

TEACHING NUTRITION IN SASKATCHEWAN



Health and Physical Education Grade 7

Developed by: Public Health Nutritionists of Saskatchewan

The purpose of *Teaching Nutrition in Saskatchewan: Concepts and Resources* is to provide credible Canadian based nutrition information and resources based on the Saskatchewan Health and Physical Education Curricula (2010).

The **Nutrition Concepts and Resources** section, found on pages 4-8 in this resource, identifies nutrition concepts and resources relating to grade-specific provincial health and physical education curricula outcomes. These lists only refer to the curriculum outcomes that have an obvious logical association to nutrition. They are only suggestions and not exclusive.

The **Nutrition Background Information** section, found on pages 9-38, provides educators with current and reliable Canadian nutrition and healthy eating information.

For more information, contact your local Public Health Dietitian

Visit: www.saskhealthauthority.ca/Services-Locations/Pages/Home.aspx
for contact information in your area.

Canada's Food Guide 2019

The 2019 version of Canada's Food Guide provides a different approach to healthy eating recommendations than in the past. Although Canada's Food Guide includes a large suite of online information, there are limited resources available for guidance on teaching it to children at this time. In this update of Teaching Nutrition in Saskatchewan, we included resources that address these same healthy eating concepts to help teach the new food guide with limited reference to the 2007 version.

Web-links

This document is updated yearly, however, due to the dynamic nature of the internet, some hyperlinks may no longer be active. If this has occurred, try searching for the resource on the internet through a search engine such as Google.

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To reach a public health nutritionist in your area, your local health authority. Saskatchewan Health Authority contact information for different areas is available at www.saskhealthauthority.ca/Services-Locations/Pages/Home.aspx

Table of Contents

	Page
<u>Teaching Nutrition to Children and Youth</u>	4
Nutrition Concepts and Resources	5
– <u>Grade 7 Health Education</u>	5
– <u>Grade 7 Physical Education</u>	7
Nutrition Background Information	9
– <u>Canada’s Food Guide 2019</u>	9
– <u>Healthy Eating Habits for Children and Youth</u>	11
– <u>Evaluating Reliable Nutrition Information</u>	12
– <u>Food Tracking with Children and Youth</u>	14
– <u>Planning a Healthy Menu</u>	16
– <u>Taking Action on Healthy Eating</u>	19
– <u>Marketing to Children and Youth</u>	20
– <u>Label Reading</u>	22
– <u>Evolution of the Food Guide</u>	24
– <u>Opportunities and Barriers to Healthy Eating for Children and Youth</u>	28
– <u>Weight Bias</u>	31
– <u>Healthy Eating for Active Youth</u>	33
– <u>Water and Other Beverages</u>	36
– <u>Body Composition and Health Risks in Children and Youth</u>	37

Teaching Nutrition to Children

Teaching about food and nutrition is important for the health and wellbeing of students. Below are some tips for teaching nutrition to children:

- Use current and credible nutrition information. *Teaching Nutrition in Saskatchewan* and dietitians are great sources of reliable nutrition information. When searching for health information on the internet, refer to [Evaluating Reliable Nutrition Information](#) page 17 for a few tips to make sure you get the best information.
- Include cross-curricular connections in the classroom. For example, when teaching fractions in math, illustrate the lesson using fruit instead of pie. Choose books and projects that show healthy food and eating habits. For examples of how to link nutrition to other Saskatchewan curricula, refer to [The Saskatchewan Curricular Outcomes and Nutrition](#), a resource from [Nourishing Minds Eat Well Learn well Live Well](#).
- Spread healthy eating lessons out throughout the year rather than in a short unit. Connect key messages to special events or classroom celebrations by offering or asking students to bring healthy options.
- Use experiential learning strategies to engage students. Let students work with food in the classroom, visit a grocery store, start a cooking club or a school garden. If you are considering offering taste tests, check out Food Experiences in *Teaching Nutrition in Saskatchewan Grades 1-3*.
- Promote healthy eating in a positive way. For example classifying foods as ‘everyday’ and ‘sometimes’ foods rather than ‘good’ and ‘bad’ foods. Refer to *Teaching about Food in the Early Grades* in *Teaching Nutrition in Saskatchewan Grades 1-3*.
- Emphasize healthy eating and active living for all, regardless of weight and shape, and ensure that all students are equally valued and respected. Enforce that it is not acceptable to make comments about people’s size or shape. For more information, refer to [Weight Bias](#) on page 31.
- Be a healthy role model for students. Demonstrate that you eat a variety of healthy foods. Avoid talking negatively about healthy foods or discuss dieting, weight loss or dissatisfaction of body shape or size.
- Encourage families to send healthy lunches and educate parents on healthy eating. Avoid making comments about student lunches or taking items away if they are not “healthy.” Children may have little control over what is in their lunch. Drawing attention to “unhealthy” choices can isolate children from their peers and cause them to feel shame. Remember, no one food or meal defines our eating habits.
- Allow all students to make their own decisions about *what* and *how much* to eat and drink from their lunches. There is no benefit to having children eat certain foods before others such as eating a sandwich before a cookie. Children eat better when they can pick from the available options in the order they want.

References

1. Algoma Public Health. Healthy Living Resources for the Classroom 2017/2018: Healthy Eating Elementary (grades K-8). [cited 2019 July 22]. Available from: www.algomapublichealth.com/media/2502/healthy-eating-elementary-2017-2018-hyperlinked-sept-2017-2.pdf
2. Ontario Dietitians in Public Health. Bright Bites: Tips for Teaching Nutrition. [cited 2019 July 22]. Available from: brightbites.ca/tips-for-teaching-nutrition/
3. Ellyn Satter, Nutrition Education in the Schools, 2008. Retrieved from: www.ellynsatterinstitute.org/wpcontent/uploads/2016/03/Secrets-Appendix-H-School-Nutr-Ed.pdf

Grade 7 Health Education

Grade 7 Health Education: Commitment to self		
Goal 1: Develop the understanding, skills, and confidences necessary to take action to improve health.		
Outcomes	Nutrition Concepts	Resources: Background Information, Sample Activities, etc.
<p>USC 7.5 Evaluate personal food choices and needs by applying accurate and current nutritional knowledge (e.g., content labels).</p>	<p>Healthy Eating for Children and Youth</p>	<p>Background Information: Canada's Food Guide 2019 (p. 9) Healthy Eating Habits for Children and Youth (p. 11)</p> <ul style="list-style-type: none"> Government of Canada. Canada's Food Guide food-guide.canada.ca/en <p>Classroom Sample Activities</p> <ul style="list-style-type: none"> Alberta Health Services School Nutrition Lesson Plans www.albertahealthservices.ca/nutrition/Page2918.aspx <i>Grade 7</i> Saskatchewan Health Authority. www.rqhealth.ca/department/health-promotion/nutrition-and-healthy-eating . Unlock the Potential of Food with the New Canada Food Guide - Toolkit for Educators 2019. <i>Canada's Food Guide Scavenger Hunt, p.9</i>
	<p>Evaluating Reliable Internet Information</p>	<p>Background Information: Evaluating Reliable Nutrition Information (p. 12)</p> <p>Classroom Sample Activities</p> <ul style="list-style-type: none"> Media Smarts mediasmarts.ca <i>Deconstructing Web Pages, Finding and Authenticating Online Information on Global Development Issues, ICYouSee: A Lesson in Critical Thinking, Jo Cool or Jo Fool</i>
	<p>Food Tracking for Children and Youth</p>	<p>Background Information: Food Tracking for Children and Youth (p.14)</p> <p>Classroom Sample Activities</p> <ul style="list-style-type: none"> Action Schools BC. healthyschoolsbc.ca/healthy-schools-bc-resources/action-schools-bc-resources/grade-level-7/. <i>Drink Journal</i> Alberta Health Services. School Nutrition Lesson Plans: Grade 7 www.albertahealthservices.ca/nutrition/Page2918.aspx <i>Small Changes Can Make a Big Difference</i>
	<p>Learning to Feed Myself</p> <ul style="list-style-type: none"> Planning a Healthy Menu Cooking Meals 	<p>Background Information: Planning a Healthy Menu (p. 16)</p> <p>Classroom Sample Activities</p> <ul style="list-style-type: none"> Action Schools BC. healthyschoolsbc.ca/healthy-schools-bc-resources/action-schools-bc-resources/grade-level-7/. <i>Healthy Menu Planning Instructional Example; Collect your colours: vegetable and fruit extension activity; Food Customs Activity.</i>

Grade 7 Health Education: Commitment to self

Goal 1: Develop the understanding, skills, and confidences necessary to take action to improve health.

