

Grade A... Eggs

Egg-ceptional Resources for Creative Learning

Cooking with Eggs



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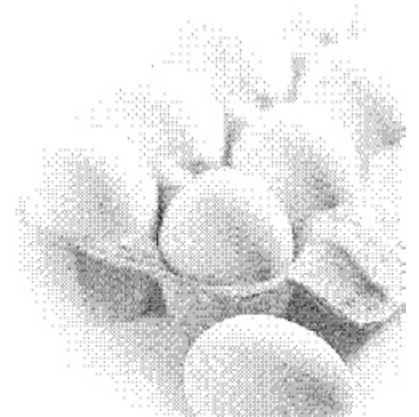
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Introduction to Cooking with Eggs

Two case studies cover the information needed for the two lessons.

They are:

1. Eggs are Useful: Live Chat # 1
2. Eggs are Delicious: Live Chat # 2

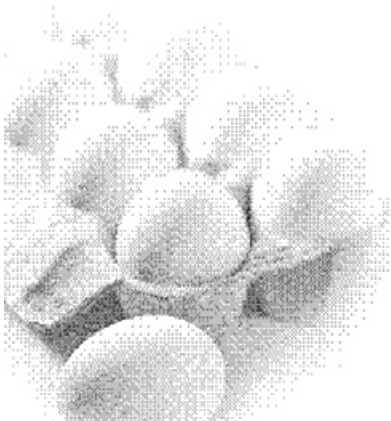
A lesson plan with activities and templates follows each of the two case studies.

General focus of each lesson is:

1. Eggs are Useful - The many functions eggs perform in food preparation
2. Eggs are Delicious - Egg cooking techniques

Note: Each lesson begins with a quick and easy quiz to familiarize students with pertinent facts and vocabulary. This is followed by more challenging activities requiring some research, group work and class presentations. Estimated time required for each lesson would be roughly three periods of about an hour in length with some work done outside of class.

See the web sites listed at the back of this resource for helpful information while preparing to teach this module. They will provide useful information for teaching *Cooking with Eggs*.



The Case Studies: Background Information

Case studies will be used to cover the information for the two lessons in *Cooking with Eggs*. The case studies will be in a “live chat on the net” format.

Here is some pertinent background information.

James Leghorn, a freelance investigative reporter, is on assignment for “Top Hen”, chief agent at E.A.T. (Eggs Are Terrific). E.A.T. is an advocacy group for the Canadian egg industry.

In his first assignment for E.A.T., James publishes a series of three articles on egg production in Canada. The articles are based on internet interviews with an egg farmer, grading station manager and a food safety agent. The purpose of the articles is to get the true facts on egg production to teenagers and foil an internet “egg smearing” conspiracy.

Production was the first target. *Nutrition* came next!

James gets cracking and interviews Canadian experts on food labelling and nutrition. He then publishes his exclusive interviews in **Total Teen Magazine (TT)**. TT is a popular magazine that focuses on total teen well-being. By publishing his interviews in TT, James gets the most up-to-date nutrition news to teenagers before the “bad news” force can make its move.

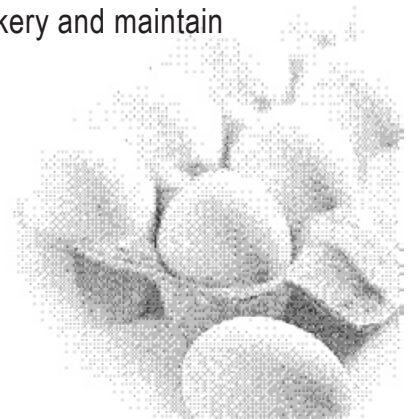
Now *Cooking with Eggs* is the target of the internet “egg smearing” campaign.

Top Hen’s final assignment for James is to use his celebrity status as “Jamie L’eggo, chef **eggs-traordinaire**”, to answer questions teenagers want to ask about egg cookery.

James loves to cook in his off duty hours and has written a widely acclaimed cookbook under the pseudonym “Jamie L’eggo”. He also posts a weekly live chat on his web site “Cooking with L’eggo- Online”.

This way, James/Jamie will be able to spread the good word about egg cookery and maintain the excellent reputation of the egg industry in Canada.

Note: This background information should be made available to the students as an introduction to the two case studies.



Lesson 1: Eggs are Useful - Overview

Eggs are one of the most versatile and widely used foods. Not only can they be prepared in a large variety of ways, they are also appropriate for any meal of the day. Eggs are very important in cooking where they are utilized for their many properties as a thickening, leavening, emulsifying, binding or coating agent.

Lesson Focus

Students will become aware of the versatility and wide use of eggs in our daily food preparation. Students will be introduced to the many functional properties of eggs. Students will discover how to store and handle eggs to ensure their quality and safety and they will also learn about the anatomy of an egg.

General Outcomes

These outcomes reflect curriculum outcomes in all provinces and territories in Canada.

1. Demonstrate appropriate use of research methods in the investigation of food-related issues.
2. Effectively communicate the results of inquiries.

Curriculum Connections

Available on www.eggs.ca, in the Teacher's Corner

Materials Needed

1. Introduction to Cooking with Eggs
2. The Case Studies: Background Information
3. Case Study – Eggs are Useful: Live Chat # 1
4. Quick Quiz – Part A – Function of Eggs Chart
Part B – Multiple Choice Quiz on Egg Handling
5. Experiment and Egg Anatomy Templates

Other Useful Resources

The Extraordinary Egg Booklet - pages 7 and 13

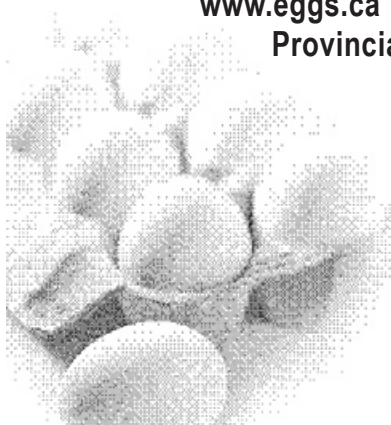
The Incredible Journey of the Egg from the Farm to Your Table - DVD

Canada's Food Guide

Useful Web Sites

www.eggs.ca

Provincial egg producer organization web sites (see last page of this module)



Lesson 1: Eggs are Useful - Teaching and Learning Strategies

Activity 1

Part A

Students read the case study, **Eggs are Useful: Live Chat # 1**.

Teacher leads a brainstorming session with the class naming as many egg-based foods as they can. Teacher lists each food on the blackboard.

