

Sugar Savvy Students - Three Days of Activities (Grades 6-8)

Goal: Decrease student intake of foods and drinks with added sugars and increase physical activity.

DAY 1

Objectives: Students will be able to:

- Define “natural sugar” and “added sugar”
- Gain basic knowledge of carbohydrates, sugar, and high fructose corn syrup
- Increase awareness about the amount of soda they consume each year
- Identify how much money they spend on soda each year

Materials:

- ✓ Worksheet 1 “**Sweet Ain’t Cheap**” (1 per student)

Suggested Time:

20 minutes

1. Review the following with your students and engage in a discussion about natural and added sugar:

- “Natural sugar” means that a food naturally contains sugar, along with vitamins, minerals, and fiber. Foods like fruits, vegetables, and dairy products contain natural sugar.
- “Added sugar” means that sugar was added beyond what occurs naturally. Many processed foods, like sweets and soft drinks, have added sugar. These foods are high in sugar but low in vitamins, minerals, fiber and other healthful things that your body needs to grow.
- Many foods contain added sugars: crackers, cookies, cakes, and cereals to name a few.

Ask: Can you think of any other foods that have added sugars?

- The number one source of added sugar in our diets is soft drinks.
- Too much added sugar can mean that you are eating more calories than you need.
- Foods high in sugar can cause dental cavities.

2. Review the basics of Carbohydrates and Sugar:

- Carbohydrates are our main source of energy and are essential for good health.
- Sugars and starches are the two main types. They are in fruits, vegetables, and grain products.
 - a. Sugars are simple molecules made of carbon, hydrogen, and oxygen. Plants produce sugar during **photosynthesis** by trapping the radiant energy from the sun inside the chemical bonds that hold together the atoms of the sugar molecule.
 - b. Starches are complex chains of sugar molecules. We break down starches into simple sugar units during digestion.

3. Review the basics of High Fructose Corn Syrup (HFCS):

- a. HFCS is a sweetener made by changing some of the glucose in cornstarch into fructose. This results in a mixture containing 42-55% fructose and the rest of the sugar is glucose.
- b. HFCS can be found in numerous foods (ketchup, bread, cereal, tomato sauce, granola bars, and most processed food and beverages on grocery store shelves).
- c. HFCS is added to food because it is cheaper than sugar, especially when corn prices are low, and it keeps food from spoiling.

4. Here are more Soda FACTS you can share with your students:

- The average teen drinks more than 750 cans of soda per year!
- Several scientific studies suggest that soft drinks are directly related to weight gain. That weight gain, in turn, is a prime risk factor for Type 2 diabetes which is a problem for teens as well as adults. As people get older, excess weight also adds to risks for heart attacks, strokes, and cancer.
- Carbonated soft drinks are the single-biggest source of sugar calories in the American diet -- about 7 percent of our calories. Adding in non-carbonated drinks brings the figure to 9 percent. Teens get 13 percent of their calories from carbonated and non-carbonated soft drinks.
- Soda promotes tooth decay because it bathes the teeth in sugar-water for long periods of time.
- We drink more soda today than we did in the past. In the 1950’s, Coca-Cola was sold in 6.5-ounce bottles. Now the bottles are 20 ounces.

5. Break class up into small groups to complete Worksheet 1 “Sweet Ain’t Cheap”

(Answers: 1. \$401.50, 2. \$1204.50)



DAY 2

Objectives: Students will be able to:

- Calculate how many calories they consume if they drink one 12-oz soda each day for one year.
- Identify potential negative health effects of consuming so many extra calories from sugar.

Materials:

- ✓ Worksheet 2 “**How Many Calories**” (1 per student)
- ✓ Optional: one can of regular soda, one can of diet soda, large transparent container, water

Suggested Time:

20 minutes

Procedures:

1. **Using Worksheet 2**, break students into groups to complete the questions. Discuss the answers as a class after students complete the worksheet. (**Answers: 1. 140 calories from sugar 2. 51,100 calories in a year from soda 3. 3193.75 teaspoons of sugar in a year from soda 4. weight gain, over weight, obesity, increased risk for chronic disease, and dental caries, etc.**)
2. Soda Float Activity (Optional): You will need 1 can of regular soda, 1 can of diet soda, 1 transparent container large enough to hold 2 cans of soda, and water.
 - ✓ Fill the container with water. Show students a can of regular soda and a can of diet soda.
 - ✓ Ask them to predict what will happen when the can of regular soda and the can of diet soda are placed in the container of water.
 - ✓ Place the REGULAR soda in the container of water. (*It will sink.*)
 - ✓ Place the DIET soda in the container. (*It will float.*)
 - ✓ Ask the students if they can guess WHY this happened.
 - *Explanation:* Even though both cans have the same amount of liquid, regular soda has 10 teaspoons of sugar while diet soda uses artificial sweetener. Artificial sweetener is much sweeter and weighs less than sugar, so only a small amount is needed to provide the same sweetness as in regular soda.
 - *Note:* Although diet soda does not have sugar in it, it still has acid which can cause cavities. Also, it does not contain any nutrients. Therefore, we recommend choosing water, 100% juice, or non-fat/low-fat milk.

