Note to Teachers: Overheads can also be idea-starters for drawing your own visuals.

Resources are also available online at ***www.sipsmart.ca***, click "*Teachers*" and then "*Quick Prints*".

Lesson 2 Sugar, Sugar

Key Messages

- Some drinks don't fit into *Canada's food guide* or *Eating Well with Canada's Food Guide - First Nations, Inuit and Métis*.
- Drink water – it's always a great choice!
- The number and size of servings we drink affects the amount of sugar we consume.
- Knowing what is in drinks helps us to make healthy choices.

Objectives

- To recognize that sugary drinks do not contain enough nutritional value and should be replaced by water.
- To discuss the importance of drinking water.
- To discuss the implications of the drinks reported by the class.
- 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.
- To identify different names for sugar.

Activity Overview

Level 1:

Canada's food guide or *Eating Well with Canada's Food Guide - First Nations, Inuit and Métis*	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

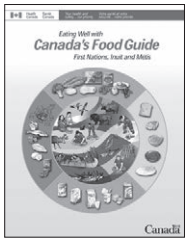
Level 2:

Canada's food guide or *Eating Well with Canada's Food Guide - First Nations, Inuit and Métis*	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 Tips

To introduce students to *Canada's food guide* or *Eating Well with Canada's Food Guide - First Nations, Inuit and Métis* the following resources are recommended:

Health Canada,
Canada's Food Guide



Health Canada,
Eating Well with Canada's Food Guide - First Nations, Inuit and Métis

Note: Copies of *Canada's food guide snapshot and Eating Well with Canada's Food Guide - First Nations, Inuit and Métis can be ordered from Health Canada at www.hc-sc.gc.ca.*

Activity 1. Canada's food guide or Eating Well with Canada's Food Guide - First Nations, Inuit and Métis *(5 -10 mins)*

Key Messages

- Some drinks don't fit into the food groupings of *Eating Well with Canada's Food Guide - First Nations, Inuit and Métis.*

Objectives

- To recognize that sugary drinks do not contain enough nutritional value to fit into Canada's food guide groupings of vegetables and fruit, whole grain foods, or protein foods.

The Punchline!

Many important nutrients are found in healthy drinks, like calcium and vitamin D in plain milk and unsweetened fortified soy beverage. Other drinks may not have enough nutritional value to fit into Canada's food guide groupings.

Preparation

You need:

- Magnets or tape
- Big sticky notes
- ***Sip Smart! BC***™ *Drink Cut-outs*

Also:

- Canada's food guide healthy food groupings on the blackboard: Vegetables and Fruit, Whole Grain Foods, Protein Foods, and Water.
- Review Backgrounder: *Guide to Making Healthy Drink Choices (page 118)*.
- **Note:** This lesson assumes students will have completed 1 *Sip* ***Smart! BC***™ *Drink Diary* and their reports have been summarized. See Lesson 1, Activity 3.

Activity

Level 1

10 minutes

- Ask students to brainstorm drinks and each write 1 idea on a sticky note.
- Review Canada's food guide and the healthy food groupings 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 food groupings vs. drinks that do not.
- Place the ***Sip Smart! BC***™ *Drink Cut-outs* and sticky notes into the appropriate food grouping on the blackboard.

Level 2

5 minutes

- Review the food groupings with students.
- Choose some drink examples (***Sip Smart! BC***™ *Drink Cut-outs* or real containers) and ask students where to place them on the blackboard.

Ask:

Q. Why is it better to eat fruits and vegetables than drink them?

A. √ Because fruits and vegetables have fibre and provide other benefits to our bodies. As sugary drinks don't make you feel full and satisfied, you might drink a lot of sugar without realizing it. Fruits and vegetables fill you up and help you balance your overall food intake.

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.*

• Review Backgrounder: *Water (page 108)*.

Canada's food guide or *Eating Well with Canada's Food Guide - First Nations, Inuit and Métis* 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.

The Punchline!

To stay healthy, a Grade 4, 5, or 6 student's body needs about 8 cups of **fluid** each day. Drink water – it's always a great choice!

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.

