DISSOLVING STYROFOAM WITH ACETONE

Julie Jalloh
8th grade
Enterprise Middle School
WHAT IS ACETONE?

Acetone is a volatile organic solvent with formula CH₃COCH₃. It is frequently used in nail polish removers and is a commonly used solvent in chemistry laboratories.
WHAT IS STYROFOAM?

- Polystyrene is a petroleum-based plastic. Most people know it under the name Styrofoam, which is actually the trade name of a polystyrene foam product used for housing insulation. Polystyrene is a light-weight material, about 95% air, with very good insulation properties and is used in all types of products from cups that keep your beverages hot or cold to packaging material that keep your computers safe during shipping.
QUESTION?

- How will the volume of acetone affect how fast the Styrofoam dissolves in it?
HYPOTHESIS

- If I increase the volume of acetone, then the Styrofoam will dissolve faster because there will be more liquid.
MATERIALS

- 14 pieces of Styrofoam, each weighing 0.3 grams
- Acetone
- A larger container
- Timer
- Calculator
METHOD

1. Gather materials
2. Pour 20mL acetone in a container
3. Put a piece of Styrofoam in it
4. Measure the time it takes for the Styrofoam to dissolve
5. Repeat 2-3, with increasing volume of acetone of 20mL
I wanted to know if increasing the volume of acetone would decrease the amount of time it took to dissolve the piece of Styrofoam. The amount that dissolved the Styrofoam fastest was 280mL at 0 seconds. The slowest was at 20mL which took 274 seconds. Therefore, my hypothesis was correct.
My science experiment was about how long it takes for Styrofoam to dissolve in acetone. Acetone is commonly found in nail polish remover, which millions of women use each day. If they spill nail polish remover on their coffee cup which is made of Styrofoam it is important to know how fast it will take for the cup to dissolve. I predicted that the more acetone we use the faster it will take Styrofoam to dissolve. My hypothesis was correct.
BIBLIOGRAPHY

- http://www.education.com/science-fair/
- http://www.all-science-fair-projects.com/
- http://www.sciencefairadventure.com/
- http://www.sciencebob.com/sciencefair/ideas.ph