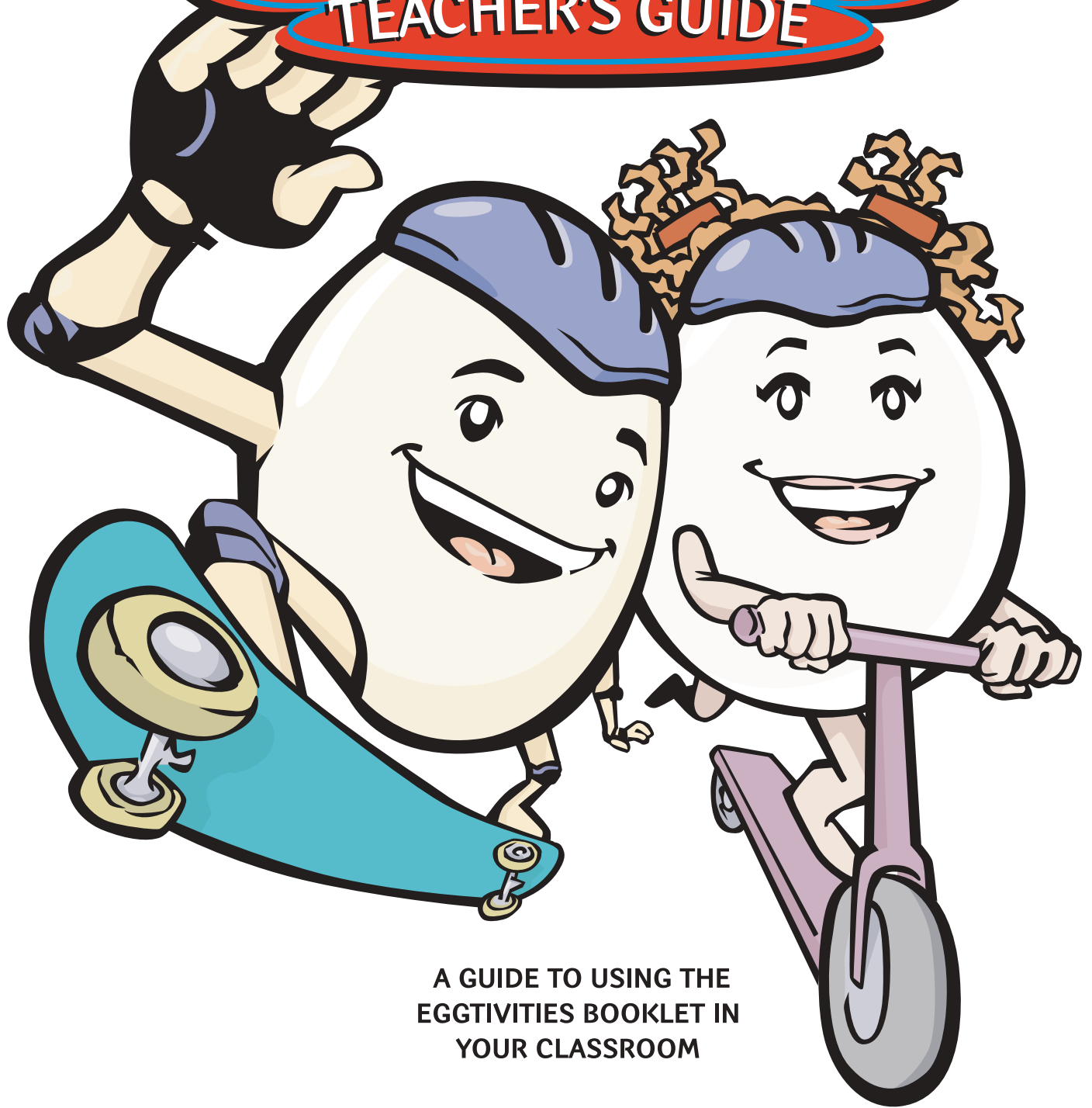


EGGTIVITIES

TEACHER'S GUIDE



A GUIDE TO USING THE
EGGTIVITIES BOOKLET IN
YOUR CLASSROOM

FOR THE TEACHER...

