

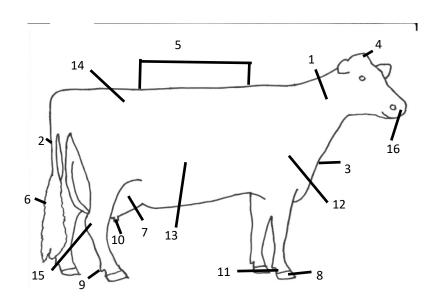
DAIRY Activity Sheet Page 1

Life skill: Decision making

SET Ability: Interpret/Analyze/Reason

To Make the Best Better Learning By Doing

Dairy Anatomy: Match parts to numbers Neck Hips Poll Tail Hock Back Dewlap Teat Switch Hoof Point of shoulder Udder Muzzle **Pastern** Barrel Dewclaw Breeds of Cows—Bovine



There are 6 major breeds of dairy cows in America. Dairy cattle first appeared in America in 1492 with the arrival of Christopher Columbus. They were used as multi purpose; milk, meat & draft. It was in the late 1800s with more people moving into cities & towns that farmers found larger markets for their milk and this was when the six breeds were imported in their greatest numbers.

Ayrshire	
Brown Swiss	
Guernsey	
Holstein	
Jersey	
Milking Shorthorn	

Д	Netherlands	
4	Netherlands	

B Isle of Jersey

C Scotland

D Isle of Guernsey

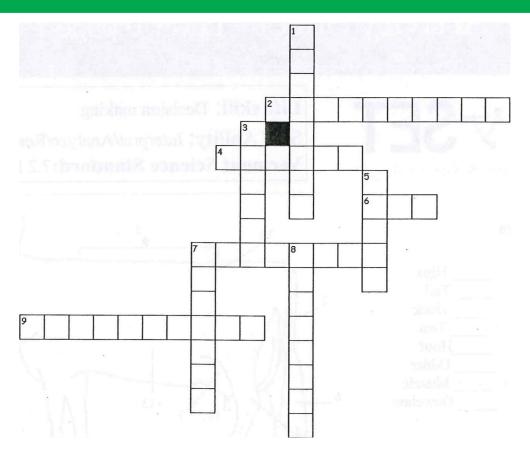
E England

F Switzerland



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Across

- 2. a large brown cow
- 4. smallest dairy breed
- 6. a cow's female parent
- 7. a hardy red & white breed
- 9. a major fermented feed in a cow's diet

Down

- 1. a cow that gives yellow milk
- 3. a yearling female
- 5. a cow's mammary gland
- 7. a legume grown for hay or silage
- 8. a black & white cow

Activity:

Practice taking the temperature of your project animal to see if she falls in the normal range.

Practice on each other to check for respiration rates and pulses.

Write about your favorite animal on another sheet of paper. What species is it, gender, personality, age, health.

Are you training it? What does it eat and how do you

Take a photo and share your story with your friends and in a project folder

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Science, Engineering & Technology

Life skill: Decision making

Science Skill: Interpret/Analyze/Reason

Diagnosis Matching

Ringworm	 Α	Examine and determine what is wrong
Pinkeye	 В	An instrument for measuring temperatures
Warts	 С	Redness and inflammation of the lining of the eye
Lice	 D	A device used to give cattle boluses
Scours	 Ε	Blood surging thru an artery causes a
Thermometer	 F	Infectious skin disease caused by a fungi
Pulse	 G	A small growth on the skin
Foot rot	 Н	Causes lameness in an animal
Balling gun	 I	An individual who visits a farm for animal health
Veterinarian	 J	Manure that is of watery consistence
Diagnose	 K	A parasite

- A cow's respiration (breathing) rate should be 10-30 breaths per minute. It is subject to body size, age, exercise, excitement and fullness of digestive tract.
- Her pulse should be 60-70 beats per minute. You can feel this on her jaw or the underside of her tail.
- The temperature of a cow is 101.4. You should always carry a digital thermometer in your show box and use it if you feel your animal is not feeling good.

