

Milk, Meat and More

Objective: Students will gain an awareness of cow by-products and learn vocabulary.

Summary: Students will brainstorm, listing products from cows. The teacher will add to the list items that students may not know about. A crossword puzzle and “fill-in” will reinforce the new vocabulary.

Time: ½ hour

Student Grouping: Relay teams of eight to twelve

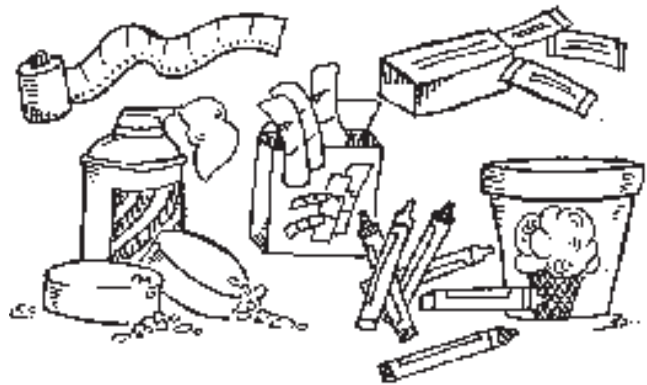
Materials: Packaging from and items containing cow by-products, copies of the word puzzles for each class member.

Background Information: Beef by-products can allow for usage of 99 percent of a cow. Besides roasts, steaks and hamburger, a lot of beef is consumed as heart, liver, tongue, brains, sweetbreads and kidneys. There are other edible by-products that are less obvious. Gelatins used in ice cream and yogurts come from hooves, horns, hides and bones of the cow. Rennet is taken from calves’ stomachs and used to make baby formula and cheese. Chicken feeds typically contain blood meal from beef. Some household products can come from bovine by-products. The fatty acids scraped from hides can be used in cellophane, crayons, shaving cream, soaps and pet foods. Gelatin is used in photographic film. Many medical products can come from beef by-products. A cow’s pancreas can be used to make insulin for diabetics. Blood, carefully collected under sterile conditions at the cow’s death, can be used medically. A cow’s cartilage can be used for plastic surgery; glands provide all sorts of medicines. Cow fats are used to oil food-production machinery.

Examples of things that contain such by-products which you can use for visual aids are:

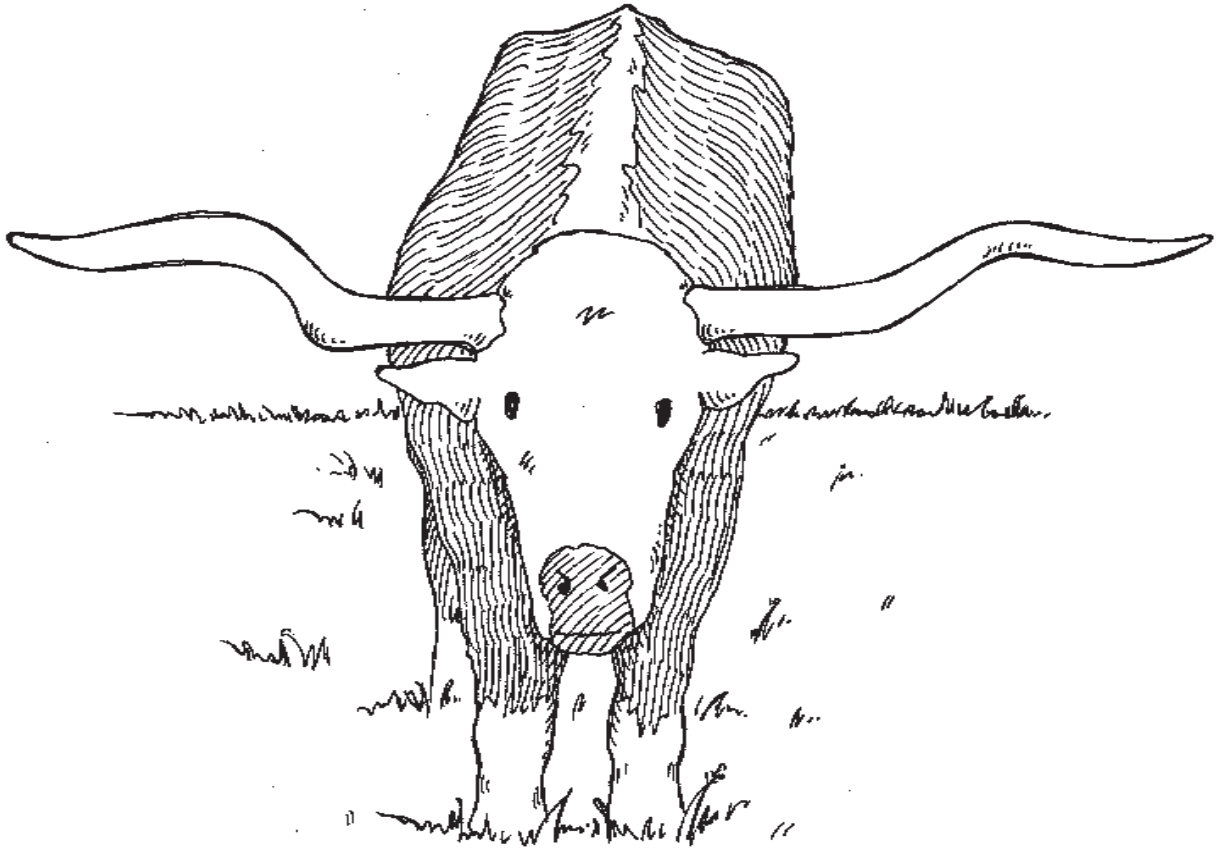
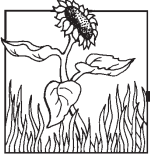
Collagen-based (from milk proteins) adhesives on band-aids and in wood glue (Elmer’s type), gelatin in photographic film, yogurt, mayonnaise, candies, marshmallows and ice cream. From hide comes leather shoes, luggage and other leather goods. Fats (usually listed in ingredients as “fatty acids” or “stearin”) can be used in deodorants, chewing gum, margarine, crayons, floor wax and pet foods.