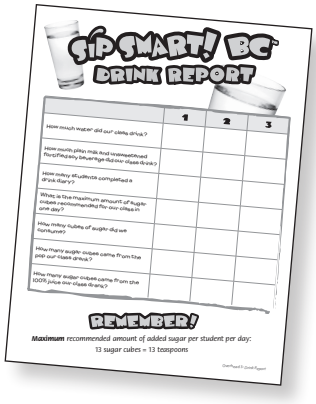
Activity 3. Drink Report I *(5 mins)*

Key Messages

- The number and size of servings we drink affects 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*.
- 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 *Drink Diary Calculator*, the summary information for Overhead 3: *Drink Report* is automatically calculated for you.
- Copy Handout 13: ***Sip Smart! BC***™ *Drink Diary* for each student.
- Review Backgrounder: *Sugar (page 112)*.

Activity

Level 1 and Level 2

- Report results of last ***Sip Smart! BC***™ *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 plain milk or unsweetened fortified soy beverages (if needed), limit sugary drinks (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 ***Sip Smart! BC***™ *Drink Diary* II. Some teachers skip the second ***Sip Smart! BC***™ *Drink Diary* and just do 1 for the fourth lesson. The benefit of doing 3 Drink Diaries is that the repetition increases childrens' awareness of what drinks they are consuming and the concept of portion size.
- **The Drink Diary Calculator makes it easy to summarize class results!** For details, see Lesson 1 or the ***Sip Smart! BC***™ *Drink Diary Backgrounder.*

Activity Tips

Health professionals recommend no more than 13 teaspoons of added sugar each day for Grades 4-6. This includes added sugar from foods and drinks, and the sugar naturally present in 100% fruit juice.

The activity offers teachable moments, such as: Comparing the average student intake of water, plain milk or unsweetened fortified soy beverage and added sugar with recommendations and limitations made in *Canada's food guide* or *Eating Well with Canada's Food Guide - First Nations, Inuit and Métis.*

The Punchline!

Now that we see what our class is drinking, it looks like we should:

- set a goal to…drink more water, drink more plain milk/unsweetened fortified soy beverage, drink less hot chocolate, etc.
- set a goal to….drink fewer sugary drinks.
- celebrate our great drinking habits!

(as appropriate for that set of class results).

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 (2 boxes)
- 9 lunch baggies
- 9 plastic cups
- Permanent markers
- Sticky notes
- Poster: *How Much Sugar Are You Drinking?*
- ***Sip Smart! BC***™ *Drink Cut-outs*

Also:

- Make overhead copy of Overhead 5: *How to Read a Label*.
- 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 117)*.
- *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*).

The Punchline!

Just 1 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.

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.

Level 1

10 minutes

- Uncover the number of sugar cubes on the poster *How Much Sugar Are You Drinking?* 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 ***Sip Smart! BC***™ *Drink Cut-outs* and ask students to find sugar in the ingredient list.

Level 2

5 minutes

- 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 ***Sip Smart! BC***™ *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 Are You Drinking?* 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
Iced tea	10 cubes/355 mL
Iced coffee	20 cubes/500 mL
Sports drink	10 cubes/700 mL
Cola	17 cubes/591 mL
Slushy	24 cubes/1000 mL
Store-bought smoothie	14 cubes/500 mL
Vitamin-enhanced water	8 cubes/591 mL

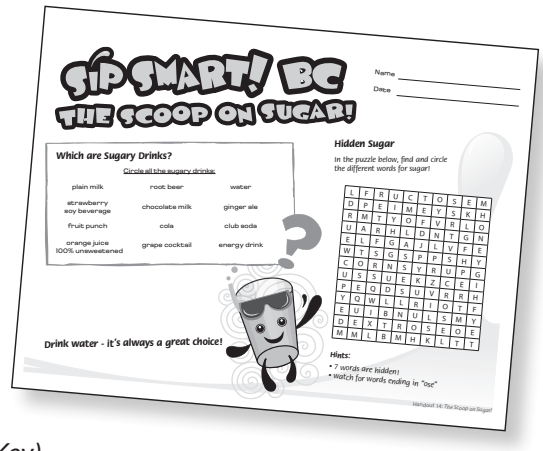
Cubes of sugar on additional Sip Smart! BC™ Drink Cut-outs:

Water	0 cubes/250 mL
Chocolate milk	6 cubes/250 mL
Chocolate soy beverage	5 cubes/250 mL
100% orange juice	5 cubes/200 mL
Citrus C	10 cubes/355 mL
Coffee/tea	1+/250 mL

Activity 5. The Scoop on Sugar *(10 mins)*

Key Messages

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



Objectives

• To identify different names for sugar.

