

Lesson 3: Dairy and Our Environment: Going Round and Round

Lesson Introduction

Dairy farms play a very important role in protecting our environment. Farmers take good care of the land where they live and work. They use environmentally friendly practices on their farms to make sure that the air and water are kept clean and healthy. The lesson will also highlight the career of being a dairy herd manager.

Lesson Objectives

- Students will explain the role that dairy farmers play in protecting our environment.
- Students will name three ways dairy farmers recycle manure on their farms.
- Students will identify two ways consumers can take care of the environment.
- Students will list the skills, education, and responsibilities of being a dairy herd manager.

Time: 45 – 60 minutes

Standards: See the [Discover Dairy website](#) for complete listing by grade level.

Vocabulary

- Crops, dairy herd manager, environment, field, manure, methane, methane digester, nutrients, recycle, and soil

Materials Needed

- Computer
- Lesson Presentation: [PDF](#), [Canva](#)
- Multimedia Projector and Screen
- Activity Sheets
- Writing Prompt
- Internet Access
- [Discover Dairy in Our Environment Video](#)
- [Introducing Cow Pots: A Better Biodegradable Video](#)
- [Dairy Herd Manager Career Spotlight](#)
- Pencils

Activities

- [In Our Environment Video Discussion Guide \(With and Without Word Bank\)](#)
- [Milk Carton Recycling Activity](#)
- [Word Search Puzzle](#)
- [Writing Prompt](#) (Picture and No Picture)
- [Kahoot! Game](#)

Procedure

Introduction (10 minutes)

- Go over the essential vocabulary terms and their meanings for this lesson.
- **Activating Strategy:** Let's discover how dairy farmers recycle water and manure on their farms by watching the video, [Discover Dairy in Our Environment](#).

Going Round and Round (8-15 minutes)

- Introduction
- Discuss the ways dairy farmers recycle manure on their farms using slides 5 to 11 and [Introducing Cow Pots: A Better Biodegradable](#) video.
- Closure: You learned about how dairy farmers recycle manure and take care of the environment on their dairy farms every day. Tell us one way that dairy farmers recycle their cow manure.

Career Spotlight: Dairy Herd Manager (6 minutes)

- Introduction
- Facilitate the Career Spotlight on Dairy Herd Managers. Use the [video](#) and slides 12-17 to discuss the responsibilities and education.
- Closure: Dairy Herd Managers care for both cows and people on dairy farms.
 - Tell us one way that dairy herd managers care for dairy cattle.
 - Are you interested in being a dairy herd manager when you grow up?

Summative Activity (30 minutes)

- Do an introduction using slides 18-19.
- Pass out the Milk Carton Recycling Activity Directions and materials to students. Allow students class time to recycle their milk carton into a bird feeder or seed pot.
- Walk around, offering help and answering questions as needed.
- Go over ways students can recycle things and protect the environment.
- **Lesson Closure:** Today we discussed how dairy farmers recycle things like manure and water on their dairy farm. But we also can recycle here at school and at home. Tell us one way you can take care of the environment like dairy farmers do.

Extension Activities (10-15 minutes)

- Other activities such as the [Word Search Puzzle](#), [Writing Prompt](#), and [Kahoot! Game](#) can be used instead of or in addition to the summative activity.

Career Spotlight

[Dairy Herd Manager](#)

Summative Assessment

Students will recycle a milk carton into a usable bird feeder or seed pot or complete another activity to a mastery level of 80% or better.



Lesson 3 Dairy and Our Environment

Essential Vocabulary & Definitions

Crops: What a farmer plants in a field and grows into food for people and feed for the animals

Dairy Herd Manager: A person who takes care of the cattle on the dairy farm and also the people who work with them

Environment: The surroundings in which a person, plant or animal lives

Field: A piece of land where a farmer plants crops

Manure: Waste made from a cow's body

Methane: A natural energy producing gas

Methane Digester: A machine that pulls the methane out of the manure to make electricity

Nutrients: A substance that helps things grow

Recycle: To use something again

Soil: The top layer of the field where farmers grow crops

Lesson 3: Dairy and Our Environment

Career Spotlight: Dairy Herd Manager

Description

A dairy herd manager oversees the day-to-day operations of the dairy farm that deal with the cattle from calves to adult cows.

Dairy herd managers manage not only the cows but also some of the employees on the dairy farm.

Common Responsibilities

- Taking care of all cattle (calves, heifers, milking cows, and dry cows) on the dairy farm
- Breeding heifers and cows through artificial insemination
- Caring for and treating sick cattle
- Managing the milking operations and procedures
- Developing feeding rations for cattle
- Analyzing data collected from the cattle
- Making decisions using data and business sense
- Overseeing employees working within the supervised areas
- Working with the veterinarian and nutritionist of the dairy farm

Education/Training Requirements

High School Diploma with Apprenticeship or Associate or Bachelor's degree in animal science or livestock management



Name: _____

Date: _____

Lesson 3 Dairy in Our Environment

Writing Prompt

Prompt: Draw a picture to show one way you can protect the environment through recycling. Then write 1 – 2 sentences explaining your job in taking care of our surroundings by using things over again.



