

An initiative of the BC Pediatric Society
& the Heart and Stroke Foundation

SIP SMART! BC™



Sip Smart! BC™ is designed to help students at the grade 4-6 level make healthy drink choices.



HealthyFamiliesBC



HEART & STROKE FOUNDATION

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make healthy drink choices.*



HealthyFamiliesBC 



→ Teacher Resource Guide

Welcome to the Teacher Resource Guide for *Sip Smart! BC™*

Sugary drinks are everywhere. Pop, fruit “punch”, sports drinks and many other drinks have a lot of sugar. Too much sugar is not good for a child’s health. The extra calories in sugary drinks can add up quickly. This can lead to an unhealthy weight, putting a child at higher risk of high blood pressure, heart disease, diabetes and cancer.

As a teacher, you are in a unique position to educate students about healthy foods and drinks as part of the Health and Career Education curriculum (Grades 4 - 6). You can help your students to make healthy drink choices that will help them build and maintain a healthy body today, and build a strong body that is fit for a lifetime.

This program was piloted in 230 BC classrooms in 2008 - 2009. The activities are fun and effective in encouraging students to think about and to make healthy drink choices.

We hope that you, too, use this tool to cover curriculum learning outcomes. Healthy children learn better, perform better academically and socially, and have more energy to be physically active.

BC Pediatric Society

Heart and Stroke Foundation



HealthyFamiliesBC



Sip Smart! BC™ was created and developed by the BC Pediatric Society and Heart and Stroke Foundation with funding from the BC Health Living Alliance

“Healthy children learn better, perform better academically and socially, and have more energy to be physically active.”



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Addendum

- Poster: How Much Sugar is in Your Drink?
- Poster: What Size is Your Drink?
- Set of Drink Cut-outs
- Eating Well with Canada’s Food Guide
- Sip Smart! BC™ Booklet

→ Introduction

Sip Smart! BC™

We all know that physical activity and healthy eating are essential parts of healthy living. What is less commonly known is that what we drink also has a major impact on our health. Child health experts believe, for instance, that reducing the consumption of sugary drinks (that is, drinks that contain added sugars) is a key strategy in curbing the rising rates of childhood obesity.

Sip Smart! BC™ aims to raise awareness among Grade 4, 5 & 6 school children in BC of the negative health effects associated with the consumption of sugary drinks, and provide children with the knowledge and skills they need to make healthy drink choices.

Sip Smart! BC™ is an interactive classroom-based program led by the *BC Pediatric Society* and the *Heart and Stroke Foundation*, funded by *ActNow BC* through the *BC Healthy Living Alliance*. The program was delivered to over 6000 students between March 2008 and May 2009. During this time, the **Sip Smart! BC™** lessons were continually shaped and reshaped through a highly iterative, dynamic, and collaborative process that incorporated feedback from program facilitators, educators, nutritionists, principals, parents, and most importantly, teachers and students. This iterative approach to program development ensured that the **Sip Smart! BC™** program reflects the needs and interests of teachers and students, as well as school health goals. Its success as a facilitated program laid the foundation for the development and implementation of this Teacher Resource Guide.

Sip Smart! BC™ lessons included in this Teacher Resource Guide reflect prescribed learning outcomes for the Health and Career Education (HCE) curriculum for grades 4, 5, and 6, and also touch on other curriculum areas such as Science. The comprehensive set of materials and resources will help teachers easily cover three of the 40 hours of time allocated to the HCE curriculum.

Sip Smart! BC™ recognizes and values the important role parents and caregivers play in a child's food and drink choices. The **Sip Smart! BC™ Booklet**, which contains information and tips about sugary drinks, helps families to help children make wise drink choices.

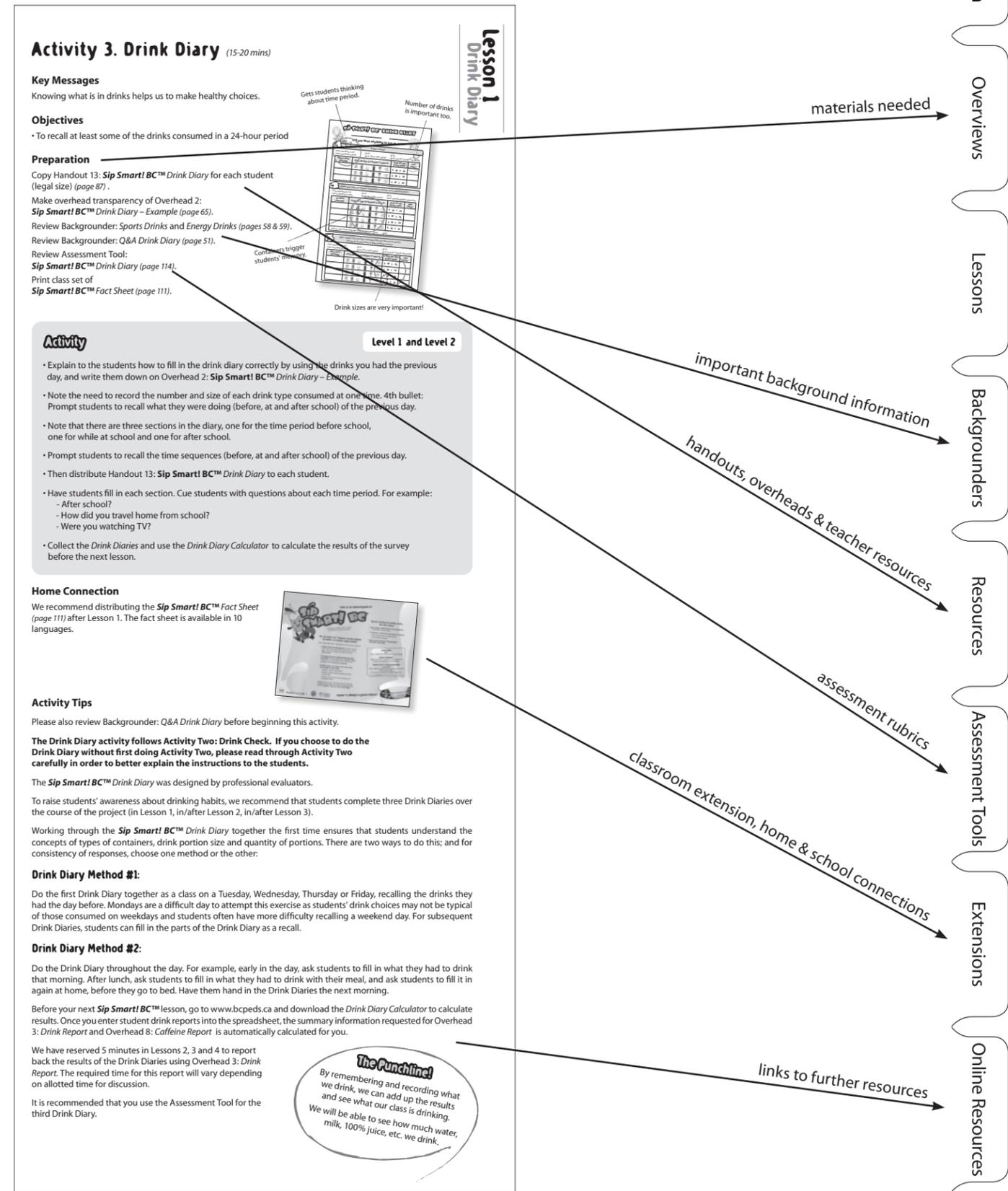
With its unique focus on student drink choices, **Sip Smart! BC™** fills an important niche in school nutrition education, and fits well into the comprehensive school health model practiced in many BC schools. The **Sip Smart! BC™** Teacher Resource Guide can serve as an excellent complement to existing healthy eating and physical activity learning resources. In addition, the guide contains fun and innovative extension activities so that students learning about healthy drink choices can extend their knowledge beyond the classroom and into the whole school, home, and community.

We hope
you and your students
enjoy learning to
Sip Smart!



How to Use This Resource Guide

The digram below shows you where you can find the various resources in this guide to support classroom lessons, using Activity 3 of Lesson 1 as an example.



Section Information

The **Teacher Resource Guide** (TRG) includes just about everything you need to teach **Sip Smart! BC™**, in approximately three hours (*depending on how much time you allot for classroom discussion*). This section introduces the resources included in subsequent tabbed sections of this document to support your work.

Overview

The **Sip Smart! BC™** Program is designed for grades 4 to 6. The lesson overview shows how the program has been structured to work for **two distinct levels**:

- **Level 1** is recommended for grades 4 and 5.
- **Level 2** is recommended for grade 6 and advanced grade 5.

Although key messages about sugary drinks are consistent across the two levels, the activities are different enough that students can participate in the program twice in three years. Intermediate teaching staff can plan the most appropriate way to deliver the lessons.

Lessons

Sip Smart! BC™ contains five 30 to 40 minute interactive lessons and a series of assessment tools. Although lessons are presented in a recommended order, all activities are designed so that they can also be taught independently.

Sip Smart! BC™ is built on nine key messages. Relevant messages are stated at the beginning of each activity. The same message is taught several times throughout the program, in different activities and from different perspectives, reinforcing student learning and retention. See *Key Messages* in overview section.

All activities contain:

- key messages
- objectives
- a list of material that needs to be prepared (*see handy shopping list in the overview section*)
- instructions for the activity
- ‘activity tips’
- a ‘punchline’

Each ‘activity tip’ provides the most important nutritional and/or instructional facts required for the individual activity. Where knowledge or a resource from earlier activities is required, for example, in the “Tooth” Experiment or the Drink Diary activity, activities are cross-referenced.

The activities in this resource guide assume that students have prior knowledge about *Eating Well with Canada’s Food Guide*. However, where this is not the case, teaching the food guide as an extension activity just before Lesson 2 works well. Similarly, basic knowledge about label reading is recommended prior to Lesson 2. We suggest using **HeartSmart Kids™** resources (www.heartandstroke.bc.ca/heartsmartkids) and **Food Sense** (www.bcdairyfoundation.ca) to introduce *Eating Well with Canada’s Food Guide*.

The **Sip Smart! BC™ Drink Diary** (*page 87*) is a vital tool to raise students’ awareness about their drinking patterns (and thereby their sugar intake). We therefore recommend that students fill in three Drink Diaries over the course of the program, and that results are calculated and reported back to students.

Backgrounders

Backgrounder documents are located in the section immediately following the lesson plans. Backgrounders elaborate on the core information provided in the ‘Activity Tips’ section of activity plans. Teachers participating in the 2008 - 2009 facilitated delivery suggested that it would be very useful to have additional information on the topics addressed. It is best to read through the ‘Backgrounder’ section before starting to teach the program as it includes valuable information about the characteristics of sugary drinks you will be discussing.

Resources

The ‘Resources’ section provides master copies of all handouts and overheads, along with additional teacher resources. Clear labelling in the Activity sections enables you to locate required materials easily.

Assessment Tools

Ready-to-use assessment tools for the four main activities can be found in the ‘Assessment’ section. Two quizzes, one for each level, check that students have learned the key messages through the five lessons, and are a great tool to wrap up the program. We tested the questions for comprehension and literacy levels with over 6,000 students.

Extensions

We have provided a few more ideas for teaching students about healthy drink selection in the ‘Extensions’ section. Some of these ideas were suggested by teachers participating in early delivery of the program. These may also stimulate your own thoughts about other creative ways to augment this program.

Pages in the ‘Extensions’ section also include activity ideas to extend learning beyond the classroom to the whole school, home and community. Check our website for updates on extension activities.

Online Resources

The **Sip Smart! BC™ website** provides additional valuable learning tools for teachers including:

- a downloadable Drink Diary Calculator to calculate the results of the **Sip Smart! BC™** Drink Diaries
- a series of short video clips that feature young students and health professionals engaging in dialogue around key sugary drink topics
- information about downloading the entire **Sip Smart! BC™** package (Teacher Resource Guide, posters, set of 14 drink cut-outs, and materials for families)
- information about ordering **Sip Smart! BC™** materials in print format (while quantities last)

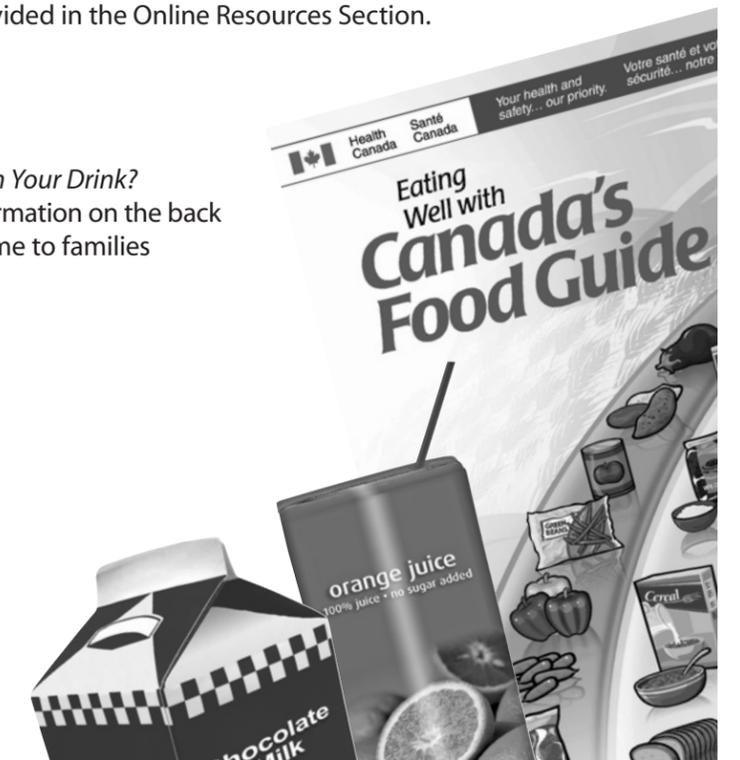
A list of links to organizations that can provide teachers with even more information about healthy living and/or sugary drinks is also provided in the Online Resources Section.

Addendum

Additional resources included in the full package:

- Posters: *What Size is Your Drink? How Much Sugar is in Your Drink?*
- Set of 14 laminated *Drink Cut-outs* with nutrition information on the back
- Class set of the **Sip Smart! BC™ Booklet** to send home to families
- *Eating Well with Canada’s Food Guide* (1 copy)

visit us at
www.bcpeds.ca
for more learning tools



Acknowledgements

Many teachers, health and education professionals, consultants and students throughout BC have contributed to this program. In particular we wish to thank the following for their assistance in the development of **Sip Smart! BC™** Teacher Resource Guide.

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- Stephanie Hudson, BC Pediatric Society
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- Tom Warshawski, BC Pediatric Society

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- Bryna Kopelow, Action Schools! BC
- P.J. Naylor, University of Victoria

School Districts with Classrooms Participating in 2008-2009 Delivery of Sip Smart! BC™

Lower Mainland & Vancouver Island

- #36 Surrey
- #37 Delta
- #38 Richmond
- #39 Vancouver
- #40 New Westminster
- #41 Burnaby
- #42 Maple Ridge-Pitt Meadows
- #43 Coquitlam
- #44 North Vancouver
- #45 West Vancouver
- #62 Sooke
- #68 Nanaimo-Ladysmith
- #69 Qualicum

North

- #28 Quesnel
- #50 Haida Gwaii
- #54 Bulkley Valley
- #57 Prince George
- #59 Peace River South
- #60 Peace River North
- #82 Coast Mountains
- #91 Nechako Lakes

Interior

- #22 Vernon
- #23 Central Okanagan
- #53 Okanagan Similkameen
- #67 Okanagan Skaha
- #73 Kamloops/Thompson

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- Maryanne Trofimuk, Principal, Rogers Elementary School (Victoria)
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Lessons

Sip Smart! BC™ lessons are aligned with BC curricula.

Lessons & Activities			Learning Outcomes		
Lesson 1	→ DRINK DETECTIVE			Health and Career Education - Health Healthy Living	
	ACTIVITY	*LEVEL 1*	**LEVEL 2**	Gr. 4	C2 describe choices they can make for healthy eating, based on <i>Eating Well with Canada's Food Guide</i>
	Sugar Shocker	5 min	5 min	Gr. 5	C2 describe strategies for contributing to a healthy, balanced lifestyle, including healthy eating, integrating regular physical activity, and maintaining emotional health
	Drink Check	15 min	10 min		
	Drink Diary	20 min	15 min		
Total	40 min	30 min	Gr. 6	C1 describe the benefits of attaining and maintaining a balanced, healthy lifestyle, including the benefits of <ul style="list-style-type: none"> • being physically active • healthy eating practices • an emotionally healthy lifestyle 	

Lessons & Activities			Learning Outcomes		
Lesson 2	→ SUGAR, SUGAR!			Health and Career Education - Health Healthy Living	
	ACTIVITY	*LEVEL 1*	**LEVEL 2**	Gr. 4	C2 describe choices they can make for healthy eating, based on <i>Eating Well with Canada's Food Guide</i>
	<i>Eating Well with Canada's Food Guide</i>	10 min	5 min	Gr. 5	C2 describe strategies for contributing to a healthy, balanced lifestyle, including healthy eating, integrating regular physical activity, and maintaining emotional health
	Water - A Great Thirst Quencher	5 min	5 min		
	Drink Report I	5 min	5 min		
	Count the Cubes!	20 min	15 min	Gr. 6	C1 describe the benefits of attaining and maintaining a balanced, healthy lifestyle, including the benefits of <ul style="list-style-type: none"> • being physically active • healthy eating practices • an emotionally healthy lifestyle
The Scoop on Sugar		10 min			
Total	40 min	40 min			

Activity recommended for all levels.

Level 1: Recommended for Gr. 4/5 students

Level 2: Recommended for Gr. 6 or advanced Gr. 5 students

NOTE: Total time per Activity depends on how much time you allot for classroom discussion.

Lessons & Activities			Learning Outcomes		
Lesson 3	→ NOT JUST SUGAR			Health and Career Education - Health Healthy Living	
	ACTIVITY	*LEVEL 1*	**LEVEL 2**	Gr. 4	C2 describe choices they can make for healthy eating, based on <i>Eating Well with Canada's Food Guide</i>
	Drink Report II	5 min	5 min	Gr. 5	C2 describe strategies for contributing to a healthy, balanced lifestyle, including healthy eating, integrating regular physical activity, and maintaining emotional health
	"Bump Out"	10 min	5 min		
	Caffeine Check		15 min		
	"Tooth" Experiment Part I	20 min	15 min	Gr. 6	C1 describe the benefits of attaining and maintaining a balanced, healthy lifestyle, including the benefits of <ul style="list-style-type: none"> • being physically active • healthy eating practices • an emotionally healthy lifestyle
Total	35 min	40 min			

Lessons & Activities			Learning Outcomes		
Lesson 4	→ SIP SMART!			Science - Processes and Skills of Science	
	ACTIVITY	*LEVEL 1*	**LEVEL 2**	Gr. 4	Make predictions, supported by reasons and relevant to the content
	Drink Report III	5 min	5 min	Gr. 6	Manipulate and control a number of variables in an experiment
	"Tooth" Experiment Part II	25 min	25 min		
Total	30 min	30 min	Health and Career Education - Health Healthy Living See Lesson 3		

Lessons & Activities			Learning Outcomes		
Lesson 5	→ THINK BEFORE YOU DRINK!			Health and Career Education - Health Healthy Living	
	ACTIVITY	*LEVEL 1*	**LEVEL 2**	Gr. 5	C1 identify factors that influence attitudes and decisions regarding healthy lifestyles (e.g., family, peer, media)
	"Role" With It!	35 min		Gr. 4	A1 identify the steps in a decision-making model (e.g., identifying the decision, listing alternatives, selecting a course of action, assessing the results).
	Have a Blast!		15 min		
	Water - a Bestseller!		20 min		
	Total	35 min	35 min	Gr. 5	A1 describe how various factors (e.g., access to accurate and relevant information, media and social influences) affect decision making
			Gr. 6	A2 identify influences on goal setting and decision making, including family, peer, and media influences	

References

BC Health and Career Education, K to 7 Integrated Resource Package, 2006

(Note: *Eating Well with Canada's Food Guide* replaces title for *Canada's Food Guide to Healthy Eating*; used in the 2006 IRP).

BC Science, K to 7 Integrated Resource Package, 2005

Materials

NOTE: Most of the materials are readily available at home or school. A few will need to be purchased, such as the box of sugar cubes, however, these can be reused!

