**WHAT YOU WILL NEED:**

- 1/2 teaspoon of Borax
- 2 ounces of Elmer's Glue
- Food coloring
- 1/2 cup of water (for first mixture)
- 1/4 cup of water (for second mixture)
- Small mixing bowl
- Cup
- Storage container

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**Overview and objective:**

Students will use basic chemical techniques to make slime. The mixture of Elmer's Glue with Borax and water produces a putty-like material called a polymer.

**Major concepts:**

In simplest terms, a polymer is a long chain of molecules. If the long molecules slide past each other easily, then the substance acts like a liquid because the molecules flow. If the molecules stick together at a few places along the strand, then the substance behaves like a rubbery solid called an elastomer. Borax is the compound that is responsible for hooking the glue's molecules together to form the putty-like material. When making homemade slime, you learn about some of the properties of polymers.

Slime is a non-Newtonian fluid that is dilatant, which means when under stress, the material dilates or expands. Other well-known stress-thickening materials are quicksand, wet sand on the beach, some printer's inks, starch solutions and 'Silly Putty'. Dilatant materials tend to have some unusual properties:

**Procedure:**

1. Mix a 1/2 cup of water and 1/2 teaspoon of Borax in a cup and set aside.
2. In a bowl, add 2 ounces of glue and 1/4 cup of water.
3. Add four drops of food coloring to the bowl and mix thoroughly. Additional drops of food coloring can be added to deepen the color.
4. Add the mixture from the cup into the bowl and stir.

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Procedure Continued:

5. Drain the remaining water in the bowl into the cup.
6. Knead the slime until it is no longer wet and gooey (may take a minute).
7. Store the slime in a storage container for later use.

Exercises:

- Pull slowly (low stress) on the material and it will flow and stretch. If careful, you can form a thin film.
- Pull sharply (high stress) and the material breaks.
- Pour the material from its container then tip the container upwards slightly and the gel self siphons.
- Put a small amount of the material on a table top and hit it with your hand. There is no splashing or splattering.
- Throw a small piece onto a hard surface and it will bounce slightly.

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