

EXPLORING SWINE HEALTH & HUSBANDRY



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ACKNOWLEDGEMENTS

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This publication is a revision of the National 4-H Animal Science Series on Swine.

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FACILITATOR TIPS

Teaching and Learning Strategies

All activities in the *Exploring Swine Health and Husbandry* curriculum were designed using **experiential learning** and **inquiry**. **Experiential learning (EL)** is grounded in the idea that experience is essential to learning and understanding. Specifically, EL involves a recurring sequence of three distinct steps: 1) an **experience** (“Do”) that involves learner exploration; a period of **reflection** (“Reflect”) where learners share their reactions and observations, process their experience, and make generalizations to real-life examples; and 3) an opportunity to **apply** (“Apply”) new knowledge and skills in an authentic manner, which helps learners deepen and broaden their understanding (it helps learning last!).

Inquiry is a teaching and learner strategy whereby learners are engaged in activities that require the observation and manipulation of objects and ideas in order to construct knowledge and develop skills. Inquiry is grounded in experience, focuses on the use and development of critical thinking skills, and targets the learning and application of specific content knowledge.

The inquiry-based activities in the *Exploring Swine Health and Husbandry* curriculum were designed using the 5-step EL cycle by Pfeiffer and Jones (1983): Experience, Sharing, Processing, Generalizing, and Application. It is recommended that adequate time be allotted for youth learners to proceed through each step in order for learning to be maximized.



Organization of Learning Environment

The activities in the *Exploring Swine Health and Husbandry* curriculum were designed to be facilitated in a small group learning environment. Learners construct understanding through inquiry using observations, the manipulation of objects and ideas, and personal reflection. However, learning is a social enterprise where dialogue and reflection with others are critical elements. Therefore, creating physical and social environments where learners can carry out inquiry will help them organize their thoughts and develop an understanding of the content and processes being emphasized in specific curriculum activities.

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Ethical Issues around Caring for and Showing Animals



What are right and wrong animal show and care practices?

Introduction

Skill Level

Beginner, Intermediate, or Advanced

Learner Outcomes

Increase knowledge of ethical behavior

National Science Education Standard(s)

Science as Inquiry;
Regulation and Behavior

Showing and caring for animals requires an understanding of ethics. **Ethics** is the ability to tell the difference between right and wrong. Behaving in an ethical way means doing what you know is right, even if it's not the easy or popular choice. Sometimes upholding our ethics means we have to sacrifice something we want, like winning a prize or making a lot of money, in order to maintain our integrity. Having **integrity** means following the principles of ethics and being honest. It's important for 4-H members to have integrity in order to have fair show competitions, and keep show animals safe and healthy.

Ethical practices relating to the exhibition of animals are called **show ethics**. The components of show ethics include keeping honest and accurate records, following the rules of competition, and treating other 4-H members and judges with respect. Keeping honest and accurate records is important for both fairness and safety. For

example, it isn't honest or fair to show an animal which you don't own or didn't raise. If medication records are falsified, the meat of the animal may be compromised and the safety of those who consume that meat is also compromised. Following rules is important so that all competitors are on a level playing field. Think about a time when you saw someone cheat on a test or in a game. It makes you feel cheated too, doesn't it? Cheating isn't fair and it reduces the value of winning, since not everyone had the same opportunities. Finally, treating judges and fellow 4-H members with respect is important because it's how you would want to be treated. Just because you're competing with someone doesn't mean you should be rude or hurt their feelings, you probably have a lot more in common with them than you'd think.



Success Indicator

Demonstrate knowledge of ethical decision making

Life Skill(s)

Critical Thinking, Problem Solving, Decision Making, Communication, Cooperation, Planning & Organizing

Tags

Animal Ethics, showing and caring for animals, five freedoms

Time Needed

60-80 Minutes

Materials List

- *One hardcopy of Appendices 3 and 4 Scenario Sets
- *One hardcopy of Appendix 5 Code of Ethics Template
- Flip chart paper
- Markers
- Scissors

**Materials supplied in curriculum*

Suggested Groupings

Four groups of 4-5 students each
Large club group

Introduction (cont'd)

Animal ethics revolves around treating your animals humanely. Animals need to be able to perform their **natural behaviors**. Natural behaviors can include anything from eating and drinking, to social behaviors seen within a herd. Animals must also be provided with shelter from harsh weather, and have to be treated for diseases. An easy way to remember how to maintain good **animal welfare** is through the **five freedoms**. These freedoms include Freedom from Hunger and Thirst (providing food and water), Freedom from Discomfort (providing housing and shelter, etc.), Freedom from Pain, Injury or Disease (providing regular vet care and preventing problems, etc.), Freedom to Express Normal Behavior (providing other animals for social interactions, etc.) and Freedom from Fear and Distress (providing a safe environment, treating animals humanely, etc.). If you meet the five freedoms for your animal, then you will be acting in an ethical way.

Note: See Appendix 4 for a complete glossary for this activity.

Getting Ready

- Print out a copy of Appendices 3, 4 and 5.
- Cut out the individual scenarios from Appendices 3 and 4 Scenario Sets.

