

Teaching Nutrition in Saskatchewan: Health and Physical Education Grade 6 Nutrition Concepts and Resources



The purpose of *Teaching Nutrition in Saskatchewan: Health and Physical Education Nutrition Concepts and Resources* is to provide credible Canadian based nutrition information and resources for the learning community. The document was developed using the Saskatchewan Health and Physical Education curricula.

The **Nutrition Concepts and Resources** section, found on pages 3-7 in this resource, identifies nutrition concepts and resources relating to grade-specific provincial health and physical education curriculum 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 8-22, provides educators with current and reliable Canadian nutrition information. Several content based information sheets are included in this section.

The Public Health Nutritionists of Saskatchewan work together to promote, support and protect the nutritional health of people living in Saskatchewan. To reach a public health nutritionist in your area, contact your local health region.

NOTE: 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.

For more information contact:

Audrey Boyer, RD
Public Health Nutritionist
Population Health Unit Northern Saskatchewan
AHA, KYRHR, MCRHR
Box 1920 La Ronge, SK S0J 1L0
(306) 425-8578
audrey.boyer@pophealthnorthsask.ca

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This resource was developed by the School Age Committee of the Public Health Nutritionists of Saskatchewan.

Chelsea Brown, R.D.
Regina Qu'Appelle Health Region

Cathy Knox, R.D.
Cypress Health Region

Barb Wright, R.D.
Sun Country Health Region

Cassandra Touet, R.D.
Chelsea Belt, R.D.
Saskatoon Health Region

Audrey Boyer, R.D.
Keewatin Yatthe & Mamawetan Churchill
River Health Regions and Athabasca Health
Authority

Heather Carnegie, R.D.
Food for Thought Project
Prince Albert Parkland Health Region

R.D. refers to Registered Dietitian

Grade 6 Health Education

Grade 6 Health Education: Affirming Personal Standards		
Health Education Goal 1: Develop the understanding, skills and confidences necessary to take action to improve health.		
Curriculum Outcome	Nutrition Concept	Resources: Background Information, Sample Activities, etc.
Outcome USC6.1: Analyze the factors that influence the development of personal standards and identity, and determine the impact on healthy decision making (including cultural norms, societal norms, family values, peer pressures, mass media, traditional knowledge, white privilege, legacy of colonization, and heterosexual privilege).	Family meals	<p>Nutrition Background Information</p> <ul style="list-style-type: none"> • <i>Family Meals (page 8)</i> <p>Nutrition Sample Activities</p> <ul style="list-style-type: none"> • The Family Dinner Project (student activities and games; parent/teacher information) thefamilydinnerproject.org/: “Fun” section
	Marketing to children and youth	<p>Nutrition Background Information</p> <ul style="list-style-type: none"> • <i>Marketing to Children and Youth (page 9)</i> • Raising Our Healthy Kids (videos) vimeo.com/channels/902598: <i>Kids Foods versus Adult Foods, What’s on the outside might not be on the inside, and Colour and packaged foods</i> • Media Smarts (parent/teacher information) <i>Talking to Kids About Advertising</i> mediasmarts.ca/tipsheet/talking-kids-about-advertising-tip-sheet <p>Nutrition Sample Activities</p> <ul style="list-style-type: none"> • Media Smarts <i>Online Marketing to Kids: Strategies and Techniques</i> mediasmarts.ca/lessonplan/online-marketing-kids-strategies-and-techniques-lesson
	Determinants of health	<p>Nutrition Background Information</p> <ul style="list-style-type: none"> • <i>Determinants of Health (page 11)</i> • Promoting Health Equity Project (video; teacher information about poverty in Saskatoon, SK) <i>Della: Hurdles to Health</i> www.youtube.com/watch?v=gLKpywFD4c • Saskatoon Health Region, <i>Let’s Start a Conversation . . .</i> (Video, teacher information) www.youtube.com/watch?v=RrBFXuQ9qg0&list=PL8hI5VOuOW5eOsxnDx6-bWkAE2DyAz0Wm <p>Nutrition Sample Activities</p> <ul style="list-style-type: none"> • Saskatoon Health Region, Poverty Education Resources for Grades 6-9 www.saskatoonhealthregion.ca/locations_services/Services/health-promotion/Pages/TheresMoreToPovertyThenMeetsTheEye.aspx (page 53; page 83) <i>But Why? Part II</i>

Grade 6 Health Education: Affirming Personal Standards (continued)

