

Grade A... Eggs

Egg-ceptional Resources for Creative Learning

Nutrition



Grade A... Eggs Nutrition

Table of Contents

INTRODUCTION TO NUTRITION

The Case Studies: Background Information

Lesson 1: Overview

Teaching and Learning Strategies

CASE STUDY - What *is* in the Food You're Eating?

Activity 1 Quick Quiz - Food Facts

Activity 2 Mystery Lunch Menu Chart and Answer Menu Chart
Food Label Chart

Lesson 2: Overview

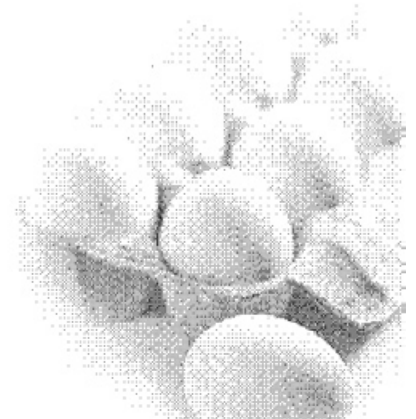
Teaching and Learning Strategies

CASE STUDY - Are Eggs Good for *You*?

Activity 1 Quick Quiz – Fact or Fiction

Activity 2 Making Nutrition Work for you

Activity 3 Nutrition Discussion



Introduction to Nutrition

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

They are:

1. What *is* in the Food You're Eating
2. Are Eggs Good for *You*?

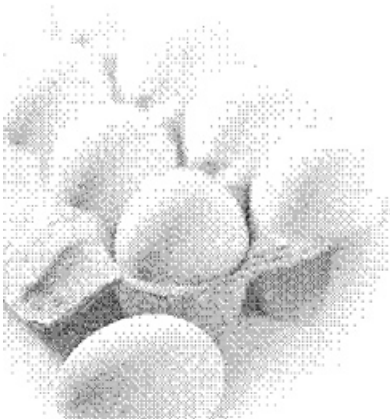
A lesson plan with activities and templates follows each of the two case studies.

General focus of each lesson is:

1. What *is* in the Food You're Eating - Nutrition Information on Food Labelling
2. Are Eggs Good for *You*? - The Role of Essential Nutrients in Maintaining Good Health

Note: Each lesson begins with a quiz designed to familiarize students with pertinent facts, general information and vocabulary provided in the case study. The quiz is followed by more challenging activities requiring research and critical thinking. Estimated time required for each lesson would be roughly three periods of about one 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 general information on nutrition and eggs, for teaching *Nutrition*.



The Case Studies: Background Information

Case studies will be used to cover the information for the two lessons in *Nutrition*. The case studies will be in an interview format.

This is how it all begins:

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 a previous assignment for E.A.T., James published a series of three articles on egg production in Canada. The purpose of the articles was to get the true facts on egg production to young Canadians and foil an internet “egg smearing” conspiracy.

Production was the first target. Top Hen fears *Nutrition* is next!

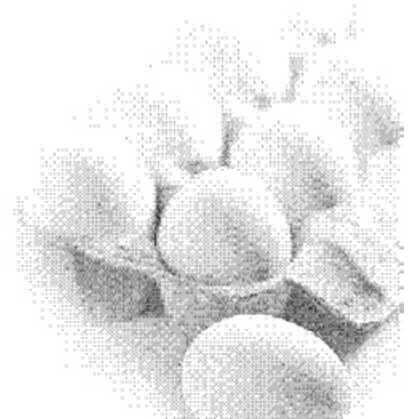
James takes a different tack this time and makes his move before the situation gets out of hand. He interviews Canadian experts on food labelling, nutrition and food perceptions, then publishes his **exclusive** interviews in **Total Teen Magazine (TT)**.

TT is a wildly popular magazine that focuses on total teen well-being.

TT's circulation has skyrocketed as young Canadians from coast to coast become increasingly interested in their health and personal responsibility as consumers.

By publishing his interviews in **TT**, James will get the most up-to-date nutrition information to teenagers before the “bad news” force can make its move.

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



Lesson 1: What *is* in the Food You're Eating? - Overview

Canadians of all ages are interested in knowing what is in the food they eat. Most food labels include nutrition information but interpreting and understanding this information can be a challenge.

As Canadian students grow increasingly independent of their families, sometimes shopping and cooking for themselves, they adopt the responsibility for their own eating habits. To make informed healthy food choices, students need to acquire nutrition knowledge and develop skills related to personal decision making.

Lesson Focus

Students will become aware of information sources (**Nutrition Facts** table, ingredient list, nutrition claims) found on the labels of most pre-packaged food in Canadian stores.

Students will use the nutrition information sources on food labels to determine the nutritional value of foods, compare products and make informed food choices.

General Outcomes

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

1. Demonstrate an understanding of food labelling and advertising regulations.
2. Effectively communicate the results of inquiries.

Curriculum Connections

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

Materials Needed

1. Introduction to Nutrition
2. The Case Studies: Background Information
3. Case Study – What *is* in the Food You're Eating?
4. Quick Quiz - Food Facts
5. Mystery Lunch Menu Chart, Answer Menu Chart, Food Label Chart - Templates

Other Useful Resources

The Extraordinary Egg Booklet - pages 9 and 10

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

Canada's Food Guide

Useful Web Sites

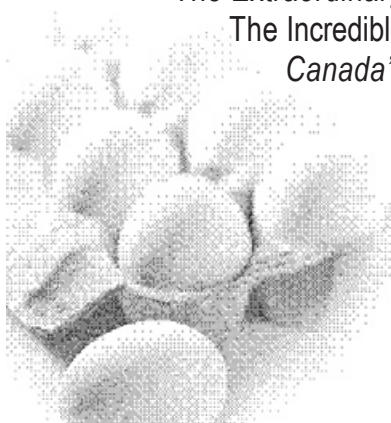
www.eggs.ca

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

www.healthcheck.ca

www.healthcanada.ca/nutritionlabelling

www.healthcanada.ca/foodguide



Lesson 1: What *is* in the Food You're Eating? – Teaching and Learning Strategies

Activity 1

Students read the case study, **What *is* in the Food You're Eating?**
Teacher asks students to complete the **Quick Quiz – Food Facts**.

Answers to Quiz: Q1 - column 3, Q2 - column 2, Q3 - column 3, Q4 - column 1,
Q5 - column 2, Q 6- column 3, Q7 - column 1, Q8 - column 2, Q9 - column 1,
Q10 - column 3, Q11 - column 1, Q12 - column 3

Students record their total score at the bottom of the page then share their results with the class in a quick teacher-led survey.

Teacher initiates a class discussion focusing on students' knowledge of, personal interest in and general attitude toward nutrition, food labelling and *Canada's Food Guide*.

Suggested Discussion Questions:

Why is it important to know the nutrients and ingredients that are in the food we eat?
What role does *Canada's Food Guide* play in our eating choices?
How would you rate the **Nutrition Facts** table as a tool for verifying nutritional value?
Do you pay close attention to the specific nutrients in a food? Which ones? Why?
Do you ever check the ingredient list before you buy (or eat) a product?
Why or why not?
Are the nutrient or diet-related claims that appear on food packaging confusing or helpful?
Do claims on food packaging influence what you buy or eat?

