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ML MIDDLESEX-LONDON
HEALTH UNIT

Sugary Drink Calculator Resource Guide

**Including
How to use the Calculator
Curriculum Links:
Questions/Answers/Activities to
Reinforce Learning**



January 2018

Using the *Sugary Drink Calculator*?

<https://www.healthunit.com/sugary-drinks-calculator>

Guess how many teaspoons of free sugar are in this drink?

Children and youth shouldn't have more than 10 teaspoons of free sugar per day from food and drink.

Select your drink of choice

Ice Tea		Chocolate Milk	
Fruit Drink		Crushed Ice Coffee	
100% Fruit Juice		White Milk	
Water		Milk Shake	
Slush Drink		Energy Drink	
Pop		Sports Drink	

ICE TEA

500mL

Teaspoons of free sugar

0	1	2
3	4	5
6	7	8
9	10	11
12	13	14
15	16	17
18	19	20

- The *Sugary Drink Calculator* can be used in different ways. Use it to engage students to learn more about sugar and sugary beverages.




Some Examples:

- The *Calculator* can be displayed on a Smart Board in a classroom.
- Students can work in groups, or independently to guess the amount of sugar in the different drinks. The *calculator* can be used to confirm answers.
- Students could also guess how much sugar is in each beverage, write it down, and then confirm their answers during computer lab time.

Using the *Sugary Drink Calculator?*

- Once students have determined the amount of sugar in all of the drinks they can sort the drinks into: “choose everyday”, choose sometimes and choose rarely. For instructions see next slide.

Select your drink of choice

Ice Tea			Chocolate Milk
Fruit Drink			Crushed Ice Coffee
100% Fruit Juice			White Milk
Water			Milk Shake
Slush Drink			Energy Drink
Pop			Sports Drink

Guess how many teaspoons of free sugar are in this drink?

Children and youth shouldn't have more than 10 teaspoons of free sugar per day from food and drink.



500mL

Teaspoons of free sugar

0	1	2
3	4	5
6	7	8
9	10	11
12	13	14
15	16	17
18	19	20

- **Free sugars** are sugars that are added to foods and drinks either by the manufacturer, the cook or the consumer.
- **Free sugars also include** natural sugars found in honey; syrups; fruit juices and fruit juice concentrates.
- **Free sugars don't include** naturally occurring sugars found in foods, such as lactose in milk or fructose in fruit.



Sorting the Drinks ?

Teaspoons of
free sugar

0	1	2
3	4	5
6	7	8
9	10	11
12	13	14
15	16	17

Choose “**Everyday**”.
Includes drinks that
have 0 - 5 tsp. of *free*
sugar.



Choose “**Sometimes**”.
Includes drinks that
have 6 -10 tsp. of *free*
sugar.



Choose “**rarely**”.
Includes drinks that
have 11- 17+ tsp. of
free sugar. These
drinks have lots of
added sugar and often
very little nutrition.



One Teaspoon of sugar
is equal to one cube of
sugar





Using the Question/ Answer/ Activity Section

- The questions and answers in this section are designed to enhance learning about free sugar and sugary drinks.
- The questions can be posed and students can do some research to formulate their answers.
- Students can check the accuracy of their answers based on the answers provided in this resource.
- Most of the questions have associated activities to reinforce learning.
- This resource can be used in it's entirety or select respective questions.
- The resource can be displayed and used on a smartboard or printed and used in hard copy format.

Sugary Drinks

Questions/Answers/Activities

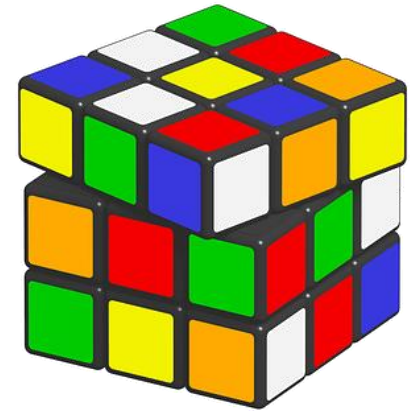
- What is a Free Sugar?
- I heard juice has vitamins and minerals, isn't this good for me?
- How much sugar does the average: child; youth and adult eat?
- How much sugar do we eat and how does it impact our health?
- How can I decrease the amount of sugar I eat?

