Pin the Meat Cut on the Animal

ANIMAL SCIENCE ANYWHERE

Objective:

After completing this activity, participants will be able to:

▸ Identify different wholesale and retail cuts of beef, lamb and pork.

▸ Identify where each cut of meat comes from on the animal body.

▸ Explain which wholesale and retail cuts of meat are the same and different on beef, sheep and swine.

Skill Level:

▸ Beginner to intermediate

Life Skill:

▸ Communication, critical thinking and teamwork

Setting:

An outdoor or indoor space where participants can easily hear; seating is optional

Time:

▸ 25–30 minutes

Materials:

❏ "Retail Cuts of Beef, Pork and Lamb" labels (one set per team; one per participant is optional)

❏ "Meat Cut Key" handout (one per volunteer reviewer; one per participant is optional)

❏ "Unlabeled Wholesale Cuts of Beef, Lamb and Pork Diagrams" handout (one per team; one per participant is optional)

❏ "Labeled Wholesale Cuts of Beef, Lamb and Pork Diagrams" handout (one per reviewer; one per participant is optional)

❏ Flipchart or other large paper

❏ Markers (3 per team)

❏ Easel or display space (one for activity leader; one per team is optional)

❏ Clear tape (one roll per team, if possible)

❏ Resealable plastic sandwich bags (three per team)

❏ Small prizes (such as badges or pins) for the winners of the "Pin the Meat Cut on the Animal" game (optional)

Overview:

The *Pin the Meat Cut on the Animal: Identifying Cuts of Meat* lesson plan is designed to help volunteer leaders teach youth participants about the different wholesale and retail cuts of beef, lamb and pork. The hands-on activity will help participants understand where it is on beef cattle, sheep and swine that meat comes from.

PROCEDURE:

Before the meeting:

1. Review the lesson and gather any supplies you will need.

2. Print as large a copy as possible of the "Unlabeled Wholesale Cuts of Beef, Lamb and Pork Diagrams" handouts for each team. (**Note:** If you don't have access to a copier that can enlarge the images, you could use a computer or overhead projector to increase the image size so you can trace it onto flipchart paper. You may want to laminate at least one set of the enlargements so you can use them repeatedly.) Hang the outlines where the whole group will be able to see them, but keep them covered until the appropriate point in the lesson. You may also want to make one photocopy of the handout on 8.5-inch by 11-inch paper for each participant.

3. Make one photocopy of the "Labeled Wholesale Cuts of Beef, Lamb and Pork Diagrams" handout for each of the reviewers to use as a reference. (**Note:** You may also want to make one copy of this handout for each participant to take home with them.)

4. Set aside three sandwich bags for each team. Use a marker to label one bag from each set "Beef," one "Lamb" and one "Pork."

5. Review the "Retail Cuts of Beef, Pork and Lamb" labels. Consider the ages and experience levels of your group members as you decide how many retail meat cuts to include in the game. Then photocopy and cut apart one set of labels for each small group, keeping the labels for each species separate. Remove any labels you've decided not to use in the game, then place each team's labels in their corresponding species bag. (**Note:** You may want to laminate the labels so you can use them repeatedly.)

6. Arrange the "Unlabeled Wholesale Cuts of Beef, Lamb and Pork Diagrams" handouts, markers, clear tape and sandwich bags full of retail cuts labels at a supply station.

Naming the Animal & the Cut of Meat

What to call market animals and the meat that comes from them can be confusing to young people and newcomers to the agriculture industry. This chart may help you explain how the names are used.

Market animal name	Meat name	Latinized group name
Beef, beef cattle, steer, heifer, cow, bull	Beef	Bovine
Sheep, ewe, lamb, ram, whether (immature animal)	Lamb	Ovine
Sheep, ewe, ram, whether (mature animal)	Mutton	Ovine
Hog, pig, swine, gilt, boar, barrow, sow	Pork	Porcine

7. Recreate the table that follows on flipchart paper so the participants can refer to it as they're labeling their "Wholesale Cuts of Beef, Lamb and Pork Diagrams" handouts. Display the paper where the whole group will be able to see it, but keep it covered until the appropriate point in the lesson. (**Note:** If you have a large group or the teams will be spread out over a large area, you may want to make several large copies of the table, or make one photocopy of it per team.)

