

Introduction to Swine Litter Processing Curriculum



Every effort has been made to trace the ownership of copyrighted material and to make full acknowledgement of its use. If errors or omissions have occurred, they will be corrected in subsequent editions, provided that notification is submitted in writing to the publisher.



© 2023, Realityworks, Inc. All rights reserved.
RealCare® is a registered trademark of Realityworks, Inc.

2709 Mondovi Road
Eau Claire, WI 54701 USA
800.830.1416
+1.715.830.2040
www.realityworks.com

1059350-02

Table of Contents

Table of Contents	3
Author	4
Curriculum Structure	5
Lesson Structure	5
Lesson One – Management Practices in Swine Production	6
FOCUS: Brainstorming	7
LEARN: Management Practices	8
REVIEW: Management Practices Quiz	12
Lesson Two – Processing Litters	15
FOCUS: Brainstorming	16
LEARN: Demonstration and Practice	17
REVIEW: Litter Processing Quiz	25
Sources	28

Author



Melinda Goplin has been teaching agriculture education for 25 years in the Whitehall School District in Whitehall, Wisconsin. She started the school's program and has been nominated several times for the Wisconsin Association of Agriculture Education Outstanding Teacher and Program.

Goplin instructs students in a variety of educational courses, such as horticulture and greenhouse management, animal science, wildlife science and management, aquatic science, veterinary science, and exploratory classes.

When not working on school or FFA, Goplin enjoys raising, training, and showing registered cattle with her husband, Shane, and three daughters. She is also heavily involved with the Farm Bureau, Dairy Committee, and 4-H club.

Curriculum Structure

The *Introduction to Swine Litter Processing* curriculum is composed of the following lessons. Approximate lesson times are included.

Lesson	Title	Approximate Time
One	Management Practices in Swine Production	45-60 minutes
Two	Demonstrating Skills in Litter Processing	45-60 minutes
	Total	2 hours

Lesson Structure

Each lesson begins with a Lesson Overview, Lesson Objectives, and a Lesson at a Glance table that lists lesson activities, materials required, suggested preparation steps, and approximate class time.

Lesson Sections

The actual lesson follows the overview, which contains some of the sections described below.

FOCUS

Every lesson begins with a FOCUS activity intended to capture participants' attention. This may be in the form of a small or large class discussion, a game, a demonstration, or a review of previous lesson information. During this activity, participants are introduced to the topic of the lesson.

LEARN

The LEARN activity in each lesson varies in its presentation mode. It may be a slide presentation, group activity, or demonstration.

REVIEW

The majority of lessons end with a REVIEW activity intended to briefly review the lesson's key messages or main points.

Lesson One – Management Practices in Swine Production

Lesson Overview

This lesson introduces the term management practice along with the seven methods often completed when processing litters of piglets. This introduction will be followed by a lesson in demonstrating each of the seven practices.

Lesson Objectives

After completing this lesson, participants will be able to:

- Define “management practice” as it relates to animal science
- List the seven common management practices in swine production
- Describe the importance of each management practice
- Identify the common tools used to perform each management practice

Lesson at a Glance

Activity	Materials	Preparation	Approximate class time
FOCUS	• Dry erase board or a place in the classroom to display student answers/brainstorming	1. Brainstorm the list of potential ideas/answers to the questions and display for students to see.	5-10 minutes
LEARN	• <i>Management Practices in Swine Production</i> slide presentation • <i>Management Practices in Swine Production Notes</i> • <i>Management Practices in Swine Production Notes – Answer Key</i>	1. Prepare to show <i>Management Practices in Swine Production</i> slide presentation. 2. Print/photocopy <i>Management Practices in Swine Production Notes</i> (one per participant).	30-40 minutes
REVIEW	• <i>Swine Management Practices Quiz</i> • <i>Swine Management Practices Quiz – Answer Key</i>	1. Print/photocopy <i>Swine Management Practices Quiz</i> (one per participant).	5-10 minutes

Lesson One – Management Practices in Swine Production

FOCUS: Brainstorming

5-10 minutes

Purpose: To gain interest and/or prior knowledge about management practices in swine production.

Materials:

- Dry erase board, or a place in the classroom to display student answers/brainstorming

Facilitation Steps:

1. Ask students the following questions. “What do human babies need after birth?”
2. Allow students one minute to create a list on a scratch piece of paper as they brainstorm.
3. Have students share their thoughts as you write them on the board. Possible answers might be food, blankets, hugs, etc. As they give you answers, discuss “why” human babies need those things. Answers might include: to stay safe, to grow, to be healthy, etc.
4. Next, ask the students if they think piglets might need some specific things that would help them “be safe, grow, and be healthy.” Participants will most likely answer yes, but do they know what those items might be?
5. Explain that all animals need specific care based on their habits, uses, and management preferences.

Lesson One – Management Practices in Swine Production

LEARN: Management Practices

30-40 minutes

Purpose:

The purpose of this activity is to have participants take a closer look at management practices in swine production.

