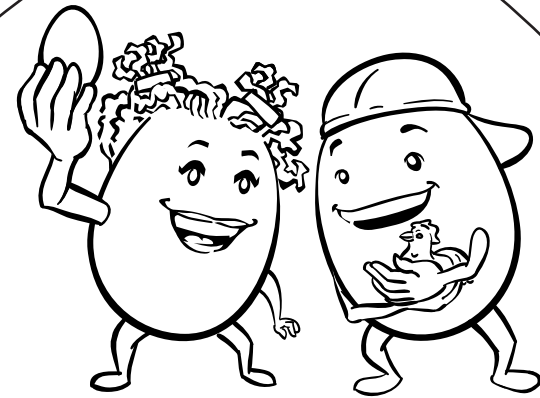


# EGGTIVITIES

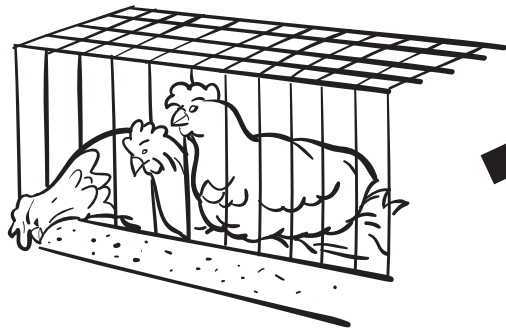


AN ACTIVITY WORKBOOK  
FOR GRADES 4-6

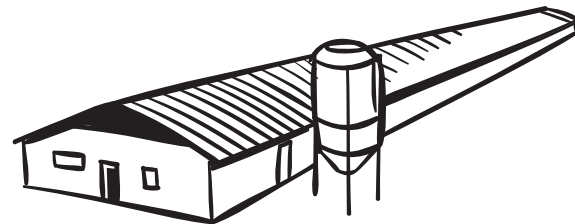


# WELCOME to your Adventure with EGGS!

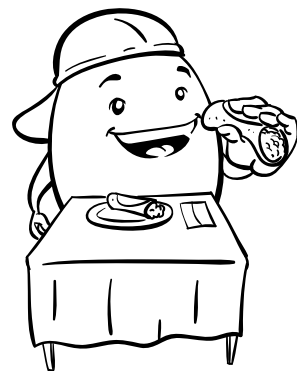
## FROM HEN TO HOME



1. A hen lays approximately 300 eggs in a year. What is the total number of eggs these hens would lay in one year?



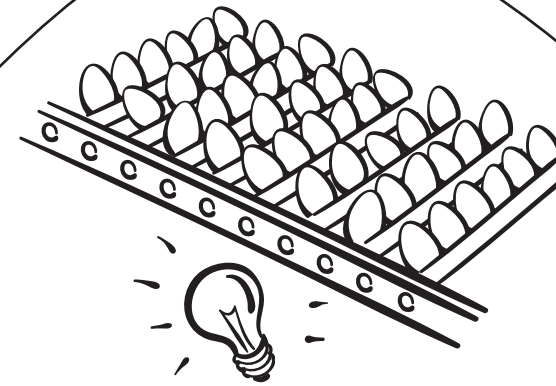
2. Hen barns are large and well ventilated. Eggs are collected on a daily basis and stored in a cool place until they are shipped to the grading station. Why are eggs kept cool? What is the best way to keep them cool?



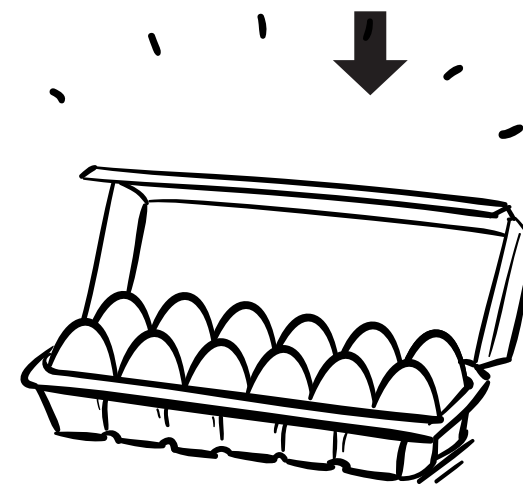
7. The eggs are brought home to be a part of your healthy diet. Eggs are good any time of day – for breakfast, lunch, dinner or snacks. What is your favourite way to eat eggs?

