Stained Glass Glue

Many artists spend time making their own materials to create a work of art that is unique to them. They may be looking for a certain texture, color, interaction with light or special ability to be molded, bent, twisted or carved in a certain way. Creating the right material requires a lot of experimentation until the result is exactly what the artist needs. In the activity below, you can make a colorful art material that looks bright in the light!

Materials:

- Yogurt or Pringles lid or Styrofoam bowl
- Small plastic cup
- Elmer's glue
- Water
- Popsicle stick
- Food coloring
- Liquid dish detergent
- Toothpick

Procedures:

1. Place about 1 teaspoon of Elmer's glue in a small plastic cup. Add about 1/4 teaspoon of water. Mix with a Popsicle stick.
2. Pour the glue and water mixture into a lid or Styrofoam bowl. Tilt the lid or bowl all around until the glue solution completely covers the inside surface.

3. Place a little liquid dish detergent in a small cup. Place two or three drops each of different colored food coloring on the glue solution.
4. Put a very small amount of detergent on the end of a toothpick. Touch the center of each food coloring drop and quickly remove the toothpick. Do not stir.

5. Experiment with touching the food coloring again with detergent or adding more food coloring and touching it with detergent.

Think about this ...

Colored material such as colored glass has been used for centuries to make beautiful stained glass. Glass makers use chemicals in different combinations to produce the many different colors of glass for stained glass artwork. The combination of the design, the colors, and the effect of the light passing through the material can create wonderful works of art.

Can you think of a way of using your Stained "Glass" Glue to make a stained glass design that light can shine through? Hint: Wax paper might be a good surface to work on. Good Luck!

Where's the Chemistry?

Elmer's glue has water in it plus a much longer, more flexible chemical called polyvinyl acetate. These long flexible molecules are moving around in the water like intertwined strands of boiling spaghetti. When the food coloring drops are added, they are prevented from spreading out much by the combination of water and polyvinyl acetate molecules. When the detergent is added, detergent molecules help to break up this combination and allow the food coloring to flow more easily.

The American Chemical Society develops materials for elementary school age children to spark their interest in science and teach developmentally appropriate chemistry concepts. The *Activities for Children* collection includes hands-on activities, articles, puzzles, and games on topics related to children's everyday experiences.

The collection can be used to supplement the science curriculum, celebrate National Chemistry Week, develop Chemists Celebrate Earth Day events, invite children to give science a try at a large event, or to explore just for fun at home.

Find more activities, articles, puzzles and games at www.acs.org/kids.

Safety Tips

This activity is intended for elementary school children under the direct supervision of an adult. The American Chemical Society cannot be responsible for any accidents or injuries that may result from conducting the activities without proper supervision, from not specifically following directions, or from ignoring the cautions contained in the text.

Always:

- Work with an adult.
- Read and follow all directions for the activity.
- Read all warning labels on all materials being used.
- Wear eye protection.
- Follow safety warnings or precautions, such as wearing gloves or tying back long hair.
- Use all materials carefully, following the directions given.
- Be sure to clean up and dispose of materials properly when you are finished with an activity.
- Wash your hands well after every activity.

Never eat or drink while conducting an experiment, and be careful to keep all of the materials used away from your mouth, nose, and eyes!

Never experiment on your own!

For more detailed information on safety go to www.acs.org/education and click on "Safety Guidelines".