



# Healthy Eating and Nutrition

Society, Ecology, and Natural Resources Education Collective – SEN

# 1. Healthy Eating

## 1.1. Food Guides

- Eating different types of food
- Increase consumption of fruits, vegetables, and legumes
- Preferably use vegetable oils
- Eat fish, skinless turkey or chicken
- Consume milk and its derivatives
- Reduce salt and sugar intake
- Perform physical activity frequently

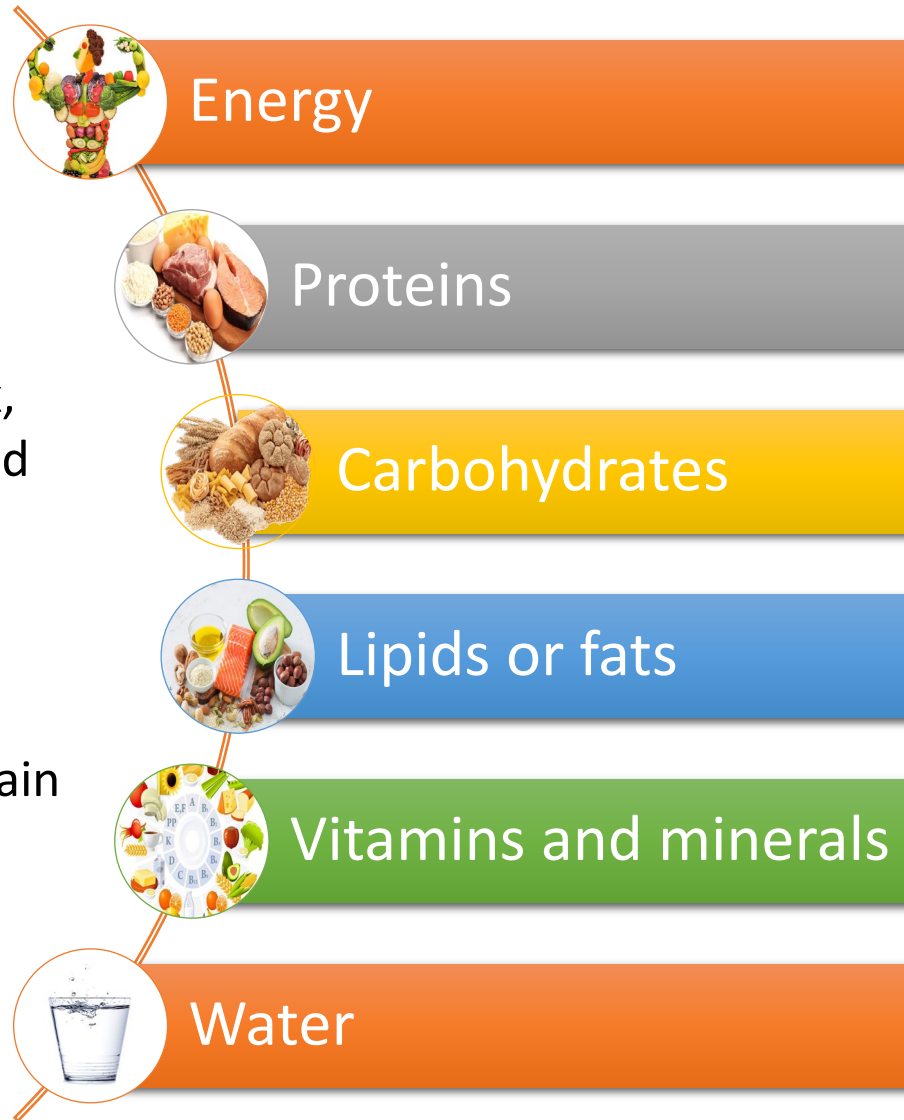
## 1.2. Food Pyramid



# 2. Nutritional Needs

## 2.1. Nutritional Needs

Nutritional needs depend on age, sex, physical activity, and physiological state and refer to the amount of energy and nutrients necessary to maintain a healthy and functional body, which are:

