

Name _____

Breathing for Life: Why Do We Need to Breathe?

Open-Ended Response Answer Key

1. The journey of oxygen begins when we inhale air through our nose or mouth. It then travels down the trachea and enters the lungs, where it passes through bronchi and bronchioles to reach the alveoli. In the alveoli, oxygen enters the bloodstream and binds to red blood cells, which transport it to cells throughout the body, where it is used for energy production.
2. Our breathing rate increases during exercise to provide more oxygen to our working muscles. This is achieved by the brain sending signals to respiratory muscles, such as the diaphragm and rib muscles, to breathe faster and deeper.
3. Maintaining the balance of oxygen and carbon dioxide in our body is essential for several reasons, including maintaining proper bodily functions and preventing harmful imbalances. Oxygen is necessary for energy production, while excess carbon dioxide can lead to respiratory problems and changes in blood pH.
4. Answers will vary. Students can share personal experiences where deep, slow breaths helped them feel calmer in stressful situations, such as before a test or when facing a fear.