Wholesale Beef Cuts	Wholesale Lamb Cuts	Wholesale Pork Cuts
Brisket	Breast	Boston butt
Chuck	Leg	Ham
Flank and short plate	Loin	Loin
Fore shank	Rack	Picnic shoulder
Rib	Shoulder	Side
Round	Various*	Various*
Short loin		
Sirloin		
Various*		

*This label is used in the national meat industry to indicate meat that comes from various parts of the animal, rather than from a particular section of the animal.

8. Recruit one or more teen or adult volunteers who will review the teams' labeled handouts for accuracy. Give each reviewer a copy of the "Labeled Wholesale Cuts of Beef, Lamb and Pork Diagrams" and the "Meat Cut Key" handouts to use as guides.

Tell them that in the first phase of the activity their job will be to directly help the teams correct any problems with their labeling of the wholesale cuts of meat. In the second phase, they'll be more hands-off. That is, they should tell the teams how many errors (missing or misplaced retail cuts labels) they've made, but not what the errors are (unless a team is really struggling, then it's okay to offer them direct help).

During the meeting:

1. Read aloud or paraphrase the following:

   Almost everything we eat comes from either plants or animals. Today we're going to focus on which parts of beef cattle, sheep and swine we commonly turn into food, and which cuts of meat come from each of those parts.

2. Now ask the participants the following questions. You may want to record their answers on flipchart paper and display the paper where everyone can see it.

   ▸ Why is it important for people to know where our food comes from? *(So we know whether our food is safe and healthy for us to eat. So we know whether the animals it came from were treated well. So we know about and appreciate the work that went into producing the food. So we know why farming and farmers are important even to people who live in town. So we can learn about the economic impact of agriculture.)*

   ▸ What parts of beef cattle, sheep and swine do the meat and meat products we eat come from? *(From all over the animal.)*

   ▸ What are wholesale cuts? *(Large sections of an animal carcass that are divided up roughly following the animal's bone structure. Some parts of the carcass are more popular and scarcer, and therefore more valuable, than others, which can also influence how the carcass is divided into wholesale cuts.)*

   ▸ What are retail cuts? *(Wholesale cuts that are divided into more consumer-ready products such as steaks, chops and roasts.)*

3. Read aloud or paraphrase the following:

   Many wholesale cuts, which are sometimes called "primal cuts," are similar in beef cattle, sheep and swine, but each species also has some unique wholesale cuts. Wholesale cuts are divided roughly following the animal's bone structure. Consumers tend to prefer the flavor, tenderness and texture of some cuts over others, and these popular cuts come from relatively small areas of the animal, so they're somewhat scarce. These factors combine to drive up the wholesale and retail cost of those cuts.

4. Uncover and review with the group the flipchart paper with the lists of wholesale cuts of beef, lamb and pork. Answer any questions they may have about the lists.

5. Divide the group into teams of about six people, depending on the size of your group and how many sets of supplies you've prepared. Ask for a volunteer from each team to collect a set of "Unlabeled Wholesale Cuts of Beef, Lamb and Pork Diagrams" handouts and a marker. Then read aloud or paraphrase the following:

   Next, when I say "go," your team will have about 5 minutes to label the outlines of a beef, sheep and swine to show where the

TALKING IT OVER:

Answer any questions the group may have, then ask them the following processing questions.

▶ What was hard about identifying the part of the animal that each wholesale cut of meat comes from? What was easy about it?

▶ Were there particular wholesale or retail cuts of meat that you were unfamiliar with and had trouble identifying? Cuts from a particular species? What made them challenging?

▶ In what ways does knowing where meat cuts come from help you in and outside of the show ring?

▶ How does the way the animal was raised and worked with before arriving at the slaughter plant affect the quality of the meat from that animal? *(Rough handling may increase the number of dark cuts [with blemishes such as bruises, cuts and scrapes] that would lower the quality of the meat. Additionally, fear of humans can cause an animal to panic and harm itself, other animals or humans. If an animal is handled calmly in a quiet environment, the level of stress hormones [such as cortisone and adrenaline] in its body will stay low. The animal should also be easier to handle and move more easily and quietly through the facility.)*

wholesale cuts come from on each species. It's okay to use the list of wholesale cuts that we just went over to help you remember each cut.