Activity 2

In this activity students will work in pairs to:

1. Plan a nutritionally balanced lunch menu, using the **Mystery Lunch Menu Chart**.

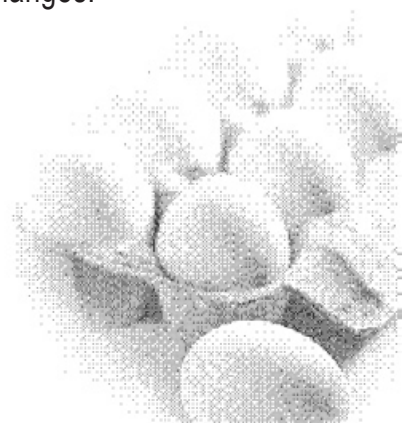
To prepare for this activity, teacher reviews *Canada's Food Guide* and provides students with examples of balanced meals. Using *Canada's Food Guide* to assist them, students ensure there is one item from each of the four food groups in their menu. Students go over their **Mystery Lunch Menu Chart** and the teacher makes any suggested changes. Each pair is assigned a group number for easy identification.

2. Find labels for as many of the lunch menu food items as possible.

Students will need to get these labels from actual food items, probably from their homes.

Students make sure each label contains both the **Nutrition Facts** table (if on the package) and **ingredient list**, but not the product name.
Students write the food group on each label.

3. Find or draw pictures of food items that don't have labels (like salad).



What *is* in the Food You're Eating? – Teaching and Learning Strategies (Continued)

4. Pack a lunch bag with the labels and/or pictures, making sure that each lunch menu item on their **Mystery Lunch Menu Chart** is represented.

These menu charts are given to the teacher once the lunch bag is prepared.

5. Trade lunch bags with another pair of students.

6. Try to identify what is in the lunch they have received in the trade.

Students fill in lunch menu items on their **Answer Menu Chart** as they figure them out. Remember there will be one food from each food group in the lunch bag.

Once the obvious food items have been identified, (the ones with pictures) students use the **Food Label Chart** to figure out the others.

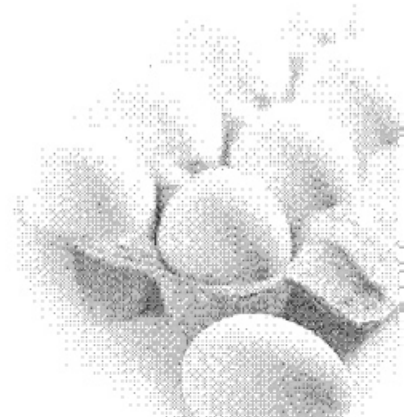
Students fill in all the information they can from the **Nutrition Facts** table and ingredient list on their labels. Using this information, along with knowing the food group, students will be able to find each product's identity.

As students identify a food, they add it to their menu items on their **Answer Menu Chart** and place an **x** under the correct food group. (see sample)

When all items have been identified, students can check their answers against the corresponding **Mystery Lunch Menu** held by the teacher.

A great follow up to this activity would be to have students actually prepare the lunch they planned and then trade lunches.*

* Caution needs to be taken to identify any food allergies among students.



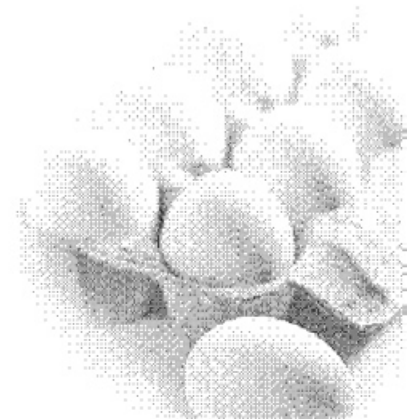
CASE STUDY

What *is* in the Food You're Eating?

(Publishing the facts and getting the good news on nutrition across Canada)

Top Hen from E.A.T. asks James Leghorn, investigative reporter, to interview Dr. I. Eatswell, nutrition expert from Health Help Hotline.

James then publishes his first interview in the *Nutrition* series in **Total Teen Magazine**.



What *is* in the Food You're Eating?

Total Teen **EXCLUSIVE** Interview

*How easy is it to check out the nutrients in the food you eat?
Meet someone who knows a lot about healthy eating.*

*Total Teen's guest columnist, James Leghorn, interviews Dr. I. Eatswell.
Dr. Eatswell is the Director of Nutrition Information for Health Help Hotline.*

TT. Dr. Eatswell, as the leading expert on nutrition information, do you think it's important for teenagers to check out nutrition information on food labels?

Dr. E. Yes, James, I do think it's **very** important for young Canadians to know **exactly** what is in the food they eat.

TT. Please tell us why, Dr. E.

Dr. E. Food is what it's all about! We all need it and we all enjoy it. Food is one of life's finest pleasures and is often the focus of special occasions with family and friends. As well as enjoying food, choosing and preparing food with care is part of a healthy active lifestyle. A healthy diet nourishes our body, provides energy for an active day and helps keep us at a healthy weight.

TT. This sounds like logical advice for Canadians of all ages. Please explain to our teen readers why healthy eating is particularly important for them.

Dr. E. Teenagers lead busy lives - going to school, playing sports, hanging out with friends, working part-time jobs and sometimes shopping for food and cooking their own meals. It can be challenging for young people to have the nutrition information they need **and** the time to eat well.

TT. True enough. Where can young Canadians find this nutrition information?

Dr. E. There are three sources of information right on the labels of most pre-packaged foods. They are the **Nutrition Facts** table, the **ingredient list** and **nutrition claims**.

The **Nutrition Facts** table and **ingredient list** are the foundation of label reading because together they give a quick, accurate overview of a food. **Nutrition claims** can also be found on food packaging.

Today we can use the information on food labels to check if a product is high or low in a specific nutrient.

Calories and nutrients are listed per serving, making it easy to compare similar or different types of food in order to make the healthiest choice.

The location and format of these three sources of nutrition information really depends on the size and shape of the packaging.

Let's take eggs as an **eggs-ample!** On a pulp carton of 12 Grade A eggs the nutrition information will be on the side of the flip top. On a plastic carton, the nutrition information is found on an insert inside the clear top.

TT. I'm sure our readers have spotted the **Nutrition Facts** table on egg cartons and are noticing it on more and more food packaging these days. Do all foods in Canada have to provide nutrition information on their labels?

Dr. E. There are some foods that are exempt from mandatory nutrition labelling because it's too difficult to provide on the product. Fresh fruits and vegetables fall into this category.

Exempted Products

- Fresh fruits and vegetables
- Raw meat and poultry (except when ground)
- Raw fish and seafood
- Food products prepared from pre-mixes (bakery items)
- Products with very small amounts of all 13 core nutrients in a single serving (coffee beans, food colouring)
- Alcoholic beverages

TT. Are all three sources of nutrition information now mandatory on food labels?

Dr. E. As of the end of January 2008, all manufacturers of pre-packaged foods will have to display the **Nutrition Facts** table on their products' label.

