

Lesson 2: Sugar, Sugar

Curriculum Expectations

Health and Physical Education:

Grade 3: 1.1, C3.1

Grade 4: 1.1, C2.1

Grade 5: 1.1, C2.1

Grade 6: 1.1, C2.1

Grade 7: 1.1, C3.1

Learning Goals

By the end of this lesson, students will be able to:

- Examine nutrition fact tables of various drinks to make healthier food choices.
- Use self-awareness and self-monitoring skills to make classroom healthy drinking goals.

Facility: Classroom

Time: 40 minutes

| Materials | | |
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| Grades: 3 - 5 | Grades: 6 - 7 | Shopping List |
| <ul style="list-style-type: none"> • Teacher Resources: <ul style="list-style-type: none"> – Teacher Resource 3: Drink Report – Teacher Resource 4: % Water in Human Body – Teacher Resource 5: How to Read a Label • Student Resources: <ul style="list-style-type: none"> – Student Resource 1: Sip Smart!™ Ontario Drink Diary Tracking Sheet (See Lesson 1) – Student Resource 3: Crossword Puzzle – Sip Smart!™ Ontario Booklet – Student Resource: Poster 2: How Much Sugar is in Your Drink? – Drink Cut-outs (download from www.brightbites.ca) – Drink Diary Calculator (download from www.brightbites.ca) • Backgrounders: <ul style="list-style-type: none"> – Sugar – Water – Guide to Making Healthy Drink Choices – Ingredients on Labels • Assessment Tools: <ul style="list-style-type: none"> – Assessment Tool 1: Anecdotal Recording Chart – Assessment Tool 2: Sip Smart!™ Ontario Drink Diary <ul style="list-style-type: none"> • Magnets • Sticky notes • Permanent markers | <ul style="list-style-type: none"> • Teacher Resources: <ul style="list-style-type: none"> – Teacher Resource 3: Drink Report – Teacher Resource 4: % Water in Human Body – Teacher Resource 5: How to Read a Label • Student Resources: <ul style="list-style-type: none"> – Student Resource 1: Sip Smart!™ Ontario Drink Diary Tracking Sheet (See Lesson 1) – Student Resource 3: Crossword Puzzle – Sip Smart!™ Ontario Booklet – Student Resource: Poster 2: How Much Sugar is in Your Drink? – Drink Cut-outs (download from www.brightbites.ca) – Drink Diary Calculator (download from www.brightbites.ca) • Backgrounders: <ul style="list-style-type: none"> – Sugar – Water – Guide to Making Healthy Drink Choices – Ingredients on Labels • Assessment Tools: <ul style="list-style-type: none"> – Assessment Tool 1: Anecdotal Recording Chart – Assessment Tool 2: Sip Smart!™ Ontario Drink Diary <ul style="list-style-type: none"> • Magnets • Sticky notes • Permanent markers | <ul style="list-style-type: none"> • About 200 sugar cubes (or sugar packs) • 10 lunch baggies • 10 plastic cups |

Minds on: Eating Well with Canada's Food Guide

Lesson 2 Sugar,

Activity Big Idea

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

Activity

All Grades

- Ask students to brainstorm drinks and each write one idea on a sticky note.
- Review the four food groups with students. Write them on the blackboard.
- 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.
- Review student groups.
- Place the Drink Cut-outs and sticky notes into the appropriate food groups on the blackboard.

Assessment

Teacher observation with verbal feedback of students' demonstrated knowledge of the four food groups.

