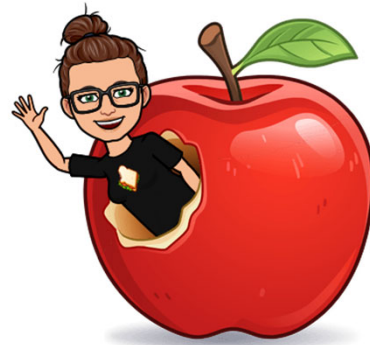


# Oregon Grown

Klamath County Extension

With...Mrs. Paolina!



Hello Students! Welcome to the Oregon Grown classroom with Mrs. Paolina. Here we get learn all about Oregon grown foods and healthy ways we can eat them!

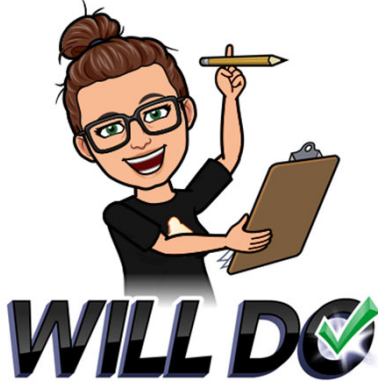
**\*\*\*TEACHER NOTE:**

Key Message: Students will discover how the process of milk involves energy transfer from the sun to dairy cows and , finally to the consumer. And how when we eat products made from milk; we receive energy that originally came from the sun.

This lesson meets Oregon state Standards: NGSS 2-PS1-1, CCSS:R12., W.2.7, W2.8, Social Sciences:K.1, Mathematics: K.MD

Length: 10 minutes and 13 seconds without pauses for the activity and discussion. Total of approximately 45 - 60 minutes with activity and discussion pauses.

# Sun, Cow, Milk



- Book: What's for Lunch? Milk
- Energy transfer
- Bookmark Activity
- Fun facts and Try it!



Today Lesson is all about dairy!

First, we will talk about a book called: What's for lunch? Milk

Next, we will talk about energy transfer in milk production

Then, a fun activity where we get to make our very own bookmark.

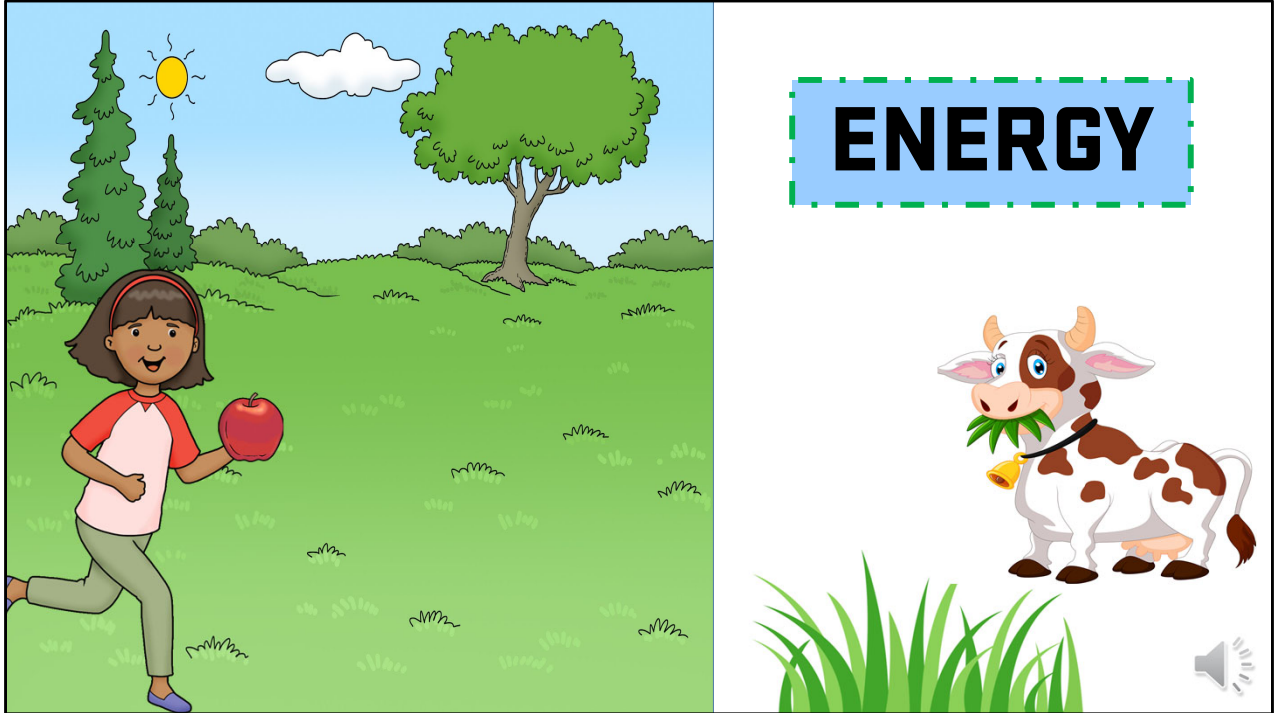
Finally, we will end our lesson with fun facts and a recipe you can try at home!

