



POWER UP!

COOKING WITH MILK PRODUCTS & EGGS

A student learning resource for **CTS FOD2060: Milk Products & Eggs**



Acknowledgements

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Every effort has been made to acknowledge sources used in this resource. In the event of questions arising as to the use of any material, we will be pleased to make the necessary corrections.

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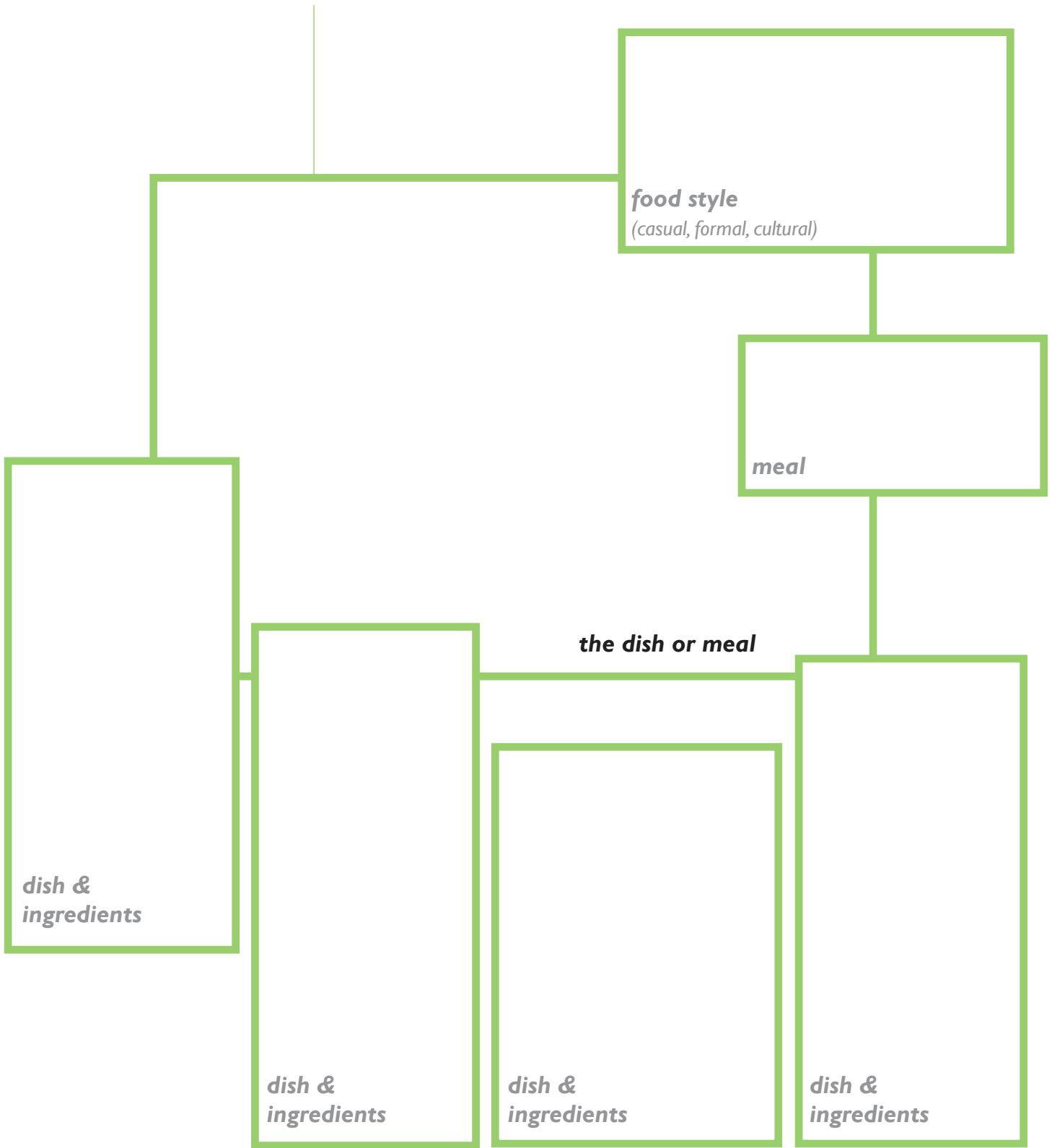
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All Power Up! Cooking with Milk Products & Eggs materials are available to download at TeachNutrition.ca.



/ Select & compare





What makes this meal appealing?



This is a fast, casual mid-week meal that has all four food groups.

food style
(casual, formal, cultural)

Dinner

meal

Basmati rice

dish & ingredients

Chicken with peanut butter sauce

Canola oil
Chicken
Onion
Garlic
Ginger, cumin & chili flakes
Peanut butter
Soy sauce
Buttermilk
Lemon juice
Water
Cornstarch

dish & ingredients

Steamed veggies

Broccoli & butter

dish & ingredients

Cold glass of milk

dish & ingredients

the dish or meal

What makes this meal appealing?

The combination of different foods, flavours and colours of the peanut butter sauce and broccoli is appealing.

Some people may avoid milk products and eggs in their diets. They may be allergic to egg or milk protein, have an intolerance to lactose, choose to follow a vegetarian diet or simply not like the taste of these products.

Lactose is a sugar found in milk and milk products. It is also added to some processed and prepared foods, such as salad dressings. An enzyme called lactase is needed for your body to break down, or digest, lactose.

Lactose intolerance happens when your body does not have enough lactase. Without this enzyme, or enough of this enzyme, your body does not break down all the lactose into smaller parts for digestion and absorption. The undigested lactose goes into your large intestine where it is fermented by bacteria. It can cause symptoms such as:

- Bloating
- Gas
- Cramping
- Nausea
- Diarrhea
- Weight loss (in children).

Lactose intolerance can sometimes happen for a short time if you have stomach flu or are taking some medications.

Studies show that most adults with lactose intolerance can drink up to 2 cups of milk in a day, especially if taken with food, or in small amounts throughout the day.

Lactose intolerance can be managed with strategies:

- Have small servings of milk, such as $\frac{1}{4}$ to $\frac{1}{2}$ cup (60 to 125 ml), throughout the day instead of a whole glass at one time.
- Drink milk with meals or snacks, not by itself.
- Drink lactose-free milks such as Lactaid™ or Lacteeze™. You'll find these milks in the dairy case at grocery stores.
- Ask a pharmacist for "lactase" tablets or drops such as Lactaid™, Lacteeze™ or a generic brand. They work to break down the lactose in milk for you. Be sure to follow package directions when using these products.
- Try yogurt. It contains live bacteria that help break down lactose.
- Try Mozzarella and aged cheeses like cheddar, Swiss, blue and Brie. They contain almost no lactose.

What dietary adjustments should be made by people who are lactose intolerant or have an allergy to milk products or eggs?

Why should people make these adjustments?

Lactose intolerance is not an allergy to milk.

Allergens are substances – usually proteins mistakenly identified by the body as harmful – that trigger the body’s immune response. Severe allergens can be life threatening and anaphylactic. Milk and eggs are both common food allergies.

Even trace amounts of these foods can cause a severe or life-threatening reaction in some people. There is currently no cure for any food allergy. The only way to prevent a reaction is to avoid the specific food totally.

Health Canada has compiled the following list of priority food allergens which are the top food allergens known to cause 90 percent of reactions in sensitive individuals:

- Eggs
- Mustard
- Seafood (*fish, crustaceans, shellfish*)
- Sulfite
- Wheat
- Milk
- Peanuts
- Sesame seeds
- Soy
- Tree nuts (almonds, Brazil nuts, cashews, hazelnuts, macadamia nuts, pecans, pine nuts, pistachios, walnuts)

Canada's 2012 food allergens labelling requirements indicate that labels must clearly identify priority allergens using their common names, even if they are a component of another ingredient. These allergens must be listed in the ingredient list or in a "contains" statement immediately after the ingredient list.

It is a personal choice to follow a **vegetarian diet**. Vegetarian diets vary, and may include:

- Vegan – avoids all animal products
- Lacto-ovo – includes milk and eggs
- Pescetarian – includes fish.

Fortified milk products and eggs can provide a good alternative source of protein, calcium, vitamin D and omega-3 fatty acids in vegetarian diets.

Find out more about different dietary considerations at the following weblinks:

- Food Allergies: www.canada.ca/en/health-canada/services/food-nutrition/food-safety/food-allergies-intolerances.html.
- Lactose intolerance: www.dairynutrition.ca/scientific-evidence/lactose-intolerance-and-milk-allergy/lactose-intolerance-health-authorities-recommendations.
- Vegetarian diets: www.unlockfood.ca/en/Articles/Vegetarian-and-Vegan-Diets/What-You-Need-to-Know-About-a-Healthy-Vegetarian-E.aspx.

What role do milk products and eggs play in each of these different dietary concerns or choices? Select **two** and summarize their role.

NUTRITIONAL CONSIDERATIONS IN SELECTING MILK AND MILK PRODUCTS

Milk products are foods that are produced from the milk of mammals such as cows. Milk products include fluid milk as well as buttermilk, creams, yogurts, sour cream, condensed milk, butter and cheese.

Milk products contain 16 nutrients that are essential for health. Calcium, vitamin D and protein are some of the nutrients in milk products that keep the body functioning properly and can help reduce the risk of certain diseases.