Q: What is a *Free Sugar*?

Answer:

- *Free sugars* are sugars that are **added** to foods and drinks either by the **manufacturer, the cook or the consumer**.
- **Free sugars also include natural sugars found in** honey; syrups; fruit juices and fruit juice concentrates.
- **Free sugars don't include naturally occurring sugars found in foods, such as lactose in milk or fructose in fruit.**





Activity

1. This activity can be done as a class, in groups or individually. Images can be displayed digitally on the Smart Board or hard copies printed out.
2. Based on the following images decide whether the food item contains free sugars.
3. Confirm guesses with the answers provided.

Free Sugars or no Free Sugars?



Picture: Potato

Answer: No free sugar. A potato contains a carbohydrate called starch. It takes the body more time to digest this than free sugars.

Free Sugars or no Free Sugars?



Picture: Apple

Answer: No free sugar. Although fruit contains naturally-occurring sugar, the sugar is not broken-down within the cell walls of the fruit. The fibre in fruit also slows down absorption.

Free Sugars or no Free Sugars?



Picture: Pumpkin

Answer: No free sugar. Although fruit contains naturally occurring sugar, the sugar is intact within the cell walls of the fruit. The fibre in fruit also slows down absorption.

Free Sugars or no Free Sugars?



Picture: Fried chicken

Answer: Yes, there is free sugar. The seasoning that is often used in the coating can be high in free sugars.

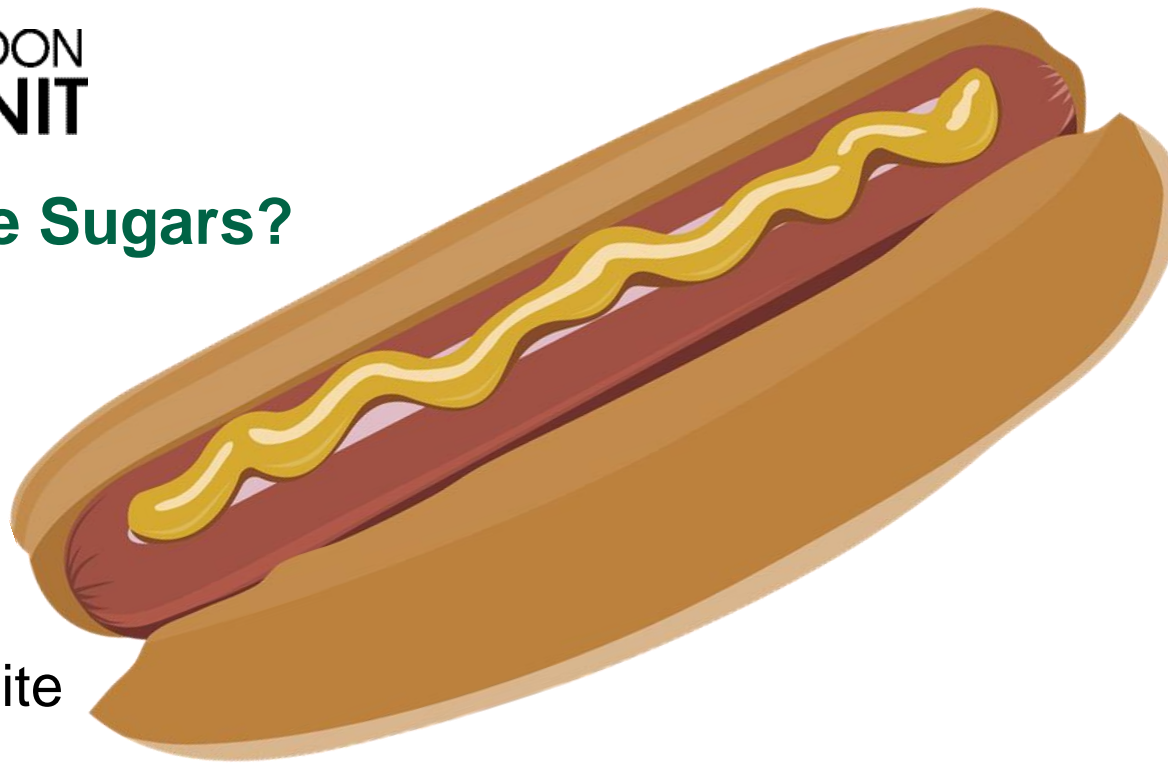
Free Sugars or no Free Sugars?