Opening Questions/Prompts

1. Explain what you think “ethics” means. Give an example of a situation that would help illustrate your response. Ask the youth to record their ideas on the flip chart paper provided.
2. If you own an animal provide examples of ways to treat your animal in an ethical manner. What are the animal’s needs? Ask the youth to record their ideas on the flip chart paper provided.
3. Explain what you think “fair” means. Describe why you think “fairness” matters when showing animals. Ask the youth to record their ideas on the flip chart paper provided.

LEARN MORE

- Rutgers Cooperative Extension: Character Development in 4-H

See <http://www.4-H.org/curriculum/swine2>

DID YOU KNOW?

4-H members who violate Codes of Ethics damage the integrity of the 4-H animal science program.

Experience/“What To Do”

Activity A: Appendix 3 Scenario Set and Development of Code of Ethics

Part I

1. Divide youth into four groups (of around five students each)
2. Provide each group with flip chart paper and markers
3. Give a different scenario from the Appendix 3 Scenarios set to each group
4. Instruct the youth to review their scenario and discuss the questions at the bottom of each scenario
5. Ask the youth to write down their findings on the flip chart paper

Part II

1. Have each small group explain their scenario and present their findings to the large group

Part III:

1. After reviewing all of the scenarios and results, have the large group list general categories of ethical problems that they encountered in the scenarios
2. The large group should then create a general code of ethics for their club

Activity B: Appendix 4 Scenarios Set and Producing a Finalized Code of Ethics

Part I:

1. Have youth return to their original small groups
2. Give each group one of the Appendix 4 Scenarios
3. Instruct groups to review these scenarios and have them generate a list of pros and cons using the questions at the bottom of the scenario as a guideline.
4. Have the small groups record their ideas on flip chart paper

Part II:

1. Have the small groups take turns outlining their scenario and presenting their ideas to the large group

Part III:

1. After reviewing all of the scenarios, as a large group, the group should decide if they want to make any revisions (add, delete, or change) to the Code of Ethics, and discuss why or why not.
2. Once the Code of Ethics is finalized, write it on Appendix 5, The Code of Ethics template

NEWS & CAREERS

Many county 4-H programs have Ethics Boards that review policy and make recommendations when ethical violations are reported. Contact your county office to find out more about the Animal Science Ethics Board in your county.

Share, Process, Generalize

Working together in a small group, follow the lines of thinking that have been developed by the youth through their explorations and sharing of their observations and comparisons. Specific questions/prompts might include:

1. Have youth compare the scenarios in Activity Sets A and B. Provide similarities and differences and reactions to the scenarios. How, if at all, did this affect the youths understanding of ethics?
2. How did youth formulate the code of ethics? How did they base their reasoning?
3. Have youth share personal experiences or a situation that they have heard about which relates to animal or show ethics. Do the youth think that the situation was handled in an ethical way? Explain why or why not. Have the youth's definition of ethics changed?

Facilitator Tip: Ask each group to present their thoughts and ideas to the other youth. Discuss similarities and differences.

Term and Concept Discovery/Introduction



At this point of the activity facilitators need to ensure that the following terms and concepts have either been discovered by the youth during their exploration or introduced by the facilitator

Animal ethics
Animal welfare
Ethics
Five freedoms
Integrity
Natural behaviors
Show ethics

Facilitator Tip: The goal is to have the youth develop an understanding of the concepts through their exploration and define the terms using their own words.

Concept Application

The following application activities are subdivided according to level of knowledge and experience: beginning learners; intermediate learners; and advanced learners. These activities are meant to be ways in which the youth can apply their knowledge and understanding in authentic ways. It is suggested that these be done as “take-home” activities and be shared with the group at a later date.

Beginner Level

- Have youth reflect upon their ethical practices with regards to their 4-H animal.
- Using relevant terms and concepts that demonstrate their understanding of ethics, youth should consider how (if at all) their animal and show practices might change with their new understanding of ethical behavior.

Intermediate Level

- Have youth reflect upon their ethical practices with regards to their 4-H animal.
- Using relevant terms and concepts that demonstrate their understanding of ethics, youth should consider how (if at all) their animal and show practices might change with their new understanding of ethical behavior.
- Instruct youth to go home and assess their practice objectively using Appendix 6. Are there differences between what youth thought their ethical practices were and what youth actually do in practice?
- If possible, have youth use Appendix 7 to assess their practices at the next fair. Are there differences between what youth thought their ethical practices were and what youth actually do in practice?

Advanced Level

- Have youth reflect upon their ethical practices with regards to their 4-H animal.
- Using relevant terms and concepts that demonstrate their understanding of ethics, youth should consider how (if at all) their animal and show practices might change with their new understanding of ethical behavior.
- Instruct youth to go home and assess their practice objectively using Appendix 6. Are there differences between what youth thought their ethical practices were and what youth actually do in practice?
- If possible, have youth use Appendix 7 to assess their practices at the next fair. Are there differences between what youth thought their ethical practices were and what youth actually do in practice?
- Lastly, the youth should work with younger 4-H members and, using their knowledge from this activity, should explain what ethics means in the context of animal welfare and showing. As a team, youth and the younger members should develop a set of ethical “promises” for good practices. For example, “I promise that my animals are never without water.”

Facilitator Tip: The application activities allow youth to not only relate what they have learned to authentic situations, they provide an opportunity for the volunteers facilitating the activities to see what knowledge and skills the youth learned (a form of authentic assessment).