Outcomes	Nutrition Concepts	Resources: Background Information, Sample Activities, etc.
<p>USC 7.5 Evaluate personal food choices and needs by applying accurate and current nutritional knowledge (e.g., content labels).</p>	<p>Marketing to Children and Youth</p>	<p>Nutrition Background Information: Marketing to Children and Youth (p. 20)</p> <p>Classroom Sample Activities</p> <ul style="list-style-type: none"> Action Schools BC. healthyschoolsbc.ca/healthy-schools-bc-resources/action-schools-bc-resources/grade-level-7/. <i>Food and Drink Marketing Journal; Food Marketing Activity.</i> Media Smarts mediasmarts.ca <i>Selling Obesity, Looks Good Enough To Eat, Scientific Detectives, Online Marketing to Kids: Protecting Your Privacy, Online Marketing to Kids: Strategies and Techniques, Scientific Detectives.</i> Ophea. teachingtools.ophea.net/activities/level-up/teen-13-15-years <i>Who Makes Your Food and Drink Choices?</i>
	<p>Reading Food Labels</p>	<p>Nutrition Background Information: Label Reading (p. 22)</p> <p>Classroom Sample Activities</p> <ul style="list-style-type: none"> Government of Canada. www.canada.ca/en/services/health/food-labels.html. <i>Food Labels.</i> Action Schools BC. healthyschoolsbc.ca/healthy-schools-bc-resources/action-schools-bc-resources/grade-level-7/ <i>Count the Cubes.</i>
	<p>Evolution of the Food Guide</p>	<p>Nutrition Background Information: Evolution of the Food Guide (p.24)</p>

Grade 7 Health Education: Commitment to self

Goal 3: Apply decisions that will improve personal health and/or the health of others.

Outcomes	Nutrition Concepts	Resources: Background Information, Sample Activities, etc.
<p>DM 7.8 Examine and demonstrate personal commitment in making health decisions related to food choices</p> <p>AND</p> <p>DM 7.9 Examine health opportunities and challenges to establish personal commitment goal statements related to food choices</p>	<p>Opportunities and Barriers to Healthy Eating</p>	<p>Background Information: Opportunities and Barriers to Healthy Eating (p.28)</p> <p>Classroom Sample Activities</p> <ul style="list-style-type: none"> Alberta Health Services School Nutrition Lesson Plans. www.albertahealthservices.ca/nutrition/Page2918.aspx Grade 7 <i>Choosing Foods, Making Your School a Healthier Place, It's a Family A-Fare, My Eating Pattern Brainstorm.</i> Ophea. teachingtools.ophea.net/activities/level-up/teen-13-15-years. <i>Factors Influencing Food and Drink Choices.</i>
<p>AP 7.10 Design, implement, and evaluate three six day action plans that demonstrate personal commitment to responsible health action related to food choices</p>	<p>Healthy Eating for Children and Youth</p>	<p>Background Information: Healthy Eating for Children and Youth (p. 11)</p> <p>Classroom Sample Activities</p> <ul style="list-style-type: none"> Saskatchewan Health Authority. www.rqhealth.ca/department/health-promotion/nutrition-and-healthy-eating . <i>Unlock the Potential of Food with the New Canada Food Guide - Toolkit for Educators 2019. S.M.A.R.T. Goal Setting with Canada's Food Guide, p.9</i> Ophea. teachingtools.ophea.net/activities/level-up/teen-13-15-years <i>Choosing Healthy Eating and Drinking Options, Healthy Eating Scenarios, and Making Community Connections</i> Bright Bites brightbites.ca/grade-7-lesson-plan-share. <i>Share it.</i>

Grade 7 Physical Education

Physical Education Goal: Active living		
Outcome	Nutrition Concept	Resources: Background Information, Sample Activities, etc.
<p>7.2 Body Composition: Examine personal daily nutritional habits and fluid intake practices that support healthy participation in various types of movement activities and the attainment or maintenance of healthy body weight and body composition.</p>	Food Tracking	<p>Background Information: Food Tracking for Children and Youth (p. 14)</p> <p>Classroom Sample Activities</p> <ul style="list-style-type: none"> Action Schools BS. healthyschoolsbc.ca/healthy-schools-bc-resources/action-schools-bc-resources/grade-level-7/ <i>Drink Journal Activity; Food and Drink Marketing Journal</i> Alberta Health Services School Nutrition Lesson Plans. www.albertahealthservices.ca/nutrition/Page2918.aspx Grade 7 <i>Small Changes Can Make a Big Difference</i> Health Canada Canada's Food Guide food-guide.canada.ca/en
	Weight Bias	<p>Background Information: Weight Bias (p. 31)</p>
	Sports Nutrition	<p>Background Information: Healthy Eating for Active Youth (p. 33)</p> <ul style="list-style-type: none"> Alberta Health Services. www.albertahealthservices.ca/assets/info/nutrition/if-nfs-sports-nutrition-for-youth.pdf. <i>Sports Nutrition for Youth: A Handbook for Coaches</i>
	Sports Nutrition	<ul style="list-style-type: none"> Coach.ca. www.coach.ca/fueling-the-young-athlete-p154684. <i>Fueling the Young Athlete</i> Caring for Kids. www.caringforkids.cps.ca/handouts/nutrition_for_your_young_athlete. <i>Nutrition for your Young Athlete</i>
	Water and Other Beverages	<p>Background Information: Water and Other Beverages (p. 36).</p> <ul style="list-style-type: none"> Dietitians of Canada. www.unlockfood.ca/en/Articles/Child-Toddler-Nutrition/The-Juicy-Story-on-Drinks.aspx <i>The Juicy Story on Drinks</i> <p>Classroom Sample Activities</p> <ul style="list-style-type: none"> Action Schools BC. healthyschoolsbc.ca/healthy-schools-bc-resources/action-schools-bc-resources/grade-level-7/ <i>What's in it for me?</i> Government of Canada. www.healthycanadians.gc.ca/video/boissons-energ-drinks-eng.php. <i>Energy drinks (video of university students)</i>
	Body Composition & Measuring Children in Schools	<p>Background Information: Body Composition and Health Risks in Children and Youth (p.37)</p>

Background Information

Canada's Food Guide – 2019

Canada's Food Guide has provided Canadians with healthy eating recommendations since the 1940's. Over the years, the Food Guide provided guidance around the types and amounts of foods to eat for health. Rather than identifying the specific amounts of foods to consume each day, the healthy eating recommendations for the 2019 version of the Guide provide key messages in choosing healthy foods and eating habits.

Canada's Food Guide Healthy Eating Recommendations

Healthy Food Choices

Make it a habit to eat a variety of healthy foods each day.

- **Eat plenty of vegetables and fruits, whole grain foods and protein foods.** Choose protein foods that come from plants more often. Protein foods include legumes, nuts, seeds, tofu, fortified soy beverage, fish, shellfish, eggs, poultry, lean meat, lower fat milk, lower fat yogurt and cheeses lower in fat and sodium. Choose foods with healthy fats instead of saturated fat.
- **Limit highly processed foods. If you choose these foods, eat them less often and in small amounts.** Prepare meals and snacks using ingredients that have little to no added sodium, sugars or saturated fat. Choose healthier menu options when eating out
- **Make water your drink of choice.** Replace sugary drinks with water. Replacing sugary drinks with water will help reduce the amount of sugars you drink.
- **Use food labels.** Food labels provide information you can use to make informed choices about foods and drinks at the grocery store and at home.
- **Be aware that food marketing can influence your choices.** Food marketing is advertising that promotes the sale of certain food or food products. Many foods and drinks that are marketed can contribute too much sodium, sugars or saturated fat to our eating patterns.

