



## Exploring Energy Balance

### MISSION 4

Exploring Energy Balance provides information and activities to guide students in exploring the importance of healthy eating, physical activity and self-esteem.

#### Curriculum Connections for Grades 4 - 6

##### Students will:

1. Understand how nutrition information is presented on food labels by identifying the Nutrition Facts table, ingredient list and nutrition claims on a food product.
2. Identify sources of food energy - fat, carbohydrate and protein.
3. Describe the benefits of healthy eating and physical activity.
4. Use a goal-setting process related to physical activity.
5. Observe body signals associated with eating and activity patterns.
6. Identify factors that influence food and activity choices.
7. Analyze different eating and activity patterns.
8. Recognize the importance of feeling good about oneself for health.
9. Identify personal qualities that contribute to self-esteem.

### Teaching Background Information

#### EATING WELL WITH CANADA'S FOOD GUIDE

*Eating Well with Canada's Food Guide* defines a healthy eating pattern for Canadians two years of age and older. It highlights the importance of healthy eating and physical activity. Canada's Food Guide uses a rainbow to illustrate that just as different colours make a rainbow, different food groups are the basis of healthy eating. Contact your local public health unit to obtain copies of *Eating Well with Canada's Food Guide* for each student in your class. You can also order copies online through Health Canada's website: [www.healthcanada.gc.ca](http://www.healthcanada.gc.ca).

##### Enjoy a Variety of Foods

Canada's Food Guide encourages Canadians to enjoy a variety of foods every day. Different foods provide the body with different nutrients (including carbohydrate, fat, protein, vitamins and minerals), therefore, eating a variety of foods helps to meet nutrient needs. A variety of foods also adds fun and enjoyment to eating.

Encouraging children to try foods from other cultures is a great way to help them learn to enjoy a variety of foods while learning about their friends and the world around them.



## **FOOD ENERGY**

### **Energy Requirements**

Children require energy from food for healthy growth and development, to sustain body functions such as breathing and digestion, and to participate in physical activity. As physical activity increases, so do energy requirements. Carbohydrate, protein and fat are the nutrients in foods and beverages that provide energy. Energy is measured in the form of Calories.

The amount of food energy that children require each day from the four food groups depends on their age, gender, body size and activity level. Canada's Food Guide recommends a range of servings from each of the four food groups based on age and gender for all Canadians two years of age and older.

### **Energy Balance**

Energy balance is achieved when energy intake (in the form of Calories from food) equals energy output (energy used for body functions and physical activity).

The two situations below highlight what happens when food intake and activity levels are out of balance:

- When energy intake is greater than energy output, weight gain results. If this equation is maintained over a long period of time it may lead to health problems such as obesity, diabetes or heart disease.
- When energy intake is less than energy output, weight loss results. If this equation is maintained over a long period of time (e.g., over several months or years) it may lead to a lack of energy and health problems such as inadequate growth and development (especially in children). It may also signal eating disorders such as anorexia nervosa in teens and young adults.

## **CARBOHYDRATE**

Carbohydrate is the body's preferred source of energy, especially for the brain and muscles. One gram of carbohydrate provides 4 Calories of energy. Carbohydrate-rich foods can be found in each of the four food groups from Canada's Food Guide. It is a good idea to choose carbohydrate foods at every meal and snack. Health Canada recommends that Canadians consume 45-65% of daily Calories from carbohydrate.

Foods that provide carbohydrate include:

- Vegetables and fruit.
- Grain products such as breads, cereals, pasta, and rice.
- Milk products such as milk and yogurt (lactose, the sugar naturally found in milk products, is a carbohydrate).
- Meat alternatives such as peas, beans, lentils and nuts.
- Foods that are not part of the four food groups but contain carbohydrate include (but are not limited to): sugar, maple syrup, molasses, honey, corn syrup, fruit drinks, and candy.

Carbohydrate in foods come from three sources: starches, sugars and fibre.

## **Starches**

Starches are a type of carbohydrate composed of many sugar units linked together to form long, complex chains. Starches are abundant in grain products and certain vegetables including rice, bread, breakfast cereals, pasta, crackers, corn, potatoes, squash, pumpkin and parsnips. The majority of carbohydrate consumed in North American diets comes from starches.

## **Sugars**

Like most carbohydrates, sugars are a source of Calories that help fuel the brain and muscles. Sugars are naturally found in many foods such as fruit, vegetables and milk products. Sugars are also added to foods to provide sweetness and make them taste more appealing. In addition to sweetness, sugars play an important role in many foods by enhancing flavour, improving appearance and texture and helping to retain moisture and freshness.