Students sort the foods into two lists, one list of all foods where eggs are the main ingredient and the other where eggs are used but are not the main ingredient.

Next, students decide at what meal or meals each food might be eaten.

Students complete the **Quick Quiz, Part A - The Function of Eggs** chart for each food listed, using information presented in the case study.

Teacher reviews answers with the class.

Possible Answers:

Ingredients only: poached eggs, hard-cooked eggs, scrambled eggs

Thickening agent: crêpes, quiches, custards, sauces, chocolate mousse

Leavening agent: pancakes, muffins, cakes, soufflés, omelettes, meringues

Emulsifying agent: salad dressings, sauces, Hollandaise sauce

Binding agent: meatloaf, burgers, meatballs

Coating agent: chicken fingers, breaded fish

Part B

Students complete **Quick Quiz, Part B - Multiple Choice on Egg Handling**.

Teacher reviews answers with the class.

Answers:

1 -a, 2 - d, 3 - a, 4 - b, 5 - c, 6 - c, 7 - d, 8 - c, 9 - a

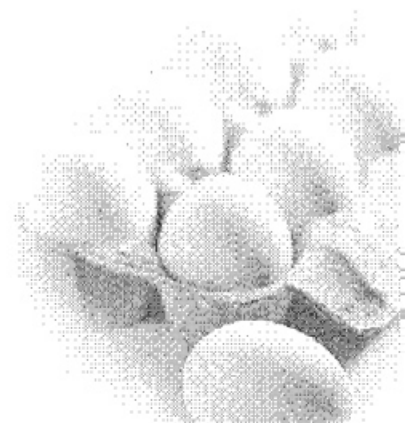
Activity 2

Using the **Experiment Worksheet** as a guide, teacher provides materials needed or organizes students to bring in materials from home.

Students work in pairs and use the **Experiment Worksheet** to do the following experiment on the properties of egg yolks.

Experiment: Properties of Egg Yolks

Students observe one of the properties of egg yolks and its usefulness in food preparation. Teacher reviews findings with the class.

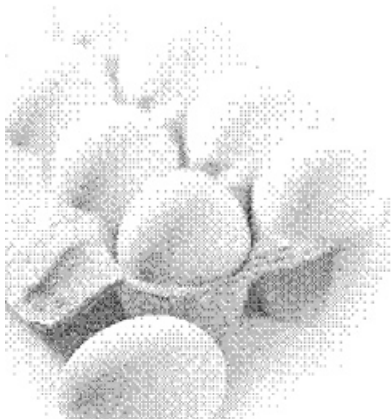


Findings: Experiment: Properties of Egg Yolks

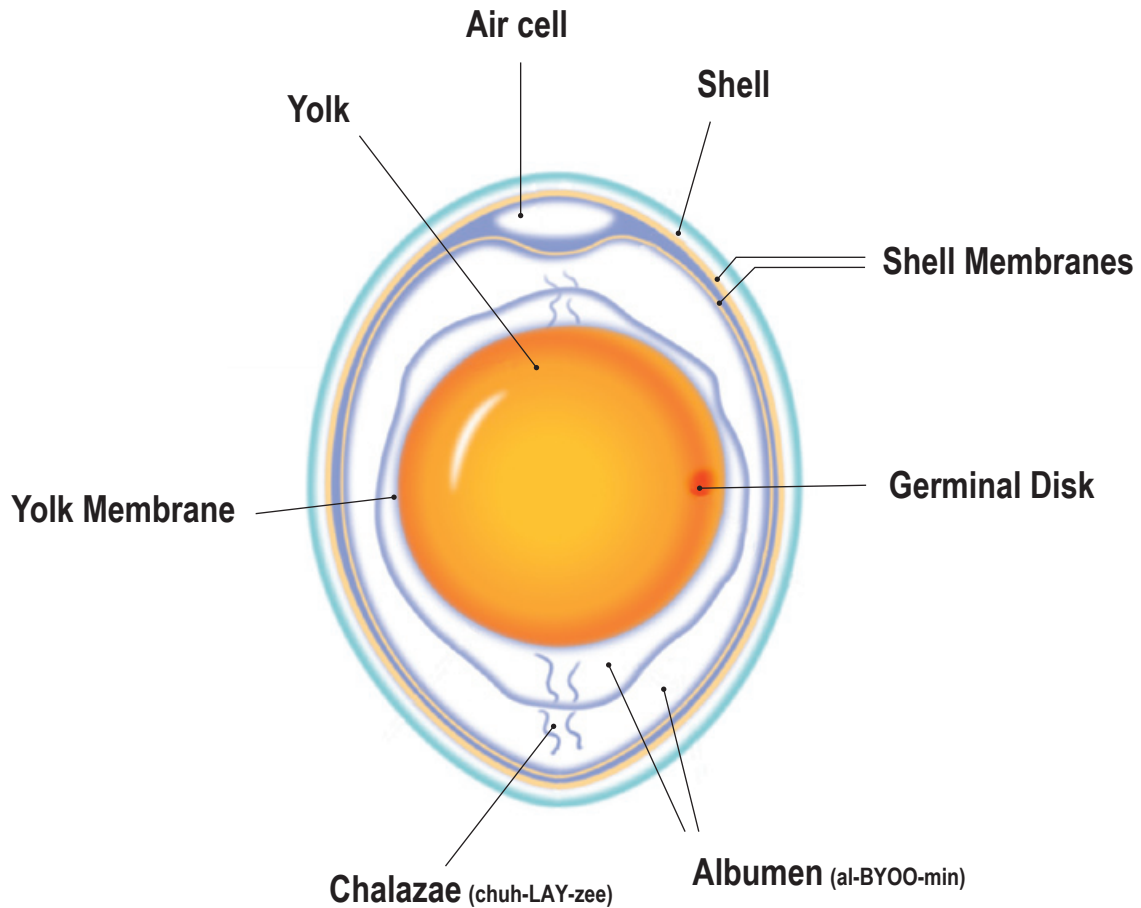
Observations:	Conclusions and Explanations:
1. Egg yolks mix with lemon juice and spices smoothly.	N/A
2. Mixture is either smooth or separated. If sauce appears separated, curdling has taken place.	This illustrates egg yolk as an emulsifying agent. Over beating or adding melted butter too quickly can cause curdling. Curdling can be rescued. Either whisk another egg and gradually beat into curdled sauce or place 1 tbsp (15 mL) water in a bowl and beat in a small amount of the curdled sauce until it becomes smooth. Keep adding sauce slowly while beating vigorously.
3. Sauce should be smooth.	When the egg yolks are first mixed with lemon juice, the lemon juice droplets are dispersed and ready to receive the melted butter. The melted butter is then added slowly to the yolk mixture. The idea is to spread tiny droplets as they form and prevent them from coming together and forming separate layers.

