



Single Serving Volcanism

By Eric Muller

Eat a snack and make a model of the plumbing system of a volcano.

By cutting a small hole in the base of a clear cup of gelatin and injecting dye, you can see the complex nature of sub-surface volcanism.

Materials:

1. Single serving cups of gelatin (i.e. Jell-O Gelatin cups. These come in a six pack). You want a gelatin cup that is easy to see through the lighter the color the better (i.e. lemon, orange flavor gelatin seems to work well).
2. Pipette or eyedropper (Syringes work great too. These can be obtained from hobby or drug stores.)
3. Push pin
4. Knife or scissors
5. Food coloring or colored sugars (both available in the baking section of a grocery store). Good colors to use are red, blue and green.
6. Plenty of napkins
7. A spoon

Optional: A more inexpensive version can be made if you make your own gelatin cups.



Assembly:

1. Make sure your gelatin has been refrigerated and is nice and firm.
2. You need to make one or more holes in the base of the gelatin cups. The plastic in these cups is pretty tough so you probably want to do the following:
 3. Start your hole by first making a hole with a pushpin.
 - a. Use a knife or scissors tip and enlarge the pinhole by reaming it out.
 - b. Make the hole just wide enough to allow the pipette or eyedropper to be inserted.
4. Prepare your lava. Your lava is actually just colored water. You can either use food coloring and a very little bit of water or you can mix colored sugar with some warm water. In either case, make sure your solution is not too dilute. You want a very deep, rich color.
5. Fill the chamber of the pipette or eyedropper with your colored solution. Try to get rid of as much air in the chamber as possible.



To Do and Notice:

1. Insert the pipette or eyedropper into the base of the gelatin cup. Try not to insert it too far into the gelatin.
2. A moist haze might form on the sides of the snack container due to condensation. If this is the case, wipe off the side of the container with your napkin.
3. Squeeze the contents into the gelatin (if the hole at the base of the cup is a tight fit with the pipette, you should not have any leakage. If the hole is loose, reach for a napkin.).
4. Look at the features in the gelatin as you squirt the dye or lava into it.

5. If you made more than one hole, refill your pipette or eyedropper and shoot another dose of lava into your gelatin.
6. Now eat your model!

Optional:

Instead of colored water, try injecting your single serving cup with pudding...looks good and tastes great!

What's Going On:

See the Gelatin Volcanoes hand out by the University of Hawaii...if provided or go to their web site at: http://www.spacegrant.hawaii.edu/class_acts/GelVolTe.html.

Resources:

Gelatin Volcanoes by-
Hawai'i Space Grant College, Hawai'i Institute of Geophysics and Planetology, University of Hawai'i, 1996