## **Fibre**

Fibre is found in many plant foods including whole grains, vegetables, fruit, beans, nuts and seeds. Fibre is an important part of the diet because it helps to keep the digestive system healthy and can also help reduce the risk of some health conditions. Health Canada recommends that children aged 4-13 years consume 25-30 grams of fibre per day. To help Canadians increase fibre intake, Canada's Food Guide emphasizes vegetables and fruit and recommends that half of grain product servings be whole grain (such as oats, brown rice, whole grain breads and whole grain pastas).

## **FAT**

Fat represents the most concentrated form of food energy, providing 9 Calories per gram. It helps to insulate the body, protect the body's organs and line nerve cells. Fat in the diet also provides essential fatty acids and helps transport certain vitamins that are necessary for good health. Although fats are an important part of the diet, Canadians need to moderate their total fat intake. Health Canada recommends that children aged 4-18 years consume 25-35% of daily Calories from fat. There are four main types of fat in the diet: saturated fat, trans fat, monounsaturated fat and polyunsaturated fat (including omega-3 and omega-6 fats).

Foods that provide fat include:

- Oil, salad dressing, butter, margarine, mayonnaise, cream sauces, and snack foods such as potato chips and chocolate.
- Vegetables such as avocados.
- Grain products and baked goods made with fats such as cookies, crackers, cakes, pastries, pies, doughnuts and croissants.
- Milk products such as milk, cheese, yogurt and ice cream.
- Meat products such as beef, poultry, fish, eggs and meat alternatives such as nuts and seeds.
- Foods from any of the four food groups that are fried or prepared in oil.

## **PROTEIN**

Protein in food is made of individual units called amino acids. Protein is essential for forming the structure of all body tissues including muscle, skin and hair. Protein is also a source of energy, containing 4 Calories per gram.

Foods that provide protein include:

- Milk products such as milk, cheese, yogurt and ice cream.
- Meat products such as beef, poultry, fish, eggs and meat alternatives such as beans, peas and lentils, soy products, nuts and seeds.
- Grain products such as cereals, breads, rice and pasta provide some protein, but to a lesser extent than milk products, meat products and meat alternatives.

## **VITAMINS AND MINERALS**

In addition to carbohydrate, protein and fat, vitamins and minerals are also essential nutrients that perform many key functions within the body.

For example,

- Vitamin A is needed to maintain healthy skin, bones and vision.
- Vitamin C is needed for the formation of healthy teeth, gums and blood vessels.
- Calcium, vitamin D, phosphorus and magnesium work together in the development of strong and healthy bones.

Vitamins and minerals are found in many different foods from all four food groups of Canada's Food Guide. Unlike fat, carbohydrate and protein, vitamins and minerals do not provide energy.

## **BEVERAGES**

Fluid is an essential part of a balanced diet. Water supports many body functions, cushions joints and organs, helps to transport important nutrients, and removes wastes. Canada's Food Guide encourages Canadians to satisfy their thirst with water.

Fluid needs vary by age. It is recommended that children aged 1 to 13 years consume 1.5 - 2 litres of fluid per day. It is important to drink additional fluid before, during and after physical activity to replenish fluid lost from sweating. In addition, fluid needs increase when it is hot outside. Keep in mind that total fluid intake includes fluids consumed from both food and beverages, although food is only a minor contributor.

## INFORMATION ON FOOD OR BEVERAGE PACKAGES

### Ingredient List

Virtually all pre-packaged foods require an ingredient list. The ingredient list displays the ingredients in the food. Ingredients are listed by weight - from most to least. Ingredient lists are particularly useful for people with food allergies or people who have to avoid certain ingredients.

### Nutrition Facts Table

Nutrition information on food labels can help Canadians make informed food choices. Nutrition information is provided on the packaging of food and beverages in the form of a Nutrition Facts table. A Nutrition Facts table has been mandatory on most pre-packaged food and beverages in Canada since December 2005. Some foods do not require a Nutrition Facts table such as fresh fruit and vegetables, raw meat and poultry, and foods sold at road-side stands, farmer's markets and flea markets.

The Nutrition Facts table provides information on serving size, Calories (energy value) and 13 different nutrients in a standardized table. The nutrient information in the Nutrition Facts table is based on a serving size. For example, the Nutrition Facts table on the right lists nutrition information for a serving size of 125 mL (87 g). The nutrients that must be listed in the Nutrition Facts table include fat, saturated fat, trans fat, cholesterol, sodium, carbohydrate, fibre, sugars, protein, vitamin A, vitamin C, calcium and iron. Manufacturers may also include other nutrients from a defined list.

