

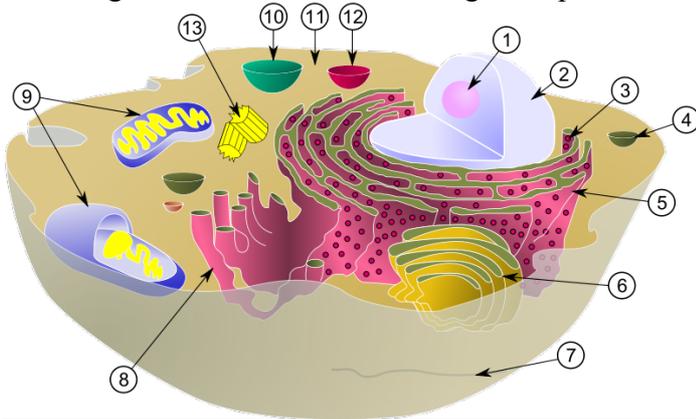


This activities are to prepare for the recovery exam of the first term.

1 - Read carefully the questions, circle the correct answer. Two wrong answers will take off one correct, so if you are not sure with an answer, doing nothing is usually better. (2p)

- 1.- The most balanced diet is one that:
 - A. It is rich in fiber and protein.
 - B. It is varied and with all kinds of food.
 - C. It is the American most advanced diet.
 - D. It is low in fat and flour.
- 2.- The main function of the proteins is:
 - A. Digestive function.
 - B. Energy function.
 - C. Regulatory function.
 - D. Structural function.
- 3.- Fiber is:
 - A. An important regulatory substance for the proper functioning of the liver.
 - B. An essential nutrient in our diet made of cellulose that we can't digest.
 - C. Essential for protein synthesis.
 - D. Neither answer is correct.
- 4.- What polisaccharide carbohydrate consists of many glucose molecules?
 - A. Lactose.
 - B. Sucrose.
 - C. Starch
 - D. Galactose.
- 5.- What vitamin do we need to prevent beriberi?
 - A. A
 - B. B
 - C. C
 - D. D
- 6.- Which of the following sentences corresponds to the water-soluble vitamins.
 - A. Are vitamins C and B.
 - B. Are soluble in fat.
 - C. Are difficulty removed from our body.
 - D. They are stored in our body.
- 7.- What nutrient is essential for the regulatory function of the human body?
 - A. Carbohydrates.
 - B. Proteins.
 - C. Mineral salts.
 - D. Lipids.
- 8.- What is known as basal metabolism?
 - A. Creating energy from inorganic matter.
 - B. The minimum amount of energy consumed by the body.
 - C. Transforming nutrients into energy.
 - D. The excretion of the excess energy in cells.
- 9.- What carbohydrates are sweet, water soluble, crystallizable?
 - A. All carbohydrates.
 - B. Polysaccharides.
 - C. The starch in the bread.
 - D. Mono- and disaccharides.
- 10.- What happens when, in our digestive system, proteins of the food we eat are digested?
 - A. They are broken down into simpler molecules called amino acids.
 - B. They are broken down into simpler molecules called monosaccharides.
 - C. They are broken down into simpler molecules called vitamins.
 - D. They are broken down into simpler molecules called minerals.

2.- Using the numbers from the image complete the textbox under it. (1,5p)



a.- Numbers 1 and 2 refer to the same organelle
 b.- Numbers 4 and 12 refer to the same organelle and are used as an example.

	Cytoskeleton		Network formed by protein filaments		Controls the cells functions.
4, 12	Lysosomes		Two cylinders formed by protein fibers.		Store substances
	Vacuoles		Membrane system, with tubes and bags, covered with ribosomes		Synthesis of fats.
	Nucleus		Flattened and stacked pouches (cisternae)		Controls the cytoskeleton and the cilia and flagella.
	Cell membrane	4,12	Membrane bound vesicles with digestive enzymes		Synthesis and storage of proteins.
	Mitochondria		Small organelles with no membrane.		Produce energy through cell respiration.
	Ribosomes		Genetic material surrounded by a membrane		Regulates the substances that pass through it.
	Rough endoplasmic Reticulum		Membrane bound vesicles		Processes proteins and lipids. Then sends them out
	Smooth Endoplasmic reticulum		Membrane system, with tubes and bags.	4,12	Digest complex substances
	Golgi apparatus		Tubular organelles with a double membrane		Gives shape to the cell and helps in cell division
	Centrosome/Centrioles		Layer that separates the cell from the outside of it.		Protein synthesis.