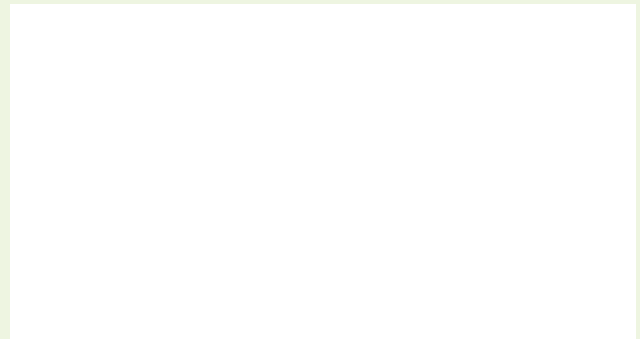
Milk products provide six important bone-building nutrients, which include calcium, vitamin D, protein, vitamin A, phosphorus and magnesium. Vitamin D improves the absorption of calcium and phosphorus, nutrients that promote strong bones and healthy teeth.

Milk is an important part of a healthy diet. But 83 percent of girls and 61 percent of boys in Canada between the ages of 10 and 16 get less than the minimum number of recommended daily servings of milk and alternatives. This is of concern since 40 percent of our bones are built during adolescence.

Garriguet, D. (2008) "Overview of Canadians' Eating Habits." Nutrition: Findings from the Canadian Community Health Survey 2004: Statistics Canada.

Milk product consumption is recognized as a key factor in **bone health** and in the prevention of **osteoporosis**. There is very good evidence that calcium and vitamin D, two essential components of milk, play important roles with respect to attaining peak bone mass and preventing osteoporosis and fractures.

What does the photo tell you about the overall nutritional value of milk products?



Milk products contain 16 nutrients that are essential for health, keep the body functioning properly and help reduce the risk of certain diseases.

Recommended Number of Food Guide Servings per Day

	Children			Teens		Adults			
	2-3	4-8	9-13	14-18 years		19-50 years		51+ years	
	Girls and Boys			Female	Male	Female	Male	Female	Male
Vegetables and fruit	4	5	6	7	8	7-8	8-10	7	7
Grain products	3	4	6	6	7	6-7	8	6	7
Milk and alternatives	2	2	3-4	3-4	3-4	2	2	3	3
Meat and alternatives	1	1	1-2	2	3	2	3	2	3

Eating Well with Canada's Food Guide: Health Canada. <https://www.canada.ca/en/health-canada/services/food-nutrition/canada-food-guide/food-guide-basics/much-food-you-need-every-day.html>

Yogurt naturally contains over 10 essential nutrients including calcium, phosphorus, thiamine, riboflavin and vitamin B12. Currently, vitamin D is added only to milk. However, some brands of yogurt are made from fortified milk and, therefore, also provide vitamin D. Labels provide this information and should be checked.

There is a wide variety of cheeses on the market, with various levels of fat content – labels provide nutritional information that can help make the best choice.

As with all other milk products, cheese is a natural source of several essential nutrients. Cheddar, Mozzarella and Swiss cheeses contain as many as nine, including calcium, vitamin A, niacin and vitamin B12.

The nutrients found in cheese support healthy bone and tooth development, maintenance of night vision, normal growth and red blood cell formation, among other benefits.

Food guide servings help you understand how much food is recommended every day from each of the four food groups. For example, one milk and alternatives serving can be 250 ml (1 cup) of milk, 175 grams (¾ cup) of yogurt or 50 grams (1½ oz) of cheese.

What benefits are provided by a single food product, such as fluid milk, that has a wide range of nutrients?

The Role Of 16 Essential Nutrients in Milk

<p>Calcium</p> <p>aids in the formation and maintenance of strong bones and healthy teeth.</p>	<p>Folate</p> <p>aids in red blood cell formation.</p>	<p>Magnesium</p> <p>is a factor in bone and teeth health, conversion of food into energy and tissue formation.</p>	<p>Niacin</p> <p>aids in normal growth, and is a factor in the conversion of food into energy and tissue formation, including bones.</p>
<p>Pantothenic acid</p> <p>is a factor in the conversion of food into energy and tissue formation, including bones.</p>	<p>Phosphorus</p> <p>is a factor in the formation and maintenance of strong bones and healthy teeth.</p>	<p>Potassium</p> <p>aids in the correct functioning of nerves and muscles.</p>	<p>Protein</p> <p>helps build and repair body tissues, including muscles and bones, and builds antibodies which fight infection.</p>
<p>Riboflavin</p> <p>is a factor in the conversion of food into energy and tissue formation.</p>	<p>Selenium</p> <p>is a factor in the correct functioning of the immune system, due to its antioxidant effect.</p>	<p>Thiamine</p> <p>releases energy from carbohydrate and aids normal growth.</p>	<p>Vitamin A</p> <p>aids bone and tooth development, while aiding in the maintenance of night vision and healthy skin.</p>
<p>Vitamin B₆</p> <p>is a factor in the conversion of food into energy and tissue formation, including bones.</p>	<p>Vitamin B₁₂</p> <p>aids in red blood cell formation.</p>	<p>Vitamin D</p> <p>(added to milk) enhances calcium and phosphorus absorption, on which strong bones and teeth depend.</p>	<p>Zinc</p> <p>is a factor in tissue formation, including bones, and converting food into energy.</p>

NUTRITIONAL CONSIDERATIONS IN SELECTING EGGS

Eggs are an excellent source of protein and a solid source of 11 essential nutrients. Over the last few years, many researchers have done further studies on the benefits of eggs. Consistently, the findings indicate that eating eggs every day does not increase levels of "bad" cholesterol in the blood.

Cholesterol is essential for life. It is produced naturally in our bodies and forms a basic part of all our cells. Cholesterol helps to regulate our hormones, helps us utilize vitamin D and helps us digest food.

About 80 percent of the cholesterol in our body is produced in the liver. Only about 20 percent is affected by what we eat. If you eat more cholesterol than you need, your body accommodates by producing less.

There are two types of cholesterol. High-density lipoprotein, or HDL, is "good" cholesterol and is healthy. Low-density lipoprotein, or LDL, is "bad" cholesterol and can cause fatty deposits that clog arteries and don't allow blood to flow properly.

Recognizing the nutritional value of eggs, *Canada's Food Guide* includes 2 eggs as one serving under the meat and alternatives food group.

There are two basic types of eggs available in Alberta grocery stores – eggs in their shell and processed eggs. To find out more about each egg type, visit <http://eggs.ab.ca/eggs/types-of-eggs/>.

Write a description of each type of egg product.



The Role Of 11 Essential Nutrients in Eggs

<p>Protein</p> <p>helps build and repair body tissues, including muscles and bones, and builds antibodies which fight infection.</p>	<p>Folate</p> <p>aids in red blood cell formation.</p>	<p>Vitamin B₁₂</p> <p>aids in red blood cell formation.</p>	<p>Vitamin E</p> <p>is an antioxidant that plays a role in maintaining good health and preventing disease.</p>
<p>Pantothenic acid</p> <p>is a factor in the conversion of food into energy and tissue formation, including bones.</p>	<p>Phosphorus</p> <p>is a factor in the formation and maintenance of strong bones and healthy teeth.</p>	<p>Iron</p> <p>carries oxygen to the cells in the body.</p>	<p>Vitamin D</p> <p>enhances calcium and phosphorus absorption, on which strong bones and teeth depend.</p>
<p>Riboflavin</p> <p>is a factor in the conversion of food into energy and tissue formation.</p>	<p>Selenium</p> <p>is a factor in the correct functioning of the immune system, due to its antioxidant effect.</p>	<p>Vitamin A</p> <p>aids bone and tooth development, while aiding in the maintenance of night vision and healthy skin.</p>	

Food guide servings help you understand how much food is recommended every day from each of the four food groups. For example, one meat and alternatives serving can be 2 eggs, 125 ml (½ cup) of cooked fish or poultry or 30 ml (2 tbsp) of peanut butter.

Why do you think eggs are considered to be part of the meat and alternatives food group in *Canada's Food Guide*?

MILK ALTERNATIVES

Fortified soy beverages can be used as an alternative to milk, according to *Canada's Food Guide*. Vitamins and minerals are added to the soy beverage to make it a nutritionally adequate alternative. The word “fortified” on the label indicates that these nutrients have been added.

Rice, oat, potato, coconut and almond beverages can be fortified with calcium, vitamin D and other nutrients. These beverages do not contain the same level of protein and other essential nutrients found in milk.

As these other beverages are not a nutritionally equivalent to milk or fortified soy beverage, they are not a part of *Canada's Food Guide*.

Compare the **three** nutrition tables for 1% milk, fortified soy beverage and almond beverage.

What are **two** nutritional similarities?

What are **two** nutritional differences?

2% Milk Nutrition Facts
Per 1 cup (250 ml)

Calories 108	%DV*
Fat 2.5g	3%
Saturated 1.6g	9%
+ Trans 0.1g	
Carbohydrates 12.9g	
Fibre 0g	0%
Sugars 13.4g	13%
Protein 8.7g	
Cholesterol 13mg	
Sodium 113mg	5%
Potassium 387mg	8%
Calcium 322mg	25%
Iron 0.1mg	1%

*5% or less is a little, 15% or more is a lot
Ingredients: partly skimmed milk.
Added vitamins & minerals: vitamin A palmitate, vitamin D₃.