Nutrition Facts	
Per 125mL (87g)	
Amount	% Daily Value
<b>Calories</b> 80	
<b>Fat</b> 0.5 g	1%
Saturated 0 g	
+ Trans 0 g	0%
<b>Cholesterol</b> 0 mg	
<b>Sodium</b> 0 mg	0%
<b>Carbohydrate</b> 18 g	6%
Fibre 2 g	8%
Sugars 2 g	
<b>Protein</b> 3 g	
Vitamin A 2%	Vitamin C 10%
Calcium 0%	Iron 2%

### Sugars and the Nutrition Facts Table

The 'sugars' value listed in the Nutrition Facts table is often a source of confusion among consumers. 'Sugars' in the Nutrition Facts table represents the total of both naturally occurring sugars in foods (such as in milk, fruit and vegetables) and sugars added to foods (such as table sugar, honey, glucose-fructose, molasses and maple syrup). For example, one cup of partly skimmed chocolate milk lists 28 grams of sugars in the Nutrition Facts table. This value is a combination of the sugar naturally occurring in milk (lactose) and the sugar added to the product for sweetness.

### Using the Nutrition Facts Table

The Nutrition Facts table is useful for evaluating and comparing the nutritional value of packaged foods and beverages. Since serving sizes listed in the Nutrition Facts table vary, even among similar products, it is important to look at the serving size information when comparing different foods. If the serving sizes differ between two products, some basic math may be required to compare products.

The Nutrition Facts table lists a percent daily value for certain nutrients. The percent daily value can help determine whether a food or beverage contains a lot or a little of a nutrient compared to the amount recommended in one day. For example, one cup of milk has a percent daily value of 30% for calcium. This means that one cup of milk provides 30% of an adult's daily recommendation for calcium based on a 2000 Calorie diet. In general, nutrients with a daily value of 40% or more are considered "high", and nutrients at 5% or less are considered "low".



## NUTRITION CLAIMS

Some food and beverage packages display **nutrition claims**, which describe important nutritional features of a food. Nutrition claims made on a food or beverage package consist of two types:

**(1) Nutrient content claims:** These are statements that may appear on the front of the package to highlight a specific nutrient in the food such as “low in fat” or “high source of fibre”. A food must meet specific criteria from Health Canada in order to carry a nutrient content claim. For example, a food may only display the claim “high source of fibre” if it contains at least 4 grams of fibre per serving.

**(2) Health claims:** Some food products may display a claim about reducing the risk of certain health conditions including heart disease, cancer, osteoporosis, high blood pressure and dental caries. A food must also meet specific criteria from Health Canada to display a health claim.

## HEALTHY ACTIVE LIVING

Healthy Active Living includes eating well, being active and feeling good about yourself.

- Eating well means choosing a variety of foods from Canada's Food Guide everyday, especially those that are higher in carbohydrate and lower in fat.
- Being active means doing some type of physical activity every day. Regular physical activity helps maintain a healthy weight and strengthen the heart, lungs and muscles.
- Feeling good about yourself means believing in yourself, being proud of your abilities, accepting who you are and how you look, and treating yourself well.

Active Living is “an approach to life that values and includes physical activity in everyday living.” Children should be encouraged to participate regularly in a variety of activities that they enjoy. This means engaging in simple movement that is comfortable, convenient and fun with family and friends every day. Regular physical activity helps keep the heart and lungs in shape, build muscle strength and endurance, and can improve flexibility. Contact your local Public Health unit to obtain copies of Canada's Physical Activity Guides for Children and Youth. You can also order copies online by visiting the Public Health Agency of Canada website at: [www.phac-aspc.gc.ca/pau-uap/fitness/order.html](http://www.phac-aspc.gc.ca/pau-uap/fitness/order.html).

## LEARNING TO LISTEN TO YOUR BODY

Humans have built-in cues to help them decide when and what to eat. These sensory cues include hunger, satiety (fullness), thirst and taste. Sensory cues are the body's way of telling the brain what it needs; that is, when and how much to eat or drink. A sense of taste helps to identify foods and plays a big part in the pleasure of eating. Learning to listen to these cues and eat accordingly is an important part of the development of healthy eating habits.



## Activity

4:1

## LEARNING ABOUT NUTRITION INFORMATION ON FOOD LABELS

**PURPOSE:** to explore and identify nutrition information found on food labels and to identify sources of food energy.

**CURRICULUM CONNECTIONS:**  
1, 2

### KNOWLEDGE AND SKILL DEVELOPMENT:

Health and Physical Education, Science, English Language Arts.

### TEACHER NOTES:

Bring in two or more food packages that display the Nutrition Facts table and nutrition claims. Students should be asked ahead of time to bring in their own empty food or beverage package. Introduce this activity by brainstorming the benefits of healthy eating with students.