**\*\*\* TEACHER NOTE:** Up next I will mention the book, asking the students if they read it.



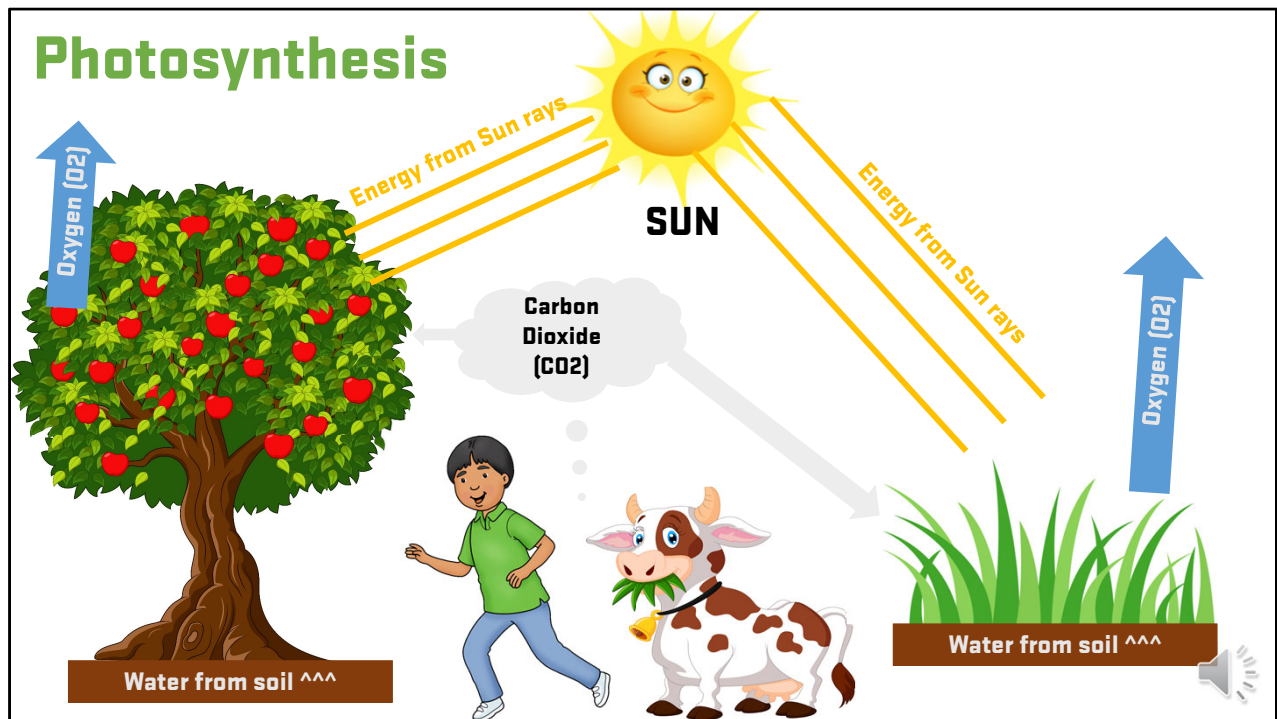
Here it is! What's for Lunch? Milk is an interesting book that teaches about the journey of milk from the cow all the way to the store  
Have you read this book? If not, that's okay. Let's stop here and read it! If you have already read this book, let's keep on learning!