Materials:

- *Management Practices in Swine Production* slide presentation
- *Management Practices in Swine Production Notes*
- *Management Practices in Swine Production Notes – Answer Key*

Facilitation Steps:

1. Introduce the lesson by asking students, “what things are done with a human baby after birth?”
2. Students will probably answer with the following examples: feed them, put a diaper on, wipe them, etc.
3. Write the answers on the board or display them somehow for all students to see.
4. Ask students: “Are there similar things you would need to do with piglets?”
5. Ask students: “Does anyone have experience with the management practices of piglets? What can you tell me about those?”
6. Hand out the *Management Practices in Swine Production Notes* worksheet.
7. Explain that this will be a guide for the slide show to help them pick out the most important information. Instruct students to answer the questions to their best ability. Remind them that the class will use the questions as a review at the end of class.
8. Use class discussion to go through the information on the slides. Insert your own experiences and stories. There are helpful notes to share as you see fit.
9. At the conclusion of class, go through the answers to the worksheet as a review of the lesson.
10. Wrap-up: Remind students that these management practices are necessary for the health and production of the piglets.
11. Ask students if they have ever performed any of these practices. Give students the heads up that they will be learning each of these practices in order to get them excited about the next lesson and give them confidence that they can do this, as some may have never done anything like this before.
12. Show the piglet that they will be working on and let them know that they will be able to practice each skill until they are comfortable with each one.

Name: _____ Class: _____

Management Practices in Swine Production Notes

Use the slide presentation along with class discussion to answer the following questions.

1. Define the term “management practice” as it relates to animal science.
2. List the 7 common management practices in the swine industry.
 -
 -
 -
 -
 -
 -
 -
3. Define anemia:
4. Identify the name of the tools shown in the images below by writing the tool name and management practice in the space provided.



Introduction to Swine Litter Processing Curriculum

5. Ear notching is a permanent way to _____ pigs.
6. Piglets are born with _____ needle teeth.
7. How does clipping needle teeth benefit the piglets?
 - a. piglets are able to eat better
 - b. piglets don't bite and injure the mammary system of the sow
 - c. piglets are worth more if their teeth are missing
 - d. piglets look better without the sharp teeth
8. What is the reason for docking tails of piglets?
 - a. they grow better
 - b. they look better
 - c. it prevents them from biting and causing infection
 - d. farmers make more money if the tails are docked
9. Gilts (immature female pigs) must have at least _____ teats on each side in order to be registered as a purebred.
10. Navels are dipped with _____% iodine solution.

Management Practices in Swine Production Notes – Answer Key

Use the slide show along with class discussion to answer the following questions.

1. Define the term “management practice” as it relates to animal science.

something done to an animal or plant that helps it be productive and healthy.

2. List the 7 common management practices in the swine industry.

● **Iron shots**

● **Castration**

● **Ear notching**

● **Nipple line evaluation**

● **Clipping needle teeth**

● **Dipping the navel cord**

● **Docking tails**

3. Define anemia: **low levels of iron in the hemoglobin, which transports oxygen to the body.**

4. Identify the name of the tools shown in the images below by writing the tool name and management practice in the space provided.



Ear notcher

Side Cutter/teeth clipper

Surgical handle and blade

5. Ear notching is a permanent way to **identify** pigs.
6. Piglets are born with **8** needle teeth.
7. How does clipping needle teeth benefit the piglets?
- piglets are able to eat better
 - piglets don't bite and injure the mammary system of the sow**
 - piglets are worth more if their teeth are missing
 - piglets look better without the sharp teeth
8. What is the reason for docking tails of piglets?
- they grow better
 - they look better
 - it prevents them from biting and causing infection**
 - farmers make more money if the tails are docked
9. Gilts (immature female pigs) must have at least **6** teats on each side in order to be registered as a purebred.
10. Navels are dipped with **2**% iodine solution.

Lesson One – Management Practices in Swine Production

REVIEW: Management Practices Quiz

5-10 minutes

Purpose:

To review what the students have learned about management practices in swine production.

Materials:

- *Swine Management Practices Quiz*
- *Swine Management Practices Quiz – Answer Key*

Facilitation Steps:

1. Hand out the *Swine Management Practices Quiz*. Give students 10 minutes to complete it in class or assign it to take home and return.
2. Use the *Swine Management Practices Quiz – Answer Key* to correct the quiz.

Name: _____ Class: _____

Swine Management Practices Quiz

Short Answer: Use bullet points to answer the following questions to your best ability.

1. List the seven management practices for processing a litter of pigs.
2. List four common tools used for processing litters and indicate which method they are used for.

Fill in the blanks: Write the correct answer in the space provided to make the statement accurate.

3. Shortly after piglets are born, it is important to dip their navel with _____ to prevent disease and bacteria from entering the body cavity.
4. Iron shots are given to prevent the disease called _____.
5. Baby pigs have _____ canine/needle teeth that need to be clipped.

Swine Management Practices Quiz – Answer Key

Short Answer: Use bullet points to answer the following questions to your best ability.

1. List the seven management practices for processing a litter of pigs.

Iron shots

Castration

Ear notching

Nipple line evaluation

Clipping needle teeth

Dipping the navel cord

Docking tails

2. List four common tools used for processing litters and indicate which method they are used for.

Side cutter - clipping needle teeth & docking tails

Scalpel - castration

Syringe & needle - iron shots

Ear notcher - ear notching

Fill in the blanks: Write the correct answer in the space provided to make the statement accurate.

3. Shortly after piglets are born, it is important to dip their navel with **iodine** to prevent disease and bacteria from entering the body cavity.
4. Iron shots are given to prevent the disease called **anemia**.
5. Baby pigs have **8** canine/needle teeth that need to be clipped.

Lesson Two – Processing Litters

Lesson Overview

This lesson instructs students how to perform the seven management practices discussed in Lesson One. It uses a step-by-step guide to assist them through each process and asks them to perform portions using the pigs provided. At the conclusion of this lesson, students should be able to demonstrate all seven management practices.