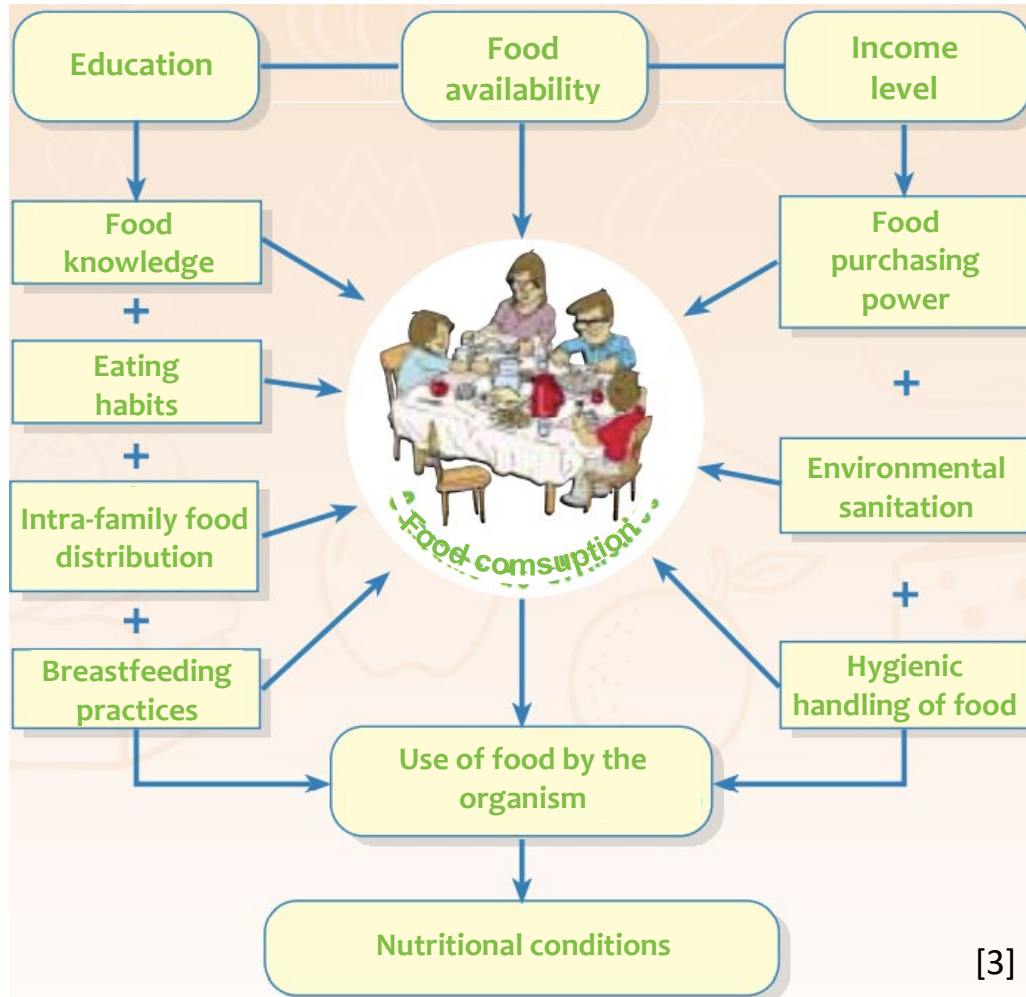


Energy is spent on:	
Basal metabolism*	60%
Physical activity	30%
Digestion of food and absorption of nutrients	10%
<b>Total energy expenditure during the day</b>	<b>100%</b>

