related to the results of individual experiments.

Phosphoric (V) acid is used in the production of fertilizers in dental preparations: dental porcelain and cement. It is also a component of preparations for cleaning wheel hubs (rims). Unfortunately, it is also a substance that is found in cola drinks and jelly.

### Physical properties H<sub>3</sub>PO<sub>4</sub>

- solid substance
- colourless
- crystalline
- readily soluble in water

### Chemical properties

- concentrated solution is corrosive

Experiment:

Pour the drink into **three beakers** or tubes. Then add to each of them:

#### 25. a rusty nail

- Leave the nail for 10 minutes. The rust will be removed. The phosphoric acid found in Coca Cola works effectively on rust, so it can be used as a rust remover. This means that the properties of phosphoric acid can have a strong irritating effect on the digestive tract.

#### 26. universal indicator paper;

- the paper changed its colour from yellow to red. Acids stain the paper red, which means that due to the addition of **H<sub>3</sub>PO<sub>4</sub>** cola is acidic.

#### 27. a piece of chalk (you should point out to the students that chalk is calcium carbonate)

- chalk in cola turns brown, it gradually diminishes, colourless gas is released. The pH of cola-type drinks is strongly acidic. Phosphoric acid present in cola dissolves calcium carbonate (chalk). It should be mentioned that calcium carbonate is a calcium compound, and that in turn is a component of bones, gives them hardness and strength. Phosphoric acid binds to calcium, causing bone demineralization, that is, it leads to leaching of the compound from bone, which increases the risk of developing osteoporosis later in life. In addition, H<sub>3</sub>PO<sub>4</sub> can dissolve tooth enamel.

Teachers can perform similar experiments to the one with **phosphoric acid and calcium carbonate** ahead of time. An egg should be immersed in cola preferably for two weeks. Then it can be brought to class for the students to be able to describe their observations.

#### 5. Summary (5 minutes)

The teacher and students summarize the most important information from the classes:

- the most commonly used food additives and the consequences of their excessive consumption
- what to do to avoid excessive consumption of food additives in the daily diet

Then the teacher gives extra work to do at home.

### Assessment and Evaluation

*(Assessment(s) before, during, and after the lesson)*

- Students actively participate in classes, willingly provide answers and justify their choices.
- Students perform experiments correctly.

**Resources  
(Materials / Equipment)**

**What do you need to have in order to complete this lesson?**

- If possible - **a computer with internet.**
- **Projector** - if the teacher prepares a multimedia presentation as a teaching aid. However, this is not necessary.
- **Food labels.**
- **Blank sheets of paper and pens.**
- To complete the experiment: **3 beakers, a rusty nail, universal indicator paper, white chalk** (possibly an **egg** prepared earlier)

**Extensions**

For the next month, the students analyse the labels of food products on shop shelves and note the additives in them, grouping them into various types of additives. If possible, they carry out the tasks in electronic form, thereby forming one large database of products containing specific additives.

<b>Additive substance</b>	<b>Group of additives, e.g. colourings</b>	<b>Food products</b>

## PART II – EDUCATIONAL TOOLS/ GUIDANCE

### CHAPTER II – HOW NUTRITION AFFECTS YOUR BODY & MIND

#### Section 4: THE IMPACT ON THE BODY OF UNHEALTHY WEIGHT GAIN

Lesson Plan Information		
<b>Subject:</b> Biology/ Chemistry		<b>Curriculum alignment:</b>
<b>Topic:</b> The impact on the body of a lack of unhealthy weight gain		<b>Duration:</b> 45 minutes
<b>Grade Level:</b>	<b>Age Range:</b> 14-18	<b>Language:</b> Native

#### Prior Knowledge and Skills Needed

*(Prior knowledge is the knowledge the learner already has before they meet new information)*

Knowledge regarding the importance of maintaining a healthy body weight.

Differences between healthy behaviours towards unhealthy behaviours that could affect weight gain.

Information about low/high sugars and sweeteners.

#### Objectives

*(Learning outcomes are what students are expected to learn after completing the lesson plan)*

Knowledge of impact on the body of weight gain, weight regain and weight cycling.

- Students will learn to distinguish between healthy and unhealthy choices.
- Students will develop their critical thinking skills with regards to the necessary attention and the proper steps to be taken to achieve and maintain a healthy body

Thanks to the knowledge acquired during this lesson, students will be able to make informed choices. According to the discussion, they will be able to determine, which behaviours can lead to an unhealthy body weight and why it is important to make different choices.

#### Instructional Strategies

*(Teacher approach to helping students achieve the learning objectives and meet their needs)*

**How can I help my students reach the learning goals?**

- Group discussion
- Brainstorming
- Paper, Scissors and Glue classwork and homework
- Powerpoint/Keynote Presentations

#### Learning Activities

*(Opportunities provided for students to develop knowledge and skills of the learning objectives)*

*Exercises 1 and 2 guide students practicing and informing themselves about weight gain and sugars added in food industry. These exercises have “ruled answers”, as the purpose of these exercises is primarily to develop students’ critical thinking skills and curiosity about social networks hidden communication.*

### **Exercise 1. Healthy Body Weight – the differences (30 min)**

→ The teacher asks if the students know what we intend for healthy weight and unhealthy weight and what they suppose could act to an unhealthy weight gain. At the end of the discussion, the information that should come out are:

Healthy weight: To maintain a healthy weight, teenagers need to spend more time outdoors involved in active play, and eat a balanced diet that includes fruits, vegetables, whole grains, lean meats and low-fat dairy products. They also need to consume fewer sodas and sweetened beverages which are a leading cause of obesity at this age. It also provides information about the product such as its name and brand. Very often, there is an image representing the food product, which can be more or less truthful. It also includes nutritional information as well as visual content.

Unhealthy weight gain: It develops gradually over time, as a result of poor diet and lifestyle choices, such as: eating large amounts of processed or fast food – that's high in fat and sugar. drinking too much alcohol – alcohol contains a lot of calories, and people who drink heavily are often overweight.