Lesson Objectives

After completing this lesson, participants will be able to utilize the piglet simulators provided to:

- Administer iron shots
- Perform correct ear notching
- Clip needle teeth
- Dock tails
- Perform castration
- Perform record-keeping tasks

Lesson at a Glance

Activity	Materials	Preparation	Approximate class time
FOCUS			5-10 minutes
LEARN	• <i>Processing Swine Litters</i> slide presentation • <i>Helpful Reminders for Processing Litters</i> • <i>Helpful Reminders for Processing Litters Teacher Guide</i> • <i>Ear Notching Worksheet</i> • <i>Ear Notching Worksheet – Answer Key</i> • Four stations set up to each include: ○ Swine litter simulator ○ Snipping tool/side cutter ○ Ear notching tool ○ Plastic scalpel • Optional: <i>Farrowing House Record Sheet</i>	1. Prepare to show <i>Processing Swine Litters</i> slide presentation. 2. Print/photocopy <i>Helpful Reminders for Processing Litters</i> and <i>Ear Notching Worksheet</i> (one per participant). 3. Print/photocopy Procedure slides and Situation Cards from the <i>Processing Swine Litters</i> slide presentation (one per participant). 4. Optional: Print/photocopy <i>Farrowing House Record Sheet</i> (one per participant).	30-40 minutes
REVIEW	• <i>Litter Processing Quiz</i> • <i>Litter Processing Quiz – Answer Key</i>	1. Print/photocopy <i>Litter Processing Quiz</i> (one per participant).	10 minutes

Lesson Two – Demonstrating Skills in Litter Processing

FOCUS: Brainstorming

5-10 minutes

Purpose: To gain insight on comfort level in processing litters.

Facilitation Steps:

1. Brainstorm thoughts that students may have related to the question, “Why would these be important skills to be able to perform?”
2. Allow students one minute to create a list on a scratch piece of paper as they brainstorm.
3. Have students share their thoughts as you write them on the board. Possible answers might include saving money, saving time, etc.
4. Next, ask the students, “How many of you have experience with any of the management practices discussed in Lesson One?”
Participants will most likely answer that they do, but do they know what those items might be?
5. Have students share their experiences as an interest approach.

Lesson Two – Demonstrating Skills in Litter Processing

LEARN: Demonstration and Practice

30-40 minutes

Purpose: To demonstrate each management practice with confidence.

Materials:

- *Processing Swine Litters* slide presentation
- *Helpful Reminders for Processing Litters*
- *Helpful Reminders for Processing Litters Teacher Guide*
- *Ear Notching Worksheet*
- *Ear Notching Worksheet – Answer Key*
- Four stations set up to each include:
 - Swine litter simulator
 - Snipping tool
 - Ear notching tool
 - Plastic scalpel
- Optional: *Farrowing House Record Sheet*

Facilitation Steps:

1. Explain that the goal is to make each student skilled in performing all seven of the management practices on the piglet simulator.
2. Utilize the *Processing Swine Litters* slide presentation to discuss and demonstrate each method. *Optional:* Assign students to complete the *Ear Notching Worksheet* to ensure understanding before demonstrating on the piglet. This will save you money on replacement ears.
 - Point out special handling methods for each procedure
 - Remind them of the proper tools to use
 - Review the reason we perform each procedure
 - Use the simulator piglet to walk them through the lab experience you will ask them to do next
 - Talk through the iron shots and reading the underline processes, these cannot be performed on the swine litter simulators
3. After each procedure is properly demonstrated, split the class up into four groups.
4. Hand out the Procedure slides and Situation Cards for student use. You can also use the template Situation Card slide and fill in the blanks with whatever information you desire to change things up for your students. You can also have students complete this and exchange the information as a challenge to another classmate.
5. Instruct each group to read their situation card and to process their pig accordingly. Remind them of the importance of keeping records.
6. Have participants use the *Helpful Reminders for Processing Litters*, either while conducting the lab or as a review to do as a class after the lab is completed.
7. *Optional:* If a visit to a community farm is possible, such an experience will prepare students to conduct processing on a live litter of pigs. Use the *Farrowing House Record Sheet* if this visit is possible.

Name: _____ Class: _____

Helpful Reminders for Processing Litters

Use this worksheet to record 2-3 helpful hints or things you will definitely need to remember as you work through the lab today.

Iron Shots • • •	Ear Notching • • •
Clipping Needle Teeth • • •	Docking Tails • • •
Castration • • •	Record Keeping • • •

Name: _____ Class: _____

Helpful Reminders for Processing Litters

Teacher Guide

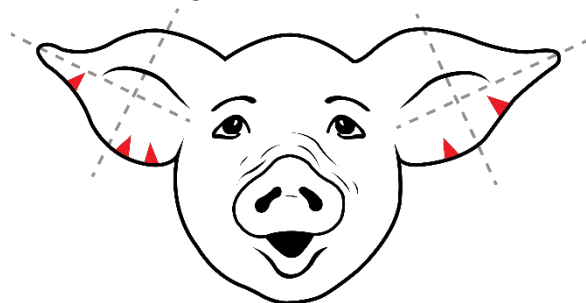
As you work through practicing the skills for processing litters today, record 2-3 helpful hints or things you will definitely need to remember as you work through the lab today.

