

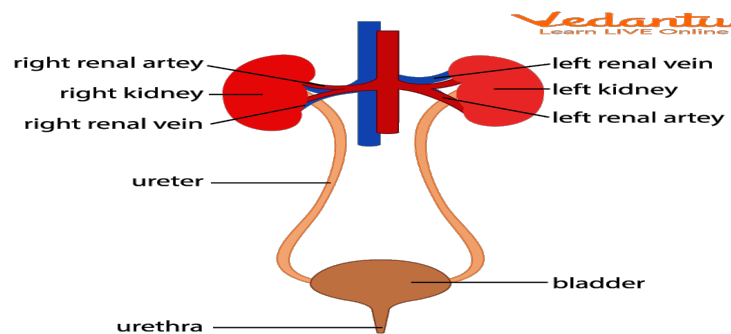


COLEGIO NACIONES UNIDAS I.E.D.
WORKSHOP THIRD TERM
BIOLOGY 7th

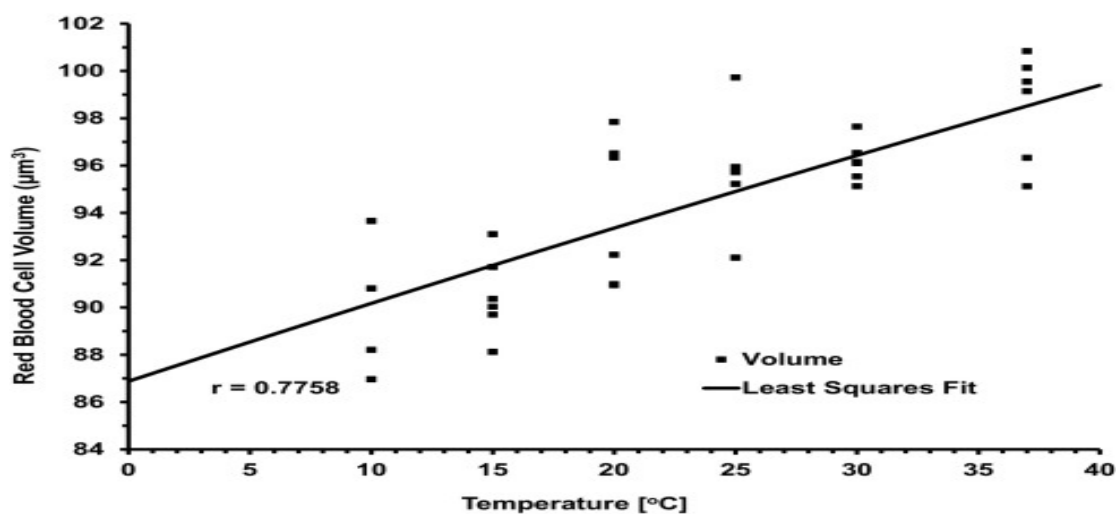
This workshop must be copied and developed in the corresponding notebook
DELIVERY DATE NOVEMBER 8th

NAME _____ GRADE _____ DATE _____

1. A person has a blood test done and after learning the results, his doctor diagnoses him as having difficulties with the coagulation process and that he is prone to contracting infectious diseases. In which blood cells is he deficient?
2. What is the order of the path of waste substances in the elimination process?



3. A researcher took blood plasma samples from inhabitants of different Colombian towns, which were located in different thermal zones. After sampling, he analyzed and determined the approximate number of red blood cells per mm³ of each individual and organized the data obtained in the graph.



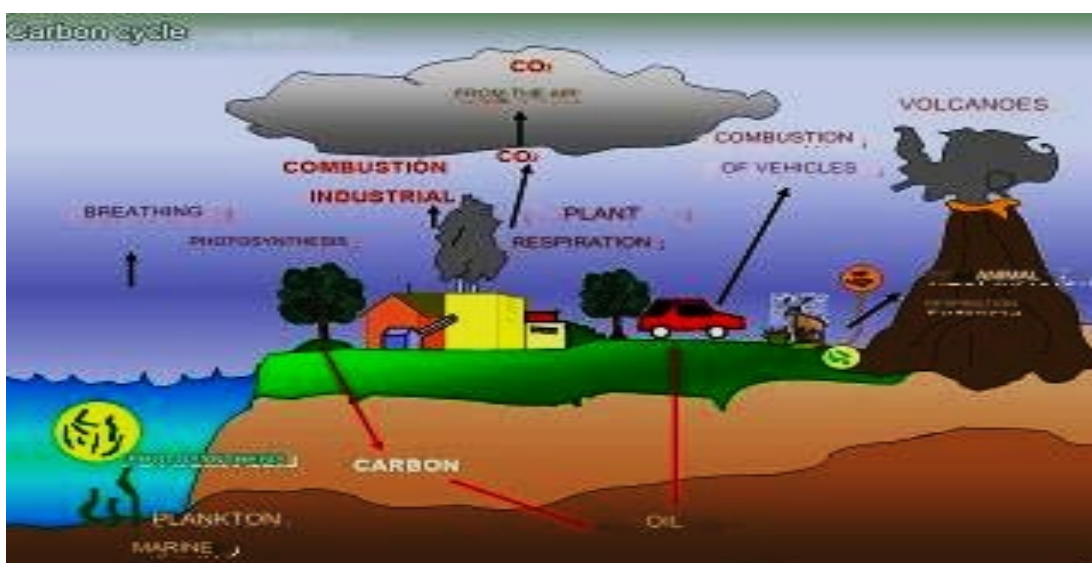
Taking into account that there is an inverse relationship between altitude and oxygen concentration, what could you conclude about it?

