

The Extraordinary Egg

Teacher's Guide



**A GUIDE TO USING
THE EXTRAORDINARY EGG BOOKLET
IN YOUR CLASSROOM**

FOR THE TEACHER . . .

The Extraordinary Egg is an information booklet which offers students in grades 7 to 12 an understanding of the egg industry, egg production and the nutritional contribution of eggs to our diet. It is designed to provide students with information and an opportunity to:

- conduct research/investigations
- communicate the results of their inquiries
- solve problems
- be creative
- answer questions
- apply the knowledge gained to their lives

The Extraordinary Egg video is a complementary resource developed to be used with the booklet. It helps students gain a better understanding of eggs and egg production and is available from your provincial egg producer organization.

Why Learn About Eggs and Egg Production?

Eggs are common to most households in Canada and play a very important role in the Canadian diet. They are a source of protein, vitamins and minerals, and are a key ingredient in many recipes. They are easy to use in the classroom since they are readily available, inexpensive and familiar to students. By gaining an understanding of egg production in Canada, students gain a better understanding of Canadian agriculture. They come to understand the ways in which Canadian farmers are working to provide consumers with high-quality, safe and affordable foods. The unique qualities of eggs and the egg industry open the door to learning in the following subject areas:

- Health and Physical Education
- Home Economics/Family Studies
- Geography/Social Studies/Career Studies
- Science and Technology

What is Inside?

The Extraordinary Egg Teacher's Guide contains the following:

- curriculum connections, identified by subject
- lesson plans, based on The Extraordinary Egg booklet, which include teaching/learning strategies, assessment/evaluation strategies and extension activities

Accommodations

The following accommodations apply to the teaching/learning strategies in this teacher's guide:

1. Some students may require assistance in order to complete written work.
2. Students with special needs may work with a partner to complete a task.
3. Templates for note taking should be provided to students with special needs.
4. Main ideas and/or new information should be mapped out and organized to meet the needs of all students.
5. Wherever possible, vocabulary lists should be provided with a discussion of context clues and related vocabulary.
6. Lab groups may be predetermined in order to provide for success of all students (for Home Economics/Family Studies).
7. Students with special needs may wish to complete an oral, taped or video presentation rather than a written assignment.

Where Can I Get More Information?

For more information on eggs and egg production or for copies of The Extraordinary Egg booklet or video for your classroom, contact your provincial egg producer organization.

CURRICULUM CONNECTIONS

The teaching/learning strategies contained in this booklet were designed to meet the following curricula, which reflect curriculum requirements in all provinces across Canada.

Health and Physical Education

- Adopt personal food plans, based on nutritional needs and personal goals, to improve or maintain healthy eating practices.

Home Economics/Family Studies

- Describe the role of producer organizations (marketing boards).
- Investigate the various techniques used to market foods to Canadian consumers.
- Identify food supply and production industries in Canada.
- Demonstrate appropriate use of research methods in the investigation of food-related issues.
- Effectively communicate the results of inquiries.
- Identify and demonstrate safe food handling practices including kitchen safety, sanitary methods and proper food storage.
- Demonstrate an understanding of Canada's food grading practices.
- Demonstrate an ability to decipher Best Before dates.
- Identify nutrients and their sources required for maintaining good health at different stages of the life cycle.
- Demonstrate an understanding of food labelling regulations and terms.
- Explain the purpose of food guidelines.
- Use appropriate food guides or other materials to plan nutritionally adequate meals in a group setting.
- Demonstrate creativity in planning, preparing and serving a meal that meets the specifically defined needs and budget of a particular family or individual.
- Demonstrate the ability to follow a recipe.
- Analyze the relationship between eating breakfast and school performance and attitudes.
- Demonstrate effective collaborative group skills.

Geography/Social Studies/Career Studies

- Demonstrate an understanding of different types of agriculture.
- Demonstrate knowledge of selected occupations.

Science and Technology

- Describe the conditions in an ecosystem that are essential to the growth and reproduction of plants and micro-organisms and show the connection between these conditions and various aspects of the food supply for humans.
- Describe ways in which research has brought about improvements in human health and nutrition.

