UNIT IV - PRODUCTS FROM AGRICULTURE

Lesson 3:   Food Products from Animals

Competency/Objective: Identify food products from animals.

Study Questions

1. **What food products come from beef cattle?**

2. **What food products come from hogs?**

3. **What food products come from sheep?**

4. **What food products come from poultry?**

5. **What food products come from dairy animals?**

6. **What are some examples of fish and seafood?**

7. **What are some examples of processed meats?**

8. **What information is contained in the meat label?**

References

1. *Exploring Agriculture in America* (Student Reference). University of Missouri-Columbia: Instructional Materials Laboratory, 2000, Unit IV.

2. Transparency Masters

    TM 3.1 Wholesale and Retail Cuts of Beef
    TM 3.2 Meat Consumption Trends in the United States
    TM 3.3 Know Your Meat Label

3. Handouts

    HO 3.1 Per Capita Consumption of Meat Products in the United States
    HO 3.2 Beef Chart
    HO 3.3 Pork Chart
    HO 3.4 Lamb Chart
    HO 3.5 Meat Labels

4. Activity Sheets

    AS 3.1 Identify the Most Popular Meat Product
    AS 3.2 Animal Food Products
    AS 3.3 Identifying per Capita Consumption Trends of Meat Products
    AS 3.4 Processing Whipped Cream and Butter
    AS 3.5 Reading a Meat Label

UNIT IV - PRODUCTS FROM AGRICULTURE

Lesson 3:   Food Products from Animals

TEACHING PROCEDURES

A.   ***Review***

Americans eat many foods produced from plants. They are essential for a balanced diet.
However, a number of food products are also produced from animals.

B.   ***Motivation***

1.   Ask students what category of meat is most popular in the United States. This will lead to
listing and explaining the major categories: beef, chicken, fish, lamb, pork, turkey, and
veal. Explain the concept of per capita consumption and then distribute AS 3.1. Use HO
3.1 to provide the actual figures. Discuss and compare answers.

2.   Ask students what is in a hamburger. Obviously, it is ground beef. Then ask them why it
is called hamburger, a pork name, when it is actually beef. Offer extra credit to the
student(s) with the answer the following day. (It originated in Hamburg, Germany.)

3.   Bring in samples of a variety of meats and have students try to distinguish between
different types of meat.

C.   ***Assignment***

D.   ***Supervised Study***

E.   ***Discussion***

Q1.   What food products come from beef cattle?

A1.
     a)   Hamburger
     b)   Steak
     c)   Roast
     d)   Veal - young cattle

Show TM 3.1, distribute copies of HO 3.2, and discuss the common cuts of beef.

Q2.   What food products come from hogs?

A2.
     a)   Pork chops
     b)   Ham
     c)   Bacon

Distribute HO 3.3 and discuss the common cuts of pork.

Q3.   What food products come from sheep?

A3.
     a)   Lamb chops
     b)   Leg of lamb

Distribute HO 3.4 and discuss the common cuts of lamb. Have student complete AS 3.2 to test their knowledge of beef, pork, and lamb cuts.

Q4.   **What food products come from poultry?**

A4.

a)   **Eggs**
b)   **Meat**

Ask students to discuss what foods come from poultry. Assign AS 3.3 to have students graph the U.S. meat consumption trends. Show TM 3.2 to better illustrate meat consumption trends.

Q5.   **What food products come from dairy animals?**

A5.

a)   **Milk**
b)   **Cheese**
c)   **Ice cream**
d)   **Yogurt**
e)   **Sour cream**
f)   **Cottage cheese**
g)   **Butter**

Bring in samples of butter and margarine. Conduct a taste test to see if students can tell the difference between the two products. The taste difference in butter comes primarily from the fat content. Have students do AS 3.4 to create whipped cream and butter from cream. This can be a group activity or an individual student activity.

Q6.   **What are some examples of fish and seafood?**

A6.

a)   **Fish**
        1)   **Catfish**
        2)   **Trout**
        3)   **Bass**
        4)   **Tuna**
        5)   **Salmon**
        6)   **Halibut**
        7)   **Cod**
        8)   **Shark**
b)   **Seafood**
        1)   **Lobster**
        2)   **Crabs**
        3)   **Oysters**
        4)   **Scallops**
        5)   **Shrimp**
        6)   **Clams**

Ask students to identify fish and seafood they have eaten. List suggestions on the board. Ask students to describe their experiences in catching some of the fish and/or seafood they identified.

