

Background Information Grades 4-6

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Background Information

Grades 4-6

1. What is Healthy Eating?

Healthy eating provides children with the energy and nutrients they need for:

- Healthy growth and development,
- Academic performance, and
- Participation in regular physical activity.

Learning about healthy eating not only means understanding Canada's Food Guide, but it also means learning how to develop healthy habits that will last a lifetime. This section discusses principles of Canada's Food Guide, as well as how to use the concepts of 'everyday' and 'sometimes' foods to teach children a positive approach to eating. Healthy snacks and meals, in particular breakfast, and their importance to the body are explained. Calories and nutrients are defined and label reading is introduced for the Grade 5 curriculum along with other related activities.

The background information also discusses the importance of physical activity, as well as body image and self-esteem as issues that influence eating habits in children.



1.1 Eating Well with Canada's Food Guide

In 2007 *Canada's Food Guide to Healthy Eating* was redesigned and renamed *Eating Well with Canada's Food Guide*. This revision was intended to reflect the updated nutrient recommendations (Dietary Reference Intakes) and to help make the Guide easier to understand and use. Canada's Food Guide describes the amount and type of food considered to be part of a healthy eating pattern. This type of pattern helps individuals meet their nutrient needs, reduce their risk of chronic disease and achieve overall health and vitality.

When teaching Canada's Food Guide, use the rainbow design to help communicate that the different sizes of the arcs represent the proportion of each food group in a healthy eating pattern. Canada's Food Guide recommends enjoying a variety of foods from each of the four food groups: Vegetables and Fruit, Grain Products, Milk and Alternatives, and Meat and Alternatives.

a) Food Guide Serving Sizes

A **Food Guide Serving** is simply a reference amount. **Food Guide Servings** help you understand [how much](#) food is recommended every day from each of the four food groups. In some cases, a **Food Guide Serving** may be close to the amount you eat, such as an apple. In other cases, such as rice or pasta, you may serve yourself more than one **Food Guide Serving** at a meal. It is also important to note that the serving size on a nutrition label is not always equivalent to a **Food Guide Serving** or to the amount you normally eat.

Canada's Food Guide recommends a different number of **Food Guide Servings** for different age and gender groups. The amount of food children will eat also depends on their appetite, their activity level and how fast they are growing. Although children's energy needs tend to increase through puberty, this increase is not steady and varies according to each child's own growth pattern. As a general rule, if children eat according to their appetites and meet, at a minimum, the recommended number of Food Guide Servings for all four food groups, they will get the nutrition they need.

The following chart gives examples of foods from each of the four food groups and their **Food Guide Serving** sizes.

Sample Food Guide Serving Sizes

Vegetables and Fruit	One Food Guide Serving Equals...	Grain Products	One Food Guide Serving Equals...	Milk and Alternatives	One Food Guide Serving Equals...	Meat and Alternatives	One Food Guide Serving Equals...
vegetable (whole)	1 medium	bread	1 slice or 35g	milk or chocolate milk	250 mL or 1 cup	cooked fish or shellfish	75 g
vegetable(pieces)	125 mL or ½ cup	bagel	½ bagel or 45g	hard cheese	1.5 oz. or 50 g	cooked poultry	75 g
fruit (whole)	1 medium	flatbreads (pita, tortilla, roti or chapati)	1/2 or 35g	cheese slices	2 slices or 50 g	cooked lean meat	75 g
fruit (pieces)	125 mL or ½ cup	cooked rice, bulgur or quinoa	125 mL or ½ cup	yogurt	175 g or ¾ cup	cooked legumes (beans, lentils)	175 mL or ¾ cup
raw leafy vegetables (e.g., salad)	250 mL or 1 cup	cooked pasta or couscous	125 mL or ½ cup	fortified soy beverage	250 mL or 1 cup	tofu	175 mL or 3/4 cup (150g)
Cooked leafy vegetables (e.g. cooked spinach)	125 mL or ½ cup	cereal (cold)	30 g	kefir (yogurt beverage)	175 g or ¾ cup	eggs	2
100% fruit or vegetable juice (not fruit punch or drink)	125 mL or ½ cup	cereal (hot)	175 mL or ¾ cup	cottage cheese	250 mL or 1 cup	peanut or nut butter	30 mL or 2 Tbsp
						nuts or seeds	60 mL or ¼ cup

For more examples of Food Guide Serving sizes, please visit www.healthcanada.gc.ca/foodguide.



b) The Four Food Groups' Key Messages

1) Vegetables and Fruit

Eat at least one dark green and one orange vegetable each day.

- Dark green vegetables are important sources of **folate**. Examples include broccoli, spinach, romaine lettuce, green beans, brussel sprouts and bok choy.
- Orange vegetables are rich in carotenoids such as beta-carotene, which the body converts to **vitamin A**. These include carrots, squash and sweet potatoes. Some orange-coloured fruit such as apricots, cantaloupe, mango and papaya are also important sources of carotenoids. You can eat them in place of an orange vegetable.



Choose vegetables and fruit prepared with little or no added fat, sugar or salt.

Most vegetables and fruit are naturally low in fat. Examples of higher fat choices include french fries, onion rings, salads with large amounts of dressing, and fruit served with cream. Fruit packed in heavy syrup has more sugar and adds extra calories. Choose fresh fruit, unsweetened frozen fruit or fruit packed in water or juice. Look at the Nutrition Facts table on the package to find the amount of fat and **salt** (sodium) in prepared and packaged vegetables. Use fresh or dried herbs, spices, flavoured vinegars or lemon juice instead of **salt** to enhance the flavour of vegetables.

Beware of packaged food with the word 'fruit' and 'vegetable' in their name. Examples of these types of foods include fruit snacks, vegetable chips, fruit jams, and fruit 'drinks', 'cocktails' or 'punches'. Most of these products are high in sugar, salt and/or fat, and contain little amounts of real fruit or vegetables. As a result, they do not belong in this food group.

Have vegetables and fruit more often than juice.

Vegetables and fruit contain fibre while their juices contain little to none. Fibre can help you feel full and satisfied. Children should be encouraged to try a variety of vegetables and fruit.

Many of the fruit 'drinks', 'beverages', 'cocktails', or 'punches' available are mostly sugar, with some vitamins added and do not provide children with the other vitamins and minerals naturally found in 100% pure fruit or vegetable juice. See the section 1.4 Rethink What You Drink for more information on beverages.

2) Grain Products

Make at least half of your grain products whole grain each day.

Whole grains and whole grain foods are composed of all three layers of the grain seed or kernel:



- The bran (outer layer): provides all of the fibre as well as B vitamins; minerals such as magnesium, iron and zinc, **phytochemicals**, and some **protein**.
- The endosperm (middle layer): accounts for the majority of the weight of the grain and is composed mostly of **carbohydrate** and **protein**.
- The germ (inner layer): provides B vitamins, **unsaturated fats**, vitamin E, minerals and **phytochemicals**.

Examples of whole grains include brown rice, bulgur, pot barley, quinoa, whole oats or oatmeal, whole grain wheat and whole rye. You can find out if a product is made with whole grain by reading the ingredient list on the food label. Whole grain foods will have the words ‘whole’ or ‘whole grain’ followed by the name of the grain as one of the first ingredients.

Claims such as ‘Multigrain’, ‘Stone-Ground’, ‘Made with Whole Grains’ do not indicate that the products is whole grain. Products with these labels may actually contain little to no whole grains. For example, some brown bread may really be white bread coloured with molasses.

Choose grain products that are lower in fat, sugar or salt.

Baked goods such as cakes, croissants, doughnuts, pastries, pies and most cookies and muffins will add extra **calories**, fat, sugar and/or **salt** (sodium) to the diet and should be limited. These foods are typically low in fibre and are not usually made with whole grains. Use the ingredient list and Nutrition Facts table on food labels to compare products and make informed choices. Choose products that have as little **trans fat** and **saturated fats** as possible. Avoid products that have ‘**partially hydrogenated**’ and ‘vegetable oil shortening’ in the ingredient list.

3) Milk and Alternatives

Drink skim, 1% or 2% milk each day.

Everyone should drink two cups of low fat milk each day to obtain adequate vitamin D. Drinking low fat milk is an effective way to consume **protein**, calcium, magnesium, riboflavin, vitamin A, vitamin B12, vitamin D and zinc while minimizing the amount of **saturated fat** and **calories**.



Fortified soy beverage can be used as an alternative to milk. Rice, potato and almond

beverages may be **fortified**, however, these types of beverages do not contain the level of **protein** found in milk and **fortified** soy beverage. Look for the word '**fortified**' on the label of soy beverages, as only these contain added vitamins and minerals to make them a nutritionally adequate alternative. It's important to shake the container since added calcium may stick to the package lining.

Select lower fat milk alternatives.

Lower fat yogurts are those with 2% milk fat (M.F.) or less. Lower fat cheeses have 20% M.F. or less. Selecting these lower fat products helps to reduce **saturated fat** intake.

Cream cheese, sour cream, and ice cream are not a part of the Milk and Alternatives food group since they tend to be higher in fat and sugar and their calcium content is very low. The 'chocolate bar' milkshakes available are high in sugar and fat. Chocolate or strawberry milk is a healthy choice because they have the same amount of nutrients as white milk.

4) Meat and Alternatives

Have meat alternatives such as beans, lentils and tofu often.