LESSON PLANS

Health and Physical Education

ACTIVITY 1: My Healthy Eating Habits

Curriculum Connections

- Adopt personal food plans, based on nutritional needs and personal goals, to improve or maintain healthy eating habits.

Teacher Background Information

Students discuss eating habits in relation to personal activity levels, nutritional needs and personal goals. Students devise a meal and activity plan to meet their needs.

Related Sections From Booklet

- The News About Nutrition (page 13)
- Cholesterol (page 13)
- Canada's Food Guide to Healthy Eating (page 14)

Teaching/Learning Strategies

1. Teacher leads a discussion on eating habits and the positive and negative factors that influence eating habits. Students make a list of these factors.
2. Students complete a chart outlining their usual eating habits. (See example below with sample entries.)

My Eating Habits

Habit	Time of Day	Influences	Are Nutritional Needs Satisfied? Why or Why Not?	Goal
Skip breakfast	Morning	Late for school	No - breakfast is important meal to start day	Get up earlier and eat quick breakfast - check out eggs.ca for recipes
Western Omelette snack	After school	Quick and easy to make, tides you over until late supper	Yes - Good nutritional practice; provides you with needed nutrients	Overall wellness - keep this habit

3. Students read sections of The Extraordinary Egg booklet entitled *The News About Nutrition* (page 13), *Cholesterol* (page 13) and *Canada's Food Guide to Healthy Eating* (page 14). Using this information and other sources, students make a list of healthy eating goals. Students look up recipe ideas on www.eggs.ca or other websites listed on the back cover of The Extraordinary Egg booklet in order to create an action plan based on their healthy eating goals. This action plan will include a weekly menu and activity schedule. The activity schedule should be based on previous class discussions about the importance of everyday activities to one's overall health and wellness.
4. Students implement their action plan for a three-day period. They keep a journal to record their progress. Students write a summary of results, making suggestions about how they can improve or continue to maintain a healthy lifestyle.

Assessment/Evaluation Strategies

1. Action plan is assessed for completion.
2. Summary and suggestions for maintenance or improvement are evaluated.

Extension Activities

1. For enrichment, see Home Economics/Family Studies Activity 3.

Home Economics/Family Studies

ACTIVITY 1: Producer Organizations, Food Marketing and the Egg Industry

Curriculum Connections

- Describe the role of producer organizations (marketing boards).
- Investigate the various techniques used to market foods to Canadian consumers.
- Identify food supply and production industries in Canada.
- Demonstrate appropriate use of research methods in the investigation of food-related issues.
- Effectively communicate the results of inquiries.

Teacher Background Information

Students gain an understanding of the roles of producer organizations (marketing boards) and how eggs are marketed in Canada.

Related Sections From Booklet

- Egg Producer Organizations (page 6)

Teaching/Learning Strategies

1. Students read the section of The Extraordinary Egg booklet entitled *Egg Producer Organizations* (page 6) and visit the websites listed on the back cover of The Extraordinary Egg booklet to research egg producer organizations. Students complete a template/organizer while reading. (See example below with sample entries.) Students write a brief summary outlining the benefits of producer organizations to producers and consumers.

Egg Producer Organizations

Role	Benefit(s) to Producer	Benefit(s) to Consumer
<i>Allocating quota</i>	<i>Consistent market; stable income</i>	<i>Demand is met; stable prices</i>
<i>Inspecting farms</i>	<i>Product is reputable</i>	<i>Product is high-quality</i>

2. Students brainstorm a list of marketing tools (e.g. television advertising, billboards) used in the food industry. Students make a list of different marketing campaigns that they can recall for eggs.
3. Students choose one of the marketing tools from the list and produce a sample tool to market eggs highlighting some of the benefits of eggs (e.g. nutritious, economical, versatile, tasty).

Assessment/Evaluation Strategies

1. Template/organizer is assessed for accuracy and completion.
2. Summary of benefits of egg producer organizations is evaluated.
3. Marketing tool for eggs is evaluated.

ACTIVITY 2: Food Safety and Quality – Top Priorities

Curriculum Connections

- Identify and demonstrate safe food handling practices including kitchen safety, sanitary methods and proper food storage.
- Demonstrate an understanding of Canada’s food grading practices.
- Demonstrate an ability to decipher Best Before dates.