FXT Freated by Wartha Seifert 2020

Health True and False		
A proper diet helps to keep an animal healthy	Т	F
Hair coat is a very important sign of health	Т	F
Wet bedding is healthy for cows	Т	F
Animal comfort aids in animal health	Т	F
Hot weather means a lower body temperature	Т	F
Disinfecting will kill germs	Т	F
Colostrum is the first milk from a cow www.uvm.edu/extension/youth	Т	F



0 S T N B Ι K Ŀ Ŀ با C P U R M S A В U J U R K G U Q F E F N M W T В T R S \mathbb{Z} D A Y K Τ, × C W U T R D H K B Н 100 F K \mathbb{Z} K R W H S V A V E P \mathbb{Z} S T R M E D P E G \mathbf{G} N 0 U J R K K Q R X G W M B N T S R A N E E I R M M L F M Y K X ZA S S T 0 I S F А B W L \mathbf{Z} A 0 В M J T \circ E L I E Q E ZW H M S L F. D \mathbf{Z} V S В U E U K A S G М H T P A × T 0 0 F F W Н 0 I T G R E D ZI G В B E T U M Y P I U W E H E P K N A Т K L U \mathbb{B} U W C Т F 0 I R X I U E H G R 3.7 V P B I R A S W CR U L H G C V J E E Y G N Q N L \mathbb{Z} Y E А A G I U W E \mathbf{E} M U M X Y В K X P Т W A G W \subset S W N X I N W G J H B K L I M \mathbf{E} TA \mathbf{L}_{i} 0 \subset \circ H CE \circ H TCМ M \bigcirc Y 0 B \bigcirc D B Α Н R U R Y E X P Z_{i} A B A H I S E S D I Ι R Н CY U \mathbb{R}

BULKTANK CHEESE EGGNOG MOZZARELLA SOURCREAM

BUTTER CHOCOLATEMILK ICECREAM PASTEURIZATION WHEY BUTTERFAT CREAMCHEESE MILKSHAKE PIPELINE YOGURT

Service Ideas:

- Have an ice cream social for your club's leaders and parents.
- Show your class how to make butter.
- Promote June as Dairy month and July as Ice Cream month.

Activity: Make a Purple Cow!

Ingredients:

2 cups vanilla ice cream6 ounce can frozen grape juice concentrate

1½cups milk



EXTENSION

Put all the ingredients together in a blender. Mix and enjoy.



Bulk Tank

DAIRY ACTIVITY SHEET Page 5



Science, Engineering & Technology

Pasteurization	
Ice Cream	
Butter	
Cud	
Swiss cheese	
Cottage cheese	
Sour cream	
Mozzarella	
Pipeline	
Processing plant	
Whey	
Colostrum	
Calcium	
Homogenization	

- Milk contains more nutrients than any other food.
- After hay and grain are eaten it takes twelve hours to convert the energy from the feed into milk.
- It takes 10 pounds of milk to make 1 pound of cheese.

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Life skill: Decision making

Science Skill: Interpret/Analyze/Reason

- A. Something new born calves drink
- B. Churned from milk
- C. A by-product of cheese
- D. A lumpy dairy product
- E. A hard cheese with holes
- F. Located in a tie stall or milk plant
- G. Breaking up of fat particles
- H. Heated to 145º for 30 minutes
- I. A delicious frozen dairy treat
- J. An important nutrient in milk
- K. Regurgitated from the first stomach
- L. Made from stainless steel
- M. Takes milk from the truck to packaging
- N. Stringy cheese for pizza
- O. Used in dips or on potatoes

Cows are milked 2 or 3 times a day	Т	F
Milk is cooled to 45º after milking	Т	F
Calcium builds strong bones	Т	F
A cow's diet will flavor the milk	т	F
Brown cows give chocolate milk	T	F
Holsteins have the highest butterfat	т	F
Most milk comes in plastic jugs	Т	F
Ice cream is made from cream or milk	Т	F

Frozen yogurt is ice cream www.uvm.edu/extension/youth



Cheeses can be hard or soft





ALFALFA GUERNSEY HOLSTEIN PASTERN TOPLINE AYRSHIRE HALTER JERSEY POLL UDDER

BROWNSWISS

HEIFER MUZZLE TAIL

- Have a club activity and make some ice cream and butter and then sample what you make.
- Educat your friends and classmates about the benefit of dairy products.
- Make a poster for your fair to display in the Exhibit Hall or with your animals.

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Making Butter: Place cream in a jar along with a clean marble. Screw the lid on & make sure it is secure.

Ahake the jsr in an up & down motion. At first you will hear the marble moving. Then there will be a time when the cream will be so thick the marble can't be felt.

Suddenly the butter will form. Drain the butter through a strainer. Wash the butter with cold water to remove any trapped buttermilk, salt to taste & then pack it down.