Beans, lentils and tofu are sources of protein, fibre and **folate**. Eating more of these meat alternatives helps to minimize the amount of **saturated fat** in the diet.



Eat at least 2 Food Guide Servings of fish each week.

Fish is a great source of **protein**. It is low in **saturated fat**, with some types containing the **omega-3 fatty acids**. People are encouraged to eat at two Food Guide Servings (150 grams) of fish each week to help reduce the risk of **cardiovascular disease**. Choose fish such as char, herring, mackerel, rainbow trout, salmon and sardines as these are good sources of **omega-3 fats**. Fish should be cooked using lower fat preparation methods, such as baking or broiling. Deep-fried fish or fast food fish sandwiches do not offer the same cardiovascular benefits.

Certain types of fish contain high levels of **methylmercury**, a strong toxin that concentrates in the muscle tissue of fish and shellfish. Higher **methylmercury** levels are typically found in large predatory fish, such as white (albacore) tuna, shark, king mackerel and swordfish; which accumulate **methylmercury** over their life span. Choose fish that are low in **methylmercury**. In terms of canned tuna, children should be offered canned 'light' tuna instead of 'white' tuna.

Select lean meat and alternatives prepared with little or no fat.

Canada's Food Guide emphasizes lean cuts of meat and skinless poultry to minimize the amount of **saturated fat** in the diet. Lean meat, poultry and fish become higher fat choices once they are fried, deep-fried or served with higher fat sauces. Canada's Food Guide recommends baking, broiling, poaching or roasting meats and allowing the fat to drain off.

When looking for processed deli meat, it is best to choose those that are lower in fat, like chicken, turkey and black forest ham. Foods such as hot dogs, bologna, chicken nuggets etc. are not the best choices as they tend to be high in **saturated fat**.



c) Oils and Fats in our Diet

Oils and fats play an important role in supplying calories and essential fats, and to help our bodies absorb the fat-soluble vitamins A, D, E and K. The type of fat we eat is as important as the amount of fat. **Unsaturated fats** can help keep blood cholesterol levels healthy. There are two types of **unsaturated fats**: monounsaturated and polyunsaturated. Vegetable oils like canola, olive and soybean contain mainly monounsaturated and polyunsaturated fats. Canada's Food Guide recommends that we use a small amount of **unsaturated fat** each day: 30 to 45 mL (2 to 3 tablespoons). This includes oil used for cooking, salad dressings, and non-hydrogenated margarine.

Saturated fats and **trans fat** are harmful to heart health and raise blood cholesterol and increase the risk of **cardiovascular disease**. **Saturated fats** are mainly found in animal products like meats, butter, milk, cheese and eggs. **Trans fat** is mostly found in processed foods containing shortening or **partially hydrogenated** oil. Canada's Food Guide recommends choosing foods that contain less fat, saturated fat and trans fat.

For more information on fats, see section 1.4 Calories and Nutrients.

d) Counting Food Guide Servings in Mixed Dishes

Children also need to understand that foods can appear in many different forms and that most meals are made of a mix of different foods. Mixed dishes such as casseroles, stews and stir-fries have ingredients from at least two food groups. It helps to describe and even demonstrate what happens to a food when it is cut, chopped, beaten, mixed, heated or cooled, or combined with other foods.

Here are some examples of how to count Food Guide Servings in mixed dishes:

Chile Con Carne with Beans



125 mL (½ cup) tomato sauce = 1 **Vegetables and Fruit** Food Guide Serving

125 mL (½ cup) celery, onion, stewed tomatoes = 1 **Vegetables and Fruit** Food Guide Serving

75 g (2 ½ oz.) ground beef = 1 **Meat and Alternatives** Food Guide Serving

About 90 mL (6 Tbsp) kidney beans = about ½ **Meat and Alternatives** Food Guide Serving

Dal



125 mL (½ cup) tomato, onion = 1 **Vegetables and Fruit** Food Guide Serving

175 mL (¾ cup) lentils = 1 **Meat and Alternatives** Food Guide Serving

Fajita with Beef and Vegetables

125 mL (½ cup) sweet green pepper, onion, tomato = 1 **Vegetables and Fruit** Food Guide Serving



1 tortilla (70 g) = 2 **Grain Products** Food Guide Servings

About 35 g (1 ¼ oz.) steak = about ½ **Meat and Alternatives** Food Guide Serving

5 mL (1 tsp) vegetable oil = part of your **Oils and Fat** intake for the day

1.2 Where Food Comes From

Many children believe that food comes from a grocery store or a restaurant. With the increased use of processed, convenience foods in colourful packaging, many children do not connect packaged items to the original basic or staple food from which it was produced from.

It is important to talk about where food comes from. Children need to learn that most of the foods packed in their lunches or served at dinner come from farms, gardens or greenhouses; either directly from crops or from the animals that eat the crops. Harvested food goes to the store where we buy it, prepare it and then put in on our plates. Food may also travel to large factories to be processed, packaged and transformed into products that may bear little resemblance to the original food. Children should appreciate how the staple foods are turned into every day products. It is important for them to realize that without farmers we would not have food. Children can have fun learning how the foods produced by farmers are turned into every day products (e.g., What is made from potatoes? What is made from wheat?)

Vegetables and Fruit: Discuss that vegetables and fruit come from plants that are grown in fields, gardens and farms. Choices from the Vegetables and Fruit group come from many parts of plants, such as the root (e.g., carrots, radishes), the stem (e.g., celery, asparagus), the leaf (e.g., spinach, bok choy), the fruit (e.g., tomato, green pepper), or the flower (e.g., cauliflower, broccoli). Many vegetables that we eat are classified as fruits botanically because they contain

seeds (e.g., tomato and cucumber). Fruits grow on trees (e.g., peaches, mangos, lemons), vines (e.g., grapes, pumpkins, melons), and bushes (e.g., blueberries, gooseberries).

Grain Products: Discuss that grains are plants that are harvested and made into grain products. Types of grains include: wheat, oats, barley, rice, corn and rye. These grains are harvested, ground into flour or used whole to make products such as bread, crackers, buns, oatmeal, etc.

Milk and Alternatives: Discuss that milk, cheese, and yogurt come from cows and other animals (i.e. goats). Milk alternatives include **fortified** soy beverages for people who cannot drink milk. Soy comes from soybeans, a type of legume that is rich in protein and other nutrients.

Meat and Alternatives: This food group provides **protein** for many uses in the body, including building muscle, bone, skin and blood. Discuss how meat comes from animals: discuss pork, beef, chicken, wild game, etc. Meat alternatives are **protein**-rich foods that come from plants including: beans, lentils, nuts, seeds and soybeans. Eggs are also a source of **protein** in this group.



Ontario Agri-Food Education Inc. (OAFE) has many curriculum related resources that address the relationship between farm and plate. The Teacher's Toolkit is a reference guide of factual information and resources related to the agri-food industry. Curriculum connections for Grades 1 to 8 can be found at http://www.oafe.org/user_files/articles/toolkit_oafe.pdf. Or go to www.oafe.org and click 'resources'.

1.3 Foods and Beverages to Limit

Canadians get 23% of their calories from the foods and beverages that are not part of the four food groups (Garriguet, 2004). Foods and beverages that are high in calories, fat, sugar and/or **salt** (sodium) and low in nutrients are considered foods to limit.

Examples of foods and beverages to limit:

- Cakes and pastries
- Chocolate and candies
- Cookies and granola bars
- Ice cream and frozen desserts
- Doughnuts and muffins
- French fries
- Potato chips, nachos and other salty snacks
- Alcohol
- Fruit flavoured drinks
- Soft drinks
- Sports drinks
- Energy drinks
- Sweetened hot or cold drinks

Portion sizes of foods to limit have increased considerably over the years, contributing to excessive caloric intake. This is why it's important to be aware of portion sizes when selecting foods and beverages and to listen to your body's **hunger and satiety cues**. Adults and children are encouraged to choose foods and beverages that are **nutrient dense** more often. By choosing foods from the four food groups we ensure that we are consuming **nutrient dense** foods and beverages.

1.4 Rethink What You Drink

Water

Canada's Food Guide recommends drinking water to satisfy thirst. Water maintains normal body functions and prevents dehydration. Fortunately, in most areas of the province, municipal tap water is safe to drink. In rural areas many people use well water that needs to be tested regularly by the homeowner. This service is free from your local health unit/department.



Milk

Canada's Food Guide recommends two servings of fluid milk daily for everyone. Youth 9 to 18 years of age should consume an additional 1-2 servings of Milk and Alternatives daily. **Fortified** soy beverage can be used as an alternative to milk. Chocolate milk is a healthy choice, as it contains the same nutrients as white milk and the same amount of sugar as unsweetened orange juice

Juice

100% unsweetened vegetable or fruit juices can also be a healthy beverage choice, however, juice intake should be limited to about 1 cup per day for children. Vegetables and fruit should be consumed more often than juice to get more fibre and to help feel full and satisfied. When choosing fruit juice, it is important to look for '100% juice' on the label. Many fruit drinks, punches and cocktails contain less than 10% juice and are mostly water and sugar.

Sweetened Beverages

Soft drinks and other sweetened beverages like fruit drinks, sports drinks and energy drinks contain large amounts of sugar with little nutritional value. These beverages have come to displace more nutritious beverages and foods from our diets. The consumption of these beverages should be limited.

