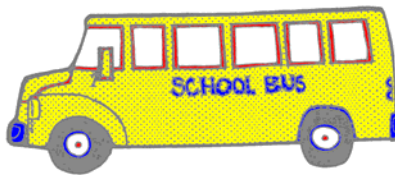


SUGGESTED ACTIVITIES

Grades 6-8

The Following activities are designed to make your visit to the fair more meaningful. Hopefully, you will be able to incorporate some of the ideas into your regular curriculum.



"Finding Career Paths At the Big Fresno Fair" - Pre/Post Tour Integrated Performance Activities are designated by the school bus icon. (Career Path displays that use Career Path resources and color coding can be found in the Career Path Building)

YOUR WAY OF LIFE DEPENDS ON THE LIVESTOCK INDUSTRY

LIVESTOCK BY-PRODUCTS

1. **BONE**

Bone China, crochet needles, dice, teething rings, glue, tools, high grade steel, refining sugar, bone meal, gelatin, weapons, cardboard, capsules, feed and fertilizer.

2. **HORN AND BONES**

Buttons and carving-set handles.

3. **GELATIN (from bone)**

For making marshmallows, photographic film, cigarette paper, painting rollers.

4. **HIDES**

All kinds of leather goods, such as clothes, sporting goods, (mitts, footballs), shoes, purses and furniture.

5. **BODY CHEMICALS**

Detergents, pesticides, foam for use at airport runways, industrial oils, drum heads and tire lubrication.

6. FATS

Manufacture of food items including, oleomargarine, chewing gum, candles and ice cream. For making soaps, animal feeds, pet food, lubricants, candles, fertilizer, balloons, garden hose, galvanized steel, medications, plastics, tin cans, explosives and cosmetics.

7. BLOOD

Cancer research, culture media, animal feeds, pet food, shoe polish, adhesives, asphalt and cork.

8. GLANDS

Are used in the manufacture of numerous pharmaceutical preparations, such as insulin, ACTH, Adrenalin and Vitamins. Thyroid tablets and hormones. Thrombin and bone marrow concentrates used in the treatment of various blood disorders

9. OTHER BY-PRODUCTS

Musical instruments, violin strings, mood rings, tennis rackets, insulation, linoleum, welder casings, yogurt crayons, fabric dye, matches and paint.

Courtesy of Billie Hart, "The Fifth Quarter". See her exhibits in the world of Pigmania and Livestock Welfare

CONTRIBUTION OF CATTLE TO MODERN MEDICINE

Today, scientists and chemists feel they have only scratched the surface in the development of useful things from the meat animal in addition to food. Although all animals play an equal role in producing life-benefitting products used for the health and well-being of man's existence, each speckle does contribute some products derived from them exclusively.

A recent introduction to the medical field is the pericardial valve, which is hand made from the tissue that holds the heart of cattle together. The valve is used as a replacement of faulty valves in the human heart.

Insulin from cattle is also a major by-product. It takes pancreas glands from about 60,000 cattle to make one pound of pure dry insulin or 1500 pancreas glands to make one ounce of insulin.

Blood from an unborn calf is used in CANCER RESEARCH and Culture media.

Glands are used in the manufacture of numerous pharmaceutical such as: hormone ACTH, TSH, Adrenalin, Heparin, Thrombin and Thyroid tablets); vitamins; enzymes (Epinephrine, Trypsin, Alpha Chymar (beneficial in cataract operations).

Bone marrow concentrations are used in the treatment of various blood disorders. Bone meal is a prominent source of calcium and phosphorus.

Bovine lung surfactant; a material taken from the lungs of cows and used to coat the lungs of premature infants, allowing the lungs to expand and contract with greater ease.

Inedible by-products from cattle include glycerin (medications), surgical sutures, surgical gloves, salves and ointments. Fat from cattle is preferred over other animals for use in manufacturing photographic film and X-rays. Collagen-based adhesives-bandages.