	You'll need:		Shopping List
	* LEVEL 1*	** LEVEL 2**	* LEVEL 1* & ** LEVEL 2**
Lesson 1	<ul style="list-style-type: none"> Overhead transparencies: <ul style="list-style-type: none"> Overhead 1: <i>Fruit Juice or Fruit Drink?</i> Overhead 2: <i>Drink Diary - Example</i> Class set: <ul style="list-style-type: none"> Handout 13: <i>Sip Smart! BC™ Drink Diary</i> Poster: <i>What Size is Your Drink?</i> <i>Drink Cut-outs</i> <i>Drink Diary Calculator</i> Backgrounders: <ul style="list-style-type: none"> <i>Sports Drinks</i> <i>Energy Drinks</i> Assessment Tools: <ul style="list-style-type: none"> <i>Sip Smart! BC™ Drink Diary</i> Optional: Empty beverage containers 	<ul style="list-style-type: none"> Overhead transparencies: <ul style="list-style-type: none"> Overhead 1: <i>Fruit Juice or Fruit Drink?</i> Overhead 2: <i>Sip Smart! BC™ Drink Diary - Example</i> Class set: <ul style="list-style-type: none"> Handout 13: <i>Sip Smart! BC™ Drink Diary</i> Poster: <i>What Size is Your Drink?</i> <i>Drink Cut-outs</i> <i>Drink Diary Calculator</i> Backgrounders: <ul style="list-style-type: none"> <i>Sports Drinks</i> <i>Energy Drinks</i> Assessment Tools: <ul style="list-style-type: none"> <i>Sip Smart! BC™ Drink Diary</i> Optional: Empty beverage containers 	<ul style="list-style-type: none"> Optional: 1.2 kg sugar 1 cup/glass with 250 mL
Lesson 2	<ul style="list-style-type: none"> Overhead transparencies: <ul style="list-style-type: none"> Overhead 4: <i>% Water in Human Body</i> Overhead 3: <i>Drink Report</i> Overhead 5: <i>How to Read a Label</i> Class set: <ul style="list-style-type: none"> Handout 13: <i>Sip Smart! BC™ Drink Diary</i> Handout 18: <i>Crossword Puzzle</i> <i>Sip Smart! BC™ Booklet</i> Poster: <i>How Much Sugar is in Your Drink?</i> <i>Drink Cut-outs</i> <i>Drink Diary Calculator</i> Backgrounders: <ul style="list-style-type: none"> <i>Sugar</i> <i>Water</i> <i>Guide to Making Healthy Drink Choices</i> <i>Ingredients on Labels</i> Magnets Sticky notes Permanent markers 	<ul style="list-style-type: none"> Overhead transparencies: <ul style="list-style-type: none"> Overhead 4: <i>% Water in Human Body</i> Overhead 3: <i>Drink Report</i> Overhead 5: <i>How to Read a Label</i> Overhead 6: <i>The Scoop on Sugar Answer Key</i> Class set: <ul style="list-style-type: none"> Handout 13: <i>Sip Smart! BC™ Drink Diary</i> Handout 14: <i>The Scoop on Sugar</i> Handout 18: <i>Crossword Puzzle</i> <i>Sip Smart! BC™ Booklet</i> Poster: <i>How Much Sugar is in Your Drink?</i> <i>Drink Cut-outs</i> <i>Drink Diary Calculator</i> Backgrounders: <ul style="list-style-type: none"> <i>Sugar</i> <i>Water</i> <i>Guide to Making Healthy Drink Choices</i> <i>Ingredients on Labels</i> Magnets Sticky notes Permanent markers 	<ul style="list-style-type: none"> About 200 sugar cubes 10 lunch baggies 10 plastic cups

	You'll need:		Shopping List
	* LEVEL 1*	** LEVEL 2**	* LEVEL 1* & ** LEVEL 2**
Lesson 3	<ul style="list-style-type: none"> Overhead transparencies: <ul style="list-style-type: none"> Overhead 3: <i>Drink Report</i> Overhead 9: <i>Acid in Drinks</i> Overhead 10: <i>"Tooth" Experiment Report</i> Class set: <ul style="list-style-type: none"> Handout 13: <i>Drink Diary</i> Handout 16: <i>Observations of "Tooth" Experiment</i> <i>Drink Diary Calculator</i> <i>Drink Cut-outs</i> Backgrounders: <ul style="list-style-type: none"> <i>"Tooth" Experiment</i> Assessment Tools: <ul style="list-style-type: none"> <i>Observations of "Tooth" Experiment</i> 8 Large sticky notes Chalk Optional: 2 or 3 skipping ropes 	<ul style="list-style-type: none"> Overhead transparencies: <ul style="list-style-type: none"> Overhead 3: <i>Drink Report</i> Overhead 7: <i>Every Serving Counts</i> Overhead 8: <i>Caffeine Report</i> Overhead 9: <i>Acid in Drinks</i> Overhead 10: <i>"Tooth" Experiment Report</i> Class set: <ul style="list-style-type: none"> Handout 13: <i>Drink Diary</i> Handout 15: <i>Check the Caffeine!</i> Handout 16: <i>Observations of "Tooth" Experiment</i> Teacher Resources: <ul style="list-style-type: none"> Teacher Resource 20: <i>Caffeine Symptoms</i> Teacher Resource 21: <i>Caffeine Scenario</i> <i>Drink Diary Calculator</i> <i>Drink Cut-outs</i> Backgrounders: <ul style="list-style-type: none"> <i>"Tooth" Experiment</i> <i>Caffeine</i> Assessment Tools: <ul style="list-style-type: none"> <i>Observations of "Tooth" Experiment</i> 8 Large sticky notes Overhead markers in 4 colours 	<ul style="list-style-type: none"> 1 can regular cola 1 can diet cola 1 can clear pop 1 can energy drink 1 apple juice box 1 glass of water 6 clear containers (about 200 mL), ideally with lids. 6 pieces of bone
Lesson 4	<ul style="list-style-type: none"> Overhead transparencies: <ul style="list-style-type: none"> Overhead 3: <i>Drink Report</i> Overhead 9: <i>Acid in Drinks</i> Overhead 10: <i>"Tooth" Experiment Report</i> Overhead 11: <i>Tricky Questions for Advanced Scientists</i> Class set: <ul style="list-style-type: none"> Handout 16: <i>Observations of "Tooth" Experiment</i> (from Lesson 3) <i>Drink Diary Calculator</i> Backgrounders: <ul style="list-style-type: none"> <i>"Tooth" Experiment</i> Assessment Tools: <ul style="list-style-type: none"> <i>Drink Diary</i> <i>Observations of "Tooth" Experiment</i> Containers with "teeth" from Part 1 Paper towels Sink to drain liquids 	<ul style="list-style-type: none"> Overhead transparencies: <ul style="list-style-type: none"> Overhead 3: <i>Drink Report</i> Overhead 9: <i>Acid in Drinks</i> Overhead 10: <i>"Tooth" Experiment Report</i> Overhead 11: <i>Tricky Questions for Advanced Scientists</i> Class set: <ul style="list-style-type: none"> Handout 16: <i>Observations of "Tooth" Experiment</i> (from Lesson 3) <i>Drink Diary Calculator</i> Backgrounders: <ul style="list-style-type: none"> <i>"Tooth" Experiment</i> Assessment Tools: <ul style="list-style-type: none"> <i>Drink Diary</i> <i>Observations of "Tooth" Experiment</i> Containers with "teeth" from Part 1 Paper towels Sink to drain liquids 	N/A
Lesson 5	<ul style="list-style-type: none"> Teacher Resources: <ul style="list-style-type: none"> Teacher Resource 22: <i>"Role" With It! Scenarios</i> Backgrounders: <ul style="list-style-type: none"> <i>Guide to Making Healthy Drink Choices</i> <i>Water</i> Assessment Tools: <ul style="list-style-type: none"> <i>"Role" With It!</i> Quiz Optional: props e.g., empty beverage containers 	<ul style="list-style-type: none"> Overhead transparencies: <ul style="list-style-type: none"> Overhead 12: <i>Have a Blast!</i> Class Set: <ul style="list-style-type: none"> Handout 17: <i>Check the label first!</i> Backgrounders: <ul style="list-style-type: none"> <i>Guide to Making Healthy Drink Choices</i> <i>Water</i> Assessment Tools: <ul style="list-style-type: none"> <i>Water - a Bestseller</i> Quiz Optional: Props e.g., glass of water Optional: Drink ads from magazines 	N/A

SIP SMART! BC™ KEY MESSAGES

Some drinks don't fit into the four food groups in Eating Well with Canada's Food Guide.

Sugar is a major ingredient in many popular drinks.

Knowing what is in drinks helps us to make healthy choices.

The number and size of servings we drink affects the amount of sugar we consume.

Drinking sugary drinks "bumps out" nutritious drinks.

Some ingredients in sugary drinks other than sugar, such as acid and caffeine, may damage our health.

Drink choices can be influenced by various factors, including family, friends and the media.

We can decide for ourselves to make healthy drink choices.

Drink water - it's always a great choice!



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HEART & STROKE FOUNDATION

Sip Smart! BC™ was created and developed by the BC Pediatric Society and Heart and Stroke Foundation with funding from the BC Health Living Alliance

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Lesson 1 Drink Detective

Prescribed Learning Outcomes

Health and Career Education Health *Healthy Living*

Grade 4

C2 describe choices they can make for healthy eating, based on *Eating Well with Canada's Food Guide*

Grade 5

C2 describe strategies for contributing to a healthy, balanced lifestyle, including healthy eating, integrating regular physical activity, and maintaining emotional health

Grade 6

C1 describe the benefits of attaining and maintaining a balanced, healthy lifestyle, including the benefits of:

- being physically active
- healthy eating practices
- an emotionally healthy lifestyle

Activity Overview

Level 1:

Sugar Shocker	5 minutes
Drink Check	15 minutes
Drink Diary	20 minutes

40 minutes

Level 2:

Sugar Shocker	5 minutes
Drink Check	10 minutes
Drink Diary	15 minutes

Total 30 minutes

Activity 1. Sugar Shocker (5 mins)

Key Messages

Knowing what is in drinks helps us to make healthy choices.

Objectives

- To engage the students in thinking about sugary drinks

Preparation

You need:

- *optional*: 1.2 kg sugar
- 250 mL cup/glass

Activity

Level 1 and Level 2

- Show students 1.2 kg of real sugar (*optional*).
 - Q1.** How many cans of pop do you have to drink to add up to 1.2 kg of sugar? (Let them guess)
 - A1.** 30 cans
- Show students one regular size can of pop (355 mL).
 - Q2.** What if you drink 1 can of pop each day? (Work with the students on the calculation)
 - A2.** 1 can of pop = 10 cubes of sugar
 $1 \text{ can/day} \times 1 \text{ month} = 300 \text{ cubes of sugar}$
 $1 \text{ sugar cube} = 4 \text{ g}$
 $300 \text{ cubes of sugar} \times 4 \text{ grams} = 1.2 \text{ kg real sugar}$
- Show students an empty cup or glass (250 mL).
 - Q3.** How many cups of fluid should we drink each day to stay healthy? (Let them guess)
 - A3.** At least 8 cups of fluid
- Show students a sugar cube and/or teaspoon of sugar.
 - Q4.** What is the maximum amount of added sugar a student your age should eat or drink in a day? (including drinks and food)? (Let them guess)
 - A4.** No more than 13 sugar cubes and/or teaspoons of sugar
- Introduce the **Sip Smart! BC™** program:
 - Sip Smart! BC™** is a program that teaches you about healthy drink choices! The program will help you to "sip smart".

Help your students become **Drink Detectives!**



Activity Tips

Sugary drinks are drinks that contain added sugars (i.e. sugars and syrups that are added during processing or preparation).

The maximum amount of added sugar a student should have in a day is a tricky topic. Please read the Backgrounder: *Sugar* (page 52).

The Punchline!

People can do different things to help keep their bodies and minds healthy. Choosing healthy drinks can be one of those things.

Activity 2. Drink Check (10-15 mins)

Key Messages

The number and size of servings we drink affect the amount of sugar we consume. Knowing what is in drinks helps us to make healthy choices.

Objectives

- To recall drinks that they have consumed in different situations

Preparation

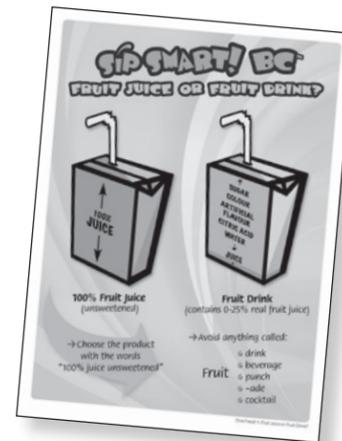
You need:

- Poster: *What Size Is Your Drink?* (page 107)
- *Drink Cut-outs*

Make overhead transparency of Overhead 1: *Fruit Juice or Fruit Drink?* (page 63).

Review Backgrounder: *Juices and Fruity Drinks* (page 53).

Optional: Collect different empty drink containers (*Suggestion:* check recycling box in classroom) to use in addition to *Drink Cut-outs*.



The Punchline!

The number and size of servings we drink affect the amount of sugar we consume. Knowing what is in drinks helps us to make healthy choices.

A healthier alternative to 100% fruit juice would be a glass of water and fresh fruit

Activities

Level 1 and Level 2

• WARM UP

Organize students into 6 groups and assign each group to one of the following situations:

1. At breakfast, lunch or dinner
2. After sports
3. At the movies
4. At recess or lunch at school
5. At a restaurant
6. While watching TV

Ask the students to brainstorm drinks that they typically have in that situation.

Have them present their result after 3 minutes.

• WHAT SIZE IS MY DRINK?

Introduce Poster 1: *What Size is Your Drink?*

Show empty drink containers or drink cut outs to explain the sizes XS, S, M, L and XL.

Hand out different sized containers to teams and ask students to write size XS, S, M, L or XL on the containers with markers, or verbally report to the class. Have each team present their sizes.

• DIFFERENT KINDS OF CONTAINERS

Explain the names of different kinds of drink containers (glass, carton, and bottle) with the help of *Drink Cut-outs* or empty beverage containers. Include water fountain.

• CLOSER LOOK AT DRINKS

Show Overhead 1: *Fruit Juice Or Fruit Drink?*

Give a brief explanation of the differences between juice, cocktail/blend and punch, or involve the students by letting them explain the illustrations. Show different drink containers to emphasize the explanation.

Activity Tips

This activity prepares the students for the Drink Diary (see next page).

The size of drinks is a key concept. We also introduce the different drink containers in order to trigger students' recall.

Activity 3. Drink Diary (15-20 mins)

Key Messages

Knowing what is in drinks helps us to make healthy choices.

Objectives

- To recall at least some of the drinks consumed in a 24-hour period

Preparation

Copy Handout 13: **Sip Smart! BC™ Drink Diary** for each student (legal size) (page 87).

Make overhead transparency of Overhead 2: **Sip Smart! BC™ Drink Diary – Example** (page 65).

Review Backgrounder: *Sports Drinks and Energy Drinks* (pages 58 & 59).

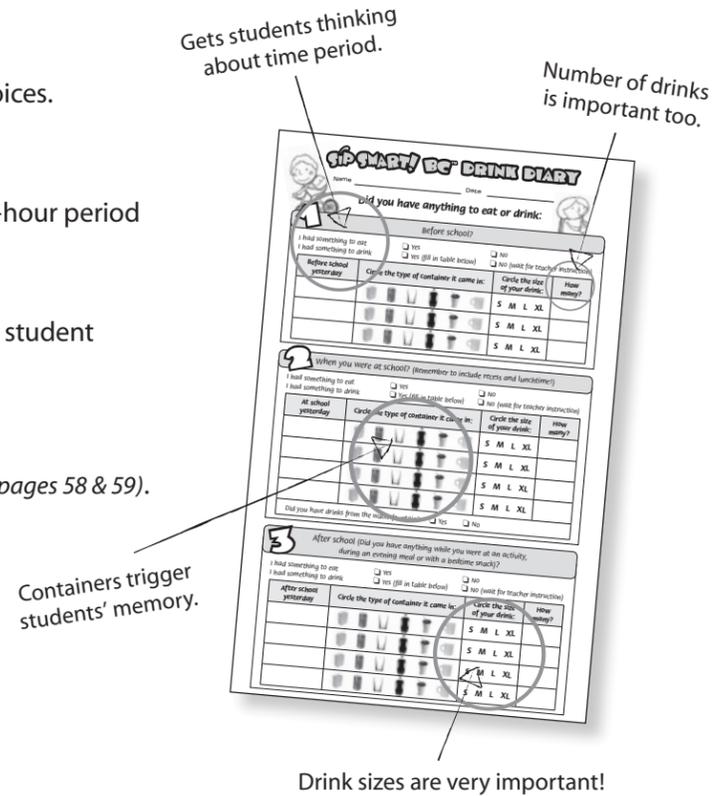
Review Backgrounder: *Q&A Drink Diary* (page 51).

Review Assessment Tool:

Sip Smart! BC™ Drink Diary (page 114).

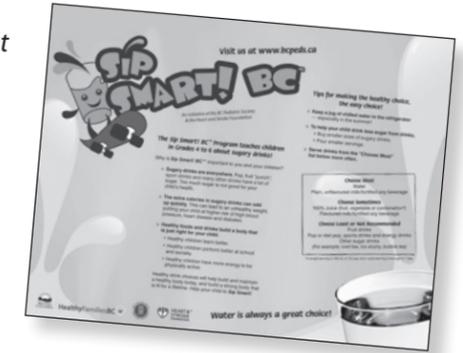
Print class set of

Sip Smart! BC™ Fact Sheet (page 111).



Home Connection

We recommend distributing the **Sip Smart! BC™ Fact Sheet** (page 111) after Lesson 1. The fact sheet is available online in 10 languages.



Lesson 1 Drink Diary

Activity Tips

Please also review Backgrounder: *Q&A Drink Diary* before beginning this activity.

The Drink Diary activity follows Activity Two: Drink Check. If you choose to do the Drink Diary without first doing Activity Two, please read through Activity Two carefully in order to better explain the instructions to the students.

The **Sip Smart! BC™ Drink Diary** was designed by professional evaluators.

To raise students' awareness about drinking habits, we recommend that students complete three Drink Diaries over the course of the project (in Lesson 1, in/after Lesson 2, in/after Lesson 3).

Working through the **Sip Smart! BC™ Drink Diary** together the first time ensures that students understand the concepts of types of containers, drink portion size and quantity of portions. There are two ways to do this; and for consistency of responses, choose one method or the other:

Drink Diary Method #1:

Do the first Drink Diary together as a class on a Tuesday, Wednesday, Thursday or Friday, recalling the drinks they had the day before. Mondays are a difficult day to attempt this exercise as students' drink choices may not be typical of those consumed on weekdays and students often have more difficulty recalling a weekend day. For subsequent Drink Diaries, students can fill in the parts of the Drink Diary as a recall.

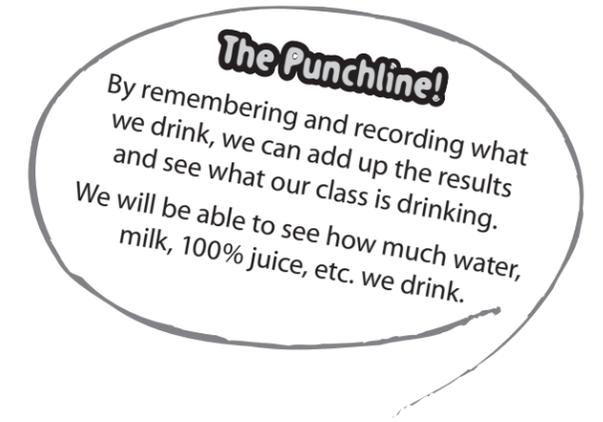
Drink Diary Method #2:

Do the Drink Diary throughout the day. For example, early in the day, ask students to fill in what they had to drink that morning. After lunch, ask students to fill in what they had to drink with their meal, and ask students to fill it in again at home, before they go to bed. Have them hand in the Drink Diaries the next morning.

Before your next **Sip Smart! BC™** lesson, go to www.bcpeds.ca and download the *Drink Diary Calculator* to calculate results. Once you enter student drink reports into the spreadsheet, the summary information requested for Overhead 3: *Drink Report* and Overhead 8: *Caffeine Report* is automatically calculated for you.

We have reserved 5 minutes in Lessons 2, 3 and 4 to report back the results of the Drink Diaries using Overhead 3: *Drink Report*. The required time for this report will vary depending on allotted time for discussion.

It is recommended that you use the Assessment Tool for the third Drink Diary.



Activity

Level 1 and Level 2

- Explain to the students how to fill in the drink diary correctly by using the drinks you had the previous day, and write them down on Overhead 2: **Sip Smart! BC™ Drink Diary – Example**.
- Note the need to record the number and size of each drink type consumed at one time (see fourth bullet).
- Note that there are three sections in the diary, one for the time period before school, one for while at school and one for after school.
- Prompt students to recall the time sequences (before, at and after school) of the previous day.
- Then distribute Handout 13: **Sip Smart! BC™ Drink Diary** to each student.
- Have students fill in each section. Cue students with questions about each time period. For example:
 - After school?
 - How did you travel home from school?
 - Were you watching TV?
- Collect the *Drink Diaries* and use the *Drink Diary Calculator* to calculate the results of the survey before the next lesson.

