



This master curriculum includes lessons for Kindergarten. Kindergarteners will learn all about furry and feathered friends on the farm! Although animals are much different from us, we all need food, shelter, and love.

Educators may find this curriculum useful to use prior to attending the Borlaug farms. The Norman Borlaug Heritage Foundation provides educational opportunities for schools to attend. Whether attending a tour or participating in Inspire Days, children will become aware of Norman Borlaug's work and his everlasting impact on the current day.

Want to learn more about Norman Borlaug or the Norman Borlaug Heritage Foundation? VISIT OR CALL!

Contact Chamber of Commerce for more information

101 2nd Ave. SW, Cresco, IA 52136

Email: Jason@howard-county.com

Call: 563-547-3434

Borlaug Farms Addresses

Birthplace farm: 20399 Timber Ave Cresco, IA 52136

Boyhood Farm: 19518 200th St. Cresco, IA 52136



Kindergarten

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Modifications have been made to the original Iowa Agriculture Literacy Foundation lesson plan to meet the goals of the Norman Borlaug Heritage Foundation.
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Farm Animals

Grade: Kindergarten

Time: 30 minutes

Purpose:

- Students will identify characteristics of farm animals including differentiating between mammals and oviparous animals
- Students will collaborate with one another to identify the matching mother and baby animal
- Children will use their previous knowledge to guess animals based on descriptive characteristics

Materials:

- *A Day at Greenhill Farm* big book.
- Laminated 'mother' and 'baby' photos of various farm animals; one photo per student. Tie yarn to each photo to put over necks of children.
- Stalk of field corn with ear attached and soybean plant, if available.

Resources:

- *From the Ground Up* NVI AITC publication

Vocabulary:

- **Mammal:** Any of a class of warm-blooded higher vertebrates that nourish their young with milk secreted by mammary glands, have the skin usually more or less covered with hair, and include humans.
- **Oviparous:** Animals producing eggs that develop and hatch outside the maternal body.

Agricultural Background

Animals are raised on farms so we all have food to eat. Animals that provide food and/or clothing or do work on the farm are called livestock. They are different than the dogs and cats that we call pets. All animals need a person to take care of them; to give them food and water every day and provide safe, comfortable shelter for them. The person who cares for livestock is called a farmer.



Lesson

1. Leader reads aloud *A Day at Greenhill Farm* to students.
2. Pass out one big photo of an animal to each student and have them hang it around their neck.
3. Have students walk around to find their match; mothers with babies. Leader may want to invite students to make the animal sound to aid in locating their match.
4. Once all students are match up, have them sit on the carpet with their partner.
5. Re review what has been learned, have pairs of students come up to the leader to be asked a question about their animal. Reinforce what was taught about mammal and oviparous. Also include questions on body coverage, hooves, horns, etc.
6. Have animal photos returned to leader upon answering questions.
7. Once all photos are returned, review physical characteristics of animals by asking students to stand if their animal had two eyes, then sit back down. Stand if your animal had two legs. Stand if your animal had a mouth. Stand if your animal has ears.

Did You Know

- Farm animals like pigs, cow, sheep and chickens raised in Iowa eat field corn and soybeans. Those are the crops we grow here.
- Some farm animals also eat hay.
- Straw is used for 'bedding' for some farm animals to keep them warm and dry.
- Most farm animals live in buildings because they are more comfortable there and stay healthier.

Connection to Norman Borlaug

Let's play a game! Norman is our farmer and he has many animals. The leader will say 3 facts about one of Norman's animals and the students have to guess which one we are talking about.

The leader can pull an animal name out from a hat or bucket. Here are some example animals with 3 descriptive clues...

1. Cow
 - a. Produces milk for its young
 - b. Has 4 legs
 - c. Can be any color but usually black and white
2. Horse
 - a. Is tall
 - b. Eats hay or grass
 - c. You can ride this animal
3. Cat
 - a. Licks itself clean
 - b. Is a fast runner



c. Has a long tail

Iowa Core Literacy

SL.K.6: Speak audibly and express thoughts, feelings and ideas clearly.

Iowa Core Social Studies

SS.K-2.E2: Understand that the basic nature of economics is an exchange of resources.

SS.K-2.E.6: Understand the universal economic concept of needs and wants.



Animals Like Me

Grade: Kindergarten

Time: 60 minutes

Purpose:

- Students will understand that animals are unique but have similarities to one another.
- Students will identify different body parts of animals by visual recognition and purpose.
- Students will understand the importance of caretakers knowing the animal.