DAY 3

Objectives: Students will be able to:

- Identify drinks that have less added sugar
- Demonstrate the ability to use goal setting skills to enhance health

Suggested Time:

20 minutes

Materials:

- ✓ Worksheet 3 “**How Sweet It Is**” (1 per student)
- ✓ “**Rethink Your Drink**” poster (1 per class)
- ✓ “**Soda Free Summer**” commitment cards
- ✓ Optional: Sugar, teaspoon, 2 clear plastic bags for scooped sugar

Procedures:

1. **Discuss “Rethink Your Drink” poster**
 - Compare the different amounts of sugar observed on the **Rethink Your Drink** poster. Which drink is winning? Why is that drink winning?
2. **Visual Activity (Optional):**
 - Scoop 10 tsp of sugar into a clear plastic bag – this is how much sugar is in one 12-oz can of soda
 - Scoop 17 tsp of sugar into a clear plastic bag – this is how much sugar is in one 20-oz bottle of soda
3. **Distribute Worksheet 3 “How Sweet It Is”, the “Soda Free Summer” commitment cards**
 - Have students complete Worksheet 3 in small groups and discuss answers as a class. (**Answers: orange drink=18.75 tsp., sweetened tea drink=16.25 tsp, 20 oz Big Pouch=16.9 tsp. Step 3: 8 oz Rockstar has 8 tsp sugar vs. 7 tsp. in 8oz. Red Bull, 8 oz. cola has 7 tsp. sugar**)
 - Ask – HOW MANY sugary drinks do you typically have in one DAY? In one WEEK?
 - Ask – WHY do you drink sugary drinks?
 - Ask – Do you think you can drink FEWER sugary drinks?
 - Ask – Do you think you can drink MORE water?
4. **Ask students to commit to a “Soda Free Summer” by signing the commitment card.**
****** Teachers – We encourage YOU to make the pledge yourself in front of the students!!!!******
 - Ask students to identify a drink with less sugar to replace soda.
 - Encourage students to share what they have learned about sugar with their families. Students should bring the “Soda Free Summer” commitment cards home and talk to their families about having a “Soda Free Summer”. Have the family track by initialing in the box if they have had a soda free day.

WORKSHEET 2

How Many Calories from Sugar?

Information:

- One 12-ounce can of soda costs about \$1.10 at the corner store
- There are 365 days in a year
- There are 4 calories in 1 gram of sugar
- One teaspoon of sugar is equal to 4 grams

Nutrition Facts	
Serving Size 1 Can	
Amount Per Serving	
Calories 140	
% Daily Value *	
Total Fat 0g	0%
Sodium 50mg	2%
Total Carbohydrates 35g	13%
Sugars 35g	
Protein 0g	

Questions:

1. Looking at this sample soda label, how many calories come from sugar?

2. If you drank one can of soda each day for a year, how many calories would you take in from soda?

3. If you drank one can of soda each day for a year, how many teaspoons of sugar would you take in from soda?

4. What are some potential negative health effects of consuming so many extra calories from added sugar?

WORKSHEET 3

How Sweet It Is

Exercise:

Look at the chart of various drinks in the “Soda Free Summer” Brochure.

1. Based on the common serving sizes you see on the chart,
 - a. Which drink has the most sugar?
 - b. Which drink has the least sugar?

2. Drinks come in all different sizes. Often, we may not realize how much sugar we are actually taking in per ounce of liquid.

What if these drink containers were all 20-ounces....

Which would have the most sugar? Which would have the least sugar? **Do the math!**

Calculation Example: 16 ounces of Kool-Aid has 8 teaspoons of sugar.

Step 1: $\frac{20 \text{ ounce Kool-Aid}}{16 \text{ ounce Kool-Aid}} = 1.25 \text{ multiplier}$

Step 2: $1.25 \times 8 \text{ teaspoons of sugar} = 10 \text{ teaspoons of sugar}$

$\frac{20 \text{ ounce Orange Drink}}{16 \text{ ounce Orange Drink}} =$

_____ multiplier X _____ tsp of sugar = _____ tsp of sugar

$\frac{20 \text{ ounce Sweetened Tea Drink}}{16 \text{ ounce Sweetened Tea Drink}}$

_____ multiplier X _____ tsp of sugar = _____ tsp of sugar

$\frac{20 \text{ ounce Big Pouch}}{11.25 \text{ ounce Big Pouch}}$

_____ multiplier X _____ tsp of sugar = _____ tsp of sugar

- a. Which drink has the most sugar? _____
- b. Besides water, which drink has the least sugar? _____
- c. Are you surprised by these findings?

3. A 16 ounce can of Rockstar Energy Drink has 16 teaspoons of sugar. How does it compare with an 8 ounce can of Red Bull Energy Drink with 7 teaspoons of sugar? How do they compare with Cola?

4. What can YOU do to “Rethink Your Drink” and how will this benefit your health? _____