



Turn a Penny Green

Background:

This is similar to how the Statue of Liberty turned green.

Materials:

- A few copper pennies
- White vinegar
- Bowl
- Paper towels

Procedure:

1. Have the student/child fold the paper towel so it fits inside the bowl.
2. Put the pennies on top of the paper towel.
3. Ask the student/child to pour the white vinegar over the pennies so the paper towel is wet.
4. Over the next few hours/days, have your student/child record their observations about the pennies. They may want to add more vinegar and/or flip the pennies over. The longer they wait, the more green the pennies will become!



Why is this happening?

This is a fun chemical reaction! Once the vinegar is poured over the pennies and on the paper towel, the copper reacts with the oxygen in the air and creates something called malachite. The vinegar can be seen as a catalyst since it helps to speed up the process of the copper reacting with oxygen. So the Statue of Liberty would have eventually turned the green color she is now over a long period of time due to the exposure to oxygen. However, some rain contains acid from pollution and acts as a catalyst and helps to speed up the process of the statue turning green, just like the vinegar on the pennies.

Standards Used:

Ohio:

5-PS1-4 Conduct an investigation to determine whether the mixing of two or more substances results in new substances.

2-PS1-1 Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties.



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Pennsylvania:

3.2.PK.A Notice change in matter.

3.2.PK.B7 Ask questions about objects, organisms, and events. Participate in simple investigations to answer a question or to test a prediction. Use the five senses and simple equipment to gather data.

3.2.2.A5 Recognize that everything is made of matter.