Materials:

- Internet connection
- Computer
- Ball
- Markers

Resources:

- *Cow Parts Activity Sheet* (attached)
- [Anyone Like Me? \(digital book\)](#)

Vocabulary:

- **Mammal:** Any of a class of warm-blooded higher vertebrates that nourish their young with milk secreted by mammary glands, have the skin usually more or less covered with hair, and include humans.
- **Calf:** a baby cow
- **Horn:** a bony, hollow, structure that projects out from the head of many animals such as cows, sheep, and goats.
- **Udder:** cow's bag that produces milk for their young to drink from
- **Hoof:** the horny covering protecting a horse or cow's foot

Agricultural Background

There are many different species of farm animals. There are cows, chickens, sheep, goats, horses, pigs, and many more. Within each species, there are different breeds. For example, different breeds of cows are Holstein, jersey, Brown Swiss, Angus, and many more. Although each species is different in weight, height, color, and purpose, they are also very alike. Each animal has eyes, ears, knees, a tail, and legs/arms.

Most farm animals are mammals. Mammals are warm blooded, make milk for their young, and have hair on their body. Chickens however are not mammals because their chicks are born from an egg and do not drink milk. Cows are a very common type of mammal farm animal. This lesson plan evaluates cows and their body parts.



Lesson

Activity 1: Anyone Like Me?

1. Project your computer screen on the wall or white board for all to see.
2. Read along with [Anyone Like Me?](#) digital book.
3. Explain to students that animals have many things in common. Mammals have similar characteristics and also have their unique qualities. However, each animal is special in their own way!

Activity 2: Moo-ving Parts

1. Hand out *Cow Parts* activity sheet, 1 per student.
2. As a class, say aloud the different body parts together. Students may sing the words or make actions to each word.
3. Give students a hint. Students should think to themselves about which body part matches that hint. Suggested hints:
 - This moo-ving part produces milk for calves (udder)
 - This moo-ving part is used to smell the grass (nose)
 - This moo-ving part is bent and helps the cow travel (knee)
 - This moo-ving part may be pointy and attached to a head (horn)
 - This moo-ving part protects the cow from snow, mud, sand, and rock (hoof)
4. Countdown from 3 and students will shout which body part they think is the answer. Announce the correct answer and allow students to locate the moo-ving part on the worksheet.
5. Students will connect the word and body part by drawing a line. Students should write the moo-ving part by tracing over the thin letters.
6. Repeat this process until all hints are correctly answered.

Activity 3: Pass and Spell

1. Create a circle by students standing facing one another.
2. Teacher starts with the ball and announces a moo-ving part.
3. Teacher tosses the ball to a student to catch. Students will say the first letter of that moo-ving part.
 - a. If the student knows the letter: class will repeat the letter back to them in unison.
 - b. If the student does not know the letter: she will announce “act it out”. Their classmates will create the letter with their body to assist the announcing student with their guess.
4. When the student successfully answers, he or she will toss the ball to a friend across the circle after saying the friend’s name.
5. Repeat the process of adding letters until the entire word is spelled out.
6. Repeat the game with each moo-ving part.
7. When complete with all parts, instruct students to sit down in a circle.



Connection to Norman Borlaug

Norman Borlaug took care of many animals on the farm. They had cows, horses, pigs, sheep, and chickens.

Ask students why it might be important that Norman understands the moo-ving parts of his animals.

Ask students to use what they know to help Norman in each of the following situations.

1. Norman's cow had a baby. Should he bottle feed the calf or can the mom feed the calf by herself? How?

The mom can care for her own calf because she makes her own milk with her udders

2. Norman noticed that his cow was swinging his tail a lot. Should he be worried? Why or why not?

He should not be worried. Swinging the tail is a sign of happiness and is a way to swat off bugs

3. Norman's cow is very dirty, especially on its legs. Why is that?

Cows like to lay down just like humans. However, they sleep with their knees bent. The cow's knees are dirty because she was laying in the mud.

Knowing an animal's body parts helps farmers know about their animals. Whether they are happy, sick, or hungry, farmers can tell what their animals want by the way they move. Norman is an expert animal caretaker because he learned more about his animals!

Iowa Core Standards

Writing

W.K.2: Use a combination of drawing, dictating, and writing to compose informative/explanatory texts in which they name what they are writing about and supply some information about the topic.

