

CURIOSITY AT HOME

POLISHED PENNIES



Have you ever noticed that older pennies often turn brown, black or even green? This discoloration is caused by oxidation. Oxidation occurs when the penny reacts chemically with the oxygen around it. To make the penny shiny again, we need to cause another chemical reaction that will temporarily reverse oxidation!

MATERIALS

- 6 tarnished pennies
- vinegar
- ketchup
- salt
- 5 cups
- sugar
- pen

PROCEDURE

- Cover a tarnished penny with ketchup and let it sit for 5 minutes.
- Rinse the penny. Do you notice a change?

TRY THIS

Ketchup removes tarnish from pennies, but can you guess which of its ingredients cause the chemical reaction? Ketchup's major ingredients (besides tomatoes) are vinegar, salt and sugar.

Try testing each of these ingredients alone. You'll need to add water to the salt and sugar to make saltwater and sugar water.

Then try testing different combinations: for example, salt and vinegar. Which ingredient or combination of ingredients works best?

DID YOU KNOW

Dirt, humidity and light gradually degrade works of art, just like the environment slowly tarnishes pennies. Art conservators use their artistic skills and scientific tools—such as x-rays, microscopes and chemical analysis—to examine and restore art



Show us how you're being curious! Share your results with us.

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