Healthy Eating Habits

Healthy eating is more than the foods you eat. It is also about where, when, why and how you eat.

- **Be mindful of your eating habits,** taking time to eat and noticing when you are hungry and when you are full.
- **Cook more often.** Cooking more often can help you develop healthy eating habits. You can cook more often by planning what you eat and involving others in planning and preparing meals.
- **Enjoy your food.** Enjoying your food is part of healthy eating. Enjoy the taste of your food and the many food-related activities that go along with eating. This includes enjoying culture and food traditions.

- ***Eat meals with others.*** Enjoying healthy foods with family, friends, or neighbours is a great way to enjoy quality time together, share food traditions, across generations and cultures, and explore new healthy foods that you might not normally try.

Several tips, resources and recipes to implement Canada’s Food Guide recommendations into daily habits are available at food-guide.canada.ca/en

References:

1. Government of Canada. Canada’s Dietary Guidelines for Health Professionals and Policy Makers. 2019 Jan [cited 2019 Jul 25]. Available from: food-guide.canada.ca/en/guidelines

Healthy Eating Habits for Children

Eating nutritious meals and snacks helps children meet their daily nutrient needs for healthy growth and development. To help sustain energy, children need to eat small amounts of food on a regular schedule.

Eating Breakfast

It is important to start every day by eating breakfast. Breakfast replenishes energy lost during a night's sleep. Skipping breakfast may result in missed nutrients, and fatigue.

A healthy breakfast includes vegetables or fruit, whole grain and protein foods. Examples of breakfasts include:

- Whole grain cereal, milk, banana
- Whole wheat toast, scrambled egg, orange
- Plain oatmeal, yogurt, berries
- Whole grain bagel, nut butter, apple
- Whole grain tortilla with beans and cheese

Healthy Snacks

Snacks that include vegetables and fruit, whole grains and protein foods help children meet their daily nutrient needs. Healthy snacks include food from Canada's Food Guide. Examples of healthy snacks include:

- fruit with yogurt dip
- sliced vegetables with hummus (chickpea dip)
- whole grain crackers with cheese
- half of a sandwich and milk
- fruit and yogurt smoothie

Sometimes there is confusion regarding snacks. Some foods advertised as “snack foods” are high in fat sugar and salt such as chips, candies, soft drinks, chocolate covered granola bars, cookies, fruit flavoured snacks, and cakes. These are not healthy snacks and should not be served or sold in schools.

References:

1. Government of Canada. Canada's Dietary Guidelines for Health Professionals and Policy Makers. 2019 Jan. [cited 2019 Jul 25]. Available from: food-guide.canada.ca/en/guidelines/

Evaluating Reliable Nutrition Information

The science of food and nutrition seems to be changing all the time, and as a result it is hard to keep up-to-date with new findings. Also, nutrition information is available everywhere, particularly on the internet and social media, so it can be hard to know what to believe.

It is important to understand that a lot of nutrition information is untrue and misleading. Some nutrition information can be based on personal beliefs rather than scientific evidence. Inappropriate conclusions can also be drawn from research studies. This means that the information may not be accurate and may actually be harmful. When selecting resources or sharing nutrition information, consider the following:

1. **Where is the information coming from?** The most credible nutrition expert is a Registered Dietitian (R.D.). Professional organizations (e.g. Dietitians of Canada), government or health agencies (e.g. Health Canada, Public Health Agency of Canada) or non-profit organizations (e.g. Diabetes Canada) are also sources of reliable nutrition information. Sites that end with .edu or .gov are generally reliable.
2. **Is the information Canadian?** Nutrition recommendations in Canada are different from those in the United States and other countries. *Canada's Food Guide* is uniquely designed to address nutrition issues in Canada. Using *Canada's Food Guide* in the classroom reinforces the importance of referring to Canadian recommendations. Avoid using food guides and resources from other countries.
3. **Are they trying to sell something?** Avoid using resources that are trying to sell products such as special foods or supplements instead of teaching how to make better food choices at home, at play, at work or while eating out.
4. **Is it a scientific fact or a personal opinion?** Reliable and accurate nutrition information should be based on research evidence. Make sure the resource has credible references at the end. If there are no references or you are uncertain from where the information comes, it may be based on personal opinion and not facts. Personal stories can be misleading and are not reliable sources of nutrition information. Some websites even have disclaimers or site specifically that they are based on personal opinions and not scientific evidence.
5. **How old are the resources?** Always check the date of the information or resources to make sure it is current.
6. **Does the resource or information recommend avoiding certain foods or food groups from *Canada's Food Guide* (e.g. no bread diets)?** Studies show that we need a variety of foods from all four food groups to meet our nutritional needs. No food has all the nutrients needed and avoiding certain food groups can increase risks of nutritional insufficiencies or deficiencies.

If you are uncertain about the credibility of nutrition information, web links or resources contact a registered dietitian in your area for support.

References:

1. Nutrition Tools for Schools. Evaluating Nutrition information: what should you believe? 2007[cited 2016 Dec 28]. Available from: www.healthunit.org/school/resources/Evaluating%20Nutrition%20Information%20What%20Should%20You%20BelieveLGL.pdf
2. Dietitians of Canada. 2014. Fact Sheet: Credible Information. Retrieved February 27, 2017 from, www.dietitians.ca/Downloads/Public/FACTSHEET-Credible-information-ENG.aspx

Food Tracking for Children and Youth

If food tracking is an assigned activity for students, there are a few suggestions and areas of caution.

All students need to be physically active, eat well, and have positive mental health regardless of their weight, size and shape. It is important to be supportive of all youth by keeping the focus **on** health and wellness and **off** size and shape.

- Food tracking and analysis involves having students record everything they ate or drank for a period of time. Analysis can be completed by looking at the proportion of different foods eaten at each meal and snack compared to the recommendations in Canada's Food Guide (CFG), eat well plate. They can also keep track of when they eat mindfully, enjoy their meals, eat with others, cook their own meals, and are aware of food marketing.
- Because these activities can cause anxiety in some children, it is important to be cautious in how they are assigned and discussed at a classroom level. Because **youth do not need to count calories or develop strict meal plans in their everyday living**, this activity should not be conducted for long periods of time. Focusing on calories and macronutrient distribution can have a negative impact on youth's relationship with food and can even lead to disordered eating.
- **The goal of food tracking should be to help students become more aware of personal eating habits and the factors affect them.** Comparing students' eating habits with those outlined in CFG not only helps to affirm healthy eating behaviours, but also helps to identify how eating habits may be improved. It is important to note that **complete accuracy and perfect eating habits must not be the primary goal of the activity**. By completing the activity with the students, the teacher models how to do the activity accurately.
- **Create a non-judgmental climate when conducting these activities.** Remind students that there is no right or wrong answer, and the goal of the activity is not to portray perfect eating patterns or achieving a certain size, weight or shape. It is important to be supportive of all youth by keeping the focus **on** health and wellness and **off** size and shape.
- **Remind students that food tracking does not reflect *usual* eating habits since they vary from day to day.** Several factors can influence a person's daily intake, such as special occasions, after school activities, how active they are throughout the day, and their genetic make-up. Also, assure the students that it is the **overall patterns of eating** that is important for health and not just individual nutrients or foods. Also make note that eating habits include not only the *types* of food we eat, but also the *social aspects of eating*, such as enjoying meals as a family and with friends. Recent evidence suggests that when families regularly eat together at mealtimes, youth eat better and are healthier (1-8).
- **Be sensitive about the possibility that some families may not be able to provide enough nutritious foods at home.** Also some students may eat **cultural foods that are different than their Canadian**

born peers. Students may feel embarrassed or ashamed to share their food tracking results if their eating patterns are not similar to those reflected in CFG or those of their peers. You may want to assign the food tracking activity on days that the students can participate in a snack or meal program at school or in the community. This will help the students record more healthy food choices on their food tracking activity sheets if they are not getting them at home and reflect a healthier eating pattern. Alternatively you could have students plan out meals for a day and compare to CFG.

