Making Science Make Sense®

STICKY ICKY

MATERIALS:

- White school glue
- Food coloring
- Borax (found in the laundry aisle at store)
- Two pitchers (one labeled Borax Solution; one labeled Water Only)
- Two pints of warm tap water
- Three tablespoons (one to measure plain water, one to measure glue, one to measure Borax)
- One teaspoon (to measure Borax solution)
- Two six-ounce plastic cups (one for plain water and glue mixture and one for Borax solution)
- One popsicle stick (to stir Borax solution into plain water and glue mixture)
- Safety glasses

PROCEDURE:

1. Put on the safety glasses.
2. Take the pitcher of warm water labeled "Borax Solution." Add one pint of warm tap water and two tablespoons of Borax and stir well.
3. In one plastic cup, mix one tablespoon of plain warm tap water with one tablespoon of white glue. Stir well with popsicle stick.
4. Add a few drops of food coloring to the glue and water mix. Stir well with popsicle stick.
5. In another plastic cup, measure out two teaspoons of Borax solution.
6. While stirring vigorously with popsicle stick, slowly pour the Borax solution into the glue and water mixture. Keep stirring until there is no water/liquid left.

WHAT THIS MEANS:

The glue and water mixture contains molecular chains called "polymers" which move relatively freely as a liquid. When the Borax solution is added, it acts as a "cross-linker," binding the polymer chains together and restricting their movement. It is this molecule in the Borax solution that causes the liquid to turn into sticky icky.

GLOSSARY:

Atom: The basic particle of a chemical element, consisting of a nucleus containing combinations of neutrons, protons and electrons.

Molecule: The simplest unit of a chemical compound that can exist, consisting of two or more atoms held together by chemical bonds.

Polymers: Natural and/or synthetic substance that has a molecular structure consisting of a large number of similar units bonded together; used in making plastics, concrete, glass and rubber.

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