**\*\*\*TEACHERS NOTE:** You can check this book and/or lesson kit out by contacting your Klamath County's extension office's SNAP-Ed program. The books can be delivered with or without your classroom kit prior to the lesson date. An OSU educator will set up a time to pick up the book and/or lesson kit after the lesson date. Please pause here to read the book to students. If you have already read the book, move on to the next slide for discussion.



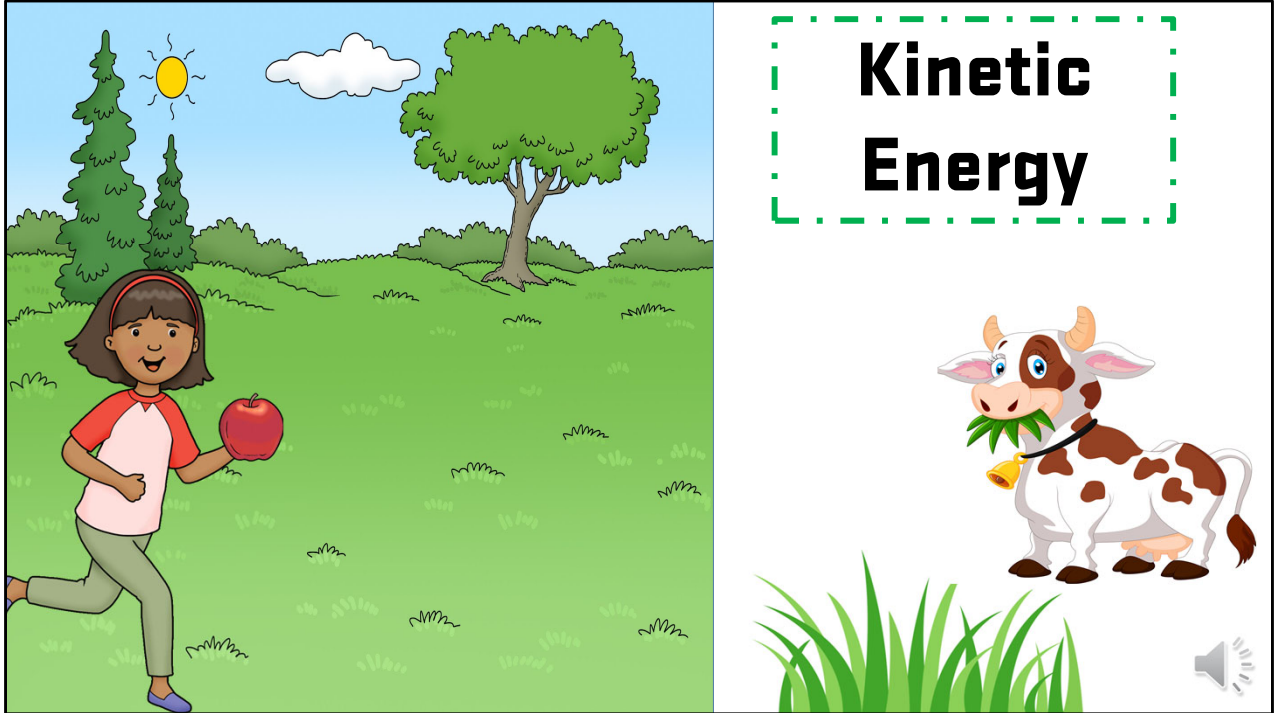
Did you know we all use energy? Humans and animals both get their energy from nutrients made by plants. Nutrients from the plant provide humans and animals with what their bodies need to grow and stay healthy. Humans and or dairy cows both receive energy from plants in the form of fruits, vegetables or grains. Look at our friend in the picture, Emma. Emma just ate an apple. Emma is now using the energy from the nutrients in that apple to help her run! I would also like you to meet Myrtle, the dairy cow. Myrtle is grazing on the grass from the pasture. Myrtle is using the energy from the nutrients in the grass to make milk! Just like you saw in the book! Let's take a look at how plants get those nutrients.

