What You Need:
- 4% sodium borate solution
- 50% Elmer’s glue solution
- food coloring
- paper cups
- craft or other stirring sticks
- small zip bag
- 30 mL cup or other mL measure
- paper towels

What You Do:
1. Sodium Borate solution
   Mix 5 mL (1 teaspoon) Borax with 30 mL (2 tablespoons) water. Stir well. Let the solution settle and use only the clear top liquid. If you wish to make a larger amount, dissolve about 1/4 cup of Borax into 1 quart of water.

2. Elmer’s Glue solution
   Mix 15 mL (1 tablespoon) glue with 15 mL (1 tablespoon) water. For larger amounts mix equal parts of Elmer’s glue and water.

3. Stir several drops of food coloring into the glue solution

4. Mix all 30 mL of the glue solution with 10 mL (2 teaspoons) of the sodium borate solution. Stir about 20 seconds then knead with hands.

5. Gluep can be stored in a zip bag.

What Happens:
Elmer’s glue contains polyvinyl acetate, a polymer which adds to the glue’s viscosity. Sodium borate (Borax contains borate ions which have the ability to hook together the polyvinyl acetate molecular chains into a “cross-linked” polymer with properties that appear different than either of the ingredients.

Examine the consistency of the gluep. How does it respond to agitation? Try stretching the gluep quickly. What happens? Place the gluep in a funnel. Will it drip through? Try to form the gluep into a ball. Will it bounce? Form the gluep around the end of a straw. Can you blow it up?