

Polishing Pennies

Age: 4th/5th grade

Area: Chemical Science

Materials:

- 6 old dull pennies
- 5 paper cups
- Lemon juice
- Milk
- Cola
- Apple juice
- Water
- 5 plastic spoons
- Paper towel



Background:

A new penny is partly made from bright, shiny copper. But after a while, it loses its shine. Why? Because the copper mixes with oxygen in the air and makes a coating of copper oxide. When you put a penny in lemon juice, the dull coating of copper oxide goes away. That's because lemon juice is an acid. Acids can dissolve copper oxide.

Instructions:

1. Put a penny in each cup.
2. Pour some lemon juice into one of the cups until the penny is covered.
3. Wait a few minutes. Ask the kids what they think will happen to the coin. Then remove the penny with a spoon.
4. Rub the penny with a paper towel and record observations for lemon juice.
5. In different cups with old coins repeat with other liquids.
6. Then compare the shininess of each penny from the different cups.
7. Why are some shinier than others?

Name:

Polishing Pennies



Liquid	Hypothesis	Observation	Rank (1-5) 1=shiniest
Lemon Juice			
Milk			
Cola			
Apple Juice			
Water			