Nutrition claims are optional. The ingredient list is required on all multi-ingredient, pre-packaged foods.

TT: There's a lot of nutrition information available for consumers, Dr. E!

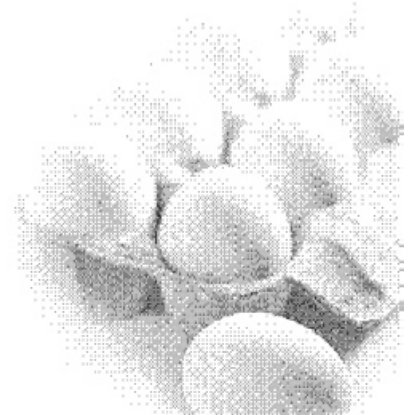
Dr. E. There is a lot of information, James. However, now that the **Nutrition Facts** table appears in a standard format on most labels, the information is very easy to read and understand.

Shall we take your readers on a "virtual tour" of the **Nutrition Facts** table? Then we'll look at the ingredient list and nutrition claims. I'll use the **Nutrition Facts** table from a carton of large Grade A eggs for our example. Let's break down the **Nutrition Facts** table from the top.

1. Amount of food

All of the nutrition information in the chart is based on a single serving size. For instance, one egg is considered the amount you would eat at a single sitting. However, most people eat **two** eggs at one meal. In this case, you would **double** the values for calories and all nutrients.

Try to get in the habit of comparing the "per serving" amount on the **Nutrition Facts** table to the serving size you actually eat. You may be surprised!



Food amounts are listed in common measures you normally use at home such as 1 large egg, 1 cup, 1 slice of bread. A metric equivalent is often given in measurements such as grams or millilitres (for example, 1 large egg = 50 g).

2. Calories and the 13 core nutrients

The energy value of food is provided in calories. The number of calories per serving is printed right under the serving size. You will note that a large egg has 70 calories per serving.

Some nutrients as well as the vitamins and minerals will be expressed as a percentage of the **Daily Value**.

3. % Daily Value (% DV)

This number tells you whether there is a little or a lot of a nutrient in the food.

The % DV is based on recommendations for a healthy diet and puts all nutrients on the same scale of 0 to 100. The quantity may be listed even if it is zero.

Nutrition Facts	
Per 1 large egg (53 g)	
Amount	% Daily Value
Calories 70	
Fat 5 g	8 %
Saturated 1.5 g	8 %
+ trans 0 g	
Cholesterol 195 mg	
Sodium 65 mg	3 %
Carbohydrate 1 g	1 %
Fibre 0 g	0 %
Sugars 0 g	
Protein 6 g	
Vitamin A 10 %	Vitamin C 0 %
Calcium 2 %	Iron 6 %
Vitamin D 15 %	Vitamin E 15 %
Riboflavin 15 %	Niacin 8 %
Vitamin B ₁₂ 50 %	Folate 15 %

By looking at the % DV on the **Nutrition Facts** table, it's easy to see which nutrients a food is high or low in. A good rule of thumb is to look for a **higher** % DV next to the nutrients you are trying to get more of in your diet, like Vitamin A, iron or protein.

Then look for a **lower** % DV for nutrients that you want to get less of, such as saturated and *trans* fats or sodium.

TT. You've given a clear *eggs-planation* of the **Nutrition Facts** table.

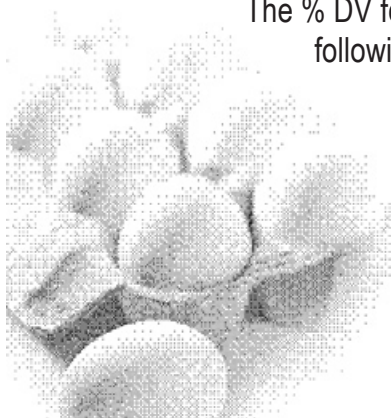
There are two things that still puzzle me.

1. Why do some of the nutrients **not** list a % DV?
2. Why do eggs have **more** than 14 items listed on the **Nutrition Facts** table?

Dr.E. Very observant, James! Here is a simple explanation for your first question.

The % DV for different nutrients is based on dietary guidelines for a healthy population. The following examples may help to explain why some of the nutrients don't have a % DV.

Calories - The amount of energy a body needs daily varies greatly from person to person and depends on one's physical size, gender and level of activity. For example, a 2100 calorie diet is about right for moderately active 15 year old girls. A 2800 calorie diet provides an adequate amount of energy for moderately active 15 year old boys.



Sugar - There is no generally accepted recommended level of intake for sugar in Canada.

Protein - Most Canadians have access to foods that will provide a well-balanced daily diet. For most people protein intake is generally adequate and therefore it isn't a public health concern.

Cholesterol - In Canada, listing the % DV for cholesterol is optional. This is because educational programs that aim to reduce the risk of heart disease haven't focused on dietary cholesterol as a risk factor, but rather on saturated and *trans* fats. By reducing the daily intake of these fats, there should be a reduction in the daily intake of dietary cholesterol.

To answer your second question, yes, nutrients other than the 13 "core" nutrients can be added if they are on a permitted list.

As you pointed out, the **Nutrition Facts** table for eggs also lists % DV of valuable nutrients such as Vitamins D, B₁₂ and E, plus riboflavin, niacin and folate.

TT. Let's look at the ingredient list, Dr. E. What can we expect to find there?

Dr. E. All of the ingredients of a food are listed by weight, from the most to the least (the ingredient that is in the largest amount is listed first).

I'll use peanut butter as an example.

The ingredient list for regular creamy peanut butter is:

Select roasted peanuts, hydrogenated vegetable oil, maltodextrin, sugar, dextrose and salt.

The ingredient list for organic crunchy peanut butter is very short!

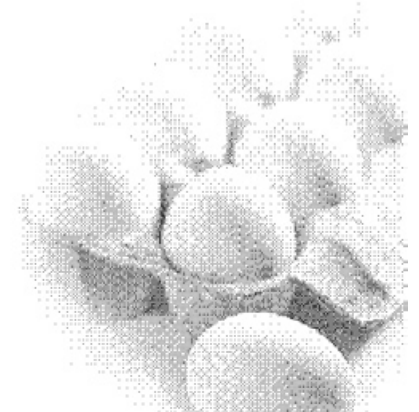
There is just one ingredient - freshly roasted organic peanuts.

TT. How does the ingredient list help teens make healthy food choices?

Dr. E. There's more to the ingredient list than meets the eye, James!

Together with the **Nutrition Facts** table, you can quickly determine the nutritional value of foods, increase or decrease your intake of a particular nutrient or compare products easily.

The ingredient list is also useful for checking to see whether a product contains ingredients that the consumer is trying to eat less of or avoid altogether.



Let's use peanut butter again as an example. I have two choices of creamy peanut butter in my cupboard. From a quick overview of the **Nutrition Facts** table, which peanut butter would you pick as the better choice?

TT. From the quick “bite” of nutrition information you've given, I'd have to go with peanut butter **#1** as the better choice. Per serving this peanut butter contains less fat, calories, sodium and carbohydrates than peanut butter **#2**.