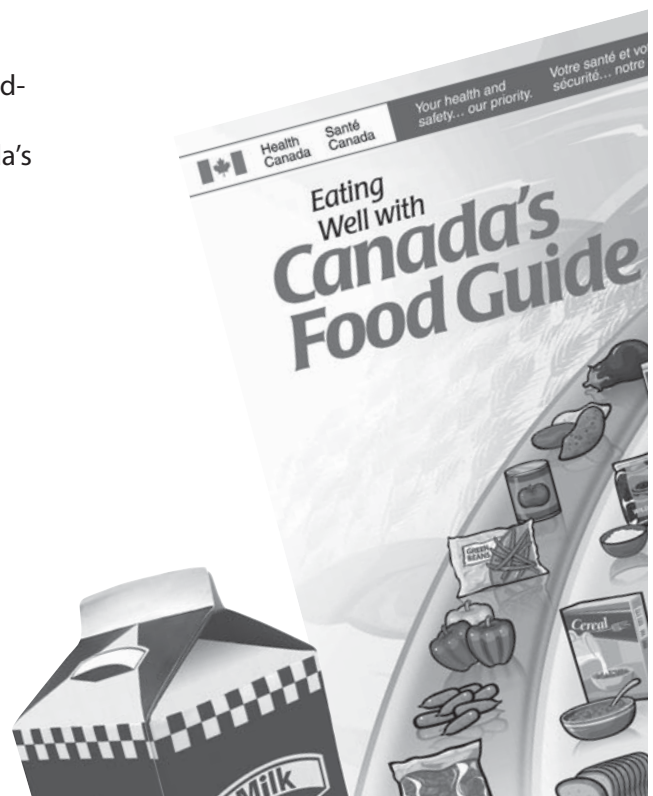
Activity Tips

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

- Government of Canada: <http://healthycanadians.gc.ca/eating-nutrition/healthy-eating-saine-alimentation/food-guide-aliment/index-eng.php>
- EatRight Ontario: www.eatrightontario.ca Enter "Canada's Food Guide" in the Search Box

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.



Action: Drink Report 1

Activity Big Idea

- Drink water - it's always a great choice!
- 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.

Activity

All Grades

- Explain with help of Teacher Resource 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:
 - **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 for many other vital bodily functions.
 - **Q2.** *How much water do we need?*
 - **A2.** Children (9-12 years old) need about 8 cups (2 L) 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.
- Report results of *Drink Diary* from Lesson 1 to the students using Teacher Resource 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 300 sugar cubes = fewer than 10 cubes of sugar each for 30 students.
- Distribute Student Resource 1: *Sip Smart!™ Ontario Drink Diary Tracking Sheet* and ask students to reflect and fill in *Drink Diary 2* (See Lesson 1 for details).

Assessment

Teacher observation with anecdotal notes of students' application of self-monitoring skills as they demonstrate their ability to apply healthy living skills to make healthier choices using Assessment Tool 2: *Sip Smart!™ Ontario Drink Diary*.

Activity Tips

Health professionals recommend fewer than 10 teaspoons of free sugar each day. This includes added sugar from food 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 made in *Eating Well with Canada's Food Guide*.

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 / fortified soy beverages, drink less hot chocolate, choose more "every day" drinks, decrease caffeine intake, etc.
 - Set a goal to... drink fewer sugary drinks.
 - Celebrate our great drinking habits!
- Choose goals as appropriate for the set of class results.

Action: Count the Cubes!

Activity Big Idea

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

Activity

All Grades

- Assign the 12 drinks from Poster 2: *How Much Sugar is in Your Drink?*, a baggie of sugar cubes and a plastic cup(s) to groups of students (assign 1 or 2 drinks per group).
- Explain that each cup represents the actual container size of the drink.
- Have students guess the number of sugar cubes (or teaspoons of sugar) in their designated drink (s), count them out and fill their labeled cup with that number of sugar cubes (or teaspoons of sugar).
- Have each group report their guesses to the class.

Grades 3, 4 & 5

- Show the class Poster 2: *How Much Sugar is in Your Drink?* to compare the actual number of sugar cubes with the students' guesses.
- Explain the concept of label reading with the help of Teacher Resource 5: *How to Read a Label* and the Backgrounder: *Label Reading*.
- Hand out matching Drink Cut-outs and ask students to find sugar in the ingredient list.
- Have students identify how label reading could help them to make healthier drink choices. Have students reflect on fresh drink choices vs. those which are packaged.

Grades 6 & 7

- Explain the concept of label reading with the help of Teacher Resource 5: *How to Read a Label*.
- Do the math for the example on the label: 12 g sugar = 3 cubes (or teaspoons) of sugar.
- Hand out the matching Drink Cut-outs and let the students read the label and do the math.
- Show the class Poster 2: *How Much Sugar is in Your Drink?* to compare the actual number of sugar cubes with the students' results.
- Have students brainstorm ways they can encourage their classmates to make healthier drink choices.

