SHINY PENNIES STEM ACTIVITY

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NC Society of Hispanic Professionals
"Promoting Education among Hispanic Youth"

MATERIALS

- Dull, dirty pennies
- 1/4 cup white vinegar
- 1 teaspoon salt
- A clear, shallow bowl (not metal)
- Paper towels

LEARNING OUTCOMES

- Students reinforce their knowledge on chemical reactions and vocabulary.
- Students will become familiar with conducting a safe experiment.

PROCEDURE

1. Put the salt and vinegar in the bowl. Stir until the salt dissolves.
2. Dip one penny halfway into the liquid. Hold it there for about 10 seconds, then pull it out. What do you see?
3. Dump all the pennies into the liquid. You can watch them change for the first few seconds. After that you won't see anything happen.
4. After 5 minutes, take half of the pennies out of the liquid. Put them on a paper towel to dry.
5. Take the rest of the pennies out of the liquid. Rinse them really well under running water, and put them on a paper towel to dry. Write "rinsed" on the second paper towel.

Pictures from: https://www.tobeakidagain.com/shiny-penny-science-chemistry-inspired-by-bennys-pennies/

WHAT THIS MEANS

Everything around you is made up of atoms. Some things are made up of just one kind of atom. The copper of a penny, for example, is made up of copper atoms. The pennies looked dull and dirty because they were covered with copper oxide.

Why did the vinegar and salt clean the pennies? Copper oxide dissolves in a mixture of weak acid and table salt-and vinegar is an acid.

Why did the unrinsed pennies turn blue-green? When the vinegar and salt dissolve the copper-oxide layer, they make it easier for the copper atoms to join oxygen from malachite.

GLOSSARY

- Atoms: tiniest and basic units of matter
- Molecules: atoms of different kinds joining together
- Copper oxide: Copper atoms combine with oxygen atoms from the air to make this molecule
- Malachite: air and chlorine from the salt to make a blue-green compound

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Spanish

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Source: https://www.exploratorium.edu/science_explorer/copper_caper.html

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