Q7. <u>**What are some examples of processed meats?**</u>

A7.
    a)   **Processed beef and pork**
        1)   **Luncheon meats**
        2)   **Hot dogs**
        3)   **Pepperoni**
    b)   **Processed chicken patties and nuggets**

Discuss the various types of processed meats and have students tell their favorites.

Q8. <u>**What information is contained in the meat label?**</u>

A8.
    a)   **Species**
    b)   **Wholesale cut**
    c)   **Retail cut**
    d)   **Total price**
    e)   **Price/lb.**
    f)   **Net weight**
    g)   **"Sell by" date**

Show TM 3.3 and discuss the key information on a meat label. Distribute copies of HO 3.5 and assign AS 3.5 to have students answer questions about sample meat labels.

F.   ***Other Activities***

1.   Conduct a cooking/tasting day with a variety of meats and fish.

2.   Visit a farm to observe how livestock are raised.

3.   Write to livestock breed associations and ask for additional information on the meat characteristics of each breed.

4.   Tour a grocery store meat department or packing plant to observe meat processing activities.

G.   ***Conclusion***

There is a wide variety of food products produced from animals. Some foods are served fresh while others are processed. Meat contains protein needed to maintain good health. Protein can also be acquired from dairy and fish products. Information is provided on meat labels to help consumers make informed decisions.

H.   ***Answers to Activity Sheets***

AS 3.1 Identify the Most Popular Meat Product

Answers will vary.

AS 3.2 Animal Food Products

CUT OF MEAT	TYPE OF MEAT ANIMAL		
	BEEF	**PORK**	**SHEEP**
1. Bacon		X	
2. Sirloin steak	X		
3. T-bone steak	X		
4. Lamb chops			X
5. Filet mignon	X		
6. Loin chop		X	X
7. Kabobs	X		X
8. Flank steak	X		
9. Rump roast	X		
10. Sausage		X	
11. Rib steak	X		
12. Fresh arm picnic		X	
13. Tenderloin	X	X	
14. Round steak	X		
15. Ham slice		X	
16. Loin roast		X	
17. Shoulder steak	X		
18. Leg of lamb			X
19. Short ribs	X		
20. Blade steak	X	X	

AS 3.3 Identifying per Capita Consumption Trends of Meat Products

Answers will vary.

AS 3.4 Processing Whipped Cream and Butter

There are no answers for this activity.

AS 3.5 Reading a Meat Label

1.   Species
2.   Wholesale cut
3.   Retail cut
4.   Total price
5.   Price/lb.
6.   Net wt.
7.   "Sell by" date
8. $4.22
9.   Ground beef - 70% lean
10.   Loin
11.   Dec. 14
12.   T-bone pot roast

13. 8, $ 0.30

I. ***Evaluation***

A unit test is provided at the end of this unit. If a lesson quiz is needed, use questions pertaining to this lesson from the unit test.

