



**SOUTH DAKOTA STATE
UNIVERSITY EXTENSION**



Adopt-A-Cow: Dairy

South Dakota 4-H: Science of Agriculture



**Lessons for:
Kindergarten – 2nd Grade**

ACKNOWLEDGEMENTS

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Adopt-A-Cow: Dairy Overview

The Adopt-A-Cow: Dairy program engages kindergarten through second grade youth in learning about Dairy production through hands-on activities and by connecting youth virtually with real South Dakota animals. Students follow their “adopted” cow and calf throughout the school year while they learn about the South Dakota dairy industry. The “Adopt A Cow” program is an excellent opportunity for students to learn how food gets from farm to fork while having fun.

Lessons combine a variety of learning strategies including video and hands-on activities. Some lessons also have recommended extended learning opportunities that allow classrooms to dive deeper into the topic as time allows. Some of these learning opportunities include math worksheets, sending mail to the SD 4-H Adopt-A-Cow team, and external lessons from sources like National Ag in the Classroom and Minecraft.

Together the lessons of each unit work to build agriculture literacy.

National Agriculture Literacy Outcomes

Plants and Animals for Food, Fiber and Energy Outcomes

- Explain how farmers/ranchers work with the lifecycle of plants and animals (planting/breeding) to harvest a crop
- Identify animals involved in agriculture production and their uses (i.e., work, meat, dairy, eggs)
- Identify examples of feed/food products eaten by animals and people
- Culture, Society, Economy and Geography Outcomes
- Discuss what a farmer does
- Trace the sources of agriculture products used daily

Overview: Kindergarten – 2nd Grade (Dairy Cattle) Lesson

Lesson 1: Where Do Milk and Cheese Come From? (40-60 min)

Eating and drinking dairy products is important for youth as it provides nutrients like calcium, potassium, vitamin D, and protein. These are essential in maintaining the body and growing strong bones. In this lesson youth will learn about the South Dakota Dairy Industry and make note of where his or her town and county are in relation to SD Dairies. Youth will also learn about the various dairy breeds in South Dakota and note the similarities and differences between dairy calves and their mothers. This lesson has two activities that encourage youth to look at the unique characteristics of cows, educators may choose to do one or both. One activity has youth use context clues to identify breeds of dairy cows, while the other has them look at physical characteristics of cows and calves to pair up the calves with their moms. An optional math worksheet has been added to this lesson as well. Feel free to use this at any time during the year to bring dairy concepts into your classroom.

Lesson 2: What's in my ear? (50 min)

While newborn calves can generally walk within an hour of being born, the calf still requires care from either their mother or caregiver. In this lesson youth will draw parallels between the care a newborn baby and calf receive. Youth will meet their cow and calf pair as well as learn about how caregivers provide for these new babies. Youth will learn about how cattle are identified utilize ear tags and create an ear tag of their own.

Lesson 3: My Living Environment (30-40 min)

All living things need certain things to survive. Cattle need to have food, water, and shelter to remain healthy and thriving. In this lesson youth will explore the environment in which dairy cattle live. In this lesson, youth will explore the living environments of their cow and calf. They will then create a model of one of those environments.

Lesson 4: What's for lunch? (30 min)

A nutrient is something our bodies need to grow and function properly. We get nutrients from the foods we eat each day. Each nutrient does a special job in our bodies to keep us healthy. Likewise, cattle need nutrients to grow and keep healthy. In this lesson youth will visit the Dairy farm through an instructional video and see how their cow's food is prepared. Youth will learn about the nutritional needs of their cow and apply it to making their own feed.

Lesson 5: Farm to Table (40 min)

Milk has a busy but quick journey from the farm to the store. The majority of milk reaches store shelves within 48 hours of leaving the farm. In this lesson, youth will simulate how cows are milked as well as how milk is tested as they explore the steps it takes to get milk to their table.