Preparation

You need:

• ***Sip Smart! BC***™ *Drink Cut-outs*

• Copy Handout 14: *The Scoop On Sugar!* for each student.

Also:

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

Activity

Level 2

• Hand out the ***Sip Smart! BC***™ *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.

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

Home Connection

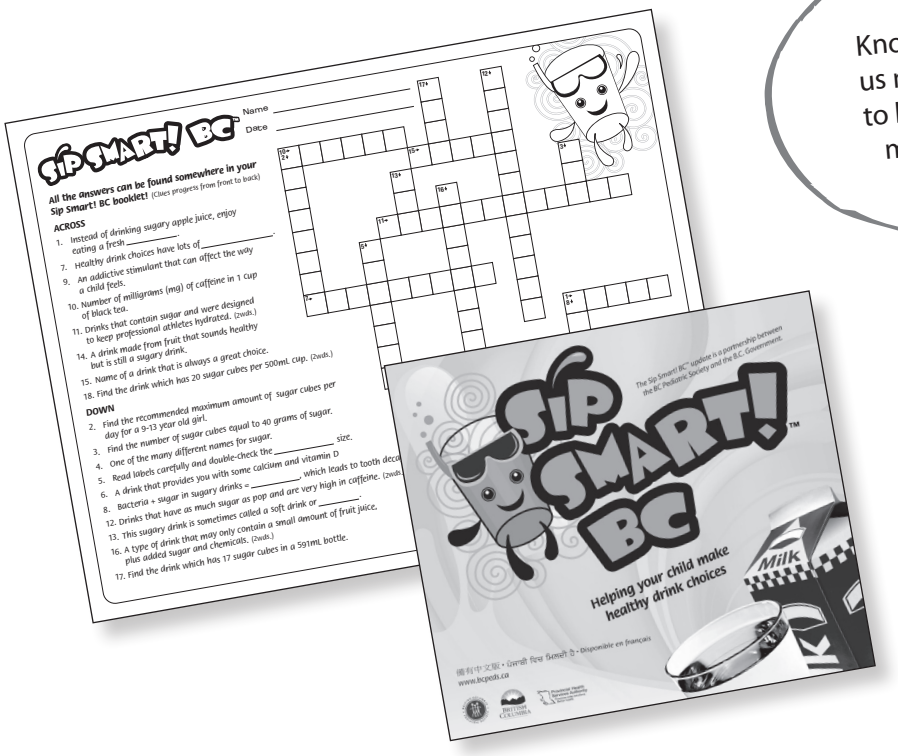
We recommend distributing the ***Sip Smart! BC***™ *Booklets* and Handout 18: *Crossword Puzzle* after Lesson 2. The answers to all puzzle questions can be found in the booklet. If you don't have enough copies of the booklet you can print extras from the masters on our website. The booklet is available online in 4 languages:

- Chinese
- English
- French
- Punjabi

Remember to take a few minutes to discuss the answers to the crossword puzzle with students the next day!

Activity Tips

Fructose: a sugar found in honey, fruits, and root vegetables
Lactose: a sugar found in milk and milk products
Maltose: a sugar found in malt and other grains
Glucose: a simple sugar, used by living cells as a source of energy, found in foods containing carbohydrate
Sucrose: a sugar made by combining glucose with fructose, also known as table sugar



The Punchline!