**\*\*\*TEACHER NOTE:** Please feel free to stop here and answer any questions students may have.



For plants like grass or apple trees to create nutrients they must go through a process called Photosynthesis. Say that word with me. Photo-syn-the-sis. NICE! Photosynthesis is the process by which plants use sunlight to synthesize (create) foods from carbon dioxide and water. The plants absorb the sun's radiant energy and create it into chemical energy that is stored in the plant. The carbon dioxide the plants take in is what humans and animals' breath out. The water the plants use comes from the soil. Photosynthesis in plants normally requires the green pigment chlorophyll (the stuff that makes our plants green) and creates oxygen during the process. Oxygen is part of the air we breath, all humans and animals need this to live. Photosynthesis is how grass and plants grow and prepare for animals and humans to eat. Let's see what the humans and animals can do with the energy they get from eating the plants. Remember plants that we eat come in the form of fruits, vegetables or grains

**\*\*\*TEACHER NOTE:** Feel free to pause and review if needed. Up next we will discuss kinetic energy.



Let's talk about Kinetic energy. Emma uses the chemical energy stored in this apple to move when she runs and plays. Myrtle uses the kinetic energy stored in this grass hay to continue chewing her food and digesting it to produce milk. The movement of Emma playing and Myrtle chewing is called Kinetic energy, also known as physical energy. Our bodies rely on Kinetic Energy (energy our body uses to move) to do work, have fun and accomplish tasks.

Let's see how Myrtle the dairy cow uses the energy she gets from the grass in our next activity!

**\*\*\*TEACHER NOTE:** Please feel free to stop here and answer any questions students may have. Or discuss the importance of energy in our everyday lives.

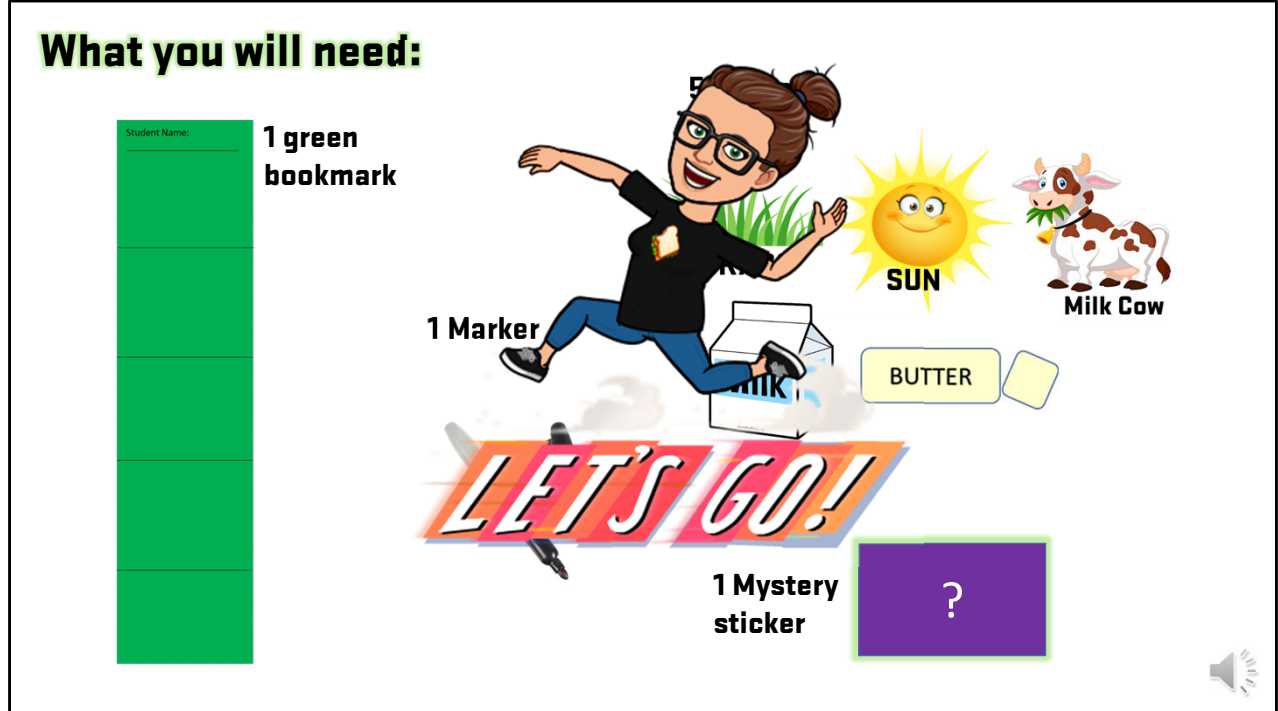


### ACTIVITY INTRO PAGE

Let's build our very own Energy Transfer bookmark! This way you will always remember the energy it took to get dairy products from the sun to you!