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

Curriculum Outcome	Nutrition Concept	Resources: Background Information, Sample Activities, etc.
Outcome 6.4: Assess and demonstrate strategies used to identify and make healthy decisions in stressful situations.	What is healthy eating	<p>Nutrition Background Information</p> <ul style="list-style-type: none"> • <i>Healthy Eating for Children and Youth</i> (page 12) • Kids Practice Mindful Eating (teacher information) blog.harvardvanguard.org/2013/04/smart-kids-practice-mindful-eating/ <p>Nutrition Sample Activities</p> <ul style="list-style-type: none"> • British Columbia Pediatric Society http://bcpeds.ca/Programs/showcontent.aspx?MenuID=3352 <i>Sip Smart BC</i> • Healthy Families BC https://www.healthyfamiliesbc.ca/home/articles/sugary-drinks-how-much-sugar-are-you-drinking <i>Sugary Drinks</i> • Health Canada, Canada's Food Guide www.hc-sc.gc.ca/fn-an/food-guide-aliment/index-eng.php: <i>My Food Guide, Take the Guided Tour</i> • Health Canada, Eat Well and Be Active Toolkit www.hc-sc.gc.ca/fn-an/food-guide-aliment/educ-comm/toolkit-trousse/index-eng.php <i>Activity Plan #1 Benefits of Eating Well and Being Physically Active, Activity Plan #2 Make Each Serving and All Physical Activity Count</i> • GoZen www.youtube.com/watch?v=guXTS1YFf-0 <i>Mindful Eating: Mindfulness Exercise for Kids with Chocolate</i> • Government of Northwest Territories http://dropthepopnwt.hss.gov.nt.ca/default.htm <i>Drop the Pop</i> • Mindless Eating: Why We Eat More Than We Think mindlesseating.org/session_modules.php <i>Teaching Toolbox</i> • Mission Nutrition www.missionnutrition.ca/eng/educators/index.html (Grade 6-8) <i>Exploring Healthy Eating, Food for Energy and Nutrients, Body Signals, Using Food Labels</i>
Outcome USC6.5: Analyze the influences (e.g., cultural, social) on perceptions of and personal standards related to body image, and the resulting impact on the identities and the well-being of self, family, and community. Identify sources of, and evaluate information about, influences on body image.	Weight bias	<p>Nutrition Background Information</p> <ul style="list-style-type: none"> • <i>Weight Bias</i> (page 14) • Rudd Centre (parent/teacher information) www.uconnruddcenter.org/weight-bias-stigma-schools-and-educators <i>Weight Bias at Home and School</i> <p>Nutrition Sample Activities</p> <ul style="list-style-type: none"> • The Student Body thestudentbody.aboutkidshealth.ca/home.asp
	Body image, media and health behaviours	<p>Nutrition Background Information</p> <ul style="list-style-type: none"> • Teen Talk (parent/teacher information) teentalk.ca/ <i>Body Image</i> • National Eating Disorders Collaboration (Australia; parent/teacher information) www.nedc.com.au/body-image <i>Body Image</i> <p>Nutrition Sample Activities</p> <ul style="list-style-type: none"> • The Student Body thestudentbody.aboutkidshealth.ca/home.asp <i>Media and Peer Pressure</i> • Media Smarts mediasmarts.ca/ <i>Gender Stereotypes and Body Image, Avatars and Body Image, The Anatomy of Cool</i> • Dove Evolution www.youtube.com/watch?v=iYhCn0jf46U • National Eating Disorders Information Centre www.beyondimages.ca/

Grade 6 Health Education: Affirming Personal Standards (continued)**Health Education Goal 1: Develop the understanding, skills and confidences necessary to take action to improve health.**

Curriculum Outcome	Nutrition Concept	Resources: Background Information, Sample Activities, etc.
Outcome USC6.7: Assess how health promotions and advertising influence personal standards and behaviours and determine how and why certain groups of consumers are targeted.	Marketing to children and youth	<p>Nutrition Background Information</p> <ul style="list-style-type: none"> • <i>Marketing to Children and Youth (page 9)</i> • Dietitians of Canada, Raising Our Healthy Kids (parent/teacher video) vimeo.com/channels/902598: <i>Kids Foods versus Adult Foods, What's on the outside might not be on the inside</i>, and <i>Colour and packaged foods</i> <p>Nutrition Samples Activities</p> <ul style="list-style-type: none"> • Media Smarts mediasmarts.ca/ <i>He Shoots He Scores, Selling Obesity, You've Gotta Have a Gimmick, Advertising All Around Us</i> • Public Broadcasting Service (student information) pbskids.org/dontbuyit <i>Don't Buy It</i> • World Link, Nourish www.nourishlife.org <i>Analyzing Food Ads</i>
	Health promotion strategies	<p>Nutrition Background Information</p> <ul style="list-style-type: none"> • <i>Health Promotion Strategies: Making the Healthy Choice the Easy Choice (page 15)</i> • Eat Right Ontario (parent/teacher information) www.eatrightontario.ca <i>Cooking with Kids of Different Ages</i> • Growing Minds Farm-to-School (parent/teacher information) growing-minds.org <i>Steps to a class garden</i> <p>Nutrition Sample Activities</p> <ul style="list-style-type: none"> • Little Green Thumbs www.littlegreenthumbs.org • Regina Qu'Appelle Health Region www.rqhealth.ca/rqhr-service-lines-files/nutrition-big-crunch-background-info-and-resource-pkg-2015 <i>The Big Crunch</i> • Kids Gardening www.kidsgardening.org/ <i>Eat a Rainbow</i> • <i>The Power of Product Placement</i> sarahmarie2216.wordpress.com/2011/04/11/lesson-plan-the-power-of-product-placement/ • San Francisco Environment sfenvironmentkids.org/teacher.htm <i>Targeting Teens</i>

Health Education Goal 2: Make informed decisions based on health-related knowledge.

