



ANIMALS INSIDE & OUT

Interactive Animals Science Education Activities



WHY ANIMALS INSIDE & OUT?

A Needs Assessment was conducted in Nebraska to determine the Nebraska 4-H Strategic Plan for 2012-2017 which found the following as program priorities:

- Develop science interests, skills and abilities in the areas of
 - Agriculture
 - Energy
 - Environmental Stewardship
 - Technology
- Helping youth think and problem solve within a scientific framework and encouraging an excitement for science.”
- Animal Science is a focus area important to 4-H.



RESEARCH BASE

The “Animals Inside & Out program, was designed so each activity includes hands on/active learning of participants based on research material from the following:

- 4-H Set Abilities – Science, Engineering, and Technology (SET), Programming in the context of 4-H Youth Development – National 4-H Council, The Ohio State University, 2007.
- Animal Project Content Grid – House, Horton, Ohio State University Extension, 2008.
- Positive youth development is operationalized by the Five Cs of competence confidence, character, connection, and caring, leading to youth contributions, the “sixth C” of PYD. (Bowers et al., 2010; Jelcic et al., 2007; Lerner et al., 2005; Phelps et al., 2009).
- Central and Western Region Committees for Agricultural Literacy July 1999 Summaries of Research and Development in Agricultural Literacy Page 34 Frick, M. J., Birkenholz, R. J., & Machtmes, K. (1995).
- From the 8 Essential Elements Research Base - The program incorporates the following “Best Practices”
 - Provide a Safe Emotional & Physical Environment
 - Engagement in Learning
 - Opportunity for Mastery
 - Opportunity to See Oneself as an Active Participant in the Future
- Kolbs Learning Model (1984) - 5 steps of the Experiential Learning Model of Experience, Share, Process, Generalize and Apply.



OBJECTIVES

- Youth will gain knowledge and understanding of the livestock industry.
- Youth will develop science skills and abilities to help solve everyday situations.
- Youth will become aware of careers related to animal science.

PRIMARY AUDIENCE

- 3 – 5th Grades
- Presented to youth with animal projects as well as youth with no animal experience in a wide variety of delivery modes

CURRICULUM TOPICS

- Introduction to Animal Science
- Animal Management
- Digestive System
- By-Products
- Skeletal System
- Muscular System
- Respiratory & Circulatory Systems
- Feeds & Nutrition
- Animal Science Careers
- Reproductive System
- Animals Close-up

MODES OF DELIVERY

- School Enrichment Programs
- After School/Out of School Programs
- Field Days
- Day Camps
- Summer Camps
- Fairs

INTRODUCTORY SESSION



ANIMAL MANAGEMENT



DIGESTIVE SYSTEM



BY-PRODUCTS



SKELETAL SYSTEM



MUSCULAR SYSTEM



CIRCULATORY & RESPIRATORY SYSTEM



FEEDS & NUTRITION



ANIMAL SCIENCE CAREERS




REPRODUCTIVE SYSTEM



ANIMALS CLOSE - UP



EVALUATIONS

N EXTENSION 

2015 - Nebraska 4-H Animal Science Survey

Section I: Interest
Please select one response in each row by marking the appropriate box .

As a result of participating in this 4-H Animal Science Program...	Yes	No
I think Animal Science is cool.	<input type="checkbox"/>	<input type="checkbox"/>
I think Animal Science programs in the future will sign up for more Animal Science would be interesting.	<input type="checkbox"/>	<input type="checkbox"/>
I think a career in Animal Science will be more interesting.	<input type="checkbox"/>	<input type="checkbox"/>
I am more interested in Animal Science.	<input type="checkbox"/>	<input type="checkbox"/>

Section II: Knowledge
Please write in your response to the following questions

2. Before it comes to the store, where does most of the milk I drink come from?
Answer: _____


3. Before it comes to the store, where does hamburger meat come from?
Answer: _____

4. In addition to meat, list 2 animal byproducts
Byproduct 1: _____
Byproduct 2: _____

5. List 2 Careers related to Animal Science
Career 1: _____
Career 2: _____

Section III: Application
Please select one response in each row by marking the appropriate box .

As a result of participating in this 4-H Animal Science Program...	Yes	No
I will talk to my friends and family about Animal Science.	<input type="checkbox"/>	<input type="checkbox"/>
I will talk to someone in a career related to Animal Science.	<input type="checkbox"/>	<input type="checkbox"/>
I will shadow someone who works in an Animal Science career.	<input type="checkbox"/>	<input type="checkbox"/>
I will use books and the internet to learn more about Animal Science.	<input type="checkbox"/>	<input type="checkbox"/>

N EXTENSION 

2015 - Nebraska 4-H Animal Science - Teacher/Leader Survey

1. Please provide the following information
4-H Animal Science Program Location: _____
Program Date: _____
Grade(s): _____

2. What do you think youth gain as a result of their participation in this 4-H Animal Science Program?

3. Please describe your youth's reaction to this experience? (Ex. Did any lesson stand out, what were they most excited about, did you hear them talking about the experience in the days that followed, has this experience influenced other projects they do in the classroom or 4-H Club, have you seen a stronger interest in Animal Science or a related topic?)

4. Participation in *Animals Inside & Out* supports the curriculum or learning objectives of my classroom or Club? (Mark one box)
 Strongly Agree
 Agree
 Neutral
 Disagree
 Strongly Disagree

5. Please describe how you integrated this experience into your classroom or club learning.

IMPACT – YOUTH POST EVALUATIONS

- 98% strongly agreed or agreed it's important to keep good records and that good records can help keep animals healthy.
- 89% can group animals into meat and dairy groups.
- 75% were more interested in Animal Science after completing the program.
- 75% could list 3 careers related to Animal Science.
- 70% could name 2 animal by-products.

IMPACT – TEACHER POST EVALUATIONS

- “My students have made reference to the activities and knowledge gained many times. We have been able to expand on specific topics as we have integrated information into our existing curriculum. Topics such as the heart and how it works goes with our health unit. Animal products and byproducts also work with our health, occupations, and communities units. It was absolutely amazing to see the fetus of a pig and cow (AND get to actually touch them). We live in a rural community, yet many students don’t understand what that means. They came away from *‘Animals Inside & Out’* with new curiosities about science as a whole. I learned a great deal also. THANK YOU!!!”
- “Lots of great learning opportunities we wouldn’t have in the classroom!”
- “It hit home about how animals produce the products we have.”
- “Great opportunity to get students hands-on experiences with the science of animals.”



CURRICULUM RESOURCES

- Curriculum is located at <http://extension.unl.edu/statewide/kearney/animals-inside-out-0/>
- We are currently developing curriculum for:
 - K - 2nd grades
 - 6th - 8th grades

QUESTIONS

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