Teacher Background Information

Students gain an understanding of safe food handling practices from the farm to the table, egg grading and Best Before dates.

Related Sections From Booklet

- All

Teaching/Learning Strategies

1. Students read The Extraordinary Egg booklet. Students create a web showing the linkages between food safety practices from the farm to the table.
2. Together with the teacher, students create a list of food safety practices that should be followed in the Home Economics/Family Studies classroom and at home. Students make a checklist for use in the food lab and in their home kitchen. Students visit the *FightBAC!*[™] website listed in the booklet (www.canfightbac.org) for further information on food safety practices in the home.
3. Students check off their food safety practices during the next two food labs and record the food safety practices of their family for a three-day period (one weekend day and two week days). Students write a summary of food safety practices for their lab group and for their family. Students discuss areas requiring improvement for both.
4. Students read the sections of The Extraordinary Egg booklet entitled *Making the Grade* (page 5) and *How Big, How Long?* (page 7). While reading, students make notes on egg grading and Best Before dates.
5. Students look at the anatomy of an egg based on the diagram on page 7 of The Extraordinary Egg booklet. Using this and other information in the booklet, students create an information sheet for eggs, taking into consideration food safety, general care, freshness, egg grading and Best Before dates.

Assessment/Evaluation Strategies

1. Food safety practice summary is evaluated.
2. Egg information sheet is assessed for accuracy and completion.

Extension Activities

1. For enrichment, students compare food safety practices of other agricultural products.
2. For enrichment, see Science and Technology Activity 1.
3. For enrichment, plan a class visit to a grocery store to view the food safety practices followed.

ACTIVITY 3: Egg-cellent Nutrition

Curriculum Connections

- Identify nutrients and their sources required for maintaining good health at different stages of the life cycle.
- Demonstrate an understanding of food labelling regulations and terms.
- Explain the purpose of food guidelines.
- Use appropriate food guides or other materials to plan nutritionally adequate meals in a group setting.
- Demonstrate creativity in planning, preparing and serving a meal that meets the specifically defined needs and budget of a particular family or individual.
- Demonstrate the ability to follow a recipe.
- Analyze the relationship between eating breakfast and school performance and attitudes.
- Demonstrate effective collaborative group skills.

Teacher Background Information

Students gain an understanding of the functions and sources of nutrients. Students apply this knowledge to *Canada's Food Guide to Healthy Eating*. Students apply knowledge of food needs to a fictional family. Students keep a food record to evaluate their eating habits and compare to the recommendations of *Canada's Food Guide to Healthy Eating*.

Related Sections From Booklet

- Read the Label (page 9)
- The News About Nutrition (page 13)
- Canada's Food Guide to Healthy Eating (page 14)
- Now You're Cooking – With Eggs! (page 13)

Teaching/Learning Strategies

1. Students complete a template/organizer listing nutrients, their functions and their sources using information provided from a textbook source. (See example below with sample entries.)

Nutrients, Functions and Sources

Nutrient	Function(s)	Best Sources
<i>Protein</i>	<i>Growth and repair of body tissues</i>	<i>Eggs, meats</i>
<i>Calcium</i>	<i>Builds bones and teeth</i>	<i>Milk and milk products</i>

2. Students read the sections of The Extraordinary Egg booklet entitled *Read the Label* (page 9) and *The News About Nutrition* (page 13). Students make notes on the nutrient contribution of eggs from the label found on an egg carton or on page 9 of the booklet. Students look at other food packaging in the classroom and at home to compare labels.
3. Students read the section of The Extraordinary Egg entitled *Canada's Food Guide to Healthy Eating* (page 14). Teacher leads a discussion on the food guide. A copy of the food guide can be found at www.healthcanada.ca/foodguide. Students and teacher discuss how to use the food guide to improve their eating habits and meet the nutritional requirements for growth and development of different age groups. Students complete a template/organizer after the discussion. (See example on page 7 with sample entries.)

