

Classroom Chemistry – How to Make Floam

Floam is like slime with polystyrene beads in it, that can be moulded into shapes. You can sculpt with it or use it to coat other objects. You can store it to reuse it or allow it to dry for a permanent creations. This recipe for Floam is very safe, although anything containing food coloring can stain surfaces so you might want to do this outside. Don't eat 'Floam'. Polystyrene beads aren't food.



Materials:

- Borax (grocery store soap section)
- Medium or Large zip locking bag
- Water
- Micro polystyrene beads (fabric store)
- Measuring cup & spoons
- White or clear glue
- Food colouring
- Mixing containers

Procedure: (Remember to have your parent's permission and have them watch and help you.)

- Dissolve 10 ml borax completely in 125 ml of water. (This will produce a stiff product. If you want slimier, more flexible 'Floam', then try 5 ml borax instead.)
- In a separate container, mix 125 ml glue and 125 ml of water. Add the food coloring.
- Pour the glue solution and the polystyrene beads into a plastic bag. Add 5 ml of borax solution, zip it shut and knead it until it's well mixed.
- Experiment with the amount of borax solution. Try 10 ml, 15 ml or even all of it to see the effect it has on the consistency of the Floam.

What's happening?

How it works: borax reacts to crosslink the polyvinyl acetate molecules in the glue to form a type of plastic called a flexible polymer. If you use 3M Scotch clear glue or equivalent (or 4% solution of polyvinyl alcohol), you will get a more transparent product that looks better. Lower amounts of the borax solution results in a very fluid Floam, 15 ml for average Floam, and the entire amount for stiff Floam.

Micro polystyrene beads can be found at craft or fabric stores, as fillers for bean bags or dolls. You can grind Styrofoam™ cups using a cheese grater, if you like but do this outside as it can get very messy (the little beads will static cling to things like your clothes or your pets).

Extension:

To keep your Floam, store it in a sealed bag in the refrigerator (discourages mold). Otherwise, you can allow it to dry into whatever shape you have made.

This activity is based on our "Classroom Chemistry" kit that is currently under development. The source for this lab is: <http://chemistry.about.com/od/chemistryhowtoguide/ht/floam.htm>. Our teaching kits (described on our website) are loaned out FREE to provide classroom teachers and parents of home schooled children an opportunity to explore Science in interesting ways. Please consider volunteering as a classroom speaker or allow your business as a field trip location.

Lorne Cooper, Regional Executive Director

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