Food	Calories	Proteins	Fats or lipids	Carbohydrates
Whole milk (1/2 cup)	61	3,3	3,2	4,8
Flavored yogurt (1/2 cup)	91	4,4	2,7	14,8
Whole egg (2 units)	160	13,5	10	4
Chicken (1 medium leg)	130	22,3	3,8	1,7
Rice (2 cups cooked)	352	6,4	0,8	79,7
Noodles (2 cups cooked)	350	12,2	0,3	74,6
Celery (1 large plate)	18	0,7	0,2	3,4
Lettuce (1 large plate)	19	1,7	0,4	2,2
Tomato (1 small unit)	19	0,8	0,4	3,2
Plantain (1 small unit)	94	1,3	0,4	21,3
Soft drinks (1/2 glass)	42	0	0	10,4
Oil (6 tablespoons)	897	0	99,7	0
Mayonnaise (4 tablespoons)	725	1,9	78,2	3,3
Water ice cream (1 small unit)	81	0	0	20,2

# 3. Nutrition and Health

## 3.1. Nutritional Status and its Evaluation



## 3.2. Food-related Diseases

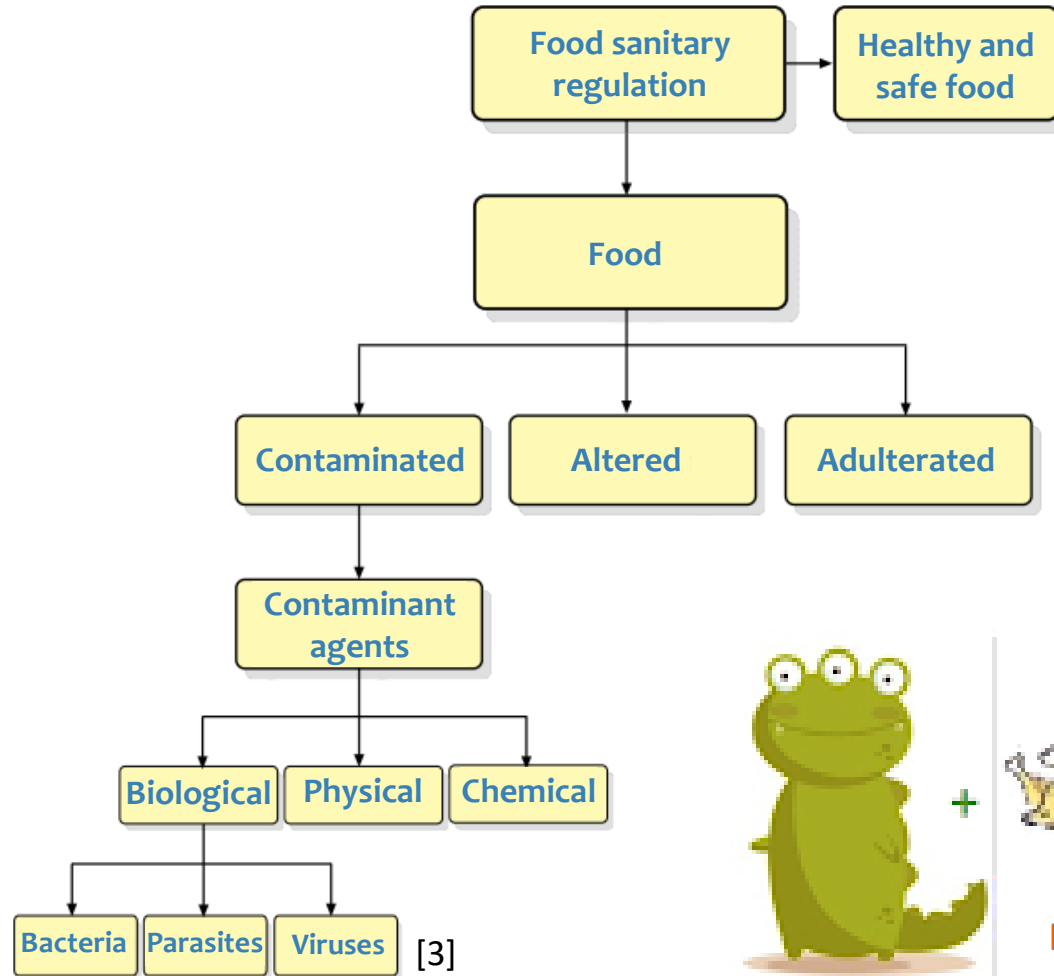
A complex block containing a blue cross icon, a blue box with text, a red heart with a stethoscope, and a comparison of normal and osteoporotic bones. The text in the blue box reads: 'Due to excessive energy intake (obesity, diabetes, hypertension, etc.)' and 'Due to an insufficient intake of energy or specific nutrients (malnutrition, anemia, osteoporosis, etc.)'. The heart and stethoscope are labeled [4]. The bone comparison is labeled [5].