Curriculum Outcome	Nutrition Concept	Resources: Background Information, Sample Activities, etc.
Outcome DM 6.8: Assess the role of personal standards in decision making related to body image and health promotions.	Creating SMART goals	<p>Nutrition Background Information</p> <ul style="list-style-type: none"> • <i>Take Action on Healthy Eating (page 17)</i> <p>Nutrition Sample Activities</p> <ul style="list-style-type: none"> • Health Canada, Eat Well and Be Active Toolkit (student activity) www.hc-sc.gc.ca/fn-an/food-guide-aliment/educ-comm/toolkit-trousse/index-eng.php <i>Activity Plan #3 (children) Setting Smart Goals</i>

Grade 6 Health Education: Affirming Personal Standards (continued)**Health Education Goal 2: Make informed decisions based on health-related knowledge (continued)**

Curriculum Outcome	Nutrition Concept	Resources: Background Information, Sample Activities, etc.
Outcome DM 6.8: Assess the role of personal standards in decision making related to body image and health promotions. AND Outcome DM 6.9: Examine health opportunities and challenges to establish personal goal statements related to body image and health promotions.	Health promotion strategies	Nutrition Background Information refer to Outcome USC 6.7 (page 5) Nutrition Sample Activities: refer to Outcome USC 6.7 (page 5)
	Opportunities and barriers to healthy eating	Nutrition Background Information <ul style="list-style-type: none"> • <i>Factors Influencing Eating Behaviours in Youth (page 19)</i> • <i>Determinants of Health (page 11)</i> Nutrition Sample Activities <ul style="list-style-type: none"> • Saskatoon Health Region Poverty Education Resources for Grades 6-9 www.saskatoonhealthregion.ca/locations_services/Services/health-promotion/Pages/TheresMoreToPovertyThenMeetsTheEye.aspx (page 53; page 83) <i>But Why? Part II; Create a Community Action Guide</i>

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

Curriculum Outcome	Nutrition Concept	Resources: Background Information, Sample Activities, etc.*
Outcome AP 6.10: Design and implement (with guidance) two six-day action plans that reflect affirmation of personal standards related to body image and health promotions.	Taking action on healthy eating for youth	Nutrition Background Information <ul style="list-style-type: none"> • <i>Taking Action on Healthy Eating (page 17)</i>

Grade 6 Physical Education

Physical Education Goal: Active living		
Outcome	Nutrition Concept	Resources: Background Information, Sample Activities, etc.
Outcome 6.2 Body Composition: Demonstrate an understanding of the impact of inactivity on body composition and how to make healthy choices for a balanced self, including regular participation in movement activity, that effectively and safely affect (maintain, increase, decrease) body fat composition.	Weight bias	Background Information <ul style="list-style-type: none"> • <i>Weight Bias (page 14)</i> • Rudd Centre (parent/teacher information) www.uconnruddcenter.org/weight-bias-stigma-schools-and-educators <i>Weight Bias at Home and School</i> Nutrition Sample Activities <ul style="list-style-type: none"> • The Student Body (student information and interactive video) thestudentbody.aboutkidshealth.ca/home.asp
	Growth monitoring in children and youth	Background Information <ul style="list-style-type: none"> • <i>Body Composition and Health Risks in Children and Youth (page 20)</i> • Teens Health (student information) teenshealth.org/en/teens <i>Dealing with feelings when you're overweight"</i>
	Built environment, eating and physical activity habits	Background Information <ul style="list-style-type: none"> • <i>Built Environments Impact our Eating Habits and Physical Activity (page 21)</i> Nutrition Sample Activities <ul style="list-style-type: none"> • Saskatchewan In Motion Take Action http://www.saskatchewaninmotion.ca/get-involved/take-action <i>Learn about active travel to school, take a walk – learn about your community walkability</i>
	Calories and activity	Background Information: <ul style="list-style-type: none"> • <i>Keeping Brains and Bodies Moving – Calories and How We Use Them (page 22)</i>

Family Meals

Eating meals with others has the potential to impact the health and well-being of children and adolescents (1, 2) providing both nutritional and non-nutritional benefits.

Family Meals Improve Diet Quality

Families who eat together, eat better. Studies show that eating as a family improves the type and variety of food children and adolescents eat, resulting in better food and nutrient intakes (3). When families eat together they tend to consume more vegetables, fruit and milk products and less fried foods and soft drinks (3, 4). As a result, children and adolescents tend to have higher intakes of fibre, calcium, iron, folate, and vitamins B6, B12, C and E in their diets (1).

Research has also demonstrated that children and adolescents who eat together with their families are less likely to be overweight, obese, or to develop disordered eating patterns (1, 3).

Family mealtimes provide opportunities to introduce children to new foods. Serving new foods with familiar ones will help children feel more comfortable trying them; this can lead to children accepting a wider variety of foods.

Family Tradition

Mealtimes provide opportunities for parents to teach food preparation skills, enjoy traditional foods, and model healthy eating habits. Mealtimes also help to instill a sense of belonging in children and provide a way to share family values and traditions (4). Family mealtimes help families to bond by sharing stories, discussing the day's events, and making plans together. Memories and traditions formed during mealtimes stay with children for the rest of their lives.

Better Grades and Skill Development

Children who eat together with their families on a regular basis are more engaged and learn better in school, and also have positive views of their personal futures (3). Students who eat with their families are more likely to have healthy eating patterns including adequate amounts of fruits, vegetables, protein, and fibre. Studies show that students who eat healthily do better on literacy tests than those who eat processed foods containing high amounts of salt and saturated fat (6).

Communication and Risky Behaviours

Family mealtimes encourage conversation and interaction which improve a child's vocabulary and communication skills. Children who communicate better have fewer behavioural and social problems (1, 3). Children and youth who eat with their families at least once a day are less likely to smoke, drink, use drugs, get into serious fights, engage in sexual activity at an early age, or attempt suicide (1, 3, 7).