Spread on crackers to sample. Refrigerate.



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Science, Engineering & Technology

Life skill: Reasoning

Science Skill: Interpret/Analyze/Reason

Dairy Anatomy:

Match parts to numbers

___ Neck

____Hips

__ Poll

____ Tail

___ Chine

____ Hock

____ Dewlap

____ Teat

Udder

___ Elbow

____ Switch

____ Heart girth

— Pastern

Barrel

Dewclaw

Ribs

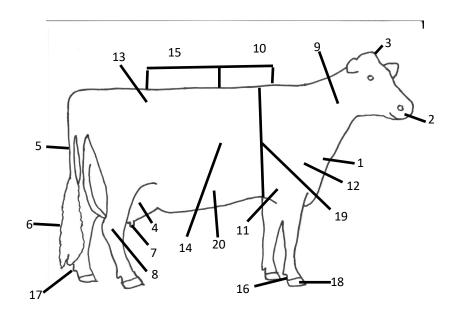
Hoof

Loin

Muzzle

Breeds of Cows—Bovine

Point of shoulder



There are 6 major breeds of dairy cows in America. Dairy cattle first appeared in America in 1492 with the arrival of Christopher Columbus. They were used as multi purpose; milk, meat & draft. It was in the late 1800s with more people moving into cities & towns that farmers found larger markets for their milk and this was when the six breeds were imported in their greatest numbers.

Can you figure which ones fit the following descriptions:

Rugged with feminine qualities with outstanding milk production

Rich milk, small stature

Hardy, superior udder quality

High beta-carotene content makes golden milk

Excellent feet & legs from a mountainous region

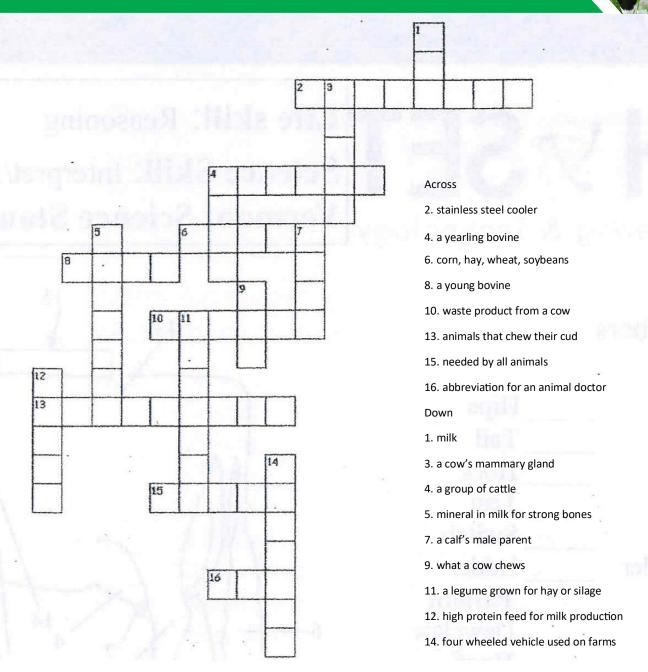
Made great strides in the past 15 years to develop more dairyness

p more dairyness _____

EXTENSION

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- Make ice cream for your club's leaders and parents.
- Make a poster for educating the consumer







Science, Engineering & Technology

Life skill: Decision making

Science Skill: Interpret/Analyze/Reason

"Feed Me" Matching

Oats	
Alfalfa	
Cotton seed	
Beet pulp	
Timothy	
Trace minerals	
Clover	
Brewers grain	
Citrus pulp	
Cornmeal	
Soybean meal	
Corn	

- The most common calf nutritional disease is diarrhea. Over feeding of milk or milk replacer can result in this.
- Generally you could say you are dealing with a respiratory disease if the animal has a cough, wheeze or runny nose along with rapid breathing.
- Parasites cause stress, reduce animal comfort, lower production, increase feed costs and decrease profit.
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 FXTFNSION

- A. Looks like tiny, uniform crystals
- B. Common cereal grain fed for its fiber
- C. Whole corn ground up
- D. By-product after removing oil, 44%CP
- E. A grass with dense spikes
- F. By-product from making beer
- G. A legume with a small purple flower
- H. By-product of sugar beets
- I. A legume with flowers of white, red
- J. A by-product of cotton
- K. An energy source used for silage
- L. Made up of orange & grapefruit peels