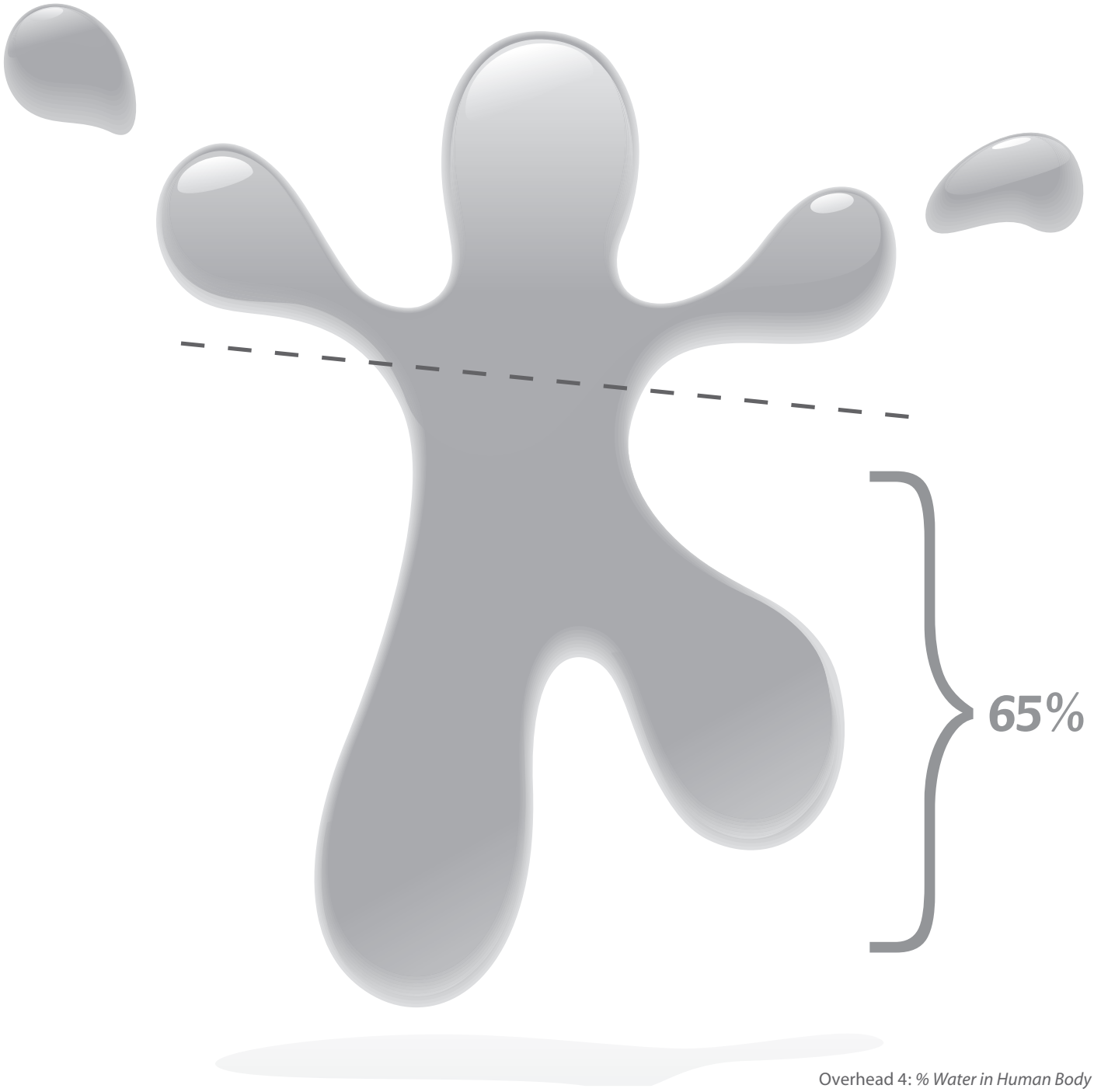
Knowing what is in drinks can help us make healthy choices. You need to know what the words on a label mean to make a healthy choice.

Resources Lesson 2

Note to Teachers: Overheads can also be idea-starters for drawing your own visuals.

Resources are also available online at ***www.sipsmart.ca***, click *"Teachers"* and then *"Quick Prints"*.

