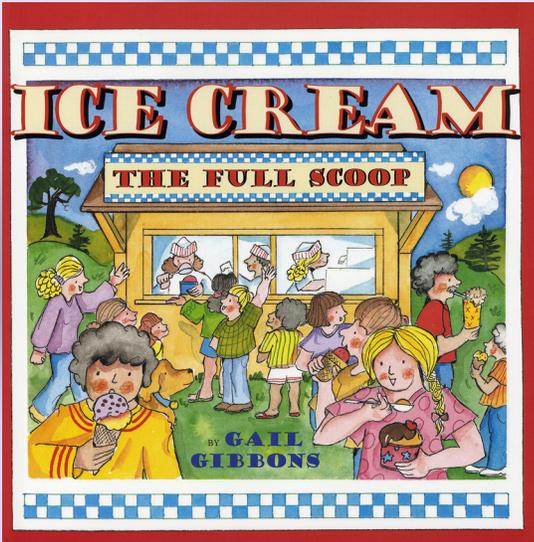


SNAPSHOT

Level: K-2

Time: 35 min.

Activity: Students will engage in a story and participate in an activity to shake up milk and make ice cream in a bag.



Purpose

Students will discover just how ice cream is made as they explore more about the dairy industry.

Materials

- *Ice Cream, The Full Scoop* book by Gail Gibbons
- 1/2 cup whole milk, half and half, or cream, per student
- 1 tbsp sugar, per student
- 1 tsp vanilla extract, per student
- 6 tbsp sea salt or rock salt, per student
- 2 cups of ice, per student
- Sandwich sized Ziploc bag, 1 per student
- Quart sized Ziploc bag, 1 per student
- Spoon, 1 per student
- Sprinkles *optional

LUNCHBOX

Mysteries

Teacher's Guide

LESSON 2

Ice Cream, the Full Scoop

PROCEDURES

1. Organize and Prepare Materials

2. Background Information

Source: nda.nebraska.gov/publications/ne_ag_facts_brochure.pdf

“Virtually all of Nebraska’s dairy farms are family owned and operated. Dairy farms will recycle and re-use many production inputs, such as sand that is used for bedding, and water which will be used multiple times – from drinking to cleaning – before being used to irrigate crops. Since cows are milked two to three times per day and milk is perishable, dairy farms ship out milk on a regular schedule to ensure its freshness and safety.”

- Nebraska ranks 25th in total milk production.
- Milk sales account for over \$232 million of Nebraska’s annual agriculture receipts.
- Nebraska’s dairy processors use milk to make products like butter, cheese, yogurt, ice cream, sour cream, cottage cheese and whey protein.
- It takes an average of five minutes each time the dairy cow is milked. The average cow can contribute on average eight gallons of milk a day. That is about 400 glasses of milk each day!
- Milk provides over nine essential nutrients including protein, calcium, potassium, and vitamin D in every glass!

3. Interest Approach

- a. Ask students if they like to eat ice cream.
 - What is your favorite flavor?
 - Explain that there are many different flavors of ice cream!
- b. Ask students if they know where ice cream comes from.
- c. Share with students that we are going to read a story called “Ice Cream, the Full Scoop”

4. Read the Story

- a. You can ask your own questions throughout the story to clarify what the students are learning about ice cream.
- b. Ask follow-up questions at the end of the story.
 - Where does our ice cream come from?
Ice cream comes from dairy cows!
 - What do dairy cows give us?
Milk to make food products like ice cream, butter, cheese, yogurt, etc.
 - Do you think we have dairy cows in Nebraska?
Yes! We have dairy farms in Nebraska and virtually all of them are family owned.
 - How many times are dairy cows milked a day?
Dairy cows are typically milked two to three times a day and give us about eight gallons of milk a day!
 - Why do we heat the milk up before we use it to make ice cream?
We have to pasteurize it to kill any harmful bacteria and to make sure it is safe for us to eat!
 - What are different ways we can eat ice cream?
Ice cream cones, ice cream sandwiches, ice cream bars, etc.
 - What are some of the jobs people have who help make our ice cream?
We need the dairy farmer, the milk truck driver, the ice cream factory workers, the ice cream shop workers, or grocery stores to sell ice cream so we can have ice cream to eat!
- c. Now that we know how our ice cream gets to us, we are going to be ice cream makers today and make our own ice cream in a bag!

5. Snack Activity-Ice Cream in a Bag

- a. Ask students where ice cream comes from.
Ice cream comes from milk.
- b. Where does milk come from?
Dairy cows.
- c. What other food products come from dairy cows?
Milk, cheese, butter, yogurt, cream cheese, cottage cheese, whipped cream, etc.
- d. We are going to make our own ice cream in a bag!

Ingredients

- 1/2 cup whole milk, half and half, or cream, per student
- 1 tbsp sugar, per student
- 1 tsp vanilla extract, per student
- 6 tbsp sea salt or rock salt, per student
- 2 cups of ice, per student
- Sandwich sized Ziploc bag, 1 per student

- Quart sized Ziploc bag, 1 per student
- Spoon, 1 per student
- Sprinkles *optional

Directions

1. In the sandwich sized Ziploc bag, add milk, sugar, v and vanilla. Seal bag tightly.
2. In the quart sized bag, add the ice and salt.
3. Place the smaller bag inside the larger bag and seal tightly.
4. Shake the bag as hard as you can, without popping it open, for 5 minutes or until it is the consistency of ice cream.
5. Remove the smaller bag and give it a quick rinse to remove any pieces of salt. Make sure you rinse the opening as well.
6. Open the ice cream and eat it straight out of the bag with a spoon.

6. Ask Follow Up Questions and Make Connection to Agriculture

- a. Where does our food come from?
Our food must come from the farm. Either as a plant or a food product that we get from an animal.
- b. Where does our ice cream come from?
It comes from dairy farms!
- c. What do dairy cows give us?
Dairy cows give us milk to make our ice cream!
- d. Do we have dairy farms right here in Nebraska?
Yes! Dairy farms are family owned. We rank 25th in dairy production in the United States.
- e. How many gallons of milk can one dairy cow give us?
One dairy cow can give us about eight gallons of milk per day!
- f. Is milk healthy for us?
Yes, it provides us with nine essential nutrients including protein, calcium, potassium, and Vitamin D!

EXTENSION ACTIVITIES

Milk or Meat? Beef or Dairy?

www.agclassroom.org/matrix/lesson/267/

Students identify the differences between beef and dairy cattle and determine the commodities produced by each type of cattle.

Chuck's Ice Cream Wish (Tales of the Dairy Godmother)

www.agclassroom.org/matrix/resource/1034/

With the help of his Dairy Godmother, Chuck is taken—poof!—on a memorable and delicious adventure to a dairy farm. He finds out exactly where ice cream comes from and gains an even deeper love and appreciation for his favorite food.

Discover Dairy

www.agclassroom.org/matrix/resource/176/

“Discover Dairy” is an educational website for teachers and students. The website includes elementary level videos about the dairy farm, lesson plans for teachers, and activities.