References:

1. Gillman MW, Rifas-Shiman SL, Frazier AL, Rockett HRH, Camargo CA, Field AE, et al. Family dinner and diet quality among older children and adolescents. *Arch Fam Med.* 2000;9:235-40. Abstract available from: www.ncbi.nlm.nih.gov/pubmed/107281091
2. Hammons AJ, Fiese BH. Is frequency of shared family meals related to the nutritional health of children and adolescents? *Pediatrics.* 2011;127:6. Abstract available from: www.ncbi.nlm.nih.gov/pubmed/21536618
3. Larson A, Nelson M, Neumark-Sztainer D, Story M, Hannan PJ. Making time for meals: meal structure and associations with dietary intake in young adults. *J Am Diet Assoc.* 2009; 109(1):72-9. Abstract available from: www.ncbi.nlm.nih.gov/pubmed/19103325
4. Larson N, Fulkerson J, Story M, Neumark-Sztainer D: Shared meals among young adults are associated with better diet quality and predicted by family meal patterns during adolescence. *Public Health Nutr.* 2013, 3: 1-11. Abstract available from: www.ncbi.nlm.nih.gov/pmc/articles/PMC3624057
5. Neumark-Sztainer D, Hannan PJ, Story M, Croll J, Perry C. Family meal patterns: associations with sociodemographic characteristics and improved dietary intake among adolescents. *J Am Diet Assoc.* 2003;103:317-22. Abstract available from: www.ncbi.nlm.nih.gov/pubmed/12616252
6. Videon TM, Manning CK. Influences on adolescent eating patterns: the importance of family meals. *J Adolesc Health.* 2003 ;32:365-73. Abstract available from: www.ncbi.nlm.nih.gov/pubmed/12729986
7. Woodruff Atkinson SJ. Family meal influence on dietary quality of grade six, seven and eight from Ontario and Nova Scotia [dissertation]. Waterloo (ON): University of Waterloo; 2007. Abstract available from: uwspace.uwaterloo.ca/bitstream/10012/3046/1/SWoodruff_PhDthesis.pdf
8. Woodruff SJ, Hanning RM. Associations between family dinner frequency and specific food behaviors among grade six, seven and eight students from Ontario and Nova Scotia. *J Adolesc Health.* 2009;44:431-6. Abstract available from: www.ncbi.nlm.nih.gov/pubmed/19380089

Planning a Healthy Menu

Planning meals and snacks for a few days at a time can help to save time and money. With a plan, you will buy fewer food items that you don't need and make fewer trips to the store. Invite students to make a week's worth of dinner menus for themselves or a family of four based on their personal lifestyle choices (e.g. how active they are; level of cooking skills; are there any cultural, biological (allergies or diabetes) or other (vegetarian) food restrictions or preferences; etc.)

Below are suggested menu planning steps that you could review with your students.

Follow these steps to make a menu:

1. Prepare your workspace.

- Gather favourite recipes and search new meal ideas they would like to try. Talk about incorporating leftovers on a night or two but remind them that they will need to plan for extra servings to make sure there is enough for more meals.
- Get a copy of the Canada's Food Guide (CFG) snapshot and look through recommendations online. Each meal should include about half your plate vegetables and/or fruit, a quarter filled with protein foods, choosing plant-based more often, and a quarter whole grains.

2. Fill in the menu.

- Choose the main family meal first. Sitting down and eating together as a family is really important for youth. It provides an opportunity to share experiences from the day and also helps to ensure a variety of foods are available and enjoyed. Planning main family meals first will help to make sure these meals occurs. Keep food from Canada's Food Guide in mind when planning meals and snacks. A good rule of thumb is to have about half your plate vegetables and fruit, a quarter whole grains, and a quarter protein foods at each meal. Choose foods from the food guide for snacks. When making a menu, it is important to include favourite meals *and* try out new recipes and foods.
- Fill in breakfast and lunch. Often students are surrounded by food choices in their school and other places they have activities and live. Planning which meals will be eaten away from home, and keeping nutrition in mind, helps students make sure they choose a balanced meal and have extra food from home to supplement what is purchased. For example, if there is a canteen at school, students could plan to have lunch from the canteen knowing what is usually available, and then packing extra vegetables or fruit if this isn't available at school.

3. Review the menu and think about the following things:

- Spice it up with variety. Encourage students to use a variety of ingredients, flavours, colours and textures. This will make meals more interesting and appealing. Combine old favourite foods with a few new dishes.
- What is going on in the week? Suggest students think about their families' schedules. A busy week filled with activities could mean planning fast and easy meals rather than food that will take longer to prepare.

4. Estimate the amount of food needed.

- Estimate the amount of food to buy and make. Students need to think about the number of people who will be eating and how much they may eat.

5. Make the grocery list

- Looking over the menu, students should think about what food they may already have on hand in order to decide what they will need to buy.
- Flip through grocery store flyers to take advantage of specials and use coupons to save money. For a homework project, you could have them compare the list to their pantry at home, then go to the store with a parent to price all the items they'd have to buy to make their menu.
- Consider giving your students a budget to work with so that they need to consider the cost of the meals they have developed.

For more recipe and menu ideas check out Eat Right Ontario (www.unlockfood.ca), Dietitians of Canada (www.dietitians.ca) or download the Cookspiration mobile app from www.cookspiration.com.

Activity Idea:

Have students plan a healthy menu for a concession at a school dance or event.

Healthy Menu Template

Remember to try to: eat with others, eat mindfully, enjoy your food, and cook more often

	Monday	Tuesday	Wednesday
Breakfast ✓ Vegetables and fruit ✓ Whole Grains ✓ Protein foods			
Lunch ✓ Vegetables and fruit ✓ Protein foods ✓ Whole Grains			
Afternoon snack ✓ Foods from Canada's Food Guide			
Supper ✓ Vegetables and fruit ✓ Whole Grains ✓ Protein foods			
Evening Snack ✓ Foods from Canada's Food Guide			

Taking Action on Healthy Eating

As part of the Saskatchewan Health Education curricula, students are to make decisions to enhance their personal health. Try to gear the focus on positive healthy eating actions such as choosing to drink water or trying a new vegetable rather than restrictive actions like avoiding candy or soft drinks. Focusing on the positive aspect of eating to help maintain or develop a good association with healthy foods.

Have students brainstorm specific ideas to improve their eating habits. Below are a few examples:

- eat vegetables or fruit at meals or try at least one new vegetable a week
- try a few whole grains like brown rice or whole grain bread
- choose to eat breakfast at least 3 times a week
- drink water at each meal

Often children's access to food is dependent on their parents or caregivers. Some students will struggle to make changes to their eating habits based on what type of foods are available to them. Having access to healthy food at school can assist students in taking action on healthy eating. Here are a few ideas to help keep the school and classroom inclusive to all students:

- Have free drinking water available in the school
- Consider keeping a fruit basket in the school office or library for students who do not have access to these foods
- Offer white milk at no or low cost at school
- Approach organizations and businesses for financial donations to offset the cost of emergency foods in the school.
- Highlight a vegetable or fruit in the classroom each month – provide small taste tests and encourage children to try something new.

Marketing to Children and Youth

Children and youth are a vulnerable target audience for food marketing companies since children can influence parental spending decisions, have their own spending power, and are future adult consumers. It is important for young people to learn how they are targeted by these companies to help them become more aware of and resistant to the influence of marketing.