Eggtivities is an activity-based booklet which offers students in grades 4 to 6 a fun way to learn about eggs. It is designed to provide students with information and the opportunity to:

- conduct investigations
- communicate results
- solve problems
- be creative
- answer questions
- apply knowledge

Although these activities are easily performed in a classroom, they are also useful for involving the students' family members at home. You may wish to encourage your students to do some of the activities as homework assignments.

Why Learn About Eggs?

Eggs are common to most households in Canada and play a very important role in the Canadian diet. They are an excellent 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 and inexpensive, and students are already familiar with them. The unique properties of eggs open the door to learning about a variety of subject areas in a fun and creative way.

The study of eggs encourages students to investigate concepts in the areas of:

- science
- health, nutrition and physical education
- visual arts
- mathematics
- language arts

What Is Inside?

The Eggtivities Teacher's Guide contains the following:

- curriculum connections, identified by subject and page on which the curriculum is addressed
- six lesson plans, based on the Eggtivities booklet, which include teaching / learning strategies, assessment / evaluation strategies and accommodation / extension ideas
- answer key

Where can I get more information about eggs and additional activities?

Canadian Egg Marketing Agency

www.canadaegg.ca / www.eggs.ca

B.C. Egg Producers

www.bcegg.com

Alberta Egg Producers Board

www.eggs.ab.ca

Saskatchewan Egg Producers

www.saskegg.ca

Manitoba Egg Producers

www.mbegg.mb.ca

Ontario Egg Producers

www.eggsite.com

Quebec Egg Board

www.oeuf.ca

Egg Producers of Newfoundland and Labrador

www.nfeggs.com

CURRICULUM CONNECTIONS

Science

- describe and compare characteristics and properties of living things, objects and material (pages 1-4)
- demonstrate understanding of factors that contribute to good health (pages 8-10)
- describe ways in which humans can change habitats and the effects of these changes on the animals within the habitats (pages 3-4)
- formulate questions about and identify the needs of different types of animals, and explore possible answers to these questions and ways of meeting these needs (pages 1-4, 8-10)
- plan investigations for some of these answers and solutions, identifying variables that need to be held constant to ensure a fair test and identifying criteria for assessing solutions (pages 7, 12)
- use appropriate vocabulary, including correct science and technology terminology, in describing investigations and observations (pages 7, 12)
- identify a balanced diet as one containing carbohydrate, protein, fat, minerals, vitamins, fibre and water and design a diet that contains all of these (pages 8-10)
- identify food sources which people in various societies obtain nutrients; interpret nutritional information to make healthy food choices (pages 8-10)
- identify types of industries involved in the processing and preserving of foods (pages 1-4)
- relate scientific knowledge and technology to the maintenance of a healthy food supply (pages 1-4, 11-12)
- describe the relationship between eating habits, weight, height and metabolism, and explain the importance of daily physical activity (page 8)

Health, Nutrition and Physical Education

- identify a balanced diet and apply decision-making skills to create menus for healthy meals; analyze personal food selections and determine whether or not they are healthy choices (pages 8-10)
- outline the factors that influence body shape and size (page 8)
- identify critical content information on food labels (page 10)
- describe the importance of physical activity and healthy eating for active living, and improve fitness level by participating in vigorous physical activities for sustained periods of time (page 8)
- describe how bacteria can be transmitted and how this relates to personal hygiene (pages 11-12)

Visual Arts

- use a variety of materials and techniques to create two- and three-dimensional works of art (page 18)

Mathematics (pages 1, 7, 10, 12-15)

- use addition, subtraction, multiplication and division to four-digits
- use information given to problem-solve and explain thinking when solving problems
- use units of measurement for calculations
- use estimation strategies to determine the reasonableness of solutions to problems

