

UNIT 4

Matter and Change

Chapter 9 *Acids, Bases,
and Solutions*

Chapter 10 *Chemical Reactions*

Chapter 11 *The Chemistry of
Living Systems*

0
1
2
3
4
5
6
7

More acidic

Neutral

More basic

Scale
pH

$2\text{H}_2 + \text{O}_2 \rightarrow 2\text{H}_2\text{O} + \text{ENERGY}$

CHEMICAL REACTION

solubility and solutions

SER THR CYS
GLN LYS ARG

TRY **THIS** AT HOME

Why do pennies get dull over time instead of staying shiny? Put 1/4 cup white vinegar or lemon juice and 1 teaspoon of salt into a bowl and stir until the salt dissolves. Dip a dull penny halfway into the liquid and hold it there for ten to twenty seconds, then remove the penny.

What do you see? Pennies don't stay shiny because the copper slowly reacts with air to form a dull coating. What do you think happened to the dull coating when you dipped the penny in the vinegar and salt solution?

WARNING — This lab contains chemicals that may be harmful if misused. Read cautions on individual containers carefully. Not to be used by children except under adult supervision.

