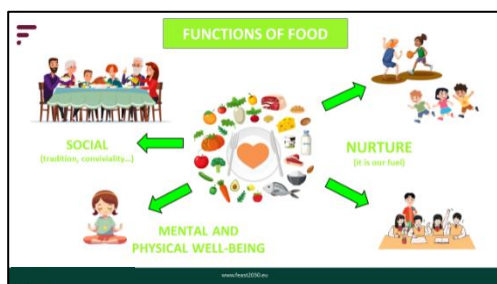


MODULE 1: THE NUTRIENTS THAT COMPOSE OUR FOOD



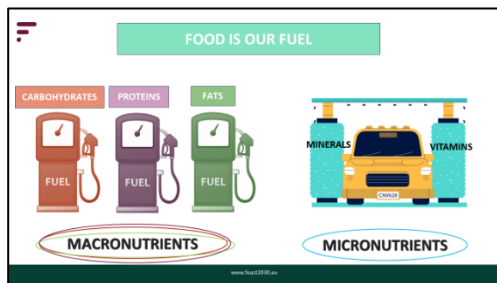
In order to promote a proper diet, it is important to consolidate the foundation on which healthier, more sustainable and more conscious eating habits can be built. For this reason, our nutrition course begins by explaining the functions of food, the elements that make up food (i.e., macro- and micronutrients), and the classification of food into five food groups.



Core concept: "Food serves multiple functions"

The basic purpose of eating is to nourish, which means to provide energy to our body so that it can maintain its vital functions. Food is like fuel, the resulting energy helps us perform various daily activities and promotes mental and physical well-being. In addition, food has a social function: it is associated with the pleasure of eating in company and togetherness, and with the possibility of passing on traditions and customs.

MODULE 1: THE NUTRIENTS THAT COMPOSE OUR FOOD



Core concept: "Food is made up of nutrients"

As mentioned earlier, it is possible to consider food as a fuel because of its ability to provide energy. This energy comes from the presence of macronutrients in food, i.e. carbohydrates, proteins and lipids. Moreover, the presence of micronutrients, i.e. vitamins and minerals, is essential for the proper functioning of the cellular reactions of our metabolism. Therefore, our body needs to consume all nutrients on a daily basis in order to function properly and meet its needs.

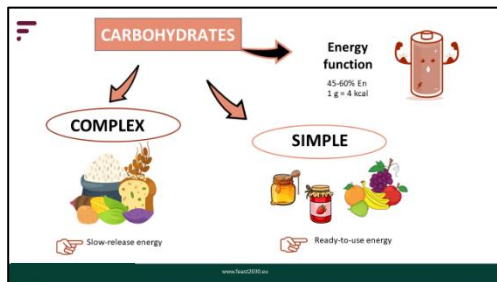
The **CORRECT MIX** of nutrients that our body needs is crucial and makes the **DIFFERENCE** !
It helps your body run smoothly -like a well-tuned engine



Core concept: "An unbalanced diet has effects on daily functioning in both the short and long term"

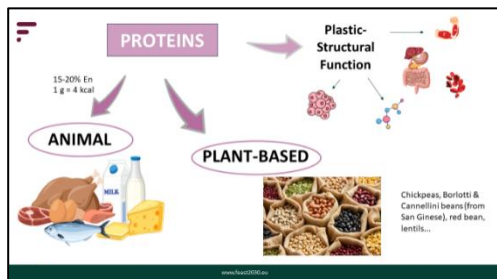
Since there is no one food that can contain all nutrients, it is essential to consume different foods daily so that the right and balanced combination of macro- and micronutrients is achieved.

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Core concept: “Carbohydrates are divided into simple and complex and mainly have an energy function”

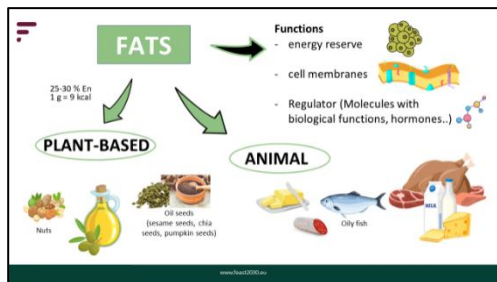
The main function of carbohydrates is to provide energy to our bodies, in fact, 45-60% of daily energy should come from this macronutrient. In addition, carbohydrates (also called "sugars") can be divided into “complex”, which provide slow-release energy because the body absorbs energy from them over a longer period of time, and “simple”, which provide fast-release energy because the body absorbs energy from them immediately. Examples of foods that contain mostly complex carbohydrates are: bread, pasta, rice, potatoes, spelt, rice, barley... On the other hand, examples of foods that contain mostly simple carbohydrates are: fruit, honey, and fruit jams.



Core concept: “Proteins have mainly structural functions and are classified according to their origin, namely animal or plant-based”.

