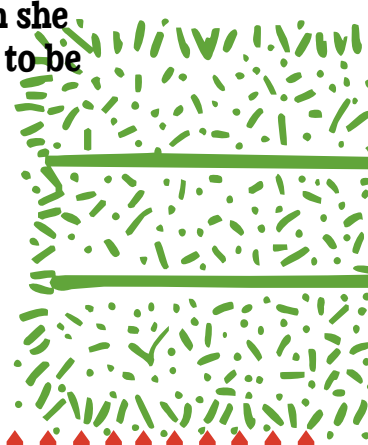
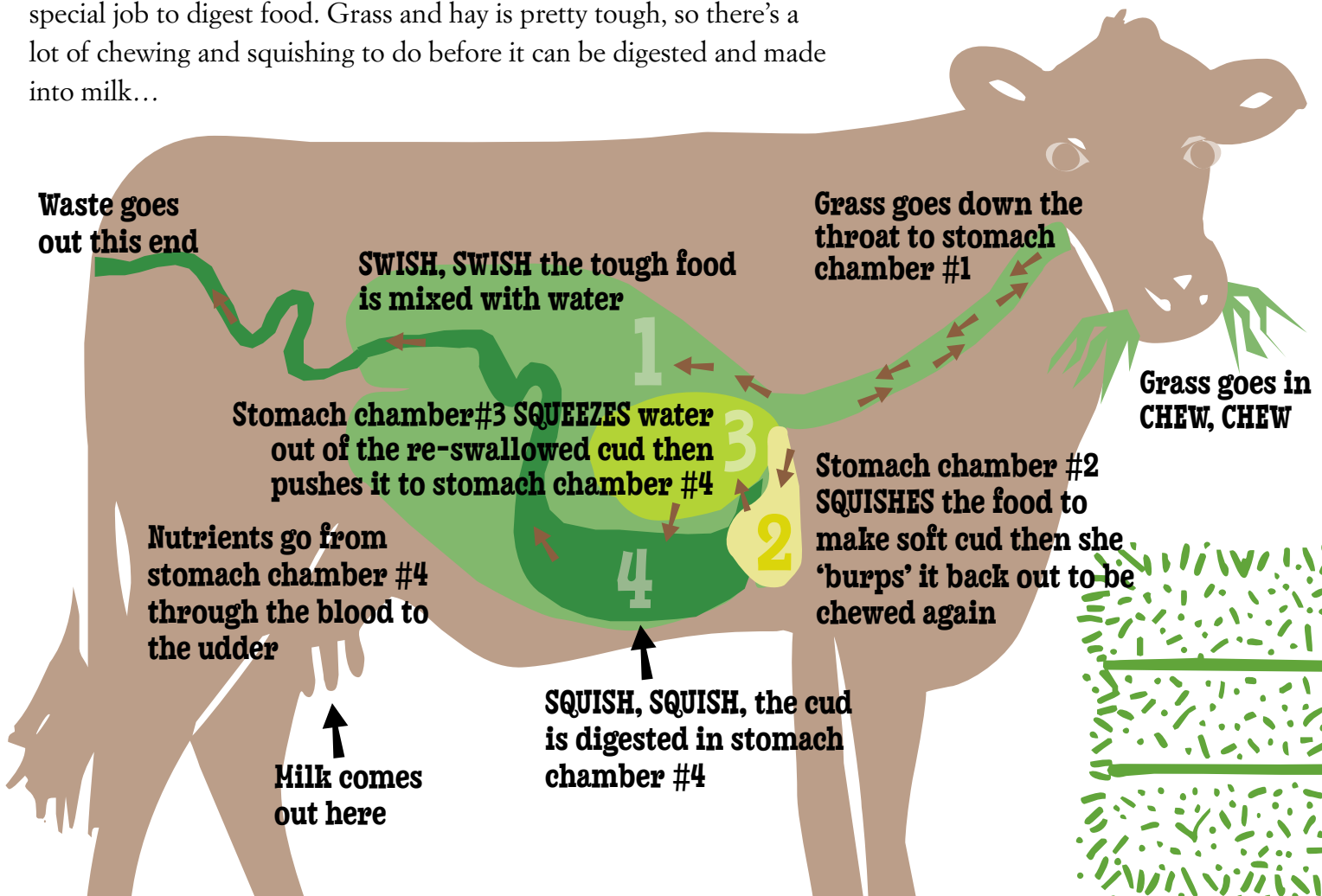
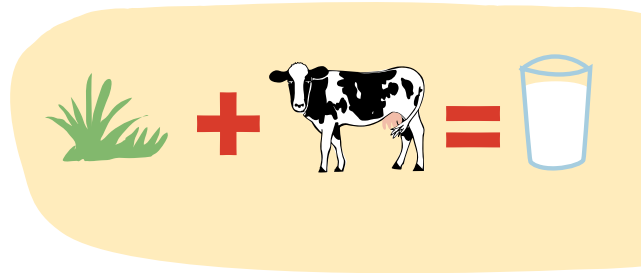


## From Moo to Chew, to Milk for You!

Cows spend a lot of time grazing and lying down chewing. You might think they're being lazy, but they're hard at work making milk. Cows eat a lot of food and their body uses almost half of it to make milk.

How do mother cows turn grass and hay into milk? It starts with their special stomach. Cows have four parts to their stomach, called 'chambers' (each one with a funny-sounding name). Each chamber does a special job to digest food. Grass and hay is pretty tough, so there's a lot of chewing and squishing to do before it can be digested and made into milk...