Activity 3

Using the names of the parts provided in the table, students correctly label the **Egg Anatomy** diagram. Afterwards, students must associate each part with the role that best describes it. Teacher reviews answers with the class.



EGG ANATOMY



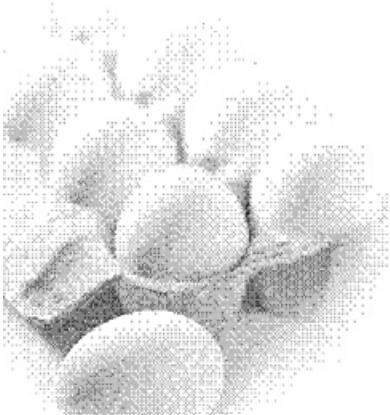
Part	Letter of association	Role
Shell	f	a. Second line of defence against bacteria.
Air Cell	g	b. Surrounds and holds the yolk.
Shell Membranes	a	c. A pair of spiral bands that anchor the yolk in the centre of the thick albumen.
Yolk	h	d. The egg white. Mostly made of water, high quality protein and minerals.
Yolk Membrane	b	e. The entry for the fertilization of the egg.
Chalazae	c	f. First line of defence against the entry of bacteria.
Germinal Disk	e	g. Indicates freshness of egg. Smaller equals fresher.
Albumen	d	h. Egg's major source of vitamins and minerals, including protein and essential fatty acids.

CASE STUDY

Eggs Are Useful: Live Chat # 1

(Answering the questions and broadcasting the delicious truth about cooking with eggs)

On the advice of Top Hen, James Leghorn uses his celebrity status as Jamie L'eggo, chef and cookbook author, to talk to teenagers on his internet Live Chat line.



Jamie L'eggo ONLINE

Message Boards

Transcript - - Jamie L'eggo Chat

Below is the complete transcript of a recent chat with Jamie L'eggo, author of "The Ultimate Egg Cookbook"©.

Admin_Kyra: Hello, Jamie L'eggo! Thank you for joining us this evening. We have several good questions tonight from your many teenage fans across Canada.

Jamie L'eggo: Hello everyone! It's good to be here.

Member Question: Hey Jamie. My boyfriend and I have been disagreeing on something lately. I thought you might be able to set him straight, as I am usually right. He says that eggs are good only for breakfast. I say they are great for any meal, any time of the day. You're the expert on eggs, what do you think?

Jamie L'eggo: You are right again! While eggs are widely known as a breakfast food, they can be prepared in so many different ways for any time of the day. Eggs can be hard-cooked, fried, scrambled, poached or baked - all scrumptious for any meal. There are also many foods that use eggs in their preparation such as pancakes, crêpes, salads, quiches, soufflés, meatballs, muffins, cakes, cookies and many more. Some of these foods are not necessarily associated with a specific mealtime.

Jamie's TIP

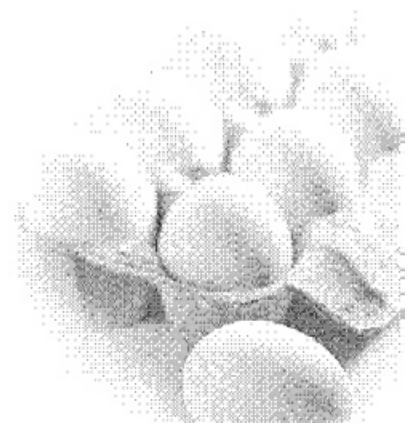
Visit www.eggs.ca for other delicious recipes that you can enjoy any time of the day!

Member Question: Most of my friends believe eggs are fairly one dimensional - you cook them up, you eat them. I think much more talent hides under that shell. Am I just fooling myself?

Jamie L'eggo: No, you are absolutely right. Eggs are *eggs-quisitely* simple yet enormously complex! While eggs are widely thought of as strictly an entrée or a main ingredient, they also perform in many other ways for a variety of dishes. Here are some of the useful functions eggs perform in food preparation.

Eggs are very good at **binding** foods together, which means they help the ingredients in a mixture stick together. Meatballs and burgers are two examples of foods where eggs serve as the "glue".

Eggs can also be a **leavening** agent for pancakes, muffins, omelettes or cakes. A leavening agent increases the volume of a food product and lightens its texture.



Eggs have a great **thickening** ability. Many delicious sauces rely on eggs to give them a thicker consistency. Custards rely on eggs for a more gelled texture.

Eggs are frequently used to emulsify or combine two liquids, such as oil and water, which normally can't be combined. Hollandaise sauce and salad dressings use eggs as an **emulsifying** agent.

Eggs can also work as a **coating** agent. Beaten eggs are applied to the surface of foods such as chicken or fish, so that other coatings like bread crumbs or cheese will stick.

***Admin_Kyra:** Thanks for your informative answer, Jamie. It's plain to see there is more to the egg than meets the eye. The egg performs many functions besides tasting so good!*

We have another question coming up, this time about egg whites as a leavening agent.

Member Question: My friends think I'm a nerd, but I really like to know how things work. For instance, what happens to egg whites when they are beaten? Why do they become foamy?

Jamie L'eggo: It's fun to be a scientist rather than a chef for a change!

As I mentioned earlier, eggs can function as a **leavening** agent to lighten the texture and increase the volume of food products. This is the job of the egg whites.

All proteins, including those in raw egg whites, are made of long chains of amino acids which can be compared to beads on a string. In raw egg whites, these strings are twisted in a round and compact mass, comparable to a tiny ball of yarn. The shape of the protein molecule plays a big part in how it behaves. In the case of raw egg whites, consisting of 90% water and 10% protein, the round and compact shape of proteins allows them to dissolve in water. This explains the liquid-like appearance of raw egg whites.

When you beat the egg whites to make certain foods, you are actually unraveling or untwisting the ball of protein. 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 essentially 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 (the egg whites won't raise as high).

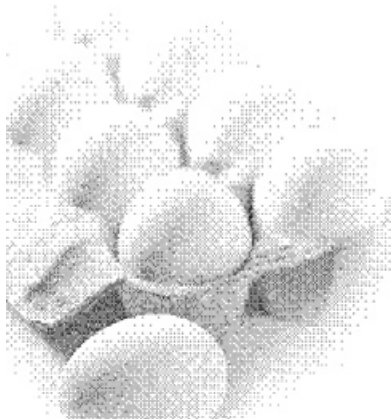
For certain products, like meringue, sugar is beaten into frothy egg whites. The sugar allows the foam to be more stable. There are more steps in making meringue but you'll have to check the web site www.eggs.ca for the secret to the perfect meringue.