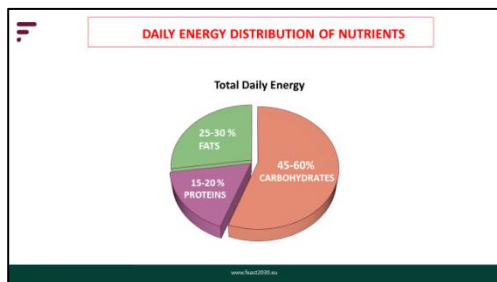
The main function of protein is structural, since it participates in the construction of various tissues and acts as hormones, neurotransmitters and enzymes. 15-20% of daily energy should come from this macronutrient. Foods that contain mostly animal protein include: meat, fish, eggs, milk and dairy products. On the other hand, foods that contain mainly plant-based protein are for instance: legumes (chickpeas, lentils, beans, chickling peas, soybeans...), soy derivatives such as tempeh and tofu, and wheat derivatives such as seitan.

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Core concept: "Fats are classified according to their origin, namely animal or plant-based and serve different functions".

Fats perform important functions in our body, such as participating in the formation of cell membranes, regulating physiological responses through hormone molecules, and serving as an energy reserve. 25-30% of daily energy should come from this macronutrient. Foods that contain animal fats include: meat, fish, eggs, milk and dairy products. On the other hand, foods that contain fats of plant origin are: extra virgin olive oil, oil seeds (sesame seeds, chia seeds, pumpkin seeds...) and seed oils.



Core concept: "Daily energy comes from the presence and different distribution of macronutrients."

Daily energy intake provided by food comes from macronutrients, and 45-60% should come from carbohydrates, 25-30% from fats, and 15-20% from proteins. These proportions remain constant, although individual energy needs are personal and may vary according to: age, sex, basal metabolic rate, and level of physical activity.

MODULE 1: THE NUTRIENTS THAT COMPOSE OUR FOOD



Core concept: "Micronutrients are divided into vitamins and minerals and serve a variety of functions."

Micronutrients are divided into vitamins and minerals, and although they do not provide energy, they are essential for the proper functioning of the body. Micronutrients are found in varying amounts in both animal and plant foods. As for vitamins, they can be divided into water soluble (C, B group) and fat soluble (A, D, E, K). An example of a vitamin that is very important for the functioning of the body is vitamin D, which promotes bone mineralization, regulation of the immune system and cell differentiation. Foods that contain a good amount of it include: egg yolks, cheese, liver, mushrooms, oily fish and salmon. As for minerals, calcium and iron for example are relevant for the functioning of the body. Calcium, functional for bone formation, nerve transmission and muscle contraction, is found in foods such as milk and its derivatives, legumes, anchovies, cruciferous vegetables and rocket. Iron, functional for oxygen transport to tissues, is found in foods such as meat, legumes, whole grains, spinach, clams, and nuts.



To facilitate the acquisition and consolidation of information, a short activity has been included to be carried out in small groups (Appendix 1). The purpose of the activity is to find the target answers to the questions posed to the students in a letter matrix. Each group member is assigned a question and then an answer to identify. At the end of the activity, students share and discuss their answers.

MODULE 1: THE NUTRIENTS THAT COMPOSE OUR FOOD



Core concept: "Foods can be classified into 5 food groups that can be combined to meet nutritional needs"



Foods are classified into 5 food groups based on the nutrients present in the greatest amount. The first group, defined by "grains and tubers", includes foods such as pasta, rice, barley, spelt, bread, potatoes ... These foods are characterized by the fact that they contain mainly carbohydrates and to a lesser extent plant-based proteins and vitamins. Similarly, the second group is represented by fruit and vegetables, foods rich in water and fiber. The third and fourth groups include foods in which the main macronutrient are proteins. Specifically, the third group includes foods such as meat, fish, eggs, and legumes, while the fourth group consists of foods such as milk, dairy products, yogurt, and cheese. Finally, the fifth group is "fats," in which the most represented macronutrient is fat and includes foods such as extra virgin olive oil, butter, nuts, oilseeds and vegetable oils. Since there is no single food that contains all the necessary nutrients, it is important to combine foods from the different groups within the meals of the day.







To facilitate the acquisition and consolidation of information, a short activity to be carried out in small groups has been included (Appendix 2). The purpose of the activity is to reproduce the classification of the 5 food groups using the pictures and words provided. At the end of the activity, each group presents its work and the answers are shared and discussed.

MODULE 1: THE NUTRIENTS THAT COMPOSE OUR FOOD

SOME FALSE BELIEFS

VITAMINS are found **ONLY** within fruits and vegetables  **FALSE**
Vitamins are also found within the other food groups; for example, in olive oil there is VIT E and in whole grains there are Vit A, E, B  **TRUE**

Farinaceous foods (pasta, bread, potatoes...) provide **LESS** energy  **FALSE**
Farinaceous foods are our main source of energy, as they are rich in carbohydrates  **TRUE**

Fruit and vegetables do **NOT** contain fiber  **FALSE**
Fruit and vegetables contain fiber that helps and promotes the activity of the digestive system  **TRUE**

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This slide shows some of the false beliefs that emerged during the initial data collection phase associated with the explanation of the correct answer. This moment was useful for restructuring beliefs and fostering new knowledge.

THANKS FOR YOUR ATTENTION!

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