Sip Smart! BC
% Water in Human Body



Overhead 4: *% Water in Human Body*

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	

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	
		S M L XL	

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	

Handout 13: ***Sip Smart BC!™*** *Drink Diary*

Sip Smart! BC™ Drink Report

	1	2	3
How much water did our class drink?			
How much plain milk and unsweetened fortified soy beverage 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

Overhead 3: *Drink Report*

SIP SMART! BC™

HOW MUCH SUGAR ARE YOU DRINKING?

500 mL (2 cups)

500 mL (2 cups)

500 mL (2 cups)

355 mL (1 1/2 cups)

591 mL (2 1/2 cups)

500 mL (2 cups)

700 mL (2 3/4 cups)

350 mL (1 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.

BRITISH COLUMBIA PEDIATRIC SOCIETY

BRITISH COLUMBIA

Provincial Health Services Authority
Province-wide solutions. Better health.

Teacher Resource 24: *How Much Sugar is in Your Drink?*

Sip Smart! BC
The Scoop on Sugar!

Name _____

Date _____

Which are Sugary Drinks?

Circle all the sugary drinks:

plain milk	root beer	water
strawberry soy beverage	chocolate milk	ginger ale
fruit punch	cola	club soda
orange juice 100% unsweetened	grape cocktail	energy drink

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
The Scoop on Sugar!

Answer Key

Which are Sugary Drinks?

Circle all the sugary drinks:

plain milk

root beer

water

ginger ale

strawberry soy beverage

chocolate milk

club soda

cola

fruit punch

energy drink

grape cocktail

100% orange juice

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

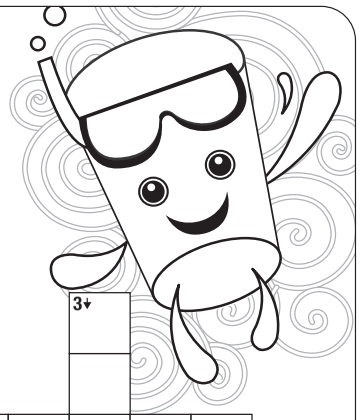
L	**F**	**R**	**U**	**C**	**T**	**O**	**S**	**E**	M
D	P	E	I	**M**	E	Y	S	K	**H**
R	**M**	T	Y	**O**	F	V	R	L	**O**
U	**A**	R	H	**L**	D	N	T	G	**N**
E	**L**	F	G	**A**	J	L	V	F	**E**
W	**T**	S	G	**S**	P	P	**S**	H	**Y**
C	**O**	**R**	**N**	**S**	**Y**	**R**	**U**	**P**	G
U	**S**	S	U	**E**	K	Z	**C**	E	I
P	**E**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

Overhead 6: *The Scoop on Sugar! (Answer Key)*

Sip Smart! BC™

Name _____

Date _____



All the answers can be found somewhere in your Sip Smart! BC booklet! *(Clues progress from front to back)*

