## Sustainability of Dairy - Virtual Learning AdaptionTarget Grade Level: 3rd Grade

Full Lesson Plan: <https://www.iowaagliteracy.org/Article/Dairy-Sustainability-and-Science>

This document is meant for you, the teacher, to use to convert the lesson plan into a virtual learning module for your students. You can use the steps outlined below to create different elements of a Google Classroom or other online learning module. You can also send the steps directly to your students in a PDF, present them in a virtual meeting, or plug them into any other virtual learning platform you use. Find more virtual lessons here: [Virtual Learning.](https://www.iowaagliteracy.org/Tools-Resources/Other/Virtual-Learning)

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| Engage | Start by having students create two lists. Pose these two questions: 1) What kinds of things make you comfortable when watching TV or a movie? Think about what you might want to drink, what you might want to eat, what you might want to wear, wear you might want to sit or lay. 2) What kinds of things might make a cow comfortable? Think about what the cow might want to drink, what the cow might want to eat, wear the cow might want to lay, what might keep their temperature comfortable. Have students input their responses to a Google Classroom, Google form, or other shared document. |
| Explore | Have students read the book *My Family’s Dairy Farm*. Instruct them to review the vocabulary in the glossary.  |
| Explain | If cows get too hot or too cold, it will decrease their milk production. Cows have to be comfortable to maximize the amount of milk they will produce. Cows are susceptible to heat stress which might reduce their milk production by up to 50%. Instruct students to watch the video: [Ensuring Cow Comfort Even in the Hottest Months](https://youtu.be/8ZvcT9lfV6I) found at <https://youtu.be/8ZvcT9lfV6I>. |
| Elaborate | Have students review the [Google Slides](https://docs.google.com/presentation/d/1ylAQPfu2JS1nblA7b7JYnbedQ_JviiYS1Q_hiJaO564/edit?usp=sharing) comparing beef cattle and dairy cattle. Pose the following questions: 1) What are the differences between dairy cattle and beef cattle? 2) What are the differences or similarities between milkfat and protein between the Jersey and Holstein breeds? Have students input their responses to a Google Classroom, Google form, or other shared document. |
| Evaluate | Provide the following writing prompts and have students input their responses to a Google Classroom, Google form, or other shared document.* Dairy cattle are different than beef cattle. Using the information learned, write a story about all the ways that dairy cattle are different from beef cattle.
* Dairy cattle need to be well cared for to be comfortable so they can produce the most milk. Write a story about all of the things that you would do to keep your cows comfortable if you were a farmer.
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