

Name \_\_\_\_\_

## Kidney Power: The Role of Kidneys in the Excretory System

### Open-Ended Response Answer Key

1. If someone's kidneys are not functioning correctly, it can lead to a condition called kidney failure. This can result in symptoms like fatigue, swelling, high blood pressure, and even life-threatening complications if left untreated. Maintaining the body's internal balance and homeostasis becomes challenging, as waste products and excess substances accumulate in the bloodstream.
2. When someone consumes an excessive amount of salt, the kidneys help prevent potential health risks by excreting the excess salt through urine. This regulation helps maintain homeostasis by preventing high blood pressure, reducing the risk of heart disease and stroke.
3. The kidneys' role in regulating blood pressure is crucial. If the kidneys fail to control blood pressure, it can lead to conditions like hypertension (high blood pressure). This can increase the risk of heart disease, stroke, and other cardiovascular problems, disrupting homeostasis.
4. If the kidneys are unable to excrete excess hydrogen ions, resulting in increased acidity in the blood, a person's overall health could be affected. They may experience symptoms like muscle weakness, confusion, and breathing difficulties. Complications such as acidosis can arise due to the disrupted pH balance.