Dr. E. You're right, James!

Comparing Creamy Peanut Butters		
	Creamy peanut butter #1	Creamy peanut butter #2
From Nutrition Facts tables *Per 2 Tbsp (32 g) serving for both		
Calories	100	190
Fat	8 g	17 g
Sodium	0 mg	150 mg
Carbohydrate	3 g	7 g
Sugars	1 g	3 g
Fibre	2 g	1 g
Protein	3 g	7 g

TT. Last but not least, give our readers a “heads-up” on **nutrition claims**, the third source of nutrition information found on a label.

Dr. E. As I mentioned earlier in the interview, nutrition claims are optional. To get the total nutrition picture and find out what a claim is really telling you, consumers should look at the **Nutrition Facts** table **and** ingredient list.

TT. If I read “*Low in saturated fat*” and “*Free of trans fat*” on the label of a whole wheat cracker box, what does this really mean?

Dr. E. Claims can be confusing.

There are two categories of claims: **nutrient content claims** and **diet-related health claims**. The claim mentioned above is a **nutrient content claim** highlighting the fact that there are two grams or less of saturated and *trans* fats combined in the amount of food specified on the **Nutrition Facts** table.

Some examples of claims that highlight a certain feature of a food are:

Sodium Free, Good Source of Calcium, Low in Fat, Light, Reduced in Calories etc.

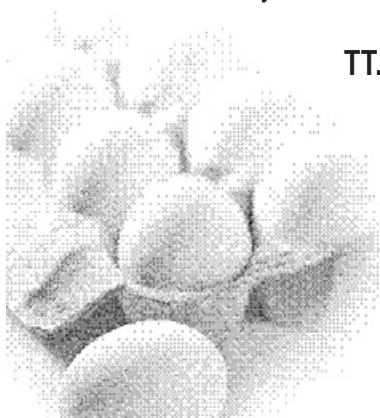
I'm sure you have noticed these **nutrient content claims** and many more on food packaging!

TT. Yes and I have also noticed claims that highlight well-known relationships between diet and disease.

Here is a claim I read on my box of bran cereal this morning.

“A healthy diet low in saturated and trans fats may reduce the risk of heart disease.”

Is this a **diet-related health claim**?



Quick Quiz- Food Facts

Circle the correct answer from the three options given.

		Column 1	Column 2	Column 3
1.	Health Canada requires that this information be on all pre-packaged foods as of January 2008.	Health Check™	Best Before Date	Nutrition Facts table
2.	Ingredients in food are listed on the label in this order.	Least weight to most	Most weight to least	Alphabetically
3.	This food is part of the Health Check™ program.	Potato chips	Onion rings	Eggs
4.	The energy value of food in a Nutrition Facts table is provided in:	Calorie	Carbohydrates	Cholesterol
5.	In the Nutrition Facts table, the % Daily Value is useful to see if a food has:	No nutrients	A lot of a nutrient	Good food value
6.	The information given in the Nutrition Facts table is based on the amount of food a person would eat:	Per day	Per week	At one sitting
7.	The ingredient list is a reliable source of information for people with:	Allergies	A broken arm	Arthritis
8.	This valuable nutrient is found in eggs but is not one of the 13 core nutrients	Protein	Vitamin B ₁₂	Vitamin A
9.	The 13 core nutrients listed in the Nutrition Facts table are always found in:	The same order	% of daily value	The order of amount
10.	These foods are exempt from food labelling in Canada.	Canned fruit & vegetables	Crackers	Fresh fruit & vegetables
11.	According to the Nutrition Facts table, a large Grade A egg has this many calories.	70	125	56
12.	This group developed the Health Check™ program.	Canadian Food Inspection Agency	Canadian Cancer Society	Heart and Stroke Foundation of Canada

Give yourself one point for each correct answer. Add up your score.

If you have:

9-12 points: Impressive! You have an **eggs-ceptional** understanding of nutrition labelling.

6-8 points: Good work. You are off to a healthy start.

0-5 points: Hmm...You need some extra label-reading practice!

Lesson 2: Are Eggs Good for *You*? – Overview

There is much discussion today about how our health is affected by the foods we eat. With so much nutrition information available it is very difficult to sort the facts from the hype.

As Canadian students begin to make their own choices about food, they need sound information about the role of essential nutrients in maintaining good health. They also need practical information, both on the health concerns connected to consuming fat, calories **and** cholesterol and on the positive role played by these nutrients in the body.

Lesson Focus

Students will become aware of the role of essential nutrients in maintaining good health.

Students will understand the health advantages of including eggs in their diet.

Through research, students will be able to clarify the roles played by fat, calories and cholesterol in the human body and therefore be better able to determine which foods to choose to maintain good health.

General Outcomes

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

1. Identify nutrients and their sources required for maintaining good health at different stages of the life cycle.
2. Effectively communicate the results of inquiries.

Curriculum Connections

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

Materials Needed

1. Case Study – Are Eggs Good for *You*?
2. Quick Quiz – Separating Fact from Fiction

Other Useful Resources

The Extraordinary Egg Booklet - page 10

The Extraordinary Egg Video

Canada's Food Guide to Healthy Eating

Useful Web Sites

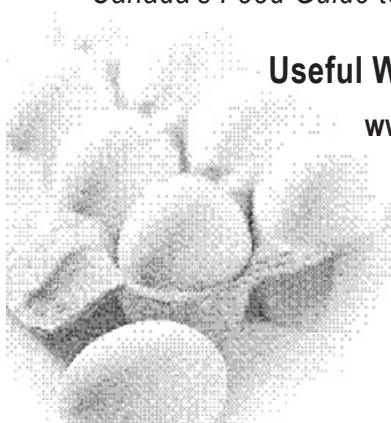
www.eggs.ca

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

www.healthcheck.ca

www.healthcanada.ca/nutritionlabelling

www.healthcanada.ca/foodguide



Lesson 2: Are Eggs Good for *You*? - Teaching and Learning Strategies

Activity 1

Students read the case study, Are Eggs Good for *You*?

Teacher asks students to answer the **Quick Quiz – Separating Fact from Fiction**.

Teacher reviews answers to quiz with the class.

Answers to Quick Quiz:

Statements 1, 2, 3, 5, 6, 8, 10, 12, and 13 are **fact**.

Statements 4, 7, 9, 11, 14 and 15 are **fiction**.

Activity 2

Students work in pairs to prepare a short presentation (five minutes) on one of the following topics. To help guide the content of their presentation, “points to address” are provided for each topic.

Teacher encourages students to use visuals such as charts, pictures, graphs or slideshows in their presentation.