Appendix 1: GLOSSARY

- **Animal Welfare:** A measurement of an animal's physical and psychological state; also known as animal well-being.
- **Animal Ethics:** Following an ethical code while caring for your animal. This includes minimizing pain and distress and ensuring good animal welfare.
- **Ethics:** A code of behavior that requires the ability to tell the difference between right and wrong.
- **Five Freedoms:** The basis of ethical animal ownership. Providing the Five Freedoms to your animal is essential to ensuring good animal welfare.
- **Integrity:** Having integrity means following an ethical code.
- **Natural Behaviors:** Behaviors that animals need to do to survive, or choose to do for comfort or pleasure. Examples include: exploring, feeding, or nesting.
- **Show Ethics:** Following an ethical code while preparing for, and participating in, a fair or show. Examples include: keeping honest and accurate records, following the rules of competition and treating other competitors with respect.

Appendix 2: REFERENCES

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Appendix 3: SCENARIOS

Appendix 3: Scenario #1 Lost Records

Abe has not been keeping track of his steer's vaccination records. Instead of writing them in his record book right after the vaccinations were administered, he wrote them on his hand. He was planning to transfer the information over to his record book later, but he forgot. Now the writing has been washed off the back of his hand. On the day of the fair, Abe looks through his record book before turning it in and realizes that he has no vaccinations recorded! He knows he needs to turn in the completed record book to show his steer. Abe decides to just write down what vaccinations he remembers, and he makes up dates that the vaccinations were administered. He figures having something written down is better than having blank spots in his record book. Discuss what Abe did. What do you think about his actions?

Appendix 3: Scenario #2 Amanda's Day Off

Amanda likes to watch her hog eat and play for 15 minutes everyday after she comes home from school. She normally refreshes the water in her hog's pen and adds water to its wallowing hole. One day there is a one hundred degree heat wave, and Amanda decides that she wants to have a water balloon toss after school with her friends instead of going home. Discuss what Amanda did. What do you think about her actions?

Appendix 3: Scenario #3 A Weighty Decision

Eric wants his hog to gain weight for the upcoming fair because he thinks it is too light. He has put in a lot of work raising his hog and really wants to compete, but cannot bring the hog to the show if it doesn't put on more weight. He tries giving his hog more food, hoping it will eat more, but it continues to eat a normal amount and is gaining weight too slowly. He decides to gavage, or force feed, his hog water by sticking a hose down its throat and into its stomach. He turns the hose on and water shoots into the animal's mouth and stomach. Eric is able to make his hog gain weight by doing this. He enters and competes in the county fair. Discuss what Eric did. What do you think about his actions?

Appendix 3: Scenario #4 Sick as a Hog

A few weeks ago, Pati noticed her hog was looking under the weather. She examined her hog and discovered it was starting to get an infection in an open sore in its mouth. She promptly saw a veterinarian and dealt with the situation by treating her hog with the appropriate medication. The sore now appears to be completely healed. Unfortunately, the fair is coming up and the withdrawal date for the medication is not until two days after the fair. This means that the hog will still have medication in its system at during the fair. Pati knows that the hog will not be butchered until three days after the fair. The hog will have one day before the butchering when it is not on any medication. She decides to enter the hog in the fair and sells it at the auction. Support or criticize Pati's decision. Explain the dangers or benefits of enrolling the hog in the fair. Is Pati violating a code of animal ethics? How does keeping track of medications relate to show ethics? Discuss.

Appendix 4: SCENARIOS

Appendix 4: Dilemma #1 A Short Tail

Lambs are often struck with a deadly attack of blowflies around their tail, commonly referred to as fly strike. These flies lay their eggs on skin around the tail and hatch into larvae, called maggots. The maggots then burrow into the lambs skin. Within 3 to 6 days of the maggot's hatching, the lambs get sick and die, because the maggot's excretions are deadly!

A way to stop the flies attack is *tail docking*. Tail docking is the amputation, or removal, of the end of the tail with a hot blade. However, while reducing the chances of fly strike, cutting a lambs tail brings "pain and distress" to the animal. Medication can be administered to ease the animal's pain, but the medication only reduces the pain, and doesn't alleviate it entirely.

Tail docking can be done at different lengths. A shorter tail is sometimes considered more aesthetically pleasing because it gives the animal a fuller rump. A shorter tail however is associated with other medical problems.

Explain the dangers or benefits of tail docking. Is this practice violating a code of animal ethics? What about show ethics? Discuss.

Appendix 4: Dilemma #2 Stacy's Hog

Stacy's hog, Herbert, gets its basic necessities met every day. She supplies it with the correct amount of food and water, and makes sure its vaccinations are up to date. Herbert lives alone in a safe and clean enclosure in Stacy's backyard. The floors are concrete and his housing unit offers protection from heat and the cold. Stacy doesn't have any other pigs, so Herbert has stayed alone in this pen since he was a baby piglet. Stacy doesn't play with Herbert much, since she has a new puppy and would rather play with it. When she comes around to feed Herbert and when anyone gets close to the pen, he gets scared and hides in the corner.

Does Stacy take good care of her animal? Why or why not? Is she violating a code of animal ethics? Discuss.