Ask students to consider the following questions before distributing Student Activity 4:1:

- What does healthy eating mean?
- What do foods give us?
- Why is it important to eat a variety of foods?
- What three nutrients give our bodies energy?
- What is our body's preferred source of energy?
- How do we know what is in a food?

Before students work on the activity sheets, complete the blank Nutrition Facts table on Overhead 4:1 (page 76) so that students are able to see an example of how to fill in the information. Students can then use their food or beverage package to answer the questions in the activity.

### ASSESSMENT AND EVALUATION:

Students should be able to accurately answer the questions about their food packages. To evaluate student responses, teachers can ask students to submit their activity sheets and food labels for marking or teachers can ask students to give their answers through class discussion. The Answer Key below provides examples of acceptable answers to question #11 of Activity 4:1.

### ANSWER KEY for Question #11 of Activity 4:1

What are the benefits of looking at the Nutrition Facts table on food products?

- Determine whether a food has a lot or a little of a nutrient
- Compare the amount of Calories (energy) that different foods provide
- Identify products that are good sources of nutrients such as fibre, calcium and iron
- Help to increase or decrease intake of a particular nutrient (e.g. increase fibre, decrease fat)
- Assist in managing special diets (e.g. diabetic diet, low fat diet)

Essentially, any positive answer towards food labels or being able to read food labels can be deemed correct, as long as students are thinking and reflecting about how food labels can help them and their families make informed food choices.



**PURPOSE:** To help students utilize and interpret nutrition information found on food labels and increase understanding of the nutrients present in different foods.

**CURRICULUM CONNECTIONS:**  
1, 2

**KNOWLEDGE AND SKILL DEVELOPMENT:**

Health and Physical Education, Science, English Language Arts.

**TEACHER NOTES:**

Place students in small groups for this activity. With a list of four food products and four Nutrition Facts tables, the objective of the activity is for students to match each food product with its corresponding Nutrition Facts table. Students should use the activity sheet provided on page 84 to complete the matching.

**ASSESSMENT AND EVALUATION:**

Teachers should discuss the correct answers to this activity through class discussion and by incorporating the key discussion points for each food product found in the Answer Key below.

**ANSWER KEY for Activity 4:2 - Interpreting Nutrition Facts Tables**

Once students have worked in groups of four or five to complete the activity, discuss the correct answers with the class. In addition to providing correct answers, the following answer key provides important discussion points about the nutritional composition of each product. These discussion points will give students a better understanding of different nutrients present in different types of foods.

**Table 1**

**Correct Answer: Bran Cereal with Raisins**

Key Discussion Points:

- Breakfast cereals are part of the Grain Products group from Canada's Food Guide. Grain products are high in carbohydrate as demonstrated by this cereal which contains 44 g per cup.
- This cereal contains fibre (6 g) which is important for healthy digestion. The fibre comes from the bran part of the cereal (a component of wheat).
- The sugars in this cereal (16 g) represent both the sugar naturally occurring in the raisins and sugar to sweeten the bitter taste of the bran.
- Cereal boxes typically show the serving size as a cup measure (i.e., 1/2, 3/4, or 1 cup) and a gram amount.
- Most breakfast cereals are fortified with iron as well as other vitamins and minerals. This cereal contains 50% of the daily value for iron.

**Table 2**

**Correct Answer: Canned Peaches**

Key Discussion Points:

- Canned peaches belong to the Vegetables and Fruit group of Canada's Food Guide.
- These peaches are canned in fruit juice. All of the sugars listed in the Nutrition Facts table (17 g) are sugars that occur naturally in the peaches and the fruit juice.
- Most fruit, including peaches, contains fibre. These peaches contain 2 g of fibre per 2/3 cup serving (150 g).
- As with other fruit, peaches do not contain protein or fat.
- Peaches naturally contain vitamin C. Vitamin C is required for the growth and repair of tissues in all parts of the body.



**Table 3**

**Correct Answer: Fruit Yogurt**

Key Discussion Points:

- Yogurt belongs to the Milk and Alternatives group of Canada's Food Guide.
- In general, yogurts contain carbohydrate, protein and fat. However, the fat content of yogurts vary depending on the percentage of milk fat present in the product. This yogurt contains 2% milk fat (M.F.).
- The sugars in this product (16 g) are a combination of naturally-occurring sugars (from milk and fruit) and added sugar.
- Since yogurt is made from milk, it contains calcium.

**Table 4**

**Correct Answer: Breaded Chicken Breast Strips**

Key Discussion Points:

- Chicken belongs to the Meat and Alternatives group of Canada's Food Guide.
- Meat and fish contain significant amounts of protein and varying amounts of fat (depending on the type of meat or fish). Chicken is a lean meat but this product contains added fat from the breading which has been browned in canola oil.
- Meat and fish are naturally low in carbohydrate, but this product is made with a bread crumb coating which contributes carbohydrate (21 g).
- Meat and Meat Alternatives are good sources of iron. Iron is important in the formation of red blood cells.