Assessment

Teacher observation with anecdotal notes of students' application of self-monitoring skills as they demonstrate their ability to apply healthy living skills to make healthier choices using Assessment Tool 1: *Anecdotal Recording Chart*.

Activity Tips

- 1 teaspoon or 1 cube sugar or 1 sugar pack = 4 grams
- Sugar amounts are listed below Carbohydrates on the label.

Cubes of sugar on Poster:

- Energy drink: 12 cubes or tsp/500 mL
- Bubble tea: 13 cubes or tsp/500 mL
- Citrus C: 10 cubes or tsp/355 mL can
- Iced tea: 6 cubes or tsp/355 mL can
- Chocolate milk: 3 cubes or tsp/237 mL carton
- Plain milk: 0 cubes or tsp/237 mL carton
- Water: 0 cubes or tsp/250 mL
- Iced coffee: 9 cubes or tsp/500 mL
- Sports drink: 10 cubes or tsp/710 mL bottle
- Cola: 17 cubes or tsp/591 mL bottle
- Slushie: 12 cubes or tsp/500 mL
- 100% orange juice: 5 cubes or tsp/200 mL

Cubes of sugar on additional Drink Cut-Outs:

- Black coffee/tea: 0 cubes or tsp/250 mL
- Chocolate soy beverage: 4 cubes or tsp/250 mL

The Punchline!

There can be a lot of sugar in drinks. Just one drink may use up our 10 cubes (teaspoons) sugar limit for the day – and that doesn't include added 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.

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



Consolidation: The Scoop on Sugar

Lesson 2 Sugar,

Activity Big Idea

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

Activity

All Grades

- 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”.
- Students demonstrate their understanding of added vs naturally occurring sugars by showing either a thumbs up for “I got it”, thumbs middle for “almost there” and thumbs down for “I still have questions”.

Assessment

Teacher observation with verbal feedback of students’ demonstrated ability to apply healthy living skills to make healthier choices.

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

Grades 6 & 7

- Distribute Student Resource 2: *The Scoop on Sugar!* and have students complete it.

Assessment

Teacher observation with verbal feedback of students’ demonstrated ability to apply healthy living skills to make healthier choices using Teacher Resource 6: *The Scoop on Sugar Answer Key*.

Home Connection

We recommend distributing the *Sip Smart!™ Ontario Booklet* and Handout 3: *Crossword Puzzle* (pg. 44) after Lesson 2. The booklet is available online at www.brightbites.ca.

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.

Teacher Resource 3: Drink Report



| | 1 | 2 | 3 |
|-----------------------------------------------------------------------------------------------------|---|---|---|
| How much water did our class drink? | | | |
| How much milk did our class drink? | | | |
| How much pop did our class drink? | | | |
| What is the maximum (i.e., most) number of teaspoons of sugar recommended for our class in one day? | | | |
| How many teaspoons of sugar did we drink? | | | |
| How many teaspoons of sugar did we drink from: | | | |
| • Every Day Drinks | | | |
| • Sometimes Drinks | | | |
| • Avoid Drinks | | | |
| • 100% Juice | | | |
| • Pop | | | |
| • Plain Milk | | | |
| • Flavoured Milk | | | |

