

The Diving Reflex

The human body has evolved many responses to ensure survival under traumatic experiences. One response, the diving reflex, extends the amount of time a person can be underwater and still survive. Test the diving reflex with this activity, and see how your body responds.



Materials for each pair

- dishpan filled with 8 cm. (about 3 in.) of cold water
- stopwatch or clock with a second hand
- towel

Procedure

1 Begin by measuring your resting pulse rate in beats per minute. Have your partner place two fingers on your wrist and count your heartbeat for 15 seconds. Multiply this number by four and record your results:_____.

Then switch roles and repeat the procedure.

2 To test your diving reflex, you will submerge your face in cold water for 15 seconds. Before you start, explain what you think will happen to your pulse as a result of the experiment.

3 Diving Reflex Test: Perform this test while sitting. Hold your breath and submerge your face (up to the hairline and in front of the ears) in a pan of cold water. While your face is in the water, have your partner measure your pulse for 15 seconds. Record your pulse:_____.

Then switch roles and repeat the procedure.

Questions

1 What happens to your pulse when your face is immersed in cold water? Why do you think this happened?

2 How might this response help a person who falls into very cold water?