Fortified Soy Beverage, Unsweetened Nutrition Facts
Per 1 cup (250 ml)

Calories 85	%DV*
Fat 4.2g	6%
Saturated 0.5g	3%
+ Trans 0g	
Carbohydrates 4.5g	
Fibre 1.3g	5%
Sugars 1.1g	1%
Protein 7.4g	
Cholesterol 0mg	
Sodium 96mg	4%
Potassium 383mg	8%
Calcium 319mg	25%
Iron 1.2mg	7%

*5% or less is a little, 15% or more is a lot
Ingredients: organic soy base (filtered water, organic soybeans), gellan gum, sea salt, natural flavour, sodium bicarbonate.
Added vitamins & minerals: calcium carbonate, zinc gluconate, vitamin A palmitate, vitamin D₂, riboflavin (B₂), vitamin B₁₂.

Fortified Almond Beverage, Unsweetened Nutrition Facts
Per 1 cup (250 ml)

Calories 30	%DV*
Fat 2.5g	3%
Saturated 0.2g	1%
+ Trans 0g	
Carbohydrates 1.0g	
Fibre 1.0g	4%
Sugars 0.0g	0%
Protein 1.0g	
Cholesterol 0mg	
Sodium 160mg	7%
Potassium 190mg	4%
Calcium 330mg	30%
Iron 0.3mg	2%

*5% or less is a little, 15% or more is a lot
Ingredients: almond base (filtered water, almonds), sea salt, locust bean gum, sunflower lecithin, gellan gum, natural flavour.
Added vitamins & minerals: calcium carbonate, zinc gluconate, vitamin A palmitate, riboflavin (B₂), vitamin D₂, vitamin B₁₂.

EGG SUBSTITUTES

People who have egg allergy cannot identify the proteins in eggs correctly. Eggs have two allergenic components with different properties – the yolk and the white. The egg white is the component which causes the most severe reactions. However, it makes little difference which part of the egg a person is allergic to. It is very difficult to separate the white from the yolk without having some parts of each combine. Extremely small amounts can sometimes trigger severe reactions.

People with egg allergies must adapt their diet in two ways. They must avoid eating anything with eggs in it and they have to find egg substitutes for cooking. Food labels are important in identifying foods that contain eggs.

The following substitutions are designed for only 1 or 2 egg recipes. For each egg called for in a recipe, substitute **one** of the following:

- 1 tsp (5 ml) baking powder, 1½ tbsp (25 ml) water and 1½ tbsp (25 ml) oil
- 1 tsp (5 ml) baking powder, 1 tbsp (15ml) water and 1 tbsp (15 ml) vinegar
- 1 tsp (5 ml) yeast dissolved in ¼ cup (60 ml) warm water
- 1 packet of unflavoured gelatin, 2 tbsp (30 ml) of warm water. Do not combine until ready to use.
- ½ large mashed banana
- 1 tbsp (15 ml) ground flax seed whisked into 3 tbsp (45 ml) of water until gelatinous

Commercial egg substitutes are also available. However, some may have traces of egg whites in them and must be carefully used.

How do you think **one** of the suggested egg substitutes differs nutritionally from eggs?



Select at least **five** different milk or egg products. Analyze each product by completing each column in the data chart below.

<i>Product</i>	<i>Food group</i>	<i>Top two nutrients</i>	<i>An important processing or manufacturing step</i>	<i>How to handle or use when cooking</i>	<i>Storage requirements</i>

comparison chart

	Criteria				
Products	<i>Flavour</i>				

2 Prep



Get equipment

Blender



Prepare ingredients

- ½ cup (125 ml) milk
- ½ cup (125 ml) yogurt
- ½ cup (125 ml) frozen blueberries
- ½ cup (125 ml) frozen pineapple
- ½ cup (125 ml) fresh or frozen spinach or baby kale



Follow recipe steps

1. ADD all ingredients to a blender.
2. Use the puree setting to BLEND ingredients until smooth.
3. POUR into serving glasses.

Preparation time is 5 minutes
Makes 500 ml (2 cups)



Smoothies are made by blending fruit or vegetables with added milk and/or yogurt. A smoothie can provide fibre, protein, carbohydrate and vitamin C.



If a smoothie is made by combining citrus fruits, berries or pineapple with a dairy product like milk, and /or yogurt, the mixture can curdle if left to stand for a while. This is caused by the reaction of the acids or tannins in fruit with the protein in milk. Blueberries contain **tannins**, which are a tart or bitter tasting substance, called polyphenol, found in plants. Tannins can cause milk to **coagulate**, or thicken and solidify, and curdle.

Smoothies should be served as soon as they are prepared so the milk products and fruit do not separate or lose eye appeal.



Watch a video that demonstrates how to make smoothies and look for similarities and differences on the Canadian Goodness website at <https://dairyfarmersofcanada.ca/en/canadian-goodness/recipes/any-day-any-time-smoothies>.

What kitchen skills are needed for this dish?

How does the protein content in milk products, including the yogurt, affect the preparation of this recipe?

From Dairy Farmers of Canada *Smoothies 2*

Get equipment

Large frying pan

Whisk & stirring implements



Prepare ingredients

1 tbsp (15 ml) butter

1 cup (250 ml) finely chopped onion

1 cup (250 ml) thinly sliced mushrooms

2 tbsp (30 ml) all-purpose flour

14 oz (796 ml) diced tomatoes, with juice

2 tbsp (25 ml) light sour cream

Salt and pepper to taste



Follow recipe steps

1. MELT butter in a large frying pan over medium high heat. ADD onion and COOK for about 5 minutes or until softened.
2. ADD mushrooms and COOK for about 3 minutes or until softened.
3. STIR in flour and COOK for 1 minute.
4. STIR in tomatoes, salt and pepper. Reduce heat to medium low. SIMMER for about 5 minutes or until slightly thickened. STIR in sour cream.

Preparation time is 10 minutes

Cooking time is 15 minutes

Serves 6



Creamy sauces are used to enhance the taste and appearance of foods. There are three basic types of ingredients in most sauces: a liquid, the thickening agent and flavours or seasonings.



Milk is often used in sauces. Most sauces are thickened with a starch, such as flour or cornstarch. The thickener gives the sauce its appearance. A sauce thickened with flour is opaque while a sauce thickened with cornstarch is clear.

Another common way to thicken a cream sauce is to make a **roux**. A roux is made with equal quantities of butter and flour. Melt the butter over a medium low heat, whisk in the flour and cook until it's well blended. Roux will help prevent curdling as starch stabilizes milk and cream. **Curdling** occurs when the protein in milk is exposed to acid, tannins, enzymes or salt. A **vegetable puree**, such as the broken tomatoes in this recipe, can also work as a thickener. However, the tomatoes will act as an acid when mixed with milk.

The "cream" in cream sauces can be light cream, half-and-half, or whole or partially skimmed milk. Tomatoes are acidic and when milk or cream are added, curdling can occur. Fresh milk or cream with a higher fat content decreases the chance of curdling.

What could potentially cause curdling in this creamy tomato sauce?

What strategies are used in this recipe to avoid curdling the milk?

Adapted from Alberta Milk *Creamy Tomato Sauce*.

Get equipment

Saucepan
Stirring implements



Prepare ingredients

¼ cup (60 ml) butter
¼ cup (60 ml) all-purpose flour
2½ cups (625 ml) warm milk
Salt and white pepper to taste



Follow recipe steps

1. MELT butter in a heavy bottom saucepan over medium low heat. Ensure that the butter does not brown.
2. ADD flour and STIR until fully mixed. The butter and flour mixture should bubble up slightly.
3. ADD about ½ cup of the warm milk slowly, STIRRING to keep the mixture smooth.
4. ADD the remainder of the warm milk slowly, STIRRING constantly.
5. HEAT to just a gentle rolling simmer; STIRRING constantly. COOK for 6 to 8 minutes until desired consistency, and flour is cooked.
6. SEASON to taste with salt and white pepper.

Preparation time is 5 minutes
Cooking time is 10 minutes
Serves 4



White sauces are sauces thickened by a starch. It is used as a base for other types of sauces and as a part of many dishes, such as macaroni and cheese.



High temperatures, tannins, acids, enzymes and salt can cause milk proteins to coagulate and curdle, causing clumps in a sauce or dish. Curdling can be prevented by cooking with low temperatures, fresh milk and constant, gentle stirring during cooking.

Scorching can be caused by the lactose in milk. Like any sugar, lactose can turn brown and develop a bitter taste. When milk is heated, the milk proteins will coagulate and coat the sides and bottom of the pan. Lactose is a sugar that will caramelize if the milk is scorched. A low heat will prevent scorching.

A **roux** is used as the thickening agent in this recipe. You can also use a slurry to make a lower fat white sauce. A **slurry** is made by combining skim or partially skimmed milk and flour in a covered container and blending or shaking until mixed. The slurry is then cooked in a saucepan over medium heat until it is thickened and the flour is cooked.



Watch a video that demonstrates this recipe at <https://www.youtube.com/watch?v=WpZY63gAYDA>.

What **two** important principles of protein cookery are applied in this recipe?

What **two** other recipes do you think these principles can be applied to?