Call to Action

Role modeling healthy behaviour, at home and at school, can have a positive influence on developing children's habits.

- Encourage students to learn about and make their own healthy food choices.
- Encourage students to talk to their parents about having family meals.

References

1. Alberta Milk. Eat Together-Rediscovering the Family Meal. 2009 [cited 2015 Nov 1]. Available from: www.moreaboutmilk.com/media/nutrition_file_newsletters/may2009nffhefinal.pdf
2. Hammons AJ, Fiese BH. Is Frequency of Shared Family Meals Related to the Nutritional Health of Children and Adolescents? *Pediatrics*. 2011 Jun; 127(6): e1565–e1574. doi: 10.1542/peds.2010-1440J. Available from: www.ncbi.nlm.nih.gov/pmc/articles/PMC3387875/
3. Dietitians of Canada. Nutrition Month Campaign Reference Manual for Dietitians: Celebrate Food... from Field to Table! Ottawa: Dietitians of Canada; 2011.
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5. Eat Right Ontario. Family Meals with No TVs. [cited 2015 Oct 22]. Available from: www.eatrightontario.ca/en/Articles/Adolescents-teenagers/Family-Meals-with-no-TV.aspx
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7. The Center on Addiction and Substance Abuse at Columbia University. The Importance of Family Dinners VIII. September 2012 [cited 2015 Oct 22]. Available from: www.casacolumbia.org/addiction-research/reports/importance-of-family-dinners-2012

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 (1). The majority of food marketing promotes products that are high in sugar, fat, and sodium (1, 2). Food marketing has been linked to an increase in children being overweight which can increase the risk for diabetes and other chronic diseases (1).

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 or 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)

Over the last few years, 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)

Over the last few years, 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 behavior, and eating habits. School communities can help to limit the amount of marketing that reaches youth by considering the following initiatives:

- Use nonfood 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 visit www.uconnruddcenter.org/ and www.foodmarketing.org/.

References

1. World Health Organization. Protecting children from the harmful effects of food and drink marketing. September 2014 [cited 2015 Oct 8]. Available from: www.who.int/features/2014/uk-food-drink-marketing/en/
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3. Demback C, Friedman R, Harris J, Pomeranz J, Schwartz M. Marketing Unhealthy Food and Beverages to Youth via Mobile Devices. Rudd Center for Food Policy and Obesity at Yale University November 2012 [cited 2015 Oct 8]. Available from: www.uconnruddcenter.org/resources/upload/docs/what/advertising/Mobile_Marketing_to_Children.pdf
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6. Centre for Science in the Public Interest. Food Marketing to Children [cited 2015 Oct 15]. Available from: www.foodmarketing.org/resources/food-marketing-101/food-marketing-to-children/

Determinants of Health

The determinants of health (DOH) are physical, social, and individual factors that influence the health of people and communities. The primary factors that influence our health are not medical treatments or lifestyle choices, but rather our living conditions (1). The DOH are the conditions in which people are born, grow, live, work and age (2).

The determinants of health are (3):

- | | |
|---------------------------------|---|
| ○ Income and social status | ○ Biology and genetic endowment |
| ○ Social support networks | ○ Health services |
| ○ Employment/working conditions | ○ Gender |
| ○ Social environments | ○ Culture |
| ○ Physical environments | ○ Personal health practices and coping skills |
| ○ Healthy child development | |

Although individual lifestyle choices affect health outcomes, it is important to understand that other factors have an impact on health (3). For example, decisions about what foods to eat and how much to eat are not simply matters of personal choice. Below is a story looking at one of the determinants of health, income, and how it can affect health and food choices.

- The Smith's family refrigerator is broken.
- Although the family is able to pay rent, they do not have enough money to fix the refrigerator.
- Because they cannot store perishable items with a broken refrigerator, the family does not purchase many dairy products, vegetables and fruit, or meat.
- Since these foods are not purchased, their diets may lack key nutrients such as protein, carbohydrates, healthy fat, fibre, and many vitamins and minerals.
- If their diets lack these nutrients, they have an increased chance of feeling fatigued, being sick, developing chronic diseases, and not being able to learn or work well during the day.
- If they are not able to perform well during the day the children may fall behind in school and the parents may struggle at work or lose their jobs.
- If the parents are unable to work enough, there will be less money to spend on food, rent or to fix the refrigerator.
- This stressful situation impacts the health of the family.

Environment and Food Access (4)

When healthy food choices are the easy choice, people are more likely to choose them. Factors that can affect food choices include:

Exposure- The foods that people are readily exposed to greatly influence the type of foods they eat. When people have limited exposure to healthy food choices in their homes, neighbourhoods, and schools or anywhere else they spend time, they often end up choosing foods which are high in fat, salt and sugar.

Access - In neighbourhoods where there is limited access to affordable nutritious food and an easy access to unhealthy foods, it is difficult for families to purchase healthy food to eat. These areas are known as food deserts and food swamps.

- Food desert – a geographic area, such as a community, where there is a lack of access to affordable, nutritious food. This is largely due to a lack of grocery stores, farmers' markets, and healthy food providers (5).
- Food Swamp – a geographic area, such as a community, that has better access to corner stores and fast food outlets versus stores that sell healthier food options, such as a grocery store or farmer's market (6).