Appendix 4: SCENARIOS

Appendix 4: Dilemma #3 The Cold Shoulder

Jeremy is raising a steer for a 4-H show and lives in New Mexico. Summer is approaching and the days are getting hotter-temperatures hit 80 to 90 degrees every □ day. Jeremy's steer is beginning to shed its thick winter coat in response to the season change. Its hair is coming out in large inconsistent patches, especially on the steer's head and neck regions. The fair is coming up, and Jeremy decides to cold box his steer until the competition.

The practice of cold boxing is used to stimulate beef cattle to hair growth. The usual practice is to put cows in this refrigerated box with reduced temperatures during the day time, and let them out at night when it is cooler. This practice might go on for as long as 5 months of a steer's life. Just as normal cattle do in the winter months, cold boxed cattle regrow lost hair, and hair becomes thicker. Because cattle are judged during the competitions on their appearance (including hair coat quality) some people cold box their animals to help them get higher scores when showing.

Discuss Jeremy's decision to cold box his steer. How does it relate to show or animal ethics? Does it violate any codes of ethics? Why or why not?

Appendix 4: Dilemma #4 Money Talk

Billy and Bobby are best friends who decide they want to join 4-H. The boys talk it over and decide they want to raise goats. When Billy tells his parents, they get really excited. Billy's mom was in 4-H, and their large house has plenty of yard space for goats. Billy's mom tells him he can have anything he wants in order to take care of his goats, money is no problem. Bobby's parents are also really happy for him, but they live in an apartment, and renting barn space is expensive. However, they still want Bobby to have the 4-H experience, even though Bobby can only have limited funds. A few months later, the boys show their goats at the fair. Billy's goats are well-fed and have had the best veterinary care. Billy wins first place. Bobby's goats are healthy, but they obviously haven't been given the star treatment that Billy's have. Bobby spent as much time with his goats as he could, but he couldn't give them name brand feeds because they were too expensive.

Think about Billy and Bobby's situation. How does the issue of money relate to show ethics? Would the competition be more fair if a spending limit was set or if there was no spending limit? Why or why not?

Appendix 5: Code of Ethics

Code of Ethics



Appendix 6: ASSESSMENT OF HOME PRACTICE

Food availability and quality:

- ☐ Fresh food is available
- ☐ Food is not moldy, dirty, or spoiled.

If necessary, what action steps are needed to improve food availability and/or quality?

Water availability and quality:

- ☐ Fresh water is available
- ☐ Water is clean and circulated

If necessary, what action steps are needed to improve water availability and/or quality?

Housing

- ☐ Area is clean and well kept
- ☐ Bedding is clean and dry
- ☐ No visible signs of vermin (e.g. mice) or other pests

If necessary, what action steps are needed to improve housing?

Environmental Conditions

- ☐ Protection from extremes climatic conditions (e.g. wind, rain, snow)

If necessary, what action steps are needed to improve environmental conditions?

Enrichment

- ☐ Space for rooting
- ☐ Pool for wallowing
- ☐ Time for socializing with you and other animals

If necessary, what action steps are needed to improve enrichment?

Health

- ☐ Treatment by a veterinarian when appropriate
- ☐ Regular visual assessments by owner
- ☐ Recommended vaccinations have been given and are current

If necessary, what action steps are needed to improve health?

Animal Handling

- ☐ Swine is comfortable around people
- ☐ Swine is handled with care

If necessary, what action steps are needed to improve animal handling?

Appendix 7: ASSESSMENT OF SHOW PRACTICE

Preparing for the Fair

Food availability:

- ☐ Fresh food is available in normal amounts (e.g. not too much, not too little)

If necessary, what action steps are needed to improve food availability and/or quality?

Water availability and quality:

- ☐ Fresh water is available in normal amounts (e.g. not too much, not too little)
- ☐ Water is clean and circulated

If necessary, what action steps are needed to improve water availability and/or quality?

Animal Welfare

- ☐ Extreme measures were NOT used to physically or mentally alter the swine's state

If necessary, what action steps are needed to improve the swine's safety and well-being?

Records

- ☐ Vaccination records are accurate
- ☐ Swine will be free of medication by the fair date

If necessary, what action steps are needed to improve the quality of the records?

Integrity

- ☐ No action has been taken to gain an unfair advantage

During the Fair

Animal Welfare

- ☐ Swine has adequate space, shade, and protection from the weather
- ☐ Swine has adequate food and fresh water

Animal Handling

- ☐ Swine is handled with care by everyone at the fair
- ☐ Swine is comfortable around people

Integrity and Honesty

- ☐ Rules of the competition are followed
- ☐ Treat others (judges, competitors, parents, etc.) with respect
- ☐ Show records are true and accurate

Observing and Understanding Swine Behavior



Behavior: A key first step in understanding your animal's health.

Introduction

Skill Level

Beginner,
Intermediate,
Advanced

Learner Outcomes

Increase knowledge of important behavior concepts and observation strategies

National Science Education Standard(s)

Science as inquiry: regulation and behavior

When raising an animal it is important to understand its behaviors through daily observations. By observing their animal every day, youth can learn its habits, understand its **temperament**, and gain an idea of what behaviors are normal and what might be abnormal. One way to keep track of an animal's behavior is to develop an ethogram. **Ethograms** are reference tools that describe behaviors, similar to a "dictionary" for animal behavior, and can be used to guide observations.