Studies suggest that when we drink liquids, the body's **satiety cues** are not triggered in the same way as eating solids (Della Valle et al., 2005; and DiMeglio et al., 2000). This means that our bodies do not register calories from liquids in the same way as calories from food. Therefore, we don't make up for liquid calories by eating less solid food. This is exacerbated by the increased consumption and larger portion sizes of sweetened beverages over the last few decades.

Some beverages such as pop or energy drinks may contain caffeine. Energy drinks are not recommended for children and youth due to their high caffeine content. Caffeine can cause nervousness, irritability, headaches and difficulty sleeping. Drinking one can of pop with caffeine affects a child in the same way as three to four cups of coffee would affect an adult.

Cola and diet cola drinks also contain phosphoric acid. Phosphoric acid weakens tooth enamel and increases the risk of dental cavities. It is important that healthy drinks like milk not be replaced by soft drinks or other sweetened beverages.

1.5 Understanding ‘Everyday’ and ‘Sometimes’ Foods

Children tend to classify foods as ‘good’ or ‘bad’. This classification will not help children develop a positive approach toward eating. Healthy eating is the total sum of all food choices made over time. It is the overall pattern of foods eaten and not any one food or meal that determines if an eating pattern is healthy.

To help children learn to follow a healthy eating pattern, it is more effective to classify foods as ‘**everyday**’ and ‘**sometimes**’ foods’. Foods which are **nutrient dense** can be considered ‘everyday’ foods. Foods from the four food groups, such as vegetables, fruit, milk, cheese, yogurt, whole grains, fish and legumes are examples of ‘**everyday foods**’ that we should choose for meals and snacks. Canada’s Food Guide describes the foods and beverages that do not fit into any of the food groups as ‘less healthy choices’ and these can be considered as ‘**sometimes foods**’. These foods are low in nutrients and high in **calories**, fat, sugar and/or **salt**. See examples listed under the ‘Less Healthy Choices’ section. ‘**Sometimes foods**’ should be limited, but can be enjoyed occasionally. What matters most is what people eat on a regular basis.

1.6 The Importance of Food to the Body

The importance of food should be explained in simple terms: “Food gives you energy to learn and play, it helps you grow and it keeps your body working”.



Canada’s Food Guide recommends the number of **Food Guide Servings** children should eat from each of the four food groups every day. The amount of food eaten at each meal and snack will vary day-to-day depending on the child’s appetite, activity level and whether he or she is going through a growth spurt. Children need to eat small amounts of food throughout the day because they have small stomachs that tend to fill up quickly. Children should be offered healthy foods and beverages at all meals and snacks to ensure they are meeting their calorie and nutrient needs. It is important that children listen to their **hunger and satiety cues**. When teaching about healthy eating, children should be encouraged to listen to their bodies and to eat healthy foods when hungry and to stop when they feel full. Children can often relate to the need for food when they think of how they feel when they don’t eat breakfast.

Healthy Breakfast

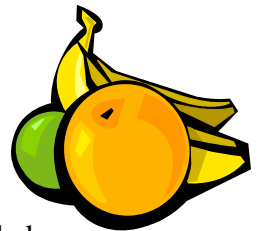
Children who eat a nutritious breakfast daily may be better prepared to participate in learning activities than those who do not eat breakfast (Ontario Society of Nutrition Professionals in Public Health (OSNPPH), 2004). Students who do not eat breakfast daily are 1.5 times more likely to be overweight (Veugelers et al., 2005).

A complete breakfast should include foods from 3-4 of the four food groups: Vegetables and Fruit, Grain Products, Milk and Alternatives, and Meat and Alternatives. A variety of different foods for breakfast helps to ensure that the body gets the nutrients and energy that it needs. Foods served at breakfast do not have to be ‘traditional’ breakfast foods such as toast or cereal. All kinds of food can be eaten. For example, people from some cultures may eat soup, rice, fish, dal, tortilla, leftover pizza or pasta for breakfast.

Breakfast does not have to be eaten as soon as a child wakes up, or even before the child leaves the home. If breakfast can’t be eaten at home, eating a ‘traveling’ breakfast or arriving early and eating at school are also possibilities. Some schools have universal breakfast and/or snack programs for children. See the ‘Healthy Snacks’ section that follows for more information.

Healthy Snacks

Young children need healthy snacks in between meals to ensure that they get an adequate intake of nutrients to meet their growth and activity demands. Packing a healthy snack to eat during recess can also help a child through the later part of the morning or afternoon. Research indicates that most children do not meet the minimum five servings of Vegetables and Fruit (Garriguet, 2004), so it is recommended to choose vegetables and fruit more often as snacks. Children should be encouraged to pack snacks that include foods from at least one of the four food groups. For classroom snacks shared among the whole class, serve only ‘**everyday foods**’ instead of ‘**sometimes foods**’. For example: fruit, vegetables, yogurt, whole grain crackers and/or lower fat cheese as opposed to doughnuts, cupcakes, candy etc.



Student Nutrition Programs allow all students to have at least one healthy meal or snack each day without singling out those who may come to school hungry. The Ontario Ministry of Children and Youth Services funds Student Nutrition Programs, which can be found in some elementary and high schools. These programs are developed by local schools and community agencies, are mostly run by volunteers (i.e. parents, teachers and school staff), and follow Ministry guidelines for nutrition. For more information on Student Nutrition Programs, go to the Ministry website at <http://www.gov.on.ca/children/english/programs/beststart/nutrition/index.html>. For local programs contact your local health unit/department.

1.7 Calories and Nutrients

Healthy eating helps children meet their energy needs for growth, development and activity. Nutrients in food provide energy, facilitate growth, and help the body function properly. There are two main categories of nutrients: macronutrients and micronutrients.

Macronutrients are needed in relatively large quantities and they provide energy for the body. The three types of macronutrients are:

- Carbohydrate
- Fat
- Protein

Micronutrients are needed in relatively small quantities, perform specific functions and help the body use the macronutrients. Micronutrients do not provide energy. The three types of micronutrients are:

- Vitamins
- Minerals
- Water

Calories

A calorie (or kilojoules in the metric system) is a measure of how much energy food can supply the body. The body uses the food eaten as fuel, burning it to produce energy. The body needs energy to function. Some nutrients have more calories than others do. There are four calories in each gram of carbohydrate and each gram of protein. There are nine calories in each gram of fat. Alcohol has seven calories per gram. Vitamins, minerals and water do not provide calories.

Carbohydrate

Between 4 and 18 years of age, 45-65% of total calories should come from carbohydrates. Carbohydrate is the body's major source of energy. There are three main types of carbohydrates:



- Sugar/simple carbohydrates - found in milk, fruit, table sugar, and candy
- Starch/complex carbohydrates - found in grains, breads, crackers, pasta, beans and lentils
- Fibre - found in vegetables, fruit, whole grains, beans and lentils. Fibre is the portion of plant foods that the body cannot digest.

Fibre

Canada's Food Guide encourages people to eat foods that are high in fibre. Eating patterns high in dietary fibre are associated with a healthy digestive system, and a lower incidence of **cardiovascular disease** and some types of cancer. Males between 9 and 13 years of age need 31 grams of fibre daily and girls need 26 grams. It is important to teach about the benefits of fibre. A study of nutrient intakes showed 94% of Ontario students in grades 6, 7 and 8 were below the requirement for fibre (Hanning et al., 2007).

Fat

Between 4 and 18 years of age, 25-35% of calories should come from fat. Fats and oils play an important role in that they supply calories and essential fats and help our bodies absorb the **fat-soluble** vitamins A, D, E and K. There are three main types of fat in our diet:

- **Unsaturated fats**, such as monounsaturates and polyunsaturates, are found in vegetable oils like canola, olive and soybean oils. These types of fat are healthy.
- **Saturated fats** are mainly found in animal products like meats, butter, milk, cheese and eggs. Large amounts of these types of fat are known to raise blood cholesterol and increase the risk of **cardiovascular disease**.
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- **Trans fat** is mainly found in processed foods, baked goods and hard (stick) margarines containing shortening or **partially hydrogenated** oil. **Trans fat** raises blood cholesterol and increases the **risk of cardiovascular disease**.

Tips to Avoid Trans Fat:

- Avoid products that have ‘**partially hydrogenated**’ and ‘vegetable oil shortening’ in the ingredient list.
- Use the Nutrition Facts panel to choose products that have as little **trans fat** as possible.
- When choosing margarine, look for ones that say ‘non-hydrogenated’ on the package.

Protein

Between 4 and 18 years of age, 10-30% of total calories should come from protein. Aside from water, proteins are the most abundant substances in the human body. Proteins are found in every body cell and are essential for many body functions. Proteins are made up of **amino acids**. The body uses amino acids to develop bone, muscle, skin, and blood. Some common sources of dietary protein are fish, poultry, meat, legumes (beans, lentils), eggs, tofu, nuts, and milk products (milk, cheese, yogurt).

Vitamins

Vitamins do not provide energy but do help the body grow and stay healthy. Fruits, vegetables and enriched grain products are good sources of many vitamins. **Vitamin A** is an example of a vitamin that helps keep our skin and our eyes healthy. Carrots, spinach and broccoli are excellent sources of **Vitamin A**. Other examples of vitamins our bodies need are vitamins C, D, E, K and the B vitamins (e.g., folic acid).