Weight cycling: Weight cycling is the repeated loss and regain of body weight. When weight cycling is the result of excessive and "without control-dieting", it is often called "yo-yo" dieting. A weight cycle can range from small weight losses and gains (5-10 lbs. per cycle) to large changes in weight (50 lbs. or more per cycle).

Body positivity: refers to the assertion that all people deserve to have a positive body image, regardless of how society and popular culture view ideal shape, size, and appearance. Some of the goals of the body positivity movement include: challenging how society views the body. promoting the acceptance of all bodies.

#### **THE "GAIN GAME"**

Paying attention to the ingredients and all the information written on food labels, students will therefore need to highlight all the ingredients that can facilitate an unhealthy weight gain if used daily and explain their opinions about it.

Teacher must stress the differences between normal and unhealthy weight gain and weight cycling (/yo-yo syndrome), where normal weight gain is the one according to adolescence and normal growth (maybe teacher could use BMI to explain and "HEIGHT/WEIGHT for AGE" tables at the end of the Student's handbook).

After that, according to the most watched TV channel/program for youngsters and/or the most seen magazine/newspaper and or the most followed influencer on FB/IG or TikTok the exercise could continue as follows:

each group of students will have to present their findings in front of the class. If possible, each students group of 3-5 elements, can classify every TV program/Newspaper/Influencer in order of the eating behaviours that are exposed and their impact on weight gain, finding out if there is a communication driven by advertising (sometimes secretly hidden) that pushes youngster to consume sugars, or sugar free drinks or starting/continuing eating behaviours or fad talking or dieting that could drive to unhealthy weight gain or weight cycling. Students have to classify or portray using a PowerPoint presentation to make sure every student can see and discuss together the influence of media in food behaviours, while their peers are doing their presentation. According to that, the students will have to analyse the products that are portrayed in advertising/programs/newspaper/magazine and check which ones they might or might not be safe to eat during the day and why. Also, they can classify which media is safer for adolescents and is not pushing to use the body to express themselves or is safer because promotes "body positivity" among adolescents.

### **Exercise 2. Rethink your drink – (30 min)**

→ The teacher asks if the students know what we intend for sugars, added sugars and sweeteners and how they act as an unhealthy weight gainer in a daily excessive use. At the end of the discussion, the information that should come out are:

**Sugar and Added Sugar:** Added sugar refers to sugar that is added to food or drinks during manufacturing, cooking or at the table. It's bad because it provides zero nutritional value while increasing calorie intake which basically turns the added sugar into empty calories.

→ The teacher opens a discussion on which information should be important to know about sugars and sweeteners according to the Student's Handbook and the importance of sugar avoidance/limitation.

- Why is so important to be informed about the percentage of sugar added in what we eat and drink every day?
- Are there some hidden sugars or percentages of them that must be known by adolescents?

### RETHINK YOUR DRINK

The teacher divides students into groups of 3 to 5. Each group of students will have first of all to enumerate and classify energy drinks, flavoured beverages and the "well-known" sodas in increasing order, from the one who has lots of added sugars, to the other that have least.

No "Sugarfree" or "Zero" or "with Sweeteners" drink will be allowed during the exercise.

The classification must be done following the examples in the images below using "paper, scissors and glue" or a "Powerpoint/Keynote presentation".



Each group of students will have to present their findings in front of the class in order to discuss the use of sugars in the food/drink industry.

### Assessment and Evaluation

*(Assessment(s) before, during, and after the lesson)*

Students actively takes part in the group discussion and are proactive during the work, showing critical thinking when evaluating their daily intake of sugars and sugarfree food and drinks and the messages contained in social networks and media.

### Resources

**(Materials / Equipment)**

- Printed or real cans of drink/beverages for exercises
- A PowerPoint with pictures and/or the questions for each exercise (prepared by teacher and/or edited by students)

### Extensions

- If the school has an online platform, students can post online their pictures of the two exercises in order to discuss safer online influencers/videos that promotes healthy messages and the traps that are hidden on sugar drinks consumption. All will be discussed during the next classroom session, creating a gallery.

## PART II – EDUCATIONAL TOOLS/ GUIDANCE

### CHAPTER II – HOW NUTRITION AFFECTS YOUR BODY & MIND

#### Section 5: RAISING AWARENESS ABOUT THE EFFECTS OF OBESITY ON THEIR LIFE

Lesson Plan Information		
<b>Subject:</b> Pupils		<b>Curriculum alignment:</b> <b>Teacher</b>
<b>Topic:</b> Raising awareness on the effects of obesity in life		<b>Duration:</b> 1-2 months with weekly meetings
<b>Grade Level:</b> class 2 <sup>^</sup> , 3 <sup>^</sup> , 4 <sup>^</sup> years, high school	<b>Age Range:</b> 15-18	<b>Language:</b> English, Italian, other

Prior Knowledge and Skills Needed
<i>(Prior knowledge is the knowledge the learner already has before they meet new information)</i>
Children need well-developed positive and adaptive forms of behaviour so they can cope effectively with the demands and challenges of everyday life.

Objectives
<i>(Learning outcomes are what students are expected to learn after completing the lesson plan)</i>
<p>Adolescence is a critical time for all young people. The changes linked to growth cause a natural "metamorphosis" from a child's body to that of an adult, creating especially during early adolescence, feelings of alienation and inadequacy. In particular, due to neuro-physiological development, there is also a change in the relationship with the environment and other people who start to be seen in a different light and with from different standpoints than in the past. Family relationships, with parents, teachers and friends acquire a "more adult" perspective. Young people begin to perceive their limits and their uncertainties, and this can stimulate feelings of disappointment and loneliness.</p> <p>Usually adolescents experience these changes in a positive way, albeit with some difficulties - necessary for the development of independence and individuality of thought and way of being. Everyone changes and grows in a different way and for this reason, in some cases, accepting the changes in one's own body and that of others can be difficult.</p> <p>Assuming that the psycho-social models associated with eating learned in childhood tend to be maintained into adulthood, it goes without saying that lifestyle and behaviour are determining factors in the onset of severe overweight and obesity in children, particularly: diet and eating habits, physical activity, time spent being sedentary and the psychosocial component. As they continue to grow the influence of the home environment and parental behaviour is progressively reduced, giving way to the increased importance of peers and factors outside the family environment.</p> <p>It should not be forgotten that constant and repeated exposure to social stress and discrimination leads to an immediate feeling of reclusion and sadness, due to the inability to overcome the situation. The young person perceives him or herself as constantly threatened by others; the sense of inadequacy in the face of high social standards is more and more pressing and symptoms of depression start to emerge: triggering behaviour such as the fear of going out, the fear of rejection, the fear of being ridiculed when doing physical exercises. A road that leads to a deep and unintended loneliness where eating is the only response to emotions.</p>

The school plays an important role in the development and maintenance of more or less healthy life habits, in particular through the possibility of implementing programmes to raise awareness of the problem of excess weight and education on healthy eating choices.