**\*\*\*TEACHER NOTE:** You can request to check out a lesson activity kit from Klamath County OSU extension office. If you have not received a kit. Pause here and please see the printable alternate activity kit materials and video on this lesson's webpage. You can watch the video and complete the activity using a blank piece of paper or print out the alternate activity page and use it to follow along with the video. Check out the Alternate activity section of Supporting Lesson Materials on this lessons webpage.

## What you will need:



What you will need:

1 green bookmark

1 marker

5 stickers – you should have grass, sun, milk cow, milk and butter.

And last but not least, 1 mystery sticker – This is just for fun sticker for you to place on the back of your bookmark or take home. Everyone may have the same one or a different one for every person. Just make sure it doesn't end up somewhere it shouldn't.

Ready? Let's go!

**\*\*\*Teacher Note: \*\*\*TEACHER NOTE:** Pause here to ensure everyone has all materials and an adult present to complete activity. You can write the students name on their bookmark before handing them out if you would like. There will be only one included in the class kit.

\*If you have not received a kit, please see the printable alternate activity kit materials on the lesson webpage. You can also have the students write the order on a piece of paper as we move through the activity, saving the drawing and coloring for at home or later in class.



Student Name:  
Mrs. Paolina

The diagram illustrates the energy flow in the dairy process. It starts with the Sun (SUN) providing energy to Grass (GRASS). The energy then flows to a Milk Cow, which produces Milk (Milk). Finally, the energy from the Milk is used to produce Butter (BUTTER). A large 'AWESOME!' sticker is placed in the center of the diagram. On the left, there is a green bookmark with five empty boxes for students to place stickers. A speaker icon is located in the bottom right corner of the diagram.

First, please use your marker to write your name on the bookmark. We are going to place our stickers on the top of our bookmark in the order of how energy transfers in the process of creating milk and other dairy products. Please do not peel your stickers off until you hear me tell you to. I know stickers are fun but, it is important we put them in the right place. Now, where do you think our energy first comes from? The Grass? Or the Sun? You got it the sun! The sun provides energy for the plants through sun rays (radiant energy). Place your sun sticker in the first box. What absorbs the energy from the sun? Butter? Grass? Yes! Grass absorbs the energy from the sun to start photosynthesis and store energy. Please place your grass sticker on the next spot. Which one do you think is next? Who eats the grass to get energy to produce milk? The Milk Cow also known as a dairy cow. Please place your cow sticker on the next spot on your bookmark. Next the energy from the grass that the dairy cow ate is used to produce what? Milk or butter? Well look at you smarty britches, you got it, the milk! Part of the energy stored in the grass makes it to the milk. This is why we drink milk to get the energy and nutrients it provides. Please place your milk sticker on the next spot on your bookmark. For our last one, what can we make out of milk? BUTTER! Please place your butter sticker in the last spot on your bookmark. Did you know humans can use kinetic energy to shake cream that comes from milk to make butter! There are other dairy products we can make with milk like, cheese and yogurt. What do you think happens when we eat the dairy products? You got it we get the energy and nutrients!

AWESOME job!

**\*\*\*TEACHER NOTE:** Pause here to discuss different physical activities students like to do. Ask students how would they feel if they did a physical activity and had not had anything to eat.

**7 gallons of milk per day**

**FARMER FUN FACT**

Legend

Oregon's Agricultural Regions

- Coast
- Willamette Valley
- Southern Oregon
- High Desert
- Mid-Columbia
- Columbia Plateau
- Northwest
- Southwest

Apples, Beans, Beef, Blueberries, Broccoli, Cherries, Chicken Eggs, Christmas Trees, Cranberries, Raspberries, Sapples

Malheur

Oregon Agriculture in the Classroom Foundation • oregonaitc.org

Don't forget our FARMER FUN FACT!!