Wholesale and Retail Cuts of Beef

T-BONE STEAK

CLUB STEAK

STANDING RIB ROAST

SIRLOIN STEAK

ROLLED RIB ROAST

RIB ROAST

PORTERHOUSE STEAK

RUMP ROAST

CHUCK ROAST

ROUND STEAK

ARM ROAST

STEW MEAT

SHORT RIBS

BRISKET

GROUND BEEF

FLANK STEAK

GROUND BEEF

PLATE
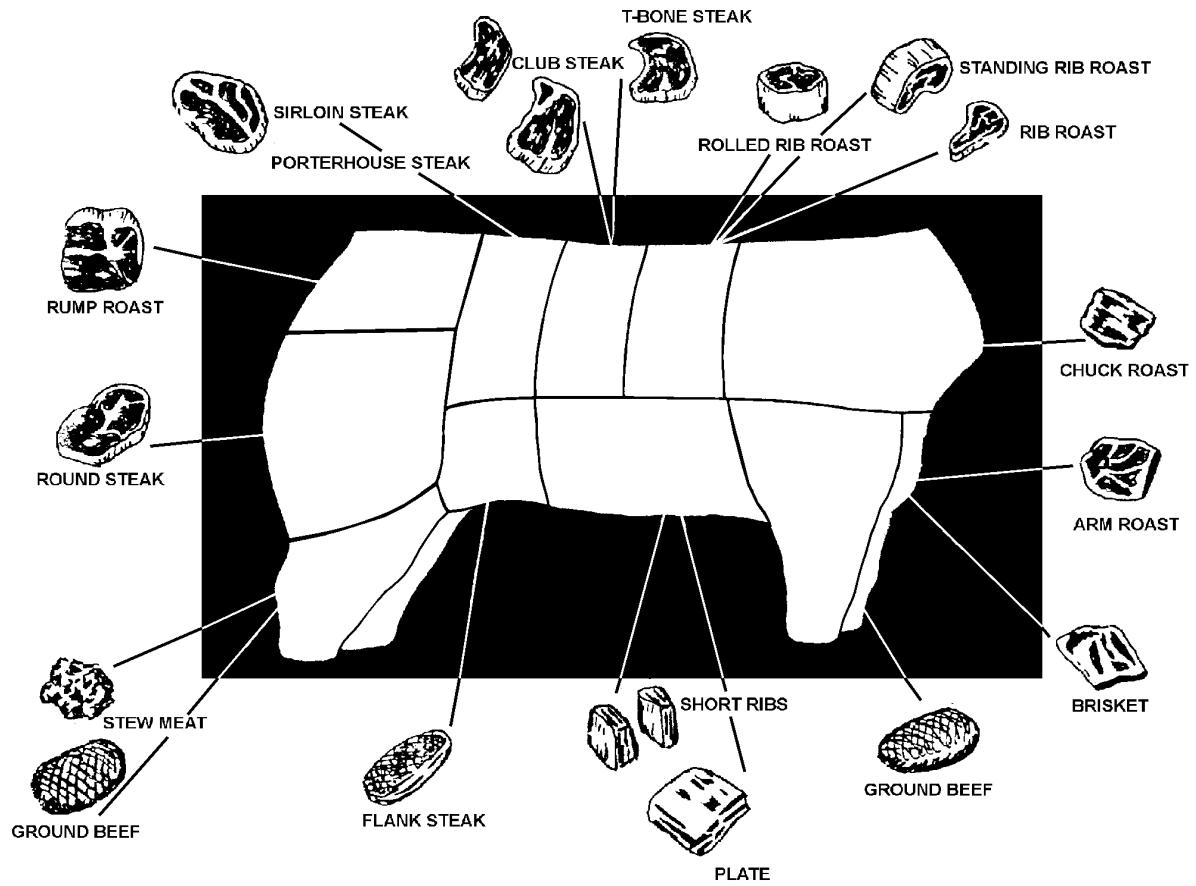
Meat Consumption Trends in the United States

Pounds per capita_1/
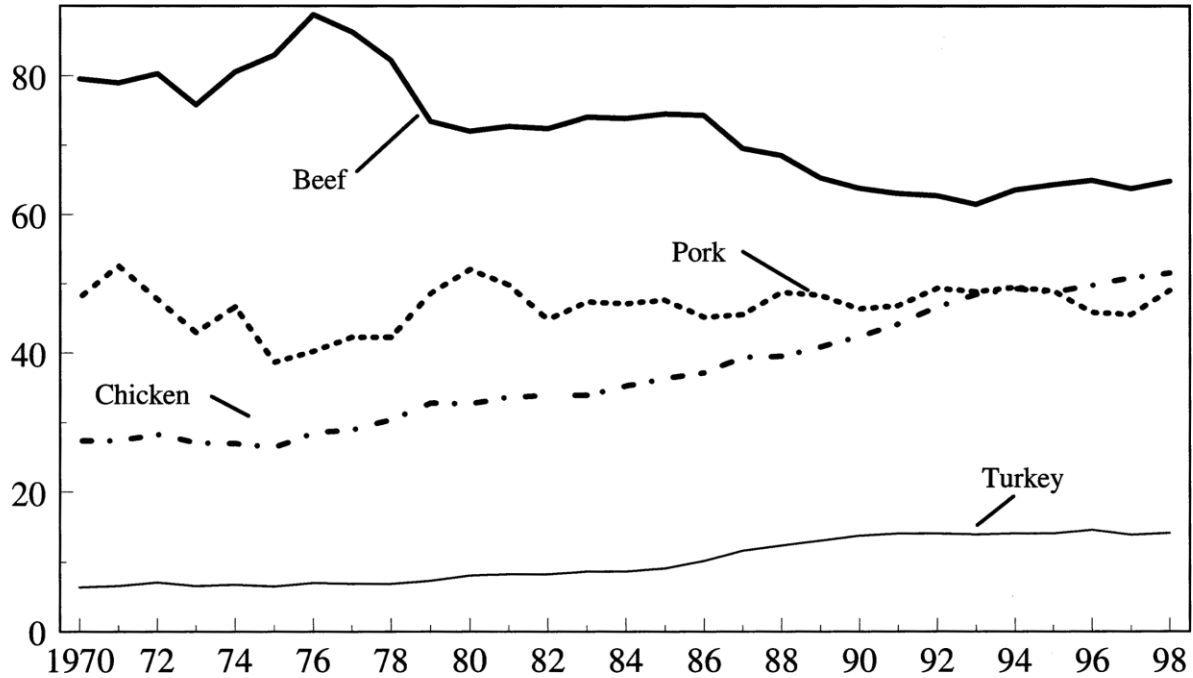
1/ Boneless, trimmed equivalent.