Adapted from Canadian Goodness *Basic White Sauce*
www.dairyfarmersofcanada.ca/en/canadian-goodness/recipes/basic-white-sauce

Get equipment

Pot
Colander
Stirring implements



Prepare ingredients

2 cups (500 ml) elbow macaroni
1 cup (250 ml) cheddar cheese, grated
1 recipe Basic White Sauce



Follow recipe steps

1. **COOK** the elbow macaroni according to the package instructions. Make sure it is not overcooked. **Al dente**, or cooked until it is firm but not hard, is best.
2. **DRAIN** the macaroni but do not rinse it.
3. **ADD** the grated cheddar cheese gradually to the hot white sauce, 125 ml, or ½ cup, at a time. **MIX** well.
4. **FOLD** the cooked macaroni into the prepared cheese sauce.

Preparation time is 15 minutes

Cooking time is 20 minutes

Serves 4



Cooked milk and cheese dishes, such as macaroni and cheese, combine ingredients such as milk and cheese with other foods.



Cheese will melt when combined with liquid that is at a temperature hot enough to melt the fat. This causes the cheese to blend smoothly. However, if the temperature is too hot, the proteins in the cheese will become tough.

Cheese acts like an acid so it must be added slowly and consistently to prevent clumping. When acid foods are added to milk, such as a white sauce, the milk should be thickened first. This is why the cheese is added last. A cheese sauce kept on a low heat will help prevent curdling or scorching.

Processed cheese blends more easily than natural cheese because of the emulsifiers it contains. A cheese sauce made with processed cheese is smooth and less likely to curdle. However, real cheese is more nutritious than processed cheese. Cheddar cheese does not blend as smoothly, but has a stronger cheese flavour.



Watch a video that demonstrates this recipe at <https://www.youtube.com/watch?v=WpZY63gAYDA>

What types of adjustments do you think should be made if you use different cheese products?

Velveeta cheese
Mild cheddar
Old cheddar cheese

Adapted from Canadian Goodness *Easy Creamy Mac and Cheese*

www.dairyfarmersofcanada.ca/en/canadian-goodness/recipes/easy-creamy-macn-cheese

Get equipment

Saucepan
Stirring implements
Serving dishes
Plastic wrap



Prepare ingredients

4 tbsp (60 ml) water
1 packet (2½ tsp) unflavoured gelatin
2 cups (500 ml) plain Greek yogurt
2 cups (500 ml) milk, divided
½ cup (125 ml) granulated sugar
2 tbsp (30 ml) lemon juice



Follow recipe steps

1. **COMBINE** gelatin and water and let soften (15 min).
2. In a large bowl, **WHISK** yogurt and 1 cup (250 ml) of milk together.
3. In a small saucepan, bring remaining milk and sugar to a **SIMMER**. Stir in gelatin mixture and remove from heat.
4. **WHISK** this mixture into the yogurt mixture. Stir in lemon juice.
5. **POUR** mixture into small dishes, **COVER** with plastic wrap and refrigerate approximately 2 hours until set.

Preparation time is 10 minutes

Cooking time is 10 minutes

Set time is 2 hours

Serves 8



Cooked milk dishes, such as a panna cotta or pudding, illustrate how milk can be used as a thickening agent.



Puddings should be cooked with moderate cooking temperatures to avoid scorching and excessive coagulation of both milk products and eggs. Excessive coagulation can result in a thick and tough texture.

Starch particles or granules should be separated before cooking a pudding. The sugar in some recipes is mixed with the flour to separate the starch particles and keep them from lumping together when mixed with milk products and cooked.

Puddings can be cooked over heat or baked in the oven. Puddings that are baked in the oven are often placed in a hot water bath during baking. This protects from over-coagulation of the milk or egg proteins.

Some pudding recipes may require **scalded milk**, which means milk heated to just below the boiling point. With pasteurization, scalded milk is no longer a necessary step for cooked milk dishes.

Why is it important to separate starch particles in thickened, cooked milk dishes?

Why is plastic wrap used to cover the cooked pudding?

Adapted from *Smitten Kitchen* 2013.

Get equipment

Fondue pot
Tabletop burner
Stirring implements



Prepare ingredients

1½ cups (375 ml) milk
1 garlic clove, minced
2 tbsp (30 ml) all-purpose flour
1 tsp (5 ml) dry mustard or Dijon mustard
2 cups (500 ml) shredded cheddar cheese, (about 8 oz / 240 g)



Follow recipe steps

1. In a small saucepan, **WHISK** together milk, garlic, flour and mustard.
2. **COOK** over medium heat, **WHISKING CONSTANTLY**, for about 7 min or until starting to simmer and thicken.
3. Reduce heat to low.
4. **ADD** one small handful of cheese at a time to the pan, **WHISKING CONSTANTLY**, adding the next handful when it is melted.
5. After the last addition of cheese, **COOK**, still whisking, for 3 to 5 min or until slightly thickened and silky smooth.
7. Place fondue pot over tabletop burner and serve with raw veggies, cooked chicken, and/or bread.

Preparation time is 10 minutes
Cooking time is 10 to 15 minutes
Serves 4 to 6

Melted cheese dishes, such as cheese fondues, lasagna or raclettes, often require a specific type of cheese. These different dishes can illustrate how the melting properties of cheeses will vary.



Cheese is a concentrated form of milk and is, therefore, a good source of protein. If cheese is cooked at a high temperature or for too long a time, the protein will coagulate. This results in the texture becoming rubbery, the consistency becoming tough and the fat in the cheese separating and making the dish oily.

Cheese can be combined with liquids in dishes like soups, sauces and fondues. However, the temperature must be hot enough to melt the fat so the cheese blends smoothly. The temperature must be low enough so the proteins do not over-coagulate and toughen. Shredded or grated cheese will blend more quickly and require a shorter cooking time.

Cheese can also be cooked in a microwave. It must be watched carefully so it does not overcook or separate. Some cheeses will melt easier than others.



Watch a video that demonstrates different steps for making a cheese fondue on the Canadian Goodness website at <https://dairyfarmersofcanada.ca/en/canadian-goodness/recipes/kids-favourite-cheese-fondue>

Why is a medium-hard cheese like Emmental used in cheese fondues?

Why do you think shredded or grated cheese requires a shorter cooking time in a melted cheese dish?

Recipe courtesy of Canadian Goodness *Friday Night Cheese Fondue*
www.dairyfarmersofcanada.ca/en/canadian-goodness/recipes/friday-night-cheese-fondue

Get equipment

Colander
Cheesecloth
Large stockpot
Stirring implements



Prepare ingredients

8 cups (2 L) 3.25% milk
¼ cup (60 ml) lemon juice



Follow recipe steps

1. In a large saucepan, bring milk to a **BOIL**, stirring frequently. Remove from heat.
2. **ADD** lemon juice. Stir until the milk curdles and **SEPARATES** into curds, or spongy white chunks and whey, a milky water.
3. **LINE** the colander with doubled cheesecloth and set in sink.
4. **POUR** the mixture into the colander and gently rinse with cool water. Take ends of cheesecloth and twist the ball of cheese to squeeze out excess whey. Hang the cheesecloth and let drain for an extra 5 minutes.
5. Fold cheesecloth to compact the ball of cheese and set on a plate. Put another plate on top and **PRESS** by setting a heavy pot or weight.
6. **REFRIGERATE** for about 20 minutes. Remove cheesecloth and serve or use in a dish such as palak paneer.

Preparation time is 5 minutes

Cooking time is 15 minutes

Setting time is 25 minutes

Yields 355 g (12 oz) of cheese

Fresh or unripened cheese, such as paneer or cottage cheese, can be made by curdling whole milk and separating the curds, the milk solids, from the whey, a watery liquid. Paneer is a staple ingredient in many Indian dishes.



The acid in lemon juice causes the milk proteins to coagulate and separate from the whey.

If the milk does not separate, more lemon juice can be added and more heat applied to the mixture. The milk should then separate. The mixture should be stirred in a way that keeps the curds together rather than breaks them up.

What happens when an acid is added to milk?

How does this recipe illustrate the basic steps in cheese making?

Get equipment

- Mixing bowl
- Baking tray



Prepare ingredients

- 1 lb (454 g) extra lean ground beef
- 1 lightly beaten egg
- ½ cup (125 ml) dry whole wheat bread crumb
- ⅓ cup (75 ml) finely grated carrot
- ⅓ cup (75 ml) shredded onion
- 1 tbsp (15 ml) Worcestershire sauce
- ½ tsp (2 ml) pepper



Follow recipe steps

1. PREHEAT oven to 400° F (200° C).
2. Lightly COMBINE all ingredients.
3. FORM meat mixture into about 28 one-inch (2.5 cm) balls.
4. BAKE on a lightly oiled foil-lined baking tray for 15 minutes, until digital rapid-read thermometer inserted into centre of several meatballs reads 160° F (71° C).

Preparation time is 15 minutes
 Cooking time is 15 minutes
 Serves 4



Mixed or coated food products such as meatballs or coated fish sticks, zucchini or chicken fingers, illustrate how eggs can be used as a binding or coating agent.



Eggs help hold mixed foods together and prevent them from falling apart when they are cooked. Eggs act as binders in foods such as meatballs, hamburgers, meatloaf, fish cakes and croquettes.

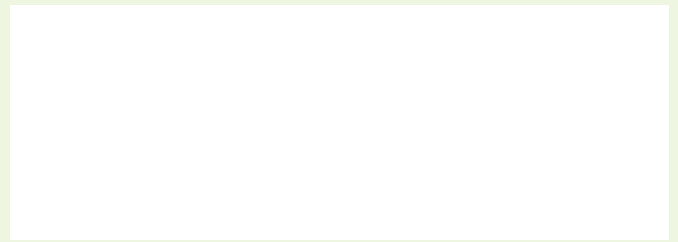
Eggs act as a coating agent in breaded products such as chicken or fish fingers, coated meat cutlets or pieces and coated vegetables.