F

F

Cow Wellness

Mastitis is a infection of the jaw	T	
Ringworm is a fungus	Т	
Ketosis results in loss of milk production	Т	
Hairy Heel Warts is called digital dermatitis	Т	F
A good place to calve a cow is on pasture	Т	F
Milk Fever is a metabolic disease	Т	F
IM,IV & SQ all mean subcutaneous	Т	F
Calving is the least stressful time for a cow	Т	F
Oxytocin causes milk let down	Т	F



Z A J M D N 0 B T R T B U E J R N Q L Z 74 3 E. I A K N K N E R S 0 C K I, Q I X U M Z. B D 0 0 M B C Z T L T F T H T 0 H G H 0 G E R X D J U 0 C N 0 M E N I R C R J E H X D H M ī S T R A D U G K H C B C P C E S N S U U R M D 0 E

DIAGNOSE PINKEYE RINGWORM VETERINARIN FOOTROT PULSE SCOURS WARTS

LICE RESPIRATION THERMOMETER

Service Ideas:

- Conduct a demonstration about the care of a dairy animal for younger children.
- Sponsor a dairy farm tour or trip to a dairy plant.
- Encourage consumers to use dairy products for better health.

Activities:

- Tour a local feed mill to learn about the different feeds and how they are combined to make a concrentrate.
- Which ingredients are grown in Vermont?
- How does nutrition play a role in your heifers growth?

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Life skill: Reasoning

Science Skill: Interpret/Analyze/Reason

Science, Engineering & Technology

"Milking It, Yummy"

Milk	 A. Ultra high temperature pasteurization
Swiss cheese	 B. The process of breaking up the fat particles
Pasteurization	 C. From truck to packaging
Processing plant	 D. Liquid leftover from churning milk
Homogenization	 E. Used in making cheese
Whey	 F. Has a pH value ranging from 6.5 to 6.7
UHT	 G. Contains the active culture lactobacillus
Calcium	 H. An important nutrient in milk
Rennet	 I. Is milks largest ingredient
Mozzarella	 J. A hard cheese with holes
Yogurt	 K. Watery part of milk that separates from the curd
Water	 L. Heated to 160º for 30 minutes
Buttermilk	 M. Resulting in cream and skim milk
Separation	 N. Pizza

- Milk contains more nutrients than any other food.
- Milk gives you calcium, riboflavin & protein needed for healthy skin & good vision.
- A teenager needs three cups per day of dairy products.
- 90 pounds of feed is the same weight as 480
 Hamburgers or 1,400 slices of bread.
- Milk is stored at 45º T F

 Farmers are paid for components T F

 SCC is the number of white blood cells T F

 Bulk tanks are made of aluminum T F

 Butter is made from yogurt T T

 Jersey's have the highest butterfat T F

 Cheddar cheese is a soft cheese T F

 Vitamin D helps skin T F

 Casein is the milk protein T F

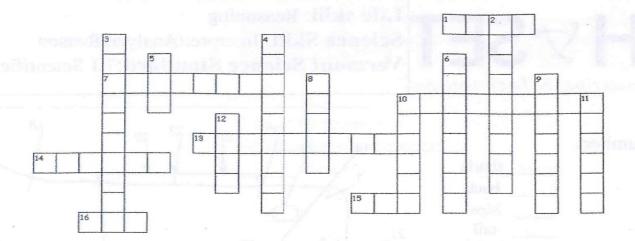
 Milk can absorb other food flavors T F



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Across:

- 1. produces by cows for human consumption
- 7. symbol that denotes a real dairy product
- 10. type of housing for cattle
- 13. put on crops to help them grow
- 14. a grass grown for grain
- 15. total mixed ration
- 16. abbreviation for an animal doctor

Down:

- 2. what farm animals are called
- 3. fermented feed in a cow's diet
- 4. the first milk
- 5. dry feed for cattle
- 6. nutritious frozen food
- 8. area of land used for crops
- 9. mineral important for strong bones
- 10. individual who cares for land and cattle

- 11. storage for manure
- 12. a pesty plant of no value

ICE CREAM IN A BAG

Pour milk or cream, vanilla extract and sugar into a small zip bag. Squeeze as much air out as possible, mix will and seal the bag carefully.

Place the small bag into a large zip lock bag. Cover with ice and rock salt. Seal the large bag tightly.