The suite of typical behaviors an animal performs under normal conditions make up its **behavioral profile**. Some of the components that make up a behavioral profile are **activity level, temperament, and self-maintenance behaviors**. **Activity level** refers to the

proportion of an animal's time that is spent engaging in activities versus spent in rest. Free ranging pigs are normally diurnal, meaning they are primarily active during the day and at rest during the night. However, it is normal for pigs to rest during the day as well and the amount of time they spend resting will depend on things like temperature, group size, and availability of food. It is important to understand the normal resting and activity patterns of project pigs in order to detect when animals are either **restless** or **lethargic**.

Temperament refers to the general way that an animal responds to people, other animals, or things



Introduction (cont'd)

Success Indicator

Demonstrate ability to make detailed observations and knowledge of behavior concepts

Life Skill(s)

Critical Thinking, Problem Solving, Decision Making, Record Keeping, Communication, Cooperation, Planning & Organizing

Tags

Swine, pigs, behavior

Time

45-60 minutes

Materials List

- Flip chart paper
- Markers
- Pens/pencils
- Notebook paper
- Timer
- Behavior scenarios*

*See Appendix 3

Suggested Groupings

Four groups of 4-10 individuals

in their environment. One way of determining temperament is by testing an animal's **flight distance**. This is the distance that the animal will allow a person to approach before moving away. Some pigs are nervous, while others tend to be calm during approach. Another way of assessing temperament is to observe an animal's response to novelty. Some pigs are very curious and will seek out novelty, while others are more cautious. Gradual changes in **temperament** can be caused by proper handling and **habituation**, but sudden changes in temperament should be investigated.



Rooting

Self-maintenance behaviors are behaviors that animals perform to meet their biological needs and promote health. Examples include **foraging**, eating, drinking, grooming, **rooting**, **wallowing**, reproductive, and social behaviors. The performance of self-

maintenance behaviors can be both facilitated and hindered in captive environments. For example, pigs form stable social groups and should not be housed alone unless there is a valid veterinary reason to do so. However, pig group housing should provide ample space and visual barriers to maximize opportunities for positive social interactions and reduce the chance of aggressive encounters. It is important that animal caregivers pay attention to the patterns with which their animals perform self-



Wallowing

maintenance behaviors and investigate when changes to these patterns are observed.

In some cases, when the captive environment does not provide ample opportunity to perform self-maintenance behaviors **problem behaviors** may develop in their place. For example, pigs are more likely to perform behaviors such as **ear biting**, **tail biting**, and **repetitive movements** in environments where they do not have the opportunity to explore, root, and forage.

Note: See Appendix 1 for a complete glossary for this activity.

Getting Ready

LEARN MORE

- **Behavioural Profiles of Domestic Animals: Pigs**

See <http://www.4-H.org/curriculum/swine2>

- On a playground or in a multipurpose room, create a large, open space for youth to mingle and demonstrate behaviors identified in scenarios.
- Provide each group with flip chart paper and markers.
- Provide each youth with a three sheets of notebook paper and a pen/pencil.

DID YOU KNOW?

Increased stocking density causes increased aggression within social groups of pigs. The stress caused by crowding can depress the immune system and increase the pig's risk of illness.

During the 24 hours before farrowing, sows are highly motivated to perform nest building behaviors. It is essential that the sows have access to straw as a nest substrate during this time. Sows experience frustration when they do not have the opportunity to build nests.



Opening Questions/Prompts

1. Explain what the term “human behavior” means to you. Make a list of common behaviors you exhibit. Ask the youth to record their ideas on the flip chart paper provided.
2. Explain why you think understanding human behavior is important. Ask the youth to record their ideas on the flip chart paper provided.
3. Explain what the term “animal behavior” means to you. Make a list of common behaviors animals you are familiar with (e.g., a pet dog or cat) exhibit. Ask the youth to record their ideas on the flip chart paper provided.
4. Explain why you think understanding animal behavior is important. Ask the youth to record their ideas on the flip chart paper provided.

Experience/“What To Do”

Part 1

Have small group #1 sit or stand on the side of the cleared space. Ask them to observe the behaviors of the other youth and record their observations on the notebook paper provided. Encourage them to make detailed written observations.

Youth in all of the other groups (#2, #3 and #4) will be provided Scenario 1. They should quietly discuss the behaviors they are going to be illustrating. Once they understand their roles, they should act out the scenario as precisely as possible, indicating when “Day 1” starts and ends, and when “Day 2” starts and ends.

RELATED ACTIVITIES

Beyond
Housing Basics:
Environmental
Enrichment for
Swine.



NEWS & CAREERS

- Department of Animal Science at UC Davis
- Animal Behavior Society
- International Society for Applied Ethology

See <http://www.4-H.org/curriculum/swine2>

Experience/"What to Do" (cont'd)

Parts 2-4

Repeat the process above with the following configurations of groups and scenarios:

Scenario	Acting Group	Observing Groups
2	2	1,3,4
3	3	1,2,4
4	4	1,2,3

Note: There must be at least 4 people in the acting group. If you do not have at enough participants to create 4 groups of 4, you may have two groups of four where each group acts twice and observes twice. Or, you may select 4 youth to be the actors for each round, and the remaining youth as the observers. Just make sure that each person gets a chance to both act and observe.