Minerals

Minerals help build bones and teeth, help muscles work and are involved in various metabolic pathways. Calcium is an example of a mineral that helps build bones and teeth. Other examples of minerals our bodies need that we get from food are potassium, sodium, iron, zinc, phosphorus, magnesium, and copper.

Water

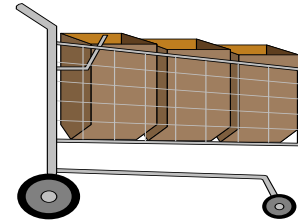
About 50-60% of our total body weight is water. A person can survive only a few days without water. Water has many functions including carrying nutrients and oxygen to cells, maintaining body temperature, and assisting in digestion and respiration. Under normal circumstances, the body loses water through breathing, sweating and excreting wastes. When it’s hot outside, your body loses even more water through sweat, especially if you’re active. Your physical performance and your ability to think can be impaired by losing as little as 1 – 2% of your body weight from fluids.

It is important to teach students about the importance of drinking enough water to prevent dehydration (about 1.2-2 litres per day). Beverages provide 80% of daily water intake while the other 20% comes from food. Children between the ages of 9 to 13 need 1.6 – 1.8 litres of liquids per day; with water being the main contributor. Listening to one's thirst signal is not enough. Thirst is often one of the last signs of dehydration – you need to drink fluid before you become thirsty. Ensure that children have easy access to water and encourage them to drink frequently throughout the day.

1.8 Reading Food Labels

Food labels can help consumers choose foods for healthy eating. Food labels provide various types of information and can guide consumers in making decisions about food purchases. Food labels help consumers to:

- Compare products more easily
- Determine the nutritional value of foods
- Better manage special diets
- Increase or decrease intake of a specific nutrient



In Canada, nutrition labelling refers to the standardized presentation of the nutrient content of a food. Government regulations outline what type of information is mandatory on labels as well as how this information must be presented. Most prepackaged foods have nutrition information in three places:

- 1) Ingredient List
- 2) Nutrition Facts table
- 3) Nutrition Claims

The Ingredient List

- Lists ingredients by weight, from most to least. For example, a cereal package that lists sugar as the first ingredient contains more sugar than any other ingredient.
- Helps to identify sources of the nutrients.
- A source of information for people with allergies or people who want to avoid certain ingredients.

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

Source: Health Canada, Nutrition Labelling Toolkit, 2003

The Nutrition Facts Table

- Includes information on calories and 13 core nutrients: fat, **saturated fat**, **trans fat**, cholesterol, sodium, carbohydrate, fibre, sugars, protein, **vitamin A**, vitamin C, calcium and iron.
- Exemptions include fresh fruit and vegetables; raw meat, fish, seafood and poultry; alcoholic beverages; foods sold at craft shows, farmers' markets etc.; foods prepared and packaged at the store; and products with insignificant amounts of the 13 core nutrients like coffee, tea and spices.
- Has a consistent look and content, is easy to read and locate, and nutrients are always listed in the same order.
- All nutrient information is based on a serving size, a specific amount of food that is measured in household units - such as a cup of milk, or a slice of bread - followed by the metric measurement (g, mL).

Important Note:

The serving size listed on the Nutrition Facts table is not a recommended serving. It may be different from a Food Guide Serving. The key is to compare the amount stated on the Nutrition Facts Table to the amount you actually eat. The bowl you use at breakfast might hold anywhere from a ½ cup to a 2 ½ cup amount of cereal. Having 2 ½ cups of a particular cereal may be five times the amount specified in the Nutrition Facts table. You would have to multiply the amount of calories and cereal nutrients by five.

- Contains the % Daily Value (DV) of most nutrients listed. % DV is based on how much of a specific nutrient a serving of food contains relative to the recommended daily amount. For example, 20% DV of calcium means that the food item contains 20% of the recommended daily amount of dietary calcium. The % DV indicates at a glance if there is a lot or a little of a nutrient in the specific amount of food. It is helpful for comparing foods because it puts all nutrients on the same scale (0% - 100% Daily Value). For example, a food that has a % Daily Value of 5% or less for fat, sodium or cholesterol would be low in these nutrients. A food that has a % Daily Value of 15% or more for calcium, **vitamin A** or fibre would be high in these nutrients.

Nutrition Claims

- Nutrition claims are optional; some manufacturers may choose to use them.
- Provide a quick way to identify foods with a specific nutritional feature.
- There are two types of Nutrition Claims: Nutrient Content Claims and Diet-Related Health Claims.
- Nutrient Content Claims describe the amount of a nutrient in a food (i.e., 'reduced in fat', 'cholesterol free', or 'a high source of fibre').

- Diet-Related Health Claims highlight a relationship between diet and a disease condition, and are supported by sound scientific evidence. There are five Diet-Related Health Claims allowed:
 - a diet low in sodium and high in potassium, and the reduction of risk of hypertension (high blood pressure);
 - a diet adequate in calcium and vitamin D, and the reduction of risk of osteoporosis;
 - a diet low in saturated fat and trans fat, and the reduction of risk of heart disease;
 - a diet rich in vegetables and fruits, and the reduction of risk of some types of cancer; and
 - minimal fermentable carbohydrates in gum, hard candy or breath-freshening products, and the reduction of risk of dental caries.
- All claims have to be supported by information provided under Nutrition Facts.
- Government regulations specify the wording of a claim as well as the criteria a food must meet to qualify for a claim.

Other Information on Food Packages

- Name of food
- Brand name
- Net quantity of product
- Manufacturer's name and address
- Durable life date and storage instructions (e.g., best before date or date code)
- Point-of-purchase symbols: some manufacturers put symbols on their products using their own standards to rate the nutritional value of the product. It is important to be aware that these standards are not government-regulated.

2. Factors Influencing Food Choices

For children, eating is usually a social occasion with the people in their lives, including parents, older adults, peers and siblings. Observing others' eating behaviour also influences the development of children's own preferences and eating behaviour (Birch and Fisher, 1998). Eating behaviour can also be influenced by culture, family, personal likes and dislikes, etc. The media is also highly influential with regards to food selection, body image and self-esteem.

As children become older, sources of food and influences on eating behaviour increase (American Heart Association, 2006). At a young age, adults provide all meals and snacks; at older ages, children begin daycare, go to school, begin to prepare their own snacks, and purchase more meals and snacks outside of the home. These factors also influence children's food choices, eating behaviour, body image and self-esteem.

2.1 Individual Preferences

Children's food preferences are often guided by taste or preference (Taylor et. al., 2005). Children choose foods because they taste good and because eating those foods makes them feel good. For example, some foods (e.g., candy, cake) are associated with special occasions where people tend to be happy. Often people will eat out of habit rather than responding to hunger cues like eating while watching television. These factors can lead to less healthy choices.

Children come to like and eat what is familiar. What is familiar is usually what is present in the environment (Birch and Fisher, 1998), consequently making the food environment that surrounds children very important. Healthy choices should be available in all settings, including at home and at school, so that children are exposed to a variety of healthy foods. For example, dislike for vegetables is one of the three most important predictors of fruit and vegetable intake in children (Taylor et al., 2005). However, if children are eating vegetables and fruit with friends in a social setting, this can influence what types of foods they 'like'.

2.2 Allergies

The incidence of life-threatening food **allergies** is increasing. Allergic reactions can happen anywhere - at home, in school or recreational facilities, at camp and on field trips. Severe **allergic** reactions (e.g. anaphylactic shock) occur when the body's immune system reacts to a particular allergen or irritant. Nine food substances are most frequently associated with food **allergies** and **allergic**-type reactions. These substances are often referred to as the nine priority food allergens and include peanuts, tree nuts, sesame seeds, soy, milk, eggs, seafood (fish, crustaceans and shellfish), wheat and other cereal grains containing gluten, and sulphites.



Children with **allergies** face many situations at school which could potentially place them at risk for exposure to food allergens. Contamination of tables, desks, books or toys with the foods, or inadequate or infrequent cleaning of tables, desks, and equipment can result in exposure to allergens. Other occasions that can pose risk include: sharing foods between children, special occasions and parties where food is served and/or available. It is important that all school community members are aware of the potential life threatening nature of food **allergies** and the proper treatment of an allergic reaction.

In 2005, the provincial government passed a bill known as 'Sabrina's Law' to create safer school environments for children living with life-threatening **allergies**. Under the law school boards are required to have **allergy** management plans and training in place for all schools. School anaphylaxis plans ensure that children at risk are identified, strategies are in place to reduce the risk of exposure to allergens, and school staff is trained to respond to emergencies.

Sabrina's Law can be found at:

<http://www.edu.gov.on.ca/eng/healthyschools/anaphylaxis.html>

More information on severe allergic reactions can be found on the Health Canada website at:

http://www.hc-sc.gc.ca/iyh-vsv/med/allerg_e.html

Health Canada and the Canadian Food Inspection Agency have created a series of pamphlets with information on each of the nine priority food allergens. These can be found at <http://www.hc-sc.gc.ca/fn-an/securit/allerg/fa-aa/index-eng.php>

2.3 Culture

Food is only one aspect of cultural traditions, yet it is probably one of the most talked about. In different cultures food can be a source of pleasure, comfort, security, and a symbol of hospitality, social status and religious significance. Culture can influence what we select to eat, how we prepare and serve it, and even how we eat.