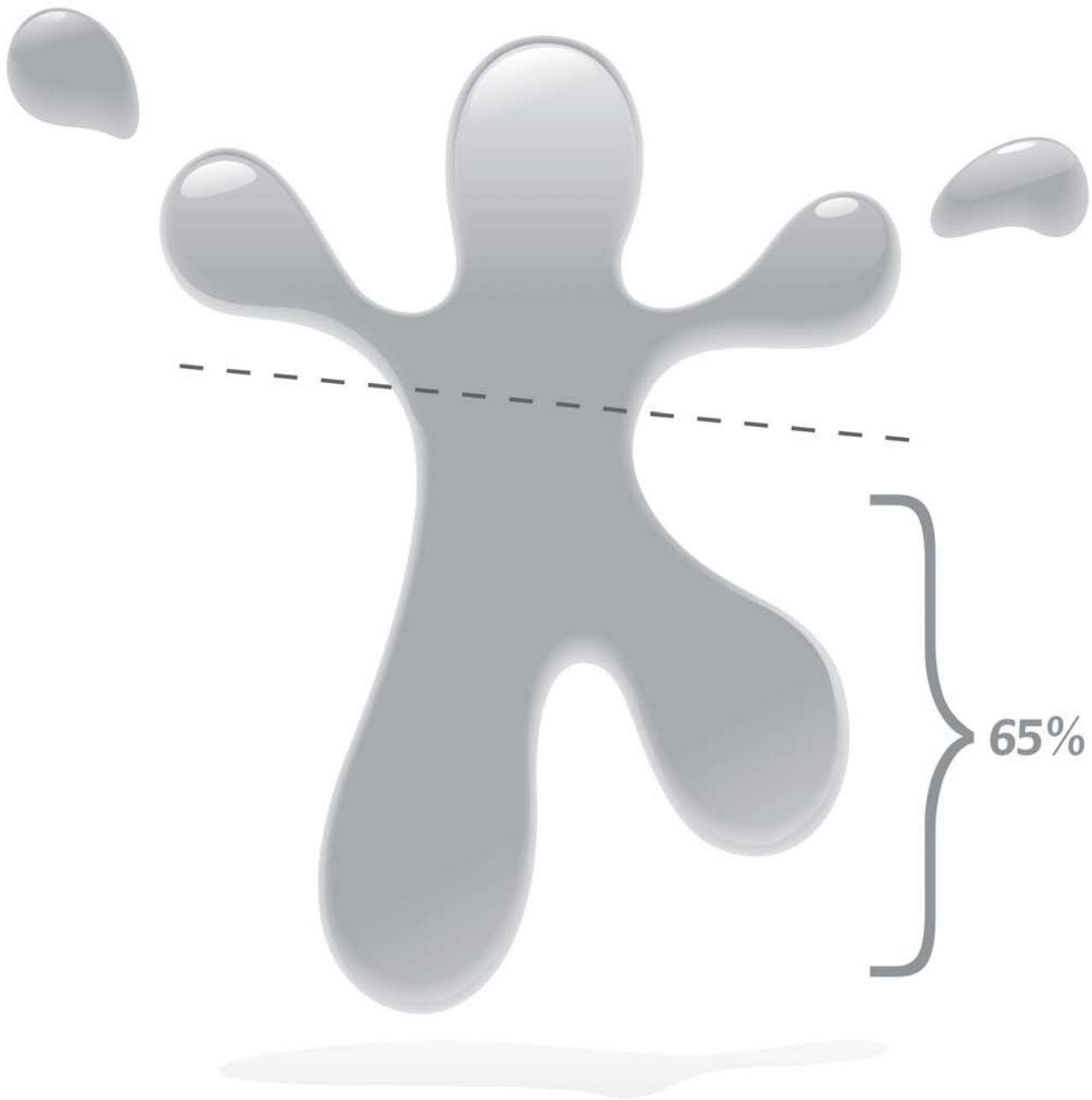
REMEMBER!

Maximum recommended amount of added sugar per student per day:
10 sugar cubes = 10 teaspoons


