



Guided Activity: Dairy

<https://vimeo.com/404793526>

<https://youtu.be/uLO7OMSL-u8>

Label It: (recommended for grades K-6)

- The top 5 dairy producing states are:
 1. California
 2. Wisconsin
 3. Idaho
 4. New York
 5. Texas
- Label the 50 states on the map below and color the top 5 dairy producing states with your favorite color.
- If you can't print, draw the top 5 states in order as you see their shapes on the map.





Measure and Mix: (recommended for grades 3-6)

*adapted from Nebraska Extension/4-H Youth Development

- In the video, you learned that dairy cows must have a balanced diet that includes protein, energy, roughage, vitamins, and minerals. Nutrition experts mix the proper amounts of each to produce feed for dairy cows.
- Have some fun and try mixing your own “feed!”

Step 1: Gather the Materials

- Large mixing bowl
- Measuring cup (any average-size cup will work)
- Mixing utensil (a large spoon or maybe even your hands (clean!))

Step 2: Find the Ingredients

(Remember: These ingredients represent the dietary needs of dairy cows – protein, energy, roughage, vitamins, and minerals)

- Protein: Popcorn or cereal
- Energy: Pretzels or a small cracker-like snack
- Roughage: Cheese balls (or a substitute)
- Vitamins and Minerals: M&Ms or another hard-coated candy

Step 3: Do the Math

- The feed must have just the right amount of protein, energy, roughage, vitamins, and minerals. You want your feed to be:
 - 20% protein
 - 40% energy
 - 30% roughage
 - 10% vitamins and minerals
- Let's Calculate
 - How many cups is 20% of 10?
 - How many cups is 40% of 10?
 - How many cups is 30% of 10?
 - How many cups is 10% of 10?

Step 4: Mix It Up

- Once you have measured out the correct amounts for each ingredient, mix it all together.
- See how your feed mixture tastes!



Ice Cream Time: (recommended for all grades)

*activity from American Farm Bureau Foundation for Agriculture

- Ice cream is a dairy product, right? Have some fun while you're at home and make ice cream in a bag. Follow the instructions below!

Name the Breed: (recommended for grades 3-6)

- Are all dairy cows the same?
- How many different breeds are there?
- Test your knowledge after watching the video! Identify the breeds below!

- ✓ shiny brown in color
 - ✓ known as a quiet cow
- _____

- ✓ High efficiency of milk production
 - ✓ Brown and white in color
- _____

- ✓ Most common dairy breed
 - ✓ Black and white, spotted in color
- _____

- ✓ Larger cow
 - ✓ Known for being versatile (adapt easily)
- _____

- ✓ Produce yellow-colored milk
 - ✓ Brown and white in color also
- _____

- ✓ Smaller dairy cows
 - ✓ High butterfat in milk
- _____

ICE CREAM IN A BAG ACTIVITY

USE BAGS TO MAKE A DAIRY TREAT

Ice cream freezes at -6 degrees C (21 degrees F). Ice cream can be made in the classroom with the understanding that the freezing point of water is actually lowered by adding salt to the ice between the bag walls. Heat energy is transferred easily from the milk through the plastic bag to the salty ice water causing the ice to melt. As it does so, the water in the milk freezes, resulting in ice cream.

MATERIALS:

- 1/4 cup sugar
- 1/2 teaspoon vanilla extract
- 1 cup milk
- 1 cup whipping cream, half & half
- crushed ice (1 bag of ice will freeze 3 bags of ice cream)
- 1 cup rock salt (approximately 8 cups per 5 lbs.)
- 1 quart and 1 gallon size Ziploc® freezer bags (1 find Ziplocs are stronger & work best)
- Duct tape
- Bath towel

PROCEDURE

1. Put the milk, whipping cream, sugar, and vanilla in a 1 quart freezer bag and seal. For security, fold a piece of duct tape over the seal.
2. Place the bag with the ingredients inside a gallon freezer bag.
3. Pack the larger bag with crushed ice around the smaller bag. Pour 3/4 to 1 cup of salt evenly over the ice.
4. Wrap in a bath towel and shake for 10 minutes. Open the outer bag and remove the inner bag with the ingredients. Wipe off the bag to be sure salt water doesn't get into the ice cream.
5. Cut the top off and spoon into cups.
6. Makes about 3 cups. (1 bag will serve 4 students)
7. Serve plain or top with nuts, coconut or fruit. ENJOY!

OTHER RESOURCES:



AFBF Dairy Ag Mag, set of 30

Features dairy products, nutrition found in dairy products, dairy processing, homogenization, pasteurization and dairy breeds dairy trivia. The career corner features a producer, a dairy plant manager and dairy scientists



Thanks to: Jean Barron, Schuyler County Farm Bureau® ILLINOIS.