

# Biology osmosis lab report assignment



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Experiment for the measurement of carbon dioxide and oxygen concentrations and their functions during the act of breathing. Introduction: Humans, like all living organisms need, O<sub>2</sub> in order to live, they take the necessary O<sub>2</sub> from the atmospheric air. The O<sub>2</sub> is transferred from the blood to all cells of the body and serves for oxidation of nutrients for example glucose. By oxidize the nutrients released energy, which is necessary for the functions of the human body. During oxidation produces CO<sub>2</sub>, which in high concentrations is harmful to the human body.

CO<sub>2</sub> is transferred from the blood to the lungs, where is exhaled. The intake O<sub>2</sub> and the parallel elimination of CO<sub>2</sub> in the lungs and is called gas exchange with the environment or otherwise breath (URL). In physiology respiration is defined as the transport of O<sub>2</sub> in the body from the outside air to the cells within tissues and the transport of CO<sub>2</sub> in the opposite direction. Thus the basic function of the respiration in human body is to deliver O<sub>2</sub> to all parts of the body in order to produce energy for the function of organism and remove waste product out of this. URL). This function is performed by the respiratory system. In the experiment we dealt with retreating and were designed to the chemical factor or factors boost for breath and dealt with the O<sub>2</sub> and CO<sub>2</sub>. Generally in the experiment was four times breathing, different air quality each time, which contains a collection of air from the breathing. Then measure the O<sub>2</sub> and CO<sub>2</sub> in the air which was collected. At one time was breathing atmospheric air and the other two times was breathing O<sub>2</sub> and CO<sub>2</sub> respectively.

A variety of objects among which the timer for time measurement, mouthpiece for breath, geometer for measurement the O<sub>2</sub> in the blood, a <https://assignbuster.com/biology-osmosis-lab-report-assignment-lab-report-samples/>

bags for collecting air and two other bag who have O<sub>2</sub> and CO<sub>2</sub> respectively (URL). The results were obtained after the recovery gas mixtures were measured in the laboratory through a machine measuring instruments in this gas mixture. The method was used to understand the reasons for which breathing takes place as well as the specific factors causing it.

The experiment helped identify these factors by the variations in air intake and exhalation. Using this method we managed to define the ideal air mixture for healthy breathing. Materials and Methods: A lot has been written and said about the control of respiration in the human body and many textbooks and scholars have dealt with this main issue in medicine. They state that respiration in healthy people is mainly controlled by CO<sub>2</sub> concentrations present in the brain and arterial blood. Modern research is focused on specifics and details of this chemical breath control.

This experiment recorded the rates of O<sub>2</sub> and CO<sub>2</sub> concentrations. High levels of CO<sub>2</sub> in the blood are naturally poisonous, thus it is preferable to have them at the lowest possible levels. Paradoxically it is the increase of CO<sub>2</sub> concentrations which controls breathing in the outer respiration system, the fundamental function of the human body (URL). At the first stage of the experiment, a person breathed atmospheric air through a toothpick and in order to breathe only from the mouth with the help of the mouthpiece, we used a clip.

In this stage to the experiment, breath was taken from normal air which was breathed from room conditions as we all breathe daily, with air containing Nitrogen, 20% Oxygen and 0% CO<sub>2</sub>. Breathing of normal air was taken for

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one minute and then the person breathed the air held his holding for as much time as possible and having the nose clip on the nose. He manages to hold his breath seconds before he blew out the air blew air into a bag; this moment is called Apneas time.

Then the bag was given to the laboratory technician in order to ass the air of the bag passes into a gas analysis. From the analysis of the bag air we have got the percentages of pap and APPC respectively. The units which provided the resolution are meg. In the first analysis, the results were 38, 9 meg CA and 104, 78 meg O<sub>2</sub>. The second part the experiment was repeated as previously with a few differences. Specifically, with the help of the mouthpiece and the nose clip as before was taken hyperventilation for one minute.

Then the breath was hold for as long as possible, namely 61 second, after that pick up the air inside the bag for a gas analyze with the help of the laboratory technician, as before. The percentage of O<sub>2</sub> in this case was 102. 19 meg, while the CA was 26 meg. In the third part of the experiment we use a special bag containing 5% CACM, where the mouthpiece was connected with the bag which contained the 5% CA and the breathing was taken from the bag for one minute.

As previously with the assistant of mouthpiece and nose clip, the breath was hold as long as possible, specifically 37 seconds. Samples of the air in a bag ware taken again as before in the gas analyze to analyze the new rates. The rates which were taken were 111. 1 meg for O<sub>2</sub> and 49 meg for CA. The fourth time the experiment was approximately the same way as the previous

times as before; with the difference breathing was taken from a bag containing 40% O<sub>2</sub> for one minute, with the help of the mouthpiece.

The breath hold was repeated again as long as possible, namely for seconds and in this case the rates of the air collected after the gas analyze, were 140.25 mg O<sub>2</sub> and 55 mg CO<sub>2</sub>. The average of these results was performed in the table below along with the graph. The rates we got were O<sub>2</sub> 140.25 mg and CO<sub>2</sub> 55 mg. In experiment except the toothpick and the nose clip used also the committee to observe the oxygen present in the body and a stopwatch to measure the time of breath and time of breath holding.