The Canadian population consists of many diverse ethno-cultural groups, providing an ideal opportunity to choose from a large variety of foods. For example, pizza and a variety of pasta dishes came from Italy, sausages and hamburgers from Germany, stir-fry dishes from China, and pita bread sandwiches from Lebanon. People from different ethnic backgrounds have traditionally based their food choices on what has grown in the climates of their country of origin. For example, North Americans have traditionally built their meals around wheat or corn, and Asians around rice. Colder countries, like Scotland, have relied on heartier grains such as oats and barley. Special foods that people eat on holiday occasions are also related to ethnic background. For example, many families have special food practices associated with festivals and days of significance.

The school community can help children to learn about the differences in peoples' eating habits, likes and dislikes, and culture. This learning helps to support the diversity in healthy eating patterns. Students can learn that people from other parts of the world can choose different, nutritious foods (e.g., bread, rice, tortillas or roti). Parents are usually interested in sharing ethnic food and recipes. Discussion in the classroom about different foods can enable each child to feel individually involved by including foods that relate to their own eating habits.

Before discussing the food practices of multicultural groups, understand their value systems. Food habits are greatly influenced by a group's values and the perception of healthy foods differs from one cultural group to another. On occasion, because of family, culture, and religious reasons, some children may not eat foods from the four food groups, but still meet their nutritional needs. It is important that you do not make the students feel that one value system and food practice is superior to another.



When there is discussion around cultural foods:

- Do not assume that students from a particular group have or have not adopted the food and dietary practices of the general Canadian population. Ask students to share their family's food practices and eating patterns.
- Ask questions with an open mind – don't be judgmental; children sharing food experiences can help establish trust, as well as knowledge, among classmates.

To support your teaching efforts in the classroom, translated copies of *Eating Well with Canada's Food Guide* are available. Visit Health Canada at www.healthcanada.gc.ca/foodguide.ca for more information.

2.4 Family and Traditions

Parents are children's most important source of information and influence for healthy eating. Parents shape children's eating behaviour in a variety of ways: by the choice of an infant feeding method (i.e., breastfeeding or formula feeding), by the foods they make available and accessible, by direct modelling influences, by the extent of media exposure in the home, and by the way they interact with children in the eating context (Birch and Fisher, 1998).

a) Parental role-modelling is important in establishing children's food choices. Depending on their own food choices, parents can either be positive or negative role models (AHA, 2006). An example of positive role-modelling is when parents eat breakfast, it's likely that their children will do the same. Meanwhile those who reward children with high-fat/high-sugar foods or restrict the intake of such foods, generally have children who develop an increased preference for these foods. Modelling certain behaviours may play a role in the emergence of dieting activities in childhood and adolescence. For example, research suggests that dieting daughters are likely to have dieting mothers and that parents who report problems in controlling their eating are likely to have daughters who show similar patterns (Birch and Fisher, 1998).



b) Family meals can have a positive influence on children and youth food selections. Family eating patterns include what, when they eat, where they eat and why they eat. These eating patterns accommodate the schedules, family size, and activity levels of different members. Families that eat meals together are associated with higher intakes of vegetables and fruit, milk products and improved nutrient intakes (Taylor et al., 2005). Children who eat together with the family have also been shown to have healthier eating habits (Gillman et al., 2000), do better in school, and have more self-esteem (Eisenberg et al., 2004).

c) Family income is another factor that influences what children eat and the food choices that are available to them. Everyone has a right to access healthy foods. However, due to a variety of reasons, families might not have the means to offer healthy choices at home.

Food security is said to exist when people can get enough food to eat that is safe, that they like to eat and that helps them to be healthy. They must be able to get this food in ways that make them feel good about themselves and their families (Ontario Public Health Association, 1995).

There are many reasons why families may not have enough money to obtain food. Factors that affect the ability to shop for and prepare nutritious foods include inadequate household income, lack of time, lack of knowledge and skills, a single parent household, etc. High unemployment, low incomes for the working poor, high housing costs, transportation and other basic necessities, and inadequate social assistance payments all contribute to the poverty which limits access to a

healthy diet (OPHA, 1995). Low literacy levels, a lack of opportunities for skill development and lack of childcare make it difficult for people to access healthy food (OPHA, 1995).

It is important for teachers and other school community members to be sensitive to the fact that the foods children bring to school (e.g., in lunch bags, for snacks) will be influenced by the home situation and the level of food insecurity experienced by their parents and caregivers.

Well-documented research shows that there is a clear link between good nutrition and school performance (OSNPPH, 2004). Well-nourished children do better and behave better in school.

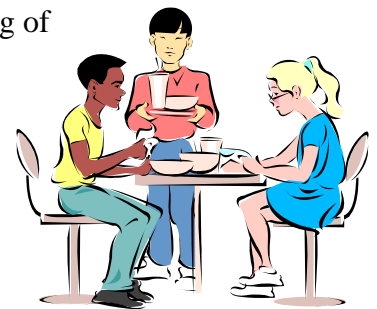
Students may come to school hungry because they have missed breakfast, have forgotten their lunch or their family is unable to consistently provide lunch. Hunger affects students in various ways. Some may become tired while others may become hyperactive. Other warning signs may include aggressive behaviour, irritability, high anxiety, depression, difficulty concentrating, stealing food, short attention span, hyperactivity, and anti-social behaviour. Keep in mind these warning signs may instead indicate an underlying medical condition such as diabetes, an eating disorder or allergies.

Actions You Can Take if a Child is Hungry

- Speak to the parent/caregiver to try and determine why the child might be hungry.
- Offer the student an opportunity to eat part of their lunch or snack before the next scheduled snack or meal.
- If your school has an emergency food pantry, offer the student a snack until they can have their next meal. Stock the pantry with non-perishable food items from each of the four food groups: Vegetables and Fruit, Grain Products, Milk and Alternatives, and Meat and Alternatives. Consider storing perishable milk products in the school's refrigerator if space allows.
- Contact your local public health unit/department for more information about community food programs that can assist the family.
- If hunger is a chronic issue for the student and their family, speak to the principal about other options for support.

2.5 Peers

Although children identify strongly with their family, positive role modelling of healthy eating can also come from children's friends and classmates. Peer pressure influences children of all ages. Acceptance in a peer group can depend on eating, liking and doing the same things as the other children in the group. If children see their classmates and friends enthusiastically eating healthy foods such as fresh fruit and vegetables, they will be more willing to enjoy them as well. Offering healthy choices for classroom celebrations provides the perfect opportunity for children to socialize and role model healthy eating behaviour with each other.



2.6 Volunteers and Professionals Who Work with Children

Positive role modelling of healthy eating and positive body image by adults working with children encourages students to value and enjoy healthy eating and promotes student preferences for healthy foods and beverages (Creating a Healthy School Nutrition Environment Health Unit Collaboration, 2007). Teachers, along with other school community members (e.g., secretaries, coaches, custodians, and school bus drivers) can have powerful effects on children through the example they set. Outside the school environment, camp leaders, coaches and others who work with children can also strongly support or hinder what children know about healthy eating and healthy living.

When planning class trips or special events, ensure that parent volunteers or other adults reinforce the healthy eating education learned in the class. For example, encourage them to pack nutritious lunches or drink water instead of pop. Discourage the use of foods as a reward for good behaviour, instead, offer a class reward such as extra physical activity time upon return to the school.

2.7 School Environments



In addition to providing opportunities for academic learning, schools have the capacity to enhance students' health, self-esteem and development of lifelong skills and healthy eating behaviour. Schools are one of the most effective and efficient ways to reach almost all children, school personnel and families (World Health Organization, 1998).

It is important to help your school create an environment that supports healthy eating. A Healthy School Nutrition Environment is one where students can get the same message about food, nutrition and healthy eating wherever food is served - in the classroom, in the school and at home. An environment that supports healthy eating may influence the child's preference for certain foods. For example, research has shown that children consumed more fruit and vegetables when schools served such foods. The authors concluded that the extent to which fruit and vegetables are made available and accessible to children may shape children's liking for consumption of those foods (Birch and Fisher, 1998).

A healthy school nutrition environment contains nine essential elements (OSNPPH, 2004). Below is a list of the elements along with some questions to think about to help in practicing all nine elements.

1. Provide healthy, reasonably priced and culturally-appropriate food choices. For example when you have a classroom party, are healthy food choices offered? Do you reward children with non-food rewards?
2. Encourage positive role modelling of healthy eating by school staff and volunteers. Do you eat and drink healthy foods and beverages when in the presence of students?
3. Offer daily universal Student Nutrition Programs. Does your school have a snack or breakfast program?

4. Ensure safe food practices and allergy-safe surroundings. Do you monitor how the food-safe policy is being followed?
5. Schedule nutrition breaks at appropriate times. Are students getting a full 20 minutes to eat their lunch?
6. Implement school food and nutrition policies. Does your school have a food and nutrition policy that addresses all foods and beverages being sold or offered in school?
7. Offer nutrition education for staff. Do you participate in professional development opportunities on nutrition?
8. Offer nutrition education for students. Do you have up-to-date nutrition resources to support the healthy eating expectations in the curriculum? Are you spending enough time teaching the healthy eating expectations from the curriculum?
9. Provide student, parent and community education about healthy eating? For example, do you include nutrition activities that involve students', parents and families?



Some of these elements can be directly influenced by teaching staff.

To learn more about healthy schools, contact your public health unit and/or visit www.osnpph.on.ca and click on 'New Publications' Call to Action: Creating a Healthy School Nutrition Environment.