1. The Importance of Reading Food Labels

Points to address:

- What we can learn
- Where to look for information
- How to use information to make personal food choices

2. Fat in our Diet

Points to address:

- How to begin
- Comparing types of fat
- Replacing “bad” fats with “good” fats

3. Nutrition Claims and Health Claims

Points to address:

- What is allowed
- How to separate fact from fiction
- Help or hindrance in making informed choices

4. The Advantages of Eating Eggs

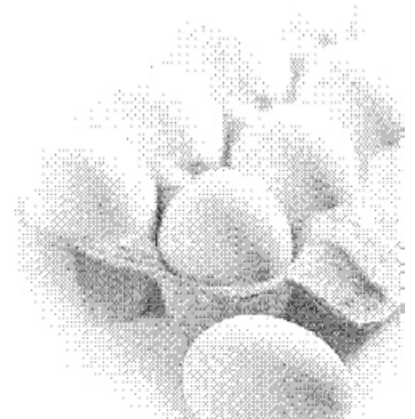
Points to address:

- What essential nutrients are in eggs
- What we gain from eating eggs
- Specialty Eggs

5. Understanding Cholesterol

Points to address:

- Where it comes from
- What it does to (and for) the body
- How to control cholesterol levels



Activity 3

Teacher reads the following statements to the class. Teacher encourages the students to discuss these statements using the questions that follow each statement to promote discussion. Students consider how the information in the presentations and lesson can lead to personal awareness and positive changes in diet and lifestyle.

Suggested Discussion Questions:

1. During this lesson you have acquired a lot of information on nutrition.

Do you think you will take the time to read labels before you make your food choices? Explain your answer.

2. Shopping for food can be very confusing with the huge number of product choices and many health and dietary claims.

*Can you suggest ways to lessen consumer confusion in the supermarket? (e.g. look for the **Health Check™** symbol)*

3. Fast or pre-packaged food has become a part of our modern culture.

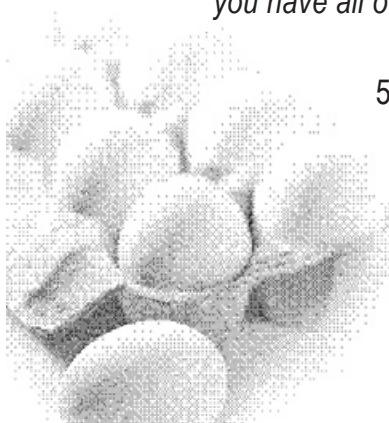
When ordering at a take out restaurant or eating pre-packaged meals at home, how concerned are you about the amount of trans or saturated fats, sodium or calories in your food? Suggest some healthy alternatives found on fast food menus or in the supermarket (e.g. wraps, garden salad with low fat dressing).

4. Eggs are probably a staple food in your refrigerator.

How would you rate them on a scale of one to ten as a good nutrition choice? Give reasons for your rating. (e.g. low in calories, high in protein) How has your opinion of eggs changed now that you have all of the nutrition information?

5. Cholesterol is a much debated nutrition topic.

Are you concerned about your blood cholesterol level or do you think this is something you'll worry about when you are older? What can you do now to prevent future potential health problems?



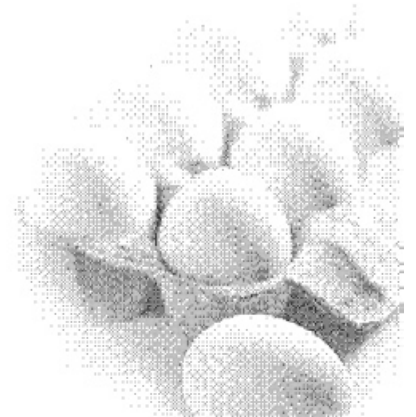
CASE STUDY

Are Eggs Good for You?

(Publishing the facts and getting the good news on nutrition across Canada)

Still on assignment for Top Hen of E.A.T., James Leghorn continues his *Nutrition* interview series for **Total Teen Magazine**.

James' second interview is with Ms. Vanna Egg-White, Registered Dietitian



Are Eggs Good for *You*?

Total Teen *EXCLUSIVE* Interview

Fearful of fat? Concerned about calories? Confused about cholesterol? Meet someone who knows a lot about separating fact from fiction for good nutrition information.

Total Teen's guest columnist, James Leghorn, interviews Ms. Vanna Egg-White, Registered Dietitian.

Ms. Egg-White divides her time between running a private dietetic practice and consulting on nutrition topics for the popular game show "Wheel of Fortunate Foods".

TT. Ms. Egg-White, our readers will recognize your name from "Wheel of Fortunate Foods"! How did you get into the game show business?

VE-W. No need to be so formal, James, please call me Vanna.

My career as a dietitian and game show consultant is both fascinating and rewarding. I believe in the positive benefits of a well-balanced diet for young Canadians and enjoy helping them get the nutrition information they need to make healthy food choices.

However, it is sometimes difficult to reach teenagers and give them the most practical and helpful nutrition information to fit their busy lifestyles.

When "WFF" asked me to consult on nutrition topics for the show I jumped at the chance! I knew I could easily target the teenage audience and give them the most up-to-date and practical nutrition news.

TT. No doubt about that.

Why have you chosen **eggs** as your flagship food?

VE-W. You may think I'm soft on eggs because of my last name, but it is much more than that.

Eggs are one of nature's most nutritious foods. Eggs contain **13 essential nutrients** and are an excellent and inexpensive source of high quality protein.

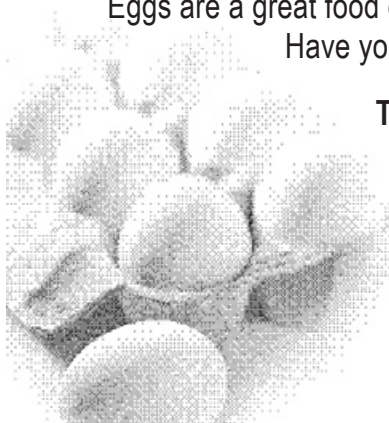
Eggs are a great food choice to fuel an active teenage lifestyle!

Have you heard my famous quote comparing bodies to cars?

TT. Yes, more than a few times.

Why is protein such an important part of a well-balanced diet?

VE-W. Protein is the "builder" nutrient. It is needed to build and repair body tissue and is essential for the body's growth and development. This function is especially important for maturing teenagers. Muscles, skin, hair, organs, antibodies and even hormones are all made of protein.



TT. Today's teens are talking a lot about fat, calories and cholesterol. Many are concerned about body image and are worried about the amount of fat, calories and cholesterol in their daily food choices. How do eggs measure up in these nutrient categories?

VE-W. It's all good news about eggs. Just for fun let's spin the wheel and see which category comes up first: fat, calories or cholesterol. Here we go! Spin the wheel! The wheel stops at **Calories**.

TT. Please tell our readers about eggs and calories.

VE-W. To begin, did you know that one large egg has only 70 calories? You can check that by looking at the **Nutrition Facts** table on most egg packaging. The calories are divided this way: $\frac{3}{4}$ are in the yolk and $\frac{1}{4}$ are in the egg white.

TT. Very few calories! As Dr. Eatswell points out in his interview for **TT**, a 2100 calorie daily diet provides enough energy for a moderately active 15 year old girl and 2800 calories for boys of the same age.

VE-W. Eggs are an *eggs-emplary* food! Not only are they low in calories, eggs contain significant amounts of vitamins and minerals as well as **nine essential** amino acids. Foods that contain all nine essential amino acids are called **complete protein** foods.

The Essential Nine Eggs have them all!

