

girl scouts
of oregon
& sw washington



Developed in partnership with
the Tillamook County Creamery
Association and the Oregon Dairy
and Nutrition Council.



GSOSW Oregon Dairy Patch

Milk is a fascinating food. It can be transformed into so many different things, such as cheese, butter, yogurt, and ice cream. Here in Oregon, milk is the official state beverage and Oregon dairy farmers produce some of the finest quality milk in the nation. When you've completed this patch, you'll know where milk comes from, how it is processed, how dairy can play a role in our nutrition and what careers are possible in the wide world of dairy. Plus, you'll try some yourself!

Steps

1. Visit a dairy farm.
2. Learn how milk gets made into dairy products.
3. Explore dairy nutrition.
4. Discover dairy careers.
5. Taste test!



Purpose

When I've earned this patch, I'll know all about dairy in Oregon.

Oregon Dairy by the Numbers

There are more than **200** dairy farms and about **126,000** dairy cows in Oregon.

In Oregon, there are **six** major dairy cow breeds: Holsteins, Jerseys, Guernseys, Ayrshires, Brown Swiss and Milking Shorthorns.

The typical dairy has **350-400** milking cows, each producing on average **65 pounds** of milk a day.

Oregon dairy farms produce roughly **2.6 billion pounds** of milk each year.

Holstein



The GSOSW Oregon Dairy Patch features two cow breeds!

Jersey

Every step has at least two choices. Do ONE to complete each step.
Inspired?
Do more!

STEP

1

Visit a Dairy Farm

Where does milk come from? It all starts on the dairy farm, with the dairy farmer. Dairy farming is hard work! Every morning, dairy farmers rise before the sun and head to the barn to milk their cows - which can happen 2-3 times a day. Dairy farmers also feed, clean and care for their farm, their cows and their families.

CHOICES - DO ONE:



Visit a dairy farmer. Ask for a tour of the dairy farm, including the milking parlor, newborn calf facility, maternity facility, manure handling facility, adult cow housing, heifer housing, and renewable energy systems (if they have them). Need help finding a dairy that will offer tours? Go to www.odncouncil.org/oregon-dairy-farm-tours. What questions do you have for a dairy farmer?

With this choice, Girl Scout Seniors can complete a step toward earning their Voice for Animals badge!

OR



Read a book or watch a video about dairy farming. Choose from this list or find one of your own.

- "Allison Investigates: Does Chocolate Milk Come From Brown Cows?" by Colette Nicoletta.
- "Jobs on a Farm," by Nancy Dickmann.
- "The Milk Makers," by Gail Gibbons.
- "Milk: From Cow to Carton," by Alikei Brandenburg.
- Take a virtual field trip with Discovery Education! www.discoverundeniablydairy.com

STEP

2 Learn How Milk Gets Made Into Dairy Products

How does milk get made into dairy products like cheese and butter? Explore a factory and follow the cheese-making process from start to finish. Then try it at home!

CHOICES – DO ONE:

- Visit a cheese or dairy product factory and get a guided tour.** For example, at the Tillamook County Creamery Association, milk is received and tested. Then it starts the journey toward becoming a dairy product! See if you can learn about and understand terms and concepts like pasteurization, enzymes, lactose, curds and whey by the time you finish the tour!

OR 

- Make a dairy product at home.** Pick one – cheese, ice cream or butter. You can find recipes online, at the library or at a local kitchen store.
- Make and share with your friends and family!
 - Reflect. What did you learn about the process? What was the most challenging step? What would you improve the next time?

Check out this book! “How to Make Cheese: Complete beginner’s guide to cheese making at home,” by Albert Pino.



Tillamook operates production facilities in Tillamook and Boardman, Oregon. The Tillamook County Creamery Association is the largest tourist attraction on the Oregon coast.