The proteins in eggs coagulate when they are baked. This provides structure and stability to many food products. Eggs also provide moisture and tenderness.



Watch a video that demonstrates how to make a variation of baked meatballs on the Canadian Goodness website at <https://dairyfarmersofcanada.ca/en/canadian-goodness/recipes/cheddar->

How do eggs affect the texture and appearance of baked meatballs?



Used with permission from Government of Alberta: *Healthy U All Kinds O' Meatballs*

Get equipment

Glass measuring cups

Whisk



Prepare ingredients

½ cup (125 ml) butter

3 egg yolks

1 tbsp (15 ml) lemon juice

Salt, cayenne pepper and dry mustard to taste



Follow recipe steps

1. MICROWAVE butter for 50 to 60 seconds on high in a 2-cup (500 ml) glass measuring cup, until melted.
2. WHISK together egg yolks, lemon juice and seasonings in a 4-cup (1 L) glass measuring cup.
3. WHISK melted butter gradually into egg yolk mixture, BEATING constantly.
4. MICROWAVE on medium for 20 to 30 seconds, until sauce thickens. WHISK halfway through and at the end of cooking to produce a smooth sauce. SERVE warm.

Preparation time is 5 minutes

Yields 8 servings of 30 ml each



Egg-based sauces, such as a Hollandaise, illustrate how eggs are used as an emulsifying agent. An **emulsion** is a mixture of two substances, such as oil and water, that do not mix together. The mixture is referred to as **immiscible**. An **emulsifying agent** helps the substances mix together.



Oil-based and water-based liquids can be mixed by shaking or blending them together, but will not stay that way. Eggs create an emulsion between the lemon juice and butter in this recipe.

The protein in egg yolk has some amino acids that repel water and some amino acids that attract water. When egg proteins are mixed with oil-based and water-based liquids, one part of the egg protein sticks to the water and the other part sticks to the oil.

Lecithin is another important emulsifier found in egg yolk. This molecule establishes a barrier that keeps the fat molecules from recombining and separating from the water molecules.



Watch a video that demonstrates how to make a Bechamel sauce on the Canadian Goodness website at <https://dairyfarmersofcanada.ca/en/canadian-goodness/recipes/bechamel-sauce>

How does an emulsifying agent also stabilize a mixture?

Egg Farmers of Alberta *Hollandaise Sauce*

<http://eggs.ab.ca/recipes/eggs-benedict-with-hollandaise-sauce/>

Get equipment

- Medium saucepan
- Stirring implements
- Bowls
- 4-cup (1 L) soufflé or casserole dish



Prepare ingredients

- 2 tbsp (30 ml) butter
- 2 tbsp (30 ml) all-purpose flour
- ½ tsp (2 ml) salt
- Pinch of ground pepper
- ¾ cup (175 ml) milk (1%)
- 4 eggs
- 2 egg whites
- ¼ tsp (1 ml) cream of tartar



Follow recipe steps

1. **PREHEAT** oven to 375° F (190° C).
2. **MELT** butter over low heat in medium saucepan. **STIR** in flour, salt and pepper. **COOK**, stirring constantly, until mixture is smooth and bubbly.
3. **STIR** in milk all at once. Continue stirring until mixture boils and is smooth and thickened.
4. **SEPARATE** eggs. **BEAT** yolks well and add ¼ cup (60 ml) of warm sauce mixture to egg yolks.
5. **COMBINE** yolk mixture with remaining sauce, **BLENDING** thoroughly. If desired, **ADD** finely chopped filling ingredients and seasoning, stirring into the white sauce until well blended. Set sauce aside to cool slightly.
6. In a large bowl, **BEAT** egg whites and cream of tartar until stiff but not dry. **FOLD** some of the egg whites into the sauce to make it lighter, then gently but thoroughly fold the sauce into the remaining egg whites.
7. Carefully **POUR** into a 4-cup (1 L) soufflé or casserole dish.
8. **BAKE** for 20 to 25 minutes until puffed and lightly browned. Serve immediately.

Preparation time is 10 minutes

Cooking time is 25 minutes Serves 4

Soufflés illustrate the use of eggs as a leavening agent. A **leavening agent** increases the volume of a food product and lightens its texture.



Eggs act as a leavening agent in dishes like soufflés, pancakes, muffins, cakes, omelettes and meringues.

Beaten eggs are a leavening agent because they incorporate air into a mixture, which expands and rises when baked. As the mixture is heated, the protein coagulates around the air cells and the product maintains its volume.

Why is a small amount of the warm butter and flour mixture first added to the egg yolks?

What is the role of cream of tartar in the soufflé?



Adapted from Egg Farmers of Canada *Basic Soufflé*
www.eggs.ca/recipes/basic-souffle

Get equipment

Baking sheet
Parchment paper or cooking spray
Electric mixer
Wire racks



Prepare ingredients

6 egg whites
¼ tsp (1 ml) cream of tartar
1½ cups (375 ml) sugar
1 tsp (5 ml) vanilla extract



Follow recipe steps

1. **PREHEAT** oven to 275° F (140° C).
2. **LINE** baking sheet with parchment paper or **SPRAY** with cooking spray.
3. **BEAT** egg whites in large bowl with electric mixer until frothy.
4. **ADD** cream of tartar and **BEAT** until soft peaks form.
5. Gradually **BEAT** in sugar, 1 to 2 tbsp (15 to 30 ml) at a time, until sugar is dissolved and stiff glossy peaks form.
6. **BEAT** in vanilla.
7. **PIPE** or **DOLLOP** about 2 tbsp (30 ml) meringue per cookie on baking sheet.
8. **BAKE** in preheated oven until firm, about 30 to 35 minutes.
9. **COOL** completely on wire racks.

Preparation time is 20 minutes

Cooking time is 35 minutes

Yields 48 servings



Meringues are used as a topping for desserts, like pies, or as pastries or cookies. Meringue is a mixture of stiffly beaten egg whites and sugar.



A meringue is a **foam**, or gas suspended in a liquid or semi-solid. Foams are made using proteins such as eggs or milk and by incorporating air, agitation or through a sudden release in pressure, such as in an aerosol can.

Examples of foams include meringues, marshmallows, whipped cream and bread. Over agitation of a meringue will cause clots to form.

When egg whites are beaten to make meringues, the protein is unraveled or untwisted. The long strands of protein that form are too large to dissolve in water anymore.

These protein strands surround the air bubbles beaten into the raw egg whites, and trap them, forming a white foam. If you continue to beat the foamy egg white, this will destabilize the foam by fully straightening out the protein molecules. The structure of the foam will not be as strong and it will not have a good volume.

In a meringue, sugar is beaten into frothy egg whites. Sugar acts as a stabilizer. Too much sugar too soon can deflate the whites. The amount of sugar will also determine whether the meringue is hard or soft. Cream of tartar helps prevent overbeating. Eggs that are overbeaten can sometimes be fixed by whisking in another egg white by hand.

If the egg whites in a meringue do not attain enough volume, what is likely the cause?

Adapted from Egg Farmers of Canada *Hard Meringues*
www.eggs.ca/recipes/hard-meringues

Evaluate a **cooked milk dish** by filling in information and checking the descriptors that apply. Fill in the nutrition facts table for one ingredient from the product cards. Then, answer the questions that follow.

Nutrient value

Check the nutrients that you think are in this dish.

- Fat
- Saturated
- Trans
- Carbohydrate
- Fibre
- Sugars
- Protein
- Cholesterol
- Sodium
- Potassium
- Calcium
- Iron

Nutrition Facts

Per _____		
Calories		% Daily Value*
Fat	_____ g	_____ %
Saturated	_____ g	_____ %
+ Trans	_____ g	
Carbohydrate	_____ g	
Fibre	_____ g	_____ %
Sugars	_____ g	_____ %
Protein	_____ g	
Cholesterol	_____ mg	
Sodium	_____ mg	
Potassium	_____ mg	_____ %
Calcium	_____ mg	_____ %
Iron	_____ mg	_____ %

*5% or less is **a little**, 15% or more is **a lot**

Cooking method

Presentation

Sensory properties

Describe the characteristics of the dish.

Type of food	Taste profile	Texture	Culinary uses
Spicy	Sour	Crispy	Main dish
Fishy	Bitter	Crunchy	Side dish or salad
Savoury	Sweet	Creamy	Soup or cream
Sweet	Salty	Silky	Sauce, dip or spread
Other	Mild	Other	Appetizer or snack
	Strong		Beverage
	Other		Dessert or sweet
			Other

Evaluate the results.

Appearance	Consistency	Texture	Palatability
Good colour	Firm but not thick	Smooth	Good flavour
No scum	Thick	Curdled	Well-seasoned
No fat on surface	Stiff	Lumpy	Salty
Watery	Watery	Greasy	Raw
Gray	Thin	Sticky	Flat
Off colour	Other	Other	Starchy
Skin on surface			Scorched
Film of fat			Hot
Other			Warm
			Cold
			Other

► **Denaturation** occurs when the protein breaks down. This usually happens when protein is heated, agitated or when another substance is added to it. **Coagulation** occurs when protein forms clots. How do these two processes apply to this dish?