Web Link: Visit [www.canadaegg.ca](http://www.canadaegg.ca) for further information about the journey of the egg from the farm to your table.

1

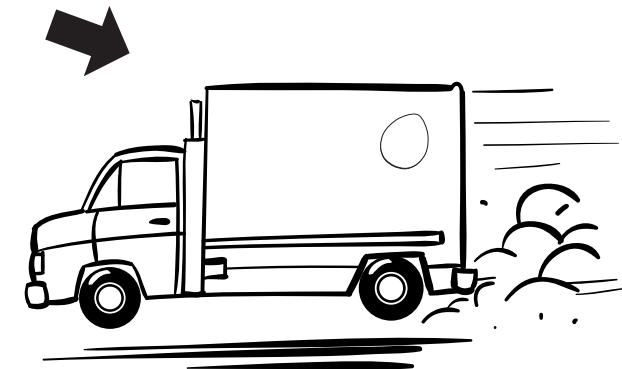


3. At the grading station, eggs are washed, checked for quality and weighed. All eggs pass over a very strong light. This allows the grader to inspect not only the shell of the egg, but the inside as well. This process is called candling.



4. The best quality eggs are marked Canada Grade "A". These are put into cartons and sent to stores. A grade "A" egg has a round, well centered yolk, a firm white (or albumen), a clean uncracked shell with normal shape and a small air cell.

The other eggs are not wasted. They become processed eggs and are used in products such as pasta, salad dressing, cake mixes, mayonnaise and shampoo.

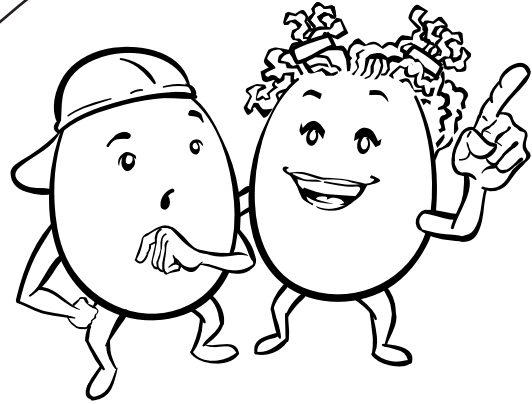


5. Eggs are shipped in refrigerated trucks from the grading station to the store. Care is taken to maintain safe storage of eggs.

6. At the store, eggs are kept refrigerated until purchased by the consumer.



2



# DID YOU KNOW?

Researchers and egg producers work to provide the best possible habitat for hens. This environment encourages the best production and protects the hens from predators.

Visit [www.canadaegg.ca](http://www.canadaegg.ca) to find the answers to the following questions. Tip: Use the search function.

## HABITAT FOR HENS

Why are hens kept in cages?

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What factors are essential for hen health and production?

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How is the environment in the barn controlled? What factors are controlled?

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From the farm gate to the table, everyone has a role to play in keeping our food supply safe. What measures are taken for eggs...

At the farm?

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At the grading station?

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During shipping?

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At the store?

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At home?

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# EGG ANATOMY

## SHELL

- the egg's first line of defence against the entry of bacteria
- can be brown or white, depending on the breed of hen; nutritional value of the egg is the same
- approximately 10,000 tiny pores allow moisture and gases in and out
- odours can be absorbed through the shell, so eggs should be stored in their carton and always in the refrigerator

## SHELL MEMBRANES

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

## ALBUMEN (al-BYOO-min)

- albumen is the egg white
- there are two layers: thick and thin albumen
- mostly made of water, high quality protein and some minerals
- represents 2/3 of the egg's weight
- when a fresh egg is broken, the thick albumen stands up firmly around the yolk

## AIR CELL

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

## YOLK MEMBRANE (Vitelline Membrane)

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

## YOLK

- the egg's major source of vitamins and minerals, including protein and essential fatty acids
- represents 1/3 of the egg's weight
- colour ranges from light yellow to deep orange, depending on the hen's food; nutritional value is the same

## CHALAZAE (chuh-LAY-zee)

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

# YOU BE THE EGGSPERT!

Study the diagram on page 5 and see if you can answer these puzzling questions! You may wish to consult one of the websites listed on the back cover for further information.