Dairy Products

SOMETHING YOU CAN EAT, MADE FROM MILK

Butter
Buttermilk
Cheese
Cottage Cheese
Cream Cheese
Ice Cream
Sour Cream
Yogurt/Greek Yogurt
Kefir

ICE CREAM IN A BAG

Ingredients

1 cup half-and-half
2 tablespoons sugar
1/2 teaspoon pure vanilla extract
3 cups ice
1/3 cup kosher salt
Toppings of your choice

Directions

1. In a small plastic bag, combine half-and-half, sugar and vanilla. Carefully push out excess air and seal.
2. Into a larger plastic bag, combine ice and salt.
3. Place small bag inside the bigger bag and shake vigorously, 7 to 10 minutes, until ice cream has hardened.
4. Remove from bag and enjoy with your favorite ice cream toppings!

Nutrition Definitions

A nutrition label tells us basic information about what is in a product, like serving sizes, calories, and nutrients.

A **serving** is the amount of food you would eat at one time.

A **calorie** is a unit of energy—energy we need to move, think and play.

Nutrients are the things that give us the support we need to live and grow.

An **ingredient statement** is a list of ingredients in a product, listed from largest amount to smallest.

Take a look at the ingredient statement below. Which ingredient is present in the largest amount in this dairy product?

Nutrition Facts			
Amount/Serving	%DV*	Amount/Serving	%DV*
Total Fat 9g	14%	Total Carb. 0g	0%
Sat. Fat 6g	30%	Fiber 0g	0%
Trans Fat 0g		Sugars 0g	
Cholest. 25mg	9%	Protein 7g	
Sodium 170mg	7%		

Serv. Size 1 oz (28g about 1 in. cube)
Servings 16
Calories 110
Fat Cal. 80

*Percent Daily Values (DV) are based on a 2,000 calorie diet
Vitamin A 6% • Vitamin C 0% • Calcium 20% • Iron 2%

STEP 3 Explore Dairy Nutrition

Dairy products contain nutrients that your body needs to grow and be healthy. Learn how to read a nutrition label, identify ingredients and make healthy choices about what foods you eat.

CHOICES – DO ONE:

Decode the nutrition label on a dairy product.

Pick a dairy product and find the following:

- How many servings are in this food?
- How many calories in each serving?
- What nutrients are in this food?
- What else can you learn about this dairy product from the nutrition label?
- Tell a friend or family member.

With this choice, Girl Scout Juniors can complete a step toward earning their Staying Fit badge!

OR

Find the dairy. Look through one of the school lunch menus at your school and find the dairy foods. Open your refrigerator and make a list of every food that is made from dairy. Which one is your favorite?

OR

Learn what nutritional benefits are in dairy foods. Dairy contains protein and calcium

(and other nutrients) that your body needs to grow and be healthy. Protein and calcium help build strong bones, teeth and muscles. What other nutrients do you see on the nutrition label on a dairy product? What benefits do they have?

STEP 4 Discover Dairy Careers

Being a dairy farmer is not the only way to have a dairy career. There are people who work office jobs in dairy or dairy-related businesses, others who take care of the animals' health, still others who deliver dairy products to you and teach you about it.

CHOICES – DO ONE:

- Educate yourself! Learn about dairy careers.** Check out the list of careers in the dairy world on the next page. Can you learn more about three of the careers that are not already described? Which ones are the most interesting to you? Find out what roles these different professionals play in the dairy industry.

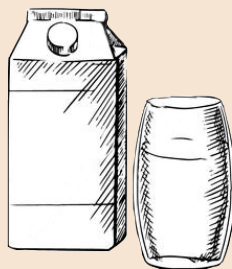
OR //

- Interview someone in a dairy career.** Invite a dairy professional to visit your group and tell you about their job. Or, visit a dairy professional at their place of work.

With this choice, Girl Scout Seniors can complete a step toward earning their Locavore badge!

OR //

- Imagine yourself in a dairy career.**
- Make a video describing your job.
 - Draw a picture of yourself as a dairy professional.
 - Craft an “elevator pitch,” a short speech telling someone else what your dairy job is.