### **Instructional Strategies**

*(Teacher approach to helping students achieve the learning objectives and meet their needs)*

In order to best address this issue, the teacher must conduct awareness programmes on the effects of obesity, which must always take into account the real and creative involvement of the pupils, using the available resources and the "relational inputs" conveyed during active listening. Once again this confirms that communication is a key resource for raising awareness of the effects of overweight and obesity.

The holding of group meetings between children and their peers is vital to drive successful consciousness-raising initiatives. This will enable communicating with young people and making them aware of weight-related problems. The meetings will foster the receipt of essential and accurate information and listening to those who are unable to express themselves - those who are suffering the effects of excess weight.

### **Learning Activities**

*(Opportunities provided for students to develop knowledge and skills of the learning objectives)*

The following activities may prove very useful and can be used according to the objective the teacher intends to achieve through the initiative, the type of group set up and the age of the participants:

- **Circle-time:** an activity that facilitates verbal and non-verbal communication within the class group by placing the pupils in a circle so that everyone can see each other. The teacher must agree several essential rules for this activity with the participating pupils. First the choice of topic (e.g. obesity as an illness, shame, etc.) and the duration of the circle-time; followed by a time of silence, respect for pauses and listening to what other people have to say (e.g. avoiding mocking allusions, looks and attitudes, speaking one at a time, without talking at the same time as the other person and overwhelming them). The aim is to create a cooperative and friendly atmosphere among the members of the group, which facilitates discussions on the topic of obesity. The task of the teacher is to facilitate the discussion, to note on the board the different positions that emerge and to refrain from playing an authoritarian role;
- **Watching films or videos:** much used to attract pupils' attention and make it easier to understand the topics. The teacher must suggest films/videos which illustrate the potential consequences of obesity, both from a physiological/psychological and social point of view. The film should demonstrate best practices, undesirable conduct and/or which can be changed; above all it must trigger positive identification. After watching the film, the teacher must allow time for the pupils to freely express their thoughts and emotions. The teacher can then create links between the different scenes and the emotions created by what the pupils saw to draw out other aspects. The pupils should write down all the ideas and meanings that emerge, while at the same time, one pupil writes everything on the blackboard so the whole class can share the points that emerge from the discussion. Finally, a single sheet will emerge for everyone;
- **Educational-creative activities focussed on nutrition:** the children cooperate actively, all together or divided into small groups, to acquire and practice knowledge and skills aimed at preventing overweight and obesity. Some activities might involve cooking workshops (knowledge and handling the equipment to create a cooked dish, with a sense of cooperation and eating different types of food which are healthier and often little used); or food education workshops (can be carried out at the same time or separately from the cooking workshops). It is possible to positively influence the daily habits and personal experiences of individual children; the activities might also relate to why and how to manage meal consumption habits.

### Assessment and Evaluation

*(Assessment(s) before, during, and after the lesson)*

The teacher can reuse the brain storming technique to evaluate the range of knowledge of the topic within the class group. The teacher will use the discussions to assess whether the original attitudes of the class to the problem of excess weight and education on healthy eating choices have undergone any changes.

### Resources

**(Materials / Equipment)**

- Space large enough inside the classroom for circle time;
- Classrooms with digital tools to watch a film/video (e.g. interactive whiteboard, DVD player, video screen, etc.);
- Tools of undoubted scientific reliability and, at the same time, suitable for the dissemination of food among children (e.g. books, brochures, photos, posters, videos, tables, etc.);
- Utensils and material related to food in order to carry out the cooking workshop;

### Extensions

At the end of the different activities it is possible to hold a final discussion, using the technique of the focus group - with the aim of reinforcing the knowledge acquired and creating an empathic and sincere dialogue within the group and between the pupils and the teacher to underpin the mutual knowledge and trust of the class.

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## PART II – EDUCATIONAL TOOLS/ GUIDANCE

### CHAPTER II – HOW NUTRITION AFFECTS YOUR BODY & MIND

#### Section 6: EDUCATING STUDENTS ABOUT THE DANGERS OF CERTAIN DIETS AND EATING DISORDERS

*Nota bene: This section contains 3 lessons*

Lesson Plan Information		
<b>Subject:</b> The male and female ideal in our society		<b>Curriculum alignment:</b>
<b>Topic:</b> Development / changes of ideals over time		<b>Duration:</b> 90 min
<b>Grade Level:</b>	<b>Age Range:</b>	<b>Language:</b> Your own

Prior Knowledge and Skills Needed
<i>(Prior knowledge is the knowledge the learner already has before they meet new information)</i>
None

Objectives
<i>(Learning outcomes are what students are expected to learn after completing the lesson plan)</i>
<p>This unit serves as preparation for another lesson.            How have the ideals changed over the centuries?            What factors have affected these changes?            As a result, the students should understand how male and female ideals come about and by what these are influenced.            And as a positive side effect, the students should present their results in front of the class and gain some experience in the area of "talking and presenting" in front of groups.</p>

