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Polychrome Solutions

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Quickies

If you have an idea that facilitates science teaching, jot it down and send to Editor, *Iowa Science Teachers Journal*, Biology Department, University of Northern Iowa, 50613. Be sure to include the name of your school and position. Here are some recent contributions.

Polychrome Solutions
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Chemical changes are often accompanied by color changes. This can be illustrated by the following demonstration. *Caution: Some of these solutions are poisonous. Be sure to label the solutions as such and use the proper precautions associated with poisons.*

Materials

- A. Ferric chloride, $\text{FeCl}_3 \cdot 6\text{H}_2\text{O}$ (Yellow powder).
Dissolve 30 g of powder in 100 ml of distilled water.
- B. Ammonium thiocyanate*, NH_4SCN (Colorless crystals).
Dissolve 22 g in 100 ml distilled water.
- C. Tannic acid, same as tannin, $\text{C}_{76}\text{H}_{52}\text{O}_{46}$ (Yellowish amorphous powder).
Dissolve in 100 ml of distilled water to saturation.
- D. Oxalic acid $(\text{COOH})_2^* \cdot 2\text{H}_2\text{O}$ (Colorless crystals).
Dissolve crystals in 100 ml of distilled water to saturation.
- E. Five clean glasses and a pitcher.

*Poisonous

Preliminary Preparations

1. Put 15 drops of Solution A in glass No. 1.
2. Put 2 drops of Solution B in glass No. 2.
3. Put 16 drops of Solution B in glass No. 3.
4. Put 12 drops of Solution C in glass No. 4.
5. Put about 10 ml of Solution D in glass No. 5.
6. Fill the pitcher with distilled water.

Procedure

- a) Pour water from the pitcher into glass No. 1. The solution in the glass will be colored straw-yellow. Pour the solution back into the pitcher.

- b) Pour the contents of the pitcher into glass No. 2. The solution in the glass will be colored light orange. Pour the solution back into the pitcher.
- c) Pour the contents of the pitcher into glass No. 3. The solution in the glass will be colored red. Pour the solution back into the pitcher.
- d) Pour the contents of the pitcher into glass No. 4. The solution in the glass will be colored black. Pour the solution back into the pitcher.
- e) Pour the contents of the pitcher into glass No. 5. The solution in the glass will be colored yellow. Pour the solution back into the pitcher.

* * *

A Review

James J. Hungerford, Marshalltown Community Schools

The Learning Corporation of America (1350 Avenue of the Americas, New York, New York 10019) has released a film of interest to science educators whose assignment includes sex education. The title of the film is *How to Say No to a Rapist and Survive*.

In this film, rape is presented as invasion of one's body against one's choice and is portrayed as one of the most heinous acts of humanity. The film is based on research by Fredrick Storaska and abhors some of the "dumb goofball" recommendations of other social experts.

Seven out of ten rapes are committed in dating situations. Storaska's rape prevention program is portrayed in a professional manner and creates an atmosphere conducive to learning in general classroom situations. The film is highly recommended.

* * *

Poorman's Litmus Paper

Purchase a head of red-purple cabbage. Cut up small pieces so that approximately a cupful of chopped leaves is obtained. Pour in enough water to cover the leaves and boil until the leaves turn colorless. Decant the purple liquid and store the liquid in a refrigerator for use.

Cut one inch wide strips from white paper towelling. Soak the strips in the cabbage solution. Remove the strips and let dry. Use the strips for testing the presence of acids and bases by placing drops of acids or bases on the dry cabbage paper.