

Activity-24: Respiration in Humans.

Aim: How long can a person hold his/her breath?

Procedure:

Take a hand clock or a stop watch (the one in cell phones is also okay). Take a deep breath and close your mouths tight, close your nose with your fingers and start the stop clock. Once you feel you can no longer continue, stop the watch and then release your breath (if you can do it simultaneously your results will be much more accurate). Now repeat this experiment 3 times and take an average of it.

Modifications:

This experiment should be done by each and every student of the class. All girls and boys should participate. Try performing this experiment on people older than you by 10, 20, 30, 40 and 50 years respectively. Perform this experiment during running or any other physical exercise if possible.

Now tabulate the results as follow:

RESTING IN A SINGLE POSITION: Age- ; Weight: ; Height: ;

Person/male or female	Males (breath held in minutes).	Females (breath held in minutes)
Person-1		
Person-2		
...		
Average:		

DURING PHYSICAL EXERCISE LIKE WALKING, RUNNING
SWIMMING...etc.

Age- ; Weight: ; Height: ;

Person/male or female	Males (breath held in minutes).	Females (breath held in minutes)
Person-1		
Person-2		
...		
Average:		

Observation:

Do you observe differences in the breath holding times between males and females of the same age? What will be the breath holding capacity of a person during exercise? If you observe less time duration, what is the reason for the difference? What is the change in breath holding times of a person as his age changes? Do you observe differences due to weight and height? What could be the relation between heart beat rate and breath-holding time? Think!

Concepts Covered:

We cannot hold our breath forever. Because as time progresses our body uses up the oxygen in the air contained in our lungs and forces us to breath in fresh air. Oxygen is used for the energy generating process called Respiration which occurs in each and every cell of our body.