Source: USDA/Economic Research Service.

Know Your Meat Label
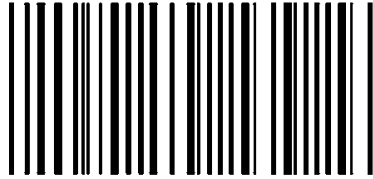
Greiman Angus Meats
FOOD GIANT STORES
Columbia, Missouri

Species → **BEEF** **RIB** ← Retail cut

Wholesale cut → **RIBEYE** **STEAK**

"Sell by" date → SELL BY   TOTAL PRICE ← Total price
06-04-00 $4.76

Net weight → NET WT/CT   UNIT PRICE ← Price/lb.
0.75 lb. $6.35

Per Capita Consumption of Meat Products in the United States 1/

Year	U.S. Total Population July 1 2/	Beef	Veal	Pork	Lamb	Total 3/	Chicken 4/ & 5/	Turkey	Total 3/	Fish and Shellfish	Total 3/
	Millions	--Pounds--									
1970	205.052	79.6	2.0	48.0	2.1	131.7	27.4	6.4	33.8	11.7	177.3
1971	207.661	79.0	1.9	52.6	2.1	135.5	27.4	6.6	34.0	11.5	181.0
1972	209.896	80.3	1.6	47.8	2.2	131.8	28.3	7.1	35.4	12.5	179.7
1973	211.909	75.8	1.2	43.0	1.7	121.8	27.1	6.6	33.7	12.7	168.2
1974	213.854	80.6	1.6	46.7	1.5	130.4	27.0	6.8	33.8	12.1	176.3
1975	215.973	83.0	2.8	38.7	1.3	125.8	26.4	6.5	32.9	12.1	170.9
1976	218.035	88.8	2.7	40.3	1.2	133.0	28.5	7.0	35.5	12.9	181.4
1977	220.239	86.3	2.6	42.3	1.1	132.3	29.0	6.9	35.9	12.6	180.9
1978	222.585	82.2	2.0	42.3	1.0	127.5	30.4	6.9	37.3	13.4	178.2
1979	225.055	73.5	1.4	48.6	1.0	124.4	32.8	7.3	40.1	13.0	177.6
1980	227.726	72.1	1.3	52.1	1.0	126.4	32.7	8.1	40.8	12.4	179.6
1981	229.966	72.8	1.3	49.9	1.0	125.1	33.7	8.3	42.1	12.6	179.7
1982	232.188	72.5	1.4	44.9	1.1	119.8	33.9	8.3	42.2	12.4	174.4