2.8 Media Messages



The media has significant influence on children and food choices. Companies deliberately target this age group because children have money to spend, can influence their parents' shopping decisions, and will eventually become adult consumers.

There are different marketing strategies that companies use on their target groups. Internet sites aimed at children and youth include advertising as part of interactive games, contests and free promotions. Online surveys provide marketing information which help companies understand what influences youth and how to sell to them. Endorsements by celebrities and sports stars promote brand loyalty.

The majority of food advertising has a negative effect on children's health by making high fat, high sugar foods more desirable. Content analyses of television advertisements have shown that food is the most frequently advertised product category on children's television, and the majority of these ads target highly sweetened products and are increasingly promoting fast food meals (Coon et al., 2002).

Teaching media literacy helps students learn how to critically analyze the intention of media messages. Schools can resist the influence of corporations that market unhealthy foods by avoiding: offers of teaching materials, fast food for fundraising, financial support for children's events, and promises of school equipment and vending machine contracts that include unhealthy foods and beverages.

3. Physical Activity and Children

Physical activity, like healthy eating, is essential for healthy growth and development. Regular physical activity in childhood develops cardiovascular fitness, strength, flexibility and bone density. Encouraging children to build physical activity into their daily routine helps to create a healthy pattern that may stay with them for the rest of their lives. Regular physical activity also provides young people with opportunities for increasing their self-esteem and appreciation for their own bodies.

Every child, no matter their age, height, weight, natural abilities or skills, needs to be physically active to be healthy and strong. Everyone has different interests, abilities and strengths, so they need to be introduced to a variety of activities, and children need to know that sports are not the only way to stay active. Identifying other activities that are not competitive is essential. Some activity ideas include:

- Building a snowman
- Skating
- Swimming
- Roller-blading
- Bowling
- Chasing the dog
- Climbing trees
- Tobogganing
- Throwing a Frisbee
- Playing catch



What is Active Living?

Active Living promotes a way of life in which physical activity is valued and integrated into daily life, whether it's taking the dog for a walk or riding your bike to the store. It stresses the importance of doing activities that feel good and that are moderate and fun. It is more than fitness and sport - it is a commitment to a healthy mind, spirit and environment, all linked through physical activity. Active living encourages everyone, not just people who are young and fit, to get up and get moving. *Canada's Physical Activity Guide to Healthy Active Living* supports the concept of active living.

When fun and enjoyment are part of skill development and physical activity, children are more likely to develop a positive attitude towards healthy active living. Children may need to be given both encouragement and the opportunities to get up and move. Parents and educators can play a role in promoting this message to children. Integrating physical activity as an enjoyable part of their daily lifestyles helps to prevent heart disease, bone disease and other health conditions. Young people who are physically active are also less likely to smoke, drink, or do drugs, and more likely to have healthy eating habits (Prince Edward Island Healthy Eating Alliance, 2005).

Benefits of active living:

- Improved fitness
- Better sleep and more alert
- Fun
- Healthy body weight
- Healthy heart and lungs
- Relaxation
- Optimal learning ability
- Positive feelings about self /self-confidence
- Strong muscles and bones
- Flexibility
- Good balance and posture

How much Physical Activity should children get?

Canada's Physical Activity Guides for Children and Youth provide a set of national guidelines to help children and youth improve their health through regular physical activity.

The Guides recommend children and youth (Public Health Agency of Canada, 2002):

- Increase the amount of time currently spent doing physical activity by 30 minutes per day in periods of 5-10 minutes. Over several months, children and youth should try to accumulate over 90 minutes of physical activity per day.
- Reduce non-active time spent on sedentary activities like watching TV, videos, 'surfing' the Internet and playing computer games, starting with at least 30 minutes less per day and eventually trying to eliminate at least 90 minutes of non-active time.

Types of Physical Activity

There are three different types of physical activities that help keep the body healthy: endurance, flexibility and strength. A variety of each type of activity will provide the most health benefits.

Endurance activities help the heart, lungs, and circulatory system stay healthy and also provide more energy. These activities make you breathe deeper, your heart beat faster, and make you feel warm. Examples include walking, cycling, skating, taking the stairs and dancing.

Flexibility activities help move the body easily, keep muscles relaxed and joints mobile. This involves gentle reaching, bending, and stretching all of the muscle groups. Examples include bowling, curling, gardening and yoga.

Strength activities help the muscles and bones stay strong and improve posture. Examples include lifting weights, wearing a backpack carrying school books, carrying groceries, and exercises like abdominal crunches and push-ups.



Physical Activity at School

The Ministry of Education supports and promotes the participation of students in Daily Physical Activity (DPA) and has implemented a policy on this, entitled, Policy/Program Memorandum No. 138, 'Daily Physical Activity in Elementary Schools, Grades 1–8', October 6, 2005. This policy requires that all students in Grades 1 to 8, including students with special needs, to be provided with opportunities to participate in a minimum of twenty minutes of sustained moderate to vigorous physical activity each school day during instructional time. The goal of DPA is to enable all elementary students to improve or maintain their physical fitness and their overall health and wellness, and to enhance their learning opportunities.

The electronic versions of *The Ontario Curriculum, Grades 1–8: Health and Physical Education, 1998*, which are posted on the Ministry of Education website at <http://www.edu.gov.on.ca>, have been revised to reflect this requirement. On this website, there are also a variety of DPA resources available as PDF files for teachers to download.

Teachers can play a large role in teaching students about the need for physical activity. Teachers can create a classroom environment that values physical activity by including DPA or other related activities and by encouraging students to try something new. Introduce new activities and let them try them in the classroom. You may want to initiate a class physical activity project for a week or month, in an effort to get them to be more active every day. The most important result is that the kids find physical activity fun! Do not make physical activity a punishment, for example having them miss recess or doing laps around the track, as this will take the fun right out of physical activity!

4. Factors Influencing Body Shape and Size

Steps towards a healthy lifestyle include:

- Eating the recommended amount and types of food each day.
- Limiting foods and beverages high in calories, fat, sugar or salt (sodium).
- Being active every day.

Healthy people come in a variety of shapes and sizes. Children's weight and shape are influenced by many factors, including heredity and puberty. A Body Mass Index (**BMI**) is a tool that **is not suitable for growing children and teenagers**. Instead, health care providers use the BMI-for-Age growth charts to track their progress over time.

4.1 Heredity

It's important that children understand and appreciate that they are individuals with unique physical characteristics, personality, and natural abilities. Discuss students' personality and physical traits compared to their siblings, parents and grandparents. Just as eye, hair and skin colour are genetically determined, so too is body weight and shape to a certain extent.

Unfortunately, many children compare themselves to their peers and to unrealistic media images, becoming preoccupied and dissatisfied with their weight and shape. They may begin to restrict their eating in an effort to lose weight and change their body shape. Professionals should help children understand and accept that, to an extent, their bodies may be programmed to be a certain size and shape. By recognizing and appreciating their genetic background, children can learn to be comfortable with their own bodies and develop a good sense of self. Physical activity and healthy eating should be promoted as a way of taking good care of oneself. All students, regardless of size, should be encouraged to enjoy a variety of foods, while practicing moderation; and to participate in regular physical activity for fun and to feel healthy, energetic and fit.

4.2 Hunger and Satiety Cues

All human beings are born with the ability to eat when their body is hungry and stop when they feel full or satisfied. Babies and small children are in tune with these hunger and satiety cues. Unfortunately, as children grow older they may learn to ignore these internal cues due to restrained eating or weight loss dieting. When people are insensitive to their feelings of hunger and satiety they are more likely to engage in disordered eating.

Adults can encourage and respect children's natural abilities to recognize hunger and fullness. Preadolescents need to eat adequate amounts of food to prepare for rapid growth during puberty. Children require regular snacks to maintain their energy and reach their learning potential.

Teachers can discuss with students:

- How they feel when they're hungry; (i.e., stomach grumbles or hurts, they feel tired, cranky, restless, etc.)
- How they know when they've had enough to eat (i.e., feel 'full'; not interested in eating anymore; want to get up from the table and do something else)
- That it's 'normal' for people to occasionally overeat (e.g., holiday meals)
- Sometimes we eat when we're not hungry (e.g., for emotional reasons-boredom, sadness; a favourite food or treat is appealing; it's lunch or dinner 'time', etc.)

School Policies

Some schools have developed policies that allow students to eat healthy snacks in class. Policies include statements such as when, where and what type of foods/drinks are allowed. Allowing healthy snacks in class promotes the importance of eating well and listening to the body's hunger and fullness cues, which helps individuals to achieve and maintain a healthy weight.

4.3 Puberty

Students should be informed that it is healthy and normal for some children to start puberty sooner and others later. During puberty, children undergo a growth spurt, gaining 20% of adult height and 50% of adult weight. For girls, this growth usually begins at about 8 to 10 years of age, while for boys it begins at about 11 to 13 years of age. Some children grow taller before they gain weight and have a thin, long legged appearance; gaining weight or 'filling out' as they

grow older. Other children gain weight before they gain height, often developing weight around their middle.

This may cause the child, parent or teacher to worry that the child is ‘getting fat’ which may result in adults encouraging a child to eat less or exercise more. This type of concern can lead to weight preoccupation and restrictive dieting which increases the risk for under-nourishment. Preadolescent children need to eat adequate amounts, follow Canada’s Food Guide, and eat a variety of foods to prepare for the rapid growth of the teen years. If energy needs are not adequately met, physical growth and development can be delayed and possibly even stunted.

