

Name _____

Discovering Bases: Their Characteristics, Taste, and Texture

Open-Ended Response Answer Key

1. The pH scale measures the acidity or alkalinity of a substance. Bases have a pH above 7, indicating their alkaline nature. A higher pH indicates a stronger base. This higher pH means that bases can neutralize acids, feel slippery, and have a bitter taste. Practically, stronger bases are more effective at neutralizing acids and can be harsher on the skin and other materials.
2. In a taste test comparing baking soda (base) and lemon juice (acid), set up two stations with small, labeled cups containing a diluted solution of baking soda and lemon juice. Participants should taste each and rate the bitterness on a scale from 1 to 10, with 10 being the most bitter. Expected observations may include differences in perceived bitterness, with baking soda likely rated as more bitter.
3. Bases play a crucial role in cleaning products and detergents due to their alkaline nature and slippery texture. When mixed with water, bases can break down oils and fats, facilitating their removal from surfaces. The slippery texture helps in the mechanical action of cleaning, and the alkaline properties aid in dissolving and neutralizing acidic stains and residues.
4. Bases are an integral part of personal hygiene and cleaning routines. They are present in soaps and detergents, making them effective in removing oils, dirt, and stains. Bases in personal hygiene products like shampoos and body washes provide a cleansing sensation. In cleaning, the interaction with bases affects the ease of removing tough stains and maintaining cleanliness in our daily lives.