1983	234.307	74.1	1.4	47.4	1.1	123.9	34.0	8.7	42.7	13.3	180.0
1984	236.348	73.9	1.5	47.2	1.1	123.7	35.3	8.7	44.0	14.1	181.7
1985	238.466	74.6	1.5	47.7	1.1	124.9	36.4	9.1	45.5	15.0	185.4
1986	240.651	74.4	1.6	45.2	1.0	122.2	37.2	10.2	47.4	15.4	184.9
1987	242.804	69.6	1.3	45.6	1.0	117.4	39.4	11.6	51.0	16.1	184.5
1988	245.021	68.6	1.1	48.8	1.0	119.5	39.6	12.4	51.9	15.1	186.6
1989	247.342	65.4	1.0	48.4	1.0	115.9	40.9	13.1	53.9	15.6	185.4
1990	249.949	63.9	0.9	46.4	1.0	112.3	42.4	13.8	56.3	15.0	183.5
1991	252.636	63.1	0.8	46.9	1.0	111.9	44.2	14.1	58.3	14.8	185.1
1992	255.382	62.8	0.8	49.4	1.0	114.1	46.7	14.1	60.8	14.7	189.5
1993	258.089	61.5	0.8	48.9	1.0	112.1	48.5	14.0	62.5	14.9	189.5
1994	260.602	63.6	0.8	49.5	0.9	114.7	49.3	14.1	63.3	15.1	193.2
1995	263.039	64.4	0.8	49.0	0.9	115.1	48.8	14.1	62.9	14.9	193.0
1996	265.453	65.0	1.0	45.9	0.8	112.8	49.8	14.6	64.4	14.7	191.8
1997	267.901	63.8	0.9	45.6	0.8	111.0	50.9	13.9	64.8	14.5	190.3
1998 P	270.290	64.9	0.7	49.1	0.9	115.6	51.6	14.2	65.8	14.5	195.9
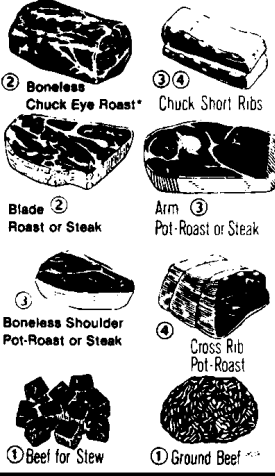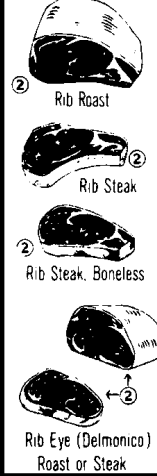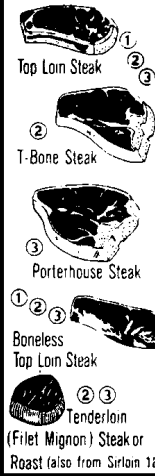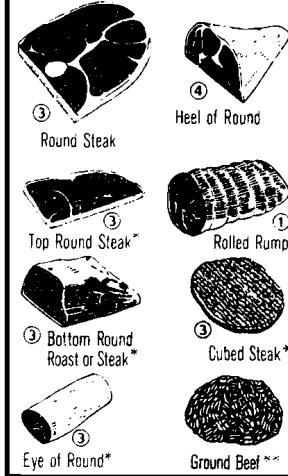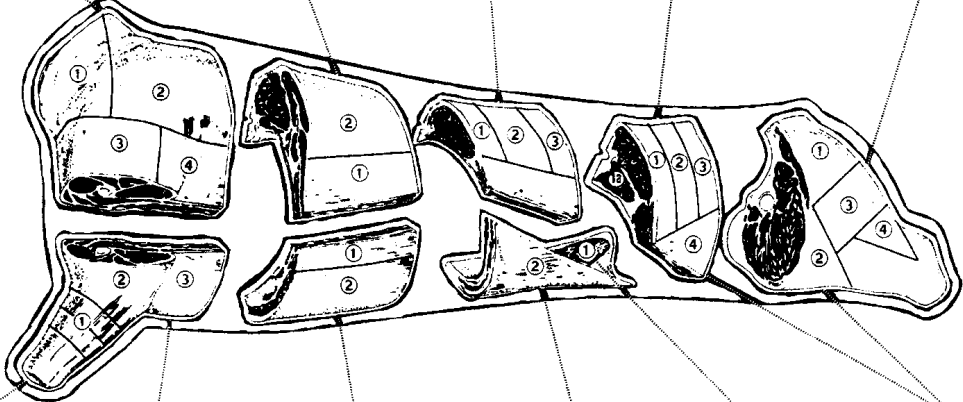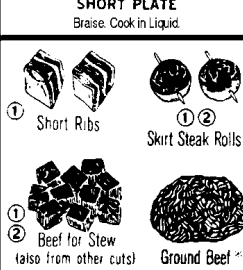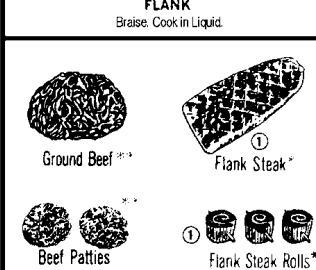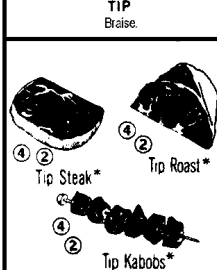
P = Preliminary