Instructional Strategies
<i>(Teacher approach to helping students achieve the learning objectives and meet their needs)</i>
<p><b>How can I help my students reach the learning goals?</b></p> <ul style="list-style-type: none"> <li>• Short impulse from the teacher to explain the goals and task. (10 mins)</li> <li>• Formation of small groups / output of materials (5 minutes)</li> <li>• Small group work (using IT) with the following questions: (45 minutes)</li> <li>• What is a female / male ideal? What does the optimal body look like from the students' perspective?</li> <li>• Has it always been like this?</li> <li>• Here references to the Renaissance, 19th century, mid-20th century (Twiggy), late 20th / early 21st centuries</li> <li>• Did the ideal also have something to do with the availability of food (food shortages) in earlier times?</li> <li>• Brief presentation of the results of the groups and discussion of the different work results (30 minutes)</li> </ul>

### Learning Activities

*(Opportunities provided for students to develop knowledge and skills of the learning objectives)*

#### **Detailing list of activities composing the lesson plan**

- Images / illustrations of the different epochs and the ideals of beauty
- Poster with different epochs. Students should assign pictures to the eras
- 1 to 2 tablets / personal computers for each work group - if available
- Flipchart / whiteboard / projector / posters to present the results

### Assessment and Evaluation

*(Assessment(s) before, during, and after the lesson)*

**The assessment is present in various stages throughout the lesson.**

### Resources

*(Materials / Equipment)*

- If available, 1 tablet / personal computer with internet access for the work groups
- Flipchart / posters for the results
- Pens or moderation cases
- Images or illustrations with beauty ideals from different epochs (if digital is not possible)
- Possibly a whiteboard

## Lesson n°2

Lesson Plan Information		
<b>Subject:</b> The male and female ideal in our society		<b>Curriculum alignment:</b>
<b>Topic:</b> Development / changes of ideals over time		<b>Duration:</b> 90 min
<b>Grade Level:</b>	<b>Age Range:</b>	<b>Language:</b> Your own

Prior Knowledge and Skills Needed
<i>(Prior knowledge is the knowledge the learner already has before they meet new information)</i>
<b>Last Topic of this Lesson</b> "Development / changes of ideals over time"

Objectives
<i>(Learning outcomes are what students are expected to learn after completing the lesson plan)</i>
Based on the previous learning unit, the students should now deal with the current ideal and work out whether an ideal is also a reality? Where this ideal comes from. How we react when someone does not correspond to this optical ideal and what it can trigger in the person concerned if one does not correspond to the ideal.
This lesson is also about psychological effects, the influence of marketing, social media and influencers. Here, too, the students should present their results in front of the class and gain some experience in the area of "talking and presenting" to groups.

Instructional Strategies
<i>(Teacher approach to helping students achieve the learning objectives and meet their needs)</i>
<b>How can I help my students reach the learning goals?</b>
<ul style="list-style-type: none"> <li>• Short impulse from the teacher to explain the goals and task. (5 minutes)</li> <li>• A short question among the students as to what the current ideal of women and men is. (Reference to the latest work results) (5 minutes)</li> <li>• Formation of small groups / output of materials (5 minutes)</li> <li>• Small group work (using IT) with the following questions: (45 minutes)</li> <li>• What influence does social media and marketing have on the female and male ideal?</li> <li>• Do celebrities influence our image of the ideal?</li> <li>• Do we allow ourselves to be pressured by this ideal picture to be the same? What are we doing to achieve this ideal?</li> <li>• Can we achieve this ideal at all and does it make sense to achieve it?</li> <li>• Is our behaviour towards people who are far from this ideal different from people who come very close to the ideal? If so, how is it different?</li> <li>• Suppose you are overweight and face this slim body ideal every day? How do you feel or how would you feel?</li> <li>• Brief presentation of the results of the groups and discussion of the different work results.</li> </ul>

Learning Activities
<i>(Opportunities provided for students to develop knowledge and skills of the learning objectives)</i>
<b>Detailing list of activities composing the lesson plan</b>
<ul style="list-style-type: none"> <li>• Internet Access</li> <li>• Poster with different epochs. Students should assign pictures to the eras</li> <li>• 1 to 2 tablets / personal computers for each work group - if available</li> <li>• Flipchart / whiteboard / projector / posters to present the results</li> </ul>

**Assessment and Evaluation**

*(Assessment(s) before, during, and after the lesson)*

**The assessment is present in various stages throughout the lesson.**

**Resources**

**(Materials / Equipment)**

- **If available, 1 tablet / personal computer with internet access for the work groups**
- **Flipchart / posters for the results**
- **Pens or moderation cases**
- **Possibly a whiteboard**

## Lesson n°3

Lesson Plan Information		
<b>Subject:</b> The male and female ideal in our society		<b>Curriculum alignment:</b>
<b>Topic:</b> "Famous" diet methods & results		<b>Duration:</b> 90 min
<b>Grade Level:</b>	<b>Age Range:</b>	<b>Language:</b> Your own

### Prior Knowledge and Skills Needed

*(Prior knowledge is the knowledge the learner already has before they meet new information)*

**Lesson 1 & 2**

### Objectives

*(Learning outcomes are what students are expected to learn after completing the lesson plan)*

Based on the previous learning unit, the students should now deal with the current ideal and work out whether an ideal is also a reality? Where this ideal comes from. How we react when someone does not correspond to this optical ideal and what it can trigger in the person concerned if one does not correspond to the ideal.

This lesson is also about psychological effects, the influence of marketing, social media and influencers. Here, too, the students should present their results in front of the class and gain some experience in the area of "talking and presenting" to groups.

