



EPISODE 03 | FROM COW TO CARTON

For the next stop on the food quest, Leo finds himself at Marvo Holsteins - a dairy farm with lots and lots of cows that make nutritious milk • Episode length: 17 minutes • Extension: 10–20 minutes

THE BIG IDEA

Milk comes from a farm system that depends on people, animals, crops, water and careful planning. Dairy farmers use sustainable practices to care for cows, reuse water, grow feed and make sure milk is safely cooled and transported.

LEARNING TARGETS

Students will be able to: (1) describe where milk comes from, (2) explain how crops and other materials can become animal feed, (3) identify ways a dairy farm reuses water, (4) recognize how farmers reduce waste by using materials people cannot eat, (5) explain why water, feed and animal care are important parts of sustainable agriculture, and (6) connect dairy farming practices to the milk they drink.

QUEST VOCABULARY

Dairy • Sustainable Agriculture • Feed • Reuse • Conserve • Transport

BEFORE YOU WATCH | 2 MINUTES

Write: **FARM → MILK**

Ask students: **What does a dairy farm need to produce milk?**

Invite students to make predictions. They may name cows, grass, water, food, farmers, barns, machines or trucks.

Create a class list before watching.

WATCH EPISODE 3: FROM COW TO CARTON | 17 MINUTES

DISCUSS & DISCOVER | 5-10 MINUTES

- Where does milk begin?
- What kinds of feed do the cows eat?
- Why does the farmer grow some of the feed on the farm?
- What are orange rinds and almond hulls, and why can they be useful to cows?
- How is water reused on the dairy farm?
- Why does milk need to be cooled before it is transported?
- What surprised you most about how a dairy farm works?

TAKE THE QUEST FURTHER

MATERIALS & SETUP

Easel paper, pencils, colored markers, challenge cards.

HANDS-ON ACTIVITY | 10-15 MINUTES

Tell students: Your challenge is to work together to design a dairy farm that cares for animals, uses water wisely and reduces waste.

Give each group a sheet of easel paper and ask them to draw a farm map. Their map should include:

- Cows and a place for them to eat and rest
- Crops or other sources of animal feed
- A feed-mixing area
- A water-reuse system
- A place to clean the cows
- A system for cooling milk before transport
- A truck or other way to safely transport the milk

EXTEND THE LEARNING

Provide these challenge cards, or read them aloud:

 **FEED CHALLENGE** | The cows need nutritious feed. Include crops grown on the farm and at least one material that people cannot eat, such as orange rinds or almond hulls.

Ask: **How does using these materials help reduce waste?**

 **WATER CHALLENGE** | The farm uses water more than once. Show how water can help clean or feed the cows, cool the milk, and water crops.

Ask: **Where does the water go next?**

 **ANIMAL CARE CHALLENGE** | The cows need clean, safe and comfortable spaces.

Ask: **What will your farm do to care for the animals?**

 **MILK SAFETY CHALLENGE** | The milk must be cooled and transported safely.

Ask: **Why is cooling the milk important before it travels?**

After groups complete their maps have each group explain one sustainable practice in its design.

Discuss:

- Which resources did your farm use?
- Which resources did your farm reuse?
- How did your farm reduce waste?
- How did your design support the cows?
- What part of the farm system was most important to your group?

Important discovery: A dairy farm is a connected system. Crops, feed, animals, water, milk and people all depend on one another.

TAKE-HOME EXPLORER MISSION



Become a Resource Detective

Look for one example of resource reuse at home, at school or in your community.

It might be:

- A water bottle that is refilled
- Food scraps that become compost
- A container that is used again
- Rainwater collected for plants
- Materials that are recycled or repurposed

Ask: What resource is being reused? How does reusing it help people, animals or the environment?



KEEP EXPLORING

TRUSTED RESOURCES

Inspire curiosity, engage minds, and foster a genuine connection to where food comes from and how it impacts ourselves and communities.

RESOURCE	WEBSITE
<i>Dairy Council of California – Dairy Agricultural Literacy</i>	Farm-to-You: Milk Farm to You: Dairy (CFAITC) Dairy Around the World Activity Sheet Let's Eat Healthy: Explore Dairy Storybook to Teach Students Food Groups and Where Their Food Comes From
<i>California Grows...</i>	https://cdn.agclassroom.org/ca/resources/learn/map.pdf
<i>Dairy Council of California – Explore Nutrition</i>	Explore Nutrition Unit
<i>Dairy Council of California – Let's Eat Healthy Together Video Series</i>	Let's Eat Healthy Together
<i>PBS Learning Media – Renewable Energy: Powered by Poop Exploring Energy</i>	https://ca.pbslearningmedia.org/resource/exploring-energy-powered-by-poop/renewable-energy-powered-by-poop/
<i>Dairy Council of California – Education Professionals Nutrition Science Resources</i>	Education Professionals