1. Eggshells have thousands of tiny pores. How does this affect the way eggs should be stored?

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2. Some egg yolks are pale yellow in colour while others are more orange. What causes this? Does the colour affect the nutritional value of the egg?

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3. What does the size of the air cell tell you about an egg?

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4. Eggs contain many nutrients. Which ones are found in the yolk? Which ones are found in the white?

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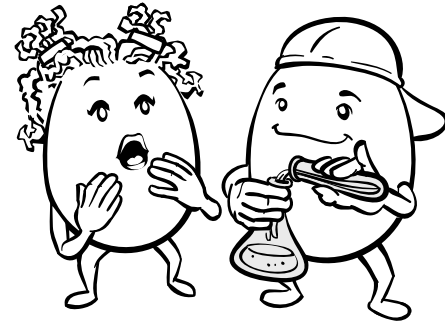
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## FLOATING EGGS

**QUESTION:** How can you make an egg float?

**Hypothesis:**

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**Materials Needed:** ● 1 large glass of lukewarm water ● 1/3 cup (75 mL) salt ● 1 fresh egg

**Procedure:**

Step 1: Place an egg in a large glass that is half full of water. In your notebook, draw what you see.

Step 2: Remove the egg and gradually add salt as you stir the water. When the salt has dissolved, gently drop the egg into the water. Draw what you see.

Step 3: With the egg in the salt water glass, carefully trickle water down a spoon which is resting on the side of the glass. A layer of fresh water will be created on top of the salt water. Draw what you see.

**Results:**

1. Why does adding salt to the water cause the egg to float?

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2. What happens to the egg when you add fresh water? Why?

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3. You may want to try this with other liquids (e.g., oil, water with 1/3 cup (75 mL) sugar dissolved in it, milk, etc.).

a. Which liquids allow the egg to float? Why?

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b. Which liquids cause the egg to sink? Why?

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**Conclusion:**

4. Was your hypothesis correct?

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## CANADA'S FOOD GUIDE TO HEALTHY EATING

Your body is rapidly growing, and how well you treat it is up to you! When it comes to wise food choices, *Canada's Food Guide to Healthy Eating* makes it easy for you. If you eat the recommended amount of a wide variety of foods from the four food groups every day and keep active . . . you are on the right track to good health!

Some foods are not part of the four food groups. These foods are higher in fat or calories so they should be eaten in moderation.

*Canada's Food Guide to Healthy Eating* recommends the following number of servings each day:

Grain Products	5-12
Vegetables and Fruit	5-10
Milk Products	
Children 4-9 years	2-3
Youth 10-16 years	3-4
Meat and Alternatives	2-3

### The Importance of Eggsercise

As well as enjoying a variety of foods, it is important to keep active. Foods give you energy to maintain an active lifestyle, but exercising is also essential to keep healthy.

Brainstorm a list of fun exercises to help keep you healthy and keep your heart in top shape.



