



VALENTINE'S DAY LAVA LAMPS

VIDEO URL

<https://youtu.be/O1lleNwlSKA>

TIME

10-15 minutes

MATERIALS NEEDED

- Vegetable Oil
- Water
- 10 Drops Food Coloring
- 1 Alka Seltzer Type Tablet
- Glitter and Confetti (optional)
- 1 Jar, Vase, or Water Bottle

OBJECTIVES

- To explore the relationship between oil and water in terms of density
- To observe a chemical reaction

MODIFICATIONS

- Try a glow in the dark version with a glow stick
- Try different colors, glitters, and/or confetti
- Try different containers

LESSON

1. Fill a jar/vase/bottle a little more than half with vegetable oil. Then, fill the rest of the way with water, leaving about an inch at the top. You may want to use a funnel or measuring cup.
2. Add 10 drops of food coloring.
3. Sprinkle in glitter and/or confetti if desired.
4. Break an Alka Seltzer tablet into four pieces and drop them in the bottle, one piece at a time. Wait until the first piece stops bubbling before you put in the next.
5. Tip the bottle back and forth and observe the reaction. Tip, twist, and shake the bottle in different directions. Observe the reactions and take notes.
6. Enjoy!

LESSON CONTINUED

We all know that oil and water don't mix. Density is the measurement of how compact a substance is – how much of it fits in a certain amount of space. Because water is more dense than oil, it will sink to the bottom when the two are put in the same container. When the Alka Seltzer is added, it creates tiny bubbles of carbon dioxide gas which attach to the drops of color in the water and cause them to float to the surface. When they reach the surface and pop, the color blob sinks back to the bottom of the bottle.

RELECTION

1. What happened when you added the alka seltzer tablet?
What do you think this reaction happened?
2. What would happen if you tried a liquid other than water?
3. How might this experiment relate to how a volcano erupts?

ADDITIONAL RESOURCES

- <http://www.stevespanglerscience.com/lab/experiments/bubbling-lava-lamp>
- <https://www.sciencefun.org/kidszone/experiments/lava-lamp/>
- <https://www.pbs.org/parents/crafts-and-experiments/diy-lava-lamp>

WHO WE ARE

4-H began over 100 years ago, and has since grown into the largest youth development program in the nation. 4-H prepares young people to be leaders in their community and around the world through hands-on experiences alongside their peers and caring adults. 4-H delivers research-based programming around positive youth development. In Indiana, 4-H can be found in all 92 counties as delivered through Purdue Extension. Community clubs, afterschool programs, school enrichment, camps/workshops, and special programs are all ways youth across Indiana can be involved with the 4-H program. For more info, visit extension.purdue.edu/4h.