Once your team agrees that all three animal outlines are labeled correctly, put your hands on your head. When I see that, I'll send a reviewer over to check to see that all of the labels are in the right places. If they are, great! You're done with this part. If they're not, the reviewer will work with you to fix any problems.

6. After about 5 minutes, or when the reviewers indicate that the teams have successfully finished labeling the outlines, ask for another volunteer from each team to collect a set of "Retail Cuts of Beef, Lamb and Pork" labels and a roll of tape. Tell them to keep the bags closed for now.

7. Read or paraphrase the following:

   Now we're going to play a game called "Pin the Meat Cut on the Animal." This is a race to see which team will be the first to pin (well, really, to tape) the retail cuts of meat in the right wholesale cut area for all three species. Each team has three bags, labeled "Beef," "Lamb" and "Pork." Those bags contain labels for the retail cuts of meat of each species. When I say "go," you may open the bags and start taping the labels to the right places on the diagrams. (Be sure to tape the labels down lightly so you can move them if you have to.)

   *When your team is done, hands on head again, then somebody will come around and check your labels. If your team is the first one done and your labels are in the right places, you'll be the winners! If you have any errors, the reviewer will tell you **how many** there are, but not **what** they are. It'll be up to your team to find and fix the errors.*

8. Keep track of the order in which the teams finished, but don't stop the other teams from finishing after the first team has signaled they're done labeling. Have the reviewers use the "Meat Cut Key" handout to check on the accuracy of each team's labeling. The winner will be the team that finished first **and** had all three diagrams labeled correctly. Once you've declared a winner, have the members of that team go around and help any other teams that are still working.

9. End the game once all of the teams have made a good effort to complete the diagrams and one or more groups have labeled all three species accurately. You may want to pass out copies of the "Meat Cut Key" handout and have the winning team go over their diagrams with the rest of the group.

ALIGNMENT TO SCIENCE AND ENGINEERING PRACTICES:

How 4-H Increases Science Literacy

Nationally and in Michigan, 4-H has long enjoyed a reputation for engaging young people in positive, experiential (hands-on), and nonformal activities that are inquiry based. The activities in the *4-H Animal Science Anywhere* series can be used to enhance classroom science education. The activities are aligned with the eight Scientific and Engineering Practices from *A Framework for K–12 Science Education* (National Research Council, 2012, p. 42).

The activities in *4-H Animal Science Anywhere: Pin the Meat Cut on the Animal* were evaluated for their alignment with the Science and Engineering practices by Michigan State University (MSU) Extension Educator Tracy D'Augustino in 2016.

Table 3. How This Lesson Aligns With the Science and Engineering Practices (National Research Council, 2012, p. 42)

Science & Engineering Practice	Action	Activity Step
▶ Asking questions and defining problems	▶ Participants discuss why it's important to know where our food comes from.	2
	▶ Participants discuss where each cut of meat comes from on cattle, sheep and swine.	
	▶ Participants discuss the definitions of wholesale and retail cuts of meat.	
▶ Developing and using models	Participants use diagrams of cattle, sheep and swine to explain where different cuts of meat come from on the animals.	5–9
▶ Planning and carrying out investigations		
▶ Analyzing and interpreting data		
▶ Using mathematics and computational thinking		
▶ Constructing explanations and designing solutions	Participants describe why it's important to know where our meat comes from.	2
▶ Engaging in argument from evidence	Participants discuss with their teams the various cuts of meat and where they come from on the animal.	5–9
▶ Obtaining, evaluating, and communicating information	Participants learn about different cuts of meat, the animals they come from and why it's important for us to know where our food comes from.	Whole lesson

ADAPTATIONS & EXTENSIONS:

▸ For species-specific clubs or groups, use only the diagrams and labels related to the particular species.

▸ Couple this activity with the *4-H Animal Science Anywhere* lesson plan called "Sculpting Meat Science: Creating and Evaluating Steaks" as a second lesson relating to meat science.

▸ For older or more experienced participants:

- Increase the challenge by scrambling the retail cuts labels for all three species in the same bag so the teams have to decide which species the cut comes from before deciding where on the animal it comes from.

- Have the participants contact species associations such as the Cattlemen's Beef Promotion and Research Board (*beefboard. org*), the American Lamb Board (*www.americanlamb.com*) and the National Pork Producers Council (*www.nppc.org*) to find out about additional retail cuts of meat for each species.