► Identify which of the following cooking processes are used in this dish:

Beating

Whipping

Freezing

Other _____

Folding

Stovetop heating

Microwaving

Mixing

Baking

Melting

► Which of the following protein reactions are involved in this dish?

Heat

Blending with acidic ingredients

Blending with tannins and/or salt

Explain the effect of the reaction on the milk in this dish.

Evaluate a **cooked cheese dish** by filling in information and checking the descriptors that apply. Fill in the nutrition facts table for one ingredient from the product cards. Then, answer the questions that follow.

Nutrient value <div style="background-color: #333; color: white; padding: 5px; text-align: center;"> Check the nutrients that you think are in this dish. </div> <ul style="list-style-type: none"> <input type="checkbox"/> Fat <input type="checkbox"/> Saturated <input type="checkbox"/> Trans <input type="checkbox"/> Carbohydrate <input type="checkbox"/> Fibre <input type="checkbox"/> Sugars <input type="checkbox"/> Protein <input type="checkbox"/> Cholesterol <input type="checkbox"/> Sodium <input type="checkbox"/> Potassium <input type="checkbox"/> Calcium <input type="checkbox"/> Iron 	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="3" style="text-align: left; padding: 5px;">Nutrition Facts</th> </tr> <tr> <td colspan="3" style="padding: 5px;">Per _____</td> </tr> <tr> <td style="padding: 5px;">Calories</td> <td colspan="2" style="padding: 5px; text-align: right;">% Daily Value*</td> </tr> <tr> <td style="padding: 5px;">Fat</td> <td style="padding: 5px;">_____ g</td> <td style="padding: 5px;">_____ %</td> </tr> <tr> <td style="padding: 5px;">Saturated</td> <td style="padding: 5px;">_____ g</td> <td style="padding: 5px;">_____ %</td> </tr> <tr> <td style="padding: 5px;">+ Trans</td> <td style="padding: 5px;">_____ g</td> <td></td> </tr> <tr> <td colspan="3" style="padding: 5px;"><hr/></td> </tr> <tr> <td style="padding: 5px;">Carbohydrate</td> <td style="padding: 5px;">_____ g</td> <td></td> </tr> <tr> <td style="padding: 5px;">Fibre</td> <td style="padding: 5px;">_____ g</td> <td style="padding: 5px;">_____ %</td> </tr> <tr> <td style="padding: 5px;">Sugars</td> <td style="padding: 5px;">_____ g</td> <td style="padding: 5px;">_____ %</td> </tr> <tr> <td colspan="3" style="padding: 5px;"><hr/></td> </tr> <tr> <td style="padding: 5px;">Protein</td> <td style="padding: 5px;">_____ g</td> <td></td> </tr> <tr> <td colspan="3" style="padding: 5px;"><hr/></td> </tr> <tr> <td style="padding: 5px;">Cholesterol</td> <td style="padding: 5px;">_____ mg</td> <td></td> </tr> <tr> <td colspan="3" style="padding: 5px;"><hr/></td> </tr> <tr> <td style="padding: 5px;">Sodium</td> <td style="padding: 5px;">_____ mg</td> <td></td> </tr> <tr> <td colspan="3" style="padding: 5px;"><hr/></td> </tr> <tr> <td style="padding: 5px;">Potassium</td> <td style="padding: 5px;">_____ mg</td> <td style="padding: 5px;">_____ %</td> </tr> <tr> <td colspan="3" style="padding: 5px;"><hr/></td> </tr> <tr> <td style="padding: 5px;">Calcium</td> <td style="padding: 5px;">_____ mg</td> <td style="padding: 5px;">_____ %</td> </tr> <tr> <td colspan="3" style="padding: 5px;"><hr/></td> </tr> <tr> <td style="padding: 5px;">Iron</td> <td style="padding: 5px;">_____ mg</td> <td style="padding: 5px;">_____ %</td> </tr> <tr> <td colspan="3" style="padding: 5px;"><hr/></td> </tr> <tr> <td colspan="3" style="padding: 5px;">*5% or less is a little, 15% or more is a lot</td> </tr> </table>	Nutrition Facts			Per _____			Calories	% Daily Value*		Fat	_____ g	_____ %	Saturated	_____ g	_____ %	+ Trans	_____ g		<hr/>			Carbohydrate	_____ g		Fibre	_____ g	_____ %	Sugars	_____ g	_____ %	<hr/>			Protein	_____ g		<hr/>			Cholesterol	_____ mg		<hr/>			Sodium	_____ mg		<hr/>			Potassium	_____ mg	_____ %	<hr/>			Calcium	_____ mg	_____ %	<hr/>			Iron	_____ mg	_____ %	<hr/>			*5% or less is a little , 15% or more is a lot			Cooking method Presentation Sensory properties
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Describe the characteristics of the dish.

Type of food	Taste profile	Texture	Culinary uses
Spicy	Sour	Crispy	Main dish
Fishy	Bitter	Crunchy	Side dish or salad
Savoury	Sweet	Creamy	Soup or cream
Sweet	Salty	Silky	Sauce, dip or spread
Other	Mild	Other	Appetizer or snack
	Strong		Beverage
	Other		Dessert or sweet
			Other

Evaluate the results.

Appearance	Consistency	Texture	Palatability
Good colour	Firm but not thick	Smooth	Good flavour
No scum	Thick	Curdled	Well-seasoned
No fat on surface	Stiff	Lumpy	Salty
Watery	Watery	Greasy	Raw
Gray	Thin	Sticky	Flat
Off colour	Other	Other	Starchy
Skin on surface			Scorched
Film of fat			Hot
Other			Warm
			Cold
			Other

► Identify the type of cheese used in this dish. *Check the product cards for information on different cheeses.*

Fresh

Soft

Firm

Hard

Light

Semi-soft

Veined

What are the cooking and melting properties of this cheese? How is it added to the dish?

► **Denaturation** occurs when the protein breaks down. This usually happens when protein is heated, agitated or when another substance is added to it. How does this process apply to this dish?

► **Coagulation** occurs when protein forms clots. Why is coagulation important to cheese making? When does coagulation result in curdled or stringy cheese?

► Identify which of the following cooking processes are used in this recipe:

Beating

Stovetop heating

Microwaving

Broiling

Folding

Baking

Cubing, shredding
or grating

Melting

Mixing

Freezing

Other

Evaluate a **egg dish** by filling in information and checking the descriptors that apply. Fill in the nutrition facts table for one ingredient from the product cards. Then, answer the questions that follow.

<p>Nutrient value</p> <div style="background-color: black; color: white; padding: 5px; text-align: center;">Check the nutrients that you think are in this dish.</div> <ul style="list-style-type: none"> Fat Saturated Trans Carbohydrate Fibre Sugars Protein Cholesterol Sodium Potassium Calcium Iron 	<p style="text-align: center;">Nutrition Facts</p> <p>Per _____</p> <hr/> <p>Calories _____ % Daily Value*</p> <hr/> <p>Fat _____ g _____ %</p> <p> Saturated _____ g _____ %</p> <p> + Trans _____ g</p> <hr/> <p>Carbohydrate _____ g</p> <p> Fibre _____ g _____ %</p> <p> Sugars _____ g _____ %</p> <hr/> <p>Protein _____ g</p> <hr/> <p>Cholesterol _____ mg</p> <hr/> <p>Sodium _____ mg</p> <hr/> <p>Potassium _____ mg _____ %</p> <hr/> <p>Calcium _____ mg _____ %</p> <hr/> <p>Iron _____ mg _____ %</p> <hr/> <p><small>*5% or less is a little, 15% or more is a lot</small></p>	<p>Cooking method</p> <p>Presentation</p> <p>Sensory properties</p>
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Describe the characteristics of the dish.

Type of food	Taste profile	Texture	Culinary uses
Spicy	Sour	Crispy	Main dish
Fishy	Bitter	Crunchy	Side dish or salad
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▶ How are the eggs added to, or used, in this dish?

▶ What function do the eggs perform in this dish? How do they perform this function?

Leavening

Binding or coating

Glazing

Thickening

Emulsifying

Main source of
protein

▶ **Denaturation** occurs when the protein breaks down. This usually happens when protein is heated, agitated or when another substance is added to it. **Coagulation** occurs when protein forms clots. How do these two processes apply to this dish?

▶ Identify which of the following cooking processes are used in this recipe:

Dry heat cooking
(baking, frying)

Blending

Freezing

Microwaving

Coating

Moist heat

Other

Beating

cooking

Whipping

(poaching, boiling)

Separating



Basic safety rules include precautions and practices that avoid injuries and accidents.

Many kitchen fires start from overheating oils or fats. To extinguish a fat fire, cover it with a fire blanket or damp cloth and turn off power or gas. Foam or powder extinguishers can also be used but **NEVER** water. Never try to move the burning pan or pot.

Steam can also cause burns. Make sure hot pans or pots have a cloth or oven glove on the lid or handle to warn others that the surface is hot.

Use dry and well insulated oven mitts or pot holders. Never use them if they are wet, as the heat turns the dampness to steam and can burn.

Aprons do more than keep your clothes clean. They also protect you from possible hot oil or grease splatters.

Make sure you know how to properly and safely use kitchen equipment and appliances. Read instructions. Use appliance blades or accessories safely and properly.

Keep hair tied back or use a hair net. Never cook in loose clothes to avoid the risk of fire as well as anything getting into the food you are preparing.