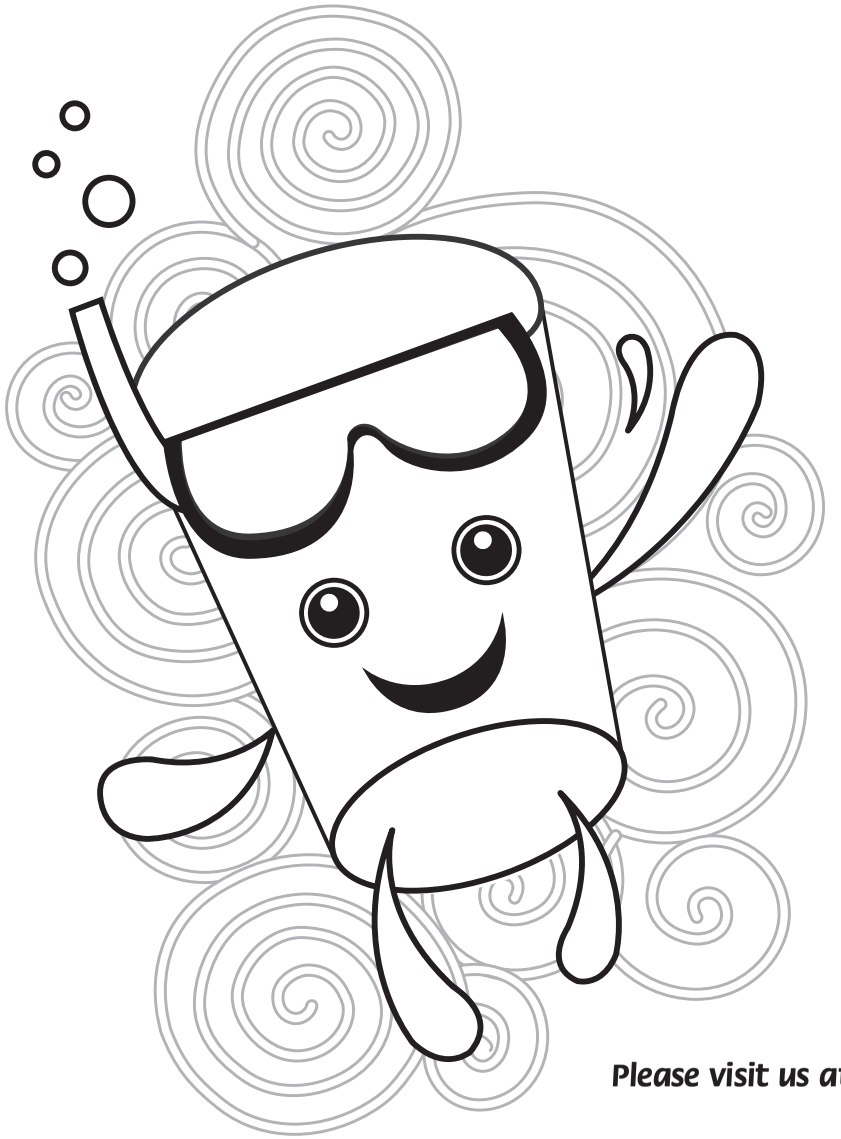
ACROSS

1. *Instead of drinking sugary apple juice, enjoy eating a fresh* _____.
7. *Healthy drink choices have lots of* _____.
9. *An addictive stimulant that can affect the way a child feels.*
10. *Number of milligrams (mg) of caffeine in 1 cup of black tea.*
11. *Drinks that contain sugar and were designed to keep professional athletes hydrated.* (2wds.)
14. *A drink made from fruit that sounds healthy but is still a sugary drink.*
15. *Name of a drink that is always a great choice.*
18. *Find the drink which has 20 sugar cubes per 500mL cup.* (2wds.)

DOWN

2. *Find the recommended maximum amount of sugar cubes per day for a 9-13 year old girl.*
3. *Find the number of sugar cubes equal to 40 grams of sugar.*
4. *One of the many different names for sugar.*
5. *Read labels carefully and double-check the* _____ *size.*
6. *A drink that provides you with some calcium and vitamin D*
8. *Bacteria + sugar in sugary drinks =* _____, *which leads to tooth decay.*
12. *Drinks that have as much sugar as pop and are very high in caffeine.* (2wds.)
13. *This sugary drink is sometimes called a soft drink or* _____.
16. *A type of drink that may only contain a small amount of fruit juice, plus added sugar and chemicals.* (2wds.)
17. *Find the drink which has 17 sugar cubes in a 591mL bottle.*

Handout 18: *Crossword Puzzle*



Please visit us at www.sipsmart.ca

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			N				N				C									
			G				[9]C	A	F	[4]F	E	I	N	E						
							H		R		D									
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							[14]J	U	I	C	E									
					[6]M				T											
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					L				S											
					K				E											