1/ Excludes shipments to territories. Boneless equivalent for red meat derived from carcass weight, using conversion factors shown in supply and utilization tables. Boneless equivalent for chicken and turkey derived from ready-to-cook weight, using conversion factors shown in supply and utilization tables. Boneless equivalent or edible weight for fish is calculated by the U.S. Department of Commerce (see fishery products per capita table). 2/ Excludes U.S. territories. 3/ Computed from unrounded data. 4/ Includes skin, neck meat, and giblets. 5/ Excludes the amount of ready-to-cook chicken going to pet food as well as some water leakage that occurs when chicken is cut up before packaging.

Source: USDA/Economic Research Service and U.S. Department of Commerce/National Marine Fisheries.

Beef Chart

RETAIL CUTS OF BEEF – WHERE THEY COME FROM AND HOW TO COOK THEM

| CHUCK
Braise. Cook in Liquid. | RIB
Roast. Broil. Panbroil. Panfry. | SHORT LOIN
Roast. Broil. Panbroil. Panfry. | SIRLOIN
Broil. Panbroil. Panfry. | ROUND
Braise. Cook in Liquid. |

CHUCK panel: Boneless Chuck Eye Roast*; Chuck Short Ribs; Blade Roast or Steak; Arm Pot-Roast or Steak; Boneless Shoulder Pot-Roast or Steak; Cross Rib Pot-Roast; Beef for Stew; Ground Beef

RIB panel: Rib Roast; Rib Steak; Rib Steak, Boneless; Rib Eye (Delmonico) Roast or Steak

SHORT LOIN panel: Top Loin Steak; T-Bone Steak; Porterhouse Steak; Boneless Top Loin Steak; Tenderloin (Filet Mignon) Steak or Roast (also from Sirloin 1a)

SIRLOIN panel: Pin Bone Sirloin Steak; Flat Bone Sirloin Steak; Wedge Bone Sirloin Steak; Boneless Sirloin Steak

ROUND panel: Round Steak; Heel of Round; Top Round Steak*; Rolled Rump*; Bottom Round Roast or Steak*; Cubed Steak*; Eye of Round*; Ground Beef**

| FORE SHANK
Braise. Cook in Liquid. | BRISKET
Braise. Cook in Liquid. | SHORT PLATE
Braise. Cook in Liquid. | FLANK
Braise. Cook in Liquid. | TIP
Braise. |

FORE SHANK panel: Shank Cross Cuts; Beef for Stew (also from other cuts)

BRISKET panel: Fresh Brisket; Corned Brisket

SHORT PLATE panel: Short Ribs; Skirt Steak Rolls*; Beef for Stew (also from other cuts); Ground Beef