Lesson 2 Sugar, Sugar

Prescribed Learning Outcomes

Health and Career Education Health *Healthy Living*

Grade 4

C2 describe choices they can make for healthy eating, based on *Eating Well with Canada's Food Guide*

Grade 5

C2 describe strategies for contributing to a healthy, balanced lifestyle, including healthy eating, integrating regular physical activity, and maintaining emotional health

Grade 6

C1 describe the benefits of attaining and maintaining a balanced, healthy lifestyle, including the benefits of:

- being physically active
- healthy eating practices
- an emotionally healthy lifestyle

Activity Overview

Level 1:

<i>Eating Well with Canada's Food Guide</i>	10 minutes
Water – A Great Thirst Quencher	5 minutes
Drink Report I	5 minutes
Count the Cubes!	20 minutes
The Scoop on Sugar!	n/a

40 minutes

Level 2:

<i>Eating Well with Canada's Food Guide</i>	5 minutes
Water – A Great Thirst Quencher	5 minutes
Drink Report I	5 minutes
Count the Cubes!	15 minutes
The Scoop on Sugar!	10 minutes

40 minutes

Activity 1. Eating Well With Canada's Food Guide

(5 -10 mins)

Key Messages

Some drinks don't fit into the four food groups in *Eating Well with Canada's Food Guide*.

Objectives

- To recognize that sugary drinks do not contain enough nutritional value to fit into one of the four food groups

Preparation

You need:

- Magnets or tape
- Big sticky notes
- Write the names of the four food groups on the blackboard: Vegetables and Fruit, Grain Products, Milk and Alternatives, Meat and Alternatives
- *Drink Cut-outs*

Review Backgrounder: *Guide to Making Healthy Drink Choices* (page 60).

Activity

10 minutes

- Ask students to brainstorm drinks and each write one idea on a sticky note.
- Review the four food groups with students.
- Have students put their sticky note on their forehead (or shirt) and silently group themselves into groups of drinks that fit into the four food groups vs. drinks that do not.
- Place the *Drink Cut-outs* and sticky notes into the appropriate food groups on the blackboard.

Level 1

5 minutes

- Review the four food groups with students.
- Choose some beverage examples (*Drink Cut-outs* or real containers) and ask students where to place them on the blackboard.

Level 2

The Drink Report is a real eye popper!



Activity Tips

To introduce students to *Eating Well with Canada's Food Guide* the following resources are recommended:



HeartSmart Kids™
(www.heartandstroke.bc.ca/heartsmartkids)



Food Sense
(www.bcdairyfoundation.ca)

The Punchline!

Many important nutrients are found in healthy drinks, like calcium and vitamin D in milk and fortified soy beverages, and vitamin C in 100% fruit juice. Other drinks may not have enough nutritional value to fit into one of the four food groups.

➤ **Note:** Copies of *Eating Well with Canada's Food Guide* can be ordered or downloaded from the following site: www.hc-sc.gc.ca

Activity 2. Water – A Great Thirst Quencher (5 mins)

Key Messages

Drink water - it's always a great choice!

Objectives

- To discuss the importance of drinking water

Preparation

- Make overhead transparency of Overhead 4: % Water in Human Body (page 69).
- Review Backgrounder: Water (page 50).

Eating Well with Canada's Food Guide also advises water as a great drink choice.



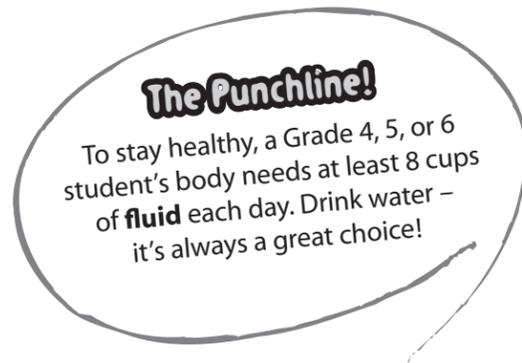
Activity

Level 1 and Level 2

- Explain with help of Overhead 4: % Water in Human Body that the body is made up of approximately 65% water.
- Discuss the importance of water. Cue students by using questions such as those below (see answers in Activity Tips):
 - Q1.** Why do we need water?
 - Q2.** How much water do we need?
 - Q3.** What happens if we don't get enough water?

Activity Tips

- Q1.** Why do we need water?
 - A1.** Our bodies need water to: cool off by sweating, carry nutrients (like vitamins and minerals) to different parts of our bodies, carry waste (like carbon dioxide) out of our bodies; digest food, maintain blood pressure and kidney health, allow our muscles to contract, and many other vital bodily functions.
- Q2.** How much water do we need?
 - A2.** Children (9-12 years old) need about 8 cups of fluid each day (about 1 L of water for every 1,000 calories burned). The best way to know if we are drinking enough water is to check our urine output. We should urinate every 2 to 4 hours, and the urine should be pale yellow (like lemonade) not dark (like apple juice).
- Q3.** What happens if we don't get enough water?
 - A3.** Our bodies become dehydrated if we don't get enough water or other fluids. That is, we may feel tired, dizzy, have trouble concentrating, have a headache, have a higher heart rate, or have muscle cramps. At extreme levels of dehydration we can become delirious, our muscle and nervous systems can fail, and we can die.



Activity 3. Drink Report I (5 mins)

Key Messages

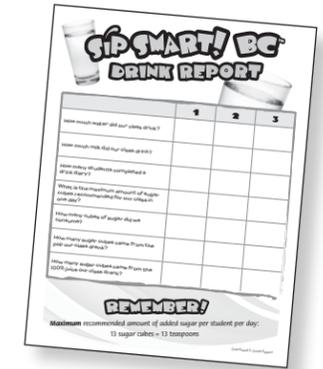
The number and size of servings we drink affect the amount of sugar we consume. Knowing what is in drinks helps us to make healthy choices.

Objectives

- To discuss the implications of the drinks reported by the class

Preparation

- Make overhead transparency of Overhead 3: Drink Report (page 67).
- Fill in the class results of the last **Sip Smart! BC™ Drink Diary** that you calculated with the *Drink Diary Calculator*. Once you enter students' drink reports into the spreadsheet, the summary information for Overhead 3: Drink Report (page 67) is automatically calculated for you.
- Copy Handout 13: **Sip Smart! BC™ Drink Diary** (page 87) for each student.
- Review Backgrounder: Sugar (page 52).



Activity

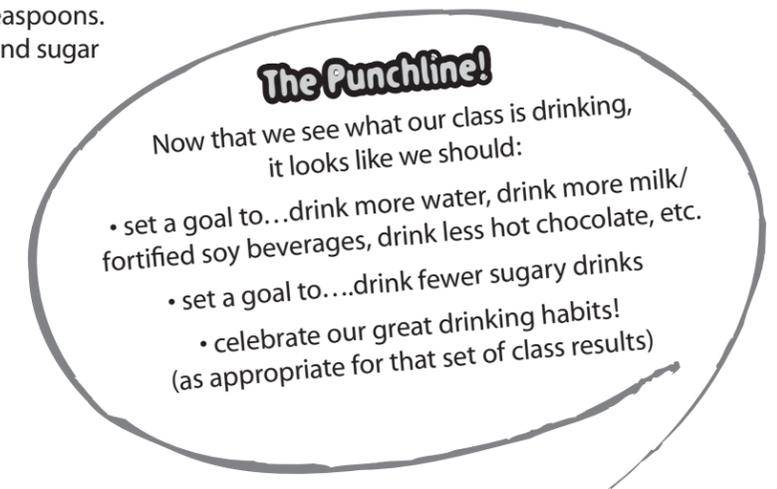
Level 1 and Level 2

- Report results of last Drink Diary to the students using Overhead 3: Drink Report.
- Discuss results for that set of class results (each class will be different). For example: encourage the class to increase consumption of milk or fortified soy beverages (if needed), limit pop (if needed), etc.
- Have the class work out a daily class goal, e.g., fewer than 390 sugar cubes each day = fewer than 13 cubes of sugar each for 30 students.
- Distribute Handout 13: **Sip Smart! BC™ Drink Diary** and ask students to fill in Drink Diary II. (See Lesson 1 for details). Some teachers skip the second Drink Diary and just do one for the fourth lesson. The benefit of doing three Drink Diaries is that the repetition increases childrens' awareness of what beverages they are consuming and the concept of portion size.

Activity Tips

Health professionals recommend fewer than 13 teaspoons. This includes added sugar from foods and drinks, and sugar in juice.

The activity offers teachable moments, such as: Comparing the average student intake of water, milk or fortified soy beverages and added sugar with recommendations and limitations made in *Eating Well with Canada's Food Guide*.



Activity 4. Count the Cubes! (15 - 20 mins)

Key Messages

Knowing what is in drinks helps us to make healthy choices. Sugar is a major ingredient in many popular drinks.

Objectives

- To determine and report how many cubes/teaspoons of sugar are in various drinks
- To use nutrition labels to find information about sugar in drinks

Preparation

You need

- 200 sugar cubes
- 9 lunch baggies
- 9 plastic cups
- Permanent markers
- Sticky notes
- *Optional:* find a 591 mL pop bottle with a nutrition label that lists nutritional information for a smaller serving size like 250 mL or 355 mL (or use cola *Drink Cut-out*).
- Poster *How Much Sugar is in Your Drink?* (page 109)
- *Drink Cut-outs*

Make overhead copy of Overhead 5: *How to Read a Label* (page 71).

Label the plastic cups with the names and serving size of the 9 drinks from the poster.

Cover the sugar cubes on the poster with sticky notes.

Review Backgrounder: *Ingredients on Labels* (page 57).

The Punchline!

There can be a lot of sugar in drinks. Just one drink may use up our 13 cube sugar limit for the day – and that doesn't include sugar from muffins, cookies, candies, and other sweet foods. Reading labels gives you the information needed to determine how much sugar is in a drink.



Activity

Level 1 and Level 2

- Assign the 9 drinks from the poster, a bag of sugar cubes and a plastic cup to 9 groups of students.
- Explain that each cup represents the actual container size of the drink.
- Have students guess the number of sugar cubes in their designated drink and fill the labelled cup with that number.
- Have each group report their guess to the class.

10 minutes

Level 1

- Uncover the number of sugar cubes on the poster *How Much Sugar is in Your Drink?* to compare facts with the student's guess.
- Explain the concept of label reading with the help of Overhead 5: *How to Read a Label*.
- Hand out matching *Drink Cut-outs* and ask students to find sugar in the ingredient list.

5 minutes

Level 2

- Explain the concept of label reading with the help of Overhead 5: *How to Read a Label*.
- Do the math for the example on the label: 12 g sugar = 3 cubes of sugar.
- Hand out the matching *Drink Cut-outs* and let the students read the label and do the math.
- Uncover the number of sugar cubes on the poster *How Much Sugar is in Your Drink?* to compare facts with students' results.

Activity Tips

1 teaspoon or 1 cube sugar = 4 grams

Sugars are listed below Carbohydrates on the label.

Cubes of sugar on Poster:

Energy drink	14 cubes/500 mL
Bubble tea	21 cubes/500 mL
Citrus C	10 cubes/355 mL
Iced tea	10 cubes/355 mL
Iced Coffee	20 cubes/500 mL
Coffee/tea	1+/250 mL
Sports drink	10 cubes/700 mL
Cola	17 cubes/591 mL
Slushie	24 cubes/1000 mL

Cubes of sugar on additional Drink Cut-Outs:

Water	0 cubes/250 mL
Plain milk	3 cubes/250 mL
Chocolate milk	5 cubes/250 mL
Chocolate soy beverage	5 cubes/250 mL
100% orange juice	5 cubes/200 mL

Activity 5. The Scoop on Sugar (10 mins)

Key Messages

Knowing what is in drinks helps us to make healthy choices.

Objectives

- To distinguish drinks with naturally occurring sugars from those with added sugars
- To identify different names for sugar

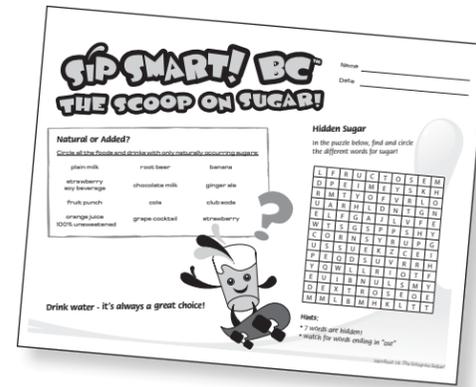
Preparation

You need:

- *Drink Cut-outs*

Copy Handout 14: *The Scoop On Sugar!* for each student (page 89).

Make overhead copy of Overhead 6: *The Scoop on Sugar! (Answer Key; page 73).*



Home Connection

We recommend distributing the *Sip Smart! BC™ Booklets* and Handout 18: *Crossword Puzzle* (page 97) after Lesson 2. If you don't have enough copies of the booklet you can print extras from the masters on our website. The booklet is available online in four languages:

- Chinese
- English
- French
- Punjabi

Activity Tips

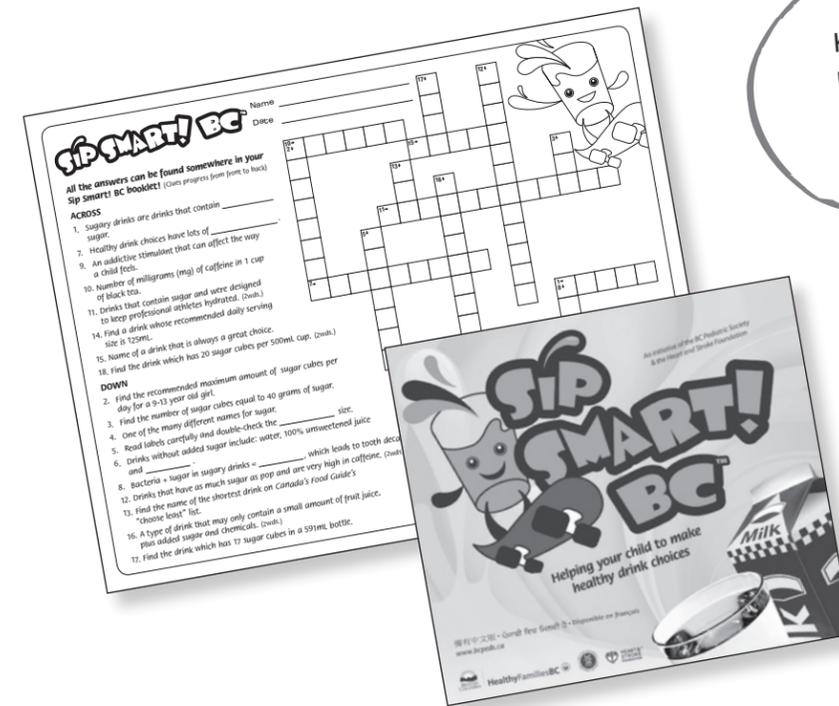
- **Fructose:** found in honey, fruit, and root vegetables
- **Lactose:** milk sugar
- **Maltose:** malt sugar
- **Glucose:** a simple sugar, used by living cells as a source of energy
- **Sucrose:** glucose combined with fructose, also known as table sugar



Activity

Level 2

- Explain the difference between naturally occurring sugars and added sugars.
- Hand out the *Drink Cut-outs* and ask students if they can find other names for sugar on the labels.
- Cue: watch for words ending in "-ose".
- Distribute Handout 14: *The Scoop on Sugar!* and have students complete it.
- Use Overhead 6: *The Scoop on Sugar (Answer Key)* to compare results.



The Punchline!

Knowing what is in drinks can help us make healthy choices. You need to know what the words on a label mean to make a healthy choice.

You need to know what the words on a label mean to make a healthy choice



Lesson 3 Not Just Sugar

Prescribed Learning Outcomes

Health and Career Education
Health Healthy Living

Grade 4

C2 describe choices they can make for healthy eating, based on *Eating Well with Canada's Food Guide*

Grade 5

C2 describe strategies for contributing to a healthy, balanced lifestyle, including healthy eating, integrating regular physical activity, and maintaining emotional health

Grade 6

C1 describe the benefits of attaining and maintaining a balanced, healthy lifestyle, including the benefits of:

- being physically active
- healthy eating practices
- an emotionally healthy lifestyle

Science

Processes and Skills of Science

Grade 4

make predictions, supported by reasons and relevant to the content

Grade 6

manipulate and control a number of variables in an experiment



Activity Overview

Level 1:

Drink Report II	5 minutes
"Bump Out"	10 minutes
Caffeine Check	n/a
Tooth Experiment Part I	20 minutes

35 minutes

Level 2:

Drink Report II	5 minutes
"Bump Out"	5 minutes
Caffeine Check	15 minutes
Tooth Experiment Part I	15 minutes

40 minutes

Knowing what is in drinks helps us to make healthier choices

Activity 1. Drink Report II (5 mins)

Key Messages

The number and size of servings we drink affect the amount of sugar we consume. Knowing what is in drinks helps us to make healthy choices.

Objectives

- To discuss the implications of the Drink Diary report

Preparation

Calculate the results of the second Drink Diary using the *Drink Diary Calculator*. This calculates the added sugar in drinks, and the sugar in juice reported by students for one day.

Fill in Overhead 3: *Drink Report* (page 67).

Copy Handout 13: *Sip Smart! BC™ Drink Diary* for each student (page 87).



Activity

Level 1 and Level 2

- Report results of last Drink Diary to the students using Overhead 3: *Drink Report*.
- Discuss results. For example: encourage class to increase consumption of milk or fortified soy beverages (if needed), limit pop (if needed), etc.
- Compare the results of Drink Diary I and II.
- Discuss if the class has reached their goal.
- Distribute Handout 13: *Sip Smart! BC™ Drink Diary* and ask students to fill in Drink Diary III. (See Lesson 1 for details.)
- If you sent home the *Sip Smart! BC™ Booklet* and Handout 18: *Crossword Puzzle* (page 97) at the end of Lesson 2, take a few minutes to discuss the answers with the students. Handout 19: *Crossword Puzzle (Answer Key; page 99)* can also be made into an overhead.

Activity Tips

Congratulate the class on any decrease in consumption of sugary drinks and on any increase in healthy choices.

If there is no progress toward positive goals, ask students why they think this is so.

The Punchline!

Now that we see what our class is drinking, how well are we progressing toward achieving our goal? Should we....

- drink more water or more milk/fortified soy beverages?
- drink fewer sugary drinks?
- celebrate our great drinking habits?

Activity 2. "Bump Out" (5-10 mins)

Key Messages

Drinking sugary drinks "bumps out" nutritious drinks.

Objectives

- To consider how drinking sugary drinks displaces healthy drinks

Preparation

You need:

- 8 large sticky notes
- Chalk
- Optional: 2 or 3 skipping ropes
- Drink Cut-outs

Write WATER on 5 of the sticky notes.

Write MILK on 3 of the sticky notes.



Level 1

- You need:
- 8 large sticky notes
- Chalk
- Optional: 2 or 3 skipping ropes
- Drink Cut-outs
- Write WATER on 5 of the sticky notes.
- Write MILK on 3 of the sticky notes.

Level 2

- You need:
- Dry erase overhead pens in at least 4 different colors (suggest blue, red, black, green)
- Make overhead transparency of Overhead 7: Every Serving Counts! (page 75).

Activity

10 minutes

- Draw a chalk line on the floor to represent the size of an imaginary stomach. *Optional:* use skipping ropes to outline a "stomach".
- Ask 8 students to come to the front and stand in the stomach area.
- Give each of them one of the "milk" or "water" sticky notes to represent the 8 cups of fluid per day.
- Example 1:** *What if you want pop at recess?*
 - Assign the pop Drink Cut-out to another student.
 - Have a "pop" student enter the stomach area.
 - One pop bottle = 2 cups of liquid, so 2 water students get "bumped" out of stomach.
 - Ask the sugary drink students to sit down.
 - Have students count how many nutritious drinks are left.
- Example 2:** *What if a friend offers you a sports drink instead of water after your soccer game?*
 - Add a "sports drink" student.
 - One sports drink = 3 cups, so take away another 3 cups of healthy drinks (2 water, 1 milk).

Level 1

- You need:
- 8 large sticky notes
- Chalk
- Optional: 2 or 3 skipping ropes
- Drink Cut-outs
- Write WATER on 5 of the sticky notes.
- Write MILK on 3 of the sticky notes.

Level 2

- You need:
- Dry erase overhead pens in at least 4 different colors (suggest blue, red, black, green)
- Make overhead transparency of Overhead 7: Every Serving Counts! (page 75).

Activity Tips

The eight glasses represent the minimum 8 cups of fluid each day required by students their age. Ideal minimum intake: 5 cups of water, 3 cups of milk or fortified soy beverage. Increased activity, warmer weather, illness, etc. may increase fluid needs.

Activity 3. Caffeine Check (15 mins)

Key Messages

Some ingredients in sugary drinks other than sugar, such as acid and caffeine, can damage our health.