### Instructional Strategies

*(Teacher approach to helping students achieve the learning objectives and meet their needs)*

#### How can I help my students reach the learning goals?

- Short impulse from the teacher to explain the goals and task. (10 mins)
- Formation of small groups / output of materials (5 minutes)
- Small group work (using IT) with the following questions: (45 minutes)
- Which "famous" diets do you know and how should they be carried out?
- Are there statistics or studies that prove its effectiveness?
- Are the diets balanced or is the focus on individual foods?
- If the focus is on individual foods, what is the danger here?
- If someone asks you what to look for in your diet. What would you advise him to do?  
Tip: Annex 1 of the student manual)
- Brief presentation of the results of the groups and discussion of the different work results (30 minutes)

### Learning Activities

*(Opportunities provided for students to develop knowledge and skills of the learning objectives)*

#### Detailing list of activities composing the lesson plan

- Internet Access
- Students-Handbook
- 1 to 2 tablets / personal computers for each work group - if available
- Flipchart / whiteboard / projector / posters to present the results

### Assessment and Evaluation

*(Assessment(s) before, during, and after the lesson)*

**The assessment is present in various stages throughout the lesson.**

**Resources**  
**(Materials / Equipment)**

- Students Handbook
- If available, 1 tablet / personal computer with internet access for the work groups
- Flipchart / posters for the results
- Pens or moderation cases
- Possibly a whiteboard

## PART II – EDUCATIONAL TOOLS/ GUIDANCE

### CHAPTER III – TIPS & GOOD PRACTICES

#### Section 1: HELPING STUDENTS DEVELOP THEIR OWN DIET

Lesson Plan Information		
<b>Subject:</b> Chemistry/ biology		<b>Curriculum alignment:</b>
<b>Topic:</b> Planning a weekly menu		<b>Duration:</b> 2 hours
<b>Grade Level:</b> I-III High School	<b>Age Range:</b> 16-18	<b>Language:</b> English

Objectives
<i>(Learning outcomes are what students are expected to learn after completing the lesson plan)</i>
<b>Topic:</b> Planning a weekly menu
<b>Goals:</b>
<ul style="list-style-type: none"><li>• Students can plan a meal focusing on daily macro and micronutrient content distribution</li><li>• Students are aware of the characteristics of meals according to activities (i.e. studying, running, resting)</li><li>• Students know the meaning of serving size and nutrient content per serving</li><li>• Students can read nutrition labels of packaged food</li></ul>

Prior Knowledge and Skills Needed
<i>(Prior knowledge is the knowledge the learner already has before they meet new information)</i>
<ul style="list-style-type: none"><li>• Basic knowledge of main food composition</li><li>• Knowledge of daily distribution of macronutrients</li><li>• Basic knowledge of daily energy and nutrient requirements</li><li>• Knowledge of nutritional and cooking strategies to preserve food qualities and avoid nutritional errors</li></ul>

Instructional Strategies
<i>(Teacher approach to helping students achieve the learning objectives and meet their needs)</i>
<b>How can I help my students reach the learning goals?</b>
e.g. Through the use of: Group discussion Work in pair Peer-assessment Teacher assessment

Learning Activities
<i>(Opportunities provided for students to develop knowledge and skills of the learning objectives)</i>
<b>Exercise 1. (5 minutes)</b>
The week before this lesson, the teacher has asked students to bring nutritional labels of 5 food eaten for 7 days. Starting the lesson, the teacher divides students into 7 groups and asks each group to plan meals for one day. Three groups will plan meals or one active day (physical activity, i.e. running, cycling), three others are assigned to plan meals for one “intensively studying” day and one group is asked to plan meals for a non-active/resting day.

**Exercise 2. (30 minutes)**

The teacher will discuss about different needs of certain nutrients (i.e. sugars, proteins, calcium, iron) and energy according to daily activities. Students will receive tables of food composition and the list of the national recommended daily amounts of nutrients, according to age. The teacher explains how to read tables and lists of RDAs and asks students if they know cooking strategies to preserve thermolabile nutrients. Discussion about best practises in healthy cooking will be directed to enhance oven-cooking and steam-boiling as the healthier ways to cook food.

**Exercise 3. (40 minutes)**

Groups will be asked to perform their assigned tasks, including, if suitable, food for which nutritional labels were brought from home.

**Exercise 4. (45 minutes)**

Groups will exchange their meal plans, in order to peer-spot mistakes and unbalanced recipes. Meals will be judged also on the basis of %s of healthy cooking vs non-healthy ones (i.e. frying, boiling)

**Assessment and Evaluation**

*(Assessment(s) before, during, and after the lesson)*

Assessment: students will be assigned with one point for each exercise well performed

- Exercise 1 – Students will be assigned with half point if bringing from home 3 nutritional labels, while they receive one point if bringing 5 labels
- Exercise 2 – Students complete the task by actively participating to the discussion
- Exercise 3 - Students will successfully conclude the exercise if actively contributing to plan the meals
- Exercise 4 - Students able to spot 1 mistake will be assigned half point, while if spotting 2 mistakes they will gain one point.

**Resources****(Materials / Equipment)**

**What do I need to have in order to complete this lesson?**

- Blackboard or similar
- Blank sheets of paper and pens
- Calculator

**Extensions**

Each student will be asked to record a three-day food choice, especially during the active days.

They are then supposed to calculate nutrient contents of the meals, applying RDA values as reference. They are asked, also, to pay attention to the suggested ways of cooking.

## PART II – EDUCATIONAL TOOLS/ GUIDANCE

### CHAPTER III – TIPS & GOOD PRACTICES

#### Section 2: TEACHING HOW TO READ LABELS

Lesson Plan Information		
<b>Subject:</b> Chemistry/biology		<b>Curriculum alignment:</b>
<b>Topic:</b> Reading and Understanding Food Labels		<b>Duration:</b> 45 minutes
<b>Grade Level:</b>	<b>Age Range:</b> 16-18	<b>Language:</b> Native

#### Prior Knowledge and Skills Needed

*(Prior knowledge is the knowledge the learner already has before they meet new information)*

Knowledge regarding food additives, sugar and trans fats that can be found in the Chapter II, section 2 and 3 of the student manual, can be useful.

#### Objectives

*(Learning outcomes are what students are expected to learn after completing the lesson plan)*

Learning how to read and understanding food label and food packaging

- Students will learn to distinguish food labels and food packaging
- Students will develop their critical thinking skills with regards to misleading nutrition claims and misleading illustrations on food packaging
- Students will learn how to read and interpret the list of ingredients and nutrients on food labels

Thanks to the knowledge acquired during this lesson, students will be able to make informed food choices. According to the food label, they will be able to determine, which product is good for their health.