## 3.3. Alterations in Eating behavior

- Bulimia
- Anorexia nervosa

# 4. Healthy and Safe Food

## 4.1. Concept of Healthy, Safe, Contaminated, Altered, and Adulterated Food



## 4.2. Microorganisms and their Characteristics



### Pathogenic microorganisms

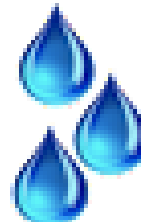
- They do not alter the appearance of the food
- Cause diseases

### Spoilage microorganisms

- Change the food properties
- Do not cause diseases



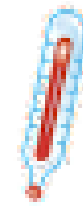
Nutrients



Humidity



Time

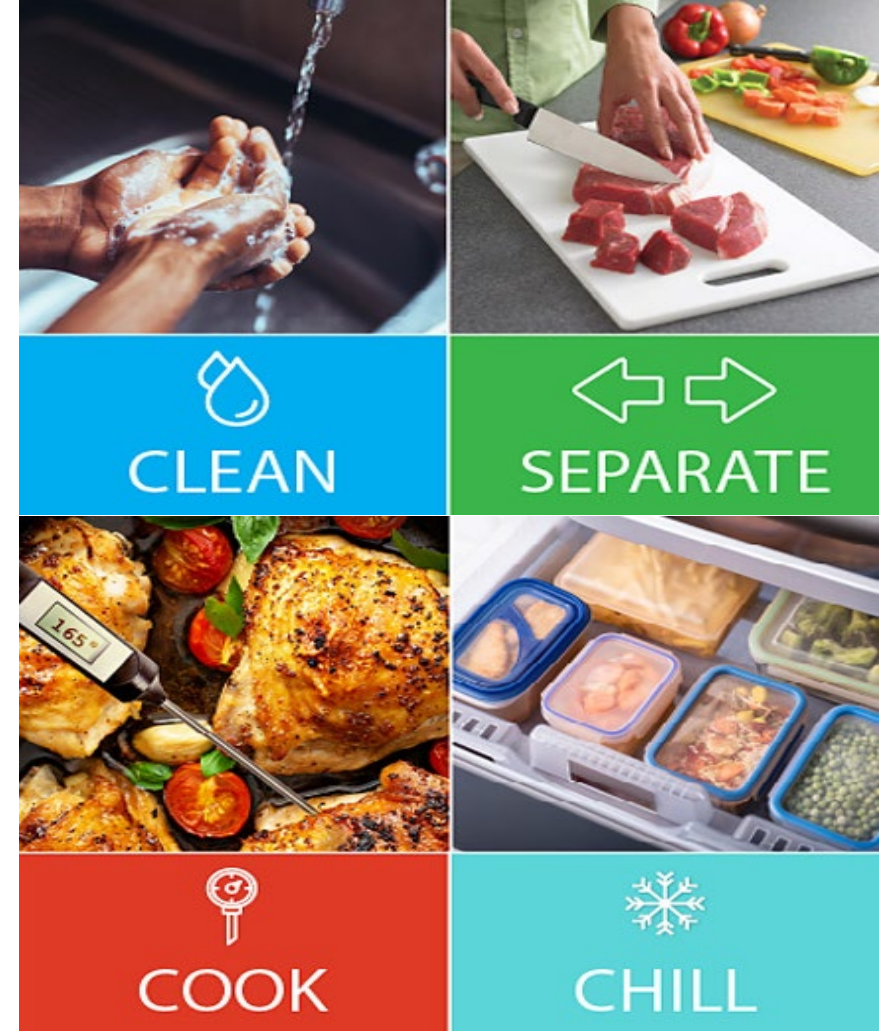


Temperature [8]

# 4. Healthy and Safe Food

## 4.3. Foodborne Diseases and their Prevention

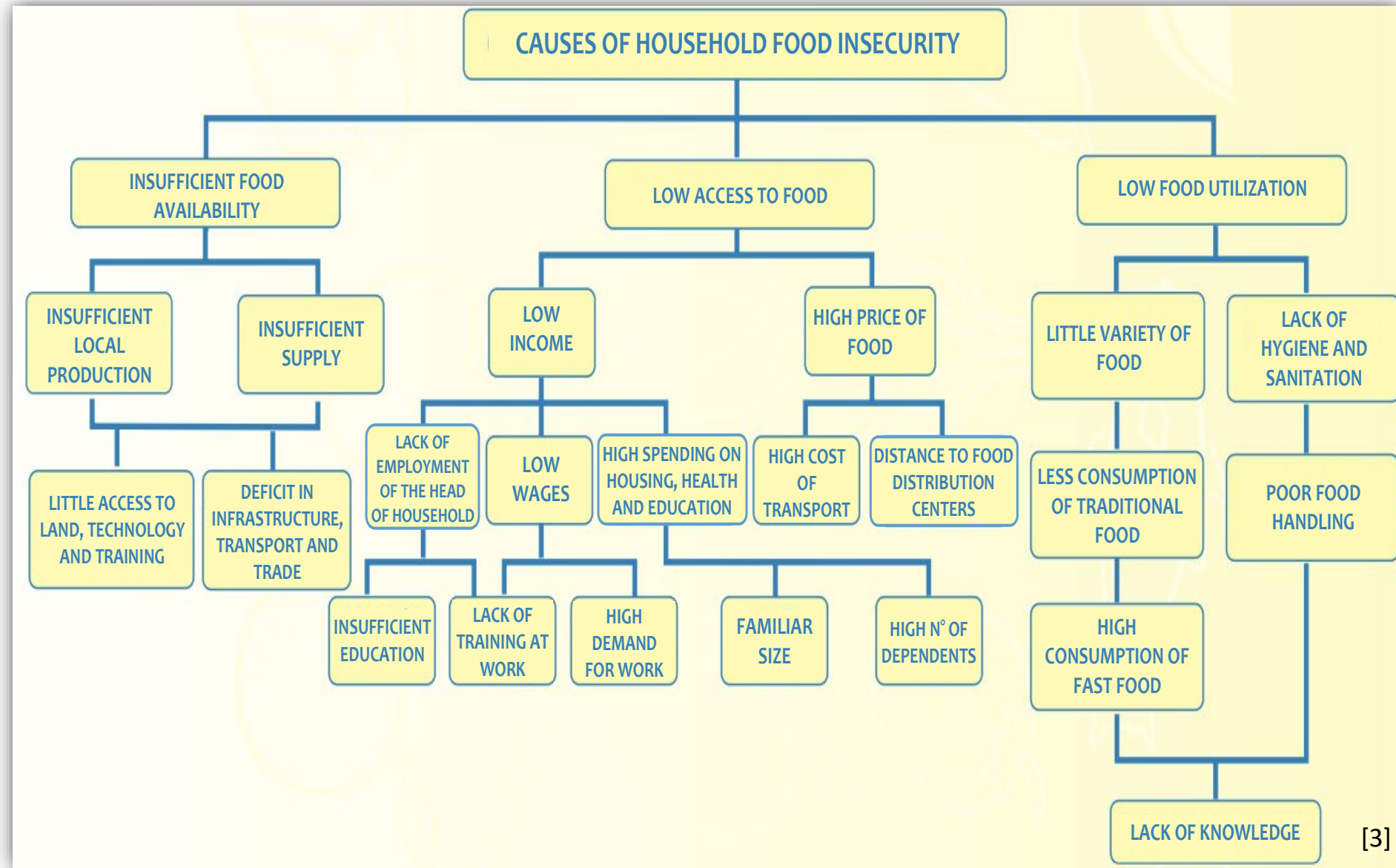
Disease	Causal agent	Food involved	[3]
Typhoid fever	Salmonella typhi	Fruits and vegetables irrigated with sewage; food contaminated by a sick handler	
paratyphoid fever	Salmonella paratyphi	Fruits and vegetables irrigated with sewage; food contaminated by a sick handler	
Shigellosis	Shigella dysenteriae, S flexneri, S boydii, S sonnei	Fruit and vegetables irrigated with sewage Hands of the carrier handler	
Stomach flu	Escherichia Coli	Food or water contaminated with the bacteria	
Cholera	Vibrio Cholerae	Raw fish and shellfish, food washed or prepared with contaminated water	
<b>Parasitic diseases</b>			
Taeniasis	Taenia solium Taenia saginata	Pork and bovine meat contaminated with cysts (larvae)	
Trichinosis	Trichinella spiralis	Pork meat contaminated with cysts (larvae) of T. spiralis	
Ascariasis	Ascaris lumbricoides	Vegetables and fruits irrigated with sewage	
<b>Viral diseases</b>			
Hepatitis A	Virus de la hepatitis A	Vegetables irrigated with sewage	
Enteritis by rotavirus	Rotavirus	Water and food contaminated with feces	