Objectives

- To report how much caffeine is in drinks
- To consider the effects of caffeine on their body

Preparation

You need:

- Teacher Resource 20: Caffeine Symptoms (page 101), cut into cards
- Teacher Resource 21: Caffeine Scenario (page 103)

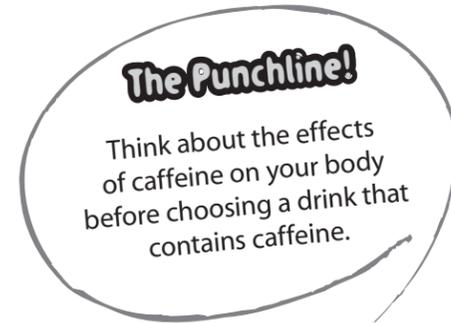
Copy Handout 15: Check the Caffeine! for each student (page 91).

Make an overhead transparency of Overhead 8: Caffeine Report (page 77).

Find the data about caffeine intake from the last **Sip Smart! BC™** Drink Diary on the Drink Diary Calculator.

Fill in Overhead 8: Caffeine Report (page 77).

Review Background: Caffeine (page 53).



Activity Tips

Health professionals suggest students aged 7 - 12 consume no more than 65 to 85 mg of caffeine each day.

One cup of coffee in an adult's body will have the effect of 4 cups of coffee in a student's body.

Activity

15 minutes

- Hand out cards from Teacher Resource 20: Caffeine Symptoms to different students. Ask those students to listen carefully to the story and "act out" the symptom when it comes up in the story.
- Read Teacher Resource 21: Caffeine Scenario to the class.
- Prompt a discussion using questions such as:
 - How did Tom feel?
 - What drinks did he have?
 - Have you ever had similar experiences?
 - What would have been better choices for Tom?
- Explain to students how caffeine affects the body.
- Distribute Handout 15: Check the Caffeine! and have students complete it.
- Use Overhead 8: Caffeine Report to show students' caffeine intake of the last Drink Diary.

Activity 4. Tooth Experiment, Part I (15 - 20 mins)

Key Messages

Some ingredients in sugary drinks other than sugar, such as acid and caffeine, can damage our health.

Objectives

- To connect dental health with healthy drink choices
- To follow the scientific method and report observations on the effect of acid on dental health

Preparation

You need:

- 1 can regular cola
- 1 can diet pop
- 1 can clear pop
- 1 can energy drink
- 1 apple juice box
- 1 glass of water
- 6 clear containers (about 200 mL), ideally with lids.
- 6 pieces of bone

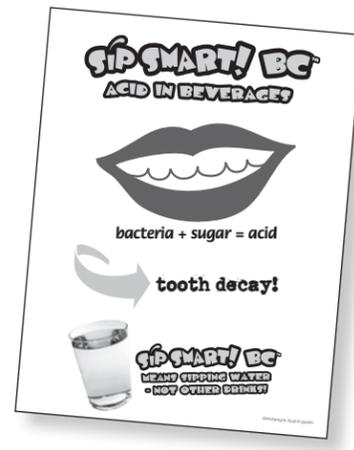
Make overhead transparency Overhead 9: *Acid in Drinks* (page 79).

Make overhead transparency Overhead 10: *"Tooth" Experiment Report* (page 81).

Copy Handout 16: *Observations of "Tooth" Experiment* (page 93) for each student.

Review Backgrounder: *The "Tooth" Experiment* (page 54).

Review Assessment Tool: *Observations of "Tooth" Experiment* (page 115).



Activity Tips

This is a scientific experiment that is to be carried out in groups. Students will observe how sugary drinks affect teeth.

Instead of teeth, you will be using a small piece of bone, which contains calcium and shares many of the same materials as teeth. See Backgrounder: *The "Tooth" Experiment* (page 54) for information about bone preparation. In this lesson, students will set up the experiment. To obtain best results, the pieces of bone should sit submerged for approximately two weeks.

Through testing, we've discovered that using: water, cola, diet cola, clear pop, energy drink, and apple juice will likely get you the most interesting variety of results (see details on page 54). While students may find it boring to observe the tooth in water, it is important as a comparison and for drawing conclusions.

What is the impact of acid and sugar on our teeth?

- Sugar + bacteria (in our mouths) → acid. This acid attacks our teeth, and, over time, causes decay.
- Many sugary drinks are very acidic, which adds even more acid to what our mouths produce.
- The combination of acid and sugar in sugary drinks can lead to severe tooth decay.

It is important to be sensitive to students' backgrounds. If using an animal bone as a "tooth" is not appropriate for a student's culture and/or religion, see Backgrounder: *The "Tooth" Experiment* for alternate material or use the video demonstration (page 133).

Activity

Level 1 and Level 2

- Ask students to suggest reasons why acid may harm their teeth.
- Use Overhead 9: *Acid in Drinks* to explain the impact of sugar and acid on our teeth.
- Put students into 6 groups and assign one drink and one piece of bone to each group.
- Distribute Handout 16: *Observations of "Tooth" Experiment*.
- Ask students to do the following:
 1. Write the drink they are observing on the sheet.
 2. Hypothesize what they think will happen where it says "Based on what I already know, I think..."
 3. Draw a picture of their "tooth" and make observations of what they see, smell and feel.
 4. Place one bone piece in their plastic container.
 5. Fill their container with approximately 125 mL of their drink to be observed (e.g. pop).
 6. Write the liquid used on the plastic container.
 7. Leave the container untouched until the next *Sip Smart! BC™* lesson.
 8. Hold on to their handout; it will be completed in the next lesson.
 9. Ask each group to share their hypothesis and collect the ideas on Overhead 10: *Tooth Experiment Report*. (Overhead will be completed in Lesson 4)

The Punchline!

This is an experiment, following the scientific method, to find out the effect of drinks (with different amounts of acid in them) on teeth. We will check the teeth to observe changes after two weeks.

Teachers say:
"This experiment is well worth the effort!"



Lesson 4 Sip Smart!

Activity 1. Drink Report III (5 mins)

Key Messages

The number and size of servings we drink affect the amount of sugar we consume. Knowing what is in drinks helps us to make healthy choices.

Objectives

- To compare the results of the Drink Diary from the start of the program to the present

Preparation

Calculate the results of the third Drink Diary using the *Drink Diary Calculator*.

This calculates the added sugar in drinks, and the sugar in juice reported by students for one day.

Fill in Overhead 3: *Drink Report* (page 67).

Review Assessment: **Sip Smart! BC™ Drink Diary** (page 114).

Activity

Level 1 and Level 2

- Report results of last drink diary to the students using Overhead 3: *Drink Report*.
- Discuss results. Example: discuss that many factors may influence results, such as students becoming more aware of what they are drinking as compared to the beginning of the program, and are reporting more accurately as a result. Changes in weather or season may influence drink choices also; hot chocolate vs. lemonade and iced tea.
- Compare the results of Drink Diary I, II and III.
- Discuss decreases in consumption of sugary drinks and/or any increases in healthy choices.

Assessment

You can assess student completion of the third Handout 13: **Sip Smart! BC™ Drink Diary** (page 87), by using the assessment tool **Sip Smart! BC™ Drink Diary** (page 114).



The Punchline!

- Given what our class is drinking, it looks like we:**
- generally have enough water to have healthy bodies.
 - seem to be making different (healthier?) drink choices.
 - may be choosing (or not) smaller sizes of drinks.
 - could be reading labels before choosing a drink.

You will need to draw out learnings from the data on the report. The above are examples.

Prescribed Learning Outcomes

Health and Career Education Health *Healthy Living*

Grade 4

C2 describe choices they can make for healthy eating, based on *Eating Well with Canada's Food Guide*

Grade 5

C2 describe strategies for contributing to a healthy, balanced lifestyle, including healthy eating, integrating regular physical activity, and maintaining emotional health

Grade 6

C1 describe the benefits of attaining and maintaining a balanced, healthy lifestyle, including the benefits of:

- being physically active
- healthy eating practices
- an emotionally healthy lifestyle

Science

Processes and Skills of Science

Grade 4

make predictions, supported by reasons and relevant to the content

Grade 6

manipulate and control a number of variables in an experiment



Activity Overview

Level 1:

Drink Report III 5 minutes

Tooth Experiment Part II 25 minutes

30 minutes

Level 2:

Drink Report III 5 minutes

Tooth Experiment Part II 25 minutes

30 minutes

Activity 2. Tooth Experiment Part II (25 mins)

Key Messages

Some ingredients in sugary drinks other than sugar, such as acid and caffeine, can damage our health.

Objectives

- To discuss the results of the tooth experiment
- To recognize that acidic and sugary drinks are damaging to teeth

Preparation

You need:

- Paper towels
- Sink to drain off liquid
- Overhead 9: *Acid in Drinks* (page 79)
- Overhead 10: *“Tooth” Experiment Report* (page 81)
- Containers with “Teeth” from Tooth Experiment Part 1

Make overhead transparency of Overhead 11: *Tricky Questions for Advanced Scientists* (page 83).

Review Backgrounder: *“Tooth” Experiment* (page 54).

Review Assessment: *Observations of “Tooth” Experiment* (page 115).

Activity

Level 1 and Level 2

- Ask students to
 1. Drain off the liquid and place “tooth” on a paper towel.
 2. Find Handout 16: *Observation of “Tooth” Experiment*.
 3. Write down observations. Helpful cues are: change of colour, shape, texture, size.
 4. Draw a (coloured) picture of their “tooth.”
 5. Discuss in their group what happened to their “tooth” and write their conclusion.
 6. Compare results with “tooth” in water.

- Let each group share their observations and present them using Overhead 10: *“Tooth” Experiment Report*. Discuss if the hypothesis was supported by the observations.

Use the questions on Overhead 11: *Tricky Questions for Advanced Scientists* to check the students’ understanding. Show Overhead 9: *Acid in Drinks* again, while discussing results.

Assessment

To assess this activity, please review the assessment tool *Observations of “Tooth” Experiment* (page 115).

Activity Tips

After at least two weeks the students will probably have the following observations:

	Texture	Colour	Explanation
Water	No changes	No changes	• Neither acid, nor colour in water
Apple Juice	Softer texture, squishy, moldy	Light brown	• Teeth with some organic material on their surface make a great substrate for mold to grow, in the presence of moisture and sugar. • Acid causes dental erosion. Teeth soften and dissolve.
Clear Pop	Softer, holes, dissolves, squishy	Slight changes, yellow	• Food colouring in drinks stains and colours teeth. • Acid causes dental erosion. Teeth soften and dissolve.
Diet Cola	Softer, holes, dissolves, squishy	Dark, almost black (same colour as cola)	• Acid causes dental erosion. Teeth soften and dissolve. • Food colouring in drinks stains and colours teeth • There is no sugar in diet cola. It is the acid that causes erosion!
Cola	Softer, holes, dissolves, squishy	Dark, almost black	• Acid causes dental erosion. Teeth soften and dissolve. • Food colouring in drinks stains and colours teeth.
Energy Drink	Softer, holes, dissolves, squishy, shrinks	Dark, depending on brand: dark brown, red, yellow, green or black, white deposit	• Acid causes dental erosion. Teeth soften and dissolve. • Food colouring in drinks stains and colours teeth.

It is important to note that the tooth experiment is different from what occurs in our mouths when we drink sugary drinks because:

- 1) The bone or “tooth” sits in each acidic sugary drink for two weeks or more, but we don’t usually hold drinks in our mouths for this long;
- 2) When we place the bone or “tooth” in different acidic sugary drinks, the only factor acting on the “tooth” is the acidity of the drink. Recall that when we sip a sugary drink, the sugar interacts with the bacteria in our mouths to produce acid. Once this acid is made, it lasts for about 20 minutes, after which the saliva in the mouth neutralizes the acid, and the “acid attack” ends.

Dental Erosion: the loss of the hard mineralized surface of the tooth structure due to chemical dissolution by acids

Acids that may be found in drinks:

- Ascorbic acid (also known as vitamin C)
- Phosphoric acid
- Citric acid
- Lactic acid

The Punchline!

The ingredients in some drinks (sugar and acid), along with naturally occurring bacteria in your mouth, affect your teeth. The combination of bacteria and sugar in sugary drinks form acid which can lead to tooth decay.

Lesson 5 Think Before You Drink!

Prescribed Learning Outcomes

Health and Career Education Goals and Decisions

Grade 4

A1 identify the steps in a decision-making model (e.g., identifying the decision, listing alternatives, selecting a course of action, assessing the results.)

Grade 5

A1 describe how various factors (e.g., access to accurate and relevant information, media and social influences) affect decision making

Grade 6

A2 identify influences on goal setting and decision making, including family, peer, and media influence

Health and Career Education Health Healthy Living

Grade 5

C1 identify factors that influence attitudes and decisions regarding healthy lifestyles (e.g., family, peer, media)

Activity Overview

Level 1:

"Role" With It! 35 minutes

Have a Blast! n/a

Water - a Bestseller! n/a

35 minutes

Level 2:

"Role" With It! n/a

Have a Blast! 15 minutes

Water - a Bestseller! 20 minutes

35 minutes



Activity 1. "Role" With It! (35 mins)

Key Messages

Drink choices can be influenced by various factors, including family, friends and the media. We can decide for ourselves to make healthy drink choices. Drink water - it's always a great choice!

Objectives

- To discuss the ways other people or the media can affect the drink choices they make
- To recognize that students have the ability to make their own decisions about drink choices

Preparation

You need:

- Props, e.g., empty beverage containers

Copy Teacher Resource 22: "Role" With It! Scenarios (page 105).

Review Backgrounder: *Water* (page 50).

Review Backgrounder: *Guide to Making Healthy Drink Choices* (page 60).

Review Assessment: "Role" With It! (page 116).

Activity

Level 1

- Write the sentence, "When someone asks me to drink something that I don't like, I..." on the board and have students brainstorm endings to it.
- Ask students to think of specific situations when they might feel pressured to drink a sugary drink rather than a healthy drink.
- Draw suggestions from students about how they face such situations, then tie these to the four steps:
 1. Stop
 2. Think
 3. Decide
 4. State your decision clearly and firmly
- Tell students that they will perform a role-playing scenario from Teacher Resource 22: "Role" With It! using the 4 steps.

Assessment

To assess this activity we have provided the assessment tool "Role" With It! (page 116).

You can use the *Quiz* (page 119) to wrap up the program.

Activity Tips

Please see "Activity Tips" for this lesson on the next page.



1. Stop
2. Think
3. Decide
4. State your decision clearly and firmly

The Punchline!

There are many factors that can influence our decision making - we **can** decide for ourselves to choose healthy drinks.

Activity Tips

There are several ways to set up the role playing scenario, for example:

- You can use the attached Teacher Resource 22: *Role With It! Scenarios* (page 105) for a more structured activity. This activity can be done in about 25 min.
- Another less structured way would be to ask students to come up with their own scenarios and could take longer.

Criteria:

- The role-playing scenarios show that (at least) one player knows how to make healthy choices.
- Students must be able to state reasons for their choices of drinks.

Remember that it is also a positive step for students to choose healthy drinks besides water and plain milk/fortified soy beverages, such as chocolate/flavoured milk, 100% fruit juice, or even a small(er) portion of a sugary drink.

If students choose the sugary drink in the role playing scenario, a comment may be made about our ability to enjoy “other” foods once in a while. “Other” foods are considered to be foods or drinks that:

- are high in calories, fat, sugar, and/or salt (sodium)
- do not fit in the four food groups of *Eating Well with Canada’s Food Guide*
- should be limited for portion size and frequency

It may be suggested that “other” foods be consumed no more than 20% of the time, leaving 80% of food choices to be healthy, everyday foods.

Activity 2. Have a Blast! (15 mins)

Key Messages

Drink choices can be influenced by various factors, including family, friends and the media. We can decide for ourselves to make healthy drink choices. Drink water - it’s always a great choice.

Objectives

- To analyze media messages to see how they influence students’ choices of sugary drinks
- To compare advertising messages with a drink’s ingredients list

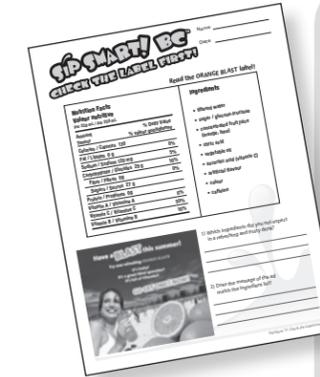
Preparation

Copy Handout 17: *Check the Label First!* for each student (page 95).

Review Backgrounder: *Water* (page 50).

Review Backgrounder: *Ingredients on Labels* (page 57).

Make colour overhead transparency of Overhead 12: *Have a Blast!* (page 85).



Activity

Level 2

- Show Overhead 12: *Have a Blast!*.
- Prompt answers to the following questions (answers below):
 - Q1.** What is done to make the product look attractive to you?
 - Q2.** How does the ad try to sell the drink?
 - Q3.** How can you find out the real facts about the drink?
- Distribute Handout 17: *Check the Label First!* and have students complete it.
- Compare results. Cue students by using questions such as:
 - Are what I know and what the message is telling me the same thing?
 - Is the message leading me to a healthy choice?

Activity Tips

Q1. What is done to make the product look attractive to you?

- A1:** Examples of ways to increase attractiveness:
- Labelling appeal: logos, happy people
 - Colour of the liquid
 - Shape of the bottle

Q2. How does the ad try to sell the drink?

- A2:** Examples of techniques used to sell drinks:
- Attractive model drinking the beverage and smiling, having fun
 - Surrounded by active, healthy, good looking friends
 - Container shows picture of fruit, implying good nutrition

Q3. How can you find out the real facts about the drink?

- A3.** Ways to check accuracy of information about drinks:
- Check the ingredient list
 - Check if the label reflects size of drink or per serving
 - Calculate how much sugar is contained in drink
 - Check the logic of claims made

Choose most
or sometimes



Choose least
or not
recommended



The Punchline!

Drink choices can be influenced by various factors, including family, friends and the media.

Activity 3. Water - A Bestseller! (20 mins)

Key Messages

Drink choices can be influenced by various factors, including family, friends and the media.
We can decide for ourselves to make healthy drink choices.
Drink water - it's always a great choice!

Objectives

- To have students formulate their own advertising messages about water

Preparation

You need (optional):

- Drink advertisement examples from magazines
- Props, like glasses of water

Review Assessment: *Water - a Bestseller* (page 117).



Activity

Level 2

- Have students review their knowledge about the benefits of water. Write a list on the board.
- Organize students into groups.
- Instruct groups that they will brainstorm and decide on one ad to sell a glass of water using one advertising theme. For example: a sports celebrity endorsement type of ad, a creative slogan, and a drawing of the ad or a skit performance.
- Allow groups 5-7 minutes to create their advertisement.
- Have each group pretend they are a marketing company pitching their ad to the owner of a water company. Each group has to try to win the business of the water company with the best ad.
- Decide after the presentations which group best sold the benefits of water.

The Punchline!

Advertisers use clever ways, as you have noticed, to influence your drink choice.
Remember that you can make your decision based on the nutrition information and your health goals.

Assessment

To assess this activity we have provided the assessment tool *Water - a Bestseller*.
You can use the *Quiz* (page 121) to wrap up the program.

Activity Tips

Examples of advertising themes:

- | | |
|-----------------------|---|
| Peer pressure | Humour |
| Scare tactics | Bandwagon (<i>everyone</i> is buying it) |
| Celebrity testimonial | Shockvertising |

→ **Teaching Hint:** *Celebrity testimonials are quickly understood by students and popular with this activity.*

→ Backgrounders

Water	50
Drink Diary	51
Sugar	52
Juices and Fruity Drinks	53
Caffeine	53
The "Tooth" Experiment	54
Ingredients On Labels	57
Sports Drinks	58
Energy Drinks	59
Guide To Making Healthy Drink Choices	60



→ Backgrounders

Water

Our bodies need water to cool off by sweating, carry nutrients (vitamins, minerals, glucose, oxygen, fats) to cells, carry waste (carbon dioxide, lactic acid, etc.) away from cells, digest food, maintain bowel regularity and blood pressure, maintain kidney health, lubricate joints, allow muscles to contract, and many other vital bodily functions.

Our bodies are made up of approximately 65% water.

Children (9 - 12 years old) need about 8 cups of fluid each day (about 1L of water for every 1,000 calories burned). The best way to judge if we are drinking enough fluids is to monitor urine output: we should urinate every 2 to 4 hours, and the urine should be pale yellow (like lemonade) not dark (like apple juice).

Dehydration occurs if we don't get enough water or other fluids. We may feel tired, dizzy, have difficulty concentrating, have a headache, perform poorly at sports, have an increased heart rate, and muscle cramps. At extreme levels of dehydration we can become delirious, have complete muscle and nervous system failure, and die.