Back to the Beginning

The idea of altering milk to make dairy products began when people were trying to figure out how to store their milk for the winter or in the heat. Cheese and butter store better and longer than milk! The people who lived in the grasslands of the Sahara were making dairy products back in 4,000 B.C. Evidence of ancient cheese-making has also been found in China, Greece, the Middle East, and Europe.

ALL ABOUT CHEESE

Cheese can be soft, firm, or hard. Cheese can be made from different kinds of milk: cow, goat, sheep, and even buffalo! Cheese can be buttery, flaky, creamy, crumbly, smooth, spreadable, and chewy. Cheese can be blue, yellow, white, orange, red, or green!

Next time you're at the grocery store, look for cheeses with different textures, milks, and colors.

Dairy Careers

DAIRY PRODUCER

A dairy producer, also known as a dairy farmer, manages the dairy farm as a whole. To be successful they must oversee the production of high-quality milk, great care of both the animals and the land, and manage their money well.

HERDSPERSON

A herds person is responsible for making decisions regarding the entire dairy herd and caring for the animals in order to produce the highest-quality and quantity of milk, while maintaining excellent animal welfare.

VETERINARIAN

Veterinarians maintain the health and well-being of individual animals by providing specialized care when needed, while working with their clients to maintain the herd's health and maximize its productivity.

MORE DAIRY CAREERS

Crop Specialist/Agronomist

Agricultural Economist

Agricultural Educator

Agricultural Equipment Technician

Cattle Reproductive Advisor

Lobbyist

Dairy Plant Manager

Nutritionist

Milk Hauler or Truck Driver

Food Scientist

Lab Technician

Manufacturing Labor

Cheesemaker

Dairy Category Manager

Regulatory Affairs

Research and Development (R&D)

Sensory Scientist

Packaging Engineer

Supply Chain/Logistics

Food Marketing

Agricultural and Food Communications

Dairy Advocacy and Promotion

Dietitian

Cheesemonger

STEP 5 Taste Test

Now that you've learned all about milk and dairy products, it's time to taste test!

CHOICES – DO ONE:

- Share your favorite dairy food with a friend.** Grab your favorite ice cream, cheese, yogurt or other dairy food and enjoy it with a friend. What new dairy facts have you learned that you can share?

With this choice, Girl Scout Brownies can complete a step toward earning their Snacks badge!

OR 

- Try something new!** Is there a type of cheese that you've never tried before? Have you tasted cottage cheese? How about kefir? What do you think? Would you recommend it to a friend?

OR 

- Explore lactose-free options.** Not everyone can digest dairy easily. Some people are lactose-intolerant, meaning their bodies can't process the sugars in milk. Others have a milk allergy, which causes a reaction to the protein in milk. Someone who is lactose-intolerant may still be able to enjoy lactose-free dairy products. Learn what lactose-free products are and try one! Are there lactose-free dairy foods at your grocery store?

Environmental Stewardship

Did you know cows have a digestive system that is different than humans? They are what we call a ruminant animal; they chew the cud that they regurgitate from one of their stomachs, the rumen. This, along with help from bacteria, allows cows to eat certain foods that humans cannot. In fact, parts of their feed— like corn cobs, corn husks, and cottonseed— would end up in landfills if cows didn't munch on them. Even though we cannot eat these foods, rest assured, they are still very nutritious for the cows. Think of it as recycling — everyone wins! Animal nutritionists work with farmers to determine the right mix of ingredients so that cows stay healthy and produce high-quality milk. Here are some of the nutritious foods that cows eat:

- Corn silage (including cannery corn waste)
- Hay and grass silage (fermented grass)
- Canola meal (leftover after canola oil is pressed out)
- Vegetable processing waste or byproducts (like potato peels from french fries!)

When you add all these ingredients into a daily mixed ration, cows eat about 97.5 pounds a day!

Bonus Questions

LEARN EVEN MORE ABOUT DAIRY!

Dairy Processing Terms

Learn the definitions for these words. What role do they play in dairy processing?

Pasteurization: _____

Enzymes: _____

Lactose: _____

Curds: _____

Whey: _____