Measures to prevent food poisoning [9]

# 5. Family Food Security

Food security is the access to all people, at all times, with enough food to meet their nutritional needs. At the family level, it refers to the ability to obtain sufficient, varied, and safe food to cover the nutritional needs of all household members.



# 6. Activity

## 6.1. Objective

To learn about food security and nutrition while preparing an easy, nutrient-rich recipe.

## 6.2. Procedure

- Form groups of 4 students
- By groups, answer the following questions to get the different ingredients needed to prepare the recipe. Every question corresponds to one ingredient or more, or you can interchange ingredients with another group.





### 6.3. Questions

QUESTION	INGREDIENT
1. What are food-related diseases? Mention one in each category.	Chickpeas
2. What is family food security?	Red beans
3. Outline the measures to prevent food poisoning.	Dry corn
4. What do nutritional needs depend on?	Lentils
5. Mention three measures or healthy eating guides.	Dry wheat
6. What are the nutritional needs and their main characteristics?	Soybean grains
7. Name three foodborne diseases.	Green banana
8. What is contaminated food? Define its divisions.	Natural peanut
9. Make a diagram of the food pyramid and classify the following foods/activities in it: corn, trout, onion, apple, cheese, cassava, soccer, potato, banana, lemon, garlic, sunflower oil, eggs, soda, water, basketball, fries, ham.	Honey
10 . What do microorganisms need to multiply?	Extra
11. Mention the types of microorganisms and their effects on food and the body.	Extra
12. What are eating disorders and their main characteristics?	Extra

## 6.4. Recipe: Energy Balls

Sampa is a highly nutritious energy food traditional from Tibet that can be taken regularly to cleanse the body and give rest to the digestive organs mistreated today by our eating habits. A small ball of this food represents the ration of a meal of the day, and stored hermetically can last up to 5 years without refrigeration.