Language Arts (all)

- communicate ideas and information for a variety of purposes and to specific audiences
- produce pieces of writing using a variety of specific forms and materials from other media to enhance writing

LESSON PLANS

Lesson 1: From Hen to Home

Teacher Background Information

This lesson involves pages 1 through 4 of the Eggivities student booklet. The subject areas covered in this lesson are science, mathematics and language arts. The focus is the journey of the egg from hen to home. Students will consider the habitat of the hen and on-farm practices of the egg producer. For more detailed information on any of these issues, consult www.canadaegg.ca. **Please note that in order to complete teaching / learning strategy 2, student access to the internet is necessary.**

Teaching / Learning Strategies

1. Together with the students, the teacher will read and discuss the journey of the egg on pages 1 and 2 of the activity booklet. The teacher may either ask students the accompanying questions orally or ask them to complete the questions in their notebook.
2. The teacher will divide the students into groups to answer the questions on pages 3 and 4. Each group will be assigned one of the questions. The students and the teacher will access www.canadaegg.ca to find the correct answer. The group will find the answer to their question and record it. When all groups have completed their research, they will present it to the class. All students will record the information from the other groups in their booklets.

Assessment / Evaluation Strategies

1. The teacher will review completed notes to confirm that students understand the concepts.

Accommodations and Extension Activities

- Groups may be predetermined in order to provide success for all students.
- Some students may require assistance in notetaking.
- For enrichment, an egg producer or a representative from the provincial egg board office may be invited into the classroom for further discussion.

Lesson 2: Egg Anatomy and Eggciting Science

Teacher Background Information

This lesson involves pages 5 through 7 of the Eggivities student booklet. The subject areas considered in this lesson are science and language arts. Students will consider the anatomy and properties of eggs and will conduct an experiment.

Teaching / Learning Strategies

1. Together with the students, the teacher will discuss the anatomy of an egg. At the conclusion of the discussion, students will answer the questions on page 6 of the booklet.
2. In small groups, students will complete the “floating eggs” experiment outlined on page 7 of the booklet. Students will follow the procedure and record results as requested in the experiment. The teacher will lead a class discussion about the results of their experiment.

Assessment / Evaluation Strategies

1. The teacher will mark the question sheet on page 6 for basic understanding of the concepts.
2. The teacher will evaluate the experiment to see how well the students understand the methods of science.

Accommodations and Extension Activities

- Groups may be predetermined in order to provide success for all students.
- Some students may require assistance in writing the answers to the questions.
- For enrichment, students can perform the experiment at home.

Lesson 3: Eggs and Health

Teacher Background Information

This lesson involves pages 8 through 10 of the Eggtivities student booklet. The subject areas covered in this lesson are science, mathematics, health, nutrition, physical education and language arts. Students will consider the impact of nutrition and exercise on overall health. Teachers should produce a chart for the food diary activity on page 10 for students to fill in.

Teaching / Learning Strategies

1. Together with the students, the teacher will discuss the importance of *Canada's Food Guide to Healthy Eating*. The teacher will discuss the role eggs play in providing essential nutrients.
2. The teacher will discuss the importance of exercising with the students. Students will brainstorm a list of ways to exercise as suggested on page 8 in the booklet.
3. The teacher will ask the students to record the food and beverages they have consumed to this point in the day in a chart. For homework, the students will finish filling in the chart and will answer the questions on the top of page 10.
4. The teacher will discuss the nutrient content of eggs with the students, highlighting important nutrients. The teacher will assign the mathematics questions on the bottom of page 10 of the booklet.

Assessment / Evaluation Strategies

1. The teacher will assess the completed chart and questions on page 10 to see how well students relate what they have learned to the outside world.
2. The teacher will mark the answers to the nutrition math questions to confirm that students understand the concepts.