Share, Process, Generalize

Working together in small groups, follow the lines of thinking that have been developed by the youth through their explorations and sharing of their observations and comparisons. Specific questions/prompts might include:

1. Have the youth from each group share observations they made from their scenarios (1-4). Ask them to explain their observations and reactions. Ask them to compare their observations with those of other groups. Have them record their comparisons on the flip chart paper provided.
2. Ask the youth to discuss how this activity could relate to observations of cattle (or other animals) in a herd. Ask them to record their ideas on the flip chart paper provided.
3. Ask the youth to compare different strategies they used in making and recording observations. What worked? What was challenging? Ask them to record different strategies on the flip chart paper provided.
4. Discuss their thoughts on incorporating daily observations of animal behaviors into their animal care routine. Ask the youth to record their ideas on the flip chart paper provided.

Facilitator Tip: Ask each group to present their thoughts and ideas to the other youth. Discuss similarities and differences.

Term and Concept Discovery/Introduction

At this point of the activity facilitators need to ensure that the following terms and concepts have either been discovered by the youth during their exploration or introduced by the facilitator:

Ethogram, temperament, behavioral profile, habituate, normal behavior, exploration, resting, flight distance, lethargy, restless, temperament, activity level, rooting, wallowing, foraging, self-maintenance behaviors, problem behaviors.

Faciliator Tip: The goal is to have the youth develop an understanding of the concepts through their exploration and define the terms using their own words.

Concept Application

The following application activities are subdivided according to level of knowledge and experience: beginning learners; intermediate learners; and advanced learners. These activities are meant to be ways in which the youth can apply their knowledge and understanding in authentic ways. It is suggested that these be done as “take-home” activities and be shared with the group at a later date.

Beginner Level

Youth will observe their project animal once a day for 6 days. The observations should happen at different times each day, and should last for 10 minutes. Youth will use the template provided in Appendix 4 to guide their work. After they have completed their observations, they should use their notes to write a short report about their animal's behavior. The following ideas should be included:

1. What did this process teach them about their animal?
2. What behaviors were most common? Which were least common?
3. What is their plan for incorporating behavior observations into their daily routine?



Intermediate Level

Youth will observe their project animal once a day for 6 days. The observations should happen at different times each day. On day 1 and 6 the observations should last 20 minutes. On days 2 and 4 the observations should last 10 minutes. On days 3 and 5 the observations should last 30 minutes. Youth will use the template provided in Appendix 4 to guide their work.

In addition, on days 1 and 6 the youth will perform a temperament assessment with their animal by conducting a novel object test.

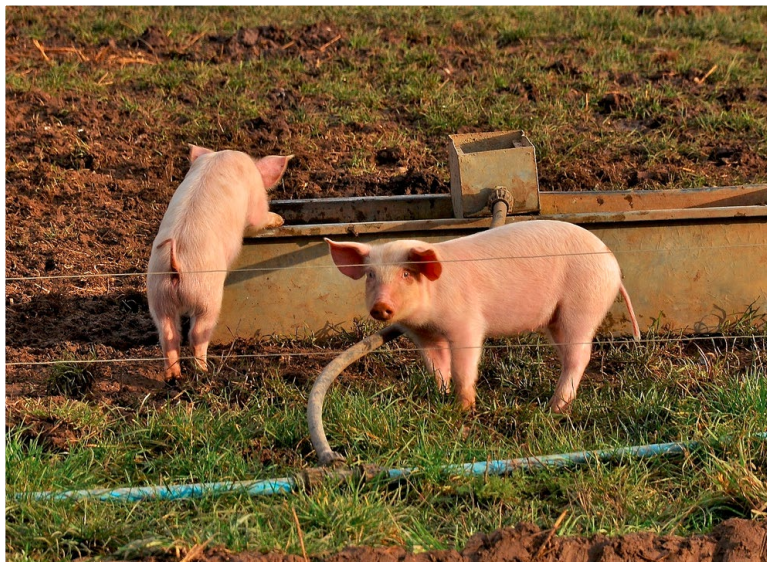
They will spend 10 minutes making standard observations (see Appendix 4) and 10 minutes conducting the novel object test. After the 10 minutes of standard observations, the youth should place a novel object in the enclosure with their animal. The object should be something that the animal has never seen before, but that is safe for them to interact with such as a brightly colored bucket, ball, or other sturdy object. A different object should be used on day 1 and on day 6.

Using the guide in Appendix 5, youth will assess their animal's response to the novel object.

At the end of the 6 days, the youth will use the notes they have collected to presentation for their group.

The presentation should address the following questions.

1. What did this process teach them about their animal?
2. What length of daily observation would you recommend in order to best understand your animal?
3. Based on their notes from their daily observations and their novel object tests, how would the youth describe the temperament of their animal?
4. Describe why it is important to develop a detailed understanding of a project animal's behavior. Describe any situations where having this knowledge helped them better care for their animal.



Advanced Level

Youth will observe their project animal once a day for 6 days. The observations should happen at different times each day. On day 1 and 6 the observations should last 20 minutes. On days 2 and 4 the observations should last 10 minutes. On days 3 and 5 the observations should last 30 minutes. Youth will use the template provided in Appendix 4 to guide their work.

In addition, on days 1 and 6 the youth will perform a temperament assessment with their animal by conducting a novel object test. They will spend 10 minutes making standard observations (see Appendix 4) and 10 minutes conducting the novel object test. After the 10 minutes of standard observations, the youth should place a novel object in the enclosure with their animal. The object should be something that the animal has never seen before, but that is safe for them to interact with such as a brightly colored bucket, ball, or other sturdy object. A different object should be used on day 1 and on day 6.