**Grain Products**  
Choose whole grain and enriched products more often.

**Vegetables and Fruit**  
Choose dark green and orange vegetables and orange fruit more often.

**Milk Products**  
Choose lower-fat milk products more often.

**Meat and Alternatives**  
Choose leaner meats, poultry and fish, as well as dried peas, beans and lentils more often.

# EGGS

## Part of Healthy Eating!

### EGGS ARE "HARD TO BEAT"

As part of a healthy diet, eggs are nutritionally outstanding! In fact, one to two eggs are a serving in the Meat and Alternatives group in *Canada's Food Guide to Healthy Eating*. Eggs provide your body with:



Protein – to build your body and keep it strong

Fat – to give you energy to grow and enjoy your favourite activities

Vitamins and Minerals – to keep your bones and teeth strong, and your skin and hair glowing

### CHOLESTEROL

Eggs also contain cholesterol, a natural substance which your body needs to function well. In fact, your body makes cholesterol and needs it to do things like digest food and produce vitamin D. Some adults have too much cholesterol in their bodies and their doctor or dietitian may have recommended that they follow a low-fat diet. For healthy young people such as you, it is most important to be active and to eat a wide variety of nutritious foods such as eggs.

### YOUR FOOD DIARY

In your notebook, keep track of everything you eat and drink today. Then answer the questions below to see if you followed *Canada's Food Guide to Healthy Eating*. Remember to check the serving size of each food! You can find this information using the Bar Guide at [www.healthcanada.ca/foodguide](http://www.healthcanada.ca/foodguide).

1. How many servings of Grain Products did you eat? \_\_\_\_\_
2. How many servings of Vegetables and Fruit did you eat? \_\_\_\_\_
3. How many servings of Milk Products did you eat? \_\_\_\_\_
4. How many servings of Meat and Alternatives did you eat? \_\_\_\_\_
5. Did you meet the daily recommendations of *Canada's Food Guide to Healthy Eating*? \_\_\_\_\_
6. What changes could be made to your diet to meet the recommendations?  
\_\_\_\_\_

### NUTRITION MATH

One grade "A" large egg provides:

Calories	71
Fat	5 grams
Protein	6 grams
Carbohydrate	0 grams

1. If you ate two eggs for lunch, how many calories would you get? \_\_\_\_\_
2. Your friend ate seven eggs this week. How many grams of fat did he get? \_\_\_\_\_
3. One tablespoon (15 mL) of peanut butter contains 4 grams of protein. How much more protein is there in 2 eggs than in 2 tablespoons (30 mL) of peanut butter? \_\_\_\_\_
4. In a half dozen carton of eggs, how many grams of protein, carbohydrate and fat are there? \_\_\_\_\_

How many calories are there? \_\_\_\_\_

# FIGHTING BACTERIA

Bacteria are found everywhere. Bacteria need food, moisture and ideal temperatures to grow. We must control these factors in order to prevent bacteria from spoiling our food.

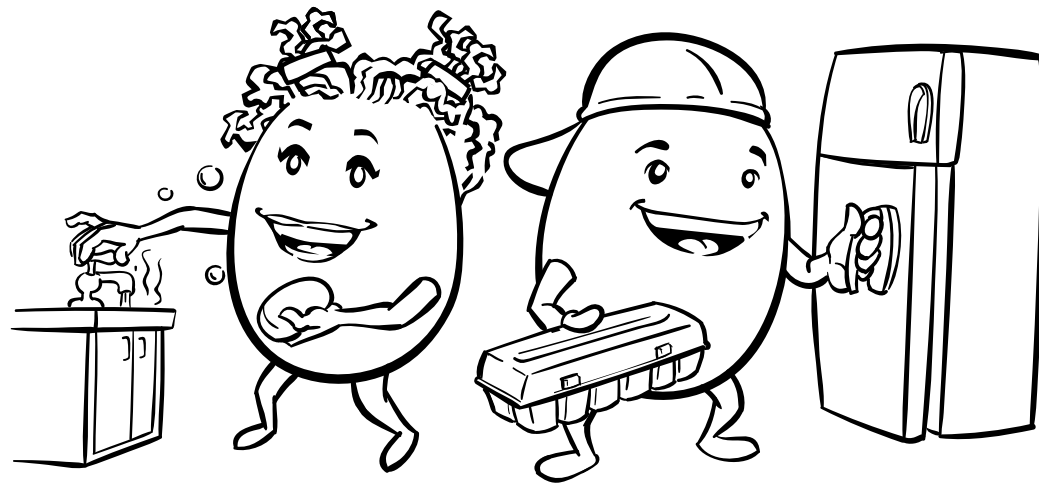
The four rules of fighting bacteria are:

1. Clean – wash hands and surfaces often
2. Separate – don't cross-contaminate
3. Cook – cook to proper temperatures
4. Chill – refrigerate promptly

As you saw on pages 1 and 2, fighting bacteria begins on the farm.