Did you know there are 7 counties in Oregon that have dairy farms full of cows! Milk produced in Tillamook and Coos counties on the Oregon Coast are used to produce cheese. The other top dairy producing counties in Oregon are: Yamhill, Polk, Lane, Morrow, Malheur and Klamath County. That is where we live! I guess that is why milk is Oregon's official state beverage.

Let's checkout this Milk Math – One dairy cow can produce around 7 gallons of milk a day. That comes out to about 112 school milk cartons per cow, per day!

# Try It! Ranch Dip

## Ingredients

- 1 cup low-fat cottage cheese
- 1 cup low-fat plain yogurt, depending on thickness desired
- ½ teaspoon salt
- ¼ teaspoon pepper
- ½ teaspoon garlic powder or 2 cloves garlic, minced
- ½ teaspoon onion powder
- 2 sprigs of parsley, chopped or 1 teaspoon dried parsley flakes

## Directions

- For a **chunky dip**, mix cottage cheese, yogurt and seasonings of your choice in a bowl.
- For a **smoother dip**, mash cottage cheese with a fork before adding yogurt and seasonings.
- For a **smooth dip**, blend all ingredients in a blender.
- Refrigerate leftovers within 2 hours.



Now for our recipe, Let's see if you want to try it!

Today's recipe is a delicious Ranch Dip that goes great with fresh veggies!

This recipe has two different cottage cheese and plain yogurt!

**\*\*\*TEACHER NOTE:** If you have not already received the recipe handout. You can find a printable version on our website located on this lesson webpage under supporting materials.

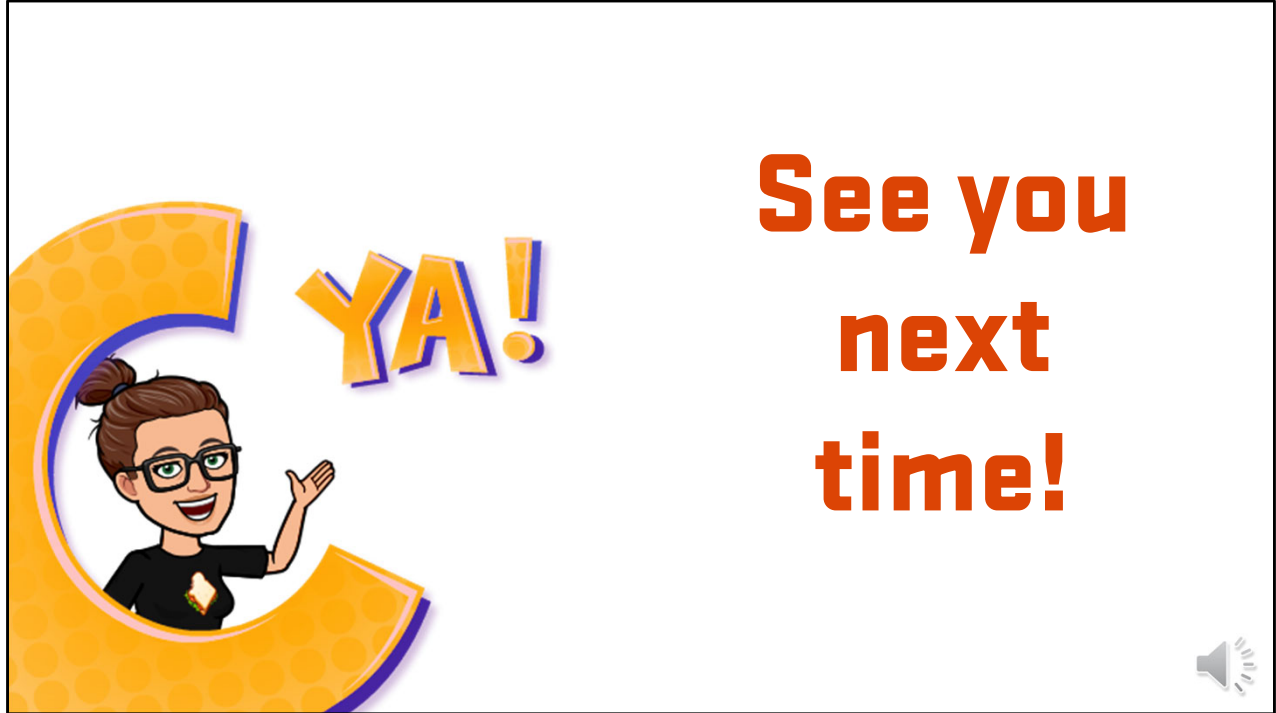
# MyPlate Fun Facts!