Lesson 6: Explore Dairy Careers and Products (30 min)

Milk not only serves as a nutritious drink, but it also is the basis of many other foods that are in our diets. In this lesson, classrooms can select one of two paths: butter or ice cream. Youth will explore how the selected product is made and make it while exploring the careers involved.

Education Standards: Kindergarten – 2nd Grade (Dairy Cattle) Lesson

Lesson 1: Where Does Milk and Cheese Come From? (30-40 min)

English Language Arts Standards

- **K.RL.1** – With prompting and support, ask and answer questions about key details in a text.
- **K.SL.1** – Participate in collaborative conversations about grade-level topics and texts with peers and adults in small and larger groups.
- **K.SL.2** – Confirm understanding from a source of information by asking and answering questions about key details and requesting clarification if something is not understood.
- **K.SL.3** – Ask and answer questions in order to seek help, get information, or clarify something that is not understood.
- **1.RL.1** – Ask and answer questions about key details in a text.
- **1.SL.1** – Participate in collaborative conversations about grade-level topics and texts with peers and adults in small and larger groups.
- **1.SL.2** – Ask and answer questions about key details in a text read aloud, information presented orally, or through other media.
- **1.SL.3** – Ask and answer questions about what a speaker says in order to gather additional information or clarify something that is not understood.
- **2.RL.1** – Ask and answer such questions as who, what, where, when, why and how to demonstrate understanding of key details in a text.
- **2.SL.1** – Participate in collaborative conversations about grade-level topics and texts with peers and adults.
- **2.SL.2** – Recount or describe key ideas or details from a text read aloud, information presented orally, or through media
- **2.SL.3** – Ask and answer appropriate questions in response to a speaker in order to clarify comprehension, gather additional information, or deepen understanding of a topic or issue.

Science Standards

- **1-LS1-1** – Construct an evidence-based account that young plants and animals are like, but not exactly like their parents.

Social Studies Standards

- **K.SS.1.C** – The student can name his or her town, township or city, county, state or reservation, country, and continent.

Lesson 1: Extended Learning: Moo Math

Mathematics

- **K.CC.B** – Count to tell the number of objects.
- **K.OA.A.1** – Represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations. (Drawings need not show details but should show the mathematics in the problem.)
- **K.OA.A.2** – Solve addition and subtraction word problems.
- **1.OA.A** – Represent and solve problems involving addition and subtraction.
- **2.OA.A** – Represent and solve problems involving addition and subtraction.
- **2.OA.B** – Add and subtract within 20.

Lesson 2: What's in my ear? (20-30 min)

English Language Arts Standards

- **K.SL.1** – Participate in collaborative conversations about grade-level topics and texts with peers and adults in small and larger groups.
- **K.SL.2** – Confirm understanding from a source of information by asking and answering questions about key details and requesting clarification if something is not understood.
- **K.SL.3** – Ask and answer questions in order to seek help, get information, or clarify something that is not understood.
- **1.SL.1** – Participate in collaborative conversations about grade-level topics and texts with peers and adults in small and larger groups.
- **1.SL.2** – Ask and answer questions about key details in a text read aloud, information presented orally, or through other media.

- **1.SL.3** – Ask and answer questions about what a speaker says in order to gather additional information or clarify something that is not understood.
- **2.SL.1** – Participate in collaborative conversations about grade-level topics and texts with peers and adults.
- **2.SL.2** – Recount or describe key ideas or details from a text read aloud, information presented orally, or through media
- **2.SL.3** – Ask and answer appropriate questions in response to a speaker in order to clarify comprehension, gather additional information, or deepen understanding of a topic or issue.

Educational Technology

- **K.ET.EL.2.1** – Participate in teacher-led collaboration with peers and experts using video, audio, and text-based resources
- **K.ET.CT.1.1** – With support, create a model or graph to express possible solutions to a problem.
- **1.ET.EL.2.2** – Students will use instructional videos during learning and collaboration.
- **1.ET.CT.1.1** – Create a model or graph to visually demonstrate an understanding of a concept in a collaborative group.
- **2.ET.EL.2** – With or without support, students build networks of experts and peers to enhance their learning.