Marin Ag. Facts: Historically longhorn cattle were grown here in Marin County (see “Our Human Roots” activities, Marin Ag. Facts on page 37). These cattle were grown as much for their hides and tallow as for their meat. Today there are 58 beef cattle operations in Marin County.



Preparation:

1. Collect some examples of items that contain cow products. Students will think of the obvious ones like milk and meat, but some by-products (see background) are obscure and it will help to have examples of their packaging.
2. Have a clear space on the chalkboard or a piece of paper to list the items students think of.
3. Review the handouts so you know what terms the students will need to hear about for successful completion.
4. If you have questions about beef and other meats, you can call the U.S.D.A.’s Meat Advisory Board toll free at (800) 535-4555. (Call early; they’re on the East Coast.)



Procedure:

1. Ask students: "What sorts of things do we use that come from cows?" Have students brainstorm as many cow products they can think of and list them on the board.
2. When they begin to run out of items, discuss the information from the background section with them. Do they know of anyone who is diabetic? Did they know that insulin for a diabetic can be made from a cow's pancreas? Has anyone ever made soap? Did they know that people used to make their own soap by cooking lard (animal fat) and ashes together? Ice cream and gum contain stearin, a substance made from animal fats.
3. Distribute packages and products. Ask students to look at the labels and look for items that contain gelatin, collagen and fatty acids (stearin). These items can be added to the list on the board.
4. Distribute the paper and pencil handouts to give students an opportunity to use the new by-products vocabulary they have learned.

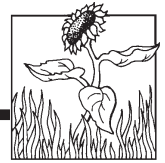
Questions for Discussion:

- The puzzles can be used for evaluation of this activity.