OTHER PHARMACEUTICAL BY-PRODUCTS:

AMFETIN (amniotic fluid)

TRYPSIN (digestion of dead tissue from wounds and to speed healing from surgery)

ARTERIES, CAROTID (transplants)

SPLEEN EXTRACT (typhoid, malaria, anaemia)

HEMOGLOBIN (natural iron)

CORPORA LUTEA (estrogen, progesterone, dysmenorrhea)

CHYMOTRYPSIN (digestion, eye disorder)

PARATHYROIDS (tetany, muscular contraction, nerve stimulation, kidney and other body functions)

BRAIN (checks bleeding)

PINEAL GLAND (treatment of children to stimulate physical & mental development)

ENTEROGASTRONE (ulcers)

PLACENTA OR UTERINE COTYLEDON (start flow of milk when it fails in childbirth)

BILE (cortisone, bile salts, frozen feet, hands, remove dirt, grease, dissolves gallstones)

VITAMIN B-12 (treatment of anaemia)

HYPOTHALAMUS (hormones)

Courtesy of Billie Hart, "The Fifth Quarter". See her exhibits in the World of Pigmania and Livestock Welfare.

CONTRIBUTION OF SHEEP TO MODERN MEDICINE

Today, scientists and chemists feel they have only scratched the surface in the development of useful things from the meat animal in addition to food. Although all animals play an equal role in producing life-benefitting products used for the health and well-being of men's existence, each speckle does contribute some products derived from them exclusively.

Intestines from sheep are used to produce surgical sutures. These are much stronger and can be processed to the dimension of a hair. The Plastic Surgeon prefers this suture as it will not leave any scarring.

Cartilage and tendons are being kept from slaughtered sheep in hopes that in the future they will be able to implant them into the knees and hips of humans.

Inedible by-products from sheep include violin strings, tennis racquets, Kazoo instrument, clothing, rugs, mood rings, thermometers, 3-D movie glasses, electrical circuitry, Masonic aprons, expensive fish bait, detergents, cosmetics, soap, glue, lotions, book bindings, hat sweat bands, shoe linings, globes, chamois skins, woolen cloth, fiber lubricants, leather dressing, contraceptive sheaths, pet food, trotters-gelatine and tanner's bait.

PHARMACEUTICAL BY-PRODUCTS:

SURGICAL LIGATURES, SUTURES (stitches)

ENZYMES

THYROXIN (thyroid problems)

SALVES

ADRENALIN (treat shock & heart patients)

OINTMENTS

PITUITARY EXTRACT (control human growth, safe child birth)

VITAMINS

OVARIAN EXTRACT (estrogen, etc.)

LANOLIN (used in medicines)

SOMATOSTATIN (still under research - when taken with insulin it MAY prevent complications that insulin cannot prevent in diabetics)

**ARTERIES
(transplants)**

Courtesy of Billie Hart, "The Fifth Quarter". See her exhibits in the World of Pigmania and Livestock.

CONTRIBUTIONS OF SWINE TO MODERN MEDICINE

Today, scientists and chemists feel they have only scratched the surface in the development of useful things from the meat animal in addition to food. Although all animals play an equal role in producing life-benefitting products used for the health and well-being of men's existence, each speckle does contribute some products derived from them exclusively.

Swine are particularly emphasized because of the many life-saving drugs and products derived from these animals. From swine we get heparin, an anti-blood coagulant and swine thyroid is preferred over sheep and cattle because of the higher count of iodine for thyroid medication. Insulin from swine is the nearest to humans.

Surgeons have also discovered that swine heart valves are far superior than artificial valves for the use in human hearts.

Swine are the most similar to human anatomy so they are a must in medical research.

Inedible by-products from swine include glass, water filters, plastics and filtering agents.