Families living in these areas are often compelled to eat fast or convenience foods which are high in fat, salt, and sugar.

Cost- When foods which are high in fat, salt, and sugar are priced lower than nutrient rich foods it is difficult to make healthy choices. When healthy foods are affordable, accessible and appealing, it becomes easier to make healthy choices.

References:

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Healthy Eating for Children and Youth

Healthy Eating is about *how* to eat, as well as *what* to eat. Healthy eating practices for children and youth include:

- sitting down to eat with others,
- eating without distractions or screens,
- trying new foods,
- eating mindfully,
- eating foods that are minimally processed, and
- choosing a balanced variety of enough healthy foods.

Developing and maintaining healthy eating practices during the preteen and teenage years is important for health, growth, and cognitive development. Research shows that the eating habits developed at this age carry on to adulthood. Adolescence is a time of transition. Eating habits of youth tend to be affected by influences outside of the family, and as such are vulnerable to unhealthy changes.

Good nutrition is about making healthy food and beverage choices. When planning meals and snacks it is important to remind students that the majority of the food they consume should be from the four food groups of Canada's Food Guide. Canada's Food Guide provides guidance about the **amount** and **types** of foods that youth need to eat daily to be healthy. For more information about Canada's Food Guide go to healthycanadians.gc.ca/eating-nutrition/healthy-eating-saine-alimentation/food-guide-aliment/index-eng.php

Amount:

Canada's Food Guide provides examples of the amount of food that make up one Food Guide Serving. The Food Guide Serving is a reference amount to help people understand how much food is recommended. The amount of food a person eats at a meal or snack may be more or less than one Food Guide Serving. In some cases, the amount may be close to what a person may eat at one serving.

Canada's Food Guide recommends how many Food Guide Servings people should eat from each of the four food groups. The number of recommended servings is different for people at different stages in life and is different for males and females. The recommended number of Food Guide Servings is an average amount that people should try to eat each day.

Food portions, particularly for restaurant meals and packaged food items, are large. For example, a 6 inch size submarine style bun is equivalent to about 2-3 Food Guide servings of Grain Products. For examples of Food Guide Serving sizes go www.hc-sc.gc.ca/fn-an/food-guide-aliment/basics-base/serving-portion-eng.php

Recommended number of Food Guide Servings per day:

	Aged 9-13 (Male/Female)	Aged 14-18	
		Male	Female
Vegetables and Fruit	6	8	7
Grain Products	6	7	6
Milk and Alternatives	3-4	3-4	3-4
Meat and Alternatives	1-2	3	2

A good way to learn about Food Guide Serving sizes is to have the youth measure the foods they eat for a day or two. Next, have them compare the amount they eat to the recommended number of Food Guide Servings for their age and sex. For this activity, students can use the My Food Guide Serving Tracker found here www.hc-sc.gc.ca/fn-an/food-guide-aliment/track-suivi/index-eng.php

Type:

The types of food youth eat are just as important as the amount they eat. Canada's Food Guide provides guidance about the types of food to choose from each food group, for example:

- eat at least one dark green and one orange vegetable each day
- have vegetables and fruit more often than juice
- make at least half of your grain products whole grain each day
- drink skim, 1%, or 2% milk each day
- have meat alternatives such as beans, lentils, and tofu often
- eat at least two food guide servings of fish each week
- include a small amount of unsaturated fat each day

Foods to Limit

Canada's Food Guide also recommends limiting foods high in calories, fat, sugar or salt (sodium) such as cakes and pastries, chocolate and candies, cookies and granola bars, doughnuts and muffins, ice cream and frozen desserts, french fries, potato chips, nachos, and other salty snacks, alcohol, fruit flavoured drinks, soft drinks, sports and energy drinks, and sweetened hot or cold drinks.

Balancing the Food

Eating three regularly timed meals and two to three snacks daily is an important way for youth to get the nutrients needed as they grow and develop and to maintain energy throughout the day.

Eating Breakfast

It is important to start every day by eating breakfast. Breakfast replenishes energy lost during a night's sleep. The body goes through fasting during sleep and the morning meal is meant to "break the fast". Eating breakfast can become a habit when eaten regularly at a young age and when it's part of the regular household routine. Skipping breakfast may result in missed nutrients, which are difficult to make up as the day goes on.

A healthy breakfast includes at least three of the four food groups.

Healthy Snacks

Snacks that include foods from the four food groups help children meet their daily nutrient needs. Healthy snacks include at least two of the four food groups of Canada's Food Guide.

Sometimes there is confusion regarding snacks. Some foods are commonly advertised as "snack foods" such as chips, candies, soft drinks, fruit flavoured snacks, and cakes. These are often high in fat, sugar, and salt and should **not** be considered healthy snacks.

Lunch and Supper

Family meals eaten at home are important for the growth and development of children and youth. Kids who eat meals at home tend to eat healthier (1). Sitting down together and talking about the day during meal times helps family members manage stress. For youth, family meals are linked to a lower risk of substance abuse, sexual activity, depression, and school problems (2). A healthy lunch or supper includes food from all four food groups.

Mindful Eating

The average person makes many decisions about food and eating daily. These decisions can include what and how much food to eat, whether or not to eat breakfast, or what size of cup or plate to use. Many of these food and eating decisions are made without thinking much about it. Mindful eating is a way to be aware of every bite of food you eat and every sip of drink you take. When eating mindfully, you look at the colours of the food you are about to eat, you smell the aroma of the food, and feel the texture of it when you take a bite. You also take your time eating to be able to truly enjoy and appreciate your food.