Jamie's T I P

1- Eggs are easier to **separate** if they are cold. Before **beating**, let egg whites stand at room temperature for 20 to 30 minutes. They will beat to a greater volume if they aren't cold.

2- Use a glass or metal bowl when making meringue.

Plastic bowls can have a greasy film which can prevent foaming.



Admin_Kyra:

Keep your scientist hat on, Jamie!

Our next question is about egg yolks and how they work as an emulsifying agent.

Member Question: Mothers' Day is coming up and I want to make a special brunch for my mom. She loves Eggs Benedict and Hollandaise sauce. Here is my problem. When I try to combine the melted butter and the lemon juice to make Hollandaise sauce, these two liquids don't blend well and always separate. The lemon juice goes to the bottom and the melted butter sits on top. How can I get the mixture to blend?

Jamie L'eggo: That's easy to answer! You need an **emulsifying** agent to keep fat-based (butter) and water-based (lemon juice) ingredients together, and prevent them from separating. The emulsifying agent is an ingredient that is used to combine two liquids that normally wouldn't combine - like butter and lemon juice or oil and water.

An emulsion is created by slowly adding one ingredient to another while mixing rapidly. This agitation spreads out and suspends tiny droplets of the first liquid throughout the second liquid. However, the two liquids will quickly separate again if an emulsifying agent is not added. Emulsifying agents combine the two liquids and stabilize the mixture.

When preparing **Hollandaise sauce**, egg yolk is the emulsifying agent. Hollandaise sauce is made by first combining lemon juice (water-based ingredient) with egg yolks. Melted butter (fat-based ingredient) is then added drop by drop as the mixture is rapidly whisked. The idea is to spread tiny droplets as they form and prevent them from coming together and forming separate layers. The egg yolks bind the lemon juice and the melted butter together and prevent their separation. The final result is a sauce with a smooth and creamy texture.

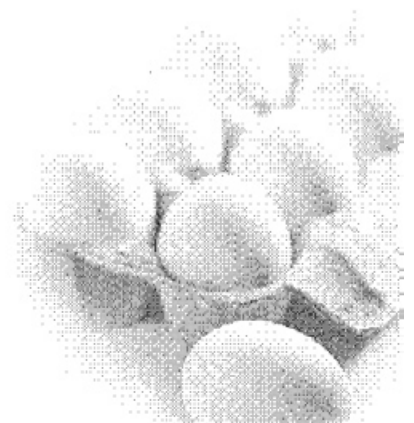
Curdling may occur due to over beating or by adding the melted butter too quickly. If this happens, don't panic! To rescue the sauce, you have two options:

- 1) Beat another egg yolk in a small bowl. With a fork or whisk, gradually beat the yolk into the curdled sauce.
- 2) Place 1 tbsp (15 mL) water in a bowl and beat in a small amount of the curdled sauce until it becomes smooth. Keep adding sauce slowly while beating vigorously.

If you have leftover sauce it is delicious over fish, seafood or vegetables.

Jamie's T I P

Hollandaise sauce may be frozen. To use, thaw slowly in the refrigerator, then warm in a double boiler over hot (not boiling) water, stirring constantly.



Admin_Kyra:

Our time is almost up, Jamie. We have a question about storing eggs.

Member Question:

Jamie, how do I make sure that my eggs are fresh?

How should I store them?

Jamie L'eggo:

The Best Before date, which is always written on the egg carton, is an ideal way to determine the freshness of eggs. As long as the eggs have been handled properly, this is an indication they will be Grade A quality. Eggs can be eaten after their Best Before date, but they are best used in a thoroughly cooked dish such as hard-cooked or scrambled eggs.

Here are a few other quick ways to determine if an egg is fresh:

- A fresh egg will sink in water, while an old egg will float (tip upright).
This happens because as an egg ages, the air cell at the wide end of the egg increases in size as air seeps in through the pores in the shell. This extra air causes the egg to float in water.
- In a fresh egg, the yolk sits up high and the white is thick and closely surrounds the yolk. An old egg has a flat yolk that breaks easily and a thin watery white.
- If the white of an egg is cloudy, the egg is very fresh. The cloudiness comes from the high carbon dioxide content present in the egg when it is first laid.

Here is the answer to the second part of your question.

Eggs should be stored in their original carton in the main body of the refrigerator and not on the refrigerator door. The carton protects the eggs and prevents them from absorbing strong odours and flavours of foods like onions or cabbage.

If you have leftover egg whites or yolks, refrigerate them right away in an airtight container.

You can also freeze eggs, but not in their shell. If you want to find out more about freezing eggs you can go to www.eggs.ca - Egg Facts.

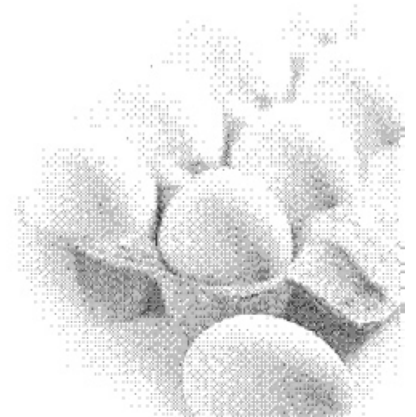
Jamie's T I P		
Storage Time for Eggs		
Type of Eggs	Refrigerator	Freezer
Fresh shell eggs	By "Best Before" date	4 months (eggs blended)
Leftover yolks or whites	Within 2 - 4 days	4 months
Hard-cooked eggs	Within one week	Not a good idea
Pickled eggs	Within one month	Not a good idea

Admin_Kyra: *Such egg-cellent advice, Jamie. I think we have time to squeeze in one last question. This one concerns egg anatomy.*

Member Question: **Hi Jamie! Yesterday for lunch, I made myself fried eggs. When I cracked one of the eggs in the frying pan, I noticed a white stringy strand attached to the egg yolk. Can you tell me what that was?**

Jamie L'eggo:

Yes, that would be the chalazae. The chalazae is a pair of spiral bands that anchors the yolk in the centre of the thick albumen. The fresher the egg, the more prominent the chalazae will be. I have included a cross section diagram of the egg so you can identify the different parts of the egg, inside and out, and the role each part plays.