- Have the participants contact species associations to obtain charts and diagrams they can use to identify additional cuts for each species.

- Draw the outline of a market animal with the major bones included. This can help participants see how the arrangement of the bones affects the shape of various cuts of meat. Lead a group discussion about how bones are a factor in the process of harvesting an animal and separating individual cuts of meat. Use information from the *4-H Animal Science Anywhere* lesson plan called "Locating Common Bones" to help guide the discussion.

▸ For younger or less experienced participants:

- Group the cuts of meat together depending on where they're found on the animal. Have the participants decide where each set of meat cuts comes from instead of each **individual** cut.

- Use only the labels for the most familiar retail cuts of meat in the "Pin the Meat Cut on the Animal" game.

- Only use the label for one retail cut for each wholesale cut to change "Pin the Meat Cut on the Animal" into a matching game.

REFERENCES & RESOURCES:

American Angus Association. (2007). *Angus beef chart*. St. Joseph, MO: Author. Retrieved from www.angus.org/pub/beefchart.pdf

American Lamb Board. (2014). *American lamb cuts*. Denver, CO: Author. Retrieved from www.americanlamb.com/lamb-101/cuts/

American Meat Science Association. (1997–2011). *National 4-H meat judging* [web page]. Champaign, IL. Retrieved from meatscience.org/page.aspx?id=466

National Pork Board. (2011). *Pork basics.* Des Moines, IA: Author. Retrieved from porkandhealth.org/filelibrary/PorkAndHealth/PorkBasicsCutsChart.pdf

National Research Council. (2012). *A framework for K-12 science education: Practices, crosscutting concepts, and core ideas*. Washington, DC: National Academies Press.

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Retail Cuts of Beef, Pork & Lamb

Print out and cut apart a set of labels for all three species for each team. You may want to laminate the labels to make them sturdier so they last longer.

Retail Cuts of Beef		
Arm pot-roast	Blade roast	Bottom round rump roast
Whole brisket	Flank steak	Ground beef
Mock tender roast	Petite tender	Porterhouse steak
Ribeye roast	Ribeye steak	Round steak
Shank cross cut	Shirt steak	Short ribs
Soup bones	T-bone steak	Tenderloin steak (filet mignon)
Tip steak	Top sirloin steak	Tri-tip roast

Retail Cuts of Pork

Arm roast	Back ribs	Blade Boston roast
Blade steak	Butterfly chops	Center rib roast
Fresh side	Ground pork	Loin chops
Pork fresh ham center slice	Rib chops	Sausage
Sirloin chops	Sliced bacon	Smoked ham
Smoked picnic	Smoked pork hock	Tenderloin

Retail Cuts of Lamb

Arm chops	Blade chops	Center slice
Frenched style roast	Leg roast	Loin chops
Loin roast	Rib chops	Rib roast
Ribs	Shank	Square cut
Sirloin chops		