Iron Shots • Disinfect needle • Administer in neck, NEVER ham • Inject at 45-degree angle	Ear Notching • Correctly identify the number positions • Double check for correct number • Perform quick cut within days after birth
Clipping Needle Teeth • Hold tool parallel with gums • Clip off ½ of tooth • Process within first 1-2 days after birth	Docking Tails • Hold pig secure • Cut off ½" • Spray with disinfectant
Castration • Only trained experts should perform this on live piglets • Be careful not to cut into the thin skin separating the testicles and the intestines • Remove both testicles and disinfect	Record Keeping • Record all data immediately upon performing each practice • Keep all records in a safe location • Take special notes if needed about each piglet for future reference

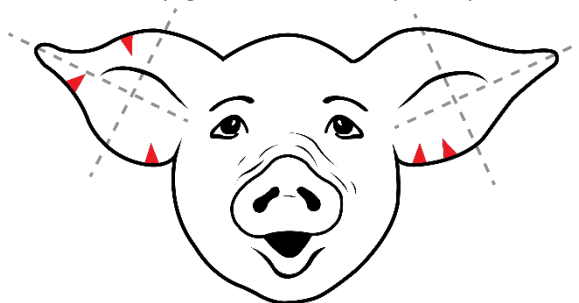
Name: _____ Class: _____

Ear Notching Worksheet

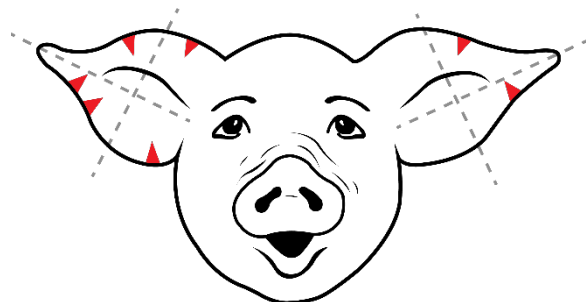
Practice reading ear notches. Indicate the correct litter number-pig number in the spaces provided.



