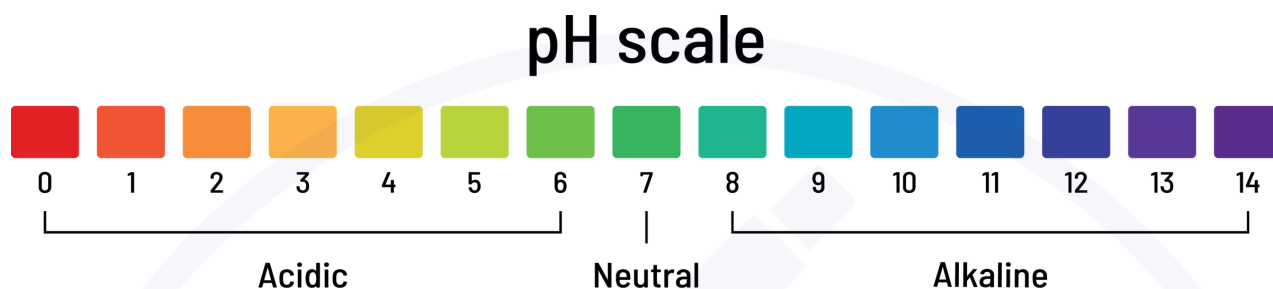


ACIDS, ALKALIS, AND THE PH SCALE

Key Concepts

- Acids have a pH less than 7; alkalis have a pH greater than 7.
- Neutral substances have a pH of 7.
- Indicators like litmus and universal indicator show pH.



Key Facts to Remember

- Acids taste sour, while alkalis feel soapy or slippery to the touch.
- Acids have a pH less than 7; examples include vinegar (acetic acid) and lemon juice (citric acid).
- Alkalis have a pH greater than 7; examples include soap (contains sodium hydroxide) and baking soda (sodium bicarbonate).
- Strong acids and alkalis are corrosive and can cause burns or damage materials.
- Neutral substances, like pure water, have a pH of exactly 7.
- Indicators such as litmus paper and universal indicator are used to measure pH: acids turn litmus red, and alkalis turn it blue.
- Neutralization occurs when an acid reacts with an alkali, forming a salt and water (e.g., hydrochloric acid + sodium hydroxide → sodium chloride + water).

Quick Questions

1. What pH is neutral?
2. Name an everyday acid and alkali.
3. How does universal indicator work?
4. What happens to the pH of an acid when it is diluted with water?
5. What color does litmus paper turn in an alkali?
6. Give an example of a neutralization reaction.
7. Why are strong acids and alkalis dangerous?

Fun Fact

Bees use acid (formic acid) to protect their hives!

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