

Let's Eat Healthy

TOGETHER

Explore Dairy!

9th - 12th
Grade

NUTRITION PRIMER

The Nutrition Primer provides background information that educators may find useful before teaching a lesson.

Lesson 1

- **California's Diverse Agriculture.** California is the leading agricultural state in the United States, producing more than 400 commodities at farms in all 58 counties. California produces 50% of US-grown fruits, vegetables, and nuts, plus nearly 20% of the nation's supply of milk. California is the top milk producer in the country.
- **Sustainable Farming Innovations.** Compared to 70 years ago, California dairies use 90% less land, use 65% less water, and have a 63% smaller carbon footprint. Dairy innovations include methane digesters to turn manure into bioenergy, effective water recycling methods, and more.
- **California Dairy Farmers as Sustainability Advocates.** California's dairy farm families are recognized worldwide for sustainable farming practices. Significant progress has been made to reduce dairy's environmental footprint through improved cow nutrition, care, and comfort, as well as advanced farming practices to conserve water and energy and to protect land.
- **Sustainable Nutrition.** Food systems, which include everything from producing and packaging to marketing and disposing of food, directly impact the health of people, animals, and the planet. To achieve a sustainable food system, it is essential to ensure wholesome, nutrient-dense foods are accessible, affordable, and culturally relevant while also preserving environmental resources and supporting local communities.

Lesson 2

- **Dairy Foods.** Dairy foods include milk and foods made from milk like yogurt and cheese. Around the world, milk and dairy foods are most commonly from cows' milk. It is also common to find milk from goats, buffalo, and sheep.
- **California Milk.** California's standards for milk are higher than those of the US Food and Drug Administration. This means that milk produced in California includes non-fat milk solids in fat free and low-fat milk, which adds additional high-quality milk protein and minerals such as calcium. The addition provides both nutritional value and a creamier mouthfeel for milks with lower fat content.

Tasting Activity: Three Cheers for Cheese!

- Natural **cheese** is made from 4 basic ingredients: milk, salt, "good" bacteria, and rennet, which helps separate the liquid (whey) from the solids (curds).
- Cheese contains similar nutrients to milk, including protein (which is an essential building block for muscles) and calcium (which is an essential building block for bones and teeth).
- Fun fact: Research shows that cheese **helps prevent dental cavities**.

Varieties of Cheese

Hard Aged Cheeses

Parmigiano Reggiano, Gouda and other hard cheeses have typically been matured longer (and therefore contain less moisture). They're drier, crumbly and strong flavored.

Soft and SemiSoft Cheeses

Creamy Brie and Camembert are aged from the outside in, so they develop a thick rind.

Medium Cheeses

Some of the most popular types are cheddar, Swiss and Gruyere. Swiss varieties get an extra bacterium in processing that gives them their "eyes."

Fresh Young Cheeses

Some require no aging: ricotta, cottage, chevre, queso fresco and the everpopular mozzarella.

Processed Cheeses

Made with traditional cheese and emulsifying salts, these long-lasting cheeses can be sold in pre-wrapped slices, partyready balls and more.



For more information and additional resources, visit HealthyEating.org/ExploreDairyGuide.

This program aligns with the Dietary Guidelines for Americans. It is one of many nutrition education resources offered by Dairy Council of California for students and adults to improve eating patterns. For more information and additional resources, visit HealthyEating.org.



Dairy Council of California®

©2023 Dairy Council of California | TEDHS

Let's Eat Healthy

TOGETHER

Explore Dairy!

9th - 12th
Grade

Lesson 3

- **Fermentation and Probiotics.** More evidence is showing how the food and beverages people consume feed the microbes in the gut, which then create health-promoting effects such as regulating immunity and reducing inflammation. Dairy foods such as yogurt and certain cheeses contain probiotics, small microorganisms that may have a positive impact on gut health beyond fundamental nutrition and may help reduce disease risk.
- **Food Culture and Foodways.** The foods people like to eat are shaped by family, friends, culture, and community. Many cultures eat a variety of foods—including dairy, vegetables, fruits, grains, and protein—in different ways. Dairy foods have contributed to healthy eating patterns and family traditions for generations.
- **Shared Meals.** Food experiences like preparing and enjoying meals together create connection. Sharing mealtime together supports health, nutrition, social and emotional skills, and academic success. **Lactose Intolerance.** Lactose is a natural sugar found in milk and dairy foods. Lactose intolerance varies widely between regions and ethnic groups around the world. Many people who have lactose intolerance can still enjoy 3 daily servings of dairy by choosing lactose-free milk, yogurt with live cultures, or cheese, which often contains lower lactose levels than milk.
- **Lactose Intolerance.** Lactose is a natural sugar found in milk and dairy foods. Lactose intolerance varies widely between regions and ethnic groups around the world. Many people who have lactose intolerance can still enjoy 3 daily servings of dairy by choosing lactose-free milk, yogurt with live cultures, or cheese, which often contains lower lactose levels than milk.
- **Nutrition Security** is having consistent and equitable access to healthy, safe, culturally relevant, and affordable foods. To support inclusive conversations about food, consider referencing the school meal program, which provides nutrient-rich meals to children in California public schools at no cost.

Tasting Activity: Yogurt, Culture on a Spoon

- **Yogurt** is a cultured milk product, meaning it has been soured and thickened by lactic acid-producing cultures.
- Eating a variety of probiotic-rich dairy foods like yogurt as part of a healthy eating pattern can enhance the good bacteria in the gut, improve health, and reduce disease risk, while also providing important vitamins, minerals, and protein.
- Yogurt is naturally low-lactose thanks to the fermentation process. That makes yogurt a better option for people with lactose intolerance.

