

# ICE CREAM

## WHY

To be Physicists—and to make a delicious treat.

## WHAT YOU NEED

- Quart-sized zip top plastic bag
- Gallon-sized zip top plastic bag
- Ice cubes
- Salt
- $\frac{1}{2}$  c. half & half
- $\frac{1}{2}$  c. whipping cream
- $3\frac{1}{2}$  T. sugar
- $\frac{1}{4}$  t. vanilla (optional)
- Rubber spatula
- Mixing spoons
- Plastic spoons

## WHAT TO DO

Have Students place half & half, whipping cream, sugar, and vanilla, in the smaller bag. Zip bag and place inside the larger one. Pack ice inside larger bag around the smaller one. Pour at least  $\frac{1}{4}$  cup of table salt evenly over ice. Seal large bag. Now the fun begins! Manipulate and shake the bag. (Use gloves or wrap towel around outer bag. It gets very cold!) Check consistency of ice cream. If, after 15 minutes of shaking, it is not yet a solid, drain excess water from larger bag and add more ice and salt. Shake for a few more minutes. Remove ice cream bag from the larger one and quickly rinse with cold water before opening. (This removes the salt.) Taste it and enjoy!!

## VOCABULARY

**Freezing:** Changing from liquid to solid state when the temperature is lowered.

## TRY THIS

*Ask the Students to identify their favorite flavors of ice cream. What ingredients are needed for your family to create their favorites? Try different flavors, syrups, nuts, cut-up fruit, etc. Try making the ice cream in empty, clean coffee cans by placing the liquids and sugar in a 1 lb. coffee can. Carefully secure the top with the lid, and place the small can in a 3 lb. coffee can. Pack with crushed ice surrounding smaller can, and then pour a generous amount of salt evenly over the ice. Fasten lid of outer can. Roll can back and forth for 10 minutes. Open outer can and remove inner one. Using a rubber spatula, stir ice cream—scraping sides of can. Replace lid. Drain ice from larger can. Insert ice cream can. Pack with more ice and salt. Roll back and forth 5 more minutes or until ice cream is set. You might also want to try making ice cream without adding salt to the ice. How does this affect the process?*