Protein is made up of 20 different amino acids. Nine of these can't be produced by your body so they have to come from food. These amino acids are the "essential nine"- eggs have them all.

The Essential Nine

- Valine
- Leucine
- Threonine
- Isoleucine
- Histidine
- Tryptophan
- Phenylalanine
- Methionine
- Lysine

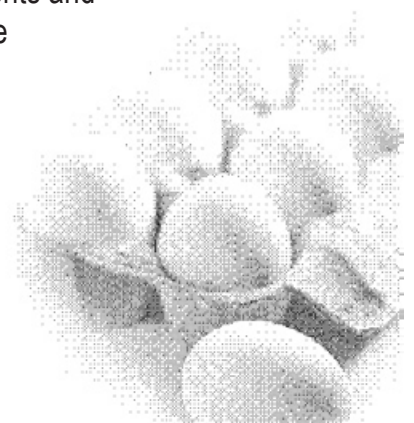
Later on in the interview I'll tell **TT** readers all about these vitamins and minerals and explain how they benefit the body.

TT. Vanna, you are a wealth of nutrition information. Shall we move on to the next nutrition category?

VE-W. Here we go, spin the wheel!

Fat is our next category.

People give fat a bad rap. Many people don't realize that fat is one of the essential nutrients and provides the body with energy in the form of calories and essential fatty acids. Fat is also needed to absorb vitamins A, D, E and K into the body.



TT. Why do consumers see fat as the “bad guy” when it does so many good things for the body?

VE-W. Unfortunately, many Canadians eat too much fat, especially saturated and *trans* fats. Fast and pre-packaged snack foods usually contain these fats. Products high in saturated and *trans* fats are the foods that many teenagers choose to snack on!

To give you an idea of how much fat we *should* eat per day; the recommended daily intake for an average male is 90 grams and 65 grams for an average female.

Let’s look at the fat content of some typical teenage food choices so **TT** readers can quickly see the amount of fat in popular breakfast foods.

TT. There is a big difference in the amount of fat in these breakfast foods!

You’ve given us the recommended amount of daily fat for adults.

How much fat per day is recommended for children and teenagers?

VE-W. It’s a different “fat” story for children, teens and adults.

Adults should get about 30% of their daily calories from fat while children need to eat more fat to help them grow and develop properly.

When very young, children should get 50% of their calories from eating fat then gradually cut back on fat as they enter adolescence.

By the late teen years when they are reaching mature body size, teens should aim to keep their fat intake around the 30% level.

TT. How do we discover the **types** and **quantity** of fat in the foods we eat?

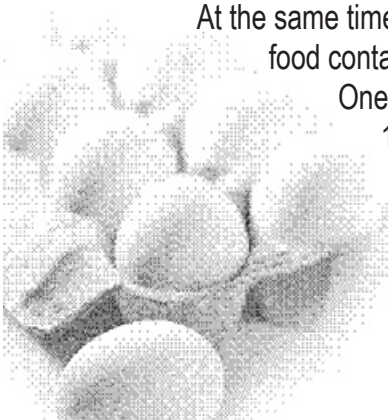
VE-W. It’s easy to check how much fat is in a food by looking at the nutrition information on the packaging.

At the same time you can find out what types of fat the food contains. Take eggs for **eggs-ample**.

One large egg has only 5 g of fat of which only 1.5 g are saturated and **non** are *trans* fats.

How Much Fat at Breakfast Time?		
Single Serving Size	Breakfast Food Choice	Approx. Fat in Grams
50 g	Egg (1 large)	5 g
1	Muffin (from muffin store)	12 g
125 ml	Regular granola	12 g
125 ml	Yogurt w/frozen fruit (6.3% fat)	5 g
15 ml	Peanut butter	8 g
15 ml	Butter/margarine	11 g
250 ml	2% milk	5 g

Nutrition Facts			
Per 1 large egg (50 g)			
Amount	% Daily Value		
Calories 70			
Fat 5 g	8 %		
Saturated 1.5 g			
+ Trans 0 g			
Cholesterol 190 mg			
Sodium 55 mg	2 %		
Carbohydrate 0 g			
Fibre 0 g			
Sugars 0 g			
Protein 6 g			
Vitamin A	8 %	Vitamin C	0 %
Calcium	2 %	Iron	4 %
Vitamin D	2 %	Vitamin E	10 %
Riboflavin	15 %	Niacin	6 %
Vitamin B₁₂	30 %	Folate	15 %



TT. I'm still confused about the different types of fat in foods. To me, fat is fat.

VE-W. It isn't as simple as that!

I'll break it down for you.

There are three main types of fat: **unsaturated fats**, **saturated fats** and **trans fats**.

It's important to remember that different types of fat affect your health in different ways.

You can't get enough of Omega-3!

All shell eggs contain these fats. Specialty eggs, such as the omega-3 enhanced eggs, contain an even higher level of omega-3 polyunsaturated fatty acids. Omega-3 fats are essential nutrients that your body **cannot** make on its own, so **must** come in the food you eat. These fats play a large part in overall good health, growth, vision and brain development.

Unsaturated fats (two types are polyunsaturated and monounsaturated) can help **lower** the level of cholesterol in your blood.

Polyunsaturated fats are found in liquid form at room temperature.

Corn, soybean, safflower, sunflower and sesame oils and soft margarines contain these fats.

One important type of polyunsaturated fat are the **omega-3** fatty acids.

Omega-3 is found in foods like fish, flaxseed and omega-3 enhanced eggs.

Foods that contain **both** polyunsaturated and omega-3 fatty acids are excellent for the heart and overall health.

Monounsaturated fats are found in olive, canola, and peanut oils as well as margarines made with these oils, nuts and seeds. These fats are usually found in liquid form at room temperature.

Taste and health-wise, they are a great replacement for saturated fats.

Saturated fats can raise blood cholesterol levels more than anything else in your diet. Saturated fats are found in animal products such as meat, poultry, butter and cheese. They're also present in oils such as palm and coconut and hard margarines. Saturated fats are usually solid at room temperature.

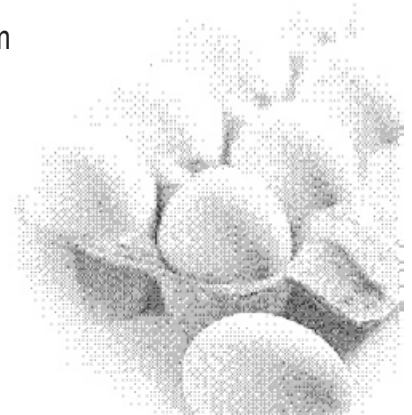
Trans fats are the new nutrition villain!

Like saturated fats, they raise blood cholesterol levels.

They are formed when unsaturated fats are changed from a liquid to solid form in a process called **hydrogenation**. If hydrogenated oils are on the ingredient list, you can be sure the product contains *trans* fats.

Baked goods, cookies, French fries, potato chips and some margarines contain high amounts of *trans* or hydrogenated fats.

Eating food that has high levels of saturated and *trans* fats puts you at risk for developing heart disease, obesity, diabetes and certain types of cancer.



TT. Those are great reasons to cut down on fat!

