

FROM COW TO ICE CREAM

2nd Grade Ag in the Classroom Lesson Plan



Goals for presentation

- Help children understand the farm origins of milk.
- Make children aware of the nutritional benefits of dairy products.
- Help children understand the process of making a favorite dairy product, ice cream.

Length of presentation: 50-60 minutes.

Materials needed

1. Oversized book, *Make Mine Ice Cream* (FB provides)
2. "Did You Know?" dairy facts poster (one per class, leave with teacher, FB provides)
3. Ice cream ingredients (presenter provides, submit receipts to FB for reimbursement)
 - 2% milk ($\frac{1}{2}$ gallon = 8 cups or more than enough for a class of 25)
 - whipping cream or half-and-half ($\frac{1}{2}$ gallon)
 - sugar (FB provides)
 - vanilla flavoring
4. Ice cream-making supplies (presenter provides)
 - ice (2-3 bags)
 - cooler (large enough to hold ice and perishable ingredients)
 - water (if not available in classroom)
 - $\frac{1}{2}$ teaspoon measuring spoon
 - $\frac{1}{4}$ cup dry measuring cup
 - 1 cup liquid measuring cup
 - scissors
 - heavy towels (one for each group of 4-5 students)
 - heavy cloth gloves
5. Ice cream-making supplies (FB provides)
 - rock salt
 - gallon-size Ziploc freezer bags
 - quart-size Ziploc freezer bags
 - duct tape
 - 5-gallon bucket
 - paper cups
 - plastic spoons
 - napkins
 - recipe cards
6. Student handouts (FB provides)
 - Dairy Ag Mags
 - Dairy stickers
 - Certificates of participation
7. Teacher gift bag

Before the presentation

- Gather all needed supplies.
- Prepare enough ice cream ingredient bags (steps A through C in procedure outlined below) for every five students in the classroom you will be visiting. Seal and duct tape securely closed. Shake gently to distribute sugar.
- Prepare same number of ice/rock salt/water bags (steps E through G below, except do not place ingredient bags within ice mixture, and use only $\frac{1}{2}$ cup water). Seal, but do not tape.
- Place ingredient bags and ice bags in cooler. Separate the ingredient bags from the ice/salt bags with towels or other items to prevent the ingredient bags from freezing prematurely.
- Organize extra ingredients and supplies to make one demonstration batch in the classroom.

Procedure

1. **Introduce yourself.** Tell the class about yourself, including what you do and how your job relates to agriculture. By a show of hands:
 - How many of you live on a farm?*
 - How many of you have ever been to a farm?*
 - Some farms are called dairy farms. What do you think makes certain farms dairy farms?*
2. **Today we're going to learn about dairy farms and make a favorite food product that is made from the milk produced on dairy farms.** Can anyone guess what that food we're going to make? Yes—ice cream! What is the main ingredient in ice cream? **Milk!**
3. Using the oversized book, *Make Mine Ice Cream*, **explain to the class how milk is produced.** Feel free to add information as you go (it is not necessary to read the book word-for-word). You may also choose to call on students who would like to read pages aloud.
4. Using the "Did You Know" poster and Dairy Facts page from your packet, share additional facts about dairy cows and farming.
5. **Are you ready to learn how to make ice cream?** Pass out a recipe card to each student. Meanwhile, tell the class that you are going to need them to help you demonstrate the process of making "plastic bag ice cream." As you begin, encourage the students to read their recipe cards and tell you what you will need. Gather/prepare ingredients in this order:
 - a. Quart-size freezer bag
 - b. Add to bag: 1 cup 2% milk, 1 cup cream, $\frac{1}{4}$ cup sugar, and $\frac{1}{2}$ teaspoon vanilla.
 - c. Carefully eliminate excess air from bag, seal firmly and tape zipped end with duct tape.
 - d. Place sealed bag of ingredients inside gallon-size freezer bag. (Do not do this if preparing before presentation!)
 - e. Pour ice into larger bag so that it surrounds ingredient bag.
 - f. Pour 1 cup rock salt over ice.
 - g. Pour $\frac{3}{4}$ cup water over ice and salt. (Use $\frac{1}{2}$ cup if preparing bags before presentation!)
 - h. Seal outer bag and tape securely with duct tape.
 - i. Wrap a towel around the outer bag to protect your hands and carefully yet briskly shake.
 - j. Invite teacher and/or adult helper to continue shaking this batch. (They may also eat it!)

6. **Ask the teacher to divide the class into groups of five.** Each group of five will be making enough ice cream for their group. (This may be easier if each group of students pushes their desks together.) Invite one child from each group to come forward. As each comes up, place one ingredient bag within an ice/rock salt bag so that the ice surrounds the inner bag. Seal the outer bag and tape securely shut with duct tape. Wrap the bag in a towel and give to student, instructing them to shake the bag gently without stopping, turning it over every so often. Each group should pass the bag around and continue shaking for about 5-10 minutes, or until you can tell that the ice cream is getting firm.
7. As students are shaking bags, pass out a spoon, cup, and paper towel to each child. You may want to ask for student helpers to pass out these items. While the students are shaking the bags, you may **share additional facts from the Ice Cream History page** in your presenter packet. It will probably be quite noisy at this point, so you'll need to get their attention and ask them to *"shake quietly as I share some neat facts about ice cream."*
8. **As each group's ice cream is ready, carefully open their outer bag.** Dump the ice and salt water mixture into a large empty bucket. (Do not pour this mixture down the drain – rock salt is very corrosive! After the presentation, pour the salty water outside in gravel or the edge of a parking lot where it won't harm vegetation.) Thoroughly dry the ice cream bag with a towel, making sure no salt remains on the bag. Carefully snip one bottom corner of the bag with scissors and squeeze enough ice cream into a bowl for each child in the group (the bags will be VERY cold -- use clean, heavy cloth gloves to protect your hands).
9. As students are enjoying their ice cream, discuss the importance of dairy products in a healthy diet. Remind them that children need at least 3 servings of dairy products each day. For example, milk on cereal in the morning, a carton of chocolate milk with lunch, and a serving of ice cream for dessert in the evening would help meet a child's daily requirement. Invite children to give examples of other dairy products they enjoy, such as yogurt or cheese.
10. **Finish up with a quick review** of what the students have learned:
 - What is ice cream made from? Milk!*
 - And where does milk come from? Cows!*
 - Where are cows raised? Dairy Farms!*
 - Who takes care of cows? Dairy Farmers!*

11. CONCLUSION

- Answer any questions.
 - Hand out Dairy Ag Mags, "I Love Ice Cream" stickers, and signed certificates (students may fill in their own names).
 - Remind teacher/class of upcoming **placemat design contest. Deadline for entries is March 12, 2010.** The second grade contest theme is **"Thanks to Dairy Cows."**
 - Thank class and teacher!
12. Before leaving, give teacher the thank you gift bag. Point out the Food for Thought placemat contest rules/entry forms, evaluation form, and other items in the bag. **Encourage teacher to explore the presentation follow-up resources posted at www.dekalbfarmbureau.org.** **Remind teacher to complete and submit the evaluation form.**