



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

<b>Instructor</b>	Jaycie Heath
<b>Grade Level</b>	Pre-K
<b>Lesson Title</b>	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>PK.1.R.1</u> Students will actively listen and speak using agreed-upon rules with guidance and support. 2. <u>PK.1.R.2</u> Students will begin to ask and answer questions about information presented orally or through text or other media with guidance and support. 3. <u>PK.4.R.1</u> Students will acquire new academic, content-specific, grade-level vocabulary and relate new words to prior knowledge with guidance and support. 4. <u>PK.6.R</u> Students will begin to identify pictures, charts, grade-appropriate texts, or people as sources of information on a topic of interest. 5. <u>PK.S.6</u> Engage in investigations based on curiosity and wondering about the physical and natural world.
Resources and Materials	
<input type="checkbox"/> Visuals in the center <input type="checkbox"/> Student tour guides <input type="checkbox"/> <a href="#">DeLaval VMS</a> <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.
  - Did you know that we use robots to help us every day?

- 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**

**1<sup>st</sup> 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"> <li>• This is our DeLaval VMS-V300 Robot, it can milk up to 60 cows; we have about 55 cows who are entered in the system and can use the robot.</li> <li>• 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"> <li>○ 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.</li> </ul> </li> </ul> <p><u>Why do we have a robot?</u> (From DeLaval VMS)</p> <ul style="list-style-type: none"> <li>• <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"> <li>○ Milk flow</li> <li>○ How much milk she gave last time versus this time.</li> <li>○ How many times she has been milked in the robot.</li> <li>○ And more, all in real time.</li> </ul> </li> <li>• We can see all this information in reports that can be sent directly to our herd manager, Nicole. This means she can track when cows go into the milker, how often they are being</li> </ul>	<ul style="list-style-type: none"> <li>• 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.</li> <li>• 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.</li> </ul>

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milked, and she can change how many times each cow can be milked based on her performance.

- Using a robot can also improve cleanliness while milking.
  - It prepares each quarter of the udder for milking by using a combination of teat spray for disinfection the DeLaval PureFlow™ cup for proper cleaning.
    - 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)

**Learning Activity**

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

**Closure**

**Closing Announcements/Reminders**

- Answer any questions they may have.
- Show them the robot and viewing windows, encourage them to make observations and ask questions.
- Thank students for coming to the Ferguson Family Dairy.