It makes sense to reduce your intake of **saturated** and **trans fats** by lowering your **total** fat intake.

May I ask two quick questions about fat?

What does it mean when I see “*Fat Free*” or “*Reduced in Fat*” on food labels?

Are these better food choices?

VE-W. These are **nutrient content claims** James. I believe Dr. Eatswell talked about them in his interview.

You have to be a detective and look for clues in the **Nutrition Facts** table and the ingredient list.

Foods that claim to be **low in fat** may be **low in nutrients**.

Foods that claim to be **fat free** may be **high in sugar** or **calories**.

To be sure of what you are eating, check out the nutrition information on the label!

The **Nutrition Facts** table will list the fat content per serving and then break it down into the different types of fat.

On the ingredient list look for words such as lard, coconut oil or butter and cocoa butter because they contain saturated fats. If you see hydrogenated fat on the list, you know the product contains *trans* fats.

TT. Thanks for clearing that up. Time to spin the wheel again, Vanna!

VE-W. The last category is **Cholesterol!**

Like fat, cholesterol is an essential nutrient and is often misunderstood. It actually does a lot of good work for the body. Cholesterol is a waxy, fat like substance that insulates nerve fibers, works on cell walls and produces Vitamin D, digestive juices and some hormones.

About 80% of the cholesterol in your blood is made by the body and the rest comes from diet.

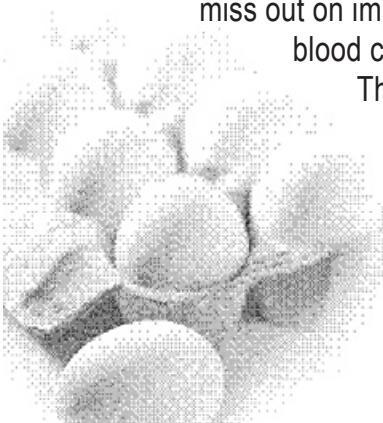
TT. Is it possible to eat foods that contain cholesterol and still have a healthy diet?

VE-W. Oh yes, James! Many “fortunate” foods contain dietary cholesterol - meat and dairy products to name a few. These nutritious foods are included in *Canada’s Food Guide to Healthy Eating* and are considered part of a healthy, well-balanced diet. If you miss out on these fabulous foods, you’ll miss out on important nutrients too! Eating cholesterol in food has very little effect on the blood cholesterol of most people.

The most important change you should make in your eating habits, when it comes to lowering your blood cholesterol levels, is to cut down on saturated and *trans* fats. It is certain types of fats and **not** the cholesterol in foods that raises blood cholesterol the most.

Saturated and *trans* fats are the real culprits.

TT. What else can affect blood cholesterol levels and increase risk of heart disease?



VE-W. There are many things besides blood cholesterol levels that can play a part in the risk of heart disease.

TT. I have often picked foods such as potato chips or crackers that say “*Cholesterol Free*” or “*Low in Cholesterol*” on the package.

Does this mean that the food is fat free?

VE-W. It’s another **nutrient content claim** that is now illegal to use on packaging in Canada.

Again, you have to look carefully at the nutrition information on the package. Foods that claim to be low in cholesterol are often very high in saturated and *trans* fats! Don’t forget that it’s more important to watch out for those “bad” fats than to avoid cholesterol.

TT. It seems to me that the best way to maintain good health is to reduce your **total** fat intake. You reduce saturated and *trans* fats in the diet **and** prevent unhealthy levels of cholesterol in the blood.

VE-W. I think you’ve got it!

Please remember that fat in small quantities and of the “good” type (unsaturated) is an important part of a healthy, balanced diet.

TT. It must be close to show time, Vanna. Will you spin the wheel one more time?

VE-W. How can I resist? Here we go - and the new category is...

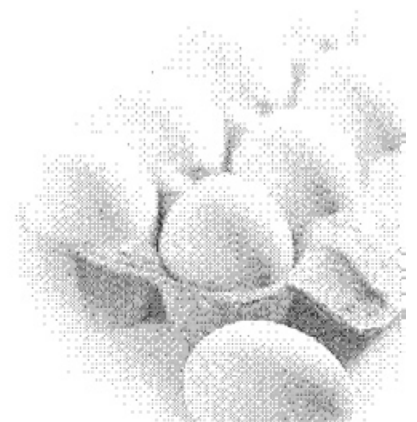
Fabulous Nutrients Found in Eggs!

As I mentioned earlier, eggs are a virtual powerhouse of vitamins, minerals and other essential nutrients. This is what they do for your body.

Heart Disease - it’s not just your eating habits!

- Family history
- Age and gender
- Body weight and shape
- Level of physical activity

These are all factors that can affect your blood cholesterol level.



Fabulous Nutrients Found in Eggs	
Name That Nutrient	A Job Well Done
Vitamin A	Helps keep skin and eye tissue healthy Helps you see at night
Vitamin D	Helps keep bones and teeth strong
Vitamin E	Protects your cells from damaging by-products (or oxidants) that form in the body
B ₁₂ & Folate	Helps manufacture your red blood cells
Riboflavin	Helps keep tissue in your body healthy by allowing them to “breathe” properly
Iron	Carries oxygen to your cells and keeps the blood healthy
Niacin	Helps release energy and promote healthy nerve function
Choline	Plays an important role in brain development and memory (one egg provides half the daily requirement!)
Lutein & Zeaxanthin	Helps maintain good vision (decreases risk of cataracts and age related eye degeneration)

You can see for yourself that nearly all the essential nutrients required for proper functioning of the human body are hiding under that egg shell!

Not only do eggs supply basic nutritional needs, they also play a “starring” role in the healthy development of the body.

TT. It seems that there are so many choices in eggs at the supermarket these days.

VE-W This is an exciting trend! Consumers **are** looking for more choice at the supermarket to suit their lifestyles, address health concerns or support an environmental issue.

Egg producers in Canada have risen to this challenge!

Research has led to the development of **specialty eggs** so consumers now have a much greater choice of egg products.

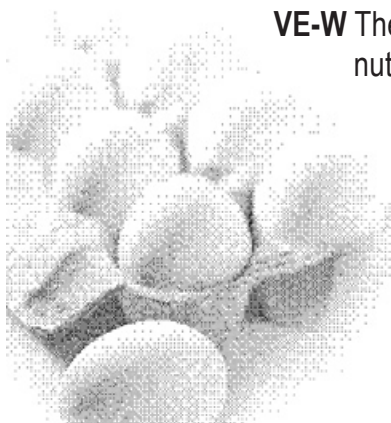
TT. For most of us an egg is an egg! Besides being big or small, brown or white, what other differences are there?

VE-W There **are** differences in specialty eggs! These eggs might be different in nutrient value than regular eggs or may come from hens housed or fed in a special way.

Specialty eggs may cost slightly more than classic shell eggs.

Any way you *crack* them, there are eggs for every individual taste!

I'll *break* them down for you James.