Speaking and Listening

SL.K.2.: Confirm understanding of a text read aloud or information presented orally or through

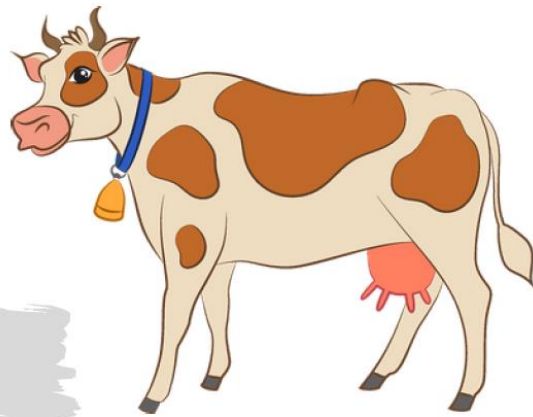
other media by asking and answering questions about key details and requesting clarification if something is not understood.



MOO-VING PARTS

Tail

Udder



Nose

Knee

Hoof

Horn



Animal Life Cycles

Grade: Kindergarten

Time: 60 minutes

Purpose:

- Students will be introduced to six major livestock species.
- Students will gain understanding that animals need air, space, food, water, and shelter to survive, and introduces students to the life cycle of a farm animal.

Materials:

Interest Approach

- Farm Animal Pictures

Activity 1: Needs of Animals

- Props for pictures to represent:
 - Food (apples, corn, oats, etc.)
 - Water (water bottle)
 - Shelter (toy barn, shed, tent, umbrella)
 - Air (balloon filled with air)
 - Space (empty box or bucket)
- [How Many Hats Does a Farmer Wear?](#) Activity sheet, 1 per student
- Crayons or markers
- Scissors
- Metal brands, 1 per student

Activity 2: Farm Animal Life Cycles

- Animal Flashcards, 1 classroom set
- [Farm Animal Bookmarks](#)

Resources:

- [Animal Flashcards](#)
- [Farm Animal Pictures](#)

Vocabulary:

- By-product: a secondary or incidental product made in the manufacture or synthesis of something else
- Livestock: farm animals such as cattle, sheep, pigs, goats, and others are raised for their meat, wool, milk, or eggs



Agricultural Background

Farm animals or **livestock** are an important part of our nation's agricultural industry and also an important part of our survival. Not only do these animals serve to produce food (milk, meat, and eggs) high in protein, vitamins and minerals; they also provide many **by-products** (leather, wool, medical products, etc.) which we cannot live without.

Those involved in the production of livestock animals must understand the needs of animals at each stage in their life cycle. These agriculturalists realize that they are raising livestock for two major purposes. First, for meat and by-products (*this means the animal will be sent to market or slaughtered at the appropriate point in its lifecycle*) and second, to produce more animals (*these are the males and females that are bred to create offspring*). Farmers and ranchers feed and care for animals according to their needs, which depend upon their age and their location.

This lesson will allow students to learn the needs of livestock animals compared to the needs of humans and the life cycles that these animals complete. For an additional lesson teaching farm animal terms and what each animal produces, see [Farm Animal Match](#).

To Spark Curiosity...

1. Display the *Farm Animal Pictures* to show each of the six major farm animals (cattle, pigs, sheep, chickens, turkeys, horses.)
2. Ask the students:
 - "What do all of these animals have in common?" (*they live on farms, they provide milk, meat, or eggs for us to eat, etc.*)
 - "What is different about these animals?" (*size, shape, food they produce, horses are used to help with work or to ride for recreation, etc*)
 - "If we were going to sort them into different groups, how would you sort them? Why?" (*two legs vs. four legs, feathers vs. hair/fur, big vs. small, etc*) You can have the students physically sort pictures of the animals or the cards if you would like.
3. As you discuss the similarities and differences, point out that all of the animals grow from babies into adults and that they need specific things to live and grow. In this lesson, students will be learning about farm animals, how they grow through their life, and what they need to live.

Lesson

Before class, copy the *Animal Flashcards* back to back, so the term and picture is on the front and the information is on the back. Print the first page with all of the mother terms on pink paper, the second page with the father cards blue, and the final page with the newborn terms green or yellow. Cut out the cards (using the lines on the front as a guide) and place them in a hat, box, or other container. If you have more than 16 students in your



class, make multiple copies of the newborn animals that have more than one offspring at a time. Ideally you would have just enough cards so each student will receive one.

- Sows have 8 to 12 piglets so you could make up to twelve piglet cards.
- Turkeys and chickens have 10-15 young so you could make up to 12 or 15 for each.
- Sheep have 1-3 lambs so you could make up to three lamb cards.