Varieties of Yogurt

Swiss-style or Custard
Yogurt that has fruit or other flavorings stirred in. The result is a smooth and sweet treat that resembles custard.
Tartness:
MILD

European-style or Stirred Made in large quantities and then stirred for a creamy texture.
Tartness:
MILD to MEDIUM

Greek-style or Strained
Yogurt with ultra-thick texture from being strained three times, removing most of the liquid (called whey). This process also makes it higher in protein and lower in sugar.
Tartness:
MEDIUM

Balkan-style or Set-style
The classic yogurt most familiar to Americans. It is made in individual cups, creating a thick texture.
Tartness:
MEDIUM to STRONG

Indian-style or Dahi
Full-fat yogurt traditionally made from water buffalo, but also available from dairy milk. The incubation process is longer, resulting in more sourness.
Tartness:
STRONG



For more information and additional resources, visit HealthyEating.org/ExploreDairyGuide.

This program aligns with the Dietary Guidelines for Americans. It is one of many nutrition education resources offered by Dairy Council of California for students and adults to improve eating patterns. For more information and additional resources, visit HealthyEating.org.



Dairy Council of California®

©2023 Dairy Council of California | TEDHS

Let's Eat Healthy

TOGETHER

Explore Dairy!



Lesson 4

- **MyPlate.** The US Department of Agriculture's MyPlate icon is a tool for remembering that a variety of nutrient-rich food and beverage choices from 5 food groups make up a healthy eating pattern. Wholesome foods from the 5 food groups (Dairy, Vegetables, Fruits, Grains, and Protein) work together to provide nutrition that supports healthy bodies and brains.
- **Dairy Recommendations.** By age 6, most children are not meeting the recommended daily servings from the Dairy food group. Consuming the recommended amount of dairy foods can help close the gap on some nutrient intakes, including nutrients of concern such as calcium, vitamin D, magnesium, and vitamin A.
- **Optimal Growth and Development.** Milk and dairy foods are recommended by health and nutrition experts because of their unique package of nutrients that work together to provide multiple health benefits. Nutrients in dairy include calcium, vitamin D, protein, potassium, magnesium, vitamin A, vitamin B12, riboflavin, and more.
- **School Meal Programs.** Designed to meet specific nutrient and food requirements, school meals help ensure all students have access to nutritious foods that support growth, development, optimal health, and academic achievement. Research shows that children who participate in these programs eat more nutrient-dense and high-quality foods such as milk, vegetables, fruits, and whole grains than those who do not participate.
- **Foods Go Together (Food Synergy).** There is more than one way to build healthy eating patterns that reflect personal preferences, cultural traditions and budgetary considerations. Pairing quality foods together, like dairy with fruits and vegetables or whole grains, can increase nutrition and flavor and help with eating from several food groups.
- **Plant-based Beverages.** Though plant-based milks can be part of healthy eating patterns for children, they do not provide the same critical nutrition or have decades of scientific evidence supporting their health benefits. Soy milk is included in the Dairy food group as the closest non-dairy milk nutritionally and is recommended when an individual has a dairy allergy.

Tasting Activity: Milk Masterclass

- **Milk** delivers 13 essential nutrients and is recognized for its important role in building and maintaining strong bones. Research also highlights the role of milk, yogurt, and cheese in cognitive development, immunity, and digestive health.
- Acknowledge student food intolerances and allergies before tasting activities. Activities can be accommodated with **low-and no-lactose** options such as lactose-free milk. Dairy allergies are uncommon, occurring in less than 3% of the population.
- **Fat** is a nutrient. Fats are essential to give the body energy, support cell function, protect organs, and help keep the body warm. Fats also help the body absorb some nutrients. In children, fat is essential for brain development. Fat also has many functions in cooking.
- The **Dairy Milk vs. Plant Milks** fact sheet by Healthy Eating Research shows a comparison of nutritional value between plant milks and dairy milk.



For more information and additional resources, visit HealthyEating.org/ExploreDairyGuide.

This program aligns with the Dietary Guidelines for Americans. It is one of many nutrition education resources offered by Dairy Council of California for students and adults to improve eating patterns. For more information and additional resources, visit HealthyEating.org.



Dairy Council of California®

©2023 Dairy Council of California | TEDHS

Let's Eat Healthy

TOGETHER

Explore Dairy!

9th - 12th
Grade

Varieties of Milk



Whole Milk

Creamy!
Whole milk contains 3.5% fat by weight, the same amount found when it leaves the cow. Vitamin D is added to most milk produced in the U.S. to enhance the absorption of calcium.



2% or 1% Milk

(also known as reduced-fat or low-fat milk)
Fat and calorie levels are reduced in these versions, but they have the same complete nutrient package as whole milk.



Fat-Free Milk

(also known as non-fat or skim milk)
From slender cows. Kidding. Fat-free milk has no more than 0.2% milk fat. So it's the lowest in calories but, again, has just as many nutrients as whole milk.



Organic Milk

From cows fed organic diets. The nutrient content is the same as conventional milk and offers the same health benefits. It's the process that makes this milk organic, not the product.



Lactose-Free Milk

Lactose is the naturally-occurring sugar in milk. Think you're lactose-intolerant? Try lactose-free milk (real milk without the lactose). It tastes great and provides the same levels of calcium, potassium, vitamin D and more.

Lesson 5

- **Guest Speakers.** Looking for guest speakers to talk with your students? Reach out to your local Farm Bureau, agriculture organization, dairy farmer, chamber of commerce, or restaurant owners.



For more information and additional resources, visit HealthyEating.org/ExploreDairyGuide.

This program aligns with the Dietary Guidelines for Americans. It is one of many nutrition education resources offered by Dairy Council of California for students and adults to improve eating patterns. For more information and additional resources, visit HealthyEating.org.



Dairy Council of California®

©2023 Dairy Council of California | TEDHS