Handout 19: *Crossword Puzzle (Answer Key)*

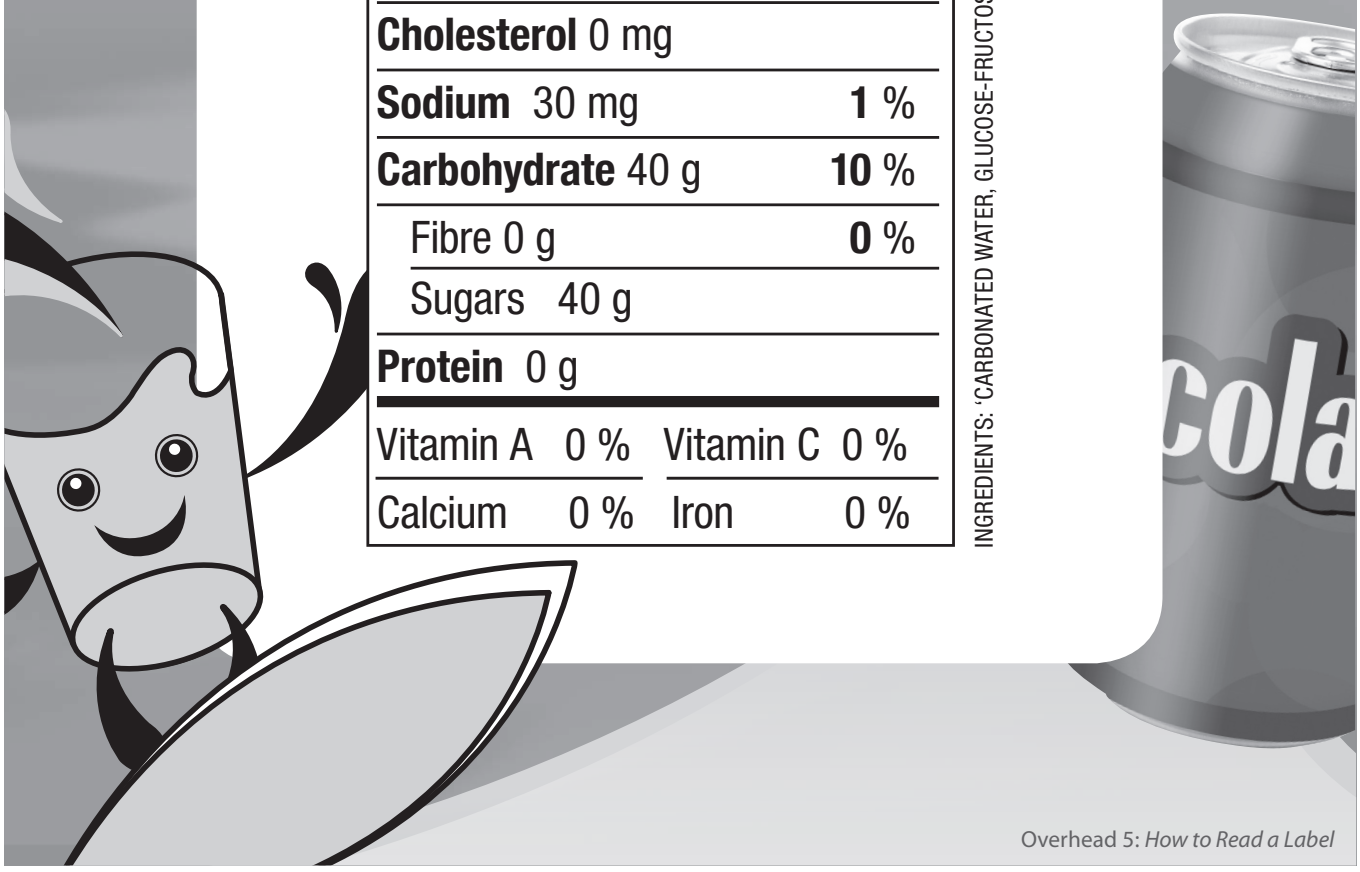
Sip Smart! BC™
How to Read a Label

Nutrition Facts
Per 1 can (355 mL)

Amount	% Daily Value
Calories 160	
Fat 0 g	**0** %
Saturated 0 g + Trans 0 g	**0** %
Cholesterol 0 mg	
Sodium 30 mg	**1** %
Carbohydrate 40 g	**10** %
Fibre 0 g	**0** %
Sugars 40 g	
Protein 0 g	

Vitamin A	0 %	Vitamin C	0 %
Calcium	0 %	Iron	0 %

INGREDIENTS: CARBONATED WATER, GLUCOSE-FRUCTOSE, SODIUM CITRATE, CAFFEINE



Overhead 5: *How to Read a Label*