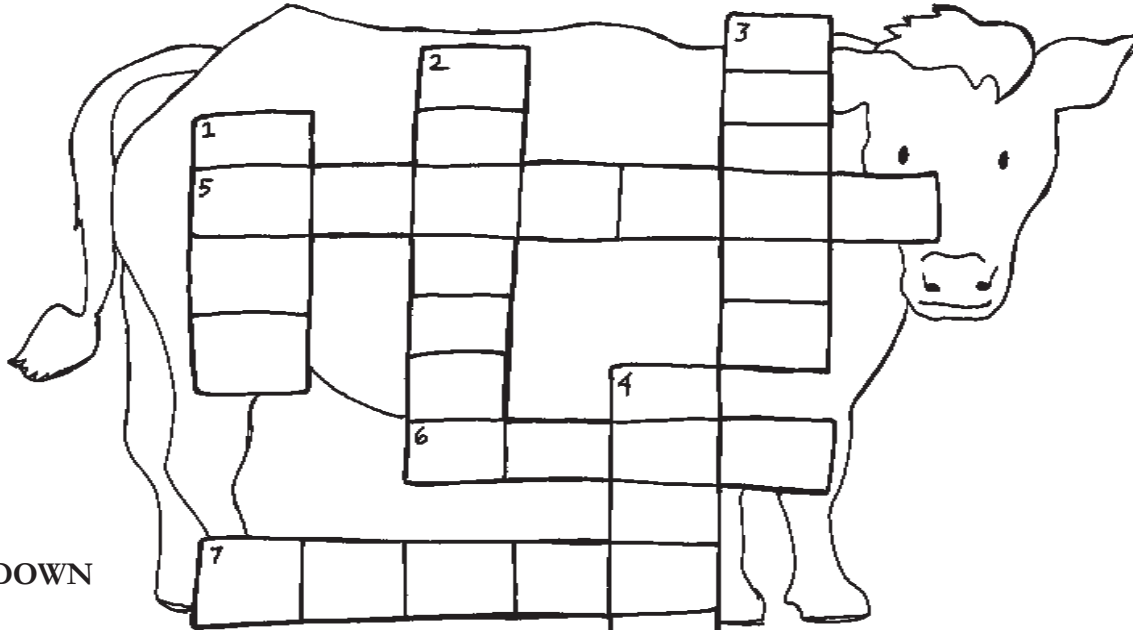
Extensions:

- Have a butcher come to class and talk about what he does and what he knows about by-products.
- Visit a cattle ranch and discuss all the different parts of the animal that will be used.
- Have someone from a tannery come to class with some examples of different types of leather. Have them talk about how leather is made.
- Talk about Native Americans and how they used most of any animal they killed. Leather was tanned using the brain and other ingredients in the process, intestines made strong cord and thread, hooves from deer became musical instruments and bones were used to make buttons and tools.





Milk, Meat and More



DOWN

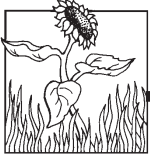
1. A liquid white _____ is made from hooves and is used to stick wood together.
2. Wax is made from the fat and used to make _____ to draw with.
3. Rennet is made from a calf's stomach and used to make _____.
4. Stearin might be your favorite by-product because it is used in _____ and gum.

ACROSS

5. Cowhide is made into _____ which is used to make shoes, wallets and purses.
6. You could make _____ by melting fat and stirring in ashes.
7. Cows' _____ is used to make a fertilizer called blood meal.

(continued)





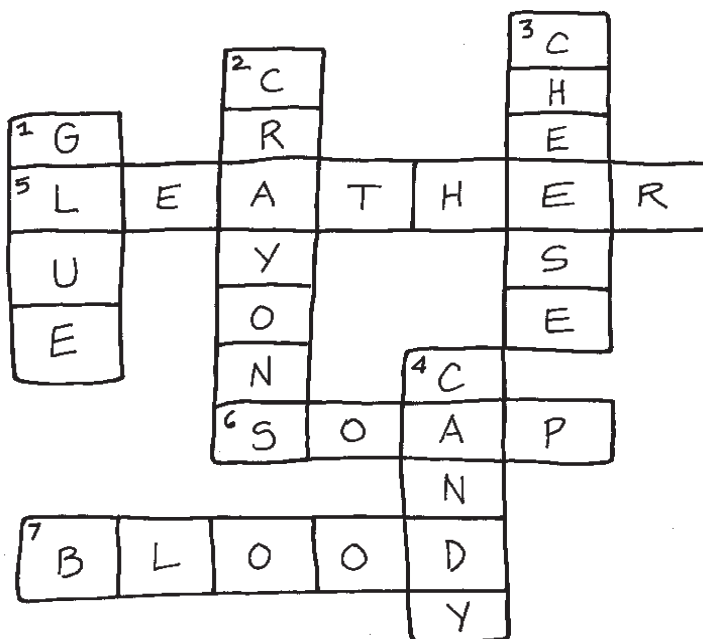
These are either a by-product from cows or something containing by-products. Fill in the correct word below.