Picture: Strawberry

Answer: No free sugar. Although fruit contains naturally occurring sugar, the sugar is not broken-down within the cell walls of the fruit. The fibre in fruit also slows down absorption.

Free Sugars or no Free Sugars?



Picture: Hot dog on a white bun with mustard

Answer: Yes, this contains free sugar. The bun, hot dog and the mustard all contain free sugars. Remember, when foods are processed, they generally contain added sugars. The sugar is used to add flavour. Also, condiments like mustard are often high in free sugars.

Free Sugars or no Free Sugars?



Picture: Sprinkled chocolate donut

Answer: Yes, this contains free sugar. Pastries, chocolate, and sprinkles are all made with sugar added to them.

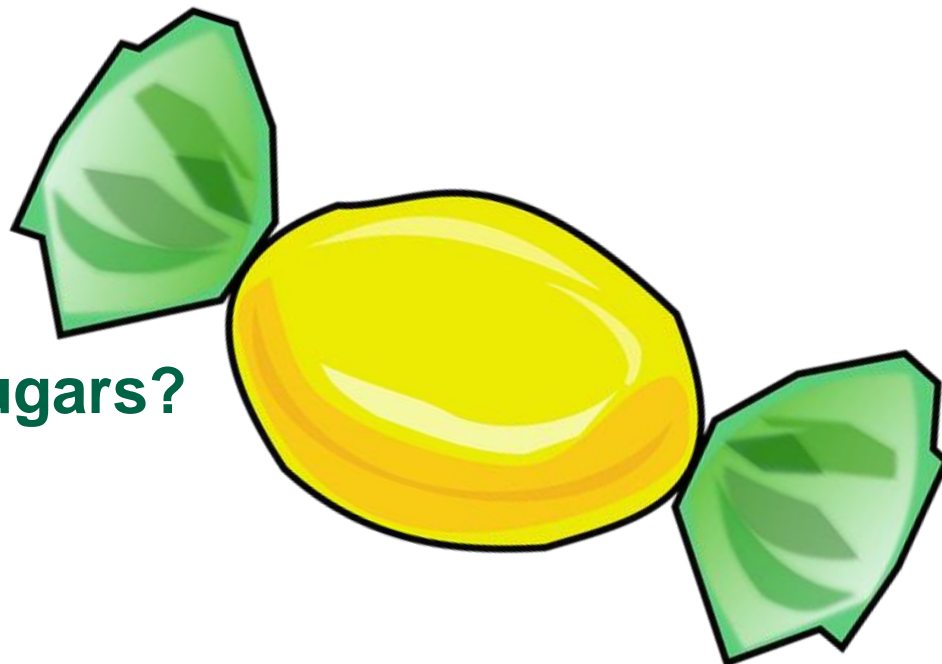
Free Sugars or no Free Sugars?