Using the guide in Appendix 5, youth will assess their animal's response to the novel object.

At the end of the 6 days, the youth will use the notes they have collected to create a behavioral profile for their animal. The profile should include their assessments of the animal's activity level, performance of self-maintenance behaviors and temperament. The youth will develop their own template to present this information.

For the remainder of the project duration, youth will conduct daily behavior observations. They will determine the length of the observation based on the different durations they tested during days 1-6. On each day they will use the behavioral profile they developed as a baseline and record any observed differences in their animals' behavioral profile.

Youth will present their work to their project group. The presentation should address the following questions.

1. What did this process teach them about their animal?
2. What duration did they choose for their daily observations (after day 6)? Why do they think this duration is appropriate?
3. Describe why it is important to develop a detailed understanding of a project animal's behavior. Describe any situations where having this knowledge helped them better care for their animal.

Facilitator Tip: The application activities allow youth to not only relate what they have learned to authentic situations, they provide an opportunity for the volunteers facilitating the activities to see what knowledge and skills the youth learned (a form of authentic assessment).

Appendix 1: GLOSSARY

- **Activity level:** the proportion of an animal's time that is spent engaging in activities versus spent in rest.
- **Behavioral Profile:** The suite of typical behaviors an animal performs under normal conditions.
- **Ethogram:** Reference tools that describe behaviors, similar to a “dictionary” for animal behavior. Used to guide observations of animal behavior.
- **Exploration:** When an animal uses its senses and physical abilities to investigate new surroundings or new objects in the environment
- **Habituate:** To accustom someone or something to a particular situation or circumstance.
- **Lethargy:** Sluggish or drowsy behavior that isn't normal in an animal
- **Problem Behaviors:** Behaviors that can cause harm to animals or are reflective of a sub-optimal physical or mental state. Often related to deficiencies in nutrition or management. Examples include: tail biting, ear biting, and repetitive movements.
- **Rest:** Periods of inactivity.
- **Restlessness:** Activity during normal times of rest. Also describes fidgeting or moving a lot during times of rest.
- **Rooting:** A behavior swine demonstrate as a method of searching for food on the ground or under the ground's surface.
- **Rubbing:** Swine will rub their bodies and faces against posts, tree trunks, and wooden fences; this behavior helps keep their skin in good condition and serves to remove external parasites.
- **Self-maintenance behaviors:** Behaviors animals perform to meet their biological needs and promote health.
- **Social behavior:** The interactions between animals and how they function in groups of other animals. Includes aggression (negative social behavior) and affiliation (positive social behavior).
- **Wallowing:** When swine lay in an area of mud, a wallow, in order to rest and keep cool.

Appendix 2: REFERENCES

- Gonyou, H.W. (2001). The Social Behaviour of Pigs. In L. J. Keeling & H. W. Gonyou (eds.), *Social Behaviour in Farm Animals*. H.W. Oxon, United Kingdom: CABI Publishing.
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- Jensen, P. (1989). Nest site choice and nest building of free ranging domestic pigs due to farrow. *Applied Animal Behaviour Science*, 22, 13-21.
- Turner, S.P., Ewen, M., Rooke, J.A. and Edwards, S.A. (2000). The effect of space allowance on performance, aggression and immune competence of growing pigs housed on straw deep-litter at different group sizes. *Livestock Production Science*, 66, 47-55.

Appendix 3: BEHAVIOR SCENARIOS

SCENARIO 1

The youth represent a small “herd of animals.” These “animals” will be observed by a group of youth on two consecutive days.

Day #1 (Round #1): 90 seconds

ALL YOUTH: Without talking or making physical contact with anyone, move casually among the other youth. Each time you pass someone, however, stop, wave calmly with your right hand and make direct eye contact with that individual. Then, continue walking around and mingling until you pass someone else and you repeat this behavior.

Day #2 (Round #2): 90 seconds

YOUTH #1: Without talking or making physical contact with anyone, move casually among the other youth. Each time you pass someone, however, stop, wave calmly with your left hand and make direct eye contact with that individual, and then continue walking around and mingling.

ALL OTHER YOUTH: Without talking or making physical contact with anyone, move casually among the other youth. Each time you pass someone, however, stop, wave calmly with your right hand and make direct eye contact with that individual, and then continue walking around and mingling.

SCENARIO 2

The youth represent a small “herd of animals.” These “animals” will be observed by a group of youth on two consecutive days.

Day #1 (Round #1): 90 seconds

ALL YOUTH: Without talking or making physical contact with anyone, move casually among the other youth. Each time you pass someone, however, stop, wave calmly with your right hand and make direct eye contact with that individual. Then, continue walking around and mingling until you pass someone else and you repeat this behavior.

Day #2 (Round #2): 90 seconds

YOUTH #1: Without talking or making physical contact with anyone, move around the edges of the group. Try to keep as much distance between yourself and others as possible without leaving the area.

YOUTH #2: Without talking or making physical contact with anyone, move casually among the other youth. Each time you pass someone, stop, wave calmly with your right hand and make (or attempt to make) direct eye contact with that individual. Then, closely follow the person you just made eye contact with as if you are trying to get their attention. Do not talk to them or touch them.