EGG ANATOMY

Air Cell

- formed at the wide end of the egg as it cools after being laid
- the fresher the egg, the smaller the air cell

Yolk

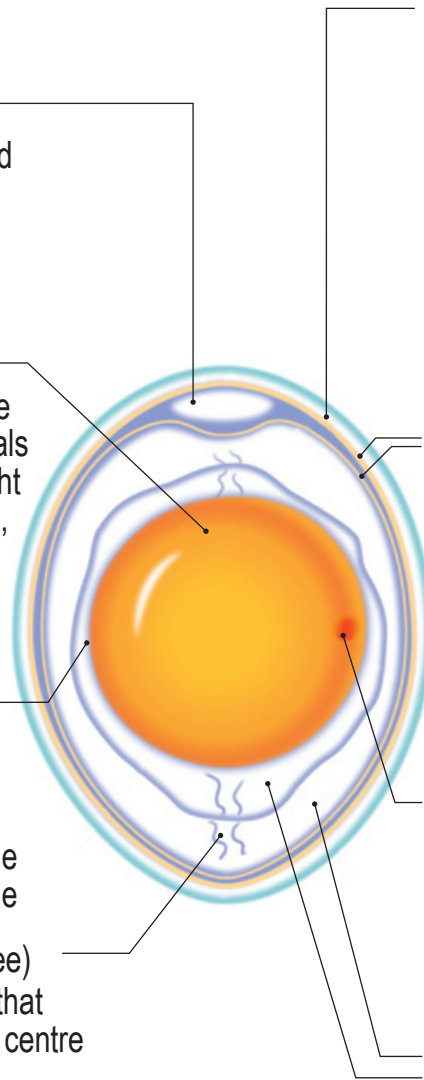
- the egg's major source of vitamins and minerals
- colour ranges from light yellow to deep orange, depending on the hen's food; nutritional value is similar

Yolk Membrane (Vitelline Membrane)

- surrounds and holds the yolk
- the fresher the egg, the stronger the membrane

Chalazae (chuh-LAY-zee)

- a pair of spiral bands that anchor the yolk in the centre of the thick albumen
- the fresher the egg, the more prominent the chalazae



Shell

- the egg's first line of defence against the entry of bacteria
- can be brown or white, depending on the breed of hen; nutritional value of the egg is the same
- approximately 10,000 tiny pores allow moisture and gases in and out

Shell Membranes

- the egg's second line of defence against bacteria
- there are two membranes on the inside of the shell: outer and inner
- one membrane sticks to the shell and one surrounds the albumen

Germinal Disk

- appears as a slight depression on the surface of the yolk
- the entry for the fertilization of the egg

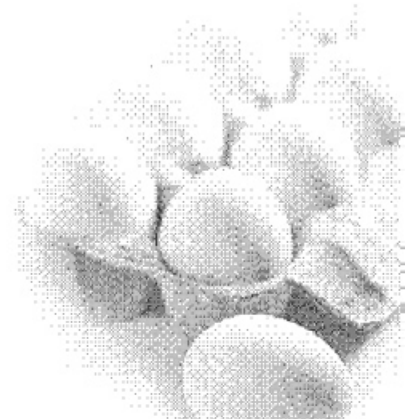
Albumen (al-BYOO-min)

- albumen is the egg white
- there are two layers: thick and thin albumen
- mostly made of water, high-quality protein and minerals

Admin_Kyra: *That's all the time we have. Thanks for joining us, chef and author, Jamie L'eggo. Thanks also to our members for spending time with us this evening. If your question wasn't answered, don't hesitate to post a question on the **"Ask Jamie L'eggo about Eggs"** section of the Message Board.*

*We'll be back next month with **"Live Chat #2"**. The topic will be **"Eggs are Delicious - Egg cooking techniques."** Have a great evening everyone!*

Jamie L'eggo: Thanks, Kyra. Good evening and happy cooking to the members. Talk to you next "Live Chat"!



Quick Quiz, Part B - Multiple Choice

Choose the answer that best completes the sentence.

1. Fresh eggs

- a) sink in water.
- b) have thin watery whites.
- c) spin easily.
- d) have large air cells at the wide end.

2. Best Before dates

- a) are most helpful to store owners but of not much value to the consumer.
- b) let you know when you should throw out your eggs.
- c) are not always written on the egg carton.
- d) tell you how long the eggs will keep their Grade A quality.

3. Hard-cooked eggs can be stored in the refrigerator

- a) up to a week.
- b) longer than pickled eggs.
- c) four months.
- d) but it is not a very good idea to do this.

4. The functions eggs perform in food preparation include:

- a) scrambled, poached and hard-cooked.
- b) binding, leavening, thickening, coating and emulsifying.
- c) breakfast, lunch, dinner and snacks.
- d) omelettes, frittatas, quiches and soufflés.

5. Storing frozen eggs

- a) is never a good idea.
- b) is best if the eggs are frozen in the shell.
- c) for up to four months is possible if eggs are blended before freezing.
- d) in ice cube trays is unacceptable.

6. The chalazae plays a very important role in the egg as it

- a) is the first line of defense against the entry of bacteria.
- b) is the entry for the fertilization of the egg.
- c) anchors the yolk in the centre of the albumen.
- d) is the major source of vitamins and minerals in an egg.

7. The air cell

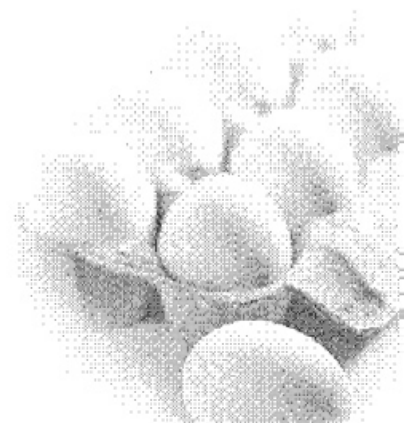
- a) looks like a blood spot.
- b) is the first line of defense against the entry of bacteria.
- c) is mostly made of water.
- d) forms at the wide end of the egg as it cools after being laid.

8. In preparing Hollandaise sauce, eggs are used

- a) as a leavening agent.
- b) as a garnish.
- c) as an emulsifying agent.
- d) as a coating agent.

9. Every egg has a total of

- a) three membranes - two shell membranes and a yolk membrane.
- b) two membranes - a shell membrane and a yolk membrane.
- c) four membranes - two shell membranes, the yolk membrane and the vitelline membrane.
- d) two membranes - a membrane that sticks to the shell and one that surrounds the white.