FLANK panel: Ground Beef; Flank Steak*; Beef Patties; Flank Steak Rolls*

TIP panel: Tip Steak*; Tip Roast*; Tip Kabobs*
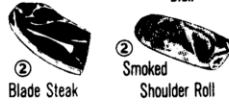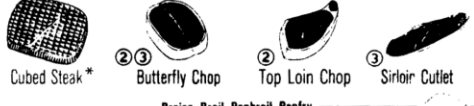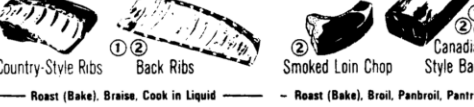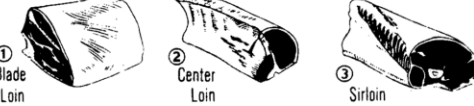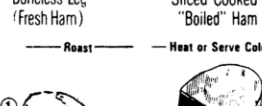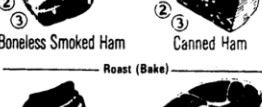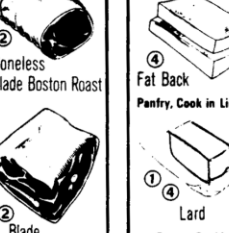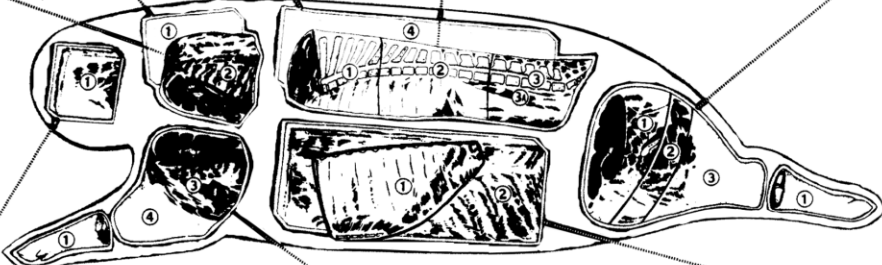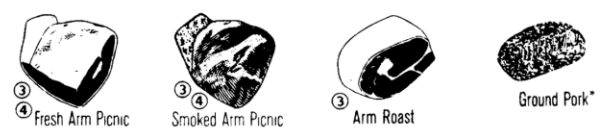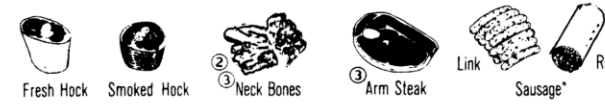
*May be Roasted, Broiled, Panbroiled or Panfried from high quality beef.
**May be Roasted, (Baked), Broiled, Panbroiled or Panfried.

This chart approved by
National Live Stock and Meat Board

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Pork Chart

RETAIL CUTS OF PORK — WHERE THEY COME FROM AND HOW TO COOK THEM

This chart approved by
National Live Stock and Meat Board

Source: Uniform Retail Meat Identity Standards, National Live Stock and Meat Board
IV-31

Lamb Chart

RETAIL CUTS OF LAMB — WHERE THEY COME FROM AND HOW TO COOK THEM

** Lamb for stew or grinding may be made from any cut.

**Kabobs or cube steaks may be made from any thick solid piece of boneless Lamb

This chart approved by
National Live Stock and Meat Board

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Source: Uniform Retail Meat Identity Standards, National Live Stock and Meat Board

IV-33

Exploring Agriculture in America, IV-47

Meat Labels

GREIMAN Meats
Columbia, Missouri

1.06LB. $1.29 | **$1.37**
NT WT/CT PRICE/LB. TOTAL PRICE
GROUND BEEF
NOT LESS THAN 70% LEAN
DEC 12
STORE NO. KEEP REFRIGERATED PURCHASE BY

GREIMAN Meats
Columbia, Missouri

1.45lb $3.69 | **$5.35**
NT WT/CT PRICE/LB. TOTAL PRICE
BONELESS & SKINLESS
CHICKEN BREAST
DEC 16
STORE NO. KEEP REFRIGERATED PURCHASE BY

GREIMAN Meats
Columbia, Missouri

3.30lb $1.58 | **$5.21**
NT WT/CT PRICE/LB. TOTAL PRICE
GROUND BEEF
NOT LESS THAN 60% LEAN
DEC 20
STORE NO. KEEP REFRIGERATED PURCHASE BY

GREIMAN Meats
Columbia, Missouri

0.65lb $6.49 | **$4.22**
NT WT/CT PRICE/LB. TOTAL PRICE
BEEF RIB
RIBEYE STEAK
USDA CHOICE
SEP 11
STORE NO. KEEP REFRIGERATED PURCHASE BY
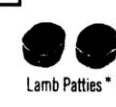
GREIMAN Meats
Columbia, Missouri

1.00LB. $1.79 | **$1.79**
NT WT/CT PRICE/LB. TOTAL PRICE
GROUND BEEF
NOT LESS THAN 85% LEAN
DEC 12
STORE NO. KEEP REFRIGERATED PURCHASE BY

GREIMAN Meats
Columbia, Missouri

4.19lb $1.89 | **$7.92**
NT WT/CT PRICE/LB. TOTAL PRICE
BEEF CHUCK
T-BONE POT ROAST
USDA CHOICE DEC 14
STORE NO. KEEP REFRIGERATED PURCHASE BY

GREIMAN Meats
Columbia, Missouri

1.16LB. $2.19 | **$2.54**
NT WT/CT PRICE/LB. TOTAL PRICE
GROUND BEEF
NOT LESS THAN 90% LEAN
DEC 12
STORE NO. KEEP REFRIGERATED PURCHASE BY

