

DIY SCI: Exothermic Reactions

What is it?

Ever wonder why certain experiments have certain reactions? Why do some reactions release sparks, fumes, flames, or even noises? Why do some reactions make things cold instead? Depending on the behavior of the experiment, it can depend on being endothermic or exothermic. These characteristics are what makes Chemistry experiments fun!

What you need

- Baking soda
- Vinegar
- Large beaker or glass container
- Dish soap
- Food coloring

How to make it:

1. Pour 3-4 tablespoons of baking soda into the beaker.
2. Pour 1 tablespoon of dish soap into the beaker.
3. Add 3-5 drops of food coloring into the beaker.
4. Pour 1 cup of vinegar into the same beaker.

What do you notice?

When you think of atoms, you could connect one with others to create a molecule. Molecules can then eventually connect to one another to form into different shapes of matter such as a gas, liquid, or solid. When molecules are combined together or broken down, it requires “work” or energy. In this experiment, the original forms of baking soda and vinegar are a solid and a liquid. When the two were combined together in the glass container, the reaction was distinguishable as a foam was created and started to suddenly rise. This is because it’s an exothermic reaction! Exothermic reactions release more heat to their surrounding environment due to the little work to break down the components of the experiment, which then allows more energy to be put into the reaction of the experiment!



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Additional Questions



- Using what you've learned from this experiment, what do you think its opposite reaction would do (exothermic reactions are the opposite of endothermic reactions)?

<https://chemistry.ucsd.edu/undergraduate/teaching-labs/demos/demo45.html>

<https://preschoolinspirations.com/easy-baking-soda-and-vinegar-volcano-eruption-for-kids/>