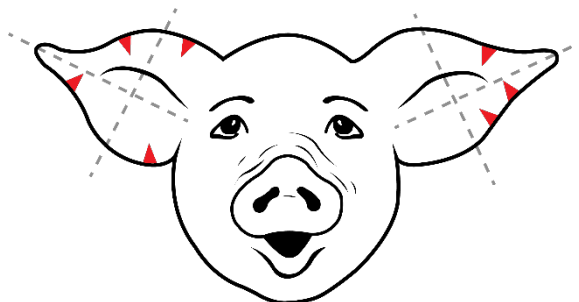
1. _____



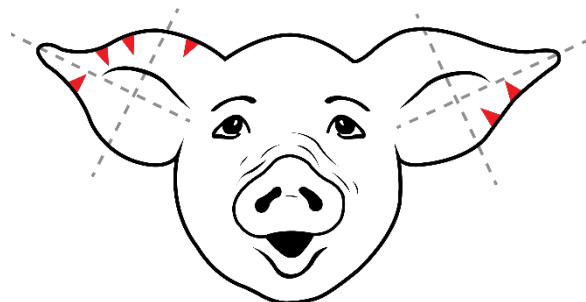
2. _____



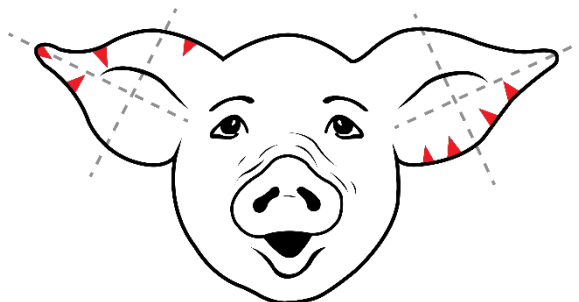
3. _____



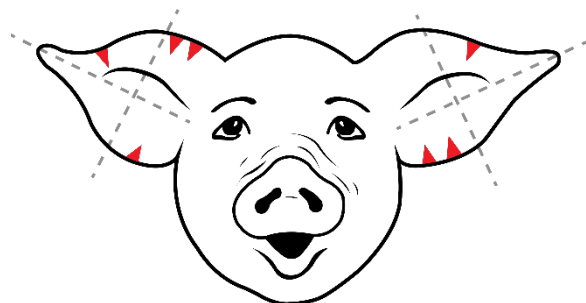
4. _____



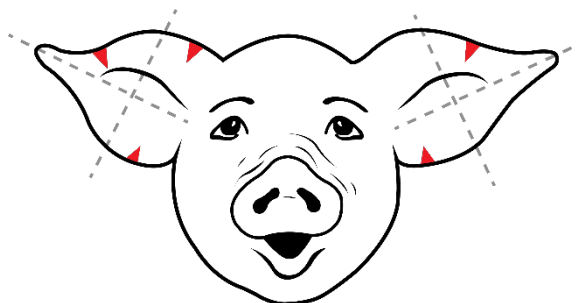
5. _____



6. _____

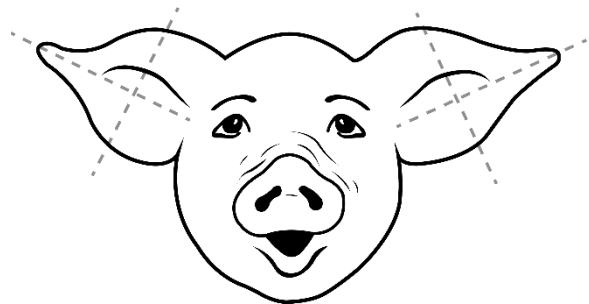


7. _____

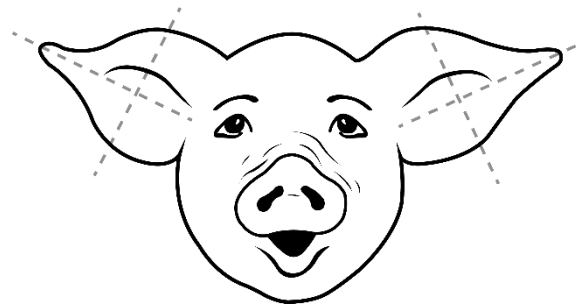


8. _____

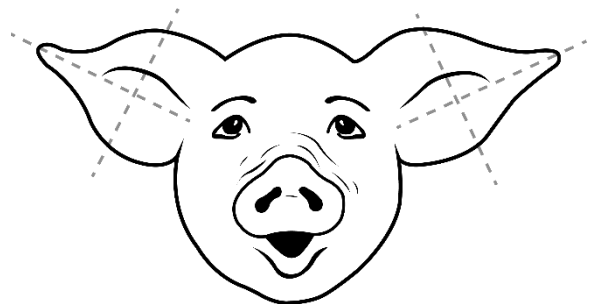
Practice reading the litter number-pig number. Indicate the proper placement of each ear notch on the drawing.