Experiment Worksheet: Properties of Egg Yolks

Purpose: To observe properties of egg yolks

Materials:

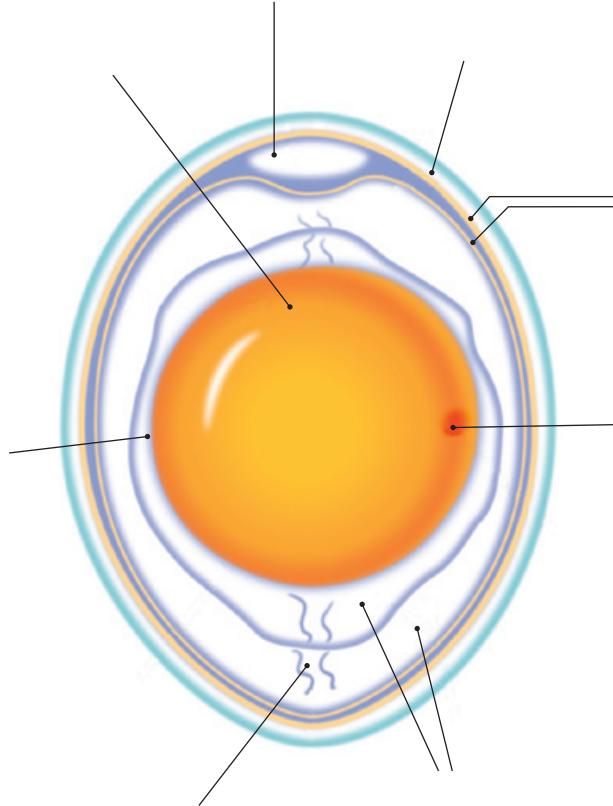
- 3 egg yolks
- 4 cup glass measure
- 1 tbsp lemon juice (15 mL)
- whisk
- ½ cup melted butter (125 mL)
- microwave oven
- Pinch of salt and dry mustard

Method: Using the preparation of Hollandaise sauce to illustrate a property of egg yolks.

PROCEDURE	OBSERVATIONS	CONCLUSIONS AND EXPLANATIONS
1. Whisk together egg yolks, lemon juice and spices.	Note observations.	N/A
2. Gradually whisk melted butter into egg mixture, beating constantly.	Describe mixture. Is there any curdling?	What property of egg yolk does this illustrate? What two things might cause curdling? Can you correct a curdled sauce? How?
3. Microwave on MEDIUM (50%) for 30 seconds to one minute, or until sauce thickens. Whisk halfway through and at the end of cooking.	Is the sauce smooth?	Explain how the yolk acts to stop the oil (butter) and lemon juice (water) from separating. Note: Use information from the case study to help you with your explanation.

Egg Anatomy

Using the names of the parts provided in the table below, label the **Egg Anatomy** diagram. Afterwards, complete the table by associating each part with the role that best describes it.



Part	Letter of association	Role
Shell	<i>example: f</i>	a. Second line of defence against bacteria.
Air Cell		b. Surrounds and holds the yolk.
Shell Membranes		c. A pair of spiral bands that anchor the yolk in the centre of the thick albumen.
Yolk		d. The egg white. Mostly made of water, high quality protein and minerals.
Yolk Membrane		e. The entry for the fertilization of the egg.
Chalazae		<i>f. First line of defence against the entry of bacteria.</i>
Germinal Disk		g. Indicates freshness of egg. Smaller equals fresher.
Albumen		h. Egg's major source of vitamins and minerals, including protein and essential fatty acids.

Lesson 2: Eggs are Delicious - Overview

When it comes to cooking with eggs, the possibilities are endless. Eggs can be cooked in their shell, fried, poached, scrambled and microwaved, to name a few cooking methods. Recipes using eggs are so abundant it would be impossible to list them all.

Lesson Focus

Students will discover how easy it is to cook with eggs. After learning egg cooking techniques and tips, students will develop their own egg recipe. Students will use their recipe to create a meal plan and prepare a meal.

General Outcomes

These outcomes reflect curriculum outcomes in all provinces and territories in Canada.

1. Demonstrate the ability to follow a recipe.
2. Demonstrate creativity in planning, preparing and serving a meal that meets the specifically defined needs and budget of a particular family or individual.

Curriculum Connections

Available on www.eggs.ca, in the Teacher's Corner

Materials Needed

1. Introduction to Cooking with Eggs
2. The Case Studies: Background Information
3. Case Study - Eggs are Delicious: Live Chat # 2
4. Quick Quiz - Tips for Successful Eggs
5. Activity 2: Parts A, B and C

Other Useful Resources

The Extraordinary Egg Booklet - pages 13 to end

The Incredible Journey of the Egg from the Farm to Your Table - DVD

Canada's Food Guide

All About Eggs - booklet available on www.eggs.ca

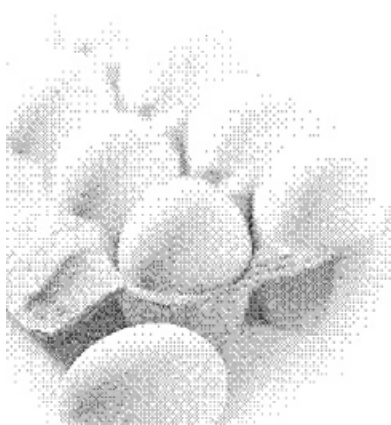
Useful Web Sites

www.eggs.ca

Provincial egg producer organization web sites

(see last page of this module)

www.healthcanada.ca/foodguide



Lesson 2 : Eggs are Useful - Teaching and Learning Strategies

Activity 1

Students read the case study, **Eggs are Delicious: Live Chat # 2.**

Students complete the **Quick Quiz - Tips for Successful Eggs.**

Teacher reviews the answers with the class.

Answers To Quiz:

1- A (Example), 2 - E, 3 - G, 4 - J, 5 - H, 6 - D, 7 - I, 8 - C, 9 - B, 10 - F

Activity 2

Part A

Students could work in pairs for this activity.

Keeping in mind the principles they have learned about basic egg cooking techniques, **students create a recipe for an egg dish.**

The recipe includes:

- a name for their dish
- a list of ingredients
- preparation instructions
- meal time recommendation or suggestion (breakfast, lunch or dinner)

Teacher reviews recipes and makes suggestions where needed.

Part B

Teacher reviews *Canada's Food Guide* with class.

Students plan a meal around the dish they have created.