Girls

Between the ages of 9-16, girls gain on average 2-5 kg. (5-11 lbs.) every year (National Centre for Health Statistics, 2000). Girls require 18-22% body fat in order to begin menstruation (Frisch, 1990) and mature sexually. When talking about puberty and menstruation with their parents and teachers, girls need encouragement that this weight gain is normal. Puberty becomes a particularly difficult time for girls because their natural weight gain moves them away from the ideal thin body shape and size promoted by society and the media. This can negatively affect girls’ self-esteem and body image. Early maturing girls are at further risk for body dissatisfaction (Ohring et al., 2002) because they are more apt to naturally gain weight before later maturing peers, and are more likely to receive sexual teasing and attention when they are still emotionally immature.

Boys

Boys may also gain weight around their middle or develop enlarged breasts due to hormone levels and increased body fat during puberty. This can be very embarrassing for boys, especially if asked to remove their shirts in physical education class as a way of differentiating between teams (‘skins’ vs. ‘shirts’). Boys naturally grow bigger, stronger and more muscular during adolescence which follows the cultural ideal for males. However, with the unrealistic standards shown in the media, boys may experience dissatisfaction too, because their bodies are unlikely to develop to the extent they want. Some boys may want to lose weight, while other boys’ concerns may revolve around growing taller and developing muscles to achieve a lean, muscular body.

5. Body Image

Body image is part of self-esteem. It’s a person’s perception of their body size, shape, and attractiveness. It also includes a person’s attitudes and feelings about their body and how they believe others see them.

A number of factors influence body image, such as:

- Media (unrealistic expectations for appearance, weight and shape)
- Judgements or comments from adults (parents, relatives, teachers, coaches)
- Attitudes, behaviours and comments from peers
- Physical changes during puberty
- A person’s degree of self-esteem and self-confidence



- Socialization (i.e., girls are supposed to be ‘beautiful’; thinness is important; boys are socialized to be ‘strong’; or ‘macho’)
- Harassment and teasing
- Physical disabilities or illness
- Violence—verbal, physical or sexual abuse

Many influences in today’s society contribute to body image issues. Often children at this age become dissatisfied with how they look. They may dislike certain features such as their nose, teeth and ears, and may think that their peers notice and dislike them too. In addition, increasing numbers of children are dissatisfied with their weight and shape. Research shows that early adolescence is a risky time for developing body image dissatisfaction and disordered eating (McVey, 2003). These behaviours may be triggered by common stressors that young people experience at this age:

- Physical changes of puberty such as gaining weight and increased body fat in girls.
- Social pressures to ‘fit in’ and be accepted (girls are supposed to be ‘beautiful’ and thin; boys are socialized to be ‘strong’ and ‘macho’).
- Teasing and harassment—kids may suffer from rude comments about their weight, body shape, eating habits, race, culture, etc.
- Peer pressure from friends who diet.
- Developing feelings of attraction and wanting to impress.
- Misinterpretation of health messages— ‘good’ foods vs. ‘bad’ foods; eating fat is ‘bad’; obesity messages about the dangers of gaining weight and the need to ‘lose weight’ (O’Dea, 2005).
- Influence of the media with its unrealistic expectations for appearance, weight and shape.

5.1 Media and Body Image

Media has a powerful influence on how young people view themselves. The ‘ideal’ look portrayed in the media makes people feel inadequate and unhappy with their bodies. Research suggests that up to 80% of girls and women and 40-60% of males in our society are dissatisfied with their bodies. (The Student Body <http://research.aboutkidshealth.ca/thestudentbody/home.asp>)



Advertisers go to great lengths to sell products and convince people, especially women, that their bodies are never good enough. Advertising promotes the false belief that everyone can achieve the ‘ideal look’ if they just work hard enough and buy the right products (e.g., cosmetics, hair products, clothes, exercise equipment, supplements and diets).

The female models that are used to sell products are typically tall, thin, young, white, and appear perfect. Male models are lean, muscular and equally ‘perfect’ in their appearance. Youth struggle to achieve a similar look, but the image isn’t even real.

In Reality...

- Specialized photographic techniques and computer technology alter the models' appearance to create a look that is flawless.
- Body features are enhanced with props, lighting angles and computer techniques.
- Shapes and sizes are altered.
- Blemishes, freckles, lines, wrinkles, skin folds and other unwanted features are edited out.
- Body parts or features from photos of different people are combined to create the 'perfect' image.
- 'Body doubles' are common in films when body parts of lead actors don't measure up to the 'perfect' image.
- Photo images can be completely computer generated to fit the popular look of the day.

Source: Adapted from Region of Peel website

(<http://www.region.peel.on.ca/health/commhlth/bodyimg/media.htm>)

Media Literacy Can Help

Teaching media literacy can help students recognize that media images are unrealistic and manipulated to create perfection. This understanding can improve students' body image and decrease their risk of eating problems (O'Dea, 2005). Media literacy has also been shown to help improve self-esteem and reduce unhealthy dieting in young adolescent girls (McVey et al., 2003).

5.2 How Teachers can Promote Positive Body Image

1. Be a positive role model

- Be aware of the messages you send about your own body and the comments you make about other people's bodies.
- Refute common stereotypes and prejudices.
- Celebrate multicultural diversity in beauty, body weight and shape.
- Discourage youth from weighing themselves.
- Never reward with food or withhold it as punishment.



2. Help youth celebrate their bodies

- Focus on what bodies do well rather than what bodies look like.
- Teach students the joy of being active and to notice how their bodies feel and perform.
- Focus on positive non-appearance traits (e.g., being caring, friendly, or musical).
- Stress that there isn't an 'ideal' body shape and that people come in all shapes and sizes.
- Teach them ways of coping with put downs and negative comments.
- Explain that their bodies will change and grow, especially during puberty and that weight gain is natural and normal at this time.

3. Promote a supportive school environment

- Weighing students (or using fat calipers) should be done by health professionals and is not generally recommended in a school setting.
- Discuss media pressures and the ideals of the popular culture.
- Provide activities that promote an individual's self-esteem without focusing on appearance.
- Set standards for respectful behaviour with their peers—no bullying or harassment.
- Encourage students to eat according to feelings of hunger and fullness.
- Encourage youth to participate in enjoyable physical activity.

Source: Adapted from the Body Image Coalition of Peel (www.bodyimagecoalition.org)

Ideas for the classroom:

- Discuss media pressures and the ideals of the popular culture.
- Provide activities that promote an individual's self-esteem without focusing on appearance.
- Set standards for respectful behaviour with their peers—no bullying or harassment.
- Encourage students to eat according to their feelings of hunger and fullness.
- Encourage children to participate in active play.

Source: Adapted from the Body Image Coalition of Peel (www.bodyimagecoalition.org)

6. Self-Esteem

Self-esteem is the confidence and satisfaction a person has in oneself. It determines how worthwhile, valuable and competent we feel we are. Self-esteem develops from birth through experiences and relationships within the family and continues to be influenced by the significant people in one's life. Supportive parents, teachers, coaches and friends are the key to maintaining and enhancing healthy self-esteem.

Many factors may influence a person's self-esteem including:

- Social skills
- Relationships
- Talents
- Intellectual abilities
- Interests
- Personal characteristics (e.g., kindness, honesty, humour)
- Physical appearance



Tips for Strengthening Self-esteem:

- Encourage students, especially girls to develop interests and abilities in a variety of areas, like sports, education, hobbies and clubs. This helps youth recognize that their appearance is only one aspect of themselves.

- Acknowledge and compliment students on their skills, abilities and character.
- Challenge students to think of things they like about themselves beyond physical appearance (e.g., swimming skills, musical talents, friendship skills).
- Help children develop skills for coping with the stresses of growing up, rather than turning to dieting and over-exercise as a way of feeling in control of their lives.
- Teach skills related to friendship, communication and stress management.
- Listen to students concerns and feelings about their changing bodies.
- Encourage students to talk to parents and trusted adults to help sort through problems.

Strong self-esteem helps students cope with stress and anxiety; enables them to be more resilient in difficult times and helps them make healthy choices (O’Dea, 2005). Students who feel good about themselves are less likely to engage in risk-taking behaviours such as disordered eating, smoking, drugs, alcohol and early sexual behaviour.

7. References

American Heart Association, Gidding S.S., Dennison B.A., Birch L.L., Daniels S.R., Gilman M.W., Lichtenstein A.H., Rattay K.T., Steinberger J., Stettler N. and Van Horn L. (2006). Dietary Recommendations for Children and Adolescents: A Guide for Practitioners. *Pediatrics*, 117(2): 544-559.

Birch L.L., Fisher J.O. (1998) Development of Eating Behaviours Among Children and Adolescents. *Pediatrics*, 101(supplement 3): 539-549.

Comuzzie, A. G., and Allison, D.B., (1998) The Search for Human Obesity Genes. *Science*, 280 (5368): 1374 -1377.

Coon KA and Tucker KL. (2002) Television and Children’s Consumption Patterns: A Review of the Literature. *Minerva Pediatrica*, 54(5):423-436.

Creating a Healthy School Nutrition Environment Health Unit Collaboration. (2007). *Nutrition Tools for Schools: A Toolkit for Ontario Public Health Units to Support Elementary Schools in Creating a Healthy Nutrition Environment*.