Picture: Chocolate
birthday cake

Answer: Yes, this contains free sugar. Cake and chocolate are both made with sugar added to them

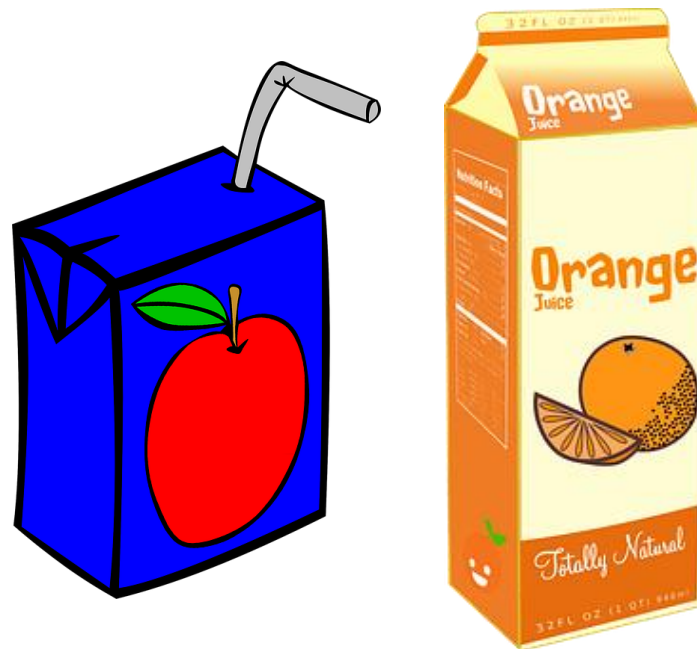
Free Sugars or no Free Sugars?



Picture: Hard candy

Answer: Yes, hard candies are made with sugar added to them.

Free Sugars or no Free Sugars?



Picture: Juice

Answer: Yes, juice contains free sugars. When juice is made, many parts of the vegetable or fruit are removed e.g., the skin and fibre. Sugars are broken-down and become readily available to the body. It takes many whole vegetables and/or fruits to make juice further increasing the amount of free sugars present.

Free Sugars or no Free Sugars?

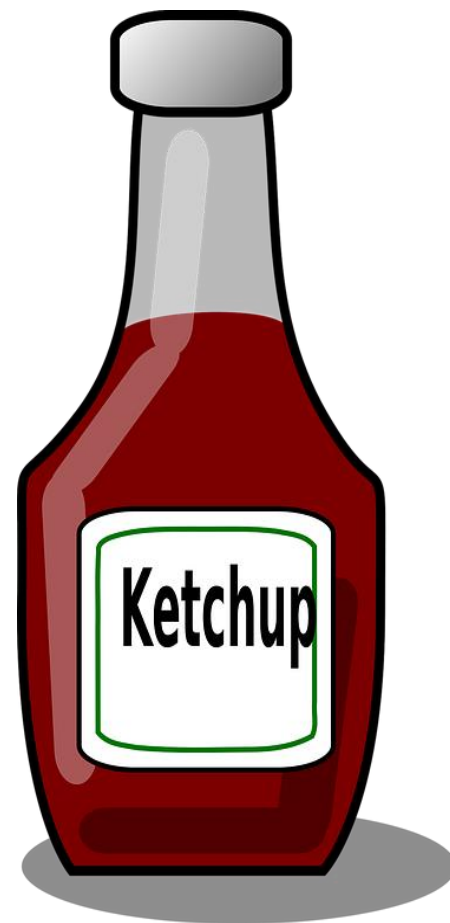
Picture: Pop



Answer: Yes, regular pop contain free sugars.

Free Sugars or no Free Sugars?

Picture: Ketchup



Answer: Yes, ketchup contains free sugar. Many condiments have sugar added to them to make them taste better.

Free Sugars or no Free Sugars?



Picture: Sugar cubes

Answer: Yes, sugar cubes are free sugar!

Free Sugars or no Free Sugars?



Picture: White Milk

Answer: No, milk does not have free sugars. Milk contains a sugar called lactose, this is a naturally occurring sugar and has not been broken-down and therefore doesn't count as a free sugar.

Free Sugars or no Free Sugars?



