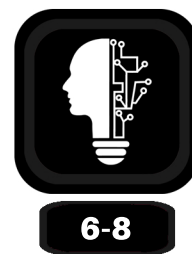


Cleaning Pennies



Materials:

- Dirty/Green Pennies (2ea)
- Vinegar
- Dish Soap
- Paper Cups (2ea)
- Paper Towel



Overview:

Pennies are copper, and they are often in circulation for years (yuck!), so they often appear very tarnished. In this experience, you're going to see if soap or vinegar (or other liquids) do a better job at cleaning the exterior of the dirty copper penny.

Instructions:

1. Guess whether the dish soap or the vinegar will make the penny look the shiniest
2. Put each penny in a paper cup.
3. In one cup, pour in enough vinegar to totally cover the dirty penny.
4. In the other cup, pour in enough dish soap to totally cover the dirty penny.
5. After 10 minutes, take the pennies out, rinse them with water and rub them dry with a paper towel. Now compare the two pennies to see how clean they got!
 - a. Which liquid cleaned the pennies the best?
Was your guess correct?

The Science:

When pennies are exposed to air, the copper material reacts with oxygen. This reaction between copper and oxygen forms copper oxides that make the pennies dull and dark - sometimes it even turns them green! The acetic acid in the vinegar dissolves these chemicals and leaves the penny looking new and shiny. Dish soap does not contain acetic acid, so it does not dissolve the copper oxide.