## Activity

**4:3**

## EXERCISING FOR ENERGY

**PURPOSE:** To help students understand the benefits of physical activity, their need for food energy to fuel activity, and how to set physical activity-related goals.

**CURRICULUM CONNECTIONS:**  
1, 2, 4.

### KNOWLEDGE AND SKILL DEVELOPMENT:

Health and Physical Activity, Science

### TEACHER NOTES:

This activity requires students to participate in a step test to determine their body's reaction to exercise (e.g. tired, thirsty, faster breathing rate, faster heart rate, hotter). If students find it difficult to find their pulse on their wrist, they can place their fingers on the side of their neck to take their pulse. The student response page on page 86 provides a framework for exploring the benefits of physical activity and the need for food energy to fuel the body. Students will identify activities they enjoy and set a physical activity goal.

### ASSESSMENT AND EVALUATION:

Students should recognize the benefits of physical activity for endurance, strength and flexibility and the importance of carbohydrate-rich foods for providing energy for activity.



**PURPOSE:** To observe body signals associated with eating and activity patterns.

**CURRICULUM CONNECTIONS:**

5.

**TEACHER NOTES:**

This activity is designed to help students tune into their body's cues for hunger and satiety (fullness) as well as feelings related to physical activity. It provides an opportunity for students to identify and explore the signals that help them decide when and what to eat as well as how physical activity can help them to feel good about themselves. Learning to be aware of body signals is an important part of developing healthy eating and activity habits.

Once students have completed their three-day journals and worked with a partner to answer the questions on the activity sheet, ask them to compare their findings in a class discussion about appetite and activity.

Note: while a three-day journal allows students to observe eating and activity patterns, students can also complete this activity based on a one-day journal.

**ASSESSMENT AND EVALUATION:**

Use the student response page (page 89) as well as oral discussion and sharing for evaluation.

# Nutrition Facts

Per

Amount	% Daily Value
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## Calories

<b>Fat</b>	g	%
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Saturated	g	%
+ Trans	g	

<b>Cholesterol</b>	mg
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<b>Sodium</b>	mg	%
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<b>Carbohydrate</b>	g	%
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Fibre	g	%
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Sugars	g
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<b>Protein</b>	g
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Vitamin A	%	Vitamin C	%
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Calcium	%	Iron	%
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## Glossary

### MISSION 4

**% DAILY VALUE** - benchmark for evaluating the nutrient content of foods quickly by indicating whether there is a little or a lot of a nutrient in one serving of a packaged food or beverage.

**ACTIVE LIVING** - a way of life in which physical activity is valued and integrated into daily living.

**BEING ACTIVE** - participating in some type of physical activity every day to keep fit, feel good and be healthy.

**BODY SIGNALS** - feelings or sensory cues that help you decide when and what to eat, including hunger, satiety (fullness), taste and thirst.

**CARBOHYDRATE** - nutrient produced naturally by plants, consisting mainly of sugars and starches; the body's preferred source of energy.

**EATING HABITS** - your total pattern of eating including the sum of all your food choices over time.

**EATING WELL** - choosing a variety of foods from *Eating Well with Canada's Food Guide* every day, especially those that are higher in carbohydrate.

**ENERGY BALANCE** - a balance of the energy you get from the foods you eat and the energy your body needs for healthy growth, body functions and daily activities.

**FAT** - nutrient that is a concentrated source of food energy and performs many important functions in the body.

**FEELING GOOD ABOUT YOURSELF** - believing in yourself; being proud of your abilities; accepting who you are; and treating yourself well.

**FOOD ENERGY** - the energy that your body requires in the form of carbohydrate, fat and protein.

**HEALTHY ACTIVE LIVING** - making positive choices that enhance your personal physical, mental and spiritual health.

**INGREDIENT LIST** - a listing of the ingredients in a packaged food by weight, from most to least.

**NUTRITION CLAIMS** - nutrient or health claims made on a food or beverage package.

**NUTRITION FACTS TABLE** - a table on most pre-packaged foods that reports the serving size, calories, 13 nutrients by weight and % Daily Value of certain nutrients.

**PHYSICAL ACTIVITY** - activities that involve moving your body to keep it healthy, improve your strength and flexibility and help you feel energetic and fit.

**PROTEIN** - nutrient that provides building blocks for growth and repair of the body, as well as a source of energy.

**SATIETY** - the feelings of fullness you experience when your body is satisfied with the amount of food you have eaten.