Canada's Food Guide to Healthy Eating

Food Group	Recommended Servings	Key Nutrients	Function(s) of Nutrients
Meat and Alternatives	2-3	Protein	Growth and repair of body tissues
		Fat	Provides energy Needed to absorb vitamins A, D, E and K
Vegetables and Fruit	5-10	Fibre	Regulates bowel function
		Carbohydrate	Provides energy
Milk Products	Children 4-9 years: 2-3 Youth 10-16 years: 3-4 Adults: 2-4 Pregnant and breastfeeding women: 3-4	Calcium	Builds bones and teeth
		Vitamin D	Helps keep bones and teeth strong Regulates calcium absorption
Grain Products	5-12	Fibre	Regulates bowel function
		Carbohydrate	Provides energy

4. Students read the section in The Extraordinary Egg booklet entitled *Now You're Cooking - With Eggs!* (page 13). Students visit the website www.eggs.ca to see the wide variety of egg recipes to help them meet their nutritional requirements in a cost effective manner. Students print a selection of recipes that would appeal to family members of different ages.
5. Each food lab group is assigned a "family" for which they must provide a meal plan for a three-day period. They must ensure to meet the daily recommended servings for all family members. They need to make note of the special considerations for their particular family. Sample families include:
 - a. Family # 1
 - adult female, 38 years old
 - teenage boy, 14 years old
 - girl, 6 years old
 - b. Family # 2
 - adult male, 32 years old
 - adult female, 30 years old, lactating
 - toddler girl, 2 years old
 - infant boy, 3 months old
 - c. Family # 3
 - adult female, 65 years old
 - adult male, 40 years old
 - adult female, 40 years old
 - teenage boy, 16 years old
 - preteen girl, 12 years old
 - d. Family # 4
 - adult female, 20 years old, pregnant
 - adult male, 22 years old
 - e. Family # 5
 - adult male, 37 years old
 - preschool girl, 4 years old
 - toddler boy, 2 years old
 - f. Family # 6
 - students make up their own "family"

6. In their lab groups, students prepare one of the recipes from the meal plan they developed in Teaching/Learning Strategy 5.
7. Students keep a personal food record, recording all foods and beverages consumed during a three-day period (two week days and one weekend day). Students add up the number of servings they consumed from each of the four food groups during that time. Students summarize the results, indicating which nutrients are missing from their diet, as well as suggesting improvements to their eating patterns.
8. Teacher leads a class discussion on skipping breakfast based on results of the food records of the students. Teacher asks students to reflect on how they feel when they skip breakfast. Students make note of the reasons why a good breakfast is important to a good day and overall school performance.

Assessment/Evaluation Strategies

1. Nutrient template/organizer is assessed for accuracy and completion.
2. *Canada's Food Guide to Healthy Eating* template/organizer is assessed for accuracy and completion.
3. Family meal plan is evaluated.
4. Students are evaluated during food lab according to regular classroom procedures.
5. Personal food record is assessed for completion.

Extension Activities

1. For enrichment, see Health and Physical Education Activity 1.

Geography/Social Studies/Career Studies

ACTIVITY 1: Jobs Related to the Egg Industry and Agriculture

Curriculum Connections

- Demonstrate an understanding of different types of agriculture.
- Demonstrate knowledge of selected occupations.

Teacher Background Information

Students learn about egg production and occupations within the egg industry. Students compare egg production to three other forms of agriculture.

Related Sections From Booklet

- All

Teaching/Learning Strategies

1. Students read The Extraordinary Egg booklet. Students complete a flow chart outlining the journey of the egg from the farm to the table.
2. Teacher places an egg on one side of the room and a photo of an egg recipe on the other side of the room. Students pick an occupation/job that helped to get the egg from the farm to the table. Each student writes that job on a card or piece of paper and stands in the correct spot between the egg and the recipe photo. Students order themselves to complete the job chain.
3. Based on the above activity, students look at their flow chart and create a list of jobs that accompany each stage of the journey.
4. Students choose three other forms of agriculture (e.g. cash crop farming, fruit and vegetable production, a greenhouse operation, beef production, dairy production, pork production) to add different jobs to their list. Students make note of the similarities and differences between the different types of agriculture.

- Students choose one of the jobs they have listed to further research. Using career search websites, students find out more about their jobs including educational and training requirements, salary ranges, start up costs (if self-employed) and annual costs. Teacher can recommend www.agriscience.ca, an agriculture career website developed by Canadian Federation of Agriculture, Human Resources Development Canada and Agriculture and Agri-Food Canada. Students create a one-page want ad for the job.