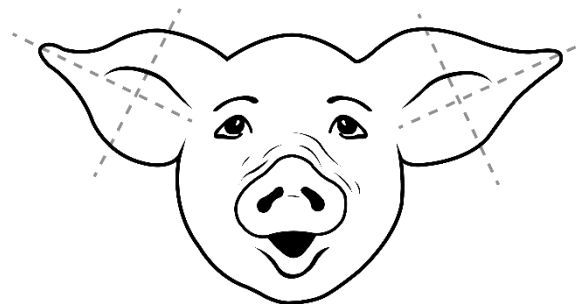
1. 4-2



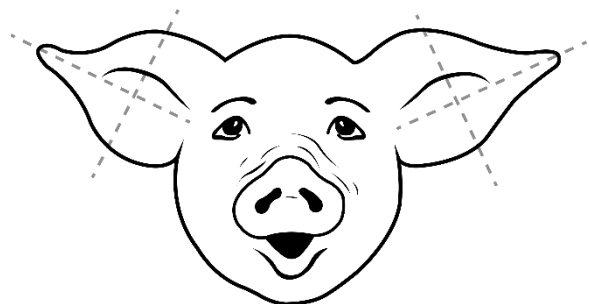
2. 11-5



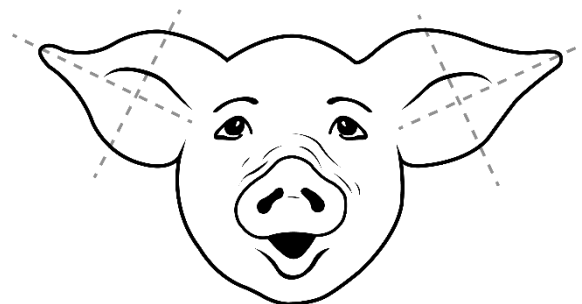
3. 34-7



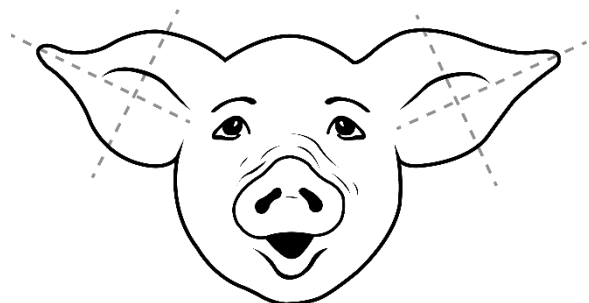
4. 54-11



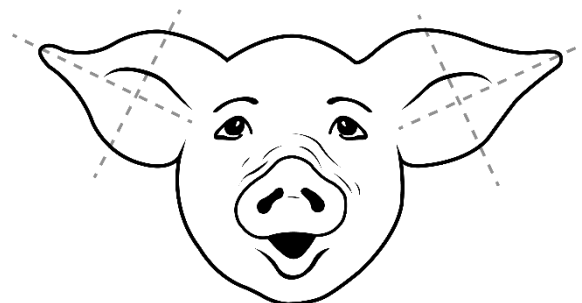
5. 32-8



6. 22-6



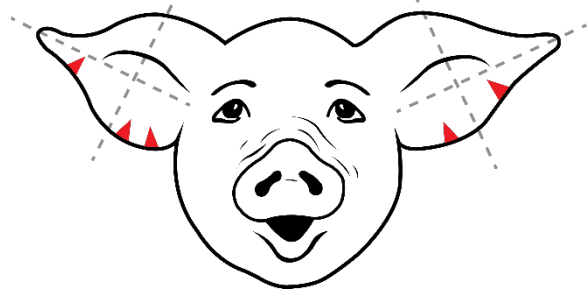
7. 16-1



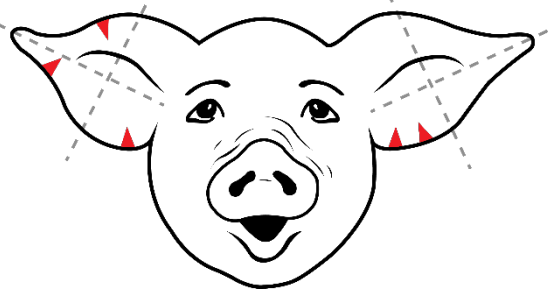
8. 10-2

Ear Notching Worksheet – Answer Key

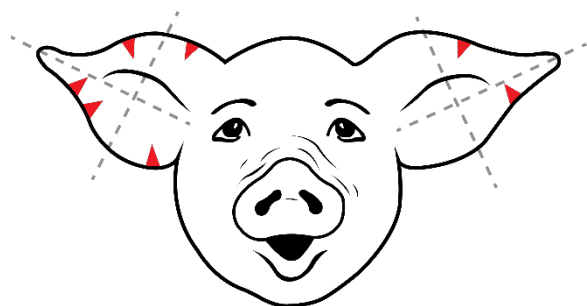
Practice reading ear notches. Indicate the correct litter number-pig number in the spaces provided.



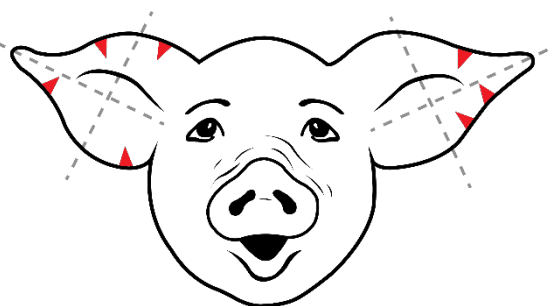
1. **5-4**



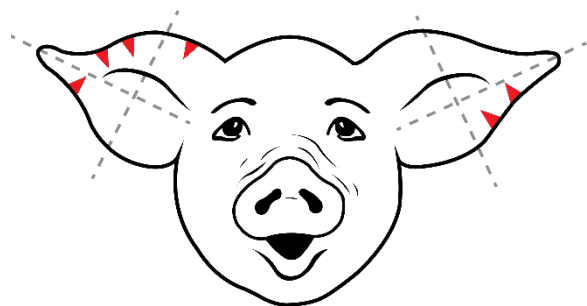
2. **13-2**



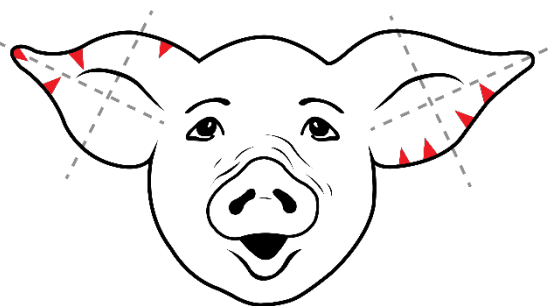
3. **43-12**



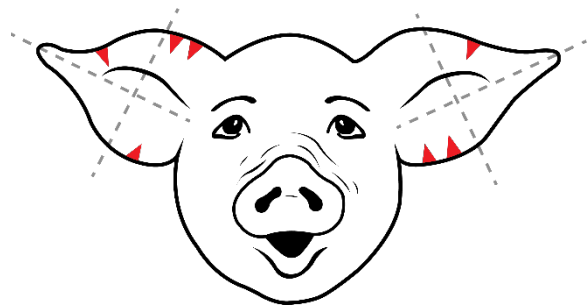
4. **40-15**



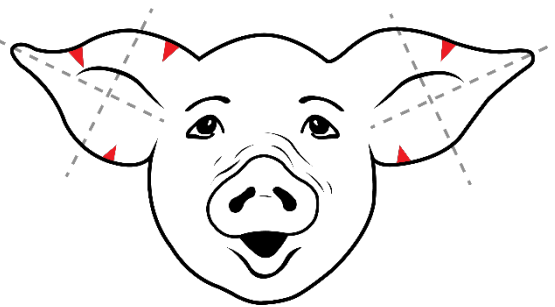
5. **48-6**



6. **120-8**

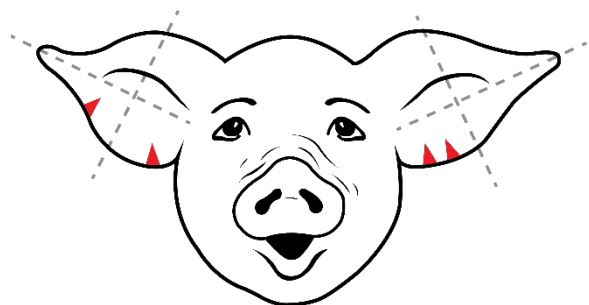


7. **64-11**

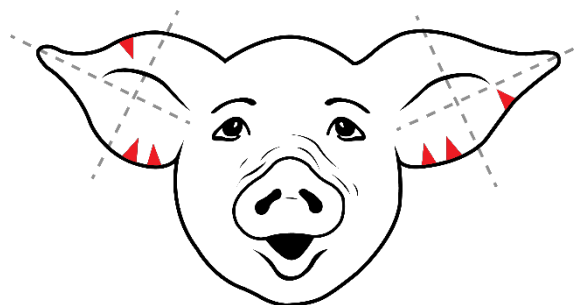


8. **37-10**

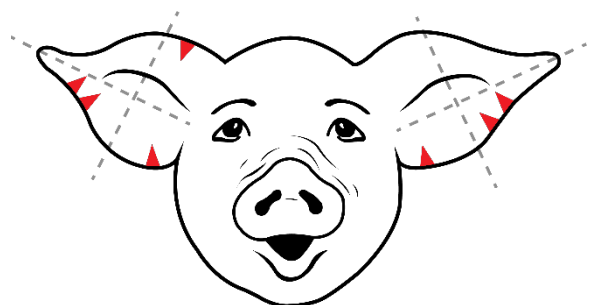
Practice reading the litter number-pig number. Indicate the proper placement of each ear notch on the drawing.