Four sets of primary writing lines, each consisting of a solid top line, a dashed middle line, and a solid bottom line.

Name: _____

Date: _____

Lesson 3 Dairy in Our Environment

Writing Prompt

Prompt: Protecting our environment is a team effort. You have a part in taking care of our surroundings by using things over again. Discuss three ways you can protect the environment through recycling.

[illegible]

Name: _____

Date: _____

Lesson 3 Dairy in Our Environment

Writing Prompt

Prompt: Protecting our environment is a team effort. You have a part in taking care of our surroundings by using things over again. Discuss three ways you can protect the environment through recycling.



Name: _____

Date: _____

Discover Dairy in Our Environment Word Search

Directions: Find the following words in the puzzle. Words are hidden →, ↓, and ↘.



Word Bank

CONSERVE
COWS
DAIRY
DIGESTER

ELECTRICITY
ENVIRONMENT
FARMERS
MANURE

METHANE
MILK
RECYCLE
WATER

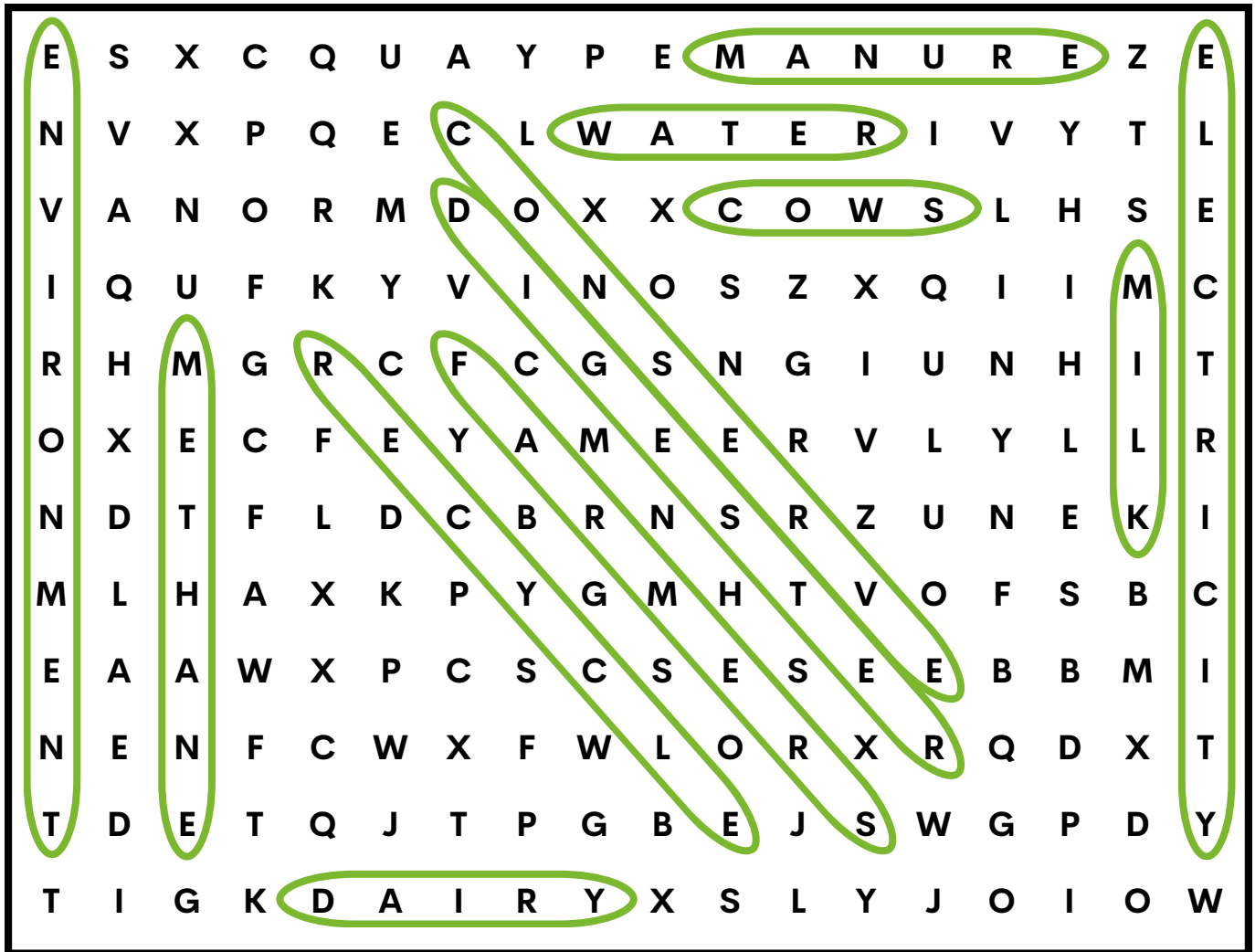


Name: _____

Date: _____

Discover Dairy in Our Environment Word Search

Directions: Find the following words in the puzzle. Words are hidden →, ↓, and ↘.