Meat Cut Key

The wholesale cuts of meat that are harvested from the animal are further divided into retail cuts for sale to consumers. A partial list of the retail cuts from beef, lamb and pork – separated by wholesale cut – follows. In addition, new retail cuts of meat are developed every year.
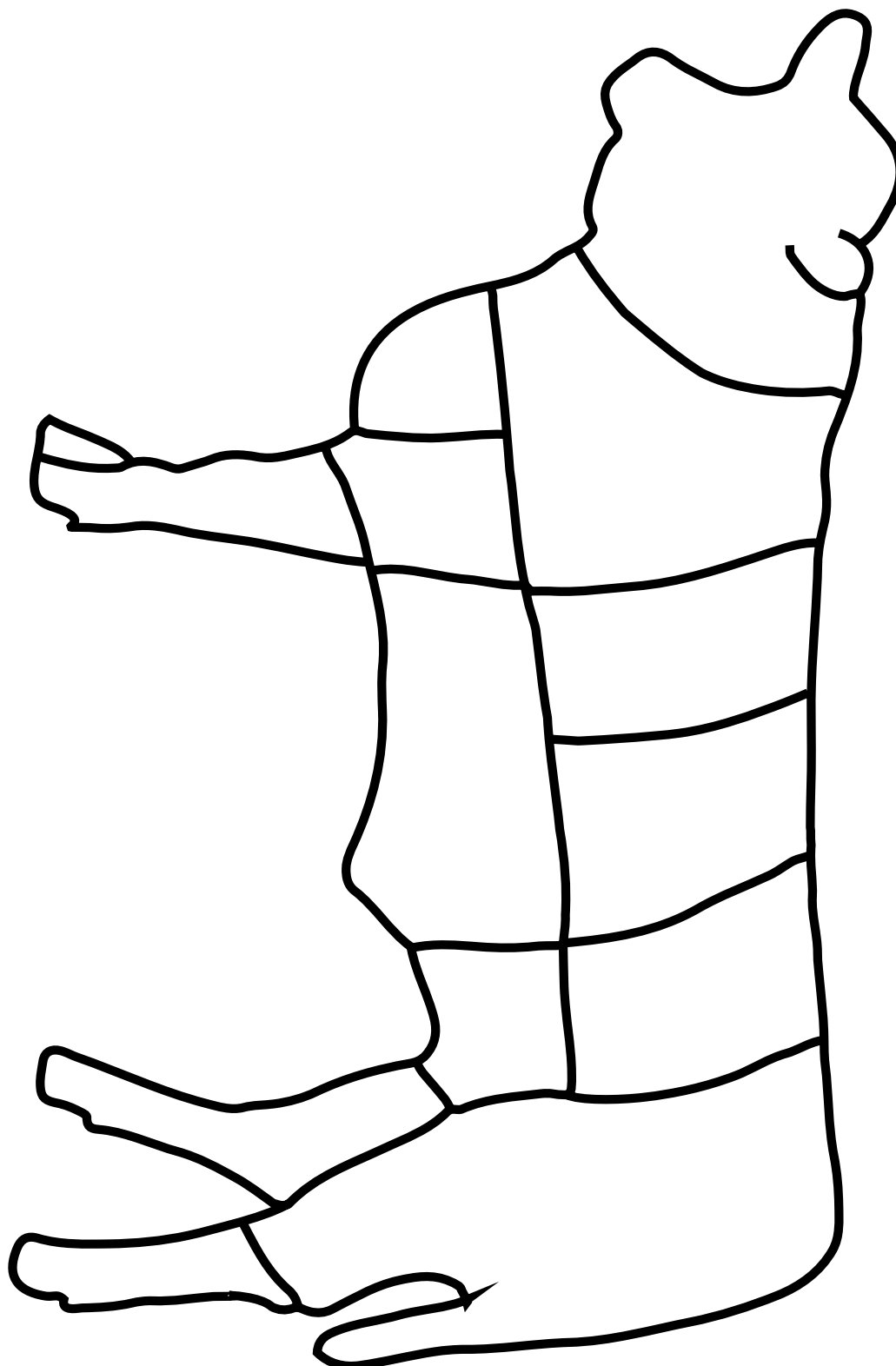
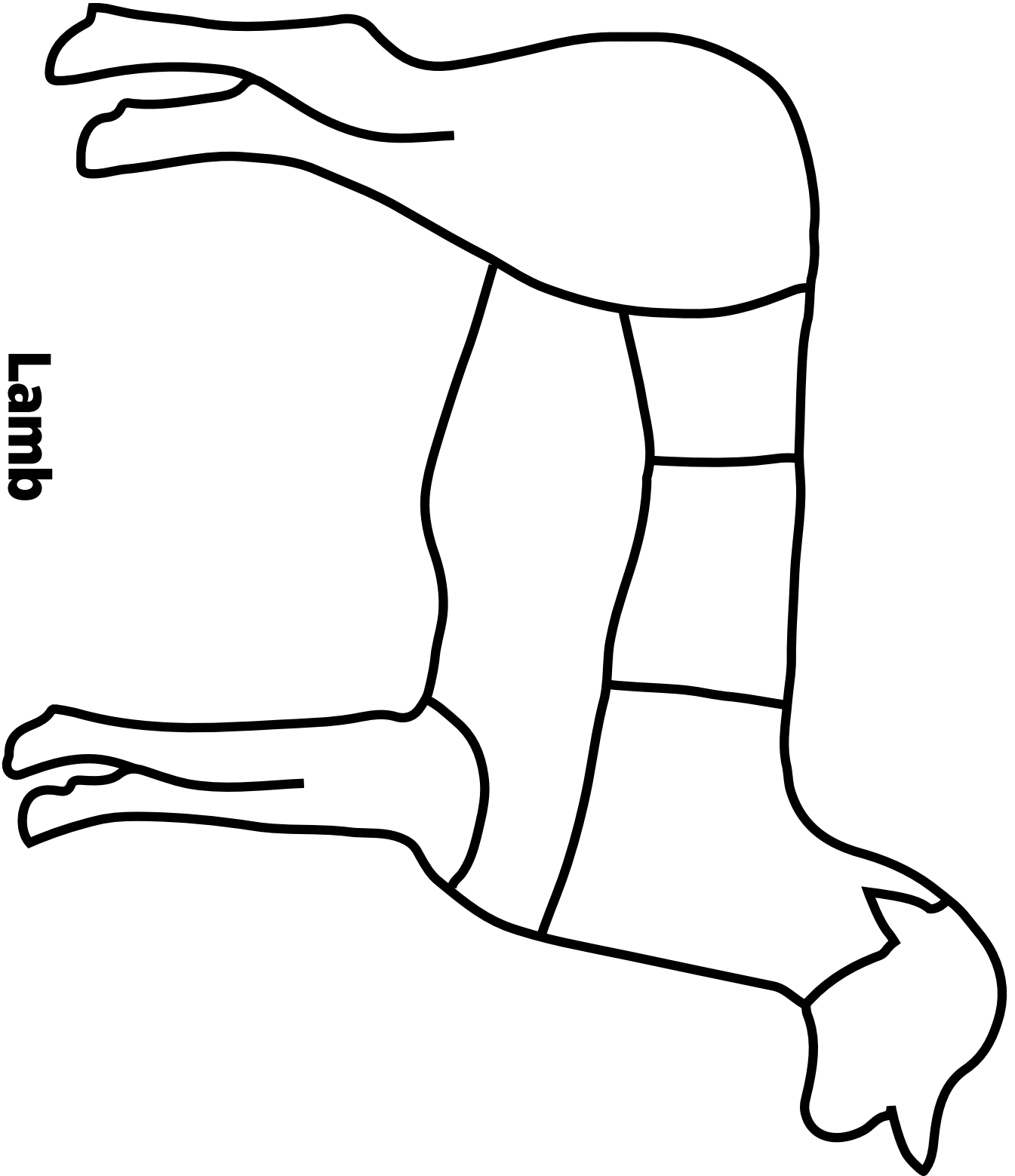| How Wholesale Cuts of *Beef* Are Divided Into Retail Cuts	
Wholesale cut	**Retail cut**
Brisket	Whole brisket
Chuck	Arm pot-roast
	Blade roast
	Mock tender roast
	Petite tender
Flank and short plate	Flank steak
	Shirt steak
	Short ribs
Fore shank	Shank cross cut
	Soup bones
Rib	Ribeye roast
	Ribeye steak
Round	Bottom round rump roast
	Round steak
	Tip steak
Short loin	Porterhouse steak
	T-bone steak
	Tenderloin steak (filet mignon)
Sirloin	Top sirloin steak
	Tri-tip roast
Various (from all wholesale regions)	Ground beef

