Mission

Mission Accomplished – a review of the story
Let’s make sure we accomplished our mission of discovering how milk is made into Wisconsin cheese. Let’s see if we can all do the curd science dance.

Step 1: Milk - action like milking a cow
Step 2: Standardize – swish arms together like a paddle mixing the milk together
Step 3: Coagulate – do a jumping jack motion, start wide and bring hands and feet together
Step 4: Cut – pretend to slice through the curds using your arms
Step 5: Stir, Heat and Drain – stir the curds using both arms to make a stirring motion
Step 6: Transform – pretend to flip the piles of curds
Step 7: Press – use both hands to push down the curds
Step 8: Cure - Pretend to check your watch/clock

Curd Taste Test Activity (optional)
Time for some Wisconsin Cheese! We are going to now taste test some fresh, Wisconsin cheese curds. Give each student a napkin and 5 oz. cup with 3-4 cheese curds. Remind the students that we are all going to “take a polite bite” and try the curds together.

Ask the students to observe their curd using their senses...
- Is the curd hard or soft?
- Is it solid or liquid?
- What shape is your curd?
- What does your curd smell like?

Have the students taste their curd. Ask for examples of what the curd sounds like when they bite into it.

As the students enjoy their curds, ask them to recall the steps of the cheesemaking process that had to happen to be able to make a cheese curd.

DID YOU KNOW?
There are more than 600 different varieties, types and styles of cheese made in Wisconsin.

Wisconsin Dairy.org

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Did You Know?

● How could we make all of the liquid milk in this gallon of milk fit into the palm of our hands? (Make it into cheese)

Protein – strong muscles)

● How many servings of dairy do we need every day? (3)

Are most dairy foods solid or liquid? (Solid)

(Milk, chocolate milk, cheese, yogurt, butter, sour cream, etc.)

What other kinds of foods, called dairy foods, can we make from milk?

Is milk a solid or a liquid (Liquid)

What animal does most milk come from? (Dairy Cow)

● What is in this container? (Milk)

Show the students a gallon of milk. Ask them to answer the following:

Capacity means the amount something can hold; volume

Share an example of “capacity” - show the gallon of milk and share with the students that the capacity of the jug is one gallon of milk.

Cheesemaking Dance Step 1: Milk – move hands up and down like you are milking a cow

Standardize – Step 2

Curd’s the Word: Capacity means the amount something can hold; volume

Give an example such as making instant pudding using milk and pudding mix…we mix it until the pudding looks the same, not chunky or too liquid.

Cheesemaking Dance Step 2: Standardize – swish arms together like a paddle mixing the milk together

Coagulate – Step 3

Curd’s the Word: Coagulate means to change a liquid into a solid.

Give an example such as when a scrape on your skin bleeds, but you get a scab.

Cheesemaking Dance Step 3: Coagulate – do a jumping jack motion, start wide and bring hands and feet together

Cut – Step 4

Curd’s the Word: Whey is the watery part of milk that separates from the solid curds during the cheesemaking process. Give an example such as the liquid in cottage cheese is whey.

Cheesemaking Dance Step 4: Cut – pretend to slice through the curds using your arms

Stir, Heat & Drain – Step 5

Cheesemaking Dance Step 5: Stir, Heat and Drain – stir the curds using both arms to make a stirring motion

Transform – Step 6

Curd’s the Word: Cheddaring is the flipping and turning of the heaps of curds to squeeze out remaining whey.

Cheesemaking Dance Step 6: Transform – pretend to flip the piles of curds

Press – Step 7

Cheesemaking Dance Step 7: Press - use both hands to push down the curds

Cure – Step 8

Curd’s the Word: Cure is the method by which cheese is aged or treated to give it a certain flavor.

Cheesemaking Dance Step 8: Cure- pretend to check your watch/clock

Lesson Overview

CURD SCIENCE – THE INCREDIBLE JOURNEY FROM MILK TO CURD takes children on a journey through the “eyes” of second grader and scientist, Violet Anderson, as she discovers how milk is made into Wisconsin cheese. Students will visually experience the process of turning a liquid, milk, into a solid, Wisconsin cheese. The steps of cheesemaking are brought “under the microscope” for students to learn and understand the important role of science in making cheese and the importance of dairy in building healthy bodies.

Lesson Objectives

Students will be able to:

● Describe how milk from Wisconsin Dairy Farms is made into Wisconsin Cheese.

● Describe milk as a liquid and cheese as a solid.

● Understand how cheese can be eaten as one of three daily servings of dairy.

Materials and Advance Preparation

● Online Book: CURD SCIENCE – THE INCREDIBLE JOURNEY FROM MILK TO CURD by Violet Anderson

● Review Teacher Guide prior to presenting lesson

● Gallon of milk (prop)

● Food and materials for Curd Tasting

● Lab Coat (optional)

● Suggest teachers show our “We are America’s Dairyland” videos- “Cows Make Milk” and “Care of Cows” prior to reading the book. Videos are located on our website at https://www.wisconsindairy.org/Youth-and-Schools/Dairy-Education

CURD SCIENCE – THE INCREDIBLE JOURNEY FROM MILK TO CURD

Lesson Presentation

CURD SCIENCE – THE INCREDIBLE JOURNEY FROM MILK TO CURD

Show the students a gallon of milk. Ask them to answer the following:

What is in this container? (Milk)

Show the online book cover, CURD SCIENCE – THE INCREDIBLE JOURNEY FROM MILK TO CURD by Violet Anderson and share with the students that you are going to read the book about a second grader named Violet who goes on a mission to discover how milk is made into cheese. Explain that Violet is a “kid-scientist” and that today we will need to be scientists to discover exactly how we can make all of the milk in this gallon turn into cheese. (Put on lab coat while explaining – optional)

Today, a fellow scientist, Violet, is going to help us learn how to make Wisconsin cheese. Violet is just like you...she is a Wisconsin 2nd grade student who loves learning how all of the milk from Wisconsin dairy cows is made into real Wisconsin Cheese.

We have been given a special mission – discover how milk is made into cheese. We are going to “jump” into the story with Violet. As we learn about each step of cheesemaking, we are going to learn a dance move to help us remember how we make real Wisconsin cheese.

If you accept this challenge we need to say “More cheese, please” on the count of three …1…2…3… “More cheese, please!”

Read the book following the Tips above.

Milk – Step 1

Curd’s the Word: Capacity means the amount something can hold; volume

Share an example of “capacity” - show the gallon of milk and share with the students that the capacity of the jug is one gallon of milk.

Cheesemaking Dance Step 1: Milk – move hands up and down like you are milking a cow

Standardize – Step 2

Curd’s the Word: Standardize is to make something all the same.

Give a personal example, such as making instant pudding using milk and pudding mix…we mix it until the pudding looks the same, not chunky or too liquid.

Cheesemaking Dance Step 2: Standardize – swish arms together like a paddle mixing the milk together

Coagulate – Step 3

Curd’s the Word: Coagulate means to change a liquid into a solid.

Give an example such as when a scrape on your skin bleeds, but you get a scab.

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