Picture: Chocolate Milk

Answer: Yes, chocolate milk has free sugars. In addition to the lactose sugar found in milk which is not a free sugar, chocolate milk also has flavouring added to it. The flavouring added to chocolate milk contains free sugars.

Q: I heard juice has vitamins and minerals, isn't juice good for me?



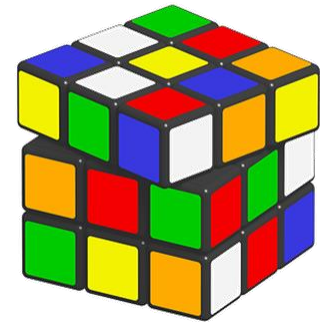
Answer:

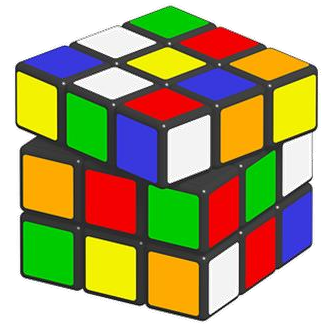
- There are some nutrients from whole vegetables and fruit that are present in juice and can contribute to your body's daily needs e.g., vitamin C.
- But, **many nutrients** from whole vegetables and fruit are lost when they are processed (or broken-down) and made into juice (e.g., fibre and up to half of the antioxidants).
- It is best to eat whole vegetable and/or fruit because of the many health benefits they provides.

Activity

The following activity is designed for upper-level grades (e.g., intermediate division):

1. Have students research the following terms:
 - fibre
 - antioxidant
 - phytonutrient
 - folate and folic acid
2. For each term have the students identify:
 - what is it?
 - what it does? (how it helps the body)
 - where is it found? (examples of vegetables and fruits)
3. Ensure credible websites are being used e.g.,
<https://www.eatrightontario.ca/> , www.dietitians.ca/ ,
www.canada.ca/en/services/health/food-nutrition.html





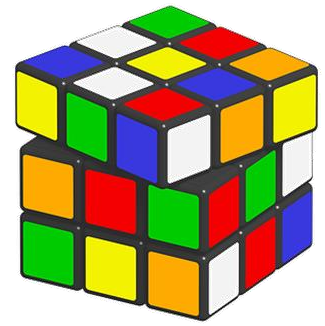
Answer: Fibre

What is it?

- Fibre is a type of carbohydrate that passes through the digestive system and does not get broken-down or digested by the body.

What does it do? (how it helps the body)

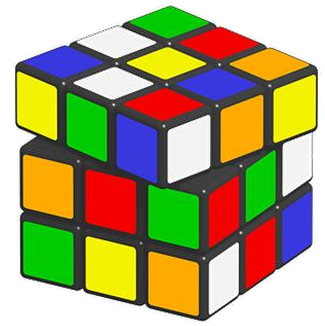
- There are two types of fibre: Insoluble and soluble.
- **Insoluble fibre** helps to keep your bowels regular and helps to prevent constipation.
- **Soluble fibre** helps to lower blood cholesterol and control blood glucose (sugar) levels.



Answers: Fibre

Where is it found?

- Fibre is found in vegetables and fruit, whole grains, legumes, lentils, nuts and seeds.
- **Insoluble fibre** found in: vegetables and fruits (especially the skins), nuts, seeds, whole grains, and wheat bran.
- **Soluble fibres** found in: vegetables, fruits, legumes (beans and lentils), psyllium, oats, and barley.



Answers: Antioxidants

What is it?

- Antioxidants are nutrients that are found naturally in many foods. An example of an antioxidant are vitamins like vitamin A, C and E.

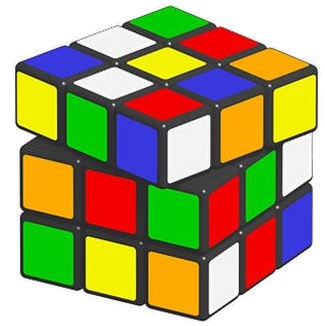
What does it do?