How Wholesale Cuts of *Pork* Are Divided Into Retail Cuts	
Wholesale cut	**Retail cut**
Boston butt	Blade Boston roast
	Blade steak
Ham	Pork fresh ham center slice
	Smoked ham
Loin	Back ribs
	Butterfly chops
	Center rib roast
	Loin chops
	Rib chops
	Sirloin chops
	Tenderloin
Picnic shoulder	Arm roast
	Smoked picnic
Side	Fresh side
	Sliced bacon
Various	Ground pork
	Sausage
	Smoked pork hock

How Wholesale Cuts of *Lamb* Are Divided Into Retail Cuts	
Wholesale cut	**Retail cut**
Breast	Ribs
Leg	Center slice
	Frenched style roast
	Leg roast
	Sirloin chops
Loin	Loin chops
	Loin roast
Rack	Rib chops
	Rib roast
Shoulder	Arm chops
	Blade chops
	Square cut
Various	Shank

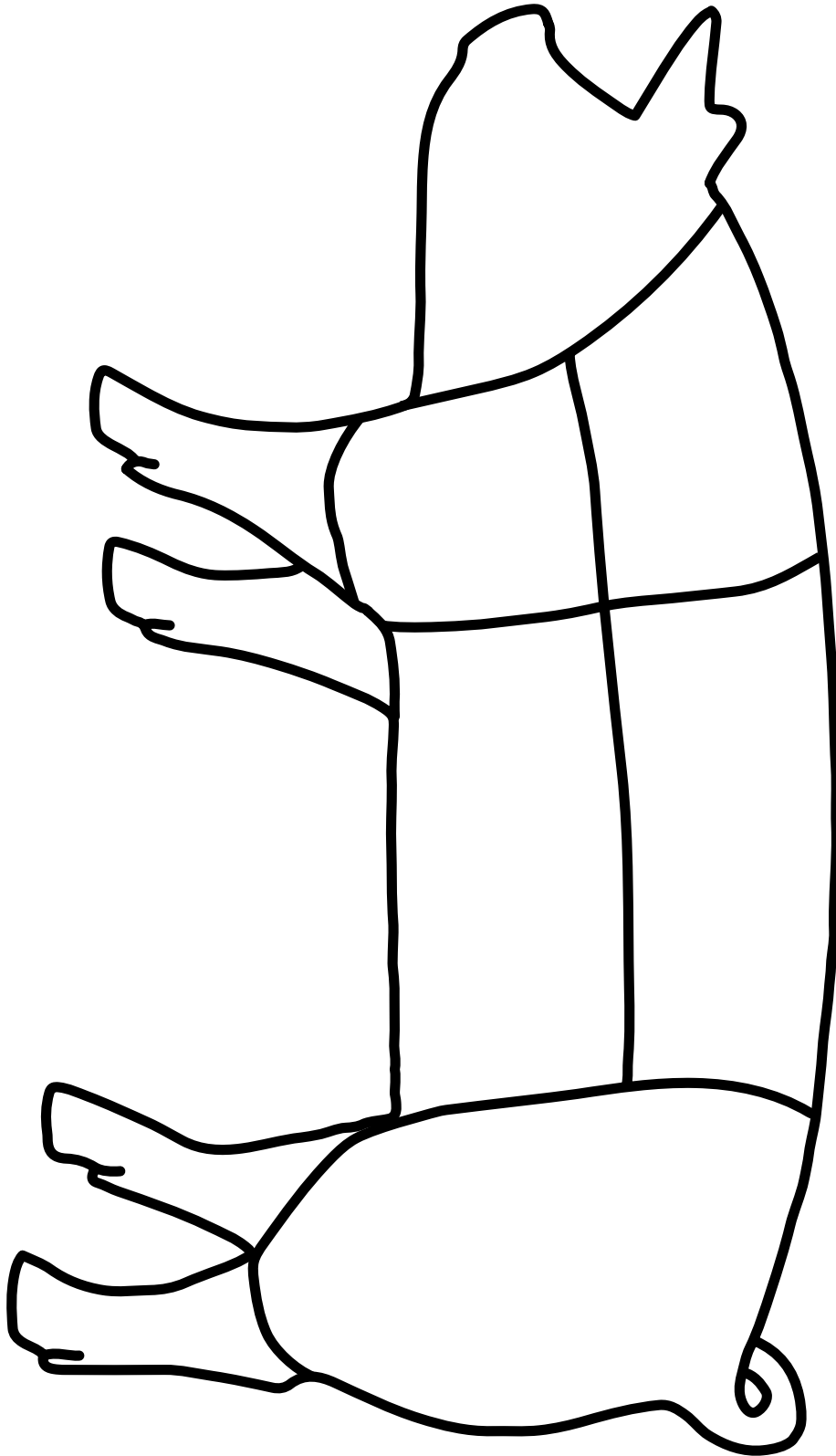# *Unlabeled Wholesale Cuts*
of Beef, Lamb & Pork

Beef

Lamb

Pork

Labeled Wholesale Cuts of Beef, Lamb & Pork

Chuck | Rib | Short Loin | Sirloin | Round

Brisket | Fore Shank | Short Plate | Flank

Wholesale Cuts of Beef

Loin | Rack | Shoulder

Leg

Breast

Wholesale Cuts of Lamb

Boston Butt | Loin

Picnic Shoulder | Side | Ham

Wholesale Cuts of Pork

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