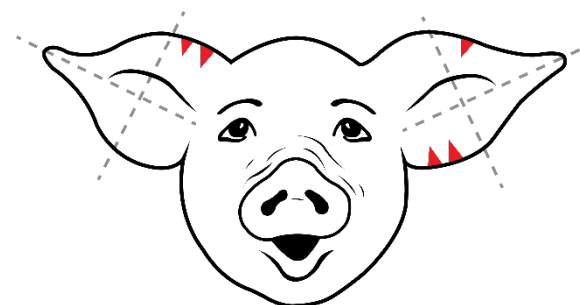
1. 4-2



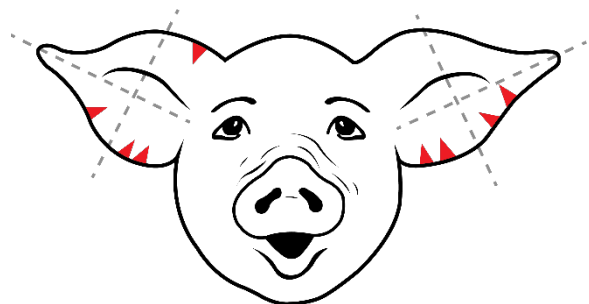
2. 11-5



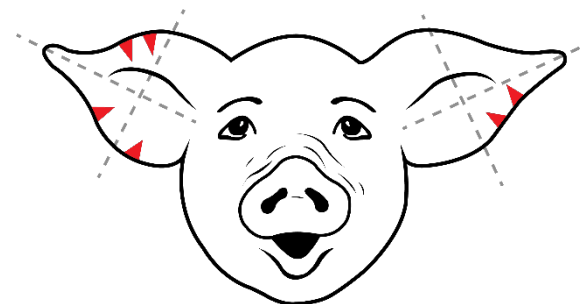
3. 34-7



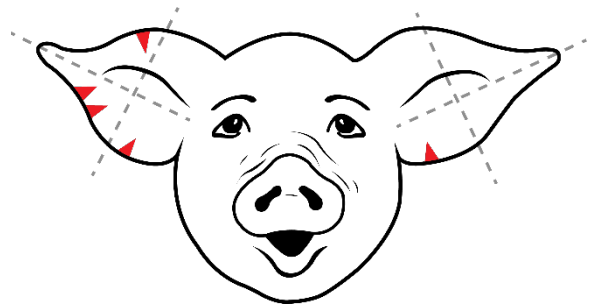
4. 54-11



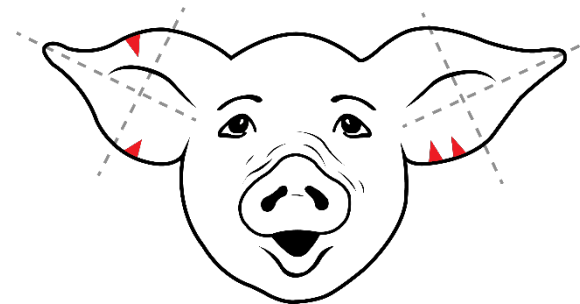
5. 32-8



6. 22-6



7. 16-1



8. 10-2

Farrowing House Record Sheet

Litter Number: _____ Sow Tag #/Name: _____ Sow Ear Notch: _____

Farrowing Date: _____ Sire ID: _____

born: _____ # alive: _____ # dead: _____

weaned: _____ # weighed _____

Litter Weight: _____ Date Weighed: _____

Checklist: (indicate a X or check mark next to each practice after completion)

Needle Teeth	_____	Iodine Navel	_____	Tail Dock	_____
Iron Shot	_____	Ear Notch	_____	Castrate	_____

Piglet Identification:

	Ear Notch	Gender	# Teats (underline)	Notes:
1	_____	_____	_____	
2	_____	_____	_____	
3	_____	_____	_____	
4	_____	_____	_____	
5	_____	_____	_____	
6	_____	_____	_____	
7	_____	_____	_____	
8	_____	_____	_____	
9	_____	_____	_____	
10	_____	_____	_____	

Lesson Two – Demonstrating Skills in Litter Processing

REVIEW: Litter Processing Quiz

10 minutes

Purpose:

To review what the students have learned about demonstrating management practices.

Materials:

- *Litter Processing Quiz*
- *Litter Processing Quiz – Answer Key*

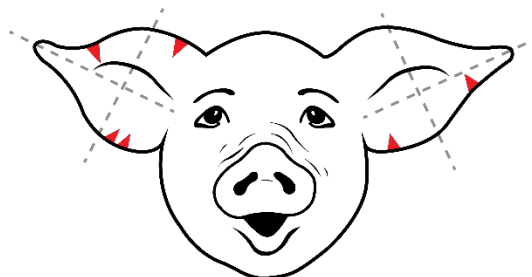
Facilitation Steps:

1. Hand out the *Litter Processing Quiz*. Give students 10 minutes to complete it in class or assign it to take home and return.
2. Use the *Litter Processing Quiz – Answer Key* to correct the quiz.