## Additional Resources

### MISSION 4

#### NUTRITION AND HEALTHY EATING

##### **Eating Well with Canada's Food Guide**

[http://www.hc-sc.gc.ca/fn-an/food-guide-aliment/index\\_e.html](http://www.hc-sc.gc.ca/fn-an/food-guide-aliment/index_e.html)

Visit the Health Canada website to view the food guide online, or contact your local public health unit for copies of the food guide or additional publications:

- Eating Well with Canada's Food Guide - A Resource for Educators and Communicators
- Eating Well with Canada's Food Guide - First Nations, Inuit and Métis

##### **Dietitians of Canada**

[www.dietitians.ca](http://www.dietitians.ca)

Visit the site of the national professional association of Registered Dietitians for information on healthy eating, or to find a dietitian in your area.

##### **Nutrition Labelling**

[http://www.hc-sc.gc.ca/fn-an/label-etiquet/nutrition/index\\_e.html](http://www.hc-sc.gc.ca/fn-an/label-etiquet/nutrition/index_e.html)

Visit Health Canada to understand and learn how to use nutrition information on food labels.

##### **Healthy Eating is in Store for You**

<http://www.healthyeatingisinstore.ca>

The Canadian Diabetes Association and Dietitians of Canada have joined forces to create Healthy Eating is in Store for You™ (HESY), a program that helps consumers to make healthy food choices through better use of the nutrition information on the label of packaged foods.

#### ACTIVE LIVING AND PHYSICAL ACTIVITY

##### **Canada's Physical Activity Guides for Children and Youth**

[http://www.phac-aspc.gc.ca/pau-uap/paguide/child\\_youth/index.html](http://www.phac-aspc.gc.ca/pau-uap/paguide/child_youth/index.html)

Visit this web site produced by the Public Health Agency of Canada to learn about Canada's Physical Activity Guide or call 1-888-334-9769 to order copies by phone.

##### **Active Healthy Kids Canada**

<http://www.activehealthykids.ca/>

<http://www.activ8.org>

Developed for Active Healthy Kids Canada, Activ8 is a national, curriculum-based, physical activity challenge program that helps children and youth (kindergarten to Grade 8) of all abilities develop their fitness and skill levels. Activ8 consists of eight pre-planned lessons for each grade including warm-ups, cool-downs and fun physical activity challenges that can be implemented in any elementary school across Canada.

##### **Physical & Health Education Canada (PHE Canada)**

<http://www.cahperd.ca>

PHE Canada is a national charitable, voluntary-sector organization whose primary concern is to influence the healthy development of children and youth by advocating for quality, school-based physical and health education.

##### **Long Live Kids**

[www.longlivekids.ca](http://www.longlivekids.ca)

The Long Live Kids campaign is an initiative of the Children's Healthy Active Living Program (CHALP) that provides Canadian children with tools for healthy eating, active living and improved media literacy in order to support a balanced lifestyle and achieve optimal health and development.



## Additional Resources

### MISSION 4

#### **Healthy Active Schools**

[www.everactive.org](http://www.everactive.org)

This website offers resources with information, activities and ideas for teachers, parents, administrators and community leaders to promote healthy active lifestyles. The resources also provide information on how to make our homes, schools and communities healthier by thinking 'Outside the Box' when it comes to healthy eating, active living and tobacco reduction.

#### **ParticipACTION**

[www.participaction.com](http://www.participaction.com)

ParticipACTION's mission is to provide leadership in collaboration and communications to foster the "movement" that inspires and supports Canadians to move more.

#### **BODY IMAGE**

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#### **National Eating Disorder Information Centre**

[www.nedic.ca](http://www.nedic.ca)

The National Eating Disorder Information Centre (NEDIC) is a Canadian, non-profit organization, established in 1985 to provide information and resources on eating disorders and weight preoccupation.

#### **Canadian Child Care Federation**

<http://www.cccf->

[fcsge.ca/subsites/familytp/english/resourcesh10\\_en.htm](http://www.cccf-fcsge.ca/subsites/familytp/english/resourcesh10_en.htm)

The Canadian Child Care Federation website provides an overview on Enhancing Children's Self Esteem that discusses how parents and educators can help children build positive self-esteem.



## Exploring Energy Balance

### ACTIVITY 4:1

## Learning About Nutrition Information on Food Labels

### OVERVIEW

Nutrition information on food labels can help you make informed food choices. Nutrition information can be found in the Nutrition Facts table, the ingredient list and nutrition claims. You can use this information to help you choose foods to meet your total daily servings from each of the four food groups from Canada's Food Guide.

**Ingredient List:** The ingredient list tells you what ingredients are in the food from most to least. The ingredient that is present in the largest amount is listed first. The ingredient list also helps people with food allergies to avoid certain ingredients.

