

# Want to make the best ice cream?

Grade 1



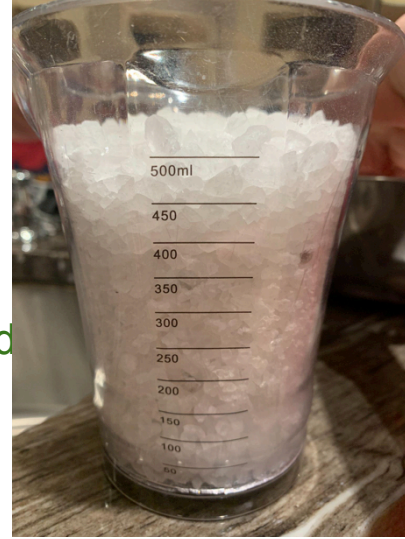
**Testable Question:** How does the ratio of salt to ice, along with the time of mixing, affect the consistency of the ice cream?

**Prediction 1:** Longer mixing will produce thicker ice cream.

**Prediction 2:** A higher salt ratio will produce thicker ice cream.

# Procedure:

1. Measure rock salt by pouring it into a plastic measuring cup. At a minimum you will need 500 mL per test.
2. Measure 2.5 cups of whole milk.
3. Measure approximately 2 tablespoons of jam or a similar substance.
4. Combine the milk and the jam into the ice cream maker. Close the lid. This experiment was conducted using a Hamilton Beach ice cream maker.
5. Fill the bucket for the ice cream maker up with ice either half way or all the way, depending on the particular test.
6. Pour the rock salt over the top.
7. Plug in the ice cream maker and let it run for the time necessary for the particular test.
8. Remove the ice cream, let family members taste it, and survey family members on a scale of 1-5, where 1 is "thin" and 5 is "thick".



## Background:

I chose this project because I love ice cream, the project would taste good, and I've always wondered how ice cream was made.

In my research I listened to a podcast about the history of ice cream. I learned ice cream was invented in France. People could make ice cream before they had electricity. They used blocks of ice they kept in their ice shed.

This project is important because it is important to be able to make ice cream. It is also important to consider more healthful ways to eat. Making homemade ice cream is a great way to make ice cream with less sugar.

# Constant Conditions:

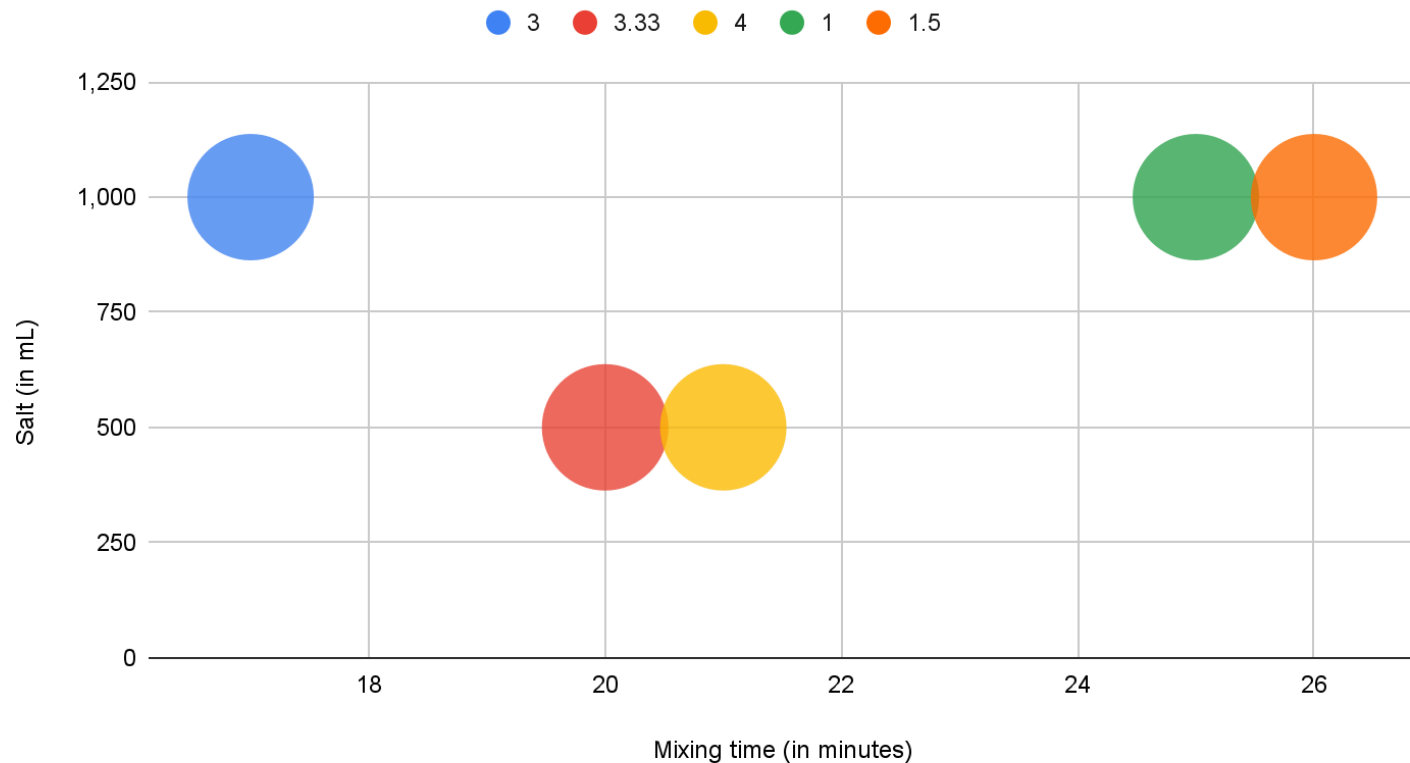
Independent Variable: I changed two things: the salt concentration and the mixing time. The salt concentration varied based upon the amount of salt I included (either 1000 mL or 500 mL). Mixing time was measured in minutes.

Dependent Variable: I am measuring how thick the ice cream is based on a survey.

Constant Conditions: Each time I use the same ice cream machine, the same volume of milk, the same brand of salt, and the same shape of ice.

# Data and Trials:

How thick is the ice cream (average response, 1-5 scale, 1=thin & 5=thick)?



## Conclusion and Reflection:

I found out that too high a concentration of salt can make it hard for the ice cream to thicken.

I was surprised that the length of mixing didn't create thicker ice cream.

If I did this project again I would make more ice cream.