Accommodations and Extension Activities

- Some students may require assistance in completing the chart.
- Students may draw or cut out pictures to represent the foods and beverages they consumed during the day.
- For enrichment, students may develop a game that involves exercise and eggs, e.g. hard-cooked egg toss, capture the egg, etc.

Lesson 4: Food Handling

Teacher Background Information

This lesson involves pages 11 and 12 of the Eggtivities student booklet. The subject areas considered in this lesson are science, health and language arts. Students will consider issues in food safety and will conduct an experiment.

Teaching / Learning Strategies

1. The teacher will ask students where bacteria or germs can be found. The class will make a list of possible sources of bacteria.
2. The teacher will discuss with the students ways to reduce the spread of bacteria.
3. The teacher will direct the students to pages 1 and 2 and discuss the ways in which egg producers work to prevent bacteria from developing in eggs.
4. The teacher will ask students how the spread of bacteria is controlled in their homes.
5. In small groups, students will complete the experiment on page 12 of the booklet. Students will answer the questions at the end of the experiment. The class will discuss the results of the experiment.

Assessment / Evaluation Strategies

1. The teacher will mark the answers to the questions to confirm that students understand the concepts.

Accommodations and Extension Activities

- Groups may be predetermined in order to provide success for all students.
- Some students may require assistance in writing the answers to the questions.

Lesson 5: Egg Recipes and Activities

Teacher Background Information

This lesson involves pages 13 through 17 of the Eggtivities student booklet. The subject areas covered in this lesson are science, health, mathematics and language arts. Students will prepare meals using eggs, complete these meals using their knowledge of *Canada's Food Guide to Healthy Eating*, use mathematic concepts to solve an egg riddle, solve a problem, write a story and complete a word search.

Teaching / Learning Strategies

1. If necessary equipment is available, under the teacher's direction, students can prepare one of the recipes suggested on pages 13 and 14 of the booklet. A hot plate is all that is necessary. If the equipment is not available in the school, with their parent's direction, students may prepare one of the recipes and report back to the class.
2. Students will solve the riddle on page 15.
3. Students will solve the problem on page 16, "What's in the Omelette?". This may be done individually or as a class.
4. Each student will write a story as suggested on page 17. Students will share their stories with the class or in small groups. Students will answer the questions about the stories found on page 17.
5. Students will complete the word search on page 17 and determine what the remaining letters spell.

Assessment / Evaluation Strategies

1. The teacher will mark the answer to the riddle on page 15 to confirm that students understand the mathematics concepts.
2. The teacher will mark the story on page 17.

Accommodations and Extension Activities

- Groups may be predetermined to provide an opportunity for success for all students.
- Some students may tell their story instead of writing their story.
- Some students may need a scribe in order to complete the story.
- For enrichment, students may visit the website addresses on the back of the booklet provided to find other egg recipes.

Lesson 6: Egg Art

Teacher Background Information

This lesson involves pages 18 of the Eggtivities student booklet. The subject area considered in this lesson is visual art. Students will create artistic projects using eggs. Teachers may wish to consult www.canadaegg.ca for other egg art projects.

Teaching / Learning Strategies

1. Students will follow the directions on page 18 to create an edible Eggimal.

Assessment and Evaluation Strategies

1. The teacher will evaluate the students' creations for the application of skill, creativity, use of tools and awareness of safety issues.

Accommodations and Extensions

- Some students may need assistance in creating the egg art.
- The teacher should provide pre-cut vegetables.
- For enrichment, students may design their own egg art or explore other ideas at www.canadaegg.ca.

ANSWER KEY

Page 1

1. The total number of eggs would be 900.
2. Eggs are kept cool to prevent growth of bacteria.
The best way to keep eggs cool is to store them in a refrigerated area. The ideal storage temperature for eggs is 4° Celsius.