Food advertising and other forms of marketing have been shown to influence young people's taste preferences, purchasing behaviour, and eating habits. The majority of food marketing promotes products that are high in sugar, fat, and sodium (1). Food marketing has been linked to an increase in children being overweight, which can increase the risk for diabetes and other chronic diseases (2).

It is also important to note that elementary school age children do not have the ability to make rational and healthy decisions about the type of food to select. Adults need to provide them with healthy choices to support them in food selection. Often foods found in vending machines and canteens, or those used in classroom celebrations or as rewards are "easy to like foods" such as candy, chocolate, sweets and chips. These foods interfere with children's interest in trying other foods, and can spoil their appetites for the next meal. Limit access to these foods to support children's ability to eat well.

Types of Food Marketing

Mobile Devices (3)

Mobile devices, such as cell phones and tablets, have become popular for children of all ages. As children get older, their use of these devices increases. Many food marketing companies are reaching youth through text messages, emails, social media and mobile apps. For example, many sugary drink companies and fast food restaurants have developed creative and engaging mobile apps geared to youth. The apps include games, as well as ways to access promotions, and to pay for purchases using cell phones. Due to their presence on social media and creation of mobile apps, food companies are able to interact with young people wherever they are.

Food Marketing through Social Media (4)

Food companies have dramatically increased marketing to children and youth through usage of social media platforms such as social network pages (e.g. Facebook, Twitter) and video sharing websites (e.g. YouTube). This is not surprising since social networking sites are very popular with young people. Because youth are susceptible to peer influences and are willing to interact with food companies through social media, food marketers engage them through short term trending promotions. Youth are encouraged to repeatedly return to the site and share the marketing messages with their friends. Food companies' social network pages contain polls, contests, photos and videos to enhance youth engagement with their brands. Youth are encouraged to register with companies through email to receive "exclusive deals," which enable the food marketing companies to engage with youth outside of the social platforms. These strategies influence brand loyalty and ultimately lifelong purchases.

Food Marketing in Schools (5)

School based food marketing involves a presence of brand names, logos and trademarks around the school. Examples of food marketing in schools include:

- Posters and signs
- Websites and apps promoted for educational purposes but feature food advertisements
- Vending machines, food or beverage containers, food display racks and coolers
- Advertisements in school publications including yearbooks, websites, newsletters, electronic signs, score boards, sports equipment and jerseys, and on school computer monitors and screens
- Fundraisers that encourage students, families and communities to sell or purchase food products
- Free samples, taste tests or coupons

Call to Action (6)

Reversing the trend of marketing unhealthy food to children will require initiatives at all levels. It is imperative that youth are aware of how food manufacturers use marketing to influence their taste preferences, purchasing behaviour, and eating habits. School communities can help to limit the amount of marketing that reaches youth by considering the following initiatives:

- Use non-food rewards for positive behaviour in the classroom or during school events
- Offer healthy food options in the school rather than low nutrient foods and candy
- Refuse to allow companies to market within the school by displaying logos, brand names or characters on posters, signs, sports equipment or vending machines
- Decline “fast food” coupons for student prizes or incentives
- Advocate for businesses close to the school to stop marketing unhealthy food to children

For more information www.uconnruddcenter.org and www.foodmarketing.org

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Label Reading

Food labels found on packaged foods include the Nutrition Facts table and ingredient list.

Nutrition Facts table

The Nutrition Facts table makes it easier to answer questions about the foods we buy. It includes information on the amount of calories and 13 core nutrients based on the listed serving size. It also includes the Percent Daily Value (%DV) to help compare the nutrient content of different food products.

The Nutrition Facts table can help people to:

- Learn about a food's nutritional value (calories and nutrients).
- See if a food contains a little (5% DV or less) or a lot (15% DV or more) of a nutrient.
- [Compare two products](#) to make better food choices.
- Better manage special diets (for example, a low-sodium diet).
- Eat more or less of a nutrient.

NEW	
Nutrition Facts Valeur nutritive	
Per 1 cup (250 mL) pour 1 tasse (250 mL)	
Calories 110	% Daily Value* % valeur quotidienne*
Fat / Lipides 0 g	0 %
Saturated / saturés 0 g + Trans / trans 0 g	0 %
Carbohydrate / Glucides 26 g	
Fibre / Fibres 0 g	0 %
Sugars / Sucres 22 g	22 %
Protein / Protéines 2 g	
Cholesterol / Cholestérol 0 mg	
Sodium 0 mg	0 %
Potassium 450 mg	10 %
Calcium 30 mg	2 %
Iron / Fer 0 mg	0 %

*5% or less is a little, 15% or more is a lot
*5% ou moins c'est peu, 15% ou plus c'est beaucoup

The Nutrition Facts Tables have recently been updated, the picture above shows some of these changes.

Serving Size

All of the nutrition information in the [Nutrition Facts table](#) is based on a specific amount of food called a “serving size.” The serving size is listed at the top of the Nutrition Facts table. The serving size is not necessarily a suggested portion of food to eat. It is a reference amount for the calories and nutrients on the Nutrition Facts table. It is important to compare the serving size at the top of the Nutrition Facts table to the amount usually eaten. For example, if the amount usually eaten is twice the amount of the suggested serving size, it is necessary to double the values for calories and the nutrients to estimate the nutrients consumed.

Percent Daily Value (% DV)

The % Daily Values (%DV) section of the Nutrition Facts table provides a quick overview of nutrients in the food. It can be used to compare the nutrient content between two or more foods.

If a food provides close to 5% DV of a specific nutrient it is considered to contain “a little” of the nutrient. If a food provides about 15% or more of a nutrient it is considered to contain “a lot” of the nutrient.



When comparing foods, choose the one with more calcium, iron, vitamins and fibre. Choose the food with less fat, saturated fat and sodium.

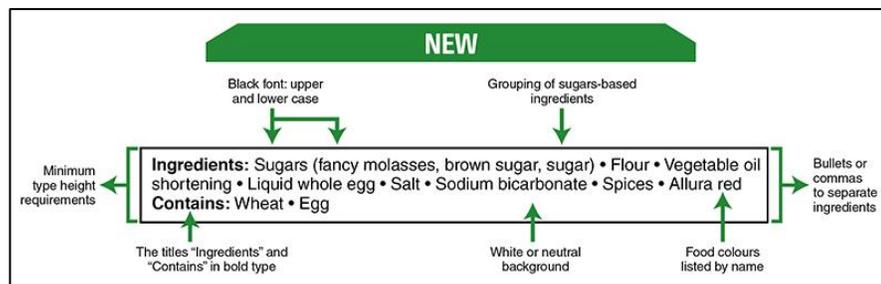
Ingredient list:

The ingredient list shows all the ingredients in a packaged food.

Ingredients are listed in order of weight, beginning with the ingredient that weighs the most and ending with the ingredient that weighs the least. This means that a food

contains *more* of the ingredients found at the beginning of the list, and *less* of the ingredients at the end of the list.

Reading the ingredient list can help people to check if a food product has a certain ingredient and to avoid specific food ingredients in the case of a food allergy or intolerance.



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Evolution of the Food Guide

In the Beginning (1, 2)

Ever since the 1940's a food guide has existed in Canada to direct Canadians toward healthy food choices and promote their nutritional health.