Features of tap water:

- It is easily available in most places – drinking fountains, taps in kitchens and bathrooms.
- It is cheaper than bottled water.
- Municipal tap water is highly regulated and monitored for safety, unlike privately managed bottled water.
- There is no evidence that bottled water is safer than municipal tap water (excluding local conditions).
- Empty (often plastic) bottles require energy to be recycled and add more non-biodegradable waste to the landfills.
- Energy is used to bottle water and fuel is used to transport it to stores.
- Potentially harmful toxins (e.g. bisphenol-A) can leach out of some plastic bottles.
- It is possible that some bottled water, such as demineralized water or distilled water is simply tap water that has undergone a process to lower the mineral content and to remove chemicals such as chlorine (Health Canada website, www.hc-sc.gc.ca, downloaded August 17, 2008).

→ **Note:** Under some circumstances tap water can be unsafe. For example, untreated or inadequately treated water from wells and other sources can contain sufficient numbers of disease-causing organisms such as bacteria, parasites and viruses that cause illness. Under these circumstances, bottled water would be a safer choice.

References

Chuey, Patricia, *101 Most Asked Nutrition Questions*, 1999.

Clark, Nancy, *Sports Nutrition Guidebook 2nd Edition*, 1997.



Drink Diary

The students will likely ask a number of questions. Here are answers provided by nutritionists:

Q1. *What about hot chocolate vs. chocolate milk?*

A1. Hot chocolate is rarely prepared with milk and is considered a sugary drink that contains 24 g (6 sugar cubes) added sugar and 7 mg of caffeine per 250 mL. Chocolate milk contains 8 g (2 sugar cubes) added sugar and 7 mg caffeine per 250 mL, but also nutrients such as calcium, vitamin D, riboflavin, and phosphorus.

Q2. *What about diet pop vs. pop?*

A2. Both contain artificial colours and flavours, and both may contain caffeine, but neither contain important nutrients for growing bodies.

Q3. *What about homemade iced tea vs. commercially prepared iced tea?*

A3. Homemade iced tea may be made with herbal (caffeine-free) teas. The amount of added sugar may be controlled and smaller amounts consumed than the sugar contained in commercially prepared iced tea.

Q4. *What about herbal tea vs. green tea/black tea?*

A4. Herbal tea (technically not a real “tea” but an infusion) is usually naturally caffeine free. Both green tea and black tea contain caffeine.

How to calculate the results of the Drink Diary:

On our **Sip Smart! BC™** website www.bcpeds.ca you will find the *Drink Diary Calculator* in the form of an EXCEL™ Spreadsheet that makes it easy to calculate the total sugar cube, water, pop, milk and caffeine intake per class.

Just download the Drink Diary calculator to your computer and run it in EXCEL™. It takes about 10 minutes to put all of the students' drinks into the spreadsheet. In Grade 6, this could be done by a group of students as an extension activity.

If you have questions about using EXCEL™ spreadsheets, please review our brief online tutorial at www.bcpeds.ca/sipsmart/teachers.

We've included a list of drinks that are not easy to categorize below. Use your best judgement if in doubt and/or refer to the Brand Name Food List (*page 135*).

1. *Lemonade* is a sugary drink as it has very little fruit juice in it.

2. *Chocolate milk* is a dairy item, with its own category in the spreadsheet to account for the caffeine in it.

3. *Flavoured milk* is where you would put milkshakes and smoothies, as they have some naturally occurring lactose and nutrition, but also contain added sugar. This is also where we recommend listing *Yop drinks*.

3. *Hot chocolate* is generally made from a powdered mix reconstituted with water. Therefore, it counts as a sugary drink. While we acknowledge that hot chocolate does contain a small amount of caffeine, we still feel it is a better fit in the sugary drinks category.

4. *Crystal Light-type drinks* are categorized with diet pop (not diet cola) as they have similar ingredients. Both are artificially sweetened and thus contain few “sugar cubes”, but offer no other nutrients as fruit juice or milk/fortified soy beverages would. Diet pop (not diet cola) is also where “*Vitamin Water*” is found as well, due to the same artificial ingredients.

This activity invites students to share personal information. It is important to remember that some families do have challenges in providing enough nutritious foods and/or regular meals in the home environment. It is important to maintain an atmosphere of respect, by not judging what students report or exerting any pressure on them. [Adapted from *Healthy Eating & Physical Activity Learning Resource*, BC Ministry of Education and Healthy Living and Sport]

Sugar

Sugary drinks are drinks that contain **added sugars**. Added sugars are sugars and syrups that are added to drinks or foods during processing (e.g. sugars added to pop by the manufacturer) or preparation (e.g. sugars added to a cappuccino after it was bought at the coffee shop). Sugary drinks often have little nutritional value other than extra calories. These drinks “bump out” the nutritious drinks and foods our bodies need to be healthy. For example, children and adolescents who drink pop regularly are more likely to have lower intakes of calcium and other nutrients.

Drinks with **naturally occurring sugars**, like lactose in milk and fructose in 100% fruit juice, usually contain vitamins and minerals. Naturally occurring sugar is no different from added sugar in terms of its effects on the body. However, because drinks with naturally occurring sugars often contain important nutrients, they can be consumed in moderation as part of healthy eating.

Hidden sugars are other names for added sugars that might not sound or look like sugar. These include: sucrose, dextrose, dextrin, maltose, galactose, liquid glucose-fructose, invert sugar, raw cane sugar, brown sugar, corn sweetener, high-fructose corn syrup, rice syrup, fruit juice concentrates, honey, malt syrup, and molasses.

Daily Added Sugar

The upper limit for students in grades 4-6 is no more than **13 teaspoons of added sugars**, or 13 sugar cubes, per day (about 52 grams of sugar). We call this upper limit the **Daily Added Sugar Total** or **DAST**. This maximum number (13 teaspoons/cubes of sugar) is to be used as a guideline, noting that the number would change slightly based on the student’s body composition, activity level and stage of development.

Included in the DAST (13 teaspoons/cubes of sugar) is:

- sugar added to flavoured milk and flavoured soy beverages
- naturally occurring sugar in 100% fruit juice. This is included because we don’t actually need to drink juice to be healthy. It’s easy to get the same nutrients (and more) from whole fruits
- all sugar in fruit beverages, drinks, cocktails etc.
- all added sugar in foods
- sugar in honey and syrups

Not included in the DAST is:

- naturally occurring sugar in milk (lactose)
- sugar in plain soy beverages

Therefore, if a child consumes one 355 mL can of pop, which contains 10 - 12 teaspoons of sugar, he/she has nearly reached his/her DAST (daily added sugar total) for that day! And this is without even eating a cookie yet!

What About Artificial Sweeteners?

In keeping with the BC School Guidelines for Food and Beverage Sales, drinks sweetened with artificial sweeteners such as aspartame are not considered healthy alternatives to sugary drinks for school-age children. Just like sugary drinks, artificially sweetened drinks get children used to sweet-tasting, non-nutritious items. They provide none of the nutrients that a child’s growing body needs to be healthy and strong, and can bump healthy foods and drinks out of the child’s diet. These drinks may also contain artificial sweeteners in amounts that exceed the acceptable daily intake (ADI) for children (see Healthy Families BC factsheet *How Sweet It Is*).

References

Healthy Families BC, *How Sweet It Is! factsheet*.

Capital Health Edmonton Area, *Sugar Shocker*, November 2007.

Guidelines for Food and Beverage Sales in BC Schools, Ministry of Education and Ministry of Health, Revised September 2007.

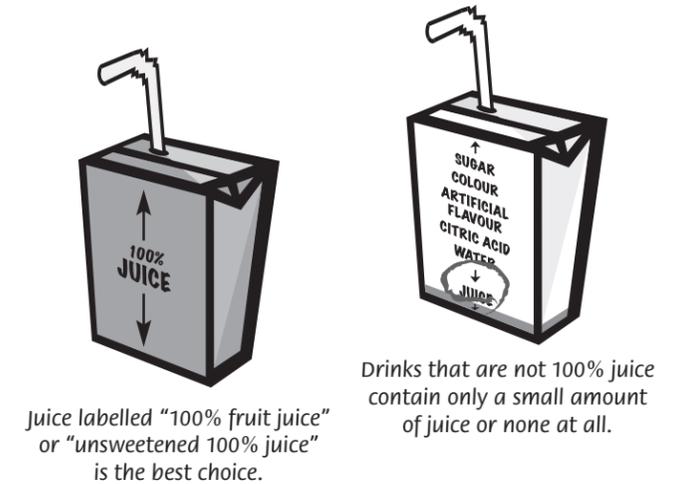
Juices & Fruity Drinks

The difference between 100% fruit juices and “fruity drinks” can be a difficult concept for the students to grasp, but is a very important teaching point. Our experience has seen that the majority of added sugar being consumed by students their age is often coming from these drinks – but they, and often their parents, don’t know the difference between 100% fruit juice and fruity drinks.

100% fruit juice is a healthier choice than other sweet drinks because it contains some of the natural vitamins (such as Vitamin C) found in fruit. However, fruit juice still contains a lot of concentrated sugar, and has the same effect on teeth as other sugary drinks. For this reason, children should have no more than one serving (125 mL or 1/2 cup) of fruit juice each day. A healthier alternative to 100% fruit juice would be a glass of water and fresh fruit, which provides all the vitamins, minerals, and fibre naturally present, but with much less sugar!

Fruity drinks have added sugar along with other additives that are not good for growing children. Added sugars in fruit drinks (those that are not labelled “100% juice”) can be particularly inconspicuous, because these drinks are often labelled to look healthy:

- Fruit nectars or juice blends contain added sugar and 50% or more juice content.
- Fruit drinks; cocktails and beverages contain added sugars and less than 50% juice.



Caffeine

Caffeine is a mildly addictive stimulant drug that stimulates the central nervous system and can cause side effects such as: irritability and restlessness, difficulty concentrating, and an increased need to urinate.

Caffeine occurs naturally in some drinks, (coffee, tea and hot chocolate) and added to others (cola and energy drinks).

Nutrition labels rarely include the amount of caffeine contained in a food product.

Some of the ingredients indicating the presence of caffeine in a food or drink include: coffee or coffee beans, green or black tea leaves, guarana, yerba/yerba mate, and cocoa beans.

Health professionals suggest that children aged 7 - 12 get no more than 65 - 85 mg of caffeine each day, as even low levels of caffeine can affect most children’s behaviour. Withdrawal symptoms may be felt by children consuming even small amounts of caffeine. Symptoms might include headaches, irritability and restlessness.

References

Healthy Families BC, *Caffeine and the Student Body factsheet*.

The “Tooth” Experiment

Part 1: Sipping Sugary Drinks and Acid Attacks

Acids are chemicals that are sometimes added to foods and beverages to alter taste and act as a preservative. One of the properties of acid is that it dissolves things.

When a person sips a sugary drink, an ‘acid attack’ occurs in the mouth for up to 20 minutes. The acid demineralizes the tooth during the attack and weakens the tooth. After about 20 minutes, saliva remineralizes the tooth and strengthens it. This balancing act becomes greatly challenged when a person snacks frequently on sticky foods, or sips regularly on sugar-laden drinks.

A case-in-point:

- A child takes a drink of pop and there is a 20 minute acid attack.
- The body is about to remineralize the tooth but the child takes another sip so there is another 20 minute acid attack.
- This pattern continues throughout the day. The balance is offset and the demineralization time outweighs the remineralization time and tooth decay begins.

The good news is that children can sip water all day with no worries of acid attacks on their teeth. However, if children are having their one serving (1/2 cup or 125 mL) of 100% fruit juice during the day (which contains a significant amount of naturally occurring sugar and is acidic), then they should drink it in as few sips as possible. The same applies to sugary drinks, when they are consumed as a once-in-a-while treat!

After having a sugary drink health professionals recommend rinsing your mouth with water, a fluoride mouth rinse or chewing sugarless gum. Anyone of these actions will help neutralize the acid found in the drink.

Interestingly, brushing of the teeth is not recommended. The enamel of the teeth is in a weakened state because of the erosion caused by the acid in a drink, so the mechanical abrasion of the brush actually exacerbates the problem.

Part 2: The “Tooth” Experiment

It is important to note that the tooth experiment does not simulate the processes occurring in the mouth after sipping a sugary drink. In placing the bone or “tooth” in different acidic sugary drinks, the only factor acting on the “tooth” is the acidity of the drink. There are no normal mouth bacteria present. Recall that when a child sips a sugary drink, the sugar interacts with the bacteria in the mouth to produce acid. Once this acid is made, it lasts for about 20 minutes, after which the saliva in the mouth neutralizes the acid, and the “acid attack” ends.

The tooth experiment does show the process of tooth erosion, whereby an acidic liquid chemically erodes away the hard mineralized surface of the “tooth”. Although the experiment cannot accurately capture all of the factors in the mouth that contribute to tooth decay, it is currently the best tool that we have to demonstrate the harmful effects on teeth. This hands-on approach gives an idea of the harmful effects of sugary drinks on their teeth.

In the spirit of experimentation, other drinks could be used, but we haven’t tested these or provided information in the resources. Milk may be used but it should be refrigerated and the experiment completed before the best before date, to simulate real drinking conditions. We trialed 100% orange juice and noticed that it often grew mold.

References

Sharon Melanson, Dental Hygienist, Interior Health, B.C.

Preparing Bones For The “Tooth” Experiment:



1. Shopping

Ask a butcher to cut a beef marrow bone (soup bone) into 1 cm thick slices.

You will get about 6 - 10 “teeth” per slice and to carry out the experiment as described, 6 pieces are necessary.



2. Cleaning

Soak the gristly bones in warm water overnight. Remove the gristle of the bone gently with a paring knife.



3. Cutting

To quickly cut bones into pieces, use a bolt cutter. You can also use a band saw or hit the bone with a hammer or a hammer and chisel (wear eye protection).

If you use a bolt cutter it works best when the bones are wet and soft.

Cut the bones in a safe environment as pieces may fly off in several directions.



Alternatives:

Demonstration using extracted adult teeth

Oral surgeons may be willing to save extracted adult teeth (usually un-erupted wisdom teeth) for classroom experiments. After extraction, the oral surgeon will rinse the teeth with water to remove blood before sending them to you. They should be stored in a dilute solution of bleach (9 parts water to 1 part bleach) to act as a disinfectant. Once received, the teeth can then be thoroughly cleaned with a toothbrush. Any remaining tissue will not interfere with this experiment. The teeth should then be stored in new dilute bleach solution until required. The teeth should be rinsed with water to remove traces of bleach before starting the experiment. For protection against such things as viruses, **the teacher should use gloves** when handling the teeth.

If using bone or extracted adult is not appropriate for some students' culture and/or religion, or if you don't have enough time to do the entire experiment, you could use the video clip *What Do Sugary Drinks Do to Your Teeth?* to teach this key message. You can find the video clip on our website www.bcpeds.ca/sipsmart/teachers.

Teachers have also demonstrated the acidic nature of sugary drinks by placing a copper penny in an acidic liquid such as cola. Although the penny will become shinier, this is essentially due to the top layer of metal being etched away. This is an important distinction to be made as students could easily confuse this corrosive result with cleaning (or erroneously believing that drinking cola will clean their teeth).



**Children can sip water
all day with no worries of
acid attacks on their teeth**

Ingredients on Labels

Food additives are substances that are added to foods to increase shelf life, or to enhance the taste or colour of the food. There has been much controversy regarding the risks and benefits of food additives. Hyperactivity in children, allergies, asthma and migraines have been associated with adverse reactions to food additives. However, most food additives are considered safe if consumed in moderate quantities, and Health Canada requires all food additives to go through a rigorous process of approval before they can be used in Canada.

Ingredient	Description
% Daily Value:	percentage of a recommended daily amount that one serving of this food provides. For example, a label may show that a serving of the food provides 15% of the daily recommended amount of vitamin C. This means you still need another 85% to meet the recommended goal. Percent DV is based on a 2,000-calorie diet for adults older than 18 ³
Carrageenan:	a food additive derived from seaweed, permitted for use in Canada ¹
Citric Acid:	an acidity regulator or pH regulator, added to change or maintain pH ^{1,2}
Disodium phosphate:	a food preservative ^{1,2}
Ester gum:	an emulsifier and stabilizer, to keep oils in suspension in water ^{1,2}
Ginseng:	a species of plant within Panax, a genus of 11 species of slow-growing perennial plants with fleshy roots. It has been difficult to verify the medicinal benefits of ginseng using science, as there are contradictory results from different studies, possibly due to the wide variety and quality of ginseng used in studies. High-quality studies of the effects of ginseng are rare ¹
Glucoronolactone:	a naturally occurring chemical compound produced by the metabolism of glucose in the human liver ¹
Guarana extract:	a climbing plant from the Amazon basin, best known for its [berry - like] fruit Each fruit usually contains one seed, which has approximately five times as much caffeine as coffee beans ¹
Inositol:	a member of the vitamin B complex group, but is not considered a vitamin, as it can be produced by the body ¹
Maltodextrin:	a carbohydrate produced from starch and used as a food additive. It is easily digestible, being absorbed as rapidly as glucose ^{1,2}
Monopotassium phosphate:	a food additive form of potassium ^{1,2}
Pantothenic Acid:	a form of vitamin B5 ¹
Sodium Citrate:	a food additive used to preserve flavour or improve the taste and appearance of food ^{1,2}
Taurine:	an organic acid derived from the amino acid, cysteine. It has not been proven to be energy giving ¹
Tricalcium phosphate:	a food additive form of calcium ^{1,2}
Vegetable Oil:	contained in some fruity drinks. By law, if the amount included is 0.4% or lower, manufacturers are allowed to put 0% fat on the nutrition label.
Vitamin A palmitate:	a form of vitamin A ¹
Yerba mate:	a species of holly native to South America. The dry leaves are toasted and/or steeped as a beverage and contain caffeine. The form of caffeine in yerba mate is "mateine" ^{1,2}

References

¹ Wikipedia: The Free Encyclopedia, <http://en.wikipedia.org/wiki>, downloaded July 20, 2008.

² Food Additives Dictionary, www.hc-sc.gc.ca/fn-an/securit/addit/diction/index-eng.php, downloaded July 20, 2008.

³ US Food and Drug Administration, "Daily Values Encourage Healthy Diet", Paula Kurtzweil, www.fda.gov/CDAC/special/foodlabel/dvs.html, downloaded July 20, 2008.

Sports Drinks

Sports drinks are generally made up of water, sugar and a small amount of sodium and potassium. They also often contain artificial colours and/or flavours.

Sports drinks were originally designed to keep athletes hydrated and performing optimally when they are engaged in vigorous continuous activity lasting longer than 90 minutes. The premise is that sugar provides some energy, and electrolytes (sodium and potassium) replace what the body loses through sweat. However, they have no nutritive benefits for young athletes involved in sports of lower intensity and duration.

More recently, these drinks are increasingly being consumed by, and marketed to, children and teens, the majority of whom have no need for them. If children are engaged in endurance sports, it is healthier for them to have:

- regular water breaks every 15 or 20 minutes.
- a healthy snack during breaks.
- water and a healthy snack after a game or workout.

For an easy and healthy way to replace the sodium and potassium lost in sweat, active children can drink chilled milk or fortified soy beverages, which provide all the electrolytes young athletes need, with less added sugar. Milk and fortified soy beverages also contain calcium for healthy bones.

The table below compares the ingredients in a sports drink to those in plain milk:

	Sports Drink (250 mL/1 cup)	Plain Milk (250 mL/1 cup)
Sugars (g)	14	12
Sodium (mg)	107	120
Potassium (mg)	36	365
Other nutrients	None	Calcium, protein, vitamins A & D, riboflavin, B12
Sports Recovery	Good	Very Good

References

Cathy Richards, Community Nutritionist, Interior Health, B.C.



Energy Drinks

Energy drinks contain as much or more added sugar than cola, are high or very high in caffeine, and often contain potentially harmful additives. Energy drinks are often marketed with images of extreme sports such as car racing, with the implication that these drinks boost performance. Others, with flashy packaging and enticing names are designed to directly target the youth market.

Energy drinks are very high not only in sugar, but also in caffeine. For example, one 500 mL can of a typical energy drink contains 260 mg of caffeine. That is more than double the suggested daily caffeine maximum for a 7 - 12 year-old child.

Moreover, it is often very difficult to accurately determine the amount of caffeine present in an energy drink because manufacturers are not required to disclose caffeine content on the container. (→ **Note:** One major beverage company, Pepsi QTG, recently began to voluntarily disclose caffeine content on its energy and soft drinks.)

The table below compares the caffeine content in pop and coffee to that of some common brands of energy drinks:

Product	Caffeine Content
Can of Cola (355 mL)	35 mg of Caffeine
Coffee House Grande Latte	70 mg of Caffeine
Canned Energy Drink (500 mL)	160 mg of Caffeine

Many energy drinks also contain stimulant herbs or other additives such as guarana and taurine. These additives are often listed misleadingly as “medicinal ingredients” on energy drinks, when in fact they are untested and potentially harmful, especially for children. Like sports drinks, energy drinks also tend to contain artificial flavours and/or colours.

When consumed in large amounts, or when combined with alcohol, energy drinks have been linked to serious health effects such as irregular heart function, nausea and vomiting, and electrolyte disturbances. Energy drinks can also interact with some medications.