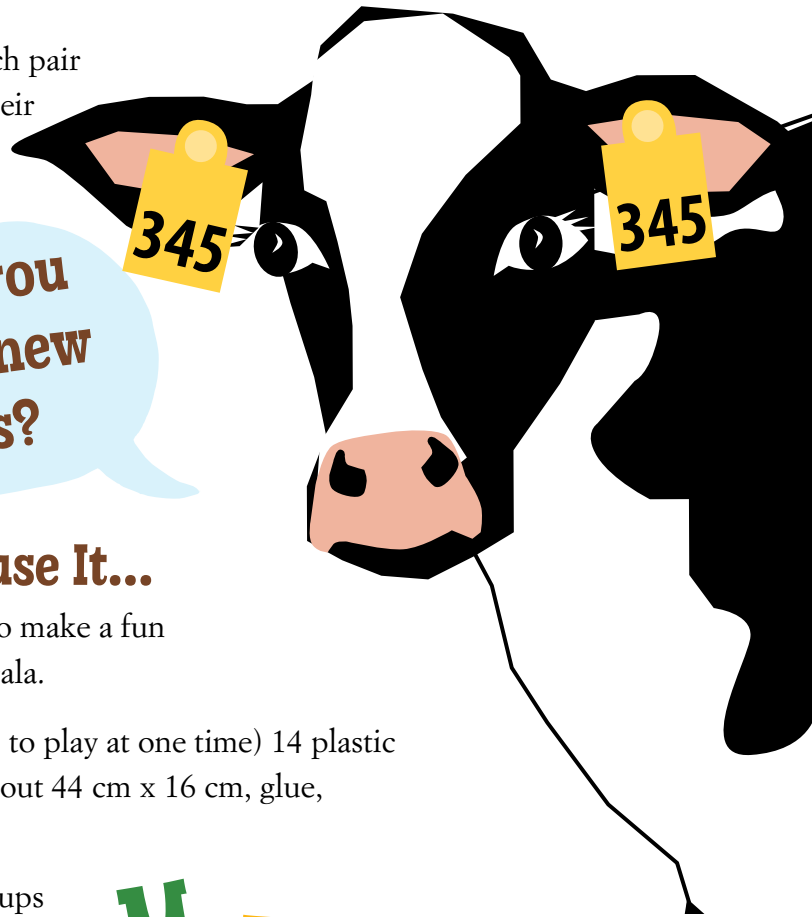


# Brrr...cows get cold too!

It's late fall and cold and rainy on Cowsville Dairy Farm. It's tricky (and a bit silly) to put a jacket and boots on a cow, so the farmer moves the herd inside the dairy barn where it's warm and dry. Barns are like houses for cows. The cows will spend the winter in the barn where they will sleep, eat, and be cleaned and milked. Since they can't graze on wet or frozen fields, the farmer feeds the herd corn, hay, silage and mixed feeds.

Please and the other calves got a set of ear tags, each pair stamped with their own number. They will wear their ear tags all their lives. These numbered tags help dairy farmers keep track of every cow in their herd as they grow and start to have calves of their own.

How do you like my new earrings?



## Drink up and Reuse It...

We can use our milk cups to make a fun counting game called Mancala.

**Materials:** (1 game for 2 players to play at one time) 14 plastic milk cups, 1 piece of cardboard about 44 cm x 16 cm, glue, 36 pebbles, beads or beans.

**To make the game board,** line up 2 rows of 6 cups leaving a space at each end of the board. Glue the bottom of each cup to the board. Glue one cup at each end to be the 'store' for each player. Get ready to play the game by placing 3 beans in each cup, leaving the store cups empty.

Not sure how to play Mancala? Download our step-by-step instructions on our website at

<http://www.sfvnp.ca/for-teachers-2.php>



- **udder** - part of the cow's body where milk is made
- **cud** - small ball of partly eaten food that the cow burps up and chews on again

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**Mancala, a classic game of strategy** that traces its roots to Africa, not only facilitates the learning of math concepts, but is a fun, social, novel way to learn. Many historians believe that it is the oldest board game in the world. The word Mancala means “to transfer” in Arabic. There are many versions of play but basically players transfer, or move, playing pieces from one space (or cup) to another.

### **How to Play Mancala**

The game is played with two players, and the object of the game is to finish the game with the most beans (or similar objects such as beads) as you can. Two players share a game board, one on each side. To set up, each player places 3 beans in each cup on their side, leaving the store cup (also called a ‘kalaha’) at the end empty.

To begin play, choose who goes first. Player 1 picks up all of the beans from any cup on his/her side and moves them clockwise, dropping one bean in each subsequent cup. When player 1 comes to their own ‘store cup’ they also drop a bean in it. When he/she reaches player 2’s ‘store cup’ they skip over it and do not drop a bean in it.

Player 1’s turn is over unless the last bean he/she drops lands in his/her store. If it does, Player 1 gets another turn, starting from wherever he/she wants.

Whenever a player lands a bean in an empty cup, he/she gets to collect the opposing player's beans in the cup opposite the one he/she landed in. The opponent's last beans get placed in his/her store.

Play continues in this way until one player is out of beans on his/her side. He/she then gets to collect the opposing player’s remaining beans. Both players count their beans and the one with the most at the end of the game is the winner of that round.

Since the first player has an advantage in Mancala, alternate turns for the next round.

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