GREIMAN Meats
Columbia, Missouri

1.70lb $1.49 | **$2.53**
NT WT/CT PRICE/LB. TOTAL PRICE
FRESH PORK LOIN
ASSORTED CHOPS
DEC 14
STORE NO. KEEP REFRIGERATED PURCHASE BY

GREIMAN Meats
Columbia, Missouri

0.59LB. $1.99 | **$1.17**
NT WT/CT PRICE/LB.
BEEF CHUCK SHOULDER TOTAL PRICE
BONELESS CHARCOAL STEAK
USDA CHOICE
SEP 12
STORE NO. KEEP REFRIGERATED PURCHASE BY

GREIMAN Meats
Columbia, Missouri

0.39lb $2.19 | **$0.85**
NT WT/CT PRICE/LB. TOTAL PRICE
FRESH PORK LOIN
SIRLOIN CHOPS BONELESS
DEC 14
STORE NO. KEEP REFRIGERATED PURCHASE BY

Identify the Most Popular Meat Product

Objective: Students will estimate the average amount of meat they consume per year.

Directions: How much of these items did you eat during the past year? Estimate your consumption. Your instructor will provide the latest actual figures.

CATEGORY	POUNDS PER YEAR	
	MY ESTIMATE	ACTUAL
Beef		
Chicken		
Fish		
Lamb		
Pork		
Turkey		
Veal		

Animal Food Products

Objective: Students will be able to identify the type of meat animal that produces various cuts of meat.

Directions: Using HO 3.2, HO 3.3, and HO 3.4, place a check in the box to identify the type of meat animal that produces the cut of meat. Certain cuts of meat can come from more than one animal.

CUT OF MEAT	TYPE OF MEAT ANIMAL		
	BEEF	**PORK**	**SHEEP**
1. Bacon			
2. Sirloin steak			
3. T-bone steak			
4. Lamb chops			
5. Filet mignon			
6. Loin chop			
7. Kabobs			
8. Flank steak			
9. Rump roast			
10. Sausage			
11. Rib steak			
12. Fresh arm picnic			
13. Tenderloin			
14. Round steak			
15. Ham slice			
16. Loin roast			
17. Shoulder steak			
18. Leg of lamb			
19. Short ribs			
20. Blade steak			

Identifying per Capita Consumption Trends of Meat Products

Objective: Students will be able to graph current trends of consumption and predict future trends.

Directions: Use HO 3.1 to develop a graph that will show the trends of consumption in the United States.

1.   Plot per capita consumption (pounds per person) of beef, pork, lamb, chicken, and turkey on the vertical (Y) axis and time (years) on the horizontal (X) axis.

2.   Next, extend your graph to the year 2030 and predict what you think the trends will be.

Processing Whipped Cream and Butter

Objective: Students will be able to make whipped cream and butter from cream.

Materials and Equipment:

1/2 pint of cream (in store container)
Salt
Crackers

Procedure:

1.   Shake container for 10 minutes.

2.   Open the container to see if the cream has become whipped cream. Shake slightly longer if whipped cream has not formed.

3.   Close the container tightly.

4.   Continue shaking until butter forms, approximately 10 minutes.

5.   Pour off the liquid, "buttermilk."

6.   Add salt to taste.

7.   Spread butter on crackers. Enjoy!

UNIT IV - PRODUCTS FROM AGRICULTURE   AS 3.5

Lesson 3:   Food Products from Animals   Name

Reading a Meat Label

Objective: Students will be able to recognize and use information found on meat labels.

Directions: Answer each of the following questions in the space provided.

Typically, seven items of information are found on a meat label in a grocery store. They are:

1.
2.
3.
4.
5.
6.
7.

Use HO 3.5 to answer questions 8 to 12.

8.   What is the total price you will pay when buying the ribeye steak?
9.   Which retail item costs the least per pound?
10.   Which wholesale cut do pork chops (assorted) come from?
11.   On what date should the pork sirloin chops be removed from the meat counter?
12.   Which retail cut weighs the most?
13.   Hamburger costs $1.20 per pound. You purchase 2 pounds and plan to make quarter pound hamburgers.   How   many   hamburgers   can   you   make? How much does each hamburger cost?