4. The muscles of the human body are divided into three main types: skeletal, cardiac and smooth muscles. Skeletal muscles are attached to bones and allow voluntary movement, such as walking or lifting objects. They are found throughout the body, from large muscles like the quadriceps in the legs to smaller ones like the muscles in the fingers. Cardiac muscles make up the heart and are responsible for pumping blood throughout the body involuntarily. Finally, smooth muscles are found in the walls of internal organs and perform functions such as contraction of the intestine to facilitate digestion. These three types of muscles work together to keep the human body functioning properly. What type of muscle is primarily associated with voluntary movement?

5. Every time a person climbs a mountain or begins to rise above sea level, they feel slight discomfort because the atmospheric pressure decreases and the amount of oxygen in the air decreases as well. This lack of oxygen affects the body. human beings who live in high places where oxygen is scarce, to counteract this deficiency?
6. Metabolism is the set of chemical processes that sustain life in cells. It is divided into anabolism and catabolism. Anabolism involves reactions that build complex molecules from simpler ones, such as protein synthesis, and requires energy. Catabolism, on the other hand, breaks down complex molecules into simpler ones, releasing energy, as in the breakdown of glucose to produce ATP. Each type of metabolism has crucial functions: anabolism supports tissue growth and repair, while catabolism provides the energy necessary for cellular activities. Both processes are interconnected and are regulated to maintain the energy balance of the body.

Write in your own words what metabolism is.

7. The following statements talk about different types of reactions, one of them does not correspond to Anabolism, justify your answer
 - ✓ Substances present in cells are degraded and release energy
 - ✓ It is the synthesis of substances that the cell needs to live
 - ✓ In this reaction, glycogen is formed from glucose.
 - ✓ The synthesis or manufacturing of proteins that occurs on cellular ribosomes
8. Rigor mortis is the tightening of muscles due to lack of ATP after death. This process begins one to two hours after death and takes 10 to 12 hours to complete. Stiffness usually starts in the upper part of the body and progresses towards the lower part. Firstly, it affects the small fibers of the face; they follow the medium-length fibers of the neck, chest and arms; finally, the longest fibers. As time progresses, rigor mortis gradually decreases, in the same order in which it developed, and disappears completely after 24 to 36 hours. If a victim is found with the facial muscles relaxed but the rest of the body rigid, what time death will most likely have occurred approximately?
9. The balance of a natural ecosystem is achieved by the interaction of biotic and abiotic agents. In biotics, energy flows from one level to another, from primary producers to consumers of various degrees. Under natural conditions, a human who obtains his food by hunting and gathering fruits, if he consumes a herbivorous animal, where is it in the food chain?
10. Sunlight is the original source of energy in all vital processes; this energy is transformed through photosynthesis, What group of organisms perform photosynthesis?
11. According to the following carbon cycle diagram, it is INCORRECT to state, justify your answer.



- ✓ Plants, in their photosynthesis process, produce carbon dioxide that pollutes the atmosphere
 - ✓ Plants, in their respiration process, produce carbon dioxide that pollutes the atmosphere
 - ✓ All living beings, in their respiration process, produce CO₂ that pollutes the atmosphere
 - ✓ Oil is made up of CO₂ stored underground by the decomposition of living beings
12. José observes that the amount of sugar cane in his crop is decreasing due to a worm infestation. He hypothesizes that if he applies a natural insecticide, the number of worms will decrease. To

test this, he measures the number of worms before and after applying the insecticide. If José's hypothesis were true, what should the results be?