In our homes, eggs should be refrigerated in their cartons in the main body of the refrigerator. This will help to keep them fresh. See if the eggs in your home are stored properly. When preparing food, wash your hands and utensils in warm soapy water before and after handling eggs. Serve hot foods hot and cold foods cold and refrigerate all leftovers after serving.

There is a lot of information about fighting bacteria on the *FightBAC!*<sup>™</sup> website at [www.canfightbac.org](http://www.canfightbac.org).



## Soapy Solutions

# EGGSPERIMENT

**QUESTION:** What is the most effective way to remove bacteria from your hands?

**Hypothesis:**

---

**Materials Needed:**

- 3 tbsp (45 mL) cooking oil
- 3 tsp (15 mL) cinnamon
- access to a sink to wash hands
- hand or dish washing soap
- paper towels
- 3 volunteers
- measuring spoons – 1 tsp (5 mL) and 1 tbsp (15 mL)

**Procedure:**

Step 1: Volunteers each rub 1 tbsp (15 mL) of cooking oil on their hands until their hands are completely covered. Then they each rub 1 tsp (5 mL) of cinnamon on their hands until it is evenly distributed. The cinnamon represents the bacteria.

- Step 2: Person 1 – washes hands with **cold water** and **no soap**  
Person 2 – washes hands with **warm water** and **no soap**  
Person 3 – washes hands with **warm water** and **soap**

**Note:** All volunteers must rub their hands briskly for 20 seconds.

**Results:**

1. Which method of washing hands removed the most “bacteria”?
- 

2. Which method removed the least “bacteria”?
- 

**Conclusion:**

3. What are the factors that contribute to the removal of the “bacteria”?
- 

4. Was your hypothesis correct?
- 



# ANYTIME EGGS

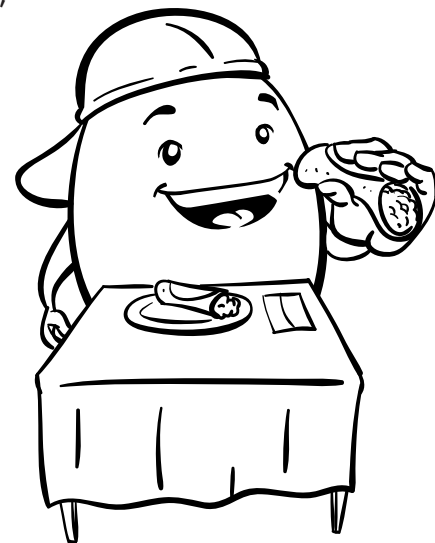
Use the food handling rules you learned on pages 12 and 13 to prepare these egg recipes. Always ask for permission from an adult before you start cooking!

## EGG TACOS

You'll need:

8	taco shells	8
8	hard-cooked eggs, coarsely chopped	8
1 cup	cream style corn	250 mL
2 tsp	taco seasoning mix	10 mL
1 cup	shredded old Cheddar cheese	250 mL
	Shredded lettuce, taco sauce and sour cream	

Warm taco shells according to package directions. In a large non-stick skillet, combine eggs, corn and taco seasoning mix. Cook and stir gently over medium heat until heated, about 3 minutes. Remove from heat. Stir in 1/2 cup (125 mL) cheese. Fill each taco shell with about 1/3 cup (75 mL) egg mixture. Garnish with lettuce, taco sauce, sour cream and 1 tbsp (15 mL) cheese. Makes 4 servings.



