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Jennifer Meyer, Advance Local

IN THE KITCHEN

Hey kids, here's the scoop

Jennifer Meyer Advance Local

How about a homemade frosty treat and an edible science project all in one? The best part is, you don't need any fancy equipment to do this tasty experiment right at home. With a few simple ingredients, some basic kitchen supplies and a whole bunch of shaking, we can whip up any flavor of ice cream you can imagine. While you are shaking, notice how the ingredients are being transformed from liquid to solid. Science is so cool. (Get it? Cool.)

You will need:

- 4 cups of ice
- 1 cup of rock salt
- 1 cup Half & half
- 1½ tbsp. sugar
- 1 tsp. vanilla extract
- 2 quart-size baggies
- 1 gallon baggie
- A medium-sized bowl
- Gloves
- Adult supervision

Substitutions

If you are missing an item or have dietary restrictions, these changes can be made:

Vegan or lactose intolerant? Try a plant-based milk with a high fat content.

Artificial sweetener, maple syrup or honey can be used in place of sugar.

No rock salt at home? Try using table salt.

You can use any sealable container in place of baggies; a coffee can or Tupperware will work. If using a glass container like a mason jar, do not shake because the glass can break. Twirl or spin the cream in the ice instead.

The science behind it

By adding salt to the ice, we are lowering the freezing point, which allows the cream mixture to get colder than the ice.

The shaking motion evenly disperses the ice crystals and creates air bubbles, giving it a smooth texture.

Gas, solid or liquid?

Your cream mixture is changing states as it freezes. It's going from a liquid to a solid. This state can be reversed by leaving your ice cream out to melt ... it's now a liquid again.

Oh no! Brain freeze?

Try drinking room temperature water or pushing your tongue against the roof of your mouth. ... It worked for us.



Step 1: Let's make the base

Measure your milk and sugar, and mix them together in a medium-sized bowl. You can also mix your ingredients right in the baggies, but to be sure everything is fully incorporated (and protect the baggies from being punctured), using a bowl to mix is your best bet.



Step 2: Mix in your flavorings

Here is where you get to use your creativity. To make plain vanilla ice cream, though, just add 1 teaspoon of vanilla extract to your bowl and mix. Vanilla is a good starting point to make other flavors. You can add fresh fruit, chocolate chips, nuts, cookie pieces or even pretzels.



Step 3: Ice, Ice, Baby

Set your ice cream base in the fridge while you are preparing your ice and salt mixture. Measure out 4 cups of ice (or about 2 ice cube trays full) and put that in a gallon baggie. Add a cup of rock salt (or table salt) and give your bag a quick shake to mix it up.



Step 4: Double bag for safety

Once your ice and salt are mixed in your one-gallon bag, you can move on to transferring your ice cream base to smaller baggies. Transfer the mixture from your bowl to a quart-size baggie, try to get as much air out of the bag as possible and make sure it's completely sealed. To keep the salt water out of your ice cream mix, double-bag the cream in a second quart-sized baggie.



Step 5: Shake, shake, shake it up

Place your cream baggies into the bag of ice. Get a pair of gloves or oven mitts because it's going to get really cold. Shake the bag for about 10 minutes or until the cream mixture has thickened. After you're done shaking, take the cream mix out and rinse under cold water, stir, and it's ready to eat. If you want the ice cream to be harder, freeze it for about 20 minutes.



Other flavor ideas

Replace vanilla extract with another extract or flavoring like peppermint, almond, lemon, maple or banana.

Unsweetened Kool-Aid packets, cocoa, instant coffee, fruit, candy, marshmallows and cookies are all great additions.

What's your favorite flavor? You can even try inventing your own.