blood	glycerin	rennet
dye	wax	crayons
leather	insulin	stearin
fat	soap	glue
ice cream	yogurt	bones

Many parts of the cow can be used besides meat and milk. _____ and _____ are made from milk and often contain _____, which is made from the cow's hooves and _____. When eating a steak, many people trim off the _____ but it is scraped from hides and used to make _____ for kids to draw pictures with and _____ for candles and furniture polish. To make _____ for washing, people used to cook fat and ashes together. The kind of _____ used at school to stick paper together may also be made from cow hooves and bones. Just about everyone has either shoes or a belt made from _____. To give cloth pretty colors, it is _____ d. One ingredient in many gums and candies also comes from cows. It is called _____ and is made from the animal fat. Baby formulas can contain _____ which comes from the stomachs of calves; it is also used to make cheese. If the _____ is drained carefully from the animal's veins and arteries, it can be used to help sick people. _____ is made from the cow's pancreas. It is a medicine that people with diabetes need to stay healthy.



KEY

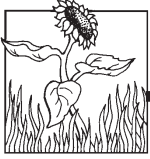


DOWN

1. A liquid white **GLUE** is made from hooves and is used to stick wood together.
2. Wax is made from the fat and used to make **CRAYONS** to draw with.
3. Rennet is made from a calf's stomach and used to make **CHEESE**.
4. Stearin might be your favorite by-product because it is used in **CANDY** and gum.

ACROSS

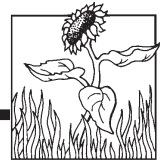
5. Cowhide is made into **LEATHER** which is used to make shoes, wallets and purses.
6. You could make **SOAP** by melting fat and stirring in ashes.
7. Cow's **BLOOD** is used to make a fertilizer called blood meal.



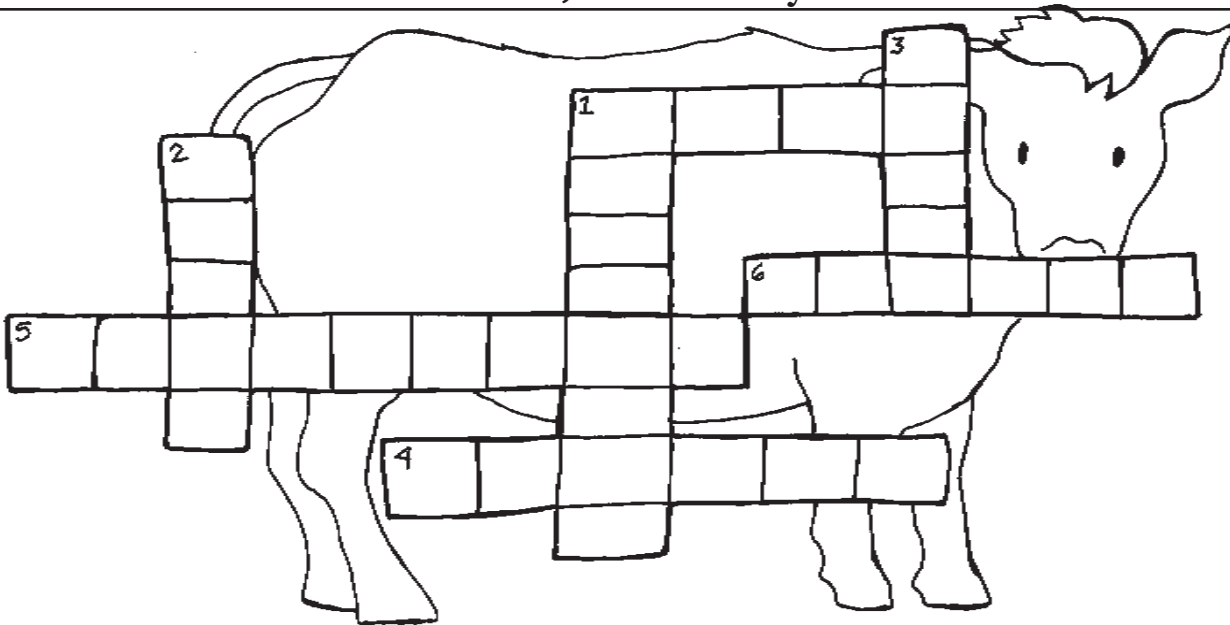
These are either a by-product from cows or something containing by-products. Fill in the correct word below.