- Antioxidants are nutrients that are in some foods and they protect cells in the body from damage. They protect against *free radicals* (a free ion that can cause damage to healthy cells). Antioxidants decrease the number of free radicals in the body to help keep us healthier.

Where is it found?

- Vegetables, fruit, whole grain bread, pasta and cereal, beans, lentils, nuts seeds, and green tea.





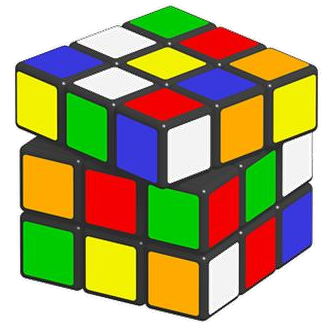
Answer: Phytonutrients

What is it?

- Phytonutrient is a broad term to describe a wide variety of substances that are found in plant foods. It is thought that there may be more than 4,000 types of phytonutrients.

What does it do?

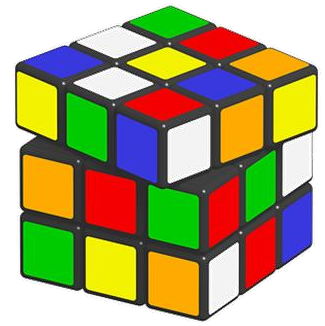
- Phytonutrients help to keep us healthy and may be protective against some chronic diseases e.g., reduce the risk of cancer, heart disease, stroke, Alzheimer's and Parkinson's disease.
- They may also help to strengthen the immune system, have anti-inflammatory benefits, and may also have anti-viral or anti-bacterial properties.



Activity/Answers:

Where is it found?

- Phytonutrients give vegetables and fruit their distinctive colours. For example, *lycopene* (a type of phytonutrient) gives tomatoes and watermelon their distinctive red colour.
- Red, orange, yellow, purple, blue vegetables and fruits (e.g., carrots, peppers, berries, tomatoes)
- Dark leafy vegetables
- Garlic, onions, chives, leeks
- Whole grains
- Legumes (beans, lentils, soy)
- Nuts and seeds (e.g., walnuts, pumpkin seeds, flaxseeds)



Answer Folate:

What is it?

- Folate and Folic Acid are B vitamins. Folate is the B vitamin found naturally in food. Folic acid is the synthetic form found in vitamin supplements.

What does it do?

- Folate helps to keep our blood healthy specifically the red blood cells and helps to prevent anemia (low red blood cells); can help to keep the heart healthy by strengthening blood vessels and the heart tissue. It is also known to prevent birth defects, such as spina bifida (a defect of the spine).

Where is it found?

- Legumes (beans, lentils, peas); vegetables and fruit; enriched grain products (pasta, cereals, bread); whole grains; peanut butter; and nuts and seeds



Q:How much sugar does the average: child, youth and adult eat?

Answer:

- The average Canadian consumes approximately 110 grams of sugar per day, equivalent to 26 teaspoons.
- Teenage boys had the highest intake of sugars with an average of 41 teaspoons per day.



Q: How much sugar do we eat and how does it impact our health?



Answer:

- The World Health Organization recommends that children and adults decrease their free sugar intake to about 8 – 12 teaspoons of free sugar per day.
- About 1/3 or ~35% of the sugar we eat comes from foods like pop, candy, pastries and sugar sweetened drinks.



Q: How much sugar do we eat and how does it impact our health?



Answer:

- Too much sugar, especially added or free sugar may increase the risk of dental cavities, and result in less healthy weight and increased risk of cardiovascular disease and diabetes.



