

Got Milk?

Objective: To discuss different breeds of dairy cows and explore uses of their milk including making ice cream.

Materials:

- Half and Half
- Vanilla
- Sugar
- Rock salt
- Ice
- Ziploc bags
- Ice cream toppings
- Spoon

15 to 20 minutes; Review Cow Facts

Ask class members questions (i.e. Do you know how many gallons of milk a cow produces every year) or provide them information (i.e. Cows have 4 chambers in their stomachs). It will make the class more interesting to mix up the cow facts by asking questions on some and providing information on others. Also see if children can come up with byproducts from cows.

Review dairy breeds...

- A cow produces 1000-2000 gallons of milk each year
- One cow can now produce the amount of milk that it took ten cows to produce years ago
- A cow must have a calf in order to produce milk
- A cow chews her partially-digested food for up to 8 hours each day
- Cows have 32 teeth
- They drink about a bathtub of water each day

Cow Breeds

Ask the class members what types of cows they have seen. They probably will describe the cows they have seen by telling you the colors of the cows. Depending on the answer they give you, identify the breed as follows:

Black and White

Holstein

Light Brown

Brown Swiss

Mostly Red – White Face

Hereford

White and Brown

Guernsey

Mostly White – Red Spots

Ayrshire

10 minutes; Dairy Memory Game

Divide the class up into 3 to 4 groups. Give each group one set of memory cards (found below). Have each group lay the cards face down on the table in the middle of the group (with the word not showing). Tell each student to take a turn and see if they can make a match. Let each team keep track of how many matches they make during each round. Each group will continue to play new rounds once all matches have been made. Each group should continue to track total matches for each member of the group. Once the time has expired, determine a member from each group that had the most matches.

20 minutes; Ice Cream

Tell the students they will now be making “Ice Cream in a Bag.” Pair the students into groups of 2 people. Have groups come one at a time to a teacher to prepare their ice cream mixture. Normally you can have two different teachers working with two different teams preparing these mixtures.

In small Ziploc bag, put the following ingredients:

½ cup Half and Half

¼ teaspoon vanilla

1 tablespoon sugar

Once mixture is placed in small Ziploc bag, make sure the bag is sealed tightly letting out all excess air (VERY IMPORTANT!!!) and then send to another volunteer teen who will help put the small bag into a larger Ziploc bag and then will add the required ice and 2 tablespoons of rock salt. Seal large Ziploc bag tightly letting out all excess air (very important). Place in a 2nd Ziploc bag and seal tightly, again letting out all excess air. Have the partners take turns shaking the bags. It is very important that they continue to shake the bags in order for the mixture to set. It will take approximately 10 minutes. If weather allows, it will be best to have the students shake the bags outside to eliminate any mess.

After this time, open and remove smaller bag that contains ice cream mixture. If you are able, quickly rinse the bag off in cold water to remove any of the salt mixture. Then pour the ice cream into a bowl. Divide it in half and put the other half in a 2nd bowl. Let each student put on ice cream toppings provided and then let them eat the ice cream.