blood	glycerin	rennet
dye	wax	crayons
leather	insulin	stearin
fat	soap	glue
ice cream	yogurt	bones

Many parts of the cow can be used besides meat and milk. **ICE CREAM** and **YOGURT** are made from milk and often contain **GLYCERIN**, which is made from the cow's hooves and **BONES**. When eating a steak, many people trim off the **FAT**, but it is scraped from hides and used to make **CRAYONS** for kids to draw pictures with and **WAX** for candles and furniture polish. To make **SOAP** for washing, people used to cook fat and ashes together. The kind of **GLUE** used at school to stick paper together may also be made from cow hooves and bones. Just about everyone has either shoes or a belt made from **LEATHER**. To give cloth pretty colors, it is **DYED**. One ingredient in many gums and candies also comes from cows. It is called **STEARIN** and is made from the animal fat. Baby formulas can contain **RENNET**, which comes from the stomachs of calves; it is also used to make cheese. If the **BLOOD** is drained carefully from the animal's veins and arteries, it can be used to help sick people. **INSULIN** is made from the cow's pancreas. It is a medicine that people with diabetes need to stay healthy.



La Carne, La Leche y Más

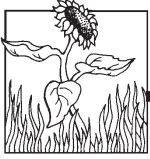


VERTICAL

1. Se hace un tipo de cera de la grasa del animal y se usa para fabricar _____ de dibujar.
2. La piel de la vaca se usa como _____ para fabricar zapatos, carteras y bolsas.
3. Se puede hacer _____ fundiendo la manteca y mezclándola con cenizas.

HORIZONTAL

1. Un pegamento líquido, y blanco, llamado _____ que se hace de las pezuñas y se usa para pegar madera.
4. El cuajo se hace del estómago del becerro y se usa para hacer_____.
5. Tal vez la estearina sea su producto favorito porque se usa en _____ y en chicles.
6. _____ de la vaca se usa para preparar un fertilizante que se conoce como “blood meal.”



A continuación se mencionan productos secundarios de la vaca o cosas que contienen productos derivados. Seleccione y escriba la palabra apropiada en los espacios provistos.

la sangre	la glicerina	el cuajo
teñir	la cera	los crayones
el cuero	la insulina	la estearina
la grasa/la manteca	el jabón	la cola/el pegamento
el helado	el yogur	los huesos

Además de la carne y la leche, hay muchas otras cosas que se pueden usar de una vaca. El _____

_____ y el _____ son hechos de la leche y frecuentemente contienen

la _____ que viene de las pezuñas y los _____. Al comer un bistéc, mucha gente

le quita la _____ pero ésta se quita de la piel de la vaca y se utiliza para fabricar los _____

_____ que los niños usan para colorear, como también para hacer velas y productos para lustrar

muebles. Para hacer el _____ para lavarse, la gente solía cocinar manteca y cenizas a la vez. El

tipo de la _____ que se usa en la escuela para pegar papeles también proviene de las pezuñas y los

huesos de la vaca. Casi todo el mundo tiene zapatos o un cinto hecho de el _____. Para darle

color a las telas, se tienen que _____. Un ingrediente de los chicles y los dulces proviene de la

vaca; se llama la _____ y se saca de la manteca del animal. Las fórmulas alimenticias

para bebés pueden contener el _____ el cual se extrae del estómago de la vaca y también se usa

para preparar el queso. Si la _____ se drena cuidadosamente de las venas y arterias, se puede