#### Instructional Strategies

*(Teacher approach to helping students achieve the learning objectives and meet their needs)*

- Practical representation of experiment
- Group discussion
- Brainstorming
- Teacher assessment

#### Learning Activities

*(Opportunities provided for students to develop knowledge and skills of the learning objectives)*

*Exercises 1 and 2 do not guide students with already formulated questions that might help them to read the labels, as the purpose of these exercises is primarily to develop students' critical thinking skills.*

#### Exercise 1. Food packaging and food label (15-20 min)

→ The teacher asks if the students know the difference between food packaging and food labels. At the end of the discussion, the information that should come out is:

Food packaging first purpose is to preserve the product from contamination. It also provides information about the product such as its name and brand. Very often, there is an image representing the food product, which can be more or less truthful. It also includes nutritional information as well as visual content.

Food label is most often displayed on the back or the side of the packaging and includes a list of the product's ingredients as well as a nutrition table. The latter provides information about the amount of carbohydrates (such as sugar), fat, proteins, etc. contained in the product and their corresponding nutritional values.

→ The teacher opens a discussion on which information should be found:

- on a product's packaging?
- on a product's label?

The teacher divides students into groups of 4 or 5. The teacher gives several food labels to each group. Each group of students will have to classify the food labels of several products of the same type (for instance several boxes of cookies), paying attention to the ingredients and all the information written on the labels, from the healthiest product to the least healthy one according to them. Students will therefore need to highlight all the ingredients that are potentially bad for their health.

Each group of students will have to present their findings in front of the class. If possible, the teacher will show the labels each group had to classify using a PowerPoint presentation to make sure every student can see the labels properly while their peers are doing their presentation.

→ The teacher summarises the students' findings, and makes corrections whenever needed. The teacher then reminds them that when choosing a product and reading a label, one needs to pay attention to the ingredients and in particular to the presence of sugar, additives, trans fats, allergens, as well as the length of the list of ingredients and what the first ingredient written on it is.

→ The teacher can decide to go a bit further on this exercise and hand out cards to his or her students. The teacher can refer to the sample cards that are available on the TAO online website for the teachers. On each card, specific personal characteristics will have to be written (for example, a card will mention that the person carrying this card cannot eat nuts, is vegan, diabetic, cannot eat gluten, or does not eat pork...). According to that, the students will have to analyse the products that are in the classroom and check which ones they might or might not be able to eat.

### **Exercise 2. Misleading food packaging (20 minutes)**

The teacher shows the students 2-4 short ads for different food products (with strongly misleading claims such as "very natural", "zero percent sugar" or plenty of healthy ingredients displayed that the product barely contains). The students take notes on observations they make while watching the advertisements. The ads can alternatively be printed if no audio-visual material is available.

Afterwards, the teacher asks for feedback from the students on the ads, whether they would buy the products, and why, and what impression the advertisement left on them.

The teacher then distributes the corresponding food packaging to the students, who will work in

groups of around 4. The pupils are to observe the food packaging and highlight any differences they find to the claims made in the ad. The students will notice through reading the food labels that in comparison to the ad, the products often do not contain as many healthy ingredients as claimed and while some may indeed contain 0% sugar, this is often replaced by harmful additives or more fat.

A short group discussion will conclude this part. The teacher will highlight the importance of not blindly believing claims put forward in ads. The students can also discuss some of the following questions;

- Do you think the rules surrounding misleading advertisements are sufficiently strict?
- Would you prefer more or less regulation?
- Should the responsibility of healthy eating be put on the state/ the EU as regulating bodies, or rather on the consumers, who as adults should make their own choices?

### Exercise 3. Logos and symbols (5-10 min)

After a short introduction on the purpose and the variety of food logos and symbols, the teacher asks students to pick the right answers in this short quiz (it can either be printed for each student individually or be shown on a Power Point presentation):

This logo means that:



- f. This product is recyclable
- g. This product is produced by a company, which pays a financial contribution for the recycling system of packaging.
- c) This product is local
- d) This product is organic

The right answer is **the second one**.

Commonly recognised as the symbol indicating that a packaging itself is recyclable, this logo actually indicates that producer of this packaging has made a financial contribution towards packaging recycling.

When a product displays this logo and contains more than one ingredient, what is the total Fairtrade percentage ingredients that the product must have?



100%

75%

50%

20%

- The right answer is **20%**.

The Fairtrade label ensures a fairer price for the producers and decent working conditions for the workers. For products containing more than one ingredient and provided that they exist in that form, the label guarantees that all ingredients are fair trade. The product will need to have at least 20% of fair-trade ingredients. This criterion is the minimum that this label guarantees. Indeed, if the product contains only ingredients available in fair trade, it must use them, and therefore can no longer be satisfied with the 20% limit.

Which of the following claims is NOT true?



- This logo ensures that the fish does not contain heavy metals.
- This logo ensures a minimal environmental impact
- This logo ensures effective fisheries management
- This logo ensures the sustainability of the fish population
- The sentence to find is **the first one**.

The letters MSC on the logo stand for 'Marine Stewardship Council'. Based on established standards, authorisations to carry this label are granted if the fishery is sustainable and well managed. The three core principles are: to have an effective fishery management, to minimise the environmental impact and to maintain a sustainable fish stock.



Is this an official logo?    Yes    No

*The teacher can take the chance to explain the process by which labels are created and who approves and controls them.*



Is this an official logo?      Yes      No



Is this an official logo?      Yes      No

- Right answers: No, yes, yes.

The teacher finishes the lesson with a short summary on the importance of knowing how to read food labels and staying alert when choosing food products.

### Assessment and Evaluation

*(Assessment(s) before, during, and after the lesson)*

- Exercise 1: The student actively takes part in the group discussion and is proactive during the work in smaller groups.
- Exercise 2: The student shows critical thinking when evaluating the shown advertisements and actively participates in the discussion.
- Exercise 3: The student completes the quiz, is able to identify some of the official logos and understands that not all claims on food packaging can be trusted.