YOUTH #3: Without talking or making physical contact with anyone, move casually among the other youth. Each time you pass someone, stop briefly, but do not wave. Continue moving on about the group. (Include this option only if the group size is 5+)

REMAINING YOUTH: Without talking or making physical contact with anyone, move casually among the other youth. Each time you pass someone, however, stop, wave calmly with your right hand and make direct eye contact with that individual. Then, continue walking around and mingling until you pass someone else and you repeat this behavior.

Appendix 3: BEHAVIOR SCENARIOS

SCENARIO 3

The youth represent a small “herd of animals.” These “animals” will be observed by a group of youth on two consecutive days.

Topic: Observing differences in activity level

Day #1 (Round #1): 90 seconds

ALL YOUTH:: Without talking or making physical contact with anyone, move casually among the other youth. Each time you pass someone, however, stop, wave calmly with your right hand and make direct eye contact with that individual. Then, continue walking around and mingling until you pass someone else and you repeat this behavior.

Day #2 (Round #2): 90 seconds

YOUTH #1: Without talking or making physical contact with anyone, move casually among the other youth. Increase your speed to a brisk walk. Do not run. When waving, make your movements quick.

YOUTH #2: Without talking or making physical contact with anyone, move casually among the other youth. Decrease your speed to a slow walk. Stop and sit down. When waving, make your movements slow and deliberate.

ALL OTHER YOUTH:: Without talking or making physical contact with anyone, move casually among the other youth. Maintain a normal walking pace. Each time you pass someone, however, stop, wave calmly with your right hand and make direct eye contact with that individual. Then, continue walking around and mingling until you pass someone else and you repeat this behavior.

SCENARIO 4

The youth represent a small “herd of animals.” These “animals” will be observed by a group of youth on two consecutive days.

Day #1 (Round #1): 90 seconds

ALL YOUTH: Without talking or making physical contact with anyone, move casually among the other youth. Each time you pass someone, however, stop, wave calmly with your right hand and make direct eye contact with that individual. Then, continue walking around and mingling until you pass someone else and you repeat this behavior. Continue this for 90 seconds.

Day #2 (Round #2): 90 seconds

YOUTH #1: Without talking or making physical contact with anyone, move casually among the other youth. Walk in one direction for 5 steps (do not walk into anyone), wave your right hand (even if there is no one in front of you). Turn around and walk in the other direction for 5 steps and wave again. Repeat for the duration of the round.

ALL OTHER YOUTH: Without talking or making physical contact with anyone, move casually among the other youth. Each time you pass someone, however, stop, wave calmly with your right hand, and then continue walking around and mingling. Continue this behavior for 90 seconds.

Appendix 4: APPLICATION

Ethogram	
Foraging /Feeding/Drinking	- searching for, manipulating, or consuming edible items. Ingesting water.
Standing Rest	- standing stationary with no other listed behavior occurring
Lying Rest	- lying down with no other listed behavior occurring
Locomotion	- walking or running, either forward or backward
Rubbing/Scratching	- moving their hide against a surface such as a (wall, fence, tree)
Play	- positive interactions with other pigs or with objects/enrichments.
Exploration	- investigating objects or spaces.
Social Behavior	- interacting with other pigs. Make a note of both positive and aggressive interactions.
Rooting	- a behavior swine demonstrate as a method of searching for food on the ground or under the ground's surface.

Instructions: Using the ethogram above, make notes about the different behaviors that you observe using the recording sheet below. You may also add other behaviors to the ethogram.

Animal Name:

Date		Time Start		Time End		
Notes:						
Date		Time Start		Time End		
Notes:						
Date		Time Start		Time End		
Notes:						
Date		Time Start		Time End		
Notes:						
Date		Time Start		Time End		
Notes:						

Appendix 5: NOVEL OBJECT TESTING

Test 1 (Day 1)

Object: _____

Animal Name: _____

Date: _____

Time: _____

If possible, conduct this test in an area where the animal you are testing can be the only animal in the space for the duration of the test. Enter the space. Do not talk to your animal. Quietly place the object in the center of the space and walk away. Sit somewhere that you can see your animal clearly. Watch your animal for 10 minutes. Focus on how your animal behaves. Circle the adjectives below that describe your animal's behavior. Feel free to add other adjectives if you would like.

Nervous	Tired	Excited	Happy	Bored	Afraid
Curious	Careful	Uninterested	Relaxed	Playful	Tense
Disturbed	Relaxed	Content			

At the end of the 10 minutes choose the five terms from those that you circled that best describe your animal's behavior. Write these terms in the table below in the terms column. Save this sheet for your next test (Day 6).

Test 2 (Day 6) *Remember to use a different object from Day 1

Object: _____

Animal Name: _____

Date: _____

Time: _____

If possible, conduct this test in an area where the animal you are testing can be the only animal in the space for the duration of the test. Enter the space. Do not talk to your animal. Quietly place the object in the center of the space and walk away. Sit somewhere that you can see your animal clearly. Watch your animal for 10 minutes. Focus on how your animal behaves. Score each term 0-5 based on how well that term describes your animal's behavior today.

Term	Score					
	0	1	2	3	4	5
	0	1	2	3	4	5
	0	1	2	3	4	5
	0	1	2	3	4	5
	0	1	2	3	4	5