**Nutrition Facts Table:** The Nutrition Facts table must be shown on most packaged foods in Canada. The Nutrition Facts table has information on Calories and 13 nutrients (such as fat, carbohydrates and sodium). You can compare the nutrition information of different foods using the Nutrition Facts table.

**Nutrition Claims:** Nutrition claims point out certain features of the food, such as “high in fibre” or “low in fat”. A nutrition claim may also point out a link between nutrition and a disease. For example, “A diet high in vegetables and fruit may reduce the risk of some types of cancer”.

### Student Directions

Bring in an empty, clean food package from home that displays a Nutrition Facts table. It is helpful if it is a food that you would usually eat. Use your package to answer the questions below.

1. Complete the blank Nutrition Facts table to the right with the information found on your food package.

### Nutrition Facts

Per			
Amount		% Daily Value	
Calories			
Fat	g		%
Saturated	g		%
+ Trans	g		
Cholesterol	mg		
Sodium	mg		%
Carbohydrate	g		%
Fibre	g		%
Sugars	g		
Protein	g		
Vitamin A	%	Vitamin C	%
Calcium	%	Iron	%

**2.** What is the name of the food you brought from home? \_\_\_\_\_

\_\_\_\_\_

**3.** Does your food fit into the four food groups from Canada's Food Guide? If so, which food group(s) does it belong to? \_\_\_\_\_

\_\_\_\_\_

**4.** Find the ingredient list on your food or beverage label. What are the first two ingredients in your food?

\_\_\_\_\_

\_\_\_\_\_

**5.** What is the serving size of your food? (hint: look at the top of the Nutrition Facts table) \_\_\_\_\_

\_\_\_\_\_

**6.** Take a closer look at the serving size. Is this the amount you would usually eat?

YES or NO (circle one)

If NO, how much of this food do you normally eat? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**7.** How many Calories are in one serving of your food? \_\_\_\_\_





**8.** What nutrients are listed on the Nutrition Facts table of your food? \_\_\_\_\_

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**9.** Below are the nutrients that provide your body with energy. How much of each of these nutrients does your food contain?

Fat \_\_\_\_\_ grams

Carbohydrate \_\_\_\_\_ grams

Protein \_\_\_\_\_ grams

**10.** Are there any nutrition claims on your food label? (e.g., low fat, high in fibre). If so, what are they?

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**11.** What are the benefits of looking at the Nutrition Facts table on food products? \_\_\_\_\_

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**12.** List any questions that you still have about reading food labels. \_\_\_\_\_

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## Exploring Energy Balance

### ACTIVITY 4:2

## Interpreting Nutrition Facts Tables

On the next page are four Nutrition Facts tables. Each one is from a different food product. Work in the group assigned by your teacher to match each Nutrition Facts table with the food product it represents. Write the correct table number below each product. On the lines below the product name, write 2 reasons why you think the Nutrition Facts table matches the product.

### Hints:

1. Look at the serving size.
2. Compare the % Daily Value for carbohydrate and fat and think about which foods might be higher in carbohydrate or fat.
3. Look at the amount of fibre and think about which foods might be high in fibre.
4. Compare the % Daily Value for the vitamins and minerals and think about which foods might have these nutrients.

Nutrition Facts		
Serving Size 1 cup (55 g)		
Amount		% Daily Value
Calories 180		
Fat 1 g		2 %
Saturated 0 g + Trans 0 g		0 %
Cholesterol 0 mg		
Sodium 340 mg		14 %
Carbohydrate 44 g		15 %
Fibre 6 g		24 %
Sugars 16 g		
Protein 5 g		
Vitamin A		0 %
Vitamin C		0 %
Calcium		2 %
Iron		50 %

Nutrition Facts		
Serving Size 2/3 cup (150 g)		
Amount		% Daily Value
Calories 80		
Fat 0 g		0 %
Saturated 0 g + Trans 0 g		0 %
Cholesterol 0 mg		
Sodium 0 mg		0 %
Carbohydrate 19 g		6 %
Fibre 2 g		8 %
Sugars 17 g		
Protein 0 g		
Vitamin A		4 %
Vitamin C		30 %
Calcium		2 %
Iron		2 %

Nutrition Facts		
Serving Size 1 container (100 g)		
Amount		% Daily Value
Calories 110		
Fat 2 g		3 %
Saturated 1 g + Trans 0 g		5 %
Cholesterol 5 mg		
Sodium 50 mg		2 %
Carbohydrate 20 g		7 %
Fibre 0 g		0 %
Sugars 16 g		
Protein 3 g		
Vitamin A		2 %
Vitamin C		0 %
Calcium		10 %
Iron		0 %