### Resources

**(Materials / Equipment)**

- Printed and laminated pictures of labels
- Actual packaging of common products for the students
- A PowerPoint with pictures of the labels in a large size
- Images of logos and symbols

### Extensions

- Students will have to take a picture of one or a several number of different packaging (at home or in a shop) that they found the most misleading
- If the school has an online platform, students can post online their pictures, which will be discussed during the next session, creating a gallery of the most misleading products.

The students can keep the cards they received during the second part of the exercise 1 and go grocery shopping taking into account what their cards were saying. They will have to ask themselves which products they could eat and if the ingredients they cannot ingest were easy to find on the labels.

## PART II – EDUCATIONAL TOOLS/ GUIDANCE

### CHAPTER III – TIPS & GOOD PRACTICES

#### Section 3: STUDYING THE IMPACT ON THE BODY OF A LACK OF / REGULAR PHYSICAL ACTIVITY

*Note bene: This section has two lessons*

##### Lesson n°1

Lesson Plan Information		
<b>Subject:</b> Biology/ Gymnastics		<b>Curriculum alignment:</b>
<b>Topic:</b> The impact on the body of a lack of regular physical activity		<b>Duration:</b> 45 minutes
<b>Grade Level:</b>	<b>Age Range:</b> 14-18	<b>Language:</b> Native

Prior Knowledge and Skills Needed
<i>(Prior knowledge is the knowledge the learner already has before they meet new information)</i>
Knowledge regarding the importance of physical activity. Differences between activity and inactivity.

Objectives
<i>(Learning outcomes are what students are expected to learn after completing the lesson plan)</i>
Knowledge of impact on the body of a lack of/regular physical activity in order to achieve and maintain a healthy weight. <ul style="list-style-type: none"><li>• Students will learn to distinguish physical activity from physical inactivity and sedentary behaviours.</li><li>• Students will develop their critical thinking skills with regards to the necessary daily activity to do in order to maintain a healthy body</li><li>• Students will learn how to deal with their family in order to recognize their sedentary behaviours and what led to them.</li></ul> Thanks to the knowledge acquired during this lesson, students will be able to make informed choices. According to the discussion, they will be able to determine, which physical activity could be more suitable for them in order to achieve and maintain a healthy body.

Instructional Strategies
<i>(Teacher approach to helping students achieve the learning objectives and meet their needs)</i>
<b>How can I help my students reach the learning goals?</b> <ul style="list-style-type: none"><li>• Group discussion</li><li>• Brainstorming</li><li>• Teacher empowerment</li></ul>

## Learning Activities

*(Opportunities provided for students to develop knowledge and skills of the learning objectives)*

Exercises 1 and 2 guide students with already formulated questions that might help them to understand the importance of physical activity and practicing it, also there are no “ruled answers”, as the purpose of these exercises is primarily to develop students’ critical thinking skills.

### Exercise 1. 25 min.

#### CHANGE your HABITS with TAO

(cards could be also a paper/scissor work for students with images instead of the name of the activity involved- cards here are a mere example)

The teacher gives each student a card (randomly) that represents LAMY/TAO with a word describing a simple strategy to improve/practice some physical activity during the day (the description of the activity could be described by the teacher or can be written in the rear of the card):

#### You can start by saying

” Here are some simple ways to make an exercise lifestyle change”:

- LAMY/TAO START - Start today, start now! Go outside for a walk.



## START

- LAMY/TAO STAIRS - Take the stairs instead of the elevator.



## STAIRS

- LAMY/TAO WALK- Walk or bike to places like school or a friend's house. No car allowed



## WALK

- LAMY/TAO HOUSE(KEEPER) -Vacuum your room, wash Dad/Mom’s car, or mow the lawn. It's not a chore — it's an exercise opportunity!



## HOUSE

- LAMY/TAO TECH - Limit your time using your smartphone, computer, or other devices; or playing video games (and when you do play, try interactive games that get you moving). Try to keep screen time to no more than 2 hours a day, not including time spent doing homework. TV included.



## TECH

- LAMY/TAO DANCE - Dance. Even in the privacy of your room, letting loose to your favourite tunes could help you burn more than 300 calories an hour!



## DANCE

- LAMY/TAO SPORT - Figure out what type of exercise interests you, then give it a try! Take it slow if you've never done it before. And if you're nervous at first, find an exercise buddy to join you. It's usually easier to stay motivated about exercise if you do something that you're interested in.



## SPORT

- LAMY/TAO MIX -If you get bored or lose interest easily, alternate the kinds of activities you do so they always feel fresh. Make a list of at least three alternatives from the cards of your classmates.



## MIX

- LAMY/TAO HEART- Do some activity that gets your heart beating faster, quickens your breathing, and makes you sweat that is not present in your classmates' cards.



## HEART

After that, the teacher can lead/open a discussion about:

- a) Have you ever done this activity? (regarding the card of each student)- Which do you think is the most difficult behaviour to maintain for a long period and why?
- b) What kind of impact could have this behaviour on avoiding unhealthy weight gain and how? (persistency, motivation, group indoor/outdoor activities, methodology etc)
- c) Which kind of impact could have this behaviour on your body and why? (teacher could stress the necessary persistency, safer methodology and pacing for every activity described in order to understand different approaches of each student).
- d) According to the previous question, make a ranking from the most difficult/strongest to the weaker/poorest) going from 10 (very strong behaviour to improve physical activity and the impact to the body) to 3-4 (poor impact to healthy weight and to maintain a physical activity during the time)
- e) Suggest other habits/behaviours or link some of them together to have “powerful cards/habits” such as the “LAMY/TAO MIX card”.

### Exercise 2. 20 min.

(see also EXTENSIONS)

Discuss with the CLASSROOM some or all of the topics written below in order to get more active and find family's involvement in the past and in the present time to make your students “physical activities Ambassadors”.