3.- What systems are involved in human nutrition? (0,5p) What do they all work for?(0,5p)

4.- Complete the following chart. (1p)

Vital function	System	Function performed.
NUTRITION FUNCTION		Takes the waste products away from the blood.
	Circulatory	
	Digestive	
		Supplies oxygen to the blood and gets rid of CO ₂
		Creates reproductive cells.
INTERACTION FUNCTION	Sensory organs	
		Receives information and works out responses
	Skeletal and muscular	
		It secretes hormones that have different functions

5.- Set the following organization levels in the correct order. From the simplest to the most complex (0,5p)

System
Ecosystem
Atom
Organism
Community
Population
Biosphere
Molecule/macromolecule
Tissue
Cell
Organ

6.- Define the following concepts: (2p)

- Levels of biological organization:

- Metabolism:

- Hormone:

- Catabolism:

7.- Nutritional needs (Energy needs). (1p)
Fill in the blanks in the following text.

“Our body needs energy to maintain the activity of cells. In order to obtain this energy our body uses for cell respiration three kinds of nutrients: _____, _____, and proteins.

Each of these, provide different amounts of energy. _____ give 3,75Kcal/g, while _____ provide 9kcal/g. Proteins, are used to obtain energy in cases of extreme need, they provide _____ kcal/g.

We need energy to do our normal activity, but we also need energy when the body is at rest. This amount of minimal energy needed by the body is called _____. This value increases with this two factors _____ and _____, and decreases with _____. It is also _____ in males than in females.

5.- Connect each concept on the first column with its matching one on the second one. (1p)

A	Epithelial tissue		It's a type of connective tissue. With three different types of cells.
B	Blood tissue		Large amount of intercellular matrix and small scattered cells.
C	Connective tissue		Its characteristic cell is called neuron.
D	Muscle tissue		Cells packed very close together, almost no intercellular substance.
E	Nervous tissue		It can be striated, smooth or cardiac
F	Bone tissue		Firm and elastic tissue
G	Adipose tissue		It produces and releases a substance.
H	Glandular epithelium		It lines the surfaces of the body, both internal and external.
I	Cartilaginous tissue		Its function is to support the organism. It has minerals on the matrix.
J	Epithelium tissue		Its main function is to store fat

6.- Nutritional needs. Fill in the blanks in the following text. (1p)

“Our body needs energy to maintain the activity of cells. In order to obtain this energy our body uses for cell respiration three kinds of nutrients: _____, _____, and proteins.

Each of these, provide different amounts of energy. _____ give 3,75Kcal/g, while _____ provide 9kcal/g. Proteins, are used to obtain energy in cases of extreme need, they provide _____ kcal/g.

We need energy to do our normal activity, but we also need energy when the body is at rest. This amount of minimal energy needed by the body is called _____. This value increases with this two factors _____ and _____, and decreases with _____. It is also _____ in males than in females. The last thing for which our body uses energy is to maintain our body _____.

Nonetheless, our body needs more than energy. We need substances to build our cellular structures, these proximate principles are known as _____ nutrients. The most important of this type are proteins. Proteins are made of smaller units called _____. But proteins are not the only ones in this group, _____ make up cell membranes, and _____ form our bones.

Last but not least, we need regulatory nutrients. These are necessary in _____ quantities, but they are essential. The most important are _____ and _____. The first type are _____ because they are made by living beings, while the second type are _____ substances.

7.- Make a scheme that represents the relationship between the four systems involved in nutrition and metabolism. (1p)

8.- Choose the correct answer for these questions about food related illnesses. Each two wrong answers subtract a correct one. (2p)

8.1- Botulism or salmonellosis are examples of:

- a) Food allergies
- b) Food poisoning
- c) Deficiency-related diseases
- d) Malnutrition.

8.2- Type 2 diabetes is caused by:

- a) A diet rich in saturated fats.
- b) A diet rich in mono and disaccharides
- c) A diet rich in destroyer chewing gum
- d) A diet rich in fiber.

8.3- Pellagra is caused by lack of vitamin:

- a) B12
- b) C
- c) B3
- d) D

8.4- Goiter is caused by lack of _____ in our diet:

- a) Chorizo
- b) Calcium
- c) Vitamin D
- d) Iodine

8.5.- It's a food intolerance to a protein found in cereals (gluten).

- a) Anaphylactic shock
 - b) Lactose intolerance
 - c) Anorexia
 - d) Coeliac disease.
- 8.6- This psychological disorder consists of rejecting food because of the fear of gaining weight.
- a) Anorexia
 - b) bulimia
 - c) Obesity
 - d) Gluttony disease
- 8.7- This disease is caused by the lack of a hidrosoluble vitamin.
- a) night blindness.
 - b) scurvy
 - c) rickets
 - d) Funny teeth disease.
- 8.8- A disease caused by the lack of Iron in our diet.
- a) Obesity
 - b) Ferrolackquency
 - c) pelagra
 - d) anemia
- 8.9- People affected by this disease have high probabilities of heart attack:
- a) Obesity.
 - b) Type 2 diabetes
 - c) bouncing knee syndrome
 - d) The bouncing what?
- 8.10- It's a case of malnutrition caused by the lack of proteins in the diet.
- a) Goitre
 - b) Bulimia
 - c) kwashiorkor
 - d) Marasmus