References

Canadian Business On-line, “Pepsi-QTG Canada to voluntarily disclose caffeine content on carbonated soft drinks and iced tea beverages” (Nov 10, 2008).

Safe Use of Energy Drinks, Health Canada, June 2005.

BC Healthfile #109 Energy Drinks March 2010 • www.healthlinkbc.ca/healthfiles/hfile109.stm

Health Canada Files: Safe Use of Energy Drinks Updated October 2011
www.hc-sc.gc.ca/hl-vs/iyh-vsv/food-aliment/boissons-energ-drinks-eng.php

Information for Parents on Caffeine in Energy Drinks Oct 2011
www.hc-sc.gc.ca/ahc-asc/media/nr-cp/_2011/2011-132bk-eng.php



Guide to Making Healthy Drink Choices

Choose most	Choose sometimes	Choose Least
Water – great for keeping a person hydrated, and for sipping all day	100% juice – has naturally occurring sugar, but may also contain vitamin C and A, folate, potassium, and antioxidants (125 mL or 1/2 cup of juice is enough for one day)	Sports drink – has high sugar content; is intended for use during / after intense and continuous physical activity lasting longer than 90 minutes
Plain milk – has some naturally occurring sugar but also contains key nutrients like protein, calcium, vitamins A and D	Flavoured milk (e.g. chocolate, strawberry) – contains more sugar than plain milk but has just as much nutritional value	Fruit drink – contains only a small amount of real juice; most of the flavour comes from sugar; fruit drinks may also be called fruit “cocktails”, “blends” or “beverages”
Plain milk alternative: unsweetened fortified soy beverage	Flavoured milk alternative: Flavoured fortified soy beverage	
		Pop – is high in sugar and has no nutritional value; cola often contains caffeine
		Diet pop – has no sugar, but contains acid (harmful to teeth), no nutrients, and sometimes caffeine
		Energy drink – has high sugar content and high or very high caffeine content; may also contain other harmful additives

References

Adapted from: *Rethink Your Drink*,
Community Oral Health,
Alberta Health Services,
Revised 2007.



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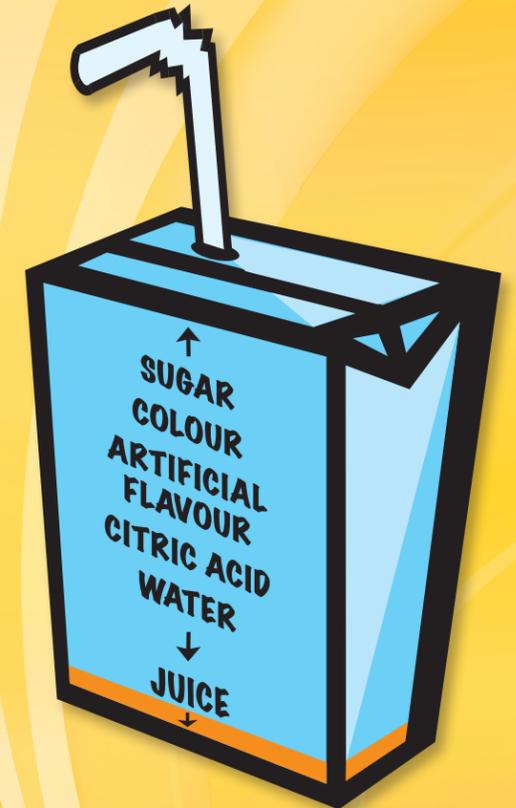
SIP SMART! BC™

FRUIT JUICE OR FRUIT DRINK?



100% Fruit Juice
(unsweetened)

→ Choose the product with the words "100% juice unsweetened"



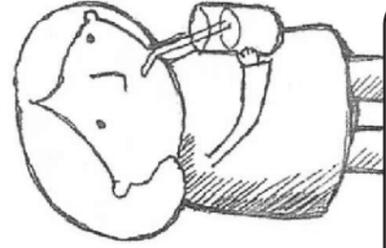
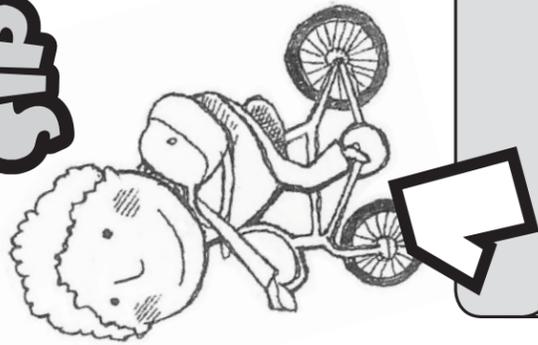
Fruit Drink
(contains 0-25% real fruit juice)

→ Avoid anything called:

- ☉ drink
- ☉ beverage
- ☉ punch
- ☉ -ade
- ☉ cocktail

Fruit

SIP SMART! BC™ DRINK DIARY



Name _____

Date _____

Did you have anything to eat or drink:

Before school?

I had something to eat
I had something to drink

Yes
 Yes (fill in table below)

No
 No (wait for teacher instruction)

Before school yesterday	Circle the type of container it came in:					Circle the size of your drink	How many?
						S M L XL	
						S M L XL	
						S M L XL	



SIP SMART! BC™ DRINK REPORT

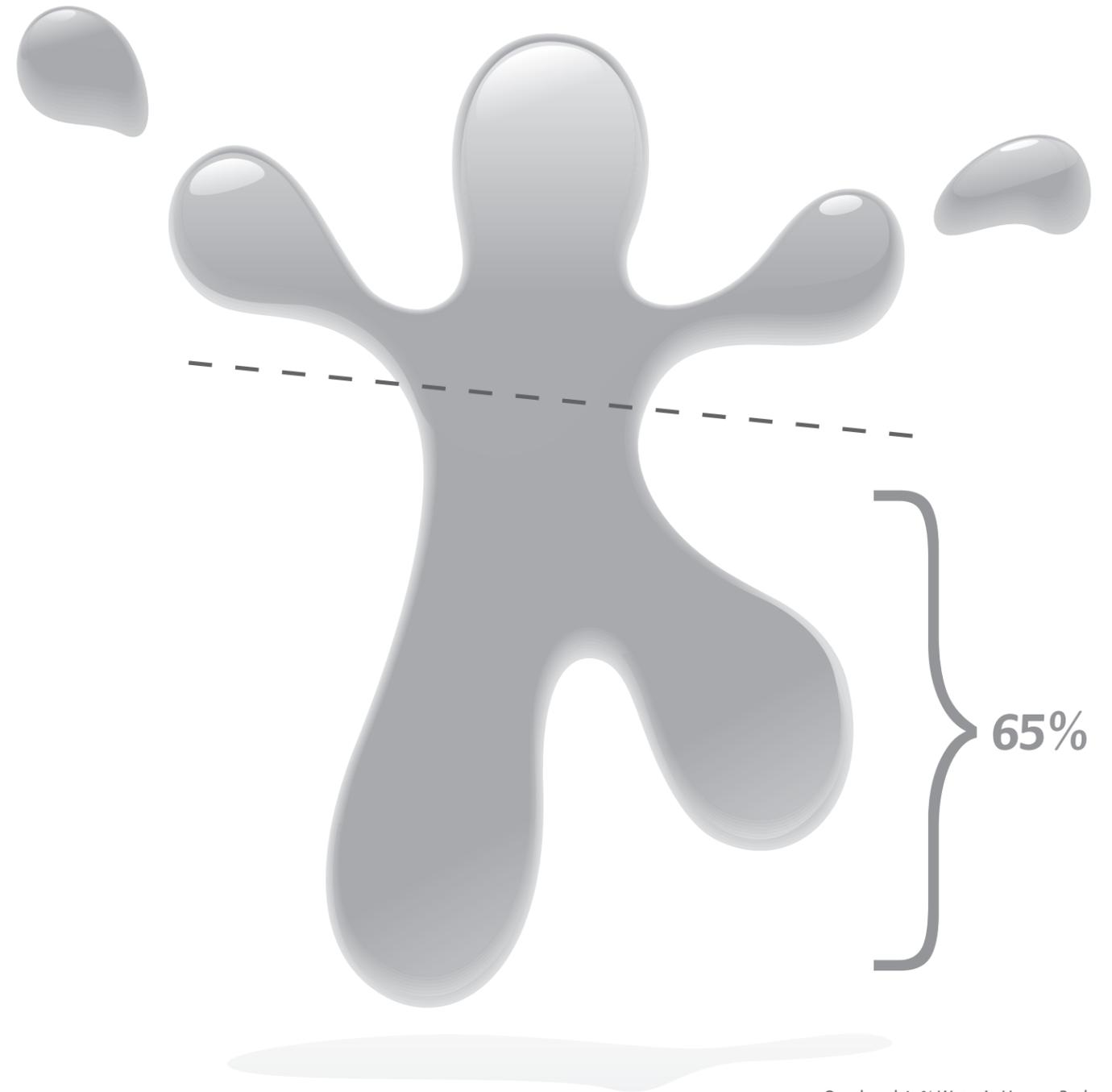
	1	2	3
How much water did our class drink?			
How much milk did our class drink?			
How many students completed a drink diary?			
What is the maximum amount of sugar cubes recommended for our class in one day?			
How many cubes of sugar did we consume?			
How many sugar cubes came from the pop our class drank?			
How many sugar cubes came from the 100% juice our class drank?			

REMEMBER!

Maximum recommended amount of added sugar per student per day:
13 sugar cubes = 13 teaspoons

SIP SMART! BC™

% WATER IN HUMAN BODY



Overhead 4: % Water in Human Body

SIP SMART! BC™

HOW TO READ A LABEL

Nutrition Facts

Valeur nutritive

Per 355 mL / Par 355 mL

Amount Teneur	% Daily Value % valeur quotidienne
------------------	---------------------------------------

Calories / Calories 160

Fat / Lipides 0 g 0%

Sodium / Sodium 30 mg 1%

Vitamin C / Vitamine C 0%

Carbohydrate / Glucides 40 g 10%

Sugars / Sucres 40 g

Protein / Protéines 0 g

Vitamin A 0%, Iron 4%, Calcium 0%

Ingredients: Carbonated Water, Sugar, Glucose-Fructose, Sodium Citrate, Caffeine.

Vitamine A 0%, Fer 4%, Calcium 0%

Ingredients: Eau gazéifiée, sucre, glucose-fructose, citrate de sodium, caféine.

Source: Composite Example

SIP SMART! BC™

THE SCOOP ON SUGAR!

Answer Key

Natural or Added?
 Circle all the foods and drinks with only naturally occurring sugars:

plain milk - lactose	root beer	banana - fructose
strawberry soy beverage	chocolate milk	ginger ale
fruit punch	cola	club soda
100% orange juice - fructose	grape cocktail	strawberry - fructose

Naturally occurring sugars are usually present in foods that have many other vitamins and minerals.

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



SIP SMART! BC™ EVERY SERVING COUNTS!



Sugary drinks bump out nutritious drinks!

Overhead 7: Every Serving Counts!



SIP SMART! BC™ CAFFEINE REPORT

	Caffeine
Caffeine from chocolate milk (7 mg/250 mL)	
Caffeine from cola (29 mg/250 mL)	
Caffeine from energy drinks (130 mg or more/250 mL)	
Caffeine from coffee (158 mg/250 mL)	
Caffeine from tea (30 mg/250 mL)	
How much caffeine did we consume?	



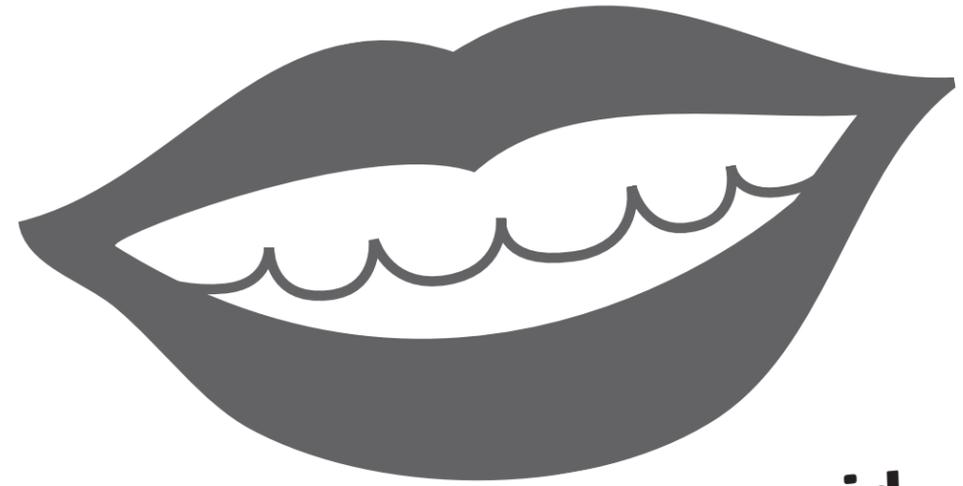
COMPARE!

Maximum amount of caffeine recommended per student/day = 65 to 85 mg (7 to 12 years)

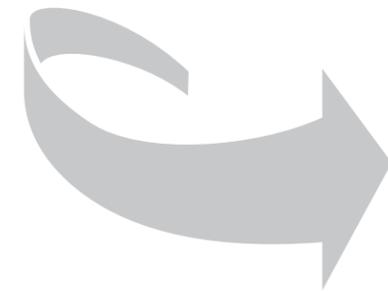
Number of students in class = _____

Maximum amount of caffeine recommended/class/day = _____

SIP SMART! BC™ ACID IN BEVERAGES



bacteria + sugar = acid



tooth decay!

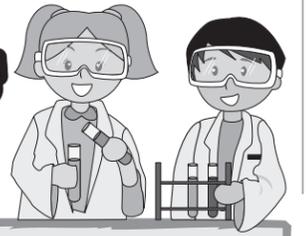


**SIP SMART! BC™
MEANS SIPPING WATER
- NOT OTHER DRINKS!**



Drink	Hypothesis	Observation
Regular cola		
Diet cola		
Clear pop		
Energy drink		
Apple juice		
Water		

SIP SMART! BC™ TRICKY QUESTIONS FOR ADVANCED SCIENTISTS



Drink	Conclusion (= explain what happened to your tooth)
Regular cola	
Diet cola	
Clear pop	
Energy drink	
Apple juice	
Water	

Tricky questions for advanced scientists:

1. Which drink damages our teeth the least?

2. If we want a sugary drink once in a while, what can we do to reduce the “acid attack”?

3. Diet Pop has no sugar. Why does the tooth in diet cola look exactly like the tooth in cola?



Have a **BLAST** this summer!

Try new refreshing **ORANGE BLAST!**

It's fruity!
It's a great thirst quencher!
It's full of Vitamins!

GO GET ONE!! NOW!

SIP SMART! BC™

SIP SMART! BC™ DRINK DIARY

Name _____ Date _____



Did you have anything to eat or drink:

1 Before school?

I had something to eat Yes No
 I had something to drink Yes (fill in table below) No (wait for teacher instruction)

Before school yesterday	Circle the type of container it came in:	Circle the size of your drink:	How many?
		S M L XL	
		S M L XL	
		S M L XL	

2 When you were at school? (Remember to include recess and lunchtime!)

I had something to eat Yes No
 I had something to drink Yes (fill in table below) No (wait for teacher instruction)

At school yesterday	Circle the type of container it came in:	Circle the size of your drink:	How many?
		S M L XL	
		S M L XL	

FPO ONLY - please see "SSB Drink Diary.pdf" for insertion

Did you have drinks from the water fountain? Yes No

3 After school (Did you have anything while you were at an activity, during an evening meal or with a bedtime snack)?

I had something to eat Yes No
 I had something to drink Yes (fill in table below) No (wait for teacher instruction)

After school yesterday	Circle the type of container it came in:	Circle the size of your drink:	How many?
		S M L XL	
		S M L XL	
		S M L XL	
		S M L XL	

SIP SMART! BC™ THE SCOOP ON SUGAR!

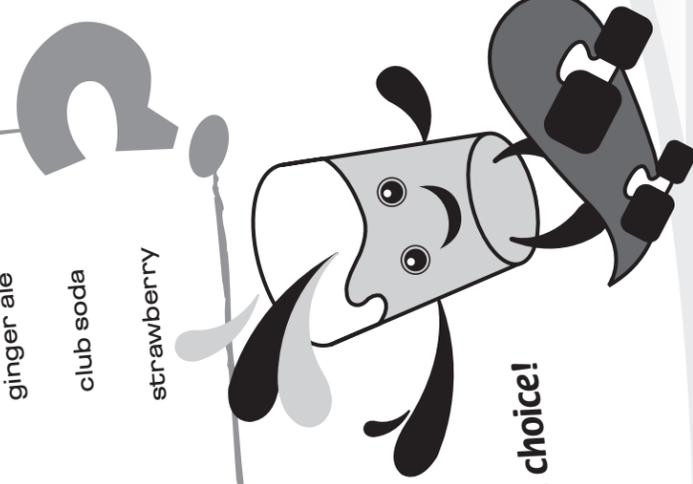
Name _____

Date _____

Natural or Added?

Circle all the foods and drinks with only naturally occurring sugars:

- | | | |
|-------------------------|----------------|------------|
| plain milk | root beer | banana |
| strawberry soy beverage | chocolate milk | ginger ale |
| fruit punch | cola | club soda |
| orange juice | grape cocktail | strawberry |
| 100% unsweetened | | |



Drink water - it's always a great choice!

Hidden Sugar

In the puzzle below, find and circle the different words for sugar!

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

Hints:

- 7 words are hidden!
- watch for words ending in "ose"

SIP SMART! BC™ CHECK THE CAFFEINE!

Name _____

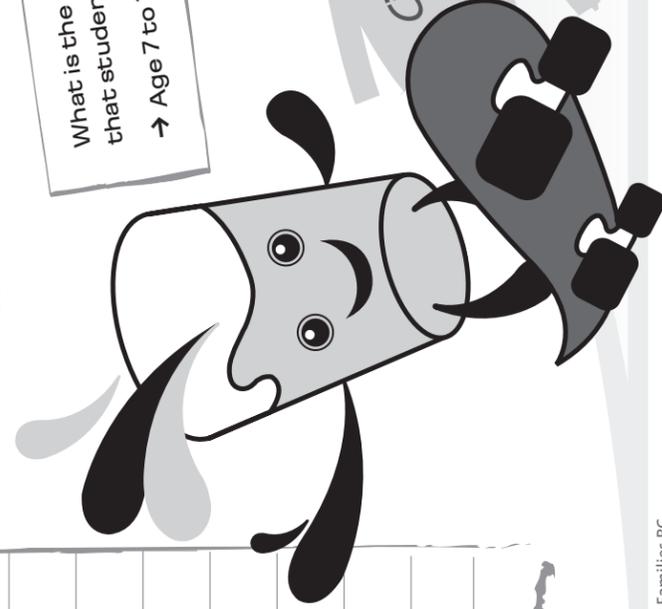
Date _____

Drink	Serving size (mL)	Caffeine (mg)
Hot Chocolate	300 mL	8 mg
Cola	355 mL	40 mg
Iced tea	355 mL	25 mg
Root beer	355 mL	40 mg
Energy drink	250 mL	130 mg
Coffee (regular)	350 mL	186 mg
Coffee (decaf)	350 mL	4 mg
Iced coffee	500 mL	214 mg
Black or green tea	250 mL	30 mg
Tea (decaf)	240 mL	1 mg

How much caffeine did Tom drink?

Iced tea _____ mg
 Iced coffee _____ mg
 Energy drink _____ mg
 TOTAL = _____ mg

What is the maximum amount of caffeine that students can safely have in one day?
 → Age 7 to 12 years: _____ mg



SIP SMART! BC™

OBSERVATIONS OF TOOTH EXPERIMENT

Name: _____

Drink being observed: _____

Use your senses to observe your tooth. What does it look like? What colour is it? How big is it? What does it feel like? How does it smell?

➔ FIRST OBSERVATION:

What I observe: _____ _____ _____ _____ _____	Drawing of tooth before the experiment:
---	---

Hypothesis:

Based on what I know, I think...

➔ FINAL OBSERVATION:

What I observe: _____ _____ _____ _____ _____	Drawing of tooth after the experiment:
---	--

Conclusion:

SIP SMART! BC™

CHECK THE LABEL FIRST!

Name _____

Date _____

Read the ORANGE BLAST label!