- In 1942, Canada's first food guide called 'Canada's Official Food Rules' was introduced. At that time, it focused on rationing and preventing nutrition deficiencies during World War II. Over time, it became a tool to teach Canadians about balancing their overall food choices to attain their required nutrients. The guide started out giving many direct rules but later on, recommendations became guidelines to follow.
- Along with name changes, the number of food groups evolved from 5 to 4 in the 1977 version because vegetables and fruit offer similar nutrients so they were combined to form one group, and then in 2019 they moved away from the 4 food groups and now categorize them in groupings on a plate as vegetables and fruit, protein foods and whole grains.
- The 1982 version was the start of educating the public about making food choices to decrease risk of chronic disease rather than merely prevent nutrient deficiencies. It included the concept of moderation.
- The 1992 version included stakeholder input, using feedback from experts, consumers, literature reviews, food consumption surveys, consumer research, and scientific reviews. Consultation was an integral part of the process. The guide changed from a circle to a rainbow in the 2007 version to show the higher recommended number of servings from the grain products and vegetable and fruit food groups than meat and alternatives and milk and alternatives.
- Experts' input to the guide's messages became increasingly important. In 2007, the input process into developing the Food Guide is very structured and involves many practitioners with various backgrounds, such as experts in nutrition, anaphylaxis, agriculture, food and consumer associations, environmental health, food science, and food industry representatives. In 2019.....[need to add updated info here]
- In 2016, as part of their Healthy Eating Strategy, Health Canada started to revise their nutrition recommendations and food guide, and the updated online suite of resources was officially released in January of 2019 (for more see: www.canada.ca/en/health-canada/services/canada-food-guides/revision-process.html).
- In 2019 Health Canada dropped the four food groups and serving sizes and recommended that Canadians eat plenty of vegetables and fruit, whole grain foods and protein foods. The Canada's Food Guide Snapshot demonstrated the portions of foods to eat.
- The newly updated 2019 Food Guide provides Canadians information and advice on making healthy food choices, as well as brings attention to the many factors that influence what and how we eat

and drink. It is no longer a one-size-fits-all print document, but is now a mobile-responsive web application with new resources that provide Canadians, policy-makers and health professionals with information and up-to-date advice on eating well. This time around the food guide was free of industry influence.

- The food guide is important to help impact policy, the food environment, food culture and what is taught to children and schools and others in the community.

The Controversy (2, 3)

- The 2007 version was controversial as the food industry was an integral part of the Food Guide Advisory Committee. Dairy, vegetable oil and consumer product manufacturers (including Pepsi-Co, Frito-Lay and Coca-Cola) were represented in the consultation process. Some feel their involvement may have swayed some of the recommendations on the guide.
- Controversy with the 2019 version of the Food Guide came from food producers and marketing boards indicating that their products were underrepresented (e.g. milk and meat not being as visible or heavily promoted).

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Canada's Food Guides Over the Years . . .

1942

CANADA'S OFFICIAL FOOD RULES
These are the Health-Promoting Foods
 Be sure you eat them every day in at least these amounts.
 (Use more if you can)

MILK—Adults—1 pint. Children—more than 1 pint. And some CHEESE, as available.

FRUITS—One serving of tomatoes daily, or of a citrus fruit, or of tomato or citrus fruit juices, and one serving of other fruits, fresh, canned or dried.

VEGETABLES (In addition to potatoes of which you need one serving daily)—Two servings daily of vegetables, preferably leafy green, or yellow, and frequently raw.

CEREALS AND BREAD—One serving of a whole-grain cereal and 4 to 6 slices of Canada Approved Bread, brown or white.

MEAT, FISH, etc.—One serving a day of meat, fish, or meat substitutes. Liver, heart or kidney once a week.

EGGS—At least 3 or 4 eggs weekly.

Eat these foods first, then add these and other foods you wish.

Some source of Vitamin D such as fish liver oils, is essential for children, and may be advisable for adults.

1961

How this Food Guide helps you in planning your grocery shopping and daily meals.

Canada's food guide
 These foods are good to eat. Eat them every day for health. Use these amounts each day.

Milk—Children take about 1 quart (250 ml) daily. Adults 1 1/2 quarts (375 ml) daily. Use whole milk or 2% milk. Use low-fat milk if you are overweight or have high cholesterol. Use skim milk if you are trying to lose weight.

Fruit—Two servings of fruit or juice, including a sugarcane fruit or citrus fruit, or tomato, such as orange, banana, and other seasonal fruits.

Vegetables—One serving of potatoes. Two servings of other vegetables, preferably yellow or green and other raw.

Bread and cereal—Bread, whole wheat or fortified wheatmeal, one serving a whole grain whole.

Meat and fish—One serving of meat, fish or poultry. For low cholesterol diets, choose whole beans or other meats and chicken or turkey. Use egg and pieces of food that have a weak taste.

Vitamin D—It has all International Units daily for all growing persons and expectant and nursing mothers.

Other—Eat a variety of foods from each group every day. Use more if you can. Use low-fat milk if you are overweight or have high cholesterol. Use skim milk if you are trying to lose weight.

1992

Canada's Food Guide
 TO HEALTHY EATING
 THE HEALTHY EATING GUIDE

Make it a goal to choose from each group every day.

Choose from the foods shown.

Milk Products
 Choose from any group, including low-fat milk, whole milk, and cheese.

Vegetables and Fruit
 Choose from any group, including leafy green, orange, yellow, and other vegetables, and fruit.

Bread and Cereals
 Choose from any group, including whole grain, whole wheat, and other breads, and cereals.

Meat and Alternatives
 Choose from any group, including meat, fish, poultry, and other meats, and alternatives.

1944

I. CANADA'S FOOD RULES
 Approved by the Canadian Council on Nutrition
THESE ARE THE FOODS FOR HEALTH. EAT THEM EVERY DAY. DRINK PLENTY OF WATER.

- Milk**—Adults, 1 to 1 1/2 pints. Children, 1 1/2 pints to 1 quart.
- Fruit**—One serving of citrus fruit or tomatoes or their juices; and one serving of other fruit.
- Vegetables**—At least one serving of potatoes; at least two servings of other vegetables, preferably leafy green or yellow, and frequently raw.
- Cereals and Bread**—One serving of a whole-grain cereal and at least four slices of Canada Approved Vitamin B bread (whole wheat, brown or white) with butter.
- Meat and Fish**—One serving of meat, fish, poultry or meat alternatives such as beans, peas, nuts, eggs or cheese. Also use eggs and cheese at least three times a week each, and liver frequently.

3 Ask these all, as a source of vitamin D, should be given to children and expectant women, and may be advisable for other adults.
Indicated milk is recommended.

1977

Canada's Food Guide
Eat a variety of foods from each group every day

milk and milk products 2-3 servings

meat, fish, poultry and alternatives 2 servings

fruits and vegetables 4-5 servings

bread and cereals 3-5 servings

2007

Eating Well with Canada's Food Guide

The health and energy you get from eating well.

Canada

1949

Canada's FOOD RULES
 These foods are good to eat. Eat them every day for health. Use at least these amounts each day.

Milk
 Children 1 1/2 pints (375 ml) daily. Adults 1 1/2 to 2 pints (375 to 500 ml) daily. Use whole milk or 2% milk. Use low-fat milk if you are overweight or have high cholesterol. Use skim milk if you are trying to lose weight.

Fruit
 One serving of citrus fruit or tomatoes or their juices; and one serving of other fruit.

Vegetables
 At least one serving of potatoes; at least two servings of other vegetables, preferably leafy green or yellow, and frequently raw.

Cereals and Bread
 One serving of whole grain cereal and at least four slices of bread (1/2 slice each) or fortified wheatmeal.

Meat and Fish
 One serving of meat, fish, poultry or meat alternatives such as beans, peas, nuts, eggs and cheese. Also use eggs and cheese at least three times a week each, and liver frequently.

VITAMIN D—It has all International Units daily for all growing persons and expectant and nursing mothers.

1982

Canada's Food Guide
Eat a variety of foods from each group every day

milk and milk products 2-3 servings

meat, fish, poultry and alternatives 2 servings

fruits and vegetables 4-5 servings

bread and cereals 3-5 servings

2019

Canada's food guide
Eat well. Live well.
 Eat a variety of healthy foods each day

Have plenty of vegetables and fruits

Choose whole grain foods

Healthy eating is more than the foods you eat

Discover your food guide at Canada.ca/FoodGuide

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Opportunities and Barriers to Healthy Eating

*Food = food and drinks

At a first glance, what determines youths' eating behaviour appears to be purely a matter of personal choice, but research shows there are so many other factors that come into play (10). These factors can include: what is available to them at school and in their community, income and the cost of food, what foods and diets have been most heavily marketed to them, cultural food norms, pressures to be a certain body size, busy schedules and convenience, and so much more (10).

