

Better Eating Thru Chemistry



You scream, I scream, we all scream for ... Ice Cream Pre-lab

For this lab you are responsible for **two systems**: the ice cream mixture and the freezer (coffee can). For the pre-lab assignment you must show all work with units and be able to explain how you completed the calculations.

Information you will use for both systems:

In lab you will use household units such as tablespoons, but all calculations must use the SI units we have been working with such as grams. To calculate the conversions from household units to SI use the following factors:

1 Tablespoon of Sugar has a mass of 12.38 grams

1 Tablespoon = 3 teaspoons

1 tablespoon of Sodium chloride has a mass of 10.86 grams

16 Tablespoons = 1 Cup

Information by system:

Ice Cream Mixture Requirements

You will prepare a 0.63 m sucrose and milk solution using 200 mL of milk.

For the pre-lab calculations you need to determine how many Tablespoons of sugar are required to successfully make this 0.63 molal solution.

The following information will help with the calculations:

Sucrose (sugar) formula is $C_{12}H_{22}O_{11}$

The density of milk is 1.0g/mL

Freezer Requirements

The freezer must reach $-16^{\circ}C$ using 400 g of ice and rock salt.

For the pre-lab calculations you need to determine how many Tablespoons or cups of salt are required to lower the freezing point to $-16^{\circ}C$.

The following information will help with the calculations:

Ice is H_2O