PHARMACEUTICAL BY-PRODUCTS

CORTICOSTEROIDS (metabolism)

THYROXIN (metabolism and treatment hypothyroidism)

CORTISONE (arthritis, eye disease and allergic disorders)

PITUITARY (control human growth, safe child birth)

EPINEPHRINE (regulates blood pressure and blood sugar levels)

ADH (antidiuretic, influences blood pressure)

NOREEHPHINE (cardiac arrest and hypotension)

PROLACTIN (stimulates milk secretion, may play role in aid for breast cancer)

BLOOD FIBRIN (blood clotting)

OXYTOCIN HORMONE (treats obstetrical complications)

FETAL PIG PLASMA (hemophilia)

TSH (to locate small particles of thyroid cancer which have spread to other parts of body)

CHOLESTEROL (synthesis of steroid hormones)

GELATIN (coating for pills and capsules)

CHENODEOXYCHOLIC ACID (dissolves gallstones)

STOMACH (lining contain proteins, enzymes, digestive aids)

ESTROGENS (female hormone)

PYLORIC LINING (to utilize vitamin B 12)

PROGESTERONE (pregnancy hormone)

INTRINSIC FACTOR (to utilize vitamin B 12 & for pernicious anaemia)

| | |
|--------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| <i>RELAXIN (treats premature labor)</i> | <i>PINK MUCOUS LINING (used in achylia gastrica & stomach cancer)</i> |
| <i>LIPASE (fat synthesis)</i> | <i>MUCIN (peptic and duodenal ulcers, lubricate food movement through the digestive tract)</i> |
| <i>TRYPsin (digestion, wounds & burns)</i> | <i>SECRETIN (digestion)</i> |
| <i>CHYMOTRYPSIN (digestion, eye disease)</i> | <i>ENZYME (PEPSIN) (used for indigestion, is in Pepto Bismol, chewing gum, used to clarify beer, wines, fruit juice & vinegar)</i> |
| <i>PORCINE DRESSINGS FOR SEVERE BURNS (skins of swine also make edible and inedible gelatin)</i> | <i>GLUCAGON (sugar reserve)</i> |
| <i>SPLENIN FLUID (typhoid, malaria)</i> | <i>ENTERGASTRONE (fat digestion)</i> |

Courtesy of Billie Hart, "The Fifth Quarter". See her exhibits in the World of Pigmania and Livestock.

ANIMAL FACTS

GOATS

- 1. Buck Is a male goat*
- 2. Doe Is a female goat*
- 3. Wether Altered male goat*
- 4. Kid A goat under the age of 6 months*
- 5. Kidding Giving birth to their young*
- 6. Udder Milk gland, where their milk comes from*
- 7. Gestation Five months*

The goat is part of a very large family of animals called "RUMINANTS". The special name that they have is due to the make up of their stomach. Animals in this class are very different than any other animal. They have four stomachs and have no teeth on the upper jaw. Many times as you walk through the barns you will see these animals chewing their "Cud".

The "Cud" is re-chewing of food. If you did not know what they were doing you may mistake them for chewing gum. The reason that they have to re-chew their food is because of the special stomach. These animals spend most of their time chewing their food so that it can easily be digested.

The pigmy goat is only 18-20 inches tall. They also have one other very special feature, and that is that they only come in four colors. The colors are: Gray, Black, Cream and Agouti. So as you walk through please look for these special critters.

There are 6 breeds of goats:

- 1. Alpine Can be any color with erect ears*
- 2. Togenburg Brown, white stripes on face with erect ears.*
- 3. Oberhasli Red brown with black stripes on face and erect ears.*
- 4. Saanin White only, no other colors allowed with erect ears.*
- 5. Niobean Any color with long pendulous ears with a roman nose.*
- 6. Lamancha Any color with very short ears, there are two types of ears, the very, very short ears are called "gopher" ears and the longer ones are called "cookie ears. This is the only breed developed in the United States.*

We have Alpines, Lamanchas, Nubians, Togenburgs, and Saanins in the barn.

Most births are usually twin or triplets. Though singles and quadruplets are common. This is called a litter. Goats give milk for human consumption and to make cheese, ice cream, and yogurt to name a few things. Kids weight about 5 pounds at birth.