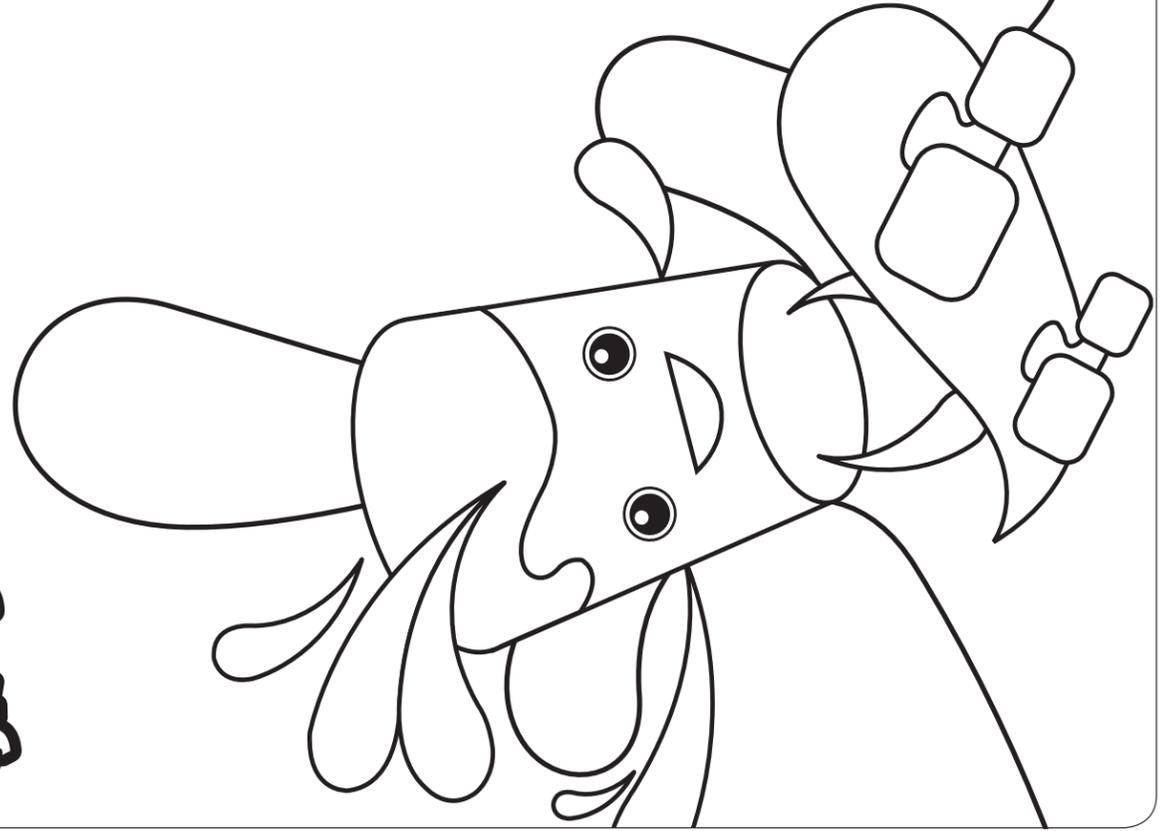
Nutrition Facts Valeur nutritive		Ingredients
Per 250 mL / par 250 mL		
Amount Teneur	% Daily Value % valeur quotidienne	<ul style="list-style-type: none"> • filtered water • sugar / glucose-fructose • concentrated fruit juice (orange, lime) • citric acid • vegetable oil • ascorbic acid (vitamin C) • artificial flavour • colour • caffeine
Calories / Calories 130		
Fat / Lipides 0 g	0%	
Sodium / Sodium 120 mg	5%	
Carbohydrate / Glucides 29 g	10%	
Fibre / Fibres 0g	0%	
Sugars / Sucres 27 g		
Protein / Protéines 0g		
Vitamin A / Vitamine A	0%	
Vitamin C / Vitamine C	50%	
Vitamin B / Vitamine B	10%	



1) Which ingredients did you not expect in a refreshing and fruity drink?

2) Does the message of the ad match the ingredient list?

SIP SMART! BC™



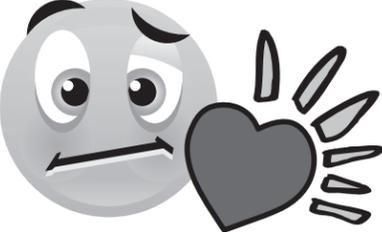
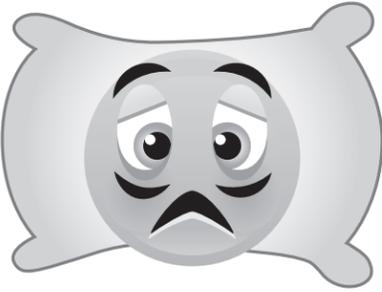
10 2 T H I R T E E 7 N U T S 5 S E R V I N G 11 S P O R T S 13 P O 15 W A T E R 16 F R U I T S 17 C O L L A T E 12 E N E R G Y D R I N K S 3 T E N K S 1 A D D E D 4 A F F E R U 9 C H 14 J U I C E 6 M I L K 18 I C E C C O F F E E

Please visit us at www.bcpeds.ca

Handout 19: Crossword Puzzle (Answer Key)

SIP SMART! BC™

CAFFEINE SYMPTOMS

<p>mind wandering</p> 	<p>heart beating too fast</p> 
<p>headache</p> 	<p>more trips to the bathroom</p> 
<p>tired/trouble sleeping</p> 	<p>feeling sick</p> 
<p>fidgity and restless</p> 	<p>irritable and anxious</p> 

SIP SMART! BC™

CAFFEINE SCENARIO

It is a hot and sunny day at the beach.
Tom is thirsty and goes to the concession stand and buys a can of ICED TEA.
It's delicious and refreshing.

He feels fit to play beach volleyball for another hour!

After an awesome game, he craves something to pick him up while cooling him down, so he buys a medium ICED COFFEE for the walk home.

Once at home, he remembers that he has a test in school tomorrow. He sits at his desk and starts reading. He notices his **mind wandering** and his **heart beating too fast**. He is getting a **headache**. He also has to **go to the bathroom** way more often than usual.

An hour later he feels **tired**, but he still has to study for the test. In the fridge he finds an ENERGY DRINK. He remembers that the commercial for this drink says that it wakes you up and gives you energy immediately. Exactly what he needs to focus on his studies!

Later, **feeling sick**, he decides to go to bed early. He feels **fidgity and restless**. The next morning he is **irritable** with his friends and **anxious** about just about everything.

What happened?



Teacher Resource 21: Caffeine Scenario

SIP SMART! BC™

"ROLE" WITH IT! SCENARIOS

→ THE SOCCER GAME

Players: 3-4 soccer players (at least 1 player knows how to make healthy drink choices)

Scene:

You and your friends have just finished a soccer game against a really tough team. You are walking off the field, recapping the best parts of the game while congratulating each other on playing well. You are all thirsty and walk to a concession that offers sports drinks, milk and water.

What drink do you choose? Let us know why!



→ THE LONG DRIVE

Players: 2 adults, 2 children (at least 1 player knows how to make healthy drink choices)

Scene:

Your family is going on a summer camping holiday. It is hot and you are all very tired, but the trip is not yet over.

You have all been in the car for 4 hours now and are really thirsty and hungry. The driver pulls into a gas station, gives the kids some money and asks them to buy drinks.

What drinks do you choose?

Now that you are back in the car, explain to the adults why you chose these drinks!



→ AT THE MOVIES

Players: 3-4 friends (at least 1 player knows how to make healthy drink choices)

Scene:

You and your friends have just watched a movie at the local multiplex. You chat about how great the movie was and that now you want a drink.

On your way out you notice they have pop for sale after the show because the movie star is also in the pop commercials.

You can either buy a bottle of pop for \$2, a box of milk for \$2 or a box of fruity drink for \$2.

What do you choose? Let us know why!

SIP SMART! BC™

HOW MUCH SUGAR IS IN YOUR DRINK?



500 mL (2 cups)



500 mL (2 cups)



355 mL (1 1/2 cups)



355 mL (1 1/2 cups)



500 mL (2 cups)



250 mL (1 cup)



700 mL (2 3/4 cups)



591 mL (2 1/2 cups)



1000 mL (4 cups)

The amount of sugar in these drinks varies by product and choice. 1 sugar cube = approximately 1 teaspoon sugar.



HealthyFamiliesBC



Sip Smart! BC™ was created and developed by the BC Pediatric Society and Heart and Stroke Foundation with funding from the BC Health Living Alliance



visit us at www.bcpeds.ca

An initiative of the BC Pediatric Society
& the Heart and Stroke Foundation

The Sip Smart! BC™ Program teaches children in Grades 4 to 6 about sugary drinks!

Why is Sip Smart! BC™ important to you and your children?

- **Sugary drinks are everywhere.** Pop, fruit “punch”, sport drinks and many other drinks have a lot of sugar. Too much sugar is not good for your child’s health.
- **The extra calories in sugary drinks can add up quickly.** This can lead to an unhealthy weight, putting your child at higher risk of high blood pressure, heart disease and diabetes.
- **Healthy foods and drinks build a body that is just right for your child.**
 - Healthy children learn better.
 - Healthy children perform better at school and socially.
 - Healthy children have more energy to be physically active.

Healthy drink choices will help build and maintain a healthy body today, and build a strong body that is fit for a lifetime. Help your child to **Sip Smart!**

Tips for making the healthy choice, the easy choice!

- **Keep a jug of chilled water in the refrigerator** — especially in the summer!
- **To help your child drink less sugar from drinks,**
 - Buy smaller sizes of sugary drinks.
 - Pour smaller servings.
- **Serve drinks from the “Choose Most” list below more often.**

<p>Choose Most Water Plain, unflavoured milk/fortified soy beverage</p> <p>Choose Sometimes 100% Juice (fruit, vegetable or combination*) Flavoured milk/fortified soy beverage</p> <p>Choose Least or Not Recommended Fruit drinks Pop or diet pop, sports drinks and energy drinks Other sugar drinks (For example: iced tea, ice slushy, bubble tea)</p>
--

*A single serving is 125 mL or 1/2 cup, and 1 juice serving is enough in 1 day.



Water is always a great choice!



→ **Assessment Tools**

Teacher Assessment Tool:

***Sip Smart! BC™ Drink Diary* 114**

Teacher Assessment Rubric:

Observations Of “Tooth” Experiment..... 115

Student Self Assessment Tool:

“Role” With It! 116

Student Self Assessment Tool:

Water - A Bestseller 117

Teacher Assessment Tool:

***Sip Smart! BC™ Quiz (Answer Key)* 118**

***Sip Smart! BC™ Quiz (Level 1 and Level 2)* 119**



Teacher Assessment Tool

→ Sip Smart! BC™ Drink Diary

Level 1 and Level 2

Name: _____

	Always (2 pts.)	Sometimes (1 pt.)	Never (0 pt.)
Checks off food intake			
Checks off beverage intake			
States specific drink category			
Circles type of container			
Circles size of drinks			
States number of drinks			
Score	_____ / 12		



Teacher Assessment Tool

→ Sip Smart! BC™ Drink Diary

Level 1 and Level 2

Name: _____

	Always (2 pts.)	Sometimes (1 pt.)	Never (0 pt.)
Checks off food intake			
Checks off beverage intake			
States specific drink category			
Circles type of container			
Circles size of drinks			
States number of drinks			
Score	_____ / 12		

Teacher Assessment Rubric

→ Observations of "Tooth" Experiment

Level 1 and Level 2

Name: _____

First observation addresses colour, texture and shape of "tooth"	8	6	4	2
First drawing matches first observation	8	6	4	2
Identifies ingredients of assigned drink in hypothesis (Does it contain sugar or acid?)	8	6	4	2
Predicts impact of ingredients on "tooth"	8	6	4	2
Second observation addresses clear differences in colour, texture and shape of "tooth"	8	6	4	2
Second drawing matches second observation	8	6	4	2
Conclusion demonstrates understanding of how the ingredients in the drink contribute to "tooth" erosion and theoretical decay	8	6	4	2
Score	_____ / 56			

Key:

- 8 = Exceeding expectations
- 6 = Meets expectations
- 4 = Approaching expectations
- 2 = Not yet meeting expectation



Student Self Assessment Tool

→ "Role" With It!

Date: _____

Level 1

Student Names: _____



Assessment Criteria	yes	no	close
We showed that family, friends or media can influence our drink choices.			
We showed that at least one player on our team knows how to make healthy drink choices.			
We explained in the role-playing scenario why some choices are better than others.			
We used the four steps (Stop, Think, Decide, State your decision clearly and firmly).			
We spoke clearly and loudly and didn't turn our backs to the audience.			
How many , and did we get?			



Tips for using this assessment tool:

- Go over the criteria with the students before the role-playing scenario.
- Distribute the assessment rubric before the role-playing scenario.
- Encourage students to check if they fulfill all criteria while practicing the role-playing scenario.
- After individual presentations, discuss criteria with class. Encourage the audience to give feedback on fulfillment of criteria.
- Have group fill in self-assessment right after presentation and class feedback.

Student Self Assessment Tool

→ Water - a Bestseller

Date: _____

Level 2

Student Names: _____



Assessment Criteria			
We presented our ad in form of a skit or a drawing.			
Our ad shows 3 examples of why water is important for the human body.			
Our ad shows 2 examples of what happens if we don't drink enough water.			
Our ad convinces people to drink water instead of sugary drinks.			
Our ad has a catchy slogan.			
Our group won business with the "water company owner".			
How many , and did we get?			



Tips for using this assessment tool:

- Go over the criteria with the students before they create the ad.
- Distribute the assessment rubric before the students start working.
- Encourage students to check if they fulfill all criteria while creating the ad.
- After individual presentations, discuss criteria with the class. Encourage the audience to give feedback on fulfillment of criteria.
- Decide with the class which ad wins the business of the water company owner.
- Have group fill in self-assessment.

Q#8: It is OK for you to drink water, even if your friends are drinking less healthy drinks like pop and sugary fruit drinks.

True

False

Q#9: If a medium sized can of pop has 9 teaspoons of sugar (or sugar cubes), then a large can of pop will also have 9 teaspoons of sugar (or sugar cubes).

True

False

Q#10: It is important to drink a lot of water because your body and mind need water to be healthy.

True

False



Level 2



Name: _____

Date: _____

Instructions: For each of the following questions, circle the letter beside the answer you think is **BEST**.

Q#1: Why don't sugary drinks fit into any of the food groups in *Eating Well with Canada's Food Guide*?

- a) They have more sugar than is good for you and have little or no nutritional value.
- b) Naming all the kinds of sugary drinks would take up too much room.
- c) No drinks are included in *Eating Well with Canada's Food Guide*.
- d) Everybody knows that sugary drinks are not a food.

Q#2: What does it mean when you are told that sugary drinks "bump out" healthier drinks?

- a) Sugary drinks absorb the good ingredients of healthy drinks and make them useless.
- b) If we are drinking a lot of sugary drinks, we don't have room for healthy drinks.
- c) If people drink too many sugary drinks, stores probably will bump healthier drinks from their shelves.
- d) Sugary drinks make other drinks taste boring.

Q#3: You can best make healthy drink choices by:

- a) reading the labels on drinks to learn what they contain.
- b) listening to what others tell us about the drinks they choose.
- c) testing drinks for a fresh taste.
- d) listening to what the media says we should buy.

Q#4: Which drinks are listed correctly from those containing the most sugar to those containing the least sugar?

- a) Orange juice, pop, sports drink
- b) Pop, plain milk, orange drink
- c) Chocolate milk, sports drink, orange juice
- d) Sports drink, plain milk, water

Q#5: Which is the correct order for the amount of caffeine in the same-sized drinks (from most caffeine to least caffeine)?

- a) cola, coffee, chocolate milk
- b) cola, chocolate milk, coffee
- c) coffee, cola, chocolate milk
- d) coffee, chocolate milk, cola

Q#6: Other people can affect your drink choice by:

- a) lecturing you about how much better their choice is.
- b) refusing to pay for your drink if you don't choose what they do.
- c) making fun of healthy choices.
- d) All of the above.

Q#7: How do sugary drinks affect your teeth?

- a) Sugary drinks often contain acid, which can lead to tooth decay.
- b) Sugar coats your teeth and makes other food stick more.
- c) Sugar eats holes in your teeth
- d) Sugar in drinks sticks to your teeth more than foods such as candy or cookies.

Q#8: You should keep track of the size and number of drinks that you have because:

- a) you must make sure it fits in your backpack.
- b) the more sugary beverages you drink, the better for your body.
- c) you should only have three small drinks each day.
- d) the size and number will likely change the amount of sugar you have.

Q#9: What do advertisements tell or show you about drinks?

- a) Information about all the ingredients of the drink
- b) Good things about the drink, and good things that happen when you drink it
- c) Warnings about negative side-effects of drinking the products
- d) The conditions under which the drink has been made.

Q#10: The healthiest drink choice at any time is:

- a) a sports drink because sometimes you need quick energy.
- b) water because it is most refreshing and best for your body.
- c) a pop because the caffeine can keep you awake to study more effectively.
- d) a sweetened fruit drink because it has fruit in it.

Q#11: When you choose a drink, you should base your decision on:

- a) whether it gives us a feeling of energy.
- b) how "cool" it looks.
- c) how its contents may affect your body.
- d) what your friends think of the drink.

→ **Extensions**

→ **Classroom Extension Activities**

Mathematics:

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- Snack Check (Lesson 2) 125**

Science and Arts:

- Create-A-Drink (Lessons 1 - 5) 125**

Science:

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→ **School Connections**

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→ **Home Connections**

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→ **Community Connections**

- At the Recreation Center 132**
- In the Grocery Store 132**
- At a Sporting Event 132**

→ **Note to Teachers:** Extension activities are intended as idea starters, rather than complete and formal activities. The "Punchline" will depend on how you construct the activity and what happens!



→ Classroom Extension Activities

These activities:

- enhance the learning outcomes of the lessons.
- offer connections to other curriculum areas.
- can be used for differentiation.
- can be done just for fun!

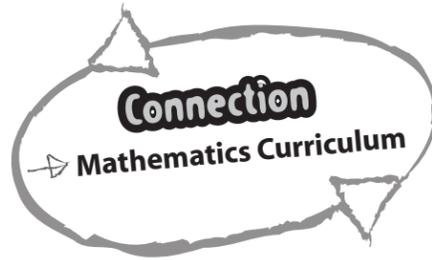
Graph the Results

Connection to Lessons 2 through 4

Have students graph the results of the Drink Diary, choosing the method that best fits with student ability levels. For example, Grade 4 students draw bar graphs most easily, while Grade 5 and 6 students draw line graphs.

- Have students prepare bar graphs showing the consumption of all the beverages they drank, in order from most to least.
- Have the students graph the consumption of the top three healthy beverages they drank.
- Have the class guess how many cubes of sugar they think the class consumed in the beverages they drank. Compare the estimate with the actual amount, and the suggested daily limit (13 sugar cubes or teaspoons per student) and graph the results.
- Have the students calculate the percentage of students who drank more pop than milk, and more pop than 100% fruit juice.
- Grade 6 – Do mathematical caffeine comparisons between different beverages.

**Graph the results
of the Drink Diary**



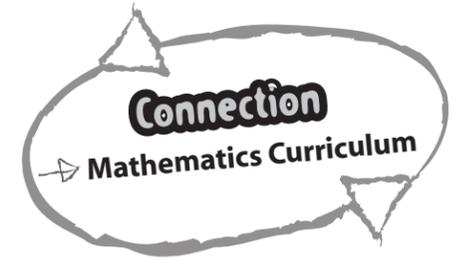
Snack Check

Connection to Lesson 2

- Collect used beverage containers in the class recycling bin. Give them a quick wash!
- Ask the students to check the labels for the number of sugar cubes (1 sugar cube = 4 g sugar) in each container.
- Have students calculate the total number of sugar cubes in “their” beverage and collate the total number from everyone.
- Add up the number of sugar cubes. Have the students graph the results.
- Repeat this exercise a day or a week later. Compare the results.

Alternative:

- Collect the total number of used beverage containers for several classes or the school. If your class gets the whole school then you will have created a **School Connection!** (see next section).
- Ask the students to check the labels of their own snack and lunch beverages one day. This activity will be appropriate only if everyone typically carries a packaged beverage, and if they are advised in advance of the exercise so they can make more deliberate choices that day.



Create-A-Drink

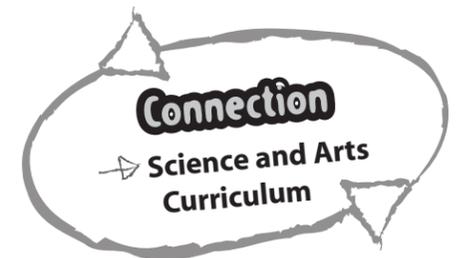
Connection to Lessons 1 through 5

Extend the collection of *Drink Cut-outs* by having students create their own cut out.

Ask students to:

- choose a drink that is not part of the *Drink Cut-out* collection yet.
- research the nutrition facts of “their” drink, either online or in a grocery store.
- draw an outline of a drink container (bottle, glass, cup, juice box) on a blank, white sheet of paper; add drink name and colour the container. *Optional:* one or two key marketing messages on the bottle to help sell the drink.
- prepare the following information on a second blank, white sheet of paper with the same container outline: a nutrition facts label and an ingredient list (Grade 6 only: in order of weight).
- glue the two parts together and laminate the drink cut out (if available).