Activity 1: Needs of Animals

1. With the six, farm animal pictures still on the board from the *Interest Approach – Engagement*, ask the students what these animals need to survive. When a student replies with one of the five elements of survival (food, water, shelter, space, air), ask which of the animals need that element. (*all animals do!*) As each need is mentioned, have a volunteer hold the appropriate prop by one of the animal pictures so that, by the end of the discussion, you have five students holding props. Help students understand that this visual representation shows us that all of these animals need food, water, shelter, space and air to survive.
2. Ask the students, "How do animals get these items needed for survival?" (*Farmers provide animals with food, water, shelter, and space. The atmosphere provides air that animals breathe - just like humans.*)
3. Inform the students that farmers need to know a lot about their animals to make sure that the animals are taken care of and grow big and strong because they provide food for us.
4. Help students begin to understand the skills a farmer must have to properly care for their animals by completing the activity, [*How Many Hats Does a Farmer Wear?*](#)

Activity 2: Farm Animal Life Cycles

1. Explain to your students that in your container (the box or hat you prepared prior to the lesson) you have cards that represent a mother, father, and baby for each of the livestock animals. Show your students the designated place in the room where each livestock species will gather.
 - Example: The mother sheep, father sheep, and baby sheep will all gather in the front corner. Place the picture of the livestock animal (From *To Spark Curiosity*) in the location to clarify where each animal species should gather.
2. Have each student draw an animal card from your container and then travel to their designated gathering spot.
3. Instruct the students to share the information on their card with the other students in their gathering spot.
4. Once students have shared with their group, ask for each animal group to share the information about the mother, father, and baby to the rest of the class.
5. Discuss with the students how these animal families or groups change over time. Help students understand:
 - Young/babies will grow and become mothers and fathers.



- Mothers will have babies.
 - Mothers and fathers will grow old and eventually die.
 - Animal species can be used for meat and many other by-products. (Note: horses are not used for meat in the United States.) Farmers send animals that are raised for meat and by-products to market (slaughter) when they reach the age/size to produce the most nutritious product for humans to consume.
6. Hand out the [Farm Animal bookmarks](#).

Connection to Norman Borlaug

Not only are animals used for their meat, wool, and eggs, but they are also our friends! Norman's best friend was Nellie, a horse. Nellie and Norman were born on the same day! Norman needs your help because his friend asked what she has to look forward to as a horse.

Read aloud these questions – to add excitement, talk in a character's voice to represent Nellie (the horse). Let students raise their hands and “answer the horse's questions”. Students should be able to answer these questions after this lesson.

- How will I make fun with my other friend horses?
- What will my bed look like?
- What will be my breakfast and dinner each day?
- How are my family members?
- Will I have babies in the future?

After the class has answered all the questions for Mrs. Nellie, allow them to draw a picture. This picture will help Nellie better understand life as a horse. Possible things to include in the picture are food, shelter, and friends. When completed, students may hung their art pieces in the room or take them home to share with families and friends.

Suggested Companion Resources

- [Farm Pop-Ups](#) (Activity)
- [A Day in the Life of a Farmer](#) (Book)
- [A Young Shepherd](#) (Book)
- [Brave Dogs, Gentle Dogs](#) (Book)
- [Down on the Farm: Pigs](#) (Book)
- [Farm Animals](#) (Book)
- [Farm Animals: Chickens](#) (Book)
- [Farm Animals: Sheep](#) (Book)
- [From Sheep to Sweater](#) (Book)
- [Levi's Lost Calf](#) (Book)
- [My Family's Farm Book Series](#) (Book)
- [Pigs](#) (Book)
- [Pigs & Pork in the Story of Agriculture](#) (Book)



- [Pigs: An A to Z Book](#) (Book)
- [Sheep on the Farm](#) (Book)
- [About Farm Animals Mini Kit](#) (Kit)
- [About...Books](#) (Kit)
- [Livestock Cards](#) (Poster, Map, Infographic)
- [Sheep Crossing](#) (Multimedia)

Agriculture Literacy Outcomes

Agriculture and the Environment

- Describe how farmers use land to grow crops and support livestock (T1.K-2.a)

Plants and Animals for Food, Fiber, and Energy

- Explain how farmers work with the lifecycle of plants and animals (planting/breeding) to harvest a crop (T2.K-2.a)

Education Content Standards

Within SCIENCE

- 1-LS3: Heredity: Inheritance and Variation of Traits
- K-LS1: From Molecules to Organisms: Structures and Processes

Common Core Standards

Speaking and Listening: Anchor Standards

- CCSS.ELA-LITERACY.CCRA.SL.2

Language: Anchor Standards

- CCSS.ELA-LITERACY.CCRA.L.4