When healthy food options are more available, affordable, accessible, and culturally appropriate, youth will be more likely to choose them. When youth have few healthy food options, are the targets for unhealthy food marketing, and are regularly offered unhealthy options, they often end up choosing those which are high in sugar, salt, and unhealthy fat.

Personal Factors

- **Hunger and Fullness** - We are born with the ability to feel hunger and fullness; however, many things can interfere with this as we age, such as: irregular meal patterns, adults' expectation for youth to eat a certain amount of food, and rewarding youth with food (e.g. candy for getting a question right, etc.).
- **Food Preferences** – We are born with innate preferences for sweet and aversions for bitter taste (10). There are also social and cultural norms that help to shape our food preferences, including what we learn from family, friends, and our culture. The foods that taste the best to, are most readily available, comfort us, and are most heavily marketed, often become what we like best.
- **Emotions** - Over eating, under eating or eating different foods can happen in response to different emotions. The association between emotion and food is normal, but it can be problematic if it becomes the usual way to deal with emotions.
- **Nutritional Knowledge and Perceptions of Healthy Eating** – Perceptions about healthy eating are shaped by our social surroundings and can change over time. Youth are often able to show a general understanding of the connections between food choice and health, however, in these age groups, knowledge often does not influence food choice as much as other factors (5).
- **Self-esteem and Body Image** - Media images of unrealistic body sizes and shapes, along with comments from family, friends, and role models about weight and dieting can influence youths' body image and self-esteem. This in turn can increase the risk of unhealthy dieting behaviours. Talking about healthy eating and physical activity for health benefits without focusing on weight, size and shape can promote a positive body image in children and youth. See [Weight Bias](#) on page 31 for more.

Factors at Home

Influences on eating habits at home can include whether families have:

- **enough income** to be able to afford to buy enough acceptable, culturally appropriate and nutritious foods. The most important barrier to healthy eating is inadequate income (11).
- **access** to healthy foods in the community or transportation to get it somewhere else. Neighbourhoods where there is limited access to affordable nutritious food but easy access to unhealthy food make it difficult for families to purchase healthy food.
- **food skills** such as grocery shopping, being able to plan and prepare healthy and tasty meals, gardening and preserving.
- **enough time** to grocery shop, plan, and prepare a meal with busy work schedules, extracurricular activities and responsibilities.
- **proper kitchen equipment**, such as a stove and refrigerator, to prepare and store healthy foods.
- **regular family meals**. Youth who participate in family meals on a regular basis tend to eat better than those who do not.
- **cultural eating practices**. Culture can influence what foods are selected, how they are prepared and served, and how and when foods are eaten. Traditional food practices are often associated with healthier eating, more affordability and a passing on of cultural knowledge.
- **multiple stressors** such as difficulty paying rent, finding a place to live, finding employment, or caring for ill family members often take priority over healthy eating.
- **specific beliefs** such as vegetarianism, religious beliefs, or beliefs around what healthy eating is can all impact the types of foods that are consumed in the household.

Factors outside the Home

Schools, community and surrounding area - When healthy foods are more accessible, more affordable and better advertised in and around the school, this makes it more likely youth will eat them (4). When students have greater access to unhealthy foods, such as fast-food restaurants and convenience stores nearby or highly processed foods served and sold right in the school, this makes it harder for them to make healthy choices.

It is also important for adults not to criticize or judge youth based on the types or amounts of food they consume, as this can actually lead to poorer eating habits, not better (5, 6, 7).

Involvement in different types of physical activities - Participation in sports and other physical activities can influence youths' eating habits. As they learn about the role of healthy eating and exercise, youth

may choose healthier food options (if they are available). In addition, sports such as wrestling, football, gymnastics and dance, in which body size plays a role, also impact youths' eating habits.

Recreation facilities provide a space for physical activity, but unhealthy food choices are often readily available (8). Also, many unhealthy foods such as energy drinks, soft drinks and fast food are marketed by professional athletes or promoted by some coaches, and can influence youth eating habits.

Public Policy – policies at the local, regional and national level can have a significant impact on our collective food choices and this can act as determinants of healthy eating. Effective policies can help ensure our environments can produce enough food to eat, can guide Canadians towards healthier food choices without thinking much about it, and can help ensure people can afford the foods they need (10).

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Weight Bias

Weight bias refers to negative attitudes towards people due to their weight. These negative attitudes result in stereotypes, prejudice and unfair treatment towards these people. Weight bias can be expressed in multiple forms, such as name-calling, teasing, physical aggression, cyber bullying, rumors, and social exclusion (1, 2, 4, 5, 7, 8). Not only can this be embarrassing for a child or youth, it can also have serious consequences on their physical, social and psychological health (4, 5, 8). Weight bias towards children and youth most often occurs at school and at home (5, 8).

Why does weight bias happen?

Weight bias occurs because we live in a culture where there is a perception that being thin is desirable (but not *too* thin, because these people may be stigmatized as well) (1). Our culture also tends to believe that people are responsible for their life situation and “get what they deserve”. Despite research suggesting that body weight is determined by a complex interaction of genetic, biological and environmental factors, most people believe that weight gain or loss is under personal control (2,3).

We are exposed to misleading messages about weight from various means such as television, movies, books, magazines, social media and websites. A consequence of these messages is that it is thought to be socially acceptable to judge people’s characters, personalities and behaviours based on weight. When family members, friends, and education professionals reinforce these false messages, individuals are stigmatized (1).

How does weight bias affect students?

Students who experience teasing or discrimination because of their weight can have low self-esteem, poor body image, and are more likely to experience symptoms of depression and anxiety (1, 5, 8). These students are also more socially isolated, less likely to be chosen as friends, and more likely to engage in suicidal thoughts and behaviours (5, 8). Children and youth who experience weight biases are more likely to try unhealthy weight control measures, binge eat, and avoid physical activities (4, 5, 8). Research shows that children and youth who have been victimized because of their weight report missing more days of school, and experiencing lower expectations by their teachers, which can result in poorer academic performance (4, 6, 7, 8).

Taking Action

All people deserve safety, respect, and acceptance in their community and classroom. Just as we should not tolerate racial or gender bias toward others, we should not tolerate weight bias (1). If you witness weight bias occurring in your school, intervene right away. To learn how to address weight bias within your classroom and school, refer to the resources found at uconnruddcenter.org/weight-bias-stigma-schools-and-educators

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Healthy Eating for Active Youth

Proper nutrition is important for all people, but is crucial for the health of youth who are still growing, developing, and using a lot of energy in their activities. It is important for youth to learn which foods provide energy for the physical activities they do (1).

Nutrients and fluids to fuel our bodies

It is important to eat healthy foods on a regular basis. Eating specific foods when doing physical activity can help with growth and performance.

Carbohydrates, proteins, fats, vitamins, minerals and water all provide important nutrition to help fuel our bodies for physical activities and normal body functioning. Since active youth are also still growing, it is crucial to provide high quality food choices. This means choosing wholesome rather than processed foods to provide sufficient vitamins, minerals and macronutrients.

