

Name _____

Balancing Act: How the Excretory System Maintains Homeostasis

Short Answer Key

1. When there is excess water intake, the excretory system, specifically the kidneys, filters the extra water from the blood and produces dilute urine. This process helps reduce the water content in the body and maintains water balance.
2. Maintaining the balance of electrolytes like sodium and potassium is crucial because they play essential roles in nerve and muscle function. An imbalance can lead to muscle weakness, heart problems, and nerve dysfunction.
3. The excretory system helps maintain the body's pH level by excreting excess hydrogen ions when the blood becomes too acidic or retaining them when it becomes too alkaline, thus restoring the pH balance.
4. The excretory system eliminates waste products from the bloodstream to prevent them from accumulating and becoming toxic. This ensures that the body's internal environment remains stable and in balance.
5. The excretory system regulates blood pressure by adjusting the volume of blood in the body. When excess water is removed by the kidneys, it reduces blood volume, leading to lower blood pressure.