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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 www.uconnruddcenter.org/weight-bias-stigma-schools-and-educators

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Health Promotion Strategies: Making the Healthy Choice the Easy Choice

There are many factors that influence eating behaviours of children and youth, and the school food environment is one of those factors. Schools exert tremendous influence over students' eating habits and have been described as "the ideal settings to establish and promote healthy eating practices" (1). There are strategies used by industries and school communities that can encourage health enhancing and health-compromising behaviours in students in and around schools.

Healthy foods served and sold in school

Non-food rewards

When students are given food or candy for good behaviour or for doing well in school, it can teach them to eat as a reward instead of eating when they are hungry and stopping when they are full. Non-food rewards can promote healthier school and home environments and show that food is something to feed our bodies when we are hungry and not a reward.

Healthy or non-food fundraisers

Raising money in schools is a common practice and sometimes involves the sale of food items. Students could get a confusing message about healthy eating if the fundraising activities are not done in a healthy way.

Nutritious foods and healthy eating at school

Often foods and beverages are served or sold in schools through cafeterias, canteens, nutrition programs, vending machines, classroom celebrations and other school events. Schools have the opportunity to offer nutritious foods and beverages and to model what is taught in the classroom. Modeling healthy habits and creating positive environments for students to explore foods is important. The attitudes and behaviours children and youth develop around foods and beverages impact lifelong eating habits and long term health. Repeated exposure to foods, including growing, preparing and tasting foods, is another effective way to influence eating behaviours. For examples of activities refer to page 4 of this document.

Food Marketing

Although food choices are affected by many factors, food marketing plays a key role. Food marketing attracts the attention of children and youth, influences their foods and beverages choices, and prompts them or their parents to buy specific products.

Strategy	Health compromising	Health enhancing
Product	Market research identifies what students consider to be 'cool'. Often these foods are high in fat, salt and sugar while low in nutritional value.	As a school community, conduct surveys and hold taste tests to find out what students consider to be 'cool'. Get students involved in planning what healthy food and beverage products will be served and sold in the school.
Price	Unhealthy foods and beverages often have lower prices compared to healthy options (e.g. dollar menus).	If healthy foods and beverages are priced lower than the unhealthy alternatives, students may be more likely to buy the healthier products.
Placement	Product placement refers to the paid presence of branded products in movies, vending machines, and canteens. This form of food advertising frequently showcases foods and beverages of poor nutritional quality and influences student food choices. Unhealthy foods are often easily accessible and visible everywhere we go.	Placing healthy food options in highly visible places such as at eye level in vending machines and at the register of canteens and cafeterias can positively influence food choice. Make healthy foods more accessible and available in schools than unhealthy foods making the healthy choice the easy choice.
Promotion	Celebrity and athlete role models who endorse food and beverage products influence students to choose these products. Unhealthy food and beverage products and company logos advertised on TV, internet, magazines, on sports jerseys, vending machines, flyers, billboards and posters all influence product choice. Sneaky marketing strategies are often used to make food products look healthier than they really are. For examples see page 7 of this document.	Role models at school such as teachers and principals can influence student food and beverage choices. Be a positive influence and role model healthy eating habits in front of students. Advertise only healthy foods and beverages in schools.

Resources for Health Enhancing Strategies in Schools

Videos:

- Healthy Schools, healthy communities: www.youtube.com/watch?v=QDXeg5S_J8A
- Rec Facilities and sporting events: www.youtube.com/watch?v=3ENmGpUKH0M

Steps to Creating a Healthy Food Environment at School:

- School Nutrition Handbook: Steps to creating healthy food environments in Schools (Guide/Manual) –Ever Active Schools www.everactive.org/content.php?secondary_id=474&id=1396
- School food policy that is communicated, implemented and enforced - *Nourishing Minds* (Guide/Manual to help in developing a school nutrition policy) and *Healthy Foods for my School* (tool for selecting healthier foods to serve and sell in schools that meet the guidelines as laid out in *Nourishing Minds*) www.saskatchewan.ca/government/education-and-child-care-facility-administration/services-for-school-administrators/student-wellness-and-wellbeing - Policy readiness tool (to help engage others in developing a school food policy) - www.abpolicycoalitionforprevention.ca/take-action.html
- Alberta Health Services www.albertahealthservices.ca/assets/info/nutrition/if-nfs-marketing-healthy-choices.pdf “Marketing Healthy Food Choices”

Non Food and Healthy Food Fundraising

- Ideas for non-food rewards (Information Sheet) – Action Schools! BC www.actionschoolsbc.ca/sites/default/files/resources/ASI%20BC%20Non-Food%20Rewards_1.pdf
- Healthy, local food fundraising initiative in Saskatchewan (website to register for initiative) Farm-to-School Saskatchewan www.farmtoschool.ca/

Healthy Eating in the Classroom

- Action Schools! BC www.actionschoolsbc.ca *Eat Smart Celebrations*

Gardening

- School Community Gardens: School Ground Greening (Guide/Manual) - SK School Boards Association saskschoolboards.ca/wp-content/uploads/2015/08/07-06.pdf

Variety of topics

- SAYCW Nutrition Toolkit - toolkits.saycw.com/toolkit/nutrition/
- Ever Active Schools – Nutrition Resources www.everactive.org/healthy-eating-1?id=1396

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Taking Action on Healthy Eating

As part of the Saskatchewan Ministry of Education, Health Education curriculum, students are required to analyze certain health behaviors and to identify certain actions that are unique to their needs to improve their health.