**CALCIUM + Movement = STRONG BONES**

Choose **MyPlate**.gov

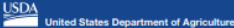

## FUN FACT - MYPLATE

Milk belongs to the dairy group, along with other foods made from milk such as yogurt, and cheese. Milk has a healthy nutrient called calcium. Foods that keep the calcium after being made from milk belong to the dairy group. Foods made from milk that lose the calcium such as cream cheese, cream and butter are not part of the dairy group. Calcium is important in our bone health! It helps our bones stay strong and healthy. If we combine our calcium with movement (kinetic energy) our bones will continue to grow strong! Movement + Calcium from dairy foods = STRONG BONES!



That is the end of our lesson today. Thank you for learning with me in our online Oregon Grown classroom! See you next time!

**\*\*\*TEACHER NOTE:** Please ensure students complete exit quiz after lesson on our website after lesson. This is how we are collecting data on how many students we are reaching and their understanding. It is a simple couple questions, like exit ticket for your lessons.

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To file a program discrimination complaint, a complainant should complete a Form AD-3027, USDA Program Discrimination Complaint Form, which can be obtained online at [www.usda.gov/sites/default/files/documents/usda-program-discrimination-complaint-form.pdf](http://www.usda.gov/sites/default/files/documents/usda-program-discrimination-complaint-form.pdf), from any USDA office, by calling (866) 632-9992, or by writing a letter addressed to USDA.

The letter must contain the complainant's name, address, telephone number and a written description of the alleged discriminatory action in sufficient detail to inform the Assistant Secretary for Civil Rights (ASCR) about the nature and date of an alleged civil rights violation. The completed AD-3027 form or letter must be submitted to USDA by:

**mail:**  
U.S. Department of Agriculture  
Office of the Assistant Secretary for Civil Rights  
1400 Independence Avenue, SW  
Washington, D.C. 20250-9410; or

**fax:**  
(833) 256-1665 or (202) 690-7442;

**email:**  
[program.intake@usda.gov](mailto:program.intake@usda.gov).

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**correo postal:**  
U.S. Department of Agriculture  
Office of the Assistant Secretary for Civil Rights  
1400 Independence Avenue, SW  
Washington, D.C. 20250-9410; o'

**fax:**  
(833) 256-1665 o' (202) 690-7442;

**correo electrónico:**  
[program.intake@usda.gov](mailto:program.intake@usda.gov).

Esta institución ofrece igualdad de oportunidades.

Form AD-475-S SNAP and FOPIR Poster Revised September 2019 Afiche del Formulario AD-475-S SNAP y FOPIR / Revisado Septiembre 2019

**\*\*\*TEACHER NOTE:** If program delivered in a non-school setting, you must read the script below

Oregon State University's Klamath County Extension Service would like to take a moment to share with you the And Justice For All poster, something we display when we are teaching. It provides non-discrimination information stating that our institution is prohibited from discriminating in accordance with civil rights regulations and policies. For more information see this link -> <https://www.fns.usda.gov/cr/and-justice-all-posters-guidance-and-translations>  
This program is partially funded USDA's Supplemental Nutrition Assistance Program.

## Credits Slide (1 of 1)



**Oregon State University**  
Extension Service



Project funded, in part, by Oregon Department of Ed Farm to School & School Garden Grant

This material was funded by USDA's Supplemental Nutrition Assistance Program - SNAP. For information on nutrition assistance through Oregon SNAP, contact Oregon SafeNet at 211. USDA is an equal opportunity provider and employer. Oregon State University, Oregon State University Extension Service is an Equal Opportunity Provider and Employer.

Photos Source: FoodHero.org & Shutterstock (Invoice available upon request).

Farmer fun facts by: Oregon dairy council & <https://www.oregon.gov/ode/students-and-family/childnutrition/F2S/Pages/OregonHarvestforSchools.aspx>

Activity Source: Oregon Agriculture in the Classroom Foundation



Oregon Agriculture in the  
Classroom Foundation