### **Ingredients:**

- Chickpeas
- Red beans
- Dry corn
- Lentils
- Dry wheat
- Soybean grains
- Green banana
- Natural peanut
- Honey (3 times the total weight)

### **Preparation:**

1. To toast the ingredients
2. To grind each one separately
3. To mix the ingredients and gradually add the honey
4. To form balls with the mixture
5. To store in a hermetic glass container



[11]

# 7. References

- [1] J. Ponce, "Listado de alimentos para gambas," *GambasdeAcuario*. [Image]. Available: <https://gambasdeacuaria.com/listado-de-alimentos-para-gambas/>. [Accessed: 06-Feb-2023].
- [2] I. Garibaldi, "La pirámide alimentaria tradicional ya no sirve: esta es más saludable," *Objetivo Bienestar*, January 31, 2023. [Image]. Available: [https://www.objetivobienestar.com/alimentacion-saludable/por-piramide-alimentaria-conoces-esta-desfasada-como-deberia-ser-verdaderamente-saludable\\_52468\\_102/1012754.html](https://www.objetivobienestar.com/alimentacion-saludable/por-piramide-alimentaria-conoces-esta-desfasada-como-deberia-ser-verdaderamente-saludable_52468_102/1012754.html). [Accessed: 06-Feb-2023].
- [3] S. Olivares, I. Zacarías, and M. Andrade, "Educación en Alimentación y Nutrición para la Enseñanza Básica," *Organización de las Naciones Unidas para la Agricultura y la Alimentación*, 2003. [Online]. Available: <https://www.fao.org/3/am401s/am401s.pdf>. [Accessed: 06-Feb-2023].
- [4] Javier, "Hipertensión Arterial: EpS estilo vida," *Centro de Salud San Blas*, January 21, 2014. [Image]. Available: <https://sesionessanblas.blogspot.com/2014/01/hipertension-arterial-eps-estilo-vida.html>. [Accessed: 06-Feb-2023].
- [5] Together, "Efectos óseos tardíos," *St. Jude Children's Research Hospital*, June 2018. [Image]. Available: <https://together.stjude.org/es-us/vida-despu%C3%A9s-del-c%C3%A1ncer/efectos-a-largo-plazo/efectos-%C3%B3seos-tard%C3%ADos.html>. [Accessed: 06-Feb-2023].
- [6] M. Muñoz, "Shigelosis transmitida por alimentos contaminados," *Consejo Nutricional*, September 26, 2018. [Image]. Available: <https://consejonutricional.com/2015/04/15/shigelosis-transmitida-por-alimentos-contaminados/>. [Accessed: 06-Feb-2023].
- [7] A. Kenner, "Mold," *Theorizing the Contemporary, Fieldsights*, June 27, 2019. [Image]. Available: <https://culanth.org/fieldsights/mold>. [Accessed: 06-Feb-2023].
- [8] "Recalentar, si o no?," *Cocina segura*. [Image]. Available: <http://www.cocinasegura.com/2013/09/recalentar-si-o-no.html>. [Accessed: 06-Feb-2023].
- [9] "Seguridad de los alimentos," *Centros para el Control y la Prevención de Enfermedades – CDC*, August 18, 2019. [Image]. Available: <https://www.cdc.gov/foodsafety/es/index.html>. [Accessed: 06-Feb-2023].
- [10] "Sampa: antigua receta del Tibet," *De rutas por la naturaleza*. [Image]. Available: <https://derutasporlanaturaleza.es/?p=1078>. [Accessed: 06-Feb-2023].
- [11] "Sampa: alimento energético para tiempos de escasez," *Recetas ABC*. [Image]. Available: <https://recetasabc.com/sampa-alimento-energetico/>. [Accessed: 06-Feb-2023].
- [12] "Somos cocineros...¡de dibujos!," *La clase de Laura*, January 28, 2017. [Image]. Available: <https://la-clase-de-laura.blogspot.com/2017/01/somos-cocinerosde-dibujos.html>. [Accessed: 06-Feb-2023].