Word Bank

CONSERVE
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METHANE
MILK
RECYCLE
WATER



Name: _____

Date: _____

Discover Dairy in Our Environment

Video Discussion Guide

Directions: Fill in the blanks as you watch the "Discover Dairy in Our Environment" video.

1. Being a dairy farmer is about taking good care of the _____, _____, and _____.
2. Dairy farmers use water to _____ milkhouses and tank rooms, _____ milk, _____ fields, and for cows to _____.
3. Farmers _____ water which means they reuse the water they have already used.
4. On some farms the water used in the milking parlor is recycled and used to clean the alleys where the cows _____.
5. Cows produce waste from their bodies called _____.
6. Farmers recycle their cow manure by using it as a natural fertilizer to _____ their crops.
7. Some farmers are recycling their cow manure into electricity to _____ their farms and the community.
8. There are many _____ that a farmer must follow to make sure they do the right thing for the environment.
9. People are learning how important it is to recycle things over and over again, especially _____.



Name: _____

Date: _____

Discover Dairy in Our Environment

Video Discussion Guide

Directions: Use the words from the word bank to complete the sentences as you watch the "Discover Dairy in Our Environment" video.

Air **Clean** **Cool** **Drink** **Energy** **Grow** **Land**
Live **Manure** **Power** **Recycle** **Rules** **Water**

1. Being a dairy farmer is about taking good care of the _____, _____, and _____.
2. Dairy farmers use water to _____ milkhouses and tank rooms, _____ milk, _____ fields, and for cows to _____.
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8. There are many _____ that a farmer must follow to make sure they do the right thing for the environment.
9. People are learning how important it is to recycle things over and over again, especially _____.



Name: **ANSWER KEY** _____

Date: _____

Discover Dairy in Our Environment Video Discussion Guide

Directions: Fill in the blanks as you watch the "Discover Dairy in Our Environment" video.

1. Being a dairy farmer is about taking good care of the _____ **land** _____, _____ **water** _____, and _____ **air** _____.
2. Dairy farmers use water to _____ **clean** _____ milkhouses and tank rooms, _____ **cool** _____ milk, _____ **water** _____ fields, and for cows to _____ **drink** _____.
3. Farmers _____ **recycle** _____ water which means they reuse the water they have already used.
4. On some farms the water used in the milking parlor is recycled and used to clean the alleys where the cows _____ **live** _____.
5. Cows produce waste from their bodies called _____ **manure** _____.
6. Farmers recycle their cow manure by using it as a natural fertilizer to _____ **grow** _____ their crops.
7. Some farmers are recycling their cow manure into electricity to _____ **power** _____ their farms and the community.
8. There are many _____ **rules** _____ that a farmer must follow to make sure they do the right thing for the environment.
9. People are learning how important it is to recycle things over and over again, especially _____ **energy** _____.



Lesson 2: Discover Dairy in Our Environment

Milk Carton Recycling Activity

Introduction

Dairy farmers protect the environment by recycling water and manure on their farms. We can also recycle materials we use every day in our schools and homes. One way to recycle these items is to use them again in our art projects.

At school most students get their milk in cardboard milk cartons. In this activity, students will recycle a milk carton into a bird feeder or a seed pot. Students will take their recycled craft home to feed birds or to grow a plant.

Materials Needed

- Clean Cardboard Milk Carton (any size), Paint, Markers, Paint Brushes, Hole Punch, and Scissors
- Bird Feeder: String, Sticks or Twigs, and Bird Seed
- Seed Pot: Soil, Seeds, Popsicle Sticks, and Water

Procedure

Students should complete the following steps to create their milk carton recycling craft.

1. Give each student a clean milk cardboard milk carton.
2. For the bird feeder, cut out a rectangle on the top half of the front panel. For the seed pot, cut the top part of the carton away.
3. Decorate the milk carton with paints and markers. If using paint, let the carton dry.
4. For the bird feeder, use the hole punch to put a hole in the top seam of the carton and thread the string through it to make a hanger. Also, make a hole in the front panel under the hole and put the stick or twig through it and push the stick or twig through the back of the carton for stability. For the seed pot, write the name of the plant on a popsicle stick.
5. For the bird feeder, add birdseed. For the seed pot, fill the carton with soil leaving an inch of room at the top and add the plant stick. Then lightly water the soil and put the seeds on the top of the soil pushing them into the ground. Lastly, put a piece of plastic wrap over the seed pot.
6. The bird feeder can be placed in a tree outside the classroom or at home. The seed pot can be put in a warm and sunny location in the classroom or at home.
7. Extension – chart the types of birds eating birdseed or chart the daily growth of the seeds.