

Chemistry Cleans Pennies Experiment

Supplies Needed:

- Shallow Container
- A few pennies – the older/dirtier the better
- Table salt
- White Vinegar
- Rubber gloves



Setting up the Experiment:

1. Place the pennies in the container.
2. Cover the pennies with salt
3. Pour white vinegar over the pennies
4. Rub the salt and vinegar mix over both sides of the pennies (you might want to wear gloves for this)
5. Take the pennies out and wash off the mixture.

What do you see?

An additional Experiment:

What happens if you don't wash the pennies once you've taken them out the salt and vinegar mixture?

1. Leave one penny in the mixture for about an hour
2. Take the penny out and wash off the mixture.

What do you see?

Key Word(s): chemical reaction, compound (two or more elements chemically joined make a compound e.g. copper and oxygen make copper oxide)

How it Works:

Pennies have a copper coating. Pennies get dull and dirty because the copper in the pennies reacts with oxygen in the air to form copper oxide, a compound.

When you put your pennies in a vinegar and salt mix, the vinegar and salt react together and remove the copper oxide.

If you don't wash the salt and vinegar mix off, a blue-green layer forms on the pennies. The salt and vinegar mix speeds up the reaction between copper and oxygen in the air, forming copper oxide - which is a blue-green colour. Have you seen any building roofs or statues with a blue-green colour? These must be made of copper!

CfE Links: Investigative & Inquiry Skills and SCN 2-19a

On-line Links:

<https://www.scientificamerican.com/article/shine-bright-like-a-penny/> This article takes the experiment one step further!

<https://littlebinsforlittlehands.com/chemistry-activities-experiments-kids/> has more chemistry experiments you can try at home.

The Royal Institution Experimental (<http://www.rigb.org/families/experimental/about>) has lots of science videos to help you bring science home with simple and inexpensive experiments.

The Dad Lab on YouTube (<https://www.youtube.com/channel/UCC-hy0u9-oKINdMKHBudcQ>) also has lots of simple experiments to try at home with videos showing you how to do them.

<https://www.britishscienceweek.org/> has activity packs and citizen science projects with new ones each year for the annual British Science week in March.