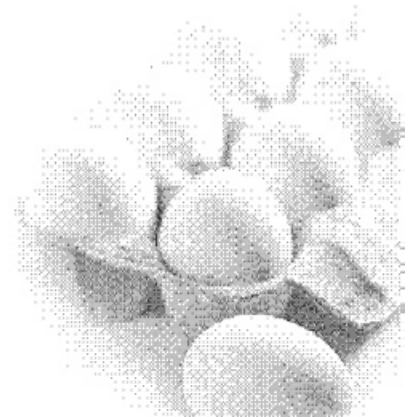
Specialty Eggs...So Many Choices	
Omega-3 Enhanced eggs	These eggs are from hens fed a diet that contains 10-20% more flaxseed. Flaxseed contains a higher level of omega-3 polyunsaturated fats. These fats have been associated with a reduced risk of heart disease.
Vitamin-Enhanced eggs	These eggs are from hens fed a diet containing higher levels of certain nutrients (vitamins E, B, B ₁₂ , folate). The eggs produced will contain higher levels of these nutrients.
Organic eggs	These eggs are from hens fed certified organic grains. These eggs have the same nutrient content as classic eggs.
Vegetarian eggs	These eggs are from hens fed a diet containing only ingredients of plant origin. These eggs have the same nutrient content as classic eggs.
Premium Quality eggs	These eggs are from specially selected young hens at the peak of their laying cycle. These eggs have stronger shells and thicker whites than Grade A eggs.
Free Run eggs	These eggs are from hens that are able to move about the floor of the barn. These eggs have the same nutrient content as classic eggs.
Free Range eggs	These eggs are from hens that are able to move about the floor of the barn plus have access to outdoor runs. These eggs have the same nutrient content as classic eggs.

TT. Wow, there are so many choices to suit every need!
 From what you've told me today, it's plain to see that eating eggs means eating better.
 And now the million dollar question!

How many eggs should a person eat every day?

VE-W. I can't spin the wheel and tell you that! There is no magic number. The number of eggs you eat depends on these factors: what you like to eat, your health and your lifestyle. Some people eat eggs every day. Others choose eggs once a week. The most important thing to keep in mind is to eat a variety of foods from **each** food group, **every** day!

Canada's Food Guide to Healthy Eating recommends two to three servings daily from the Meat and Alternatives food group. Eggs are included in this group because of their high quality protein.



Using Canada's Food Guide to Healthy Eating	
Four Food Groups	Recommended Daily Servings
Grain Products Choose whole grain and enriched products more often.	5 - 12 servings
Vegetables and Fruit Choose dark green and orange vegetables and fruit more often.	5 - 12 servings
Milk Products Choose lower-fat milk products more often.	Children: 4 - 9 years: 3 - 4 servings Youth: 10 - 16 years: 3 - 4 servings Adults: 2 - 4 servings Pregnant and lactating women: 3 - 4 servings
Meat and Alternatives Choose leaner meats, poultry and fish, as well as beans, dried peas and lentils more often.	2 - 3 servings

TT. That just about wraps it up, Vanna.

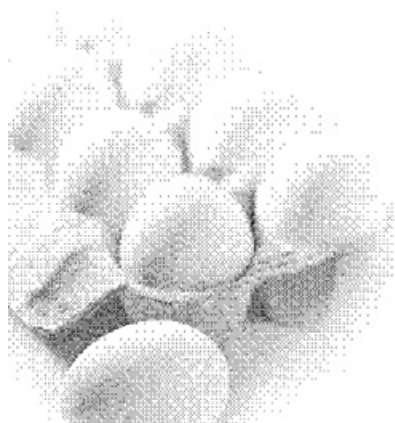
When it comes to good nutrient value, convenience, easy cooking, great value for your food budget **and** a downright delicious food, eggs are always a winner.

Keep spinning the "Wheel of Fortunate Foods"!

VE-W. I intend to James! I look forward to reading your *eggs-plicit* articles in **Total Teen Magazine!**

TT. Thanks for sharing your nutrition expertise with us, Vanna.

I'm positive that our readers are now well aware of the role of essential nutrients in maintaining good health **and** the health advantages of including eggs in their daily diet!



**Quick Quiz-
Fact OR Fiction**

Carefully read each of the following statements. Using the Case Study - Are Eggs Good for **You?** as reference, decide which statements are **Fact** and which are **Fiction**.

Mark an X in the appropriate column to record your answer.

Statements	Fact	Fiction
<i>Example: A healthy 15 year old girl needs a 3100 calorie daily diet.</i>		X
1. Eggs are an example of a “complete protein” food.		
2. Ideally we need to get about 30% of our calories from fat nutrients.		
3. Fat provides the body with energy in the form of calories.		
4. The different types of fat affect your health in the same way.		
5. Saturated fats, <i>trans</i> fats and unsaturated fats are the main types of fat.		
6. Eating food that has high levels of saturated and <i>trans</i> fats puts you at risk for developing certain diseases.		
7. Polyunsaturated fats are found in animal products such as poultry, butter and cheeses.		
8. Eating food high in saturated and <i>trans</i> fats increases the risk of heart disease, obesity, diabetes and certain types of cancer.		
9. Omega-3 fatty acids are essential nutrients that the body can make on its own.		
10. <i>Trans</i> fats are found in both baked goods and fries.		
11. Reading food labels is interesting but not very helpful for gaining information nutrition information about the food.		
12. The ingredient list on a label provides us with the types of fat the food contains.		
13. Nutrition claims or health claims are on labels to entice you to buy a product.		
14. Only the foods you eat influence your blood cholesterol levels.		
15. Organic and vegetarian eggs are more nutritious than classic eggs.		

For more information visit www.eggs.ca or contact:

British Columbia Egg Marketing Board

150-32160 South Fraser Way
Abbotsford, British Columbia V2T 1W5
www.bcegg.com

Alberta Egg Producers

Calgary, Alberta
Toll-free: 1-877-302-2344
www.eggs.ab.ca

Saskatchewan Egg Producers

P.O. Box 1263, Main Station
Regina, Saskatchewan S4P 3B8
www.saskegg.ca

Manitoba Egg Producers

18-5 Scurfield Boulevard
Winnipeg, Manitoba R3Y 1G3
www.eggs.mb.ca

Egg Farmers of Ontario

7195 Millcreek Drive
Mississauga, Ontario L5N 4H1
www.eggssite.com

**Fédération des producteurs d'oeufs de
consommation du Québec**

555 Roland-Therrien Boulevard, Suite 320
Longueuil, Quebec J4H 4E7
www.oeuf.ca

New Brunswick Egg Producers

275 Main Street, Suite 101
Fredericton, New Brunswick E3A 1E1
nbegg@nbnet.nb.ca

Nova Scotia Egg Producers

P.O. Box 1096
Truro, Nova Scotia B2N 5G9
www.nsegg.ca

Egg Producers of Prince Edward Island

420 University Avenue
Charlottetown, Prince Edward Island C1A 7Z5
dmccrady@dfpei.pe.ca

**Egg Producers of Newfoundland
and Labrador**

P.O. Box 8453
St. John's, Newfoundland A1B 3N9
www.nfeggs.com

Canadian Egg Marketing Agency

112 Kent Street, Suite 1501
Ottawa, Ontario K1P 5P2
www.eggs.ca