

How Are Plastics Made?

Create a simple polymer - a complex molecule used to make plastics and other synthetic materials. The raw material for making plastics comes from crude oil. The molecules of crude oil are changed chemically into totally new molecules that are used to make many products we use every day.

What you need:

- 8oz Styrofoam cup
- wood craft stick
- food coloring
- 30 ml white school glue
- 100 ml water
- 1½ teaspoon Borax
- Ziplock bag

What to do:

1. Dissolve 1½ teaspoon of Borax in 100ml of water in separate container. Set aside.
2. Measure 30 ml of glue into Styrofoam cup.
3. Add 30 ml of water to glue and stir. Is this mixture or compound still glue? Did you change it physically or chemically?
4. Add a few drops of food coloring. Is this still glue? How has it changed?
5. Add 30 ml of the water and Borax solution. Stir. Observe what happens? Continue to stir until no liquid remains.
6. Remove the "slime" from the cup. Play with the slime and observe its characteristics. Is it still glue? Does it have any of the same physical characteristics of glue or of water? Or is it a new compound?
7. Store the slime in a ziplock bag.

Discussion and conclusion:

Glue is a compound that has certain characteristics that make it useful for adhering and fastening. Even if diluted or dyed, glue is still the same compound. However, by adding borax, the molecular structure of glue is changed into a new compound - slime. Petrochemical plants chemically change some of the molecular compounds found in crude oil into new products like plastics.