

ARMENIAN EVANGELICAL CENTRAL HIGH SCHOOL

Grade 11 Biology (Humanities)

At the end of grade 11 (Humanities) the student should be able to:

- Recognize that food habits are diverse.
- Demonstrate that human diet varies according to region.
- Recognize that a balanced diet must satisfy the quantitative and qualitative needs of the organism.
- Understand that energy expenditure of an organism is provided by oxidation of organic energy rich nutrients.
- Note that expenditure of energy by an organism is continuous but varies as a function of internal and external functions.
- Note the existence of a minimum expenditure of energy by an organism which corresponds to the basal metabolism.
- Note that the principle of a balanced diet consists of balancing the supply with the expenditure of energy.
- Recognize that for a balanced diet the quantity of food as well as its quality are to be taken into consideration.
- Recognize that deficiency of one of those substances may lead to serious disorders.
- Note that vitamins are organic substances essential in small amounts for good health and that they are provided in food.
- Deduce the importance of certain amino acids which must be found in food.
- Recognize that certain fatty acids are not synthesized by the body and that they must be supplied in food.
- Note that certain mineral elements such as iodine and fluorine are essential in very small doses for the proper functioning of the organism and their total lack induces very serious disorders.
- Note that there is a close relation between the consumption of food and the risk of appearance of certain diseases like cardiovascular diseases, obesity, etc.
- Point out that atherosclerosis provokes a lesion of the arteries, in particular the coronary artery.
- Notice that a close correlation exists between the concentration of cholesterol in the blood and mortality from cardiovascular diseases.
- Note that prevention of cardiovascular diseases must begin at childhood.
- Point out that obesity is a multifactor symptom.
- Cite the factors that develop obesity.
- Establish that obesity is not a disease but an important risk factor which gives rise to certain number of diseases.
- Note that prevention of obesity must begin as early as possible and that it consists mainly of reduction of energy supply.
- Know that diseases of deficiency follow undernutrition and/or malnutrition.
- Recognize that marasmus is due to global deficiency of food.
- Recognize that kwashiorkor is due to quantitative and qualitative deficiency of qualitative amino acids present in animal proteins.
- Note that prevention of deficiency diseases requires not only an increase in available food resources but also requires health education.
- Note that constituting molecules of all cells are renewed without stop.

- Note that normal biological renew is impossible unless the diet is balanced.
- Note that there are various techniques for improving species.
- Note that agricultural research aims at satisfying the needs by increases production of animals and improvement of their products.