Two of the highest risks in the kitchen include knife cuts and burns. A fire extinguisher should always be easily accessible in the kitchen.

If you cut yourself, treat it immediately. If the cut is shallow, wash it under cold water. Dry the skin around the cut with a clean cloth and cover with a waterproof dressing.

If the wound is deep, apply pressure to slow the bleeding down. Sit or lie down so the wound is above the heart and call for medical help.

Burns or scalds should be placed under gently running cold water. Wrap ice in a plastic bag and place gently on the affected area. This may help reduce blistering.

Steam can also cause burns. Make sure hot pans or pots have a cloth or oven glove on the lid or handle to warn others. Apply cold water or ice on a burn, making sure you don't break the skin.

If hot liquids spill on clothing, do not remove the clothing. Wash under cold water and call for medical help. Removing the clothing may also remove a layer of skin.



Get into the habit of “cleaning as you go” when you cook. This frees up valuable work space and also avoids cross-contamination of surfaces, utensils and foods.

A pathogen is anything that can cause a foodborne illness. Symptoms can include stomach cramps, nausea, fever, diarrhea and vomiting. Foodborne illnesses are caused by foods that are contaminated.

Food is most likely to become cross-contaminated during preparation. Work areas and cutting boards used for raw foods should be kept separate from those used for fresh foods.

Bacteria that cause food poisoning grow best in warm foods. Perishable foods should be kept in the refrigerator and at the appropriate temperatures. Careful handling and storage of foods with an egg base, milk products, raw poultry and seafood is essential.

Hot dishes should be cooled rapidly before being put in the refrigerator. Otherwise, a hot dish will warm up the fridge temperature, affecting everything else in there.

Foods should be kept covered and promptly refrigerated to prevent exposure to mould spores in the air. Mould can also be avoided through clean and sanitary kitchen practices.

Viruses can be transferred from a person to a food through poor sanitation practices. It is essential that hands are washed thoroughly before and after handling foods.



Get into the habit of “cleaning as you go” when you cook. This not only frees up valuable work space, but avoids cross-contamination of surfaces, utensils and foods.

Start with a clean kitchen.

Make sure that you have trash, compost or recycling containers or bins close at hand so it’s easy to sort and get rid of different types of garbage as you cook. Have paper towels available for clean up and dish towels for spills and hand washing.

Dispose of cooking oils and fats by collecting them in a jar. Do not pour hot oil or fat down the drain. Do not recycle the jar of fat.

Consider ways to use leftovers instead of throwing them away.

Keep a jar of warm water for stashing sampling spoons after you’ve used them. Do NOT reuse spoons.

Wipe counters, cutting boards and utensils after you’ve used them.

Rinse and place dishes in the dishwasher as you use them.

Put ingredients away when you’re finished with them.



The right tools and equipment in a well-equipped kitchen make cooking easier and safer.

Organize tools and equipment before you start cooking so you're not searching for the right tool while you are handling food.

A good set of kitchen knives is a basic and necessary tool. While many knives can be washed in the dishwasher, they last longer if washed by hand. When washing any sharp kitchen utensil in the sink, be sure to wash them one at a time and do not dump them all in the water. Place them tip down in the dishwasher to avoid handling the blade.

Cutting boards should be cleaned right after use. Place a damp dishcloth under the board to prevent it from sliding while you use it.

Heavy pots can distribute heat better, but can be very heavy to lift when full. Light weight cookware or pots with double handles will avoid strain.

Oven mitts or pot holders should be within reach to move or handle any hot items. Make sure pot handles are kept away from the front of the stove.

Only use containers, utensils or dishes appropriate for the equipment you're cooking with, including microwavable containers in the microwave and oven safe containers in the oven.

Keep electric equipment away from sinks. Never use electric equipment with wet hands.



Hand washing is an important habit to get into. It's the best way to prevent germs from spreading and avoiding cross-contamination. If you don't wash your hands frequently, germs can transfer to cooking utensils, dishes, cutting boards, countertops and the food.

Wash your hands with warm water and soap for at least 20 seconds before and after handling food and after using the bathroom, changing diapers and handling pets.

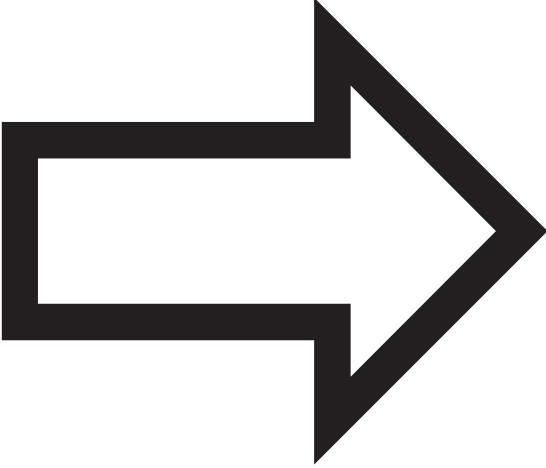
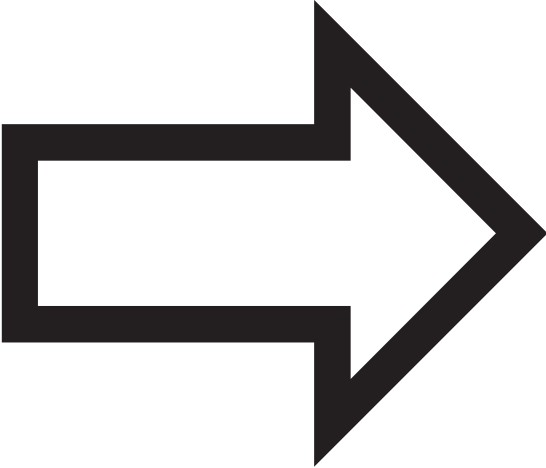
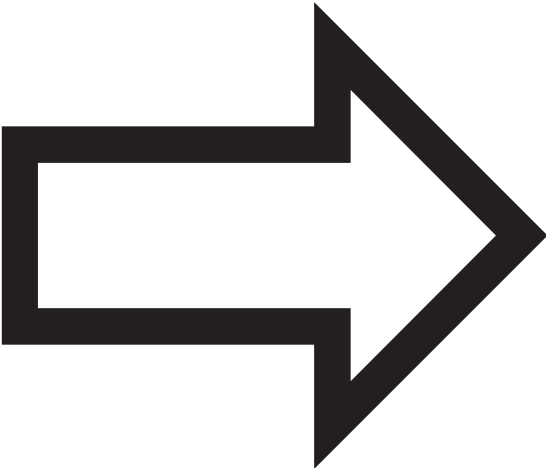
Wash your cutting boards, dishes, utensils and counter tops with hot soapy water after preparing each food item and before you go on to the next food.

Consider using paper towels to clean up kitchen surfaces.

If you use cloth towels, wash them often in the hot cycle of your washing machine.

Check out the *Fight Bac! Clean Fact Sheet* for more tips at http://www.fightbac.org/wp-content/uploads/2016/04/PFSE-7696-Fact-Sheets-Clean_FINAL.pdf

triple t-chart



3 Cook



<i>The Recipe</i>	<i>Ingredients & Equipment</i>	<i>Observations</i>
A cooked milk dish		
A cooked cheese dish		
An egg dish, in which eggs are used as a thickening, leavening, emulsifying, coating, glazing or binding agent		
An ethnic dish or one that accommodates special dietary restrictions		
A dish for a meal that includes more than one milk product and eggs		

the dish

Ingredients

Nutrient value

Check the nutrients that you think are in this dish.

- Fat
- Saturated
- Trans
- Carbohydrate
- Fibre
- Sugars
- Protein
- Cholesterol
- Sodium
- Potassium
- Calcium
- Iron

Nutrition Facts

Per _____

		% Daily Value*
Calories		
Fat	_____ g	_____ %
Saturated	_____ g	_____ %
+ Trans	_____ g	
Carbohydrate		
Fibre	_____ g	_____ %
Sugars	_____ g	_____ %
Protein	_____ g	
Cholesterol	_____ mg	
Sodium	_____ mg	
Potassium	_____ mg	_____ %
Calcium	_____ mg	_____ %
Iron	_____ mg	_____ %

*5% or less is **a little**, 15% or more is **a lot**

Cooking methods

Presentation

Sensory properties

Comment on the characteristics of your finished dish.

Type of food

Taste profile

Texture

Culinary uses

Evaluate your results.

Appearance

Consistency

Texture

Palatability

Challenge yourself by planning a balanced meal that includes your dish.