Meal requirements:

- must incorporate all four food groups from *Canada's Food Guide*
- must serve two adults
- must stay within budget (budget to be determined through class discussion)

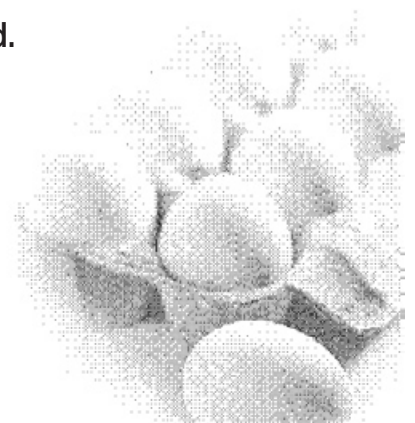
Students present their menus to the class identifying the food groups used and the cost of preparing this meal.

Part C

If facilities allow, **students prepare and serve the meals they have planned.**

This could be done in two seatings, with half the class preparing meals and half the class eating at each seating. *

**Caution: Identify any food allergies before starting this activity.*

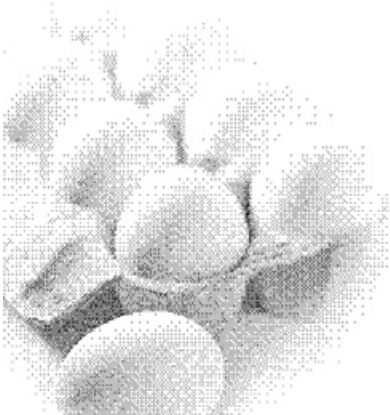


CASE STUDY

Eggs Are Useful: Live Chat # 2

(Continuing to answer questions and broadcast the delicious truth about cooking with eggs)

On the advice of Top Hen, James Leghorn uses his celebrity status as Jamie L'eggo, chef and cookbook author, to talk to teenagers on his internet Live Chat line.



Jamie L'eggo ONLINE

Message Boards

Transcript - - Jamie L'eggo Chat

Below is the complete transcript of a recent chat with Jamie L'eggo, author of "The Ultimate Egg Cookbook"®.

Admin_Kyra: *Welcome back Jamie L'eggo! The last time you were here, most of the members' questions concerned the functions of eggs in cooking and handling foods safely at home. Tonight, our questions focus on your favourite topic - cooking with eggs!*

Jamie L'eggo: Hello again to my legion of egg cooking fans! I'm looking forward to answering your questions on cooking with eggs.

Member Question: **Jamie, love your book. I enjoy cooking with eggs but sometimes the finished product doesn't turn out quite the way it should. What could I possibly be doing wrong?**

Jamie L'eggo: Despite what you may think, most cooking isn't difficult. You just have to master the basics and go from there. I can't think of a better place to start than with eggs - nature's most delicious and functional food!

This is what you need to remember. When cooking with eggs, an important principle is to use the right temperature and to cook for the appropriate length of time. Generally, eggs should be cooked at a medium or low temperature and for a specified time period. When eggs are cooked at too high a temperature or for too long, they become tough and rubbery.

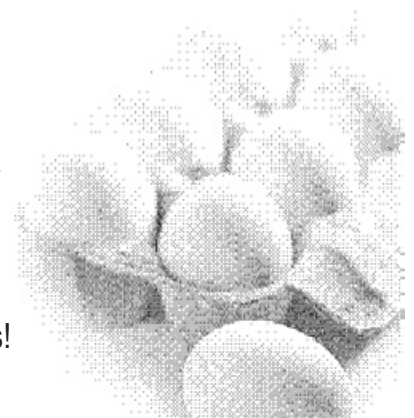
Eggs can be cooked on the stovetop, or in the oven or microwave. For delicious eggs and egg dishes every time in the microwave, it is recommended to use MEDIUM (50% power) settings, if not specified otherwise. You should also leave the dish *slightly* undercooked and allow for standing time to finish the cooking process.

Admin_Kyra: *It's easy to see that it's simple to cook with eggs! Here is a good question about egg cooking techniques.*

Member Question: **I often need a quick, convenient and tasty meal for breakfast, lunch or dinner to fit into my busy school schedule. Can you lay out some basic ways to cook eggs?**

Jamie L'eggo: No problem. Here are four basic ways to cook eggs: you can cook them in their shell, fry them, poach them or scramble them. (Remember that eggs can also be used as a key ingredient in many delicious recipes such as omelettes, quiches, soufflés, crêpes, etc.)

I'll give you a quick rundown on basic egg cooking techniques so you can make a wholesome and versatile breakfast, lunch, snack or dinner in minutes!



Let's start with **hard and soft-cooked eggs**.

Here are the simple steps to follow. You can't go wrong.

- First, place cold eggs in a single layer in a saucepan and cover them with at least 1 inch (2.5 cm) of cold water.
- Cover the saucepan and bring the water to a boil over high heat.
- Remove the pan immediately from the heat to stop the water from boiling.
- Leave the eggs in the water, covered, for 3 to 4 minutes for soft-cooked eggs and 18 to 23 minutes for hard-cooked eggs, depending on the size of the eggs.
- Drain the water and immediately run cold water over the eggs until they are cooled.

It's a great convenience and time-saver to prepare hard-cooked eggs ahead of time. They keep for one week in the refrigerator and are great sliced on toast or in sandwiches and salads.

Jamie's T I P

1- To determine if an egg in the shell is hard-cooked or raw, spin it.

Hard-cooked eggs spin smoothly and rapidly. Raw eggs wobble because of their liquid centre.

2- A grey ring around a hard-cooked egg yolk is due to either overcooking or a high iron content in the cooking water. This discoloration can be avoided by using the proper cooking time and temperature, and by rapidly cooling the cooked egg in cold water for a few minutes. The grey ring is not harmful; it just doesn't look attractive.

And now for **fried eggs**, which are so quick and easy to prepare. They are delicious on their own and also excellent in English muffins or bagel sandwiches. Here are the simple steps to follow:

- Heat a small non-stick skillet over medium heat and spray with cooking spray.
- Break eggs directly into skillet.
- Cook eggs slowly until they are the way you like them.
 - ~ *For sunny-side up*: Cook just until whites are set.
 - ~ *For over-easy*: Cook until whites are set. Turn over and cook just long enough to form a white film over yolks, about 30 seconds.
 - ~ *For over-well*: Turn eggs over and cook until eggs are completely set, about 1 minute.

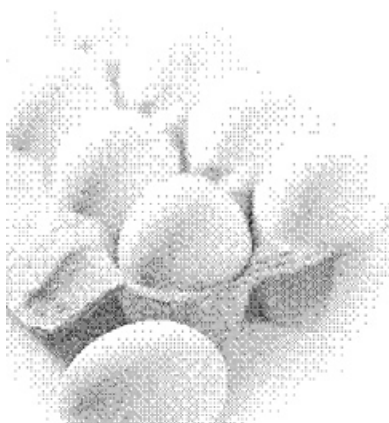
Let's move on to the elegant **poached egg**, wonderful for a brunch or a special breakfast.