Science

- **K-LS1-1** – Describe patterns of what plants and animals (including humans) need to survive.
- **1-LS1-2** – Read texts and use media to determine patterns in behavior of parents and offspring that help offspring survive.
- **1-LS3-1** – Construct an evidence-based account that young plants and animals are like, but not exactly like, their parents. (SEP: 6; DCI: LS3.A, LS3.B; CCC: Patterns)
- **K-2-ETS1-1** – Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool. (Alignment may include K-PS2-2; K-ESS3-2; 1-LS1-1)

Math Standards:

- **K.CC.B.4** – Understand the relationship between numbers and quantities; connect counting to cardinality.

Health Education

- **1.2.3** – Describe ways to prevent communicable diseases.
- **3.2.1** – Identify trusted adults and professionals who can promote health.
- **5.2.1** – Identify situations when a health-related decision is needed

Lesson 3: My Living Environment (30-40 min)

English Language Arts Standards

- **K.SL.1** – Participate in collaborative conversations about grade-level topics and texts with peers and adults in small and larger groups.
- **K.SL.2** – Confirm understanding from a source of information by asking and answering questions about key details and requesting clarification if something is not understood.
- **K.SL.3** – Ask and answer questions in order to seek help, get information, or clarify something that is not understood.
- **1.SL.1** – Participate in collaborative conversations about grade-level topics and texts with peers and adults in small and larger groups.
- **1.SL.2** – Ask and answer questions about key details in a text read aloud, information presented orally, or through other media.
- **1.SL.3** – Ask and answer questions about what a speaker says in order to gather additional information or clarify something that is not understood.
- **2.SL.1** – Participate in collaborative conversations about grade-level topics and texts with peers and adults.
- **2.SL.2** – Recount or describe key ideas or details from a text read aloud, information presented orally, or through media
- **2.SL.3** – Ask and answer appropriate questions in response to a speaker in order to clarify comprehension, gather additional information, or deepen understanding of a topic or issue.

Educational Technology

- **K.ET.EL.2.1** – Participate in teacher-led collaboration with peers and experts using video, audio, and text-based resources

- **K.ET.CT.1.1** – With support, create a model or graph to express possible solutions to a problem.
- **1.ET.EL.2.2** – Students will use instructional videos during learning and collaboration.
- **1.ET.CT.1.1** – Create a model or graph to visually demonstrate an understanding of a concept in a collaborative group.
- **2.ET.EL.2** – With or without support, students build networks of experts and peers to enhance their learning.

Science

- **K.LS1-1** – Use observations to describe patterns of what plants and animals (including humans) need to survive.

Lesson 4: What's for lunch? (30 min)

English Language Arts Standards

- **K.SL.1** – Participate in collaborative conversations about grade-level topics and texts with peers and adults in small and larger groups.
- **K.SL.2** – Confirm understanding from a source of information by asking and answering questions about key details and requesting clarification if something is not understood.
- **K.SL.3** – Ask and answer questions in order to seek help, get information, or clarify something that is not understood.
- **1.SL.1** – Participate in collaborative conversations about grade-level topics and texts with peers and adults in small and larger groups.
- **1.SL.2** – Ask and answer questions about key details in a text read aloud, information presented orally, or through other media.
- **1.SL.3** – Ask and answer questions about what a speaker says in order to gather additional information or clarify something that is not understood.
- **2.SL.1** – Participate in collaborative conversations about grade-level topics and texts with peers and adults.
- **2.SL.2** – Recount or describe key ideas or details from a text read aloud, information presented orally, or through media
- **2.SL.3** – Ask and answer appropriate questions in response to a speaker in order to clarify comprehension, gather additional information, or deepen understanding of a topic of issue.