Shake, toss and flip the "ice cream machine" for 5 to 10 minutes. If it hasn't frozen in 10 minutes add more ice and salt

The ice cream should be the consistence of soft serve. Enjoy! www.uvm.edu/extension/youth

Make ice cream for your club's leaders and parents.

- Make a poster for educating the consumer about milk and its benefits.
- Promote June as National Dairy Month and July as National Ice Cream Month.

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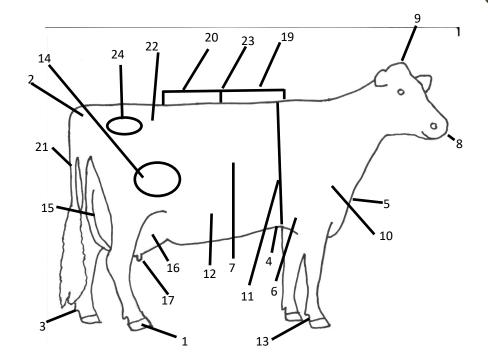
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Dairy Anatomy:

Match parts to numbers

chest flo	or	 thurls
pins		 back
neck		 hips
poll		 tail
chine		 dewlap
teat		 stifle
elbow		 fore udder
point of	shoulder	 rear udder
heart gir	th	 pastern
barrel		 dewclaw
ribs		 hoof



Breeds of Cows—Bovine

loin

There are 6 major breeds of dairy cows in America. Dairy cattle first appeared in America in 1492 with the arrival of Christopher Columbus. They were used as multi purpose; milk, meat & draft. It was in the late 1800s with more people moving into cities & towns that farmers found larger markets for their milk and this was when the six breeds were imported in their greatest numbers.

UNIFIED SORECARD: Fill in the blanks with name & score.

muzzle

Skeletal parts of the cow, with the exception of the rear feet & legs		
Major consideration is given to the traits that contribute to high milk		
Volumetric measurement of capacity		
Evidence of mobility, rear view, side view, thurl position		
General openness & angularity while maintaining strength		
Resource PDCA Scorecard	Total	100%

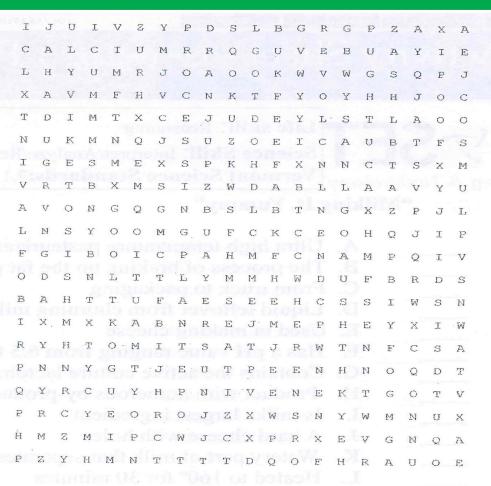


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ALFALFA COTTAGECHEESE PROCESSINGPLANT RIBOFLAVIN TIMOTHY CALCIUM KETOSIS PROTEIN SEPARATION

CLOVER OXYTOCIN RENNET SWISSCHEESE

Write about you favorite animal on another sheet of paper. What species is it, gender, personality, age and health.

Are you training it?

Take a photo and share your story with your friends and in a project folder.

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ACTIVITY:

- Practice taking the temperature of your project animal to see if she falls in the normal range.
- Practice on each other to check for respiration rates and
- pulses.





MIX IT UP

Uterus	 A. An estimate of an animals ability to transmit
Flight zone	 B. 305 day mature equivalent
Buffers	 C. For heifers 750# (large breeds)
Breeding weight	 D. White blood cells
Edema	 E. 160ºF for 15 seconds
Mastitis	 F. Site of development of calf
DM	 G. Feed additive such as sodium bicarbonate
ME	 H. Drained from curds, milk protein
SCC	 I. Inflammation or infection of
HSUS	 J. By-product of sugar beets
Flash pasteurization	 K. Dry matter
Whey	 L. Accumulation of fluids in the cells
Beet pulp	 M. Comfort zone
TPI	 N. Wants to abolish all animal agriculture