Nutrition Facts		
Serving Size 3 pieces (100 g)		
Amount		% Daily Value
Calories 190		
Fat 7 g		11 %
Saturated 1 g + Trans 0 g		5 %
Cholesterol 15 mg		
Sodium 650 mg		27 %
Carbohydrate 21 g		7 %
Fibre 1 g		4 %
Sugars 4 g		
Protein 12 g		
Vitamin A		0 %
Vitamin C		0 %
Calcium		2 %
Iron		10 %

### Breaded Chicken Strips

Table#

### Bran Cereal with Raisins

Table#

### Canned Peaches

Table#

### Fruit Yogurt

Table#



## Exploring Energy Balance

### ACTIVITY 4:3

## Exercising for Energy

### Overview

Participating in a variety of physical activities can help keep your heart and lungs in shape, build muscle strength and endurance and improve your flexibility. Being physically active helps you to stay relaxed and to feel good about yourself. Plus you can have lots of fun being active with your friends and family!

Try to get involved in a mix of activities to keep fit. Endurance activities like running to school, riding your bike, swimming, and walking up stairs keep your heart, lungs and circulatory system in shape.

Flexibility activities like gentle stretching, bending and reaching keep your muscles relaxed and your joints mobile. Activities like walking with a backpack, sit-ups and push-ups strengthen muscles and bones. Remember that the more active you are, the more food energy you will need to fuel your activity.

### Student Directions


In groups assigned by your teacher, perform this experiment to see how your body reacts to physical activity.

You'll need:

✓ A bench, a moveable step, or the bottom of a staircase

1. Measure your pulse before you begin by placing your index and middle finger on the inside of your wrist and counting the number of beats you feel in 30 seconds (multiply this number by 2 to get your pulse rate per minute).
2. In the chart below record your pulse rate before exercise as well as how you feel before exercise (e.g., tired, energetic, etc.).



	BEFORE EXERCISE	AFTER EXERCISE
Pulse Rate		
How do you feel		

3. Then do 25 step-ups on the bench or bottom step at a reasonably fast rate. Stop and sit down. Check your pulse again. Record your pulse rate now. How do you feel after exercising? How has your body reacted to this exercise? Record your observations in the chart above.

## Student Responses

1. After everyone in your group has taken a turn and recorded their own observations, talk with your group about your body's reaction to exercise.
2. Make a list of activities that you would enjoy doing at least once or twice a week. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
3. Where would your body get the energy for these activities? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
4. Why is daily physical activity important? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
5. On the next page, record a personal physical activity goal and write a plan for achieving your goal.

## SETTING A PHYSICAL ACTIVITY GOAL

Physical Activity Goal: \_\_\_\_\_

Plan for achieving your goal: \_\_\_\_\_

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Obstacles that may make it hard to achieve my goal	Ways to overcome obstacles

Things that will motivate me to achieve my goal:

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_



## Exploring Energy Balance

### ACTIVITY 4:4

## Tune into your Body

### Overview

Eating well and being active helps you to feel great. Being active can help you feel more energetic, relaxed and better about yourself. Regular meals and snacks keep your body fuelled with energy while supplying essential nutrients. When you go several hours without eating, such as overnight or between meals, your body uses the energy that it has stored in order to perform basic body functions such as breathing. You also use energy when you are physically active.

When your energy reserves need refilling, your body sends you hunger signals telling you that it's time to eat. When you eat, your body signals that it has been refuelled and that you are full. Tuning into these feelings helps you maintain a healthy energy balance.

### Student Directions

Use the following Appetite and Activity Record to keep track of the feelings you experience before and after eating and activity. If you run out of room, use your own paper to continue your record.

TIME OF DAY	BODY SIGNAL	WHAT DID YOU DO?	RESULTS
(Example) 7:15 am	stomach rumbling	have breakfast - toast with jam, yogurt and apple juice	rumbling stopped felt full

## Student Responses

Based on your completed Appetite and Activity Record, work with a small group of classmates to answer the questions below, adding each other's ideas to your own record.

1. What are the feelings that you have when you are hungry? \_\_\_\_\_

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2. Do these feelings happen at set times during the day or at any time? \_\_\_\_\_

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3. What happens if you don't eat when you're feeling hungry? \_\_\_\_\_

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4. After a meal or a snack, how do you know that your body is satisfied? \_\_\_\_\_

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5. Do you ever eat when you are not hungry? If so, why? \_\_\_\_\_

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**6.** How do you feel when you are physically active? \_\_\_\_\_

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**7.** How do you feel if you don't fit any physical activity into your day? \_\_\_\_\_

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**8.** Explain how eating regular meals and snacks and being active makes you feel.

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