Educational Technology

- **K.ET.EL.2.1** – Participate in teacher-led collaboration with peers and experts using video, audio, and text-based resources.
- **K.ET.CT.1.1** – With support, create a model or graph to express possible solutions to a problem.
- **1.ET.EL.2.2** – Students will use instructional videos during learning and collaboration.
- **2.ET.EL.2** – With or without support, students build networks of experts and peers to enhance their learning.

Science

- **K.LS1-1** – Describe patterns of what plants and animals (including humans) need to survive.

Lesson 5: Farm to Table (40 min)

English Language Arts Standards

- **K.SL.1** – Participate in collaborative conversations about grade-level topics and texts with peers and adults in small and larger groups.
- **K.SL.2** – Confirm understanding from a source of information by asking and answering questions about key details and requesting clarification if something is not understood.
- **K.SL.3** – Ask and answer questions in order to seek help, get information, or clarify something that is not understood.
- **1.SL.1** – Participate in collaborative conversations about grade-level topics and texts with peers and adults in small and larger groups.
- **1.SL.2** – Ask and answer questions about key details in a text read aloud, information presented orally, or through other media.
- **1.SL.3** – Ask and answer questions about what a speaker says in order to gather additional information or clarify something that is not understood.
- **2.SL.1** – Participate in collaborative conversations about grade-level topics and texts with peers and adults.
- **2.SL.2** – Recount or describe key ideas or details from a text read aloud, information presented orally, or through media
- **2.SL.3** – Ask and answer appropriate questions in response to a speaker in order to clarify comprehension, gather additional information, or deepen understanding of a topic of issue.

Educational Technology

- **K.ET.EL.2.1** – Participate in teacher-led collaboration with peers and experts using video, audio, and text based resources.
- **1.ET.EL.2.2** – Students will use instructional videos during learning and collaboration.
- **2.ET.EL.2.1** – Collaborate with others using digital tools.

Lesson 6: Explore Dairy Careers and Products (30 min)

English Language Arts Standards

- **K.SL.1** – Participate in collaborative conversations about grade-level topics and texts with peers and adults in small and larger groups.
- **K.SL.2** – Confirm understanding from a source of information by asking and answering questions about key details and requesting clarification if something is not understood.
- **K.SL.3** – Ask and answer questions in order to seek help, get information, or clarify something that is not understood.
- **K.W.8** – With guidance and support provide a response to a question using a combination of drawing, dictating, and writing by recalling information from experiences or gathering information from provided sources.
- **1.SL.1** – Participate in collaborative conversations about grade-level topics and texts with peers and adults in small and larger groups.
- **1.SL.2** – Ask and answer questions about key details in a text read aloud, information presented orally, or through other media.
- **1.SL.3** – Ask and answer questions about what a speaker says in order to gather additional information or clarify something that is not understood.
- **1.W.8** – With guidance and support, use background knowledge and/or information gathered from sources to respond in writing to a question.
- **2.SL.1** – Participate in collaborative conversations about grade-level topics and texts with peers and adults.
- **2.SL.2** – Recount or describe key ideas or details from a text read aloud, information presented orally, or through media
- **2.SL.3** – Ask and answer appropriate questions in response to a speaker in order to clarify comprehension, gather additional information, or deepen understanding of a topic or issue.
- **2.W.8** – Use background knowledge and/or information gathered from sources to respond in writing to a question.

Educational Technology

- **K.ET.EL.2.1** – Participate in teacher-led collaboration with peers and experts using video, audio, and text based resources.
- **1.ET.EL.2.2** – Students will use instructional videos during learning and collaboration.
- **2.ET.EL.2.1** – Collaborate with others using digital tools.

Literature To Explore

Opportunities to explore animal agriculture do not end when the lessons end, so here are some great books to keep the adventure going.

C is for Care. By Amanda Radke

This book covers the A to Z of caring for cattle.

The Calf on My Farm. By Stephanie White

Follow along to learn about what the typical day on a dairy farm looks like.