

## Praxis “Making Science Fun”

### Classroom Chemistry – Fun with Pennies

I thought we’d better do this one before pennies become hard to find.



#### Materials:

- 20-30 dull pennies
- measuring spoons.
- 2 uncoated clean steel screws/nails
- ¼ cup white vinegar
- 1 shallow clear glass or plastic bowl
- salt
- paper towel
- water

**Procedure:** (Remember to have your parent’s permission and they have time to watch and help you.)

- Put the vinegar and 1 teaspoon salt into the bowl, stir until dissolved.
- Dip a penny halfway in and hold for 10-20 seconds. What happens?
- Dump the rest of the pennies into the mixture and leave it for 5 minutes.
- Take half the pennies out and spread them on the paper towel to dry.
- Take the other half of the pennies and rinse them well under running water, then spread them on paper towel to dry.
- Meanwhile put the steel nails/screws into the liquid so that it is half in and half out.
- Look carefully for tiny bubbles?
- After about 10 minutes take the screw/nail out. Do you see different colours? If not then put in back in. Check again later.

#### What's happening?

Copper in the pennies becomes dull when it chemically reacts with the oxygen in the air forming copper oxide. Vinegar is acetic acid so it dissolves the copper oxide. Rinsing the pennies under the tap stops the reaction between the salt/vinegar solution. They eventually will turn brown but the solution on the unrinsed pennies speeds up the reaction of the copper with oxygen in the air causing it to turn dull or even a little green much sooner (this is called verdigris – some rocks look like this).

#### Extension:

The copper in the solution coats the nail/screw as the copper from the solution replaces some of the iron in the nail/screw. What do you think the bubbles are on the nail/screw?

This activity is based on our “Classroom Chemistry” kit that is currently under development. Our teaching kits (described on our website) are loaned out FREE to provide classroom teachers and parents of home schooled children an opportunity to explore Science in interesting ways. Please consider volunteering as a classroom speakers or allow your business as a field trip location.



Future Event: Praxis will be involved with the [Summer Camps for Kids](http://www.praxismh.ca/MHCsummercamp.html) put on by Medicine Hat College. Praxis developed and supplies the some of the kits used at both the Medicine Hat and Brooks camps. For more information check out <http://www.praxismh.ca/MHCsummercamp.html>.

The Annual General Meeting of the Praxis Society will be held at 7:00 pm on June 20, 2012 room B301 at Medicine Hat College. Members of Praxis as well as the general public who may be interested in joining Praxis are invited to attend but please RSVP.

Lorne Cooper, Regional Executive Director

PRAXIS, “Making Science Fun”. Contact Praxis at [praxis@praxismh.ca](mailto:praxis@praxismh.ca), [www.praxismh.ca](http://www.praxismh.ca), Tweet or follow us @PraxisMedHat, or friend us on Facebook. Address: c/o 200 7th Street S.W., Medicine Hat, AB, T1A 4K1 Phone: 403-527-5365, Fax: 403-527-6570.