- **Carbohydrates:** Carbohydrates are the most important fuel source for active individuals. These nutrients break down to glucose, which is used as energy by the body. Glucose is stored in the muscles as glycogen. Muscle glycogen is the most readily available energy source for working muscle and can be released more quickly than other energy sources. Carbohydrates are also the main fuel source for the brain. Good sources of carbohydrates include whole grain bread, pasta, cereal, and crackers.
- **Proteins:** Proteins have a variety of roles in the body, including building, repairing and maintaining muscle. Protein breaks down into amino acids, which are the building blocks for other proteins. Many amino acids can be made by the body, while some are considered essential, meaning we can only get them from food. Active youth need a little more protein than sedentary youth (about 1½–2 times that of sedentary individuals), but they can easily get that protein from food alone. Good sources of protein include eggs, nuts and nut butters, legumes (such as chickpeas, beans and lentils), fish, beef, chicken, and pork.
- **Fats, Vitamins, and Minerals:**
 - **Fats** provide energy for sustained physical activity as well as protection around vital organs.
 - **Vitamins and minerals** support all of the processes our bodies do to break down food for energy and building block materials (2).
 - **Iron** is important for carrying oxygen through the blood to all cells in the body. Iron requirements are higher during periods of rapid growth such as adolescence as well as during regular intense exercise, making it an important mineral for active youth (3).
- **Fluids and water:** Fluids help to regulate body temperature and replace sweat losses during physical activity. It is important for youth to stay hydrated for better mental and physical performance in the activities they do.

- **Water** helps carry nutrients around in the body, get rid of wastes, regulate body temperature, and stay hydrated. Plain, cool water is usually all youth need for activities lasting one hour or less. Youth should consume plenty of plain, cool water before, during and after physical activities. Additional fluid is needed in warmer conditions.
- **Sports Drinks:** The key ingredients in most sports drinks are water, sugar, and electrolytes (sodium and potassium). Most youth who participate in physical activity and sport do not need the extra sugar and electrolytes provided by these beverages. Although these beverages are marketed and sold to the general public as part of a healthy lifestyle, they are only useful in very specific circumstances such as if the activity is vigorous for longer than one hour, is intense, or if the activity is a prolonged competitive game that requires repeated intermittent activity (2, 4). In most cases, water is the best choice.
- **Energy drinks:** Energy drinks are NOT the same as sports drinks. Energy drinks can actually decrease sports performance because they contain large amounts of sugar, caffeine and carbonation, which can cause an upset stomach during activity and dehydration. These drinks are not recommended for children, pregnant women and those sensitive to caffeine (5).

Supplements

- **Creatine:** Creatine supplements should not be used by anyone under age 18 (2).
- **Protein Supplements:** Protein supplements should not be used by youth; they can displace high quality food choices and may be high in sugar, salt, or low in other nutrients or fibre. There is also not enough research on their use with youth to know their safety or helpfulness.

What to Eat and Drink Before, During and after Physical Activity

- **Before Activity:** It is important to eat enough food before activity to fuel muscles and the brain for good mental and physical performance. High carbohydrate foods digest quickly and should be the main source of fuel within 2-3 hours before activity, with a medium amount of protein. High fat and/or fibre foods should be limited right before activity as they take longer to digest and can cause gas or upset stomachs during activity (1). Examples of high quality pre-activity choices include oatmeal, low fat yogurt and fruit, pasta with tomato sauce, or an egg and toast.
- **During Activity:** Plain cool water is usually all that is needed for activities lasting one hour or less. For vigorous activity lasting longer than one hour, or activity in hot temperatures, 100% juice or a store-bought or homemade sport drink may be beneficial.
- **After Activity:** Youth should drink plenty of water after activity. Recovery foods are those that are eaten right after activity. A mixture of carbohydrate and protein within 30 minutes of the activity has been shown to be the best kind of recovery food to replenish energy stores and

repair lean tissue (muscle) (1). Examples of high quality recover foods include fruit and yogurt smoothies, cottage cheese and crackers, homemade whole grain muffins or milk.

NOTE: Youth **do NOT need to count calories or follow strict meal plans** to meet their physical activity needs. It is more important that they understand the general types of foods that can be included in their meals and snacks before during and after physical activity to help them feel good and perform their best. Focusing too strictly on portion sizes and macronutrient distribution can have a negative impact on youth's relationship with food and can even lead to disordered eating.

Making the healthy choice the easy choice

Since carbohydrates are the main fuel for activity, it is important for young athletes to eat a high carbohydrate diet along with enough protein to build and repair body tissues as well as support their growth (6). Young athletes need frequent healthy meals and snacks to ensure energy requirements can be sustained (6).

To help support active youth to make healthy food and beverage choices before, during and after activity, it is important to have healthy options available in recreation facilities, at tournaments, and at sporting events. Watch this short video to find out more:

www.youtube.com/watch?v=3ENmGpUKH0M.

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Water and Other Beverages

Importance of water to health

Water is the largest part of the human body and is vital for life (1). Water is a structural component to all cells and is essential to all bodily fluids. Water transports nutrients and removes wastes from the body.

Our bodies naturally lose water throughout the day through breathing, urine, bowel movements and sweat. Water losses increase in hot environments, during physical activity and during illness. Fluids need to be replaced for the body to function well and prevent dehydration. Some symptoms of dehydration include thirst, fatigue, weakness, headache, irritability, and dizziness.

Canada's Food Guide recommends water as the beverage of choice to support health and hydration without adding calories or sugar found in other beverages.

Other beverages

Sugary drinks, including 100% juice, are associated with dental cavities in children. Sugar sweetened beverages and foods have been associated with weight gain and type 2 diabetes. To help reduce the intake of sugar, it is important to limit or avoid sugary drinks (1). Sugary drinks include 100% unsweetened fruit juice, chocolate or flavoured milk, sports and energy drinks and sweetened flavoured or vitamin waters.

Energy Drinks

Energy drinks claim to give extra energy, improve concentration and enhance performance. These claims are not proven and in fact, there is more proof that they can be harmful. Caffeine is one of the main ingredients of energy drinks. One beverage will likely have more caffeine than what a child will or teen should have in a day. Caffeine can cause trouble sleeping, increased heart rate, restlessness, irritability, nervousness and headache.

Energy drinks also contain sugar, herbs, B vitamins, amino acids, and flavourings. There is no proof that these added ingredients will provide any benefits.

Energy drinks are NOT the same as sports drinks. Energy drinks can actually decrease sports performance because they contain large amounts of sugar and carbonation, which can cause an upset stomach during activity and dehydration.

Energy Drinks are not recommended for children or teens. The amount of caffeine they contain is often higher than the limit for children and youth.

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Body Composition and Health Risks in Children and Youth

Weighing and measuring students in schools

Measuring children and youth within the school setting can be more harmful than beneficial. Children and youth are often teased about their size and shape. Measuring weight or body composition at school can increase the amount of teasing children may already be receiving. Regardless of their size or shape, children and youth may be pressured to try harmful diets. Body composition can influence health but research has shown that shaming people for their size does not improve their health (1).

All students need to be physically active, eat well, and have positive mental health regardless of their size and shape. It is important to be supportive of all children and youth by keeping the focus **on** health and wellness and **off** size and shape.

There are a number of measures that can be used to estimate body composition in relation to health risks.

BMI for Age

BMI (Body Mass Index) for Age is the recommended way for health care providers to assess growth and estimate body composition in children. Research has linked childhood BMI to health quality in adulthood (2). The calculation below is used to determine BMI.

$$\text{BMI} = \frac{\text{weight in kilograms}}{\text{height in metres}^2}$$

BMI for children and youth **MUST** be interpreted differently than BMI for adults. Because children and youth are growing and developing, their body composition changes frequently. As a result, **BMI for children and youth MUST be interpreted by using the appropriate BMI for Age charts and NOT adult BMI charts.** When health care providers assess growth, several measurements over a period of time are used instead of one measurement at one point in time.

Skin fold thickness measurements

Skin fold thickness measurements are not recommended for use in schools and fitness facilities. There is a **high potential for error** due to the difficulty in obtaining accurate measurements. Most importantly, skin fold calipers measure subcutaneous fat (fat that is found under the skin). Subcutaneous fat, although still part of overall weight, is not the most concerning fat for health. Visceral fat (fat stored in the abdomen), found close to internal organs, is the type of fat that is associated with health risks and often cannot be measured using skin fold measurements (3).

Regardless of the technique used, body composition should only be measured and used by a trained healthcare provider as part of a total health assessment to accurately evaluate disease risk.

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