Cellular Respiration: Laboratory Work

Cellular Respiration CO2 Lab 1

Introduction

Do we breathe out more oxygen when we relax or when we are working out? I believe we breathe out more oxygen when we are working out than when we are relaxed. When we breathe out oxygen we breathe out carbon dioxide. The carbon dioxide comes from the food that we eat. The carbon dioxide is carried to the lungs by the circulation and then we breathe it out. This is why I believe we breathe out more oxygen when we are working out than when we are relaxed. Because our blood be circulating through our lungs faster and we breathe out more carbon dioxide.

Materials/Produce

- 2 cups
- Straw
- Bromothymol Blue
- Timer

First I get two clear and clean cups. Then I filled my two cups up with water up until it gets to the first leaf. Next we get the Bromothymol blue and add ten drops to the water. Make sure you do not shallow the Bromothymol blue it will make you sick. Label your two cups “Cup A” and “Cup B”. You grab “Cup A”, a straw, and a timer. I start the timer and begin to blow in the cup while I'm relaxed. When it turns fully yellow stop the timer and write the time down. Next, I had to work out for one minute. After one minute I grab “Cup B”, the same straw, and the timer again. And then began to blow in “Cup B”. When it turns fully yellow stop the timer and write down the time.

Results/Observation

Cup A Relaxed: 15.18 This cup I was relaxed and calm. I blew in the cup and it took me 15.18 until it turned yellow. It took longer because I was not blowing that much carbon dioxide into my cup.

Cup B After Working out: 8.74 With this cup I was tired and out of breath. We did several exercises like high knees, butt kicks, jumping jacks, superman, and squats. When I went to go blow in my cup it didn't take that low until it turned yellow

Conclusion

In this experiment, you breathe more when you are working out than when you are relaxed. While exercising our bodies needs more energy which means our body needs more air than when we are relaxing. During exercising our circulation speeds up and take the oxygen to the

muscles so they can keep moving. After the exercises our heart rate, breathing rate, and carbon dioxide make an increase.

1. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4818249/