SHEEP

- 1. Ram Is a male sheep*
- 2. Ewe Is a female sheep*
- 3. Lamb Is a young animal either sex*
- 4. Wether Is an altered male*
- 5. Sheep are raised for both meat and wool.*
- 6. We shear sheep to harvest the wool, this is done once a year.*
- 7. Gestation period is four months.*

8. *Twins and single births are normal. Triplets are less common.*
9. *When a ewe has a baby we call that lambing.*
10. *Sheep are born with long tails which are sometimes docked before they develop any nerves.*
11. *White face breeds are usually wool breeds. Black face breeds are usually used for meat.*
12. *Sheep are ruminants having 4 stomachs and chew a cud.*
13. *A cud is food which is being chewed a second time after being held in the first stomach.*
14. *Wool breeds are: Ramboulliet, Cheviot, Dorset, and Columbia . Sheep usually considered meat breeds but which do produce a fine grade of wool are Corriedale, Suffolk, Southdown and Hampshire.*

SWINE

1. *Swine* *Also referred to as pigs or hogs*
2. *Herd* *A group of swine*
3. *Boar* *Is a male hog.*
4. *Sow* *Is a female hog.*
5. *Pig* *Is a very young pig, either sex.*
6. *Gilts* *Young female animals.*
7. *Barrow* *Altered male.*
8. *Used for meat* *Bacon, ham, sausage.*
9. *Hogs* *Come in many different colors: all white, all red, all black, black with 1 or 2 white front legs plus a belt of white, and white with black or red spots.*
10. *Pigs are shown with a cane and loose in the ring*
11. *The notches in some of the ears designates what farmer they belong to.*
12. *Gestation period is three months, three weeks.*
13. *A pig usually weighs about two pounds at birth.*
14. *10-12 in each litter.*
15. *When a sow gives birth we call that farrowing.*
16. *Pigs are one of the cleanest animals in the barn.*
17. *Pigs have a simple stomach, like man, and eat bakery waste (bread, rolls, etc.), barley, beans, carrots, beets, turnips, oats, peanuts, potatoes, rice, sunflower seeds, heat, and some ground alfalfa.*

CATTLE

1. *Bull* *Is a male, any age*
2. *Cow* *Is a female which has had a calf*
3. *Calf* *Is a male or female less than six months of age*
4. *Steer* *A castrated male (removal of testes)*
5. *Heifer* *A female which has not yet given birth to an offspring*
6. *Cattle are raised primarily for meat and milk.*
7. *Gestation period is nine months.*
8. *Single births are the norm, but the birth of twins occur occasionally.*
9. *When a cow has a calf it is called calving.*
10. *Bull calves are usually castrated unless kept for future breeding purposes.*
11. *Major breeds such as Hereford, Angus, Shorthorn, Brahman and Charolais are often crossbred, as well as lesser known breeds.*
12. *Cattle are ruminants and chew a cud.*
13. *A cud is food which is chewed a second time after being held in the first stomach.*
14. *The following is a partial list of the more common known beef breeds: Hereford, Angus, Charolais, Brahman, Gelviah, Beefmaster, Simmental and Shorthorn.*
15. *Dairy breeds: Holstein, Guernsey and Jersey are the most common in this area, but there are many other breeds raised here.*

EXAMPLES OF THE MANY AND VARIED USES OF BEEF

- | | | |
|------------------------|----------------------------|---------------------------------------|
| 1. <i>Candles</i> | 12. <i>Paints</i> | 23. <i>Boots & shoes</i> |
| 2. <i>Cellophane</i> | 13. <i>Plastics</i> | 24. <i>Bandages</i> |
| 3. <i>Ceramics</i> | 14. <i>Shoe cream</i> | 25. <i>Wallpaper</i> |
| 4. <i>Cosmetics</i> | 15. <i>Shaving cream</i> | 26. <i>Sheetrock</i> |
| 5. <i>Crayons</i> | 16. <i>Soaps</i> | 27. <i>Emery boards</i> |
| 6. <i>Deodorants</i> | 17. <i>Textiles</i> | 28. <i>Glues</i> |
| 7. <i>Detergents</i> | 18. <i>Pet foods</i> | 29. <i>Artist's paint brushes</i> |
| 8. <i>Insecticides</i> | 19. <i>Floor wax</i> | 30. <i>Photographic film</i> |
| 9. <i>Insulation</i> | 20. <i>Combs</i> | 31. <i>Horse & livestock feed</i> |
| 10. <i>Linoleum</i> | 21. <i>Imitation Ivory</i> | 32. <i>Leather sporting goods</i> |
| 11. <i>Perfumes</i> | 22. <i>Luggage</i> | 33. <i>Piano Keys</i> |

