



Lessons presented by
Oklahoma State University
 Ferguson Family Dairy Visitor Center
 With Southwest-Southland Dairy Farmers

Instructor	Jaycie Heath
Grade Level	3-5
Lesson Title	Robotic Milker (In Person, Unscheduled)

TEACHER PREPARATION

Learning Goals & Standards/Performance Indicators	
Learning Goals	Standards
1. Upon completion of this lesson students will be able to identify basic information about how the DeLaval VMS-V300 Robot (robotic milker at the dairy) helps the OSU dairy function.	1. <u>SS: 3.4</u> The student will identify and describe basic economic activities creating prosperity in the state of Oklahoma. 2. <u>SS: 3.4.3</u> Examine how the development of Oklahoma’s major economic activities have contributed to the growth of the state, including, mining and energy industry, agriculture, aviation, tourism, tribal enterprises, and military installations. 3. <u>WG.5</u> The student will analyze agricultural and commercial land use
Resources and Materials	
<input type="checkbox"/> Visuals in the center <input type="checkbox"/> Student tour guides <input type="checkbox"/> DeLaval VMS <input type="checkbox"/> Dairy Herd Manager, Nicole Sanders	
Announcement and Other Preliminaries	
1. Welcome students to the Ferguson Family Dairy, introduce self and what you do for the dairy, etc.	

LESSON DELIVERY

Anticipatory Set

- What do you think of when I say robot?
 - Encourage students to answer and describe what they think of as a robot.
- Why do you think people use robots?
 - Does anyone have a Roomba or shark vacuum at home?
 - There’s even a robot that mows people’s yard for them!
 - Robots help us perform tasks and save time, so we have a new robot here at the dairy that actually helps us milk the cows!

Direct Instruction

1st Learning Goal: Upon completion of this lesson students will be able to identify basic information about how the DeLaval VMS-V300 Robot (robotic milker at the dairy) helps the OSU dairy function.

Content Outline	Instructional Strategies
<p><u>Meet our Robotic Milker!</u> (from Nicole Sanders, Dairy Herd Manager)</p> <ul style="list-style-type: none"> • This is our DeLaval VMS-V300 Robot, it can milk up to 60 cows per day; we have about 55 cows who are entered in the system and can use the robot. • Each cow spends on average about 6 minutes and 30 seconds in the robot and sets her own daily milking schedule. <ul style="list-style-type: none"> ○ This helps keep the cows more comfortable, which means they produce better milk, and they can be milked more often with the robot than by hand. <p><u>Why do we have a robot?</u> (From DeLaval VMS)</p> <ul style="list-style-type: none"> • <i>Direct students to the monitor as it reports data from the cows;</i> As you can see, the robot tells us a lot that we may not be able to know without it. The robot can tell us: <ul style="list-style-type: none"> ○ Milk flow ○ How much milk she gave last time versus this time. ○ How many times she has been milked in the robot. ○ And more, all in real time, and all specific to one cow. • We can see all this information in reports that the robot sends directly to our herd manager, Nicole. This means she can track when cows go into the milker, how often they are being milked, and she can change how many times each cow can be milked based on the cow's individual performance. This means that the robot can be tailored to work the best for each cow. <ul style="list-style-type: none"> ○ Our herd manager gives permission for how many times each cow can be milked a day, and the robot knows 	<ul style="list-style-type: none"> • For this lesson I think it would be best to have students positioned in front of the robot viewing window so they can see cows enter and the statistics on the monitor as the lesson goes on. • Encourage students to ask questions throughout, understanding the robot might be difficult for students this age but it will be important that they can observe the cows using it.

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<p>this. As the cow enters the robot it scans her tag and knows if she has been milked all her times in one day or not. If she doesn't have permission to be milked again the front gate opens and she leaves.</p> <ul style="list-style-type: none"> • Using a robot can also improve cleanliness while milking. <ul style="list-style-type: none"> ○ It prepares each quarter of the udder for milking by using a combination of teat spray for disinfection and the DeLaval PureFlow™ cup for proper cleaning. <ul style="list-style-type: none"> ▪ Once attached, the DeLaval PureFlow™ cup uses a unique combination of air, water and optional DeLaval PureFlow™ cup cleaning additive to clean, stimulate and strip the teat to get ready for milking. • The robot has also provided student workers with the opportunity to gain hands on experience with up-and-coming methods of milking. We can even provide students with the ability to network with members of the industry. This allows students to form relationships with perspective employers. (Nicole Sanders, Dairy Herd Manager) 	
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Learning Activity

- Students should be encouraged to draw and label the robot with a cow in it, the metrics screen, and anything else that helps the students remember the robotic milker.

Assessment

- Questioning:
 - What is one thing the robot does?
 - How does the robot help the dairy?
 - How does the robot help the cows?
 - What do you think is the best part of using the robot?

Closure

Closing Announcements/Reminders

- Answer any questions they may have
- Show them the robot and viewing windows one more time
- Thank students for coming to the Ferguson Family Dairy