## EGG BURGER

You'll need:

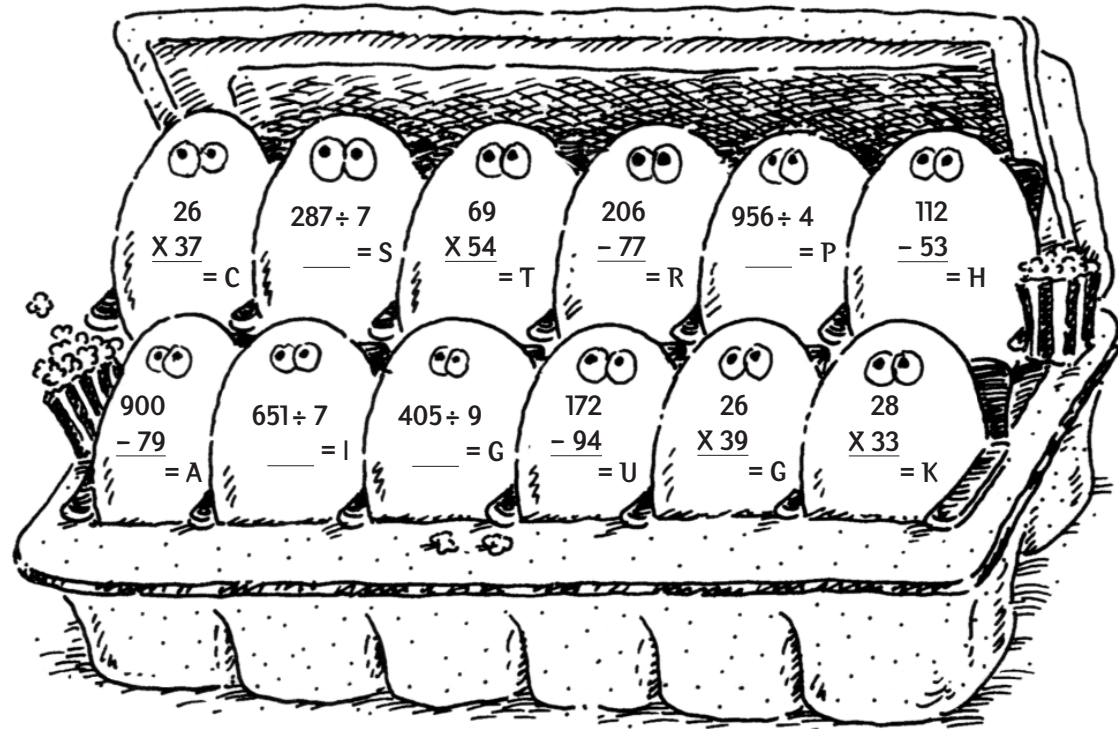
1 tsp	butter or margarine	5 mL
1	egg	1
1	slice cheese	1
1	hamburger bun	1
	Ketchup, mayonnaise, lettuce (optional)	

In a skillet, melt butter over moderate heat. Break egg into the skillet. With a spatula, break the yolk. When the egg is set, turn over to cook the other side. Place cheese on the bun. Top with cooked egg, ketchup, mayonnaise and lettuce. Cover with remaining half of bun. Makes 1 serving.

# SOLVE THE RIDDLE

What happens when you tell an egg joke?

1. Find the answer by completing the math problems on the carton of eggs.
2. Place the letter that is next to your answer on the correct blank below.



$$\begin{array}{r} \phantom{0}93 \\ \hline 962 \end{array}$$

$$\begin{array}{r} \phantom{0}3726 \\ \hline 129 \end{array}$$

$$\begin{array}{r} \phantom{0}821 \\ \hline 962 \end{array}$$

$$\begin{array}{r} \phantom{0}924 \\ \hline 41 \end{array}$$

$$\begin{array}{r} \phantom{0}78 \\ \hline 239 \end{array}$$

Use this answer to unlock more puzzles and games at  
[www.canadaegg.ca](http://www.canadaegg.ca)

# What's in the OMELETTE?

During the summer holidays, Anna, Mike, Julio and Soo decide to make an omelette with 3 ingredients (plus eggs, of course!). Each of the four children like different ingredients. Use the clues to help them decide what to put in their omelette.

