DIY Bath Bombs

Recommended Ages: 4-12

Bath bombs come in all shapes, colors, and sizes, depending on their ingredients and molds, which make them great for trying at home. Ingredients can range from bath salts, fragrances, colors, glitter, and more!

Materials:

- Bowl
- Spoon
- Silicon Mold
- Water
- 1 Teaspoon
- 1 Tablespoon
- 1 Tbsp Citric Acid
- 2 Tbsp Cornstarch
- 1 Tbsp Epsom Salt
- 1 Tbsp Baking Soda

Optional Materials

- Food Coloring
- Essential Oil/Scent
- Oil (olive, vegetable, coconut, etc.)

Procedure:

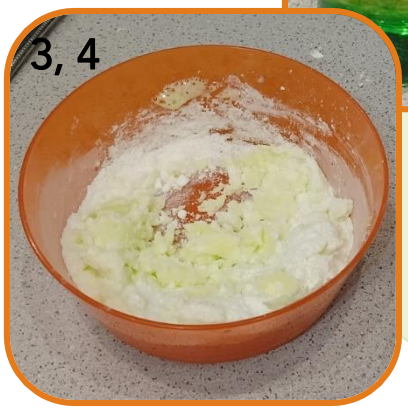
1. Mix all of the dry ingredients into the bowl with the spoon.

2. If using any other liquid ingredients such as oil, essential oils, or food coloring, mix them with the water now.

3. Using your teaspoon, measure 1 teaspoon of water. Pour all of the water from your teaspoon onto one spot of your dry mixture. What is happening?

4. After observing, quickly use your spoon to press down on the wet spot in your dry mixture to stop the reaction. *Do not mix the wet spot with the rest of your ingredients until after the reaction is complete! You'll know the reaction has finished when the bubbling stops.*

5. Use your hands to make sure everything's combined. The mix should still feel pretty powdery, but hold together a little bit when you squeeze or pinch it.



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6. Fill your silicon mold with your bath bomb mixture and pack it in tightly. Leave this to dry overnight, or until hardened (you can also place it in the fridge to harden faster).

7. Test it out! Carefully pop your bath bomb out of the silicon mold. See if you can get your bath bomb out in one piece. If not, that's okay! Use all of the pieces in your bath to see how it fizzes and bubbles.

What happened when you added the bath bomb to water? Baking soda and citric acid are responsible for the fun fizzing in your bath, as a result of the **chemical reaction** that happens. A chemical reaction is a process in which one or more substances are converted into a different substance.

Citric Acid	+	Sodium Bicarbonate	→	Carbon Dioxide	+	Water	+	Sodium Citrate
$C_6H_8O_7$		$NaHCO_3$		CO_2		H_2O		$Na_3C_6H_5O_7$

This is an **acid-base reaction**. You may have tried mixing together baking soda and vinegar, to explosive results! When a weak base, in this case baking soda (sodium bicarbonate ($NaHCO_3$)) meets a weak acid, a gas is produced to make bubbles! For bath bombs, instead of using vinegar as the weak acid – because no one wants their bath to smell like vinegar – we use citric acid ($C_6H_8O_7$). The gas that is produced is carbon dioxide, the same gas you exhale when you breathe out. When that gas is released in the bath, it pushes up through the water to create fizzing bubbles!

DID YOU KNOW?

A **chemist** is someone who studies everything about the different chemicals that exist in our world, like acids and bases! If you liked exploring this activity, maybe chemistry is for you!