A poached egg is delicious on its own, but can also be dressed up as

Eggs Benedict by topping with Hollandaise sauce.

For stovetop cooking:

- Bring 3 inches (7.5 cm) of water to boil in a saucepan; reduce to a gentle simmer.
- Break a fresh, cold egg into a small dish.
- Slip the egg into the water, taking care not to break the yolk.
- Cook 3 to 5 minutes in slow simmering water. Remove with a slotted spoon and drain well.



Jamie's T I P

Be a creative cook! Eggs can be poached in a variety of liquids - tomato juice or chicken broth are two excellent ideas.

Now for **scrambled** eggs, my personal favourite!

There are lots of variations on scrambled eggs - like adding cheese, salsa, chopped vegetables or cooked meat. Here are the steps to follow for making basic stovetop scrambled eggs for one person.

- Whisk together 2 eggs, 2 tbsp. (30 mL) milk or water, salt and pepper to taste.
- Heat a small non-stick skillet over medium-high heat until hot enough to sizzle a drop of water.
- Spray skillet with cooking spray.
- Pour in egg mixture and immediately reduce heat to medium-low.
- As mixture begins to set, gently move a spatula around the sides and bottom to form big soft curds. Don't mix!
- Cook until the eggs are thickened and no visible liquid egg remains in the pan. The eggs should still be moist.
- Serve immediately.

Jamie's T I P

#1- Use milk, instead of water, for creamy scrambled eggs.

#2- Cooking eggs slowly over medium-low heat will give you perfect scrambled eggs that are thick, fluffy and creamy!

#3- You can hold cooked scrambled eggs for a short time by placing them over a pan of hot water and covering them. Avoid placing them over direct heat.

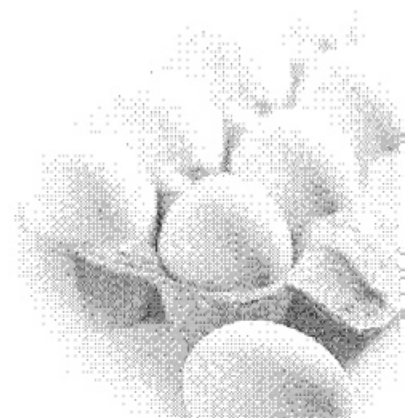
Admin_Kyra: *A very useful and informative cooking lesson, Jamie!*

Our next question is about using the basic techniques to develop egg recipes.

Member Question: **Jamie, I have perfected the basic egg cooking techniques. Now I want to break out and create my own recipes using eggs as a key ingredient. Can you help me out with some recipe ideas?**

Jamie L'eggo: Help is on the way!

Let's begin with the **in-shell** cooking method. Think of all of the combinations of foods you could create with a hard-cooked egg. If you are making an egg salad recipe with chopped hard-cooked eggs, why not add chives and bacon bits or Tex-Mex seasoning to spice things up. Try adding minced fresh herbs and garlic powder, or even chili sauce when making devilled eggs! Be creative and experiment with many different foods!



The **fried egg** possibilities are endless as well. Adding a fried egg to a sandwich, along with lettuce, tomato and cheese is a great lunch idea! Why not try a fried egg with your favourite sandwich toppings?

As mentioned in my answer to the previous question, **poached eggs** can also be dressed up by topping with sauces or a variety of different ingredients.

You can also be creative by incorporating eggs in your everyday meal ideas. Add **scrambled eggs** in burritos, tacos, or on tortilla chips. Use a basic **omelette** as a great high-protein pizza crust or, instead of filling and folding, cut a basic omelette into strips and toss with your favourite pasta sauce.

Finally, eggs can create fabulous dishes such as **omelettes**, **frittatas**, **quiches** and **soufflés**. To add variety to egg dishes, experiment with different ingredients such as cheeses, chopped cooked meats, vegetables, herbs and spices.

Jamie's T I P

Here are a few definitions to help you out.

- An **omelette** is a dish consisting of beaten eggs and water or milk, cooked until set and folded over, often around a filling.
- A **frittata** is an Italian omelette - an open-faced omelette with other ingredients, such as cheese or vegetables, mixed into the eggs rather than used as a filling.
- A **quiche** is a rich unsweetened custard pie, mostly consisting of eggs and milk, often containing ingredients such as vegetables, cheese, meat or seafood.
- Finally a **soufflé** is a very light and fluffy egg dish, which can also be flavoured with different filling ingredients.

Don't forget that eggs are often used as a key ingredient in desserts too. Eggs are the foundation food of delectable treats such as **custards**, **flans** and **meringues**.

My best advice to you, dear member, is to follow the principles of basic egg cooking and let your creative culinary juices flow. You'll see that it's easy to create your very own **egg-citing** recipes!

Admin_Kyra: Such **egg-cellent** advice and mouth-watering suggestions, Jamie.

Jamie L'eggo: Thanks, Kyra. Bon appetit to you and the "Jamie L'eggo - Online" chat members.

Admin_Kyra:

Thanks for joining us tonight, chef and cookbook author, Jamie L'eggo!

*This live chat session concludes our "Ask Jamie L'eggo about Eggs" chat line series. For more information on egg cooking techniques, recipes and egg handling tips go to **www.eggs.ca**.*

*Have an **eggs-emplary** evening everyone!*

Quick Quiz - Tips for Successful Eggs

Find the best ending for each cooking tip started in Column One.
Fill in its letter in the space provided.

COLUMN ONE	LETTER	COLUMN TWO
Example: 1. Scrambled eggs	A.	A. should be cooked at medium-low heat.
2. To poach eggs successfully,		B. become tough and rubbery.
3. Hard-cooked eggs will		C. use milk instead of water.
4. When cooking eggs in the shell,		D. spin the egg.
5. When cooking scrambled eggs,		E. the eggs should be cooked in simmering water.
6. To determine whether an egg is hard-cooked or raw,		F. cook just until whites are set.
7. When hard-cooking eggs, prevent a grey ring from forming around the egg yolks		G. keep for one week in the refrigerator.
8. For creamy scrambled eggs,		H. remove from the heat when eggs have thickened and no visible liquid egg remains.
9. Eggs that are cooked for too long or at too high a temperature		I. by immediately immersing the eggs in cold water after they have cooked for the desired time.
10. When frying eggs Sunny-side up,		J. place eggs in a single layer in a saucepan of cold water.