BEEF BY-PRODUCTS FOR MECHANICAL TYPE USES

1. *Hydraulic brake fluid.*
2. *Airplane lubricants and runway foam.*
3. *Various machine oils and viscous fluids.*
4. *Steel ball bearings containing bone charcoal.*
5. *Car polishes and waxes.*
6. *Textiles for car upholstery.*

PHARMACEUTICAL USES FROM BEEF

- | | |
|-------------------------------------|-----------------------------------------------|
| 1. <i>Insulin</i> | <i>For diabetes</i> |
| 2. <i>Pancreatic</i> | <i>Aids digestion</i> |
| 3. <i>Glucagon</i> | <i>Treats hypoglycemia</i> |
| 4. <i>Tyrosine and Chymotrypsin</i> | <i>For burns and wounds</i> |
| 5. <i>Bone Marrow</i> | <i>For blood disorders</i> |
| 6. <i>Soft Cartilage</i> | <i>For plastic surgery</i> |
| 7. <i>Bone Meal</i> | <i>Calcium and phosphorus source</i> |
| 8. <i>Blood Plasma</i> | <i>For hemophilia and kills some viruses</i> |
| 9. <i>Blood Albumin</i> | <i>RH factor types</i> |
| 10. <i>Trombin</i> | <i>Blood coagulant</i> |
| 11. <i>Iron</i> | <i>For anemia</i> |
| 12. <i>Intestines</i> | <i>Medical sutures</i> |
| 13. <i>Prolactin</i> | <i>Promotes lactation</i> |
| 14. <i>Pressor Hormone</i> | <i>Regulates blood pressure</i> |
| 15. <i>Vasopressin</i> | <i>Controls intestinal and renal function</i> |
| 16. <i>ACTH</i> | <i>For arthritis and allergies</i> |
| 17. <i>Heparin</i> | <i>Anti-coagulant</i> |
| 18. <i>Liver Extract</i> | <i>Treatment of anemia</i> |
| 19. <i>Vitamin B-12</i> | <i>Prevention of B-complex deficiencies</i> |

99% OF EVERY BEEF ANIMAL IS USED FOR BEEF AND BY-PRODUCTS

RABBIT

1. *Buck* *Is a male rabbit*
2. *Doe* *Is a female rabbit*
3. *Junior* *Is a young rabbit under 6 months*
4. *Intermediate* *Is a rabbit at the age of 6-8 months*
5. *Senior* *Is a rabbit older than 6 months*
6. *Fryer* *Is used for meat 10 weeks of age*

Many of us think of Peter Cottontail when we see a rabbit but the Cottontail is only one breed in the rabbit world. They range in sizes from large to small. Rabbits are used for many things, their meat as well as their fur.

POULTRY

As we move through this barn we will discover there are many different kind of chickens. The reason there are so many chickens is because they have so many uses in the Poultry World. Poultry is the mane that is given to the chickens in the industrial world. Here are some facts about our feathered friends.

Chicken

Poultry uses are as follows: egg production, meat production, feather and organic matter.

1. *Cock* *Is a male over one year*
2. *Hen* *Is a female over one year*
3. *Cockerel* *Is a male one year or under*
4. *Pullet* *Is female one year or under*
5. *Rooster* *Farm term for all male chickens*
6. *Fryer* *3 1/4 to 5 pounds not to exceed 10 weeks*

Pigeon

Many pigeons that you see in the barn also have very specific uses. Many of their uses are explained by their name. The unique homing ability of the Homing Pigeon explains why it is called the Homing Pigeon. The Tumbler is given this name due to the way it flies. This bird rolls from the sky. Keep in mind there are more varieties of pigeons in our barn. Make sure you keep a close eye out for these breeds.

Turkey

1. Tom *Is a male turkey from the time of hatching*
2. Hen *Is a female turkey from the time of hatching*
3. Poults *A baby turkey*

Other Fowl

1. *Water fowl (ducks and geese)*
2. *Wild fowl (pheasants, doves and quail)*