

Let's Eat Healthy TOGETHER

Explore Dairy!

K - 5th
Grade

NUTRITION PRIMER

The Nutrition Primer provides background information that educators may review before a lesson or tasting activity.

Lesson 1

- **MyPlate.** 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 Foods.** Dairy foods include milk and foods made from milk like yogurt and cheese. The Dairy food group from MyPlate includes milk, yogurt, cheese, lactose-free milk, and fortified soy milk and yogurt because of their similar nutrient content and high calcium. Dairy foods that have little calcium—including cream cheese, sour cream, and butter—are not in the Dairy Food group.
- **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. These nutrients include calcium, vitamin D, protein, potassium, magnesium, vitamin A, vitamin B12, riboflavin, and more. Dairy foods play an essential role in growth and development due to their nutrition, affordability, and children's taste preferences.
- **Nutrition Security.** Having consistent and equitable access to healthy, safe, culturally relevant, and affordable foods is essential to optimal health and well-being. Food insecurity is linked to the lack of access to nutrient-rich foods and nutrition education. Together, these pieces provide knowledge, skills, and ability to make healthier food choices. To support inclusive conversations, reference the school meal program, which provides meals at no cost to children, when talking about access to foods.

Tasting Activity: Three Cheers for Cheese!

- **Cheese** dates back to 4,000 years ago.
- 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 and calcium. Protein is an essential building block for strong muscles, and calcium is an essential building block for strong bones and teeth.
- Research shows that cheese **helps prevent dental cavities**, so it is tasty and helpful.
- **How to cut** every cheese.

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.

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Lesson 2

- **Milk.** The most common type of milk is from dairy cows. Milk from animals like bison, goats, and sheep is also found in many parts of the world.
- **Milk 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. Though plant-based beverage alternatives can be part of healthy eating patterns, 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 may be recommended when an individual has a dairy allergy.
- **California, the Nation's Dairy Leader.** California's top agricultural commodity is milk and dairy foods. California is the No. 1 milk producer in the United States.
- **Cows as Natural Recyclers.** Dairy cows are efficient recyclers, upcycling nutrients from food and agricultural byproducts that are either indigestible or undesirable for humans, turning them into nutrient-dense milk. As a result, these materials avoid disposal in the landfill.
- **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.

Lesson 3

- **California's Diverse Agriculture.** California is the leading agricultural state in the nation, producing more than 400 commodities at farms in all 58 counties across the state. California produces 50% of US-grown fruits, vegetables, and nuts, plus nearly 20% of the nation's supply of milk. California's leading agricultural commodity is milk and dairy foods.
- **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 bio energy, effective water recycling methods, and more.
- **School Meal Programs.** Milk and dairy foods play an important role in school meal programs by improving nutrition security, supporting children's optimal growth and development, and improving diet quality. Research shows that students who participate in school meal programs consume more whole grains, milk, fruits, and vegetables during meal times and have better overall diet quality than nonparticipants. Participation is also linked to academic achievement.
- **Sustainable Nutrition.** For food systems, sustainability is the concept of ensuring wholesome, nutrient-dense foods are accessible, affordable, and culturally relevant while also preserving environmental resources and supporting local communities.

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.
- **Lactose intolerance** varies widely between regions and ethnic groups around the world. Acknowledge any student preferences and needs before tasting. Activities can be accommodated with low- and no-lactose options such as lactose-free milk and hard cheese like cheddar.
- **Function of Fat from Food.** Fat is a nutrient. Fats are essential to give the body energy, support cell function, protect organs and help keep your body warm. Fats also help the body absorb some nutrients. In children, fat is essential for brain development.



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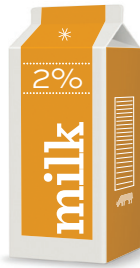
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Varieties of Milk



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 4

- **Unique Eating Patterns.** Each person is unique so what they eat is unique too. People have different tastes, needs, cultures, and access to food. Food helps people understand themselves and connect with others through self and social awareness, stories, culture, and tradition.
- **Food as Culture.** 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 been an important part of cultures around the globe for centuries, contributing to healthy eating patterns and family traditions for generations.
- **Foods Go Together.** Milk and dairy foods are delicious, nutritious, versatile, and affordable. Pairing foods together, like dairy with fruits and vegetables, can also increase nutrition and flavor, and at the same time help with eating from several food groups. Adding milk as an ingredient adds richness, creaminess, tenderness, and moisture. Mixing in yogurt can add a tangy taste or produce a light and fluffy texture. Infusing cheese offers a kick of salty and savory flavor, aroma, and even visual appeal.
- **Lactose Intolerance.** The lactose found in dairy may be a concern and can lead to insightful conversations. Many people who have lactose intolerance can still get 3 daily servings of dairy by choosing lactose-free milk, yogurt with live cultures, or cheese, which often contains lower lactose levels than milk.



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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 healthy option for people with lactose intolerance.
- Fun fact: When high-quality foods are eaten together, their nutritional benefits are enhanced. So when yogurt is eaten with fruit, vegetables, or whole grains, the benefits of the **probiotics** are enhanced!

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

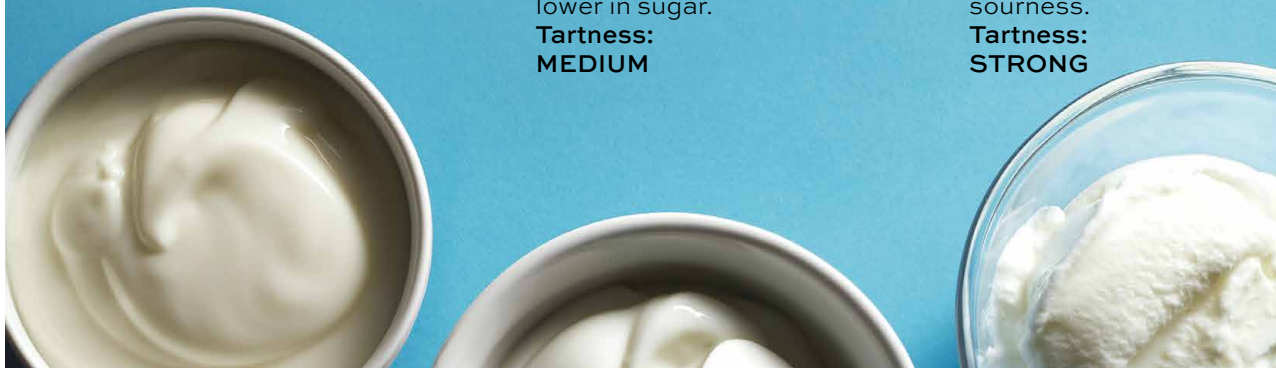
The classic yogurt most familiar to Americans. It is made in individual cups, creating a thick texture.

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



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