Assessment/Evaluation Strategies

- The journey of the egg flow chart is assessed for accuracy and completion.
- Job want ad is evaluated.

Science and Technology

ACTIVITY 1: Food Safety Practices From Farm to Table

Curriculum Connections

- Describe the conditions in an ecosystem that are essential to the growth and reproduction of plants and micro-organisms, and show the connection between these conditions and various aspects of the food supply for humans.

Teacher Background Information

Students look at the various ways in which egg producers and others are involved in keeping eggs safe from bacteria.

Related Sections From Booklet

- All

Teaching/Learning Strategies

- In small groups, students brainstorm the meaning of food safety and food handling practices used to keep food safe. Teacher leads a class discussion about food safety based on the information from the brainstorming activity. Teacher is careful to correct misinformation stemming from the brainstorming activity. Students take notes on this discussion.
- Students read The Extraordinary Egg booklet noting information about food safety. As students read, they will complete a template/organizer. (See example below with sample entries.)

Food Safety Practices from Farm to Table

Location	Food Safety Practices
<i>Grocery store</i>	<ul style="list-style-type: none"> - Storing eggs at 4° to 5°C (39° to 41°F) - First in, first out system
<i>Home</i>	<ul style="list-style-type: none"> - Storing eggs in refrigerator - Clean, chill, cook, separate

- Students brainstorm areas of the school where food safety is important. They take a tour of the school and complete a chart. (See example on page 10 with sample entries.)

School Food Safety Practices

School Location	Food Safety Practices
Cafeteria	<ul style="list-style-type: none">- Proper refrigeration- Washing and sanitizing work areas and equipment
Family Studies classroom	<ul style="list-style-type: none">- Proper refrigeration- Proper facilities to wash hands

4. In their science lab groups, using a swab, students take samples from areas of the school where they feel food safety should be practiced (e.g. cafeteria, Home Economics/Family studies classroom, teachers' lunch room) to see if they can grow bacteria in a Petrie dish. When the culture is complete, students make note of areas for improvement.
5. Students make a list of food safety practices for the school. Students create and post signs in different areas of the school to remind staff and students about the importance of food safety.

Assessment/Evaluation Strategies

1. Food safety practice charts are assessed for accuracy and completion.
2. Science lab on bacteria is evaluated.
3. Food safety sign is evaluated.

Extension Activities

1. For enrichment, see Home Economics/Family Studies Activity 2.

ACTIVITY 2: The Science of Improving Our Diet

Curriculum Connections

- Describe ways in which research has brought about improvements in human health and nutrition.

Teacher Background Information

Students look at the types of specialty eggs available, including the omega-3 enhanced egg. Students explore agriculture research in Canada.

Related Sections From Booklet

- Specialty Eggs . . . So Many Choices (page 10)
- Poultry and Egg Research (page 6)

Teaching/Learning Strategies

1. Students read the section of The Extraordinary Egg booklet entitled *Specialty Eggs . . . So Many Choices* (page 10). Students develop a pamphlet for consumers that discusses omega-3 fatty acids and omega-3 enhanced eggs. Students do further research using the websites listed on the back of the booklet.
2. Students read the section of The Extraordinary Egg booklet entitled *Poultry and Egg Research* (page 6). Students visit the websites for Canadian universities (e.g. University of Guelph, University of Saskatchewan) and do further study on some of the current research ongoing in the field of agriculture in Canada. Students write an article for the newspaper outlining agricultural research in Canada.

Assessment/Evaluation Strategies

1. Pamphlet on omega-3 fatty acids and omega-3 enhanced eggs is evaluated.
2. Newspaper article on agricultural research is evaluated.
3. Students are evaluated on a pencil and paper test (e.g. multiple choice, true and false, matching).

To obtain copies of The Extraordinary Egg booklet or other resources, contact:

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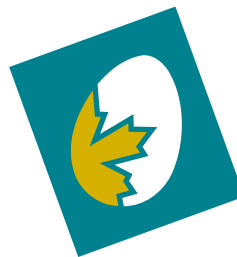
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