To get youngsters more active and more interested in exercise and fitness, it can help to:

- Get the whole family involved in being more active, keeping in mind that most would rather be outside playing, instead of watching TV, Youtube or gaming—they just don't want to be outside by themselves. If parents go outside with them to play catch, tag, or simply go for a walk, do you think could it be useful to improve physical activity or not?
- The use of "active transportation" in which you have to use stairs, instead of elevators, and walk to school or to their friend's house, instead of always being driven could be useful or not? Do you think this could be done also by your parents to get to work?
- Were you encouraged to do more unorganized outdoor free play, during your childhood? Have you ever asked this question to your parents in order to understand which physical activity education they had from your grandfather/grandmother?
- Were you supported to do some personal fitness and fun recreational activities by your parents? Were your parents supported when they were younger?
- Have you ever been supported in an organized sport that you liked or not? This could be a team sport, such as baseball, soccer, or football, or an individual sport, such as tennis, karate, or dance. If not, how could you? If yes, what changed in your self-esteem or in your drive to continue to practice that sport?

### Assessment and Evaluation

*(Assessment(s) before, during, and after the lesson)*

Exercise 1 e 2: The student actively takes part in the group discussion and is proactive during the

work (teacher may decide whenever divide the classroom in in smaller groups. The student shows critical thinking when evaluating each activity and / or family involvement and shortcut to make them participate/collaborate.

**Resources  
(Materials / Equipment)**

- Printed and laminated pictures of LAMI/TAO and activities description
- A PowerPoint with pictures and/or the questions of each exercise

**Extensions**

- Students will have to make a daily diary according to what is written below  
According to the cards given randomly in the first exercise, ask to each student if the activity portrayed is suitable for him and it could be an habit to maintain during the next week each day for at least 30/60 minutes and doing a daily dairy that could be discussed with tips, tricks and avoidances or difficulties encountered during the week, the week after this lesson.
- If the school has an online platform, students can post online their pictures during the week physical activity in order to discuss tips/tricks and drawbacks and trying to improve all the classroom average indoor/outdoor sessions., All will be discussed during the next session, creating a gallery.

## Lesson n°2

Lesson Plan Information		
<b>Subject:</b> Pupils		<b>Curriculum alignment:</b> teacher
<b>Topic:</b> Exercises intended to study the impact on the body of a lack of regular physical exercise		<b>Duration:</b> 1-2 months weekly meetings
<b>Grade Level:</b> class 2 <sup>^</sup> , 3 <sup>^</sup> , 4 <sup>^</sup> years, high school	<b>Age Range:</b> 15-18	<b>Language:</b> English, Italian, other

### Prior Knowledge and Skills Needed

*(Prior knowledge is the knowledge the learner already has before they meet new information)*

Children need to be aware of their own body in relation to the environment and in their relationships with others, taking into account their different individual physical characteristics, difficulties, inclinations and interests.

### Objectives

*(Learning outcomes are what students are expected to learn after completing the lesson plan)*

Precisely in order to allow the widest participation by young people, school physical education plays an important role in positive, judgement-free motivation of overweight or obese children to engage in physical activities as the primary aim is to promote sociability, to increase self-esteem and contribute to forming community relations.

It is important for people to take physical activity as a prerequisite for improving daily life and expanding knowledge about their body and how movement can reduce physical problems and enhance the quality of life. In addition, it is important to learn about the concept of "posture" and its influence in everyday life and when relating to others.

### Instructional Strategies

*(Teacher approach to helping students achieve the learning objectives and meet their needs)*

The teacher should involve every boy and girl through deployment of didactic skills and knowledge, going beyond the physical image, to build a collective sense of well-being.

The ability to foster respect for all ideas and to promote discussions on the topics under consideration, among all participants and to give voice to the most reticent, is essential.

The teacher must always be neutral, not make judgements and never create conflict with pupils even if the latter's opinions are contrary to the teacher's own views.

The teacher's use of questionnaires and focus groups can help to create an empathic and sincere dialogue within and between the group of pupils, aimed at supporting and implementing mutual knowledge and trust within the peer group.

### Learning Activities

*(Opportunities provided for students to develop knowledge and skills of the learning objectives)*

- Administration to the children of a small questionnaire, with simple questions, in which they can write how many hours they dedicate to physical activity and exercise during the month;

## Short questionnaire on physical activity

1. Are you interested in doing any physical activity?  
 not at all     a little     somewhat     very     extremely
2. Last month I spent some time doing a physical activity:  
 yes    how much time: \_\_\_\_\_  
 no    why not?: \_\_\_\_\_
3. What is your favourite physical activity?  
 none     gym     swimming     basketball     football     volleyball     dance     other
4. Where do you mainly carry out your physical activity?  
 school     private centre     home     other
5. What do you like most about physical activity?  
\_\_\_\_\_
6. What do you like least about physical activity?  
\_\_\_\_\_

- Discussion of the questionnaire within a focus group, formed by the class group, where the teacher becomes the conductor, moderator and examiner of the relationship dynamics that are created between the different group members. The questionnaire also collects ideas and fantasies that pupils may have about physical activity, movement, posture, etc.
- Provide pupils with all the necessary theoretical information through images and illustrations (with the aid, if available, of the interactive whiteboard – Multimedia Interactive Whiteboard);
- Provide guidance in person to each pupil on preparatory and/or aerobic postural exercises to be carried out in the gym (e.g.: specific exercises for shoulders, back, neck, etc.); it is important, before or after each type of exercise, to ensure the pupils warm up and cool down properly;

### Assessment and Evaluation

*(Assessment(s) before, during, and after the lesson)*

The teacher can evaluate the pupils' learning, at any stage of the lesson, using the brain storming technique. Through such discussions, the teacher can pinpoint whether progress has been achieved in relation to the initial situation, and whether in practical or theoretical aspects.

### Resources

#### **(Materials / Equipment)**

- Teaching materials relevant to the subject matter;
- Short questionnaire on physical activity (see Annex 1);
- An Interactive Whiteboard (if available in the school);
- Sports equipment for performing specific postural and/or aerobic exercises (gym mats, elastic bands, softball, balls, skipping ropes, etc.);

## Extensions

At the end of the lesson, a final discussion can be held, again using the focus group, whose central theme is a comparison between the initial knowledge and that acquired with the practical and theoretical lessons just carried out on physical activity, and the concept that movement is a form of preparation necessary to enhance life.

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