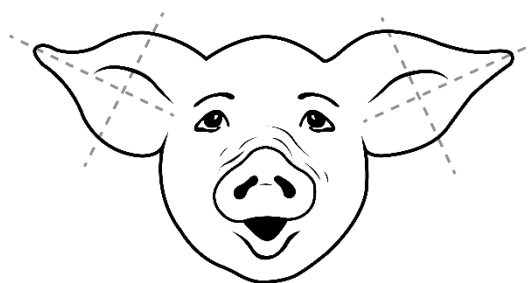
Name: _____ Class: _____

Litter Processing Quiz

1. What is the correct ear notch for this pig? _____



2. Properly identify this pig as 15-11 by placing the notches in the correct place.



True or False: Place a "T" or "F" in the space provided.

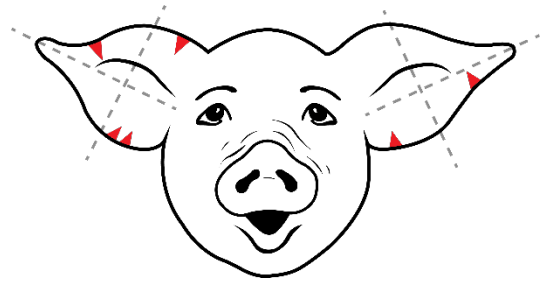
3. _____ Iron shots should be given in the hindquarters.
4. _____ When clipping needle teeth, $\frac{3}{4}$ of the tooth is removed.
5. _____ Docking tails is done to prevent them from being chewed on due to boredom.
6. _____ A purebred pig must have an underline of 8 in order to be registered.

Essay: Use complete sentences to complete the answers to the following questions. Make sure to give specific details with examples to support your ideas and thoughts.

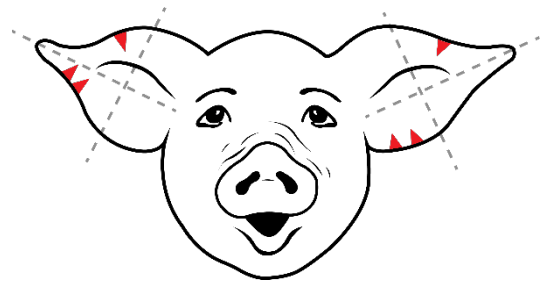
7. You are processing pigs with a friend who is not familiar with these methods. They seem quite concerned and ask you why it is necessary to castrate the male pigs. What do you tell them?
8. As you proceed to move on with the litter processing, your friend asks you to explain the purpose of clipping needle teeth. They are concerned about this hurting the piglet. What do you tell them?

Litter Processing Quiz – Answer Key

1. What is the correct ear notch for this pig? 38-4



2. Properly identify this pig as 15-11 by placing the notches in the correct place.



True or False: Place a “T” or “F” in the space provided.

- 3. **F** Iron shots should be given in the hind quarters.
- 4. **F** When clipping needle teeth, $\frac{3}{4}$ of the tooth is removed.
- 5. **T** Docking tails is done to prevent them from being chewed on due to boredom.
- 6. **F** A purebred pig must have an underline of 8 in order to be registered.

Essay: Use complete sentences to complete the answers to the following questions. Make sure to give specific details with examples to support your ideas and thoughts.

7. You are processing pigs with a friend who is not familiar with these methods. They seem quite concerned and ask you why it is necessary to castrate the male pigs. What do you tell them?

Various answers could include: Castration prevents tainted meat flavor and aggressive males, better rate of gain, and increases genetic quality because only the best quality boars are kept for breeding purposes. This practice keeps the producer safe from aggressive boars, results in better taste in the meat (which is gained faster), keeping feed costs lower and increases the genetic potential because only the best quality boars are kept for breeding purposes.

8. As you proceed to move on with the litter processing, your friend asks you to explain the purpose of clipping needle teeth? They are very concerned about this hurting the baby pig. What do you tell them?

Various answers could include: Piglets are born with 8 sharp canine/needle teeth, which can cause injury that leads to infection on the mammary system of the sow during nursing. If the sow is in pain, she will refuse to nurse, and the piglets will lose weight and possibly die. Infection of the mammary system can also lead to veterinary costs, lower milk production, and unhealthy sows.

Sources

Brady, S. E., & Reese, D. E. (2008, September). *Proper Way to Notch Pigs*. Extension Publications.

<https://extensionpublications.unl.edu/assets/html/g1880/build/g1880.htm#:~:text=Ear%2Dnotching%20helps%20identify%20a,show%20the%20individual%20pig%20number>

Swine. (2019, August 28). *What methods and tools do you use to castrate a pig? – Hogs, Pigs, and Pork*. Swine Extension. <https://swine.extension.org/what-methods-and-tools-do-you-use-to-castrate-a-pig/>

Dr. Harper, Allen. (2008, January 25). *Castration of Pigs*. The Pig Site. <https://www.thepigsite.com/articles/castration-of-pigs>

Clipping Needle Teeth (n.d.). PennState Extension.

<https://extension.psu.edu/programs/courses/swine/reproduction/processing-procedures-for-baby-pigs/clipping-needle-teeth#:~:text=Pigs%20have%208%20canine%20teeth,littermates%20and%20the%20sow's%20udder>.