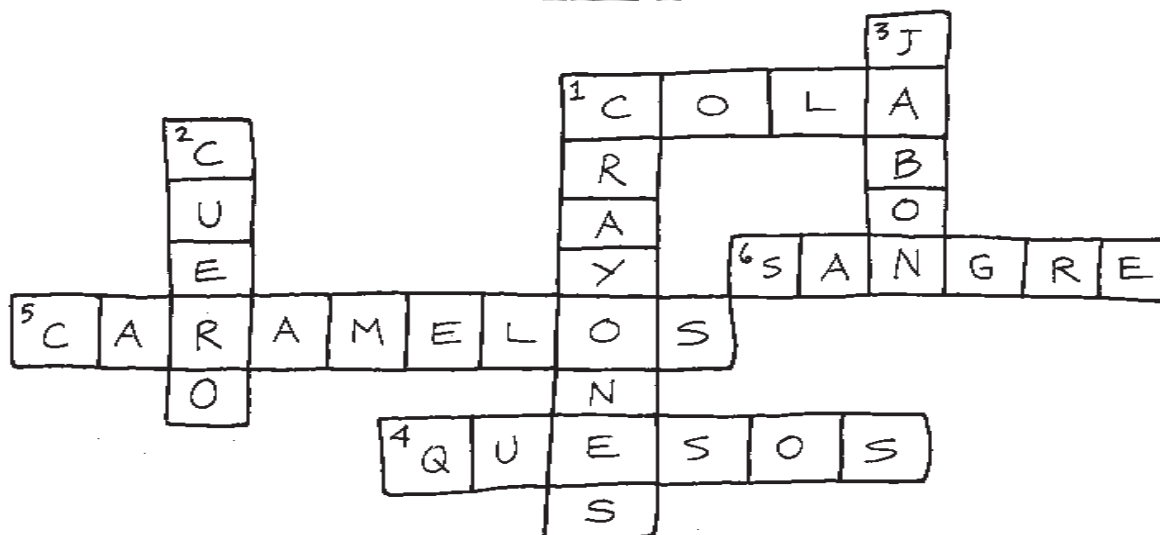
usar para aliviar a gente enferma. La _____ se saca del páncreas de la vaca; esta es una

medicina que personas con diabetes necesitan para gozar de buena salud.





KEY

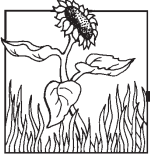


VERTICAL

1. Se hace un tipo de cera de la grasa del animal y se usa para fabricar **CRAYONES** de dibujar.
2. La piel de la vaca se usa como **CUERO** para fabricar zapatos, carteras, y bolsas.
3. Se puede hacer **JABON** fundiendo la manteca y mezclándola con cenizas.

HORIZONTAL

1. Un pegamento líquido, y blanco, llamado **COLA** que se hace de las pezuñas y se usa para pegar madera.
4. El cuajo se hace del estómago del becerro y se usa para hacer **QUESOS**.
5. Tal vez la estearina sea su producto favorito porque se usa en **CARAMELOS** y en chicles.
6. **SANGRE** de la vaca se usa para preparar un fertilizante que se conoce como "blood meal."



A continuación se mencionan productos secundarios de la vaca o cosas que contienen productos derivados. Seleccione y escriba la palabra apropiada en los espacios provistos.

la sangre	la glicerina	el cuajo
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la grasa/la manteca	el jabón	la cola/el pegamento
el helado	el yogur	los huesos

Además de la carne y la leche, hay muchas otras cosas que se pueden usar de una vaca. El **HE-**

LADO y el **YOGUR** son hechos de la leche y frecuentemente contienen

la **GLICERINA** que viene de las pezuñas y los **HUESOS**. Al comer un bistéc, mucha gente le

quita la **GRASA** pero ésta se quita de la piel de la vaca y se utiliza para fabricar los **CRAYONES** que los niños usan para colorear, como también para hacer velas y productos para lustrar muebles.

Para hacer el **JABON** para lavarse, la gente solía cocinar manteca y cenizas a la vez. El tipo de la

COLA que se usa en la escuela para pegar papeles también proviene de las pezuñas y los huesos de

la vaca. Casi todo el mundo tiene zapatos o un cinto hecho de el **CUERO** Para darle color a las

telas, se tienen que **TENIR** Un ingrediente de los chicles y los dulces proviene de la vaca; se llama

la **ESTEARINA** y se saca de la manteca del animal. Las fórmulas alimenticias para bebés pueden

contener el **CUAJO** el cual se extrae del estómago de la vaca y también se usa para preparar el

queso. Si la **SANGRE** se drena cuidadosamente de las venas y arterias, se puede usar para aliviar a

gente enferma. La **INSULINA** se saca del páncreas de la vaca; esta es una medicina que personas

con diabetes necesitan para gozar de buena salud.