Page 3

1. Hens are kept in cages because research has shown that it is the best environment for them. The cage keeps them safe from predators, noxious substances and from other hens. It is designed to keep manure separate from the hen and the eggs.
2. The factors that are essential for hen health and production are light, a well-balanced diet, fresh water and comfortable surroundings.
3. The environment in the barn is automated. This system regulates temperature, light and humidity for year-round comfort. Food and water are automatically dispensed to the hens. The eggs automatically roll from cages onto conveyor belts for prompt collection.

Page 4

At the farm: producers participate in a “Start Clean – Stay Clean” program aimed at eliminating opportunities for bacteria growth on the farm, eggs are separated from waste, eggs are collected promptly, eggs are kept cool.

At the grading station: eggs are kept at optimum temperature and humidity levels, eggs are washed and inspected for interior and exterior quality, cracked eggs are removed from the line, Agriculture and Agri-Food Canada inspects all registered egg stations focusing on plant sanitation and operating conditions.

During shipping: eggs are shipped in refrigerated trucks.

At the store: eggs are kept cool, eggs usually arrive at the store within four days of being laid.

At home: eggs are refrigerated immediately in their original carton, cracked eggs are discarded, eggs are handled properly.

Page 6

1. Eggs have thousands of tiny pores through which air seeps in. As a result of this, eggs will absorb strong odours from other foods in the fridge, like onions for example. Eggs should be stored in an egg carton in the main body of the refrigerator, not on the door, as the temperature on the door may not be cold enough.
2. The feed that the hen eats determines the colour of the yolk. The colour does not affect the nutritional value of the egg.
3. The size of the air cell tells you how fresh the egg is; the smaller the cell, the fresher the egg. As the egg ages, air seeps in and the air cell becomes larger. That is why older eggs will float.

4. The yolk contains all of the fat in the egg and a little less than half of the protein. It also contains the fat-soluble vitamins A, D and E. Egg yolks are one of the few foods naturally containing vitamin D. The yolk also provides vitamin B₁₂ and folic acid, and the minerals iron, calcium, copper and phosphorus. The white contains more than half the egg’s total protein, niacin, riboflavin, choline, magnesium, potassium, sodium and sulfur, and all the egg’s zinc.

Page 7

1. Adding salt to the water makes the water heavier, or more dense, than the egg causing the egg to float.
2. When fresh water is added, the egg floats in the middle of the glass. This is because the salt water has not mixed with the fresh water and the egg floats on the salt water.
3. Answers will vary depending on liquid used.

Page 10

Your Food Diary – Answers will vary depending on the foods / beverages each student consumes.

Nutrition Math

1. 142 calories
2. 35 g
3. 4 g
4. protein 36 g
carbohydrate 0 g
fat 30 g
calories 426

Page 12

1. The method that removed the most “bacteria” is warm water and soap.
2. The method that removed the least “bacteria” is cold water and no soap.
3. The factors that contribute to the removal of the “bacteria” are temperature of water and use of soap.

Page 15

It cracks up

Page 16

1. They will choose ham, cheese and mushrooms.
2. Ham – Meat and Alternatives
Cheese – Milk Products
Mushrooms – Vegetables and Fruit
3. Answers will vary.

Page 17

The remaining letters spell – **YOU CAN’T BEAT AN EGG**

To obtain copies of the Eggtivities booklet or other resources, contact:

B.C. Egg Producers

P.O. Box 310
Abbotsford, British Columbia
V2S 4P2
www.bcegg.com

Alberta Egg Producers Board

#15, 1915-32nd Avenue N.E.
Calgary, Alberta
T2E 7C8
www.eggs.ab.ca

Saskatchewan Egg Producers

P.O. Box 1637
Regina, Saskatchewan
S4P 3C4
www.saskegg.ca

Manitoba Egg Producers

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

Ontario Egg Producers

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

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

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Longueuil, Québec
J4H 3Y9
www.oeuf.ca

New Brunswick Egg Marketing Board

181 Westmorland Street
Fredericton, New Brunswick
E3B 3L6
nbegg@nbnet.nb.ca

Nova Scotia Egg Producers

P.O. Box 1096
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