Della Valle DM, Rose LS, Rolls BJ. (2005). Does the consumption of caloric and non-caloric beverages with a meal affect energy intake? *Appetite*, 44:187-93.

DiMeglio DP, Mattes RD. (2000). Liquid versus solid carbohydrate: effects on food intake and body weight. *International Journal of Obesity*, 24(6): 794-800.

Eisenberg M.E., Olson R.E., Neumark-Sztainer D., Story M., Bearinger L.H. (2004) Correlations Between Family Meals and Psychosocial Well-being Among Adolescents. *Archives of Pediatric and Adolescent Medicine*. 158: 792-6.

Field, A.E., Austin, S.B., & Taylor, C.B. (2003). Relation between dieting and weight change among preadolescents and adolescents. *Pediatrics*, 112: 900-906.

Frisch, R. Edit. (1990) *Adipose Tissue and Reproduction* referenced in “Afraid to Eat: Children and Teens in Weight Crisis” by Frances M. Berg, 1997, Healthy Weight Publishing Network.

Garriguet, D. (2004) *Overview of Canadians’ Eating Habits*. Nutrition: Findings from the Canadian Community Health Survey, Statistics Canada, 82-620-MIE-No.2.

Gillman M.W., Rifas-Shiman S.L., Frazier A.L., et al. (2000) Family dinner and diet quality among older children and adolescents. *Arch Fam Med*. 9: 235-240.

Hanning, R, Woodruff, S.J., Lambraki, I, Jessup, L, Driezen, P, Murphy, C.C. (2007) Nutrient Intakes and Food Consumption Patterns Among Ontario Students in Grades Six, Seven, and Eight. *Canadian Journal of Public Health*, 98(1): 12-16.

Hsu, L. K. G. (1997). Can dieting cause an eating disorder? *Psychological Medicine*, 27: 509-513.

Jones, D.C., Vigfusdottir, T.H., & Lee, Y. (2004). Body image and the appearance culture among adolescent girls and boys: An examination of friend conversations, peer criticism, appearance magazines and the internalization of appearance ideals. *Journal of Adolescent Research*, 19: 323-339.

Lock, J., Riesel, B., & Steiner, H. (2001). Associated health risks of adolescents with disordered eating: How different are they from their peers? Results from a high school survey. *Child Psychiatry and Human Development*, 31: 249-265.

McVey, G. (2003). What We Have Learned about Primary Prevention of Food and Weight Preoccupation. *National Eating Disorder Information Centre Bulletin*, 18(1): 1-4.

McVey, G.L., Lieberman, M., Voorberg, N., Wardrope, D., Blackmore, E., & Tweed, S. (2003). Replication of a prevention program designed to reduce disordered eating: Is a life skills approach sufficient for all middle school students? *Eating Disorders: Journal of Treatment and Prevention*, 11(3): 169-186.

National Center for Health Statistics in collaboration with the National Center for Chronic Disease Prevention and Health Promotion. (2000) 2 to 20 years: Girls Stature-for-age and Weight-for-age percentiles. Available at:

<http://www.cdc.gov/nchs/data/nhanes/growthcharts/set1clinical/cj411022.pdf>

O’Dea, J.A. & Abraham, S. (2000). Improving the body image, eating attitudes and behaviours of young male and female adolescents: A new educational approach that focuses on self-esteem. *International Journal of Eating Disorders*, 28(1): 43-57.

Ohring, R, J.A. Graber, J. Brooks-Gunn, (2002) Girls' recurrent and concurrent body dissatisfaction: Correlates and consequences over 8 years' *Int J Eat Disord.* 31(4): 404-415.

Ontario Public Health Association, Food Security Work Group (1995) *Food for Now and the Future.*

Ontario Society of Nutrition Professionals in Public Health School Nutrition Workgroup. (2004). *Call to Action: Creating a Healthy School Nutrition Environment.* Available at: <http://www.osnpnh.on.ca>.

Prince Edward Island Healthy Eating Alliance. (2005). *The School Healthy Eating Toolkit.*

Public Health Agency of Canada. (2002) Teacher's Guide to Physical Activity for Children (6 to 9 years of age), *Canada's Physical Activity Guide for children.*

Taylor J.P., Evers S., McKenna M. (2005). Determinants of Healthy Eating in Children and Youth. *Canadian Journal of Public Health.* 96(3): S20-S26

Then, D. (1992). "Women's magazines: Messages they convey about looks, men and careers". Paper presented at annual convention of American Psychological Association, Washington, D.C.

Veugelers P.J., Fitzgerald A.L., Johnston E. (2005) Dietary intake and risk factors for poor diet quality among children in Nova Scotia. *Can J Public Health,* 96(3): 212-217.

World Health Organization. (1998). WHO Information Series on School Health Document Four, Healthy Nutrition: An Essential Element of Health-Promoting Schools.

8. Glossary

Grades 4-6

Additives	Substances added to food for various reasons (e.g., to stop food spoilage, to give flavour or colour). Some common examples include BHT (butylated hydroxytoluene) carrageenan, and cellulose.
Allergy	An unusual immune reaction to a normally harmless substance, such as some components of food.
Cardiovascular disease	Disease affecting the heart and/or blood vessels.
Diet	One's usual daily food and drink intake.
Dietitian	A trained expert on the role of food and nutrition in health. Only those individuals who are registered with the <i>College of Dietitians of Ontario</i> can use the titles dietitian or Registered Dietitian.
Enriched	The addition of vitamins and minerals (that may have been lost during processing) to a food product.
Everyday Foods	Foods from the four food groups, such as vegetables, fruit, milk, cheese, yogurt, whole grains, fish and legumes. These foods are considered nutrient dense.
Fat soluble	Something that will dissolve in fat. In food, fat is needed to absorb these nutrients: vitamins A, D, E, K
Folate	A B vitamin that is necessary for producing and maintaining new cells. This nutrient is especially important during pregnancy. It is also known as folic acid.
Food Guide Serving	The amount of food in a serving as indicated by Canada's Food Guide. The recommended number of servings varies by age group and gender.
Fortified	The addition of specific nutrients (that may be lacking naturally in a food) to a food product.

Hunger cues	The body's way of telling a person they need to eat. Hunger cues regulate appetite and ensure that people eat enough to meet their energy and nutritional needs. Feelings of hunger may include a growling stomach, irritability, low energy, difficulty concentrating, etc.
Methylmercury	A highly toxic organic compound of mercury that accumulates in fish and shellfish.
Nutrient density	A measure of nutrients provided per calorie of food. The addition of a lot of fat or sugar decreases the nutrient density of the food by decreasing the amount of nutrients compared to the number of calories in the food.
Nutrition	The study of the nutrients in foods and in the body, and the study of human behaviours related to food.
Nutritionist	Nutritionists are not regulated by law and people do not require any training to call themselves 'a nutritionist'. <i>Public Health Nutritionists</i> , however, are an exception - they are required to have a Masters Degree and are registered with the <i>College of Dietitians of Ontario</i> .
Omega-3 fatty acids	A type of fat found in several types of fish and plant oils (e.g., flaxseed, canola, and soybean). There are three types (ALA, DHE, EPA) which are considered essential to health, meaning the body cannot manufacture them.
Partially hydrogenated	The result of stopping part way through the process of hydrogenating oil so that the product is a semi-solid. This semi-solid consistency is often used by food manufacturers in baked products to increase shelf life. Some of the fatty acids in this process are converted to trans fat.
Percent Daily Value (%DV)	Listed in the Nutrition Facts table on food labels. It tells you if there is a lot or a little of a nutrient in a food.
Phytochemicals	Plant chemicals that contain protective, disease-preventing compounds. Phytochemicals are associated with reducing the risk of some chronic diseases including cancer, heart disease and stroke.
Potassium	A mineral that is important for transmitting nerve impulses and maintaining the fluid balance in the body.

Salt	A mineral primarily composed of sodium chloride. Salt is involved in transmitting nerve impulses and in regulating the water content of the body. High salt intake can increase the risk of health problems such as high blood pressure.
Satiety cues	The body's way of telling people they've had enough to eat. Feelings of satisfaction arise not just from the amount of food we eat, but also the taste and pleasure of eating appealing food. Feelings of satisfaction include feeling 'full' and no longer interested in eating.
Saturated fat	Mostly found in foods from animals and tropical plants (i.e., coconut oil, palm oil, cocoa butter). Large amounts of these fats tend to raise the level of LDL or bad cholesterol in blood increasing the risk of cardiovascular disease.
Self-Esteem	The confidence and satisfaction a person has in themselves; the image one has of oneself compared to what one thinks it should be.
Sometimes Foods	Foods that are low in nutrients and are often high in calories, fat, sugar and/or salt. These foods are not a part of the four food groups and should be limited, but can be enjoyed at times.
Trans fat	This fat comes from a vegetable oil that was chemically modified to be more solid. Trans fat is found in partially hydrogenated margarines, deep-fried foods, packaged cookies, crackers, and commercially baked products. Trans fat raises the bad LDL cholesterol, but unlike saturated fat, it also lowers the good HDL cholesterol level increasing the risk of cardiovascular disease.
Unsaturated fat	A category of fats that includes polyunsaturated and monounsaturated fats, which are mainly found in fish, nuts, seeds and plants oils These fats may help lower bad LDL blood cholesterol levels