Display the creations in the school hallways for all students and staff to enjoy!



Taste it!

Connection to Lesson 2

→ **Note:** It is important to be sensitive to the needs of all students. Should some students not be able to participate in this activity for health reasons (such as diabetes), it may not be appropriate for the class to do this activity.

- Prepare several containers (3 - 5) filled with the same amount of water in each. Add different quantities of sugar cubes to each water container to make solutions of varying concentration.

For example, fill each container with 2 Litres (8 cups) of water, and add 8 sugar cubes to the first container. Concentration = 1 cube/250 mL water.

- Label the bottom of each container with the number of sugar cubes added. Pour the different solutions into individual cups for students to taste.
- Have students try the sugary water and guess how many sugar cubes are in each cup.
- Have students compare the concentration of the sugary water with the sugary drinks on the *How Much Sugar is in Your Drink?* poster.

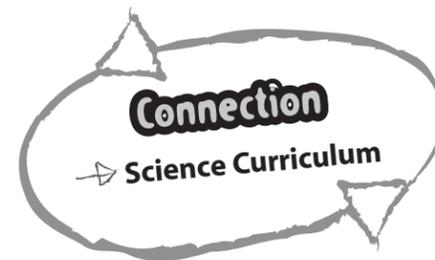
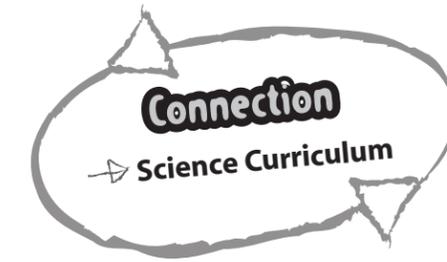
Alternative:

- Add some lemon juice (citric acid) and let the students try again.
- Count how many students guessed fewer sugar cubes after lemon juice was added.
- Have students research which sugary drinks contain citric acid.

Invited Guests

Connection to Lesson 2 (and others)

- A nutritionist or other health professional could connect healthy beverage consumption to the Grade 5 Life Science curriculum (e.g., milk and milk alternatives to the skeletal muscular system), and how the different body systems are interconnected.
- Similarly, coaches, athletes and other sports figures could talk about water and the importance of properly replacing its loss and that of electrolytes during sports activities.



Think before you Drink

Connection to Lesson 5

- Ask students to find ads for beverages and post them on a board in the classroom.
- Compare the ads with the actual labels of the given beverage containers.
- Have students write comments about the persuasive features of each ad on squares of paper and pin them onto the pictures.
- This makes a nice display for your classroom!

Alternative:

- If you have access to a computer lab, select an ad from the internet in advance, then ask the students to analyze it for the persuasive features.

More Bestsellers!

Connection to Lesson 5

Connection to Level 1 activity:

- Have students recap their knowledge about the different juice and milk products on the market.
- Brainstorm a list of benefits of 100% unsweetened juice and of the benefits of milk or fortified soy beverages and write them on the board.
- Have students identify key nutrients contained in milk and juice.
- Instruct students to create role playing scenarios where the healthy choice is either 100% juice or milk/fortified soy beverage using the same criteria as in activity "Role" With It (Lesson 5). Ask them to include their knowledge about nutrients in their drink.

Connection to Level 2 activity:

- Have students recap their knowledge about the different juice and milk products on the market.
- Brainstorm a list of benefits of 100% unsweetened juice and of the benefits of milk or fortified soy beverages and write them on the board.
- Instruct students to create an ad to sell 100% juice or milk/fortified soy beverage using one advertising theme and the same criteria as in activity "Water - a Bestseller" (Lesson 5).



Drink Dash!

Connection to Lessons 1 through 5

- Arrange students into groups of 5 or 6. Give each group one set of cut-outs (distinguish the sets by team, for example use a different colour of paper for each set).

Cut out sets each with the following 12 drink names:

- 100% apple juice
- vegetable juice (V8)
- smoothie (made of banana, 100% orange juice and strawberries)
- plain 1% milk
- chocolate milk
- plain unsweetened soy beverage
- water
- peach beverage
- iced tea
- sports drink
- coffee
- milkshake

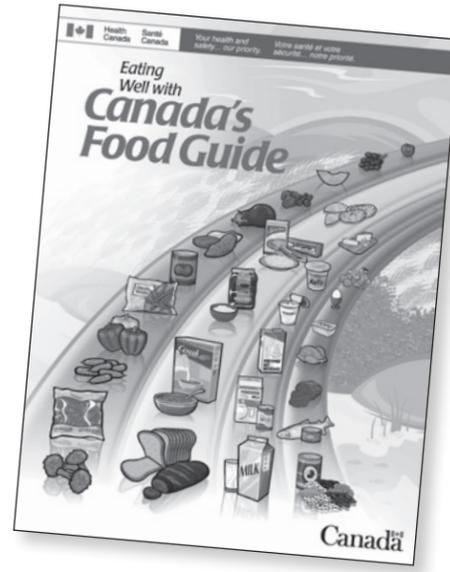
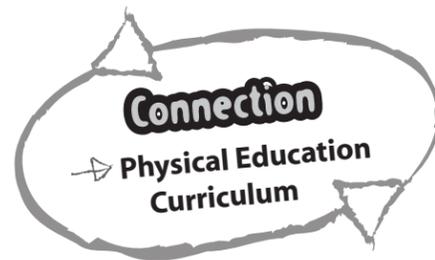
Label 4 coloured sheets of paper:

- 1) Fruits and Vegetables
- 2) Milk and Alternatives
- 3) Part of *Eating Well with Canada's Food Guide*, but not in a food group
- 4) Not Part of *Eating Well with Canada's Food Guide*

- Place the coloured sheets of paper in each corner of the gym.
- Place the drink names scattered and face-down in the centre of the gym.
- Time each group to see how long it takes them to put the drinks into the correct categories in each corner of the gym.
- Ensure that the drink names are in the correct categories and record the time for each group.

Alternative:

- Make up sets of 12 drinks that are somewhat different from one group to the next.
- Begin with the drinks placed in all of the wrong categories, and have each group race around to rearrange them into their correct categories.



School Connections

Here are some ideas for connecting with others in your school:

- Promote learning about healthy drink choices to all students of your school
- Show ways to present key messages of the *Sip Smart! BC™* program outside the classroom
- Build student confidence through opportunities to practice presentation and performance skills

Spread the Word!

- Guide the students to make a class newsletter about sugary drinks. This is an opportunity for them to demonstrate understanding about making healthy beverage choices.
- See illustration for sample sections .
- Organize 6 groups and have each group create one of the sections.
- Post finished newsletter in the school.

More Ways to Spread the Word!

- Display sugar charts and graphs from *Graph the Results* and *Snack Check* activities around the school.
- Post the finished beverage ads in a high traffic area of the school.
- Let the students vote on which beverage ad convinced them most, graph the results, and post the graphed results.

Tooth Experiment, Part III

- Put the results of the tooth experiment on display in a public space like a hallway, so that the other classes can observe the experiment results too.
- Display each of the tooth samples next to a picture or an empty container of the beverage in which it was immersed.

Healthy Choices

- Expand the role playing activity *“Role” With It!* or the skits from *Water - a Bestseller* and present it to the rest of the school during an assembly.

Health Tip

- Have students write a health tip for the monthly school newsletter. For example, it could be a *“Did you know?”* fact about beverages.

1. name and header for newsletter		
Division	Grade	Date
6. illustrations	2. news article	6. illustrations
5. Did you know? Section		
		3. comic strip
4. an advertisement		

Home Connections

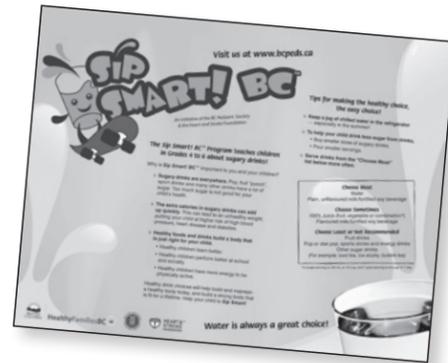
Home Connections offer resources for parents and caregivers that:

- contain valuable information to support healthy drink choices.
- encourage a common learning process.

We strongly recommend distributing the material during the program as parents are a key factor in this learning process.

Sip Smart! BC™ Fact Sheet

- On our website you will find printable parent information in the form of a factsheet. We suggest that you send this sheet home after Lesson 1 to let parents and caregivers know what their children are learning in class, and give them tips for making healthy drink choices.
- Available in Chinese, English, Filipino, French, Hindi, Korean, Persian, Punjabi, Spanish, Tagalog and Vietnamese.



Sip Smart! BC™ Booklet

- Too much sugar is not good for a child's health. The extra calories in sugary drinks can add up quickly. This may lead to an unhealthy body weight, putting a child at higher risk for high blood pressure, heart disease, diabetes and cancer. The *Sip Smart! BC™ Booklet* gives parents and caregivers all the important information that they need to support healthy drink choices.

First Set:

- Only one classroom set of *Sip Smart! BC™ Booklets* is included with each teacher resource package. They can be used in-class with the students or distributed out to students to take home to their parents with the understanding that they must be returned at a later date.
- We suggest that when you send booklets home, after Lesson 2, make sure to ask parents to return them after an appropriate period of time, so that they can be reused for teaching *Sip Smart! BC™* lessons in the future.

Second Set:

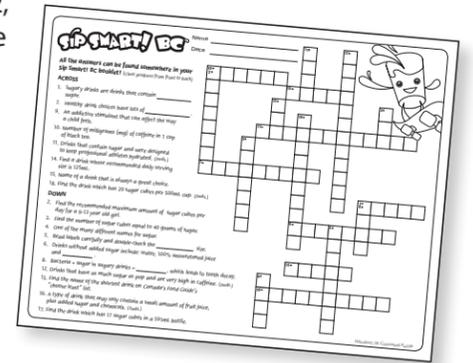
- You can download the *Sip Smart! BC™ Booklet* from our website. It is available online in 4 languages: Chinese, English, French and Punjabi.
- Check with the Heart and Stroke Foundation to determine if additional sets of printed booklets may be requested (email: healthpromotion@hsf.bc.ca).



Crossword Puzzle

- All the answers for the Crossword Puzzle are found in the *Sip Smart! BC™ Booklet*.
- You can send Handout 18: *Crossword Puzzle* (page 97) home after Lesson 2, together with the *Sip Smart! BC™ Booklet*. The intention is to encourage parents to read the information booklet and then talk with their children about healthy drink choices. Parents and students can fill in the puzzle together at home.
- Or, you can hand out the *Sip Smart! BC™ Booklets* to students and assign the crossword as in-class assignment, for example to wrap up the program, or for students who get work done quickly, etc.

Share the correct results and discuss other responses in class, using Handout 19: *Crossword Puzzle* (Answer Key; page 99) as an overhead.



Sip Smart! BC™ PowerPoint™ Presentation

- In addition to sending home the *Sip Smart! BC™ Fact Sheet*, you can introduce the classroom program to parents and caregivers by using a ready-to-use PowerPoint™ presentation available on our website www.bcpeds.ca.
- Inviting a nutritionist to your classroom or a parent meeting would be a great extension to the *Sip Smart! BC™* program.
- Presenting this session at a PAC (Parent Advisory Committee meeting) distributes information about sugary drinks and can become a **School Connection!**



→ Community Connections

Community connections show ideas that can:

- encourage students to take the learning process to a higher level by doing research in their community and having them present their experience and results to the classroom.
- encourage students to take action as a result of this research, and learn they have a voice in the community.
- support students future drink choices in “real life situations.”

→ **Note 1:** For additional **Community Connection** ideas, we suggest you talk to the Community Nutritionist and/or other health professionals in your district.

→ **Note 2:** For any one of the following activities, students can present the results of their research to the class or school using posters or a PowerPoint™ presentation. The recreation centre and grocery store activities also work well as **Home Connections**.

At the Recreation Centre

After skating, playing hockey or doing some other activity at your recreation centre, ask students to take a look at the options for quenching their thirst.

- What drinks are in the canteen?
- What drinks are in the vending machines?
- Do you know what the check marks indicate on vending machine drinks?

In the Grocery Store

Next time students are in a grocery store, have them take a look at the drinks on the shelves.

- Talk with their family about the proportion of drinks that are high in sugar, relative to those that are low in sugar.
- Compare the number of fruity drinks with 100% fruit juices.

At a Sporting Event

Organize a student survey at a sporting event to find out how many students have sports drinks during or after a game or training.

- Graph the results.
- Collect facts about sports drinks and for whom sport drinks are appropriate.
- Research ingredients in healthy drinks that quench thirst during and/or after working out.
- Based on this research, find or create fun recipes for drinks that quench thirst during and/or after working out.

→ Online Resources www.bcpeds.ca/sipsmart/teachers

Sip Smart! BC™ Drink Diary Calculator

- Download the *Drink Diary Calculator* to calculate the results of students' completed drink diaries. Guidelines for using this EXCEL™ spreadsheet are provided on this webpage, along with a brief explanation of how the number of sugar cubes has been determined for each drink.
- Once you enter the results of students' drink diaries into the spreadsheet, the summary information requested for the *Drink Report* and *Caffeine Report* overheads is automatically calculated for you.

Sip Smart! BC™ Videos

- Check out our series of short video clips that feature young students and health professionals engaging in dialogue around key sugary drink topics.
- These video clips could be used in various ways, for example as an introduction or summary for a lesson, as a review, or with parents.
- Video #5 *Sugary Drinks and Teeth* demonstrates the effect of sugary drinks on teeth. If you don't have enough time to do the entire experiment, this video will help you will help you make key teaching points for “The Tooth Experiment”.

Topics and recommended lesson:

Topic	Core Message	Recommended Lesson(s)
1. Healthy Drink Choices: How Do You Know Which Drinks are Healthy?	Healthy drink choices do important jobs for your body without giving you too much sugar.	Lesson 2, 5
2. Fruit Juice or Fruit Drink: Which One Should You Choose?	100% juice is healthier than fruity drinks but 125 mL (½ cup) is enough for one day. Even better is a glass of water and real fruit!	Lesson 1, 5
3. Sugar Facts: What's the Big Deal about Sugar in Your Drinks?	When you drink a sugary drink it's like you're eating a meal of sugar cubes! If you want a treat, you can make your own healthy drink that tastes just as good as the sugary ones!	Lesson 1, 2, 5
4. Sports & Energy Drinks: Will These Drinks Help You Run Faster and Jump Higher?	You don't need sports or energy drinks to perform better. Water or milk beats these drinks any day!	Lesson 3, 5
5. Sugary Drinks and Teeth: What Do Sugary Drinks Do to Your Teeth?	No acid attacks for you! You want your teeth to be healthy. You're going to sip on water instead of sugary drinks!	Lesson 3, 4, 5

Sip Smart! BC™ Teaching Resources

Visit the website to download the entire *Sip Smart! BC™* package:

- Teacher Resource Guide
- Posters: *How Much Sugar is in Your Drink? What Size is Your Drink?*
- Set of 14 *Drink Cut-outs*
- Materials for families (see below)

Sip Smart! BC™ Home Connections

Documents described in the Home Connections section (*pages 130-131*) can be downloaded:

- **Sip Smart BC Fact Sheet:**
An information sheet about sugary drinks to send home after Lesson 1 – available in 10 languages.
- **Sip Smart BC Booklet:**
Just one classroom set of booklets is provided with each *Sip Smart BC* package. Additional sets can be ordered, or downloaded and printed – available in four languages.
- **Sip Smart BC PowerPoint™ Presentation:**
A ready-to-use presentation for parents who would like more information about *Sip Smart BC*, or to use with Parent Advisory Groups.

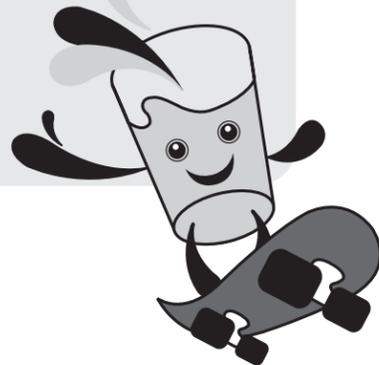
Order Information

Sip Smart! BC™ is FREE to BC Educators.

- The *Sip Smart! BC™ Teacher Resource Guide (TRG)* can be downloaded from www.bcpeds.ca (click on *Sip Smart! BC™*). Supplementary materials such as *Drink Cut-outs* can be downloaded and printed (see *Sip Smart! BC™ Online Resources*).
- Booklets for families in English, French, Punjabi, or Chinese can be requested from Heart and Stroke Foundation while quantities last (email: healthpromotion@hsf.bc.ca; phone: 1-888-473-4636 ext 364).
- A limited number of full print packages can be requested from Heart and Stroke Foundation while quantities last (email: healthpromotion@hsf.bc.ca; phone: 1-888-473-4636 ext 364).

If you are downloading the *TRG*, then ask for the Internet supplement only:

- 2 Posters: *How Much Sugar is in Your Drink? What Size is Your Drink?*
- Set of 14 *Drink Cut-outs*
- Class set of 30 information booklets for families



A list of links to organizations that can provide you with even more information about healthy living and/or sugary drinks:

BC Pediatric Society → www.bcpeds.ca

The professional association and the Section of Pediatrics in the BCMA for the pediatricians and sub-specialists working with children in the province of British Columbia. The BC Pediatric Society's vision is that all B.C. infants, children, adolescents and their families will attain optimal physical, mental and social health.

Co-lead organization for the Sugar Sweetened Beverage (SSB) project, in partnership with the Heart and Stroke Foundation.

Heart and Stroke Foundation → www.heartandstroke.bc.ca

A volunteer-based organization which leads in eliminating heart disease and stroke through the advancement of research and its application, the promotion of healthy living, and advocacy.

Co-lead organization for the SSB project, in partnership with the BC Pediatric Society and primary contact for *Sip Smart! BC™* as of Fall 2009.

Action Schools! BC → www.actionschoolsbc.ca

A best practices model designed to assist schools in creating individualized action plans to promote healthy living.

BC Dairy Foundation → www.bcdairyfoundation.ca

The BC Dairy Foundation is a not-for-profit organization that provides innovative nutrition education programs for BC schools. The site provides information about workshops for teachers, order forms for healthy eating resources and information on the BC Dairy Foundation Elementary School Milk Program. There are also some free downloadable activities that promote fun and healthy eating for students.

BC Healthy Living Alliance (BCHLA) → www.bchealthyiving.ca

A group of nine organizations that have come together with a mission to improve the health of British Columbians through leadership that enhances collaborative action to promote physical activity, healthy eating and smoke free living.

Brand Name Food List → www.brandnamefoodlist.ca

This online database of ready-to-eat, packaged and franchised foods and beverages that require minimal, if any, preparation helps BC Schools find an up-to-date list of specific products, rated according to the government Food and Beverage Guidelines.

Capital Health Edmonton Area: Sugar Shocker Education Kit

→ www.capitalhealth.ca/EspeciallyFor/SchoolsandPreschools/ElementarySchool/Sugarshocker_kit

A kit for K-9 students, to help raise awareness about the amount of sugar in common beverages and to teach about better drink choices.

Childhood Obesity Foundation → www.childhoodobesityfoundation.ca

A Canadian registered charity and a leading Canadian authority on issues related to childhood obesity.

DASH BC → www.dashbc.org

The Directorate of Agencies for School Health (DASH) is a not for profit organization dedicated to advocating, sharing and mobilizing school health initiatives via its network of agencies and individuals throughout British Columbia who are committed to healthy schools and healthy students. Online resources include program information, downloadable school resources and access to school health news, event and educational opportunities.

Dental Associations

Online dental health information and resources are available from Dental Associations in Canada, British Columbia, Minnesota, Missouri and other jurisdictions.

Dietitian Services at HealthLink BC (Dial-A-Dietitian) → www.healthlinkbc.ca/healthyeating

This site provides quality food and nutrition information and resources. Free nutrition information is also just a phone call away! (Call '8-1-1' and ask to speak to a dietitian)

Dietitians of Canada → www.dietitians.ca

The #1 site for credible and reliable nutrition information for Canadians is full of fact sheets, interactive games and tools for kids and adults including the popular Nutrition Challenge and EATracker (www.eatracker.ca) and information on Nutrition Month which is annually brought to you by Dietitians of Canada.

Healthy Eating at School Website → www.healthyeatingatschool.ca

A one-stop shop where school communities can find all the resources they need to implement nutrition policy at school.

Health Canada → www.hc-sc.gc.ca

Search for *Eating Well with Canada's Food Guide*, a resource designed to help Canadians make healthy food choices by integrating the science of nutrition and health into a practical pattern of eating.

Health Canada - Nutrition Labelling

→ www.hc-sc.gc.ca/fn-an/label-etiquet/nutrition/cons/index-eng.php

Information on nutrition labelling.



Providing children with the
knowledge and skills they need
to make **healthy drink choices.**