

## Classroom Chemistry – Invisible Inks

Can you make your own invisible ink?

### Materials:

- Paper
- Cotton Swabs
- Cotton balls

### Heat Activated Ink:

- Lemon juice
- Onion juice
- Baking Soda solution
- Milk
- Sugar water

### Chemical Reactions Ink:

- Vinegar & red cabbage indicator
- Baking Soda solution & grape juice
- Corn Starch solution & iodine solution (drug store)
- Lemon juice & iodine solution
- Potato juice & iodine solution

### “Black” Light Ink:

- Laundry detergent
- Tonic water
- Vitamin B-12 dissolved in vinegar



### Procedure: (Remember to have your parent’s permission and have them watch and help you.)

- Dip the cotton swab in one of the liquids listed above, write your secret message on the paper and set it aside to dry.
- Heat Activated Inks: To reveal the secret message iron the paper (lowest setting), place it on a hot register or use a hair dryer set to maximum.
- Chemical Reactions Inks: Use the first chemical in the list as your ink and when you develop it use the cotton balls to wipe the paper with the second solution in the pair. (Red cabbage indicator - chop the cabbage into small pieces until you have about 2 cups of chopped cabbage. Place the cabbage in the large glass jar and add boiling water to cover the cabbage. Allow at least ten minutes for the color to leach out of the cabbage. Filter out the plant material using a coffee filter.)
- Black Light (Ultra-violet Light) Inks: Most invisible inks become visible when you shine a black light on them. Canadian “paper” money has invisible ink printed on it (<http://www.bankofcanada.ca/banknotes/bank-note-series/canadian-journey/>).
- Note the chemicals used in this experiment may be safely washed down the drain.

### What's happening?

Any chemical that weakens the structure of paper can be used as an invisible ink. It’s fun to discover other inks around your home.

### Extension:

You can disguise your secret message by writing on top of the dried paper with a pen or pencil.

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 speaker or allow your business as a field trip location.



Future Event: Praxis sets up the Science Kits used in the [Summer Camps for Kids](http://www.praxismh.ca/MHCsummercamp.html) hosted by Medicine Hat College. <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.