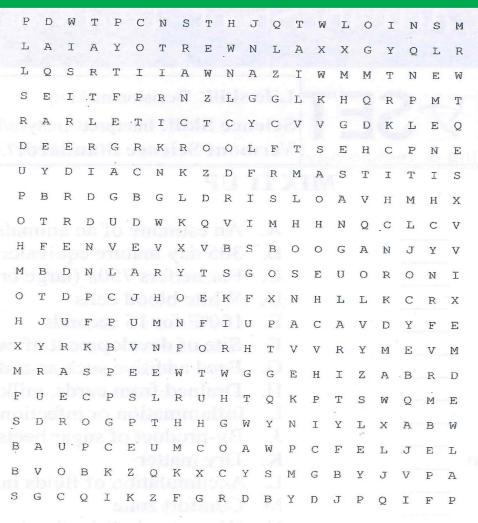
- A cow's respiration (breathing) rate should be 10 to 30 per minute. It is subject to body size, age, exercise, excitement and fullness of digestive tract.
- Her pulse should be 60-70 beats per minute. You can feel this on her jaw or the muscle of her tail.
- The temperature of a cow is 101.4. You should always carry a digital thermometer in your show box and use it if you feel your animal is not feeling good.

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CMT means micro or parts per million		F
Diarrhea can be caused by coocidian		F
Carbohydrates are length of milking		
Rumen is a main source of energy	Т	F
Forages are roughage	Т	F
Concentrates are a primary source of antibodies		F
Colostrum is cereal, protein and vitamins		
Body condition tells nutritional needs		F
Lactation is scours	Т	F
TMR is different feeds mixed together		F





ANGULARITY CHINE FOREUDDER LOIN PASTERN RIBS THURLS

BARREL
DAIRY
HEARTGIRTH
MASTITIS
POINTOFSHOULDER
STIFLE

CHESTFLOOR DEWLAP HOOF OPENNESS REARUDDER TAIL





"Dairy Foods"

Cottage cheese		A. Enzyme used in cheese making
Yogurt		B. A milk protein
Casein		C. By-product of cheese making
Rennet		D. Made from goats milk
Pasteurization		E. Gives the milk a sour taste
Homogenization		F. Milk is churned into this
Feta cheese		G. Sheep's milk cheese
Low-fat milk		H. Mixture of milk & eggs that has been coagulated
Roquefort		I. Cultured milk product
Butter		J. Soft cheese made with a surface mold
Blue cheese		K. Curds of milk proteins
Lactic acid		L. Unpasteurized milk
Raw milk		M. Heated to 160º for 30 minutes
Custard		N. Milk that is 1-2% butterfat
Whey		O. Process of breaking up fat particles

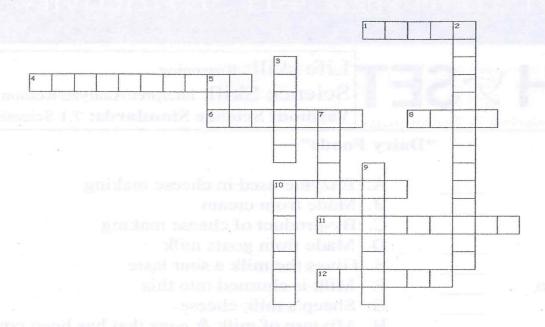
- Milk is one of the most highly regulated products on the market.
- There are 19 major categories that are considered when a milk inspector completes a dairy farm inspection.
- The wash up system has to be maintained so fat and calcium doesn't build up.

Feeding sliage causes oπ flavor milk	ı	F
Exposing milk to light causes oxidation	Т	F
Buttermilk is formed when making yogurt	Т	F
Ayrshires have the highest butterfat	Т	F
The dairy industry is regulated by the CIA	Т	F
Bulk tanks are made of aluminum	Т	F
Milk was used for food 5,000 years ago	Т	F
Mozzarella is the most consumed cheese		F
UTH milk is mainly used for creamers		F

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Across:

- 1. four leaf clover
- 4. cheese with mold on it
- 6. mixture of milk and eggs
- 8. by-product of cheese making
- 10. enzyme used in making cheese
- 11. caused by light exposure
- 12. site of developing calf
- Have a club activity and make some ice cream and butter and then sample what you made.
- Educate your friends and classmates about the benefit of dairy products.
- Make a poster for your fair to display in the exhibit hall.

Down:

- 2. breaking up of fat participles
- 3. milk is churned into this
- 5. somatic cell count
- 7. largest stomach chamber
- 8. parentage of animal
- 10. unpasteurized milk

Activity: Make a Purple Cow!

Ingredients:

2 cups vanilla ice cream

6 ounce can frozen grage juice concentrate

11/2 cups milk

Put all the ingredients together in a blender.



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