Teacher Resource 4: % Water in Human Body



% WATER IN HUMAN BODY



Teacher Resource 5: How to Read a Label


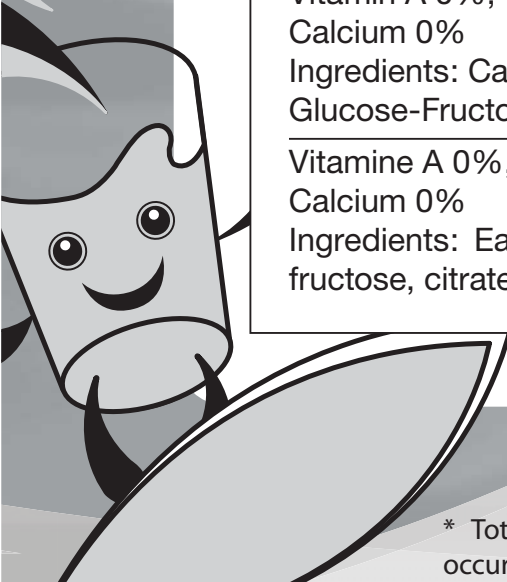


HOW TO READ A LABEL

| Nutrition Facts | |
|-----------------------------------------------------------------------------------|-----------------------------|
| Valeur nutritive | |
| Per 355 mL / Par 355 mL | |
| Amount | % Daily Value |
| Teneur | % valeur quotidienne |
| Calories / Calories | 160 |
| Fat / Lipides 0 g | 0% |
| Sodium / Sodium 30 mg | 1% |
| Carbohydrate / Glucides 40 g | 10% |
| Sugars / Sucres 40 g* | |
| Protein / Protéines 0 g | |
| Vitamin A 0%, Vitamin C 0%, Iron 4%, Calcium 0% | |
| Ingredients: Carbonated Water, Sugar, Glucose-Fructose, Sodium Citrate, Caffeine. | |
| Vitamine A 0%, Vitamine C 0%, Fer 4%, Calcium 0% | |
| Ingredients: Eau gazéifiée, sucre, glucose-fructose, citrate de sodium, caféine. | |

Source: Composite Example

* Total sugars include added sugars plus naturally occurring sugars (e.g., in fruit and milk)



Student Resource 2: The Scoop On Sugar



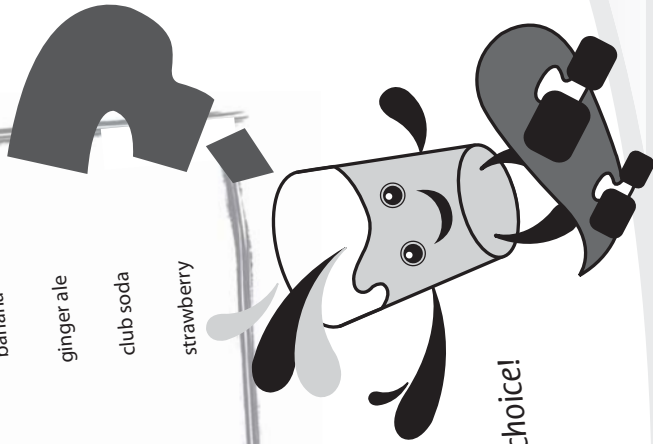
THE SCOOP ON SUGAR!

Name _____
Date _____

Natural or Added?

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

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

Teacher Resource 6: The Scoop On Sugar Answer Key



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.

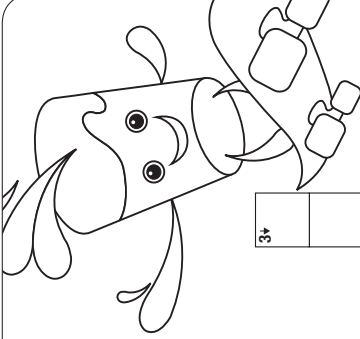
| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| L | F | R | U | C | T | O | S | E | M |
| D | P | E | I | M | E | Y | S | K | H |
| R | M | T | Y | O | F | V | R | L | O |
| U | A | R | H | L | D | N | T | G | N |
| E | L | F | G | A | J | L | V | F | E |
| W | T | S | G | S | P | P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