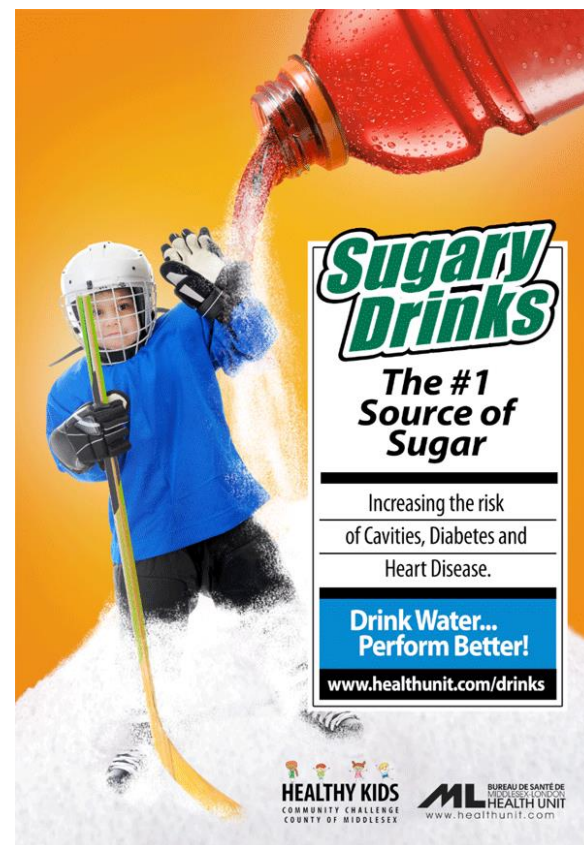


Q: How can I decrease the amount of sugar I eat?

Answer:

Avoid drinking your sugar

- Drink water – it is refreshing and hydrating!
- Choose plain milk or plain fortified soy beverage as sources of calcium, vitamin D and protein.
- Limit intake of sugar-sweetened beverages e.g., sugary drinks – pop, iced tea, vegetable and fruit juices.

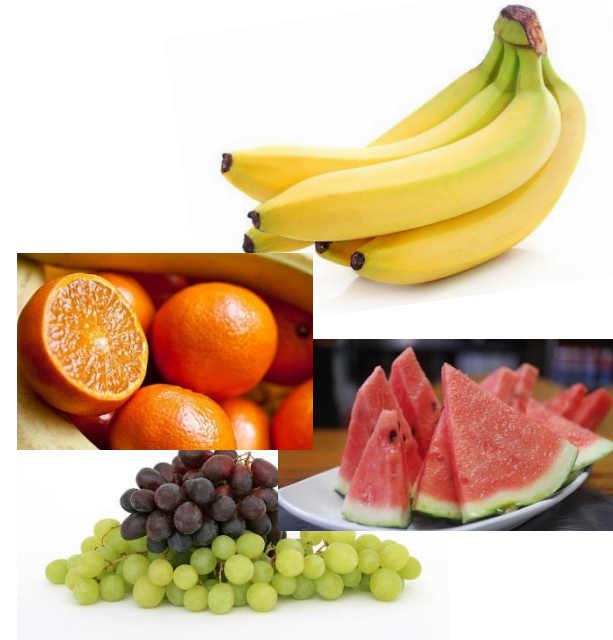


Q: How can I decrease the amount of sugar I eat?

Answer:

Eat Whole Foods

- Whole foods are nutrient dense and don't contain free sugar. For example, try having whole fruit instead of fruit juice. Whole fruit is rich in fibre and antioxidants. Vegetables and fruit also contain water naturally! For activities related to vegetables and fruits visit the Vegetable, Fruit and Water Toolkits located at <https://www.healthunit.com/school-toolkits>
- Remember many processed foods have sugar added to them to improve taste.



Q: How can I decrease the amount of sugar I eat?

Answer:

Watch for hidden sugars

- Become familiar with words or terms that you might find on an [Nutrition Facts Table](#) that means sugar.
- The following words on an ingredient list mean sugar has been added: sugar; brown sugar; cane sugar; beet sugar; sugar/glucose-fructose; dextrose; fructose; high fructose corn syrup; glucose; maltose; sucrose; fruit juice concentrates; honey; molasses; maltodextrin; agave syrup; malt syrup; maple syrup; and syrup.