It is important that students focus on healthy eating actions that are positive, measurable and practical. For example, a student could choose to drink milk at noon instead of a sugar sweetened beverage such as iced tea. SMART goals are one way to help students set Specific, Measurable, Attainable, Realistic and Timely goals. SMART goals are one way of setting goals that meet with success and so more likely to motivate students to make change. Refer to Health Canada's Eat Well and Be Active educational toolkit to help your students create SMART goal action plans.

Below are ways children can take action for healthier eating and ways classroom education can support those actions:

- **Milk:** If a student currently consumes 1 serving of Milk and Alternatives per day, an action could be to consume 1 more serving of Milk and Alternatives every day for 1 week. Have students brainstorm specific ideas to increase their intake (e.g. drink milk with dinner, bring yogurt or cheese for a snack). If your school does not have a milk program, consider starting one. Selling milk at school is a great way to offer a nutritious and refreshing drink to students at school and to raise money for school programs and extra-curricular activities.
- **Healthy Snacks:** At this age, students may be purchasing some of their own snack and food items at school or at a local convenience store. Encourage students to make healthy choices and help them to list ideas of healthy snacks. Have students brainstorm ideas of how they can make healthier choices when purchasing foods from a canteen or convenience store (e.g. purchase milk instead of pop or fruit instead of chips).
- **Vegetables and Fruit:** For students aged 9-13 years, *Eating Well with Canada's Food Guide* recommends 6 servings of vegetables and fruit per day. A student could decide to try tasting one new vegetables or fruit each week. In the classroom, try highlighting a vegetable or fruit each month and encourage students to try something new.
- **Breakfast:** Since there is a strong link between eating breakfast and learning, student actions can focus on breakfast. Students could aim to include 3 out of the 4 food groups at breakfast for 5 days. Have students list quick breakfast idea as (e.g. yogurt, fruit, and cereal) or encourage students to attend the breakfast program if your school has one. If your school does not have a breakfast program, consider keeping a snack basket in the school office for students who come to school without breakfast. Encourage students to get involved in making their own breakfast if they do not already do so. Encourage students to get creative with their breakfast. Cereal and toast are not the only options for breakfast. Try some fun ideas such as a tortilla with peanut butter wrapped around a banana or a blended fruit and milk smoothie with a whole grain muffin.
- **After School Snacks:** Students may be unsupervised in the after school time period and may consequently choose less healthy options for snacks. To encourage healthy afterschool snacking, brainstorm ideas with students for how to make healthy snacks that taste great. Encourage hands-on experiences with food at home by providing students with recipes they can try or asking them to work with their caregivers to come up with their own recipes.
- **Food Skills:** When kids are involved in food preparation and cooking, it encourages healthy habits that can last a lifetime. Food preparation activities provide children with the opportunity to try new foods and to develop positive attitudes and behaviours around food and eating. Introducing snack preparation activities in your classroom can be a great way to teach kids about foods and foster the development of food skills. Consider starting an afterschool cooking program so students can learn to make healthy snacks.
- **Family Meals:** If students do not regularly eat family meals, they might set a goal to have at least 2 meals together with their family each week. Family meals help encourage healthy habits and promote family connectedness. Brainstorm with students conversation starters for the dinner table to encourage conversation and make mealtimes fun. For more information see Family Meals (page 8).
- **Eating without distractions:** If students normally eat their after school snacks while watching a screen, they might set a goal to eat that snack sitting down somewhere with no distractions for 2 days a week. Distracted eaters pay less attention to what and how much they eat; they eat faster, eat more, and feel less full and satisfied after eating. As a class, try a

mindful eating activity and encourage students to try this during their after school snack. See **Outcome USC 6.4** *What is Healthy Eating (page 4)* for mindful eating activity ideas.

When asking students to take action on healthy eating, it is important to consider students may not be able to control the types or amounts of foods that are available to them. Refer to page 18 regarding factors influencing health choices. Support people will be integral to helping achieve success on action plans; this could include parents, siblings, and other adults in the school.

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Factors Influencing Eating Behaviours in Youth

Adults are responsible for providing meals and snacks for young children. As they get older, youth begin to take over food choices by shopping, choosing and preparing more of their own food. Often their food choices are influenced by their food environment, food skills and food marketing.

Food environment

Youth often consume meals and snacks outside of the home. The food choices that are available where youth live, learn and play influences what they eat. This includes foods served or sold in schools, recreation facilities and in their neighbourhood. Youth may rely on the foods and beverages available at school to provide or supplement their breakfasts, lunches and snacks. The implementation of nutrition policies in schools is associated with healthier food consumption patterns among students (1). Recreation facilities provide a space for physical activity but unhealthy food choices are often readily available (2). Fast food restaurants and convenience foods are common in school neighbourhoods. Youth often visit these establishments during their free time.

Time

Studies tell us that there is a decline in breakfast consumption with increasing age (3). Eating breakfast is related to having an overall healthier diet (4). As youth become busy with activities and increases in responsibilities there may be less time to plan, prepare and eat healthy meals and snacks, especially breakfast.