Student Resource 3: Crossword Puzzle



Name _____
Date _____



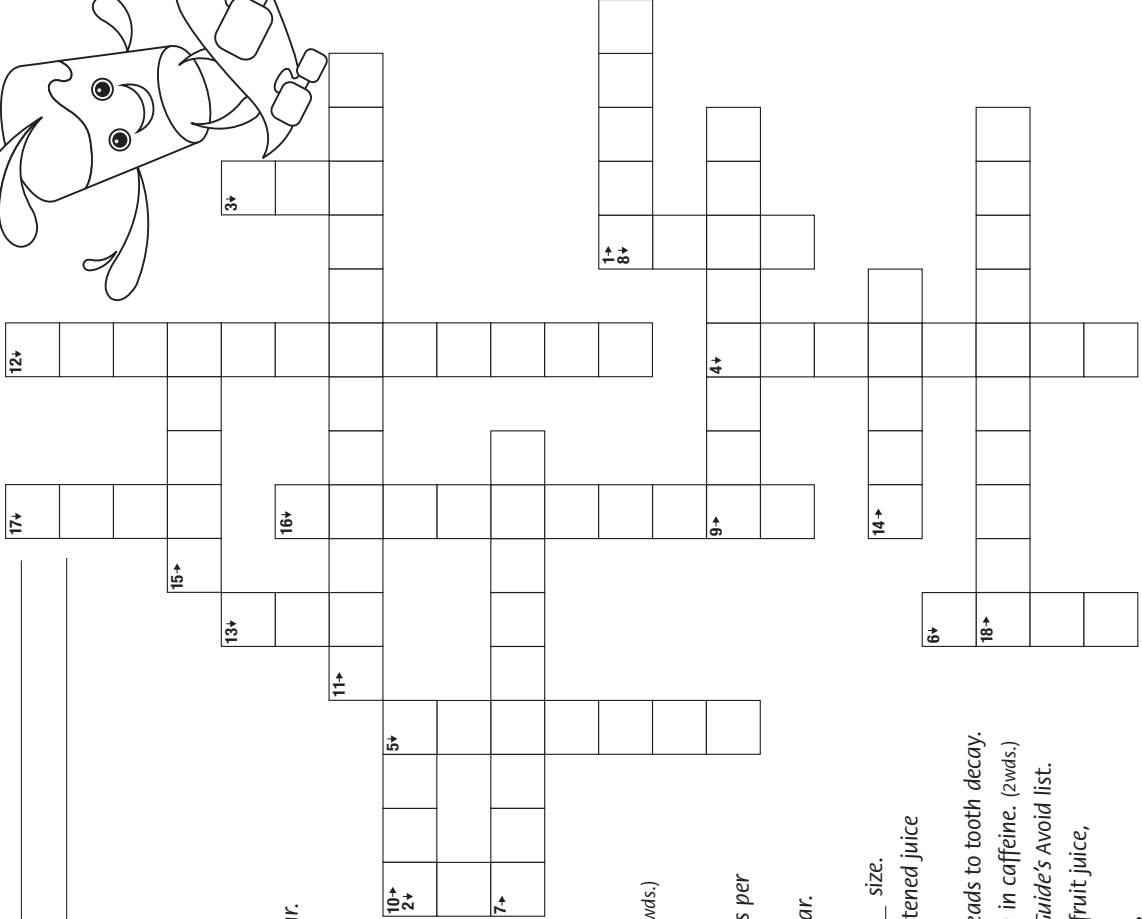
All the answers can be found somewhere in your Sip Smart!™ Ontario booklet!
(Clues progress from front to back)

ACROSS


- Sugary drinks are drinks that contain _____ sugar.
- Healthy drink choices have lots of _____.
- An addictive stimulant that can affect the way a child feels.
- Hot beverages with 30 to 50 mg of caffeine per cup (250 mL) .
- Drinks that contain sugar and were designed to keep professional athletes hydrated. (2wds.)
- Find a drink whose recommended daily serving size is 125mL.
- Name of a drink that is always a great choice.
- Find the drink which has 9 sugar cubes per 500mL cup. (2wds.)

DOWN

- Find the recommended maximum amount of sugar cubes per day for a 7-13 year old girl.
- Find the number of sugar cubes equal to 40 grams of sugar.
- One of the many different names for sugar.
- Read labels carefully and double-check the _____ size.
- Drinks without added sugar include: water, 100% unsweetened juice and _____.
- Bacteria + sugar in sugary drinks = _____, which leads to tooth decay.
- Drinks that have as much sugar as pop and are very high in caffeine. (2wds.)
- Find the drink with the shortest name in *Canada's Food Guide's* Avoid list.
- A type of drink that may only contain a small amount of fruit juice, plus added sugar and chemicals. (2wds.)
- Find the drink which has 17 sugar cubes in a 591mL bottle.



Poster 2: How Much Sugar is in Your Drink?



HOW MUCH SUGAR IS IN YOUR DRINK?

| Drink | Teaspoons of Sugar |
|------------------------------------------|--------------------|
| ENERGY DRINK | 12 |
| bubble tea | 13 |
| clarifed fruit flavoured beverage | 10 |
| Chocolate Milk | 3 |
| ICED TEA lemon flavoured | 6 |
| Milk | 0 |
| chilled out ICED COFFEE | 9 |
| Sprite | 10 |
| cola | 17 |
| lime blast slushie | 12 |
| orange juice with pulp (not sugar added) | 5 |

Children ages 7-13 years should have no more than 10 teaspoons a day of added sugar plus sugar from fruit juices.