- Anna loves ham and cheese in omelettes.
- Mike's favourite ingredients are green peppers, onions and mushrooms, but he likes all of the other ingredients.
- Julio enjoys cheese, but he dislikes onions.
- Bacon and green peppers give Soo a stomach ache. She can eat all the other ingredients.
- They want to include at least 3 of the 4 food groups in the omelette.

1. Which 3 ingredients – in addition to eggs – will they choose?

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2. Which food group does each ingredient belong in?

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3. What are your favourite omelette ingredients?

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# BE AN EGG AUTHOR

Authors must have a topic when they begin to write. Why not write a story about eggs in your notebook? Ask a friend to write a story about eggs too. There is only one rule to writing this story – you must use all of the following words at least once.

Compare your story with a friend's. Did you use the words in the same way? How are your stories similar or different?

Eggs	Omelette	Friends	Farm	Prize
Fair	Classroom	Teacher	Kids	Fluffy
Nutritious	Lunch	Adventure	Yolk	Fridge

Find the 15 words above in the word search below and circle them!

O	A	D	V	E	N	T	U	R	E	F
R	M	O	O	R	S	S	A	L	C	L
E	R	E	Y	O	U	D	F	U	F	U
H	A	E	L	C	A	I	R	N	R	F
C	F	Z	N	E	T	K	I	C	I	F
A	B	I	F	E	T	A	D	H	E	Y
E	T	R	A	A	N	T	G	E	N	O
T	G	P	I	S	G	G	E	G	D	L
N	U	T	R	I	T	I	O	U	S	K

What do the remaining letters spell?

\_\_\_\_\_ ,  
 \_\_\_\_\_  
 \_\_\_\_\_

# EGG ART

Edible Art!

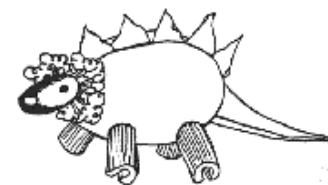
## EGGIMALS

Make your own eggimal zoo by using hard-cooked eggs with vegetables (celery, carrots, broccoli, lettuce, cucumbers, green onions, green peppers), cheese, olives, pickles, corn chips, cherry tomatoes or anything else you can think of for eyes, noses, fins, wings and feet. Use toothpicks to hold the eggimal together!

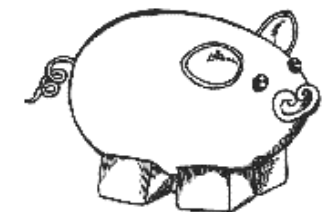
Note: Ensure that eggs are kept chilled until ready to use. Once made, eggimals should be eaten right away or placed in the refrigerator until ready to eat. Watch for pieces of toothpick!



## EGGOSAURUS



Using a toothpick, attach an olive to one end of the egg. Dig small eye holes and insert raisins. Surround the head with broccoli florets. Make a slit down the back and fill in with corn chips. Add celery legs and a long carrot stick tail.



For more eggimals or other great ideas, visit [www.canadaegg.ca](http://www.canadaegg.ca)

This activity  
book belongs to:

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For additional copies of this booklet or more information, contact:

**B.C. Egg Producers**  
P.O. Box 310  
Abbotsford, British Columbia  
V2S 4P2  
[www.bcegg.com](http://www.bcegg.com)

**Alberta Egg  
Producers Board**  
#15, 1915-32nd Avenue N.E.  
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[www.eggs.ab.ca](http://www.eggs.ab.ca)

**Saskatchewan  
Egg Producers**  
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[www.saskegg.ca](http://www.saskegg.ca)

**Manitoba Egg Producers**  
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[www.mbeegg.mb.ca](http://www.mbeegg.mb.ca)

**Ontario Egg Producers**  
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L5N 4H1  
[www.eggsite.com](http://www.eggsite.com)

**Fédération des producteurs  
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[www.canadaegg.ca](http://www.canadaegg.ca)