Family Meals

Youth who participate in family meals on a regular basis tend to eat better than those who do not (3). Enjoying regular family meals is associated with a higher consumption of vegetables and fruits, milk products and overall nutrients (3). In addition, family meals have been associated with enhancing family relationships, supporting healthy choices and improving school performance (5).

Food Skills

Recent literature indicates that there has been a decrease in food skills over the years (6). Therefore, youth and families may rely on less healthy pre-packaged and convenience foods. In addition there is the concern that opportunities for children and youth to gain 'traditional', basic or 'from scratch' cooking skills from family members may be limited. When kids are involved in food preparation and cooking, it encourages healthy habits that can last a lifetime.

Food Marketing

Advertising targeting children and youth often promotes low nutrient foods and rarely promotes healthy food choices such as vegetables and fruit. Studies show that children are more likely to request, buy or consume foods that are advertised on television (3). Often food marketing provides misleading or incomplete information about food which can lead to youth misunderstanding the nutritional value of foods that are marketed (5).

Both television and internet are sources of food advertising. Food companies use these media to market their products through interactive websites, online games and entertaining videos. Also, food product placements during movies and television programming entice children and youth to desire the placed product.

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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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Built Environments Impact Our Eating Habits and Physical Activity

The built environment refers to the human-made surroundings where we live, work, learn, and play (1). These environments influence our eating habits and physical activity levels. A healthy built environment creates places where the healthy choice is the easy choice (2).

Healthy Eating

The types of foods and beverages children and youth are exposed to influences the foods and beverages they prefer. On average, children and youth consume 1/3 of their daily nutritional needs at school (3). When children and youth have limited choice of healthy foods and beverages at school, they often end up choosing options which are high in fat, salt and sugar. Easy access to unhealthy foods and beverages in vending machines, canteens or nearby convenience stores and restaurants compels children and youth to eat these foods particularly when healthier options are not available. When healthy foods and beverages are affordable, accessible and appealing, it becomes easier and more likely for children and youth to make healthy choices (4).

For ideas of ways to promote healthy eating at school refer to *Health Promotion Strategies: Making the Healthy Choice the Easy Choice* on page 15 of this document.

Physical Activity

The built environment can promote or hinder physical activity. Well -designed neighbourhoods, schools, transportation systems and protected natural environments can contribute to encouraging children and youth to be active (1).

A healthy neighbourhood environment supports and encourages all types of physical activity, including walking, cycling, roller skating and skateboarding. Clear sidewalks, bike lanes, safe crosswalks and well lit walking paths all contribute to supporting physical activity in a neighbourhood. This environment makes it easier for children and youth to walk/bike to school, and for students and teachers to walk when going on field trips. Having a safe place to park their bikes at school will also encourage students to bike to school. A clean and safe green space surrounding schools and safe, age appropriate playground equipment encourages children and youth to spend time outside, running, playing and exploring (1).

Listed below are other ways to promote physical activity at school.

- Encourage children and youth to play during recess and lunch hour.
- Have indoor games and activities prepared for when weather conditions are unfavourable to be outside.
- Have structured noon hour activities for children and youth such as intramurals.
- Have daily physical education classes scheduled for all grades.
- Use fundraisers and activities that encourage physical activity such as skipping marathons or dance clubs.
- Provide standing desk options for children and youth.
- Incorporate physical activity breaks in the classroom.
- Provide learning opportunities outdoors. Children and youth are more active when they are outside.

For more information about the built environment and school see www.saskatchewaninmotion.ca/tools-resources/active-safe-routes.

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Keeping Brains and Bodies Moving: Calories and how we use them

Calories are a unit of measure for the energy we get from food (1). The food and beverages we consume ultimately break down into energy that our bodies use (2). The number of calories (i.e., how much energy) we need each day is specific to each person; it is based on multiple factors such as our genetics, sex, activity level, and body composition (2). Children and youth need to eat enough food each day to provide them with the amount of energy required for basic body functions and activities.

Metabolism is the process of all the reactions that take place in the body to break down and use the food we eat. The exact amount of energy needed daily is difficult to measure because there are many different factors that determine energy needs. We need energy for basic functions like breathing, circulating blood, growing and repairing cells, and adjusting hormone levels. Physical activity, including cardiovascular activity, also affects energy needs. The more physically active we are, the more energy our bodies need.

Cardiovascular activity offers many health benefits when incorporated into a regular wellness routine. Some of the benefits include a healthier immune system, a stronger heart, and an improved mood (3). Being active for 60 minutes a day can help youth do better in school, grow stronger, have fun playing with friends, feel happier, improve their self-confidence, and learn new skills (4).

Link to brain function

Calories are only one component of food. Food provides us with many nutrients we need to survive and be healthy. Rather than choosing foods based on the number of calories it contains, it is important to choose foods that are high in nutrients. Regular healthy eating patterns are associated with higher test scores and overall stronger academic performance (5).

Calories and weight

Calories in versus calories out is often used to describe energy balance and thus how to achieve a healthy weight. However, the reality is that body weight is complex and determined by many factors. Simply focusing on *calories in* versus *calories out* is too simplistic and not appropriate. Positive routines consisting of nutritious foods, healthy eating habits, physical activity, positive mental health, and regular sleep patterns can contribute to achieving and maintaining good health for all students regardless of weight.

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