<i>I can...</i>	<i>I have...</i>
<p>select & compare</p> <ul style="list-style-type: none"> Identify a range of milk products and eggs in dishes and meals Assess food choices and dietary considerations Analyze nutritional values Explore processing, handling and storage tips 	<ul style="list-style-type: none"> Analyzed food ingredients and milk product and eggs in meals or dishes Identified my personal milk product and egg food preferences Identified a range of milk product and eggs that are part of daily food choices Assessed dietary choices, limitations and alternatives Compared characteristics of milk products, cheese and eggs Assessed milk products and eggs for nutritional value, processing and storage and handling requirements Explored information provided on food labels
<p>prep</p> <ul style="list-style-type: none"> Survey personal experiences and cooking processes Explore principles of protein cooking, including issues associated with temperature and cooking time, potential problems when milk is exposed to tannins, acids and salts Identify functions of eggs in cooking Complete process evaluation forms for three or four different cooking techniques 	<ul style="list-style-type: none"> Identified cooking processes applied to dishes with milk products and eggs Participated in demonstration recipes that illustrate how milk products react to tannins or salt Participated in demonstration recipes that illustrate how milk reacts with acids Participated in demonstration recipes that illustrate how milk can act as a thickening agent Participated in demonstration recipes that illustrate how to avoid scorching milk and skin formation Participated in demonstration recipes that illustrate the principles of protein cookery with cheese and/or a milk product Participated in demonstration recipes that illustrate the whipping and thickening properties of cream Participated in demonstration recipes that illustrate the emulsifying properties of butter Participated in demonstration recipes that illustrate the thickening properties of egg yolks Participated in demonstration recipes that illustrate eggs as an emulsifier or binding/coating agent Participated in demonstration recipes that illustrate eggs as a leavening agent when separated Participated in demonstration recipes that illustrate eggs as a leavening agent



<i>I can...</i>	<i>I have...</i>
<p>cook</p> <p>Select a range of at least five presentation dishes that include milk product and egg ingredients</p> <p>Cook and demonstrate each dish through in-class participation, video or photographic evidence</p> <p>Individually evaluate at least one of the presentation dishes cooked for nutrition, preparation time and tasks, cooking processes and quality standards</p> <p>Demonstrate safe and sanitary kitchen practices</p>	<p>Prepared and presented one cooked milk dish</p> <p>Prepared and presented one cooked cheese dish</p> <p>Prepared and presented one egg dish</p> <p>Prepared and presented one ethnic or special dietary restricted dish</p> <p>Prepared and presented a dish that incorporates various milk products and eggs into a meal</p> <p>Applied safe and sanitary kitchen practices</p> <p>Demonstrated appropriate use of kitchen equipment and implements</p> <p>Demonstrated proper storage and handling of milk products and eggs</p>



<i>Criteria statements</i>	<i>Performance</i>	<i>Comments</i>
<p>select & compare</p> <p>Identify similarities and differences in a range of milk products and eggs</p>	<p>Exceptionally</p> <p>Competently</p> <p>Simply</p> <p>Requires more support</p>	
<p>select & compare</p> <p>Describe the use of milk products and eggs, including nutritional value and dietary concerns</p>	<p>Exceptionally</p> <p>Competently</p> <p>Simply</p> <p>Requires more support</p>	
<p>prep</p> <p>Describe the role of milk in different cooking applications</p>	<p>Exceptionally</p> <p>Competently</p> <p>Simply</p> <p>Requires more support</p>	
<p>prep</p> <p>Describe the role of cheese in different cooking applications</p>	<p>Exceptionally</p> <p>Competently</p> <p>Simply</p> <p>Requires more support</p>	
<p>prep</p> <p>Describe the role of eggs in different cooking applications</p>	<p>Exceptionally</p> <p>Competently</p> <p>Simply</p> <p>Requires more support</p>	



<i>Criteria statements</i>	<i>Performance</i>	<i>Comments</i>
<p>cook</p> <p>Prepare and present one cooked milk dish</p>	<p>Exceptionally</p> <p>Competently</p> <p>Simply</p> <p>Requires more support</p>	
<p>cook</p> <p>Prepare and present one cooked cheese dish</p>	<p>Exceptionally</p> <p>Competently</p> <p>Simply</p> <p>Requires more support</p>	
<p>cook</p> <p>Prepare and present one egg dish</p>	<p>Exceptionally</p> <p>Competently</p> <p>Simply</p> <p>Requires more support</p>	
<p>cook</p> <p>Prepare and present one ethnic or special dietary restricted dish</p>	<p>Exceptionally</p> <p>Competently</p> <p>Simply</p> <p>Requires more support</p>	
<p>cook</p> <p>Prepare and present a dish that incorporates various milk products and eggs into a meal</p>	<p>Exceptionally</p> <p>Competently</p> <p>Simply</p> <p>Requires more support</p>	
<p>all</p> <p>Demonstrate proper storage and handling of milk products and eggs</p>	<p>Always</p> <p>Consistently</p> <p>Usually</p> <p>Seldom</p> <p>Not observed</p>	



<i>Criteria statements</i>	<i>Performance</i>	<i>Comments</i>
<p>all</p> <p>Demonstrate safe and sanitary kitchen practices</p>	<p>Always</p> <p>Consistently</p> <p>Usually</p> <p>Seldom</p> <p>Not observed</p>	
<p>all</p> <p>Demonstrate appropriate use of kitchen equipment and implements</p>	<p>Always</p> <p>Consistently</p> <p>Usually</p> <p>Seldom</p> <p>Not observed</p>	
<p>all</p> <p>Apply communication and thinking skills to problems and challenges</p>	<p>Always</p> <p>Consistently</p> <p>Usually</p> <p>Seldom</p> <p>Not observed</p>	
<p>all</p> <p>Demonstrate teamwork skills</p>	<p>Always</p> <p>Consistently</p> <p>Usually</p> <p>Seldom</p> <p>Not observed</p>	



Criteria	Great	Yes	Almost	Not yet



Criteria	<i>Great</i>	<i>Yes</i>	<i>Almost</i>	<i>Not yet</i>
Identify a range of milk products & eggs in dishes and meals	Creates a well-designed, balanced and nutritious meal that includes milk products and eggs	Creates a functional and nutritious meal that includes milk products and/or eggs	Creates a meal that combines one or more milk products or eggs	Creates a meal with minimal food combinations and ingredients
Assess food choices and dietary considerations	Combines interesting dishes that creatively use milk product and egg ingredients in the meal	Combines appropriate dishes that include milk product and egg ingredients in the meal	Selects limited dishes for the meal	Provides limited dishes with few ingredients for the meal
Analyze nutritional values	Makes accurate comparisons between the nutritional value of more than two main food ingredients in the meal	Makes adequate comparisons between the nutritional value of at least two main food ingredients in the meal	Provides limited information about nutritional values of a food ingredient	Provides little or no information about nutritional values
Demonstrate basic competencies	Demonstrates ability to effectively organize, summarize and synthesize information to reflect a balanced meal with a range of milk product and egg choices	Organizes information appropriately to reflect a balanced meal with milk product and/or egg choices	Provides limited information that includes milk products or eggs as food choices for a meal	Includes little information about milk product or egg food choices in a meal



Criteria	Great	Yes	Almost	Not yet
Identify cooking processes involved in a recipe	Identifies all cooking processes involved in recipe	Identifies most cooking processes involved in recipe	Identifies some cooking processes involved in recipe	Identifies few or no cooking processes involved in recipe
Apply principles of protein cooking (temperature and cooking time, potential problems when milk is exposed to tannins, acids and salts)	Describes multiple causes and effects related to protein cookery with a milk product, accurately linked to more than one cooking process involved in the recipe	Describes a relevant cause and effect related to protein cookery with a milk product, accurately linked to at least one cooking process involved in the recipe	Identifies a basic cause and/or effect related to protein cookery with a milk product or simple cooking process involved in the recipe	Provides limited descriptions of causes and/or effects related to protein cookery with a milk product
Apply understanding of functions of eggs in cooking (as a thickening, leavening, emulsifying or binding/coating agent)	Describes multiple causes and effects related to egg cookery, accurately linked to more than one cooking process involved in the recipe	Describes a relevant cause and effect related to egg cookery, accurately linked to at least one cooking process involved in the recipe	Identifies a basic cause and/or effect related to egg cookery or simple cooking process involved in the recipe	Provides limited descriptions of causes and/or effects related to egg cookery
Demonstrate basic competencies	Demonstrates ability to effectively organize, summarize and synthesize information about principles of protein and/or egg cookery	Organizes information appropriately to describe principles of protein and/or egg cookery	Provides limited evidence of organizational skills	Includes little evidence of organizational skills



Criteria	Great	Yes	Almost	Not yet
Demonstrate principles of protein cooking (temperature and cooking time, potential problems when milk is exposed to tannins, acids and salts)	Demonstrates accurate and skillful application of protein cooking processes	Demonstrates functional application of protein cooking processes	Demonstrates limited application of protein cooking processes	Provides minimal demonstration of protein cooking processes
Demonstrate understanding of functions of eggs in cooking (as a thickening, leavening, emulsifying or binding/coating agent)	Demonstrates accurate and skillful use of eggs as a thickening, leavening, emulsifying and/or binding/coating agent	Demonstrates functional use of eggs as a thickening, leavening, emulsifying and/or binding/coating agent	Demonstrates limited use of eggs as a thickening, leavening, emulsifying and/or binding/coating agent	Demonstrates minimal use of eggs as a thickening, leavening, emulsifying and/or binding/coating agent
Evaluate at least one of the presentation dishes cooked for nutrition, cooking processes and quality standards	Makes accurate assessment of product's nutritional value and quality standards	Makes adequate assessment of product's nutritional value and quality standards	Provides limited assessment of product's nutritional value and quality standards	Provides little or no assessment of product's nutritional value and quality standards
Demonstrate safe and sanitary kitchen practices	Provides thorough evidence that safe and sanitary kitchen practices were applied in preparation of product	Provides adequate evidence that safe and sanitary kitchen practices were applied in preparation of product	Provides limited evidence that safe and sanitary kitchen practices were applied in preparation of product	Provides little evidence that safe and sanitary kitchen practices were applied in preparation of product



