“This film should be mandatory viewing for all those who have a stake in public health and the 21st Century.” – Jon Huntsman

Sugar Babies
The Bittersweet Truth About Diabetes
A Jenny Mackenzie Film
Using this **Guide**

This educational guide is designed for parents, teachers, and students with two goals: first, to teach basic facts about diabetes, and second, to set in motion long-term healthy habits that will benefit them for a lifetime. Sugar Babies and this educational guide can be used in health classes, assemblies, sports programs, and parent associations to educate, inspire, and motivate.

In 2002, filmmaker Jenny Mackenzie’s four-year-old daughter was the third generation in her family to be diagnosed with Type 1 diabetes. Ten years later, Mackenzie exposes the spiraling epidemics of both Type 1 and 2 diabetes in children through five real-life stories, including her own. She reveals the challenges and solutions that are within our control and what we can do to take back the health of our next generation.

The key message is that the choices we make have profound health impacts and, with knowledge and motivation, we can make positive changes that will last a lifetime. Sugar Babies sets the record straight and explains that we are ALL at risk of Type 2 diabetes. We need to take action and say no to added sugar and processed food, and yes to physical activity.

This curriculum is designed to motivate groups to take action to reduce their sugar consumption, increase their physical activity, and eat more fresh, healthy food in the following ways:

1. Healthy School Lunch Programs: Encourage schools to cook school meals from scratch. Remove fast food, processed food, and food that is high in carbohydrates and low in nutritional value.

2. Take vending machines OUT of schools: no fast food, processed food, soda, or sugary beverages should be sold in schools.

3. Reinstate physical education for all children for at least 30 minutes per day and 150 minutes per week.

4. Encourage healthy personal choices.
The Making of SUGAR BABIES
A personal statement from the Director, Jenny Mackenzie:

When Lizzie was diagnosed with Type 1 diabetes in 2002, she was 4 years old. We knew that it was a life-threatening condition that was irreversible. Our lives changed dramatically. All of a sudden, everything revolved around carbohydrate counting, insulin injections, and hundreds of blood sugar tests in her tiny fingers. As a mom, I understood the importance of a healthy diet for my kids, but I began to look at food completely differently.

Our situation was slightly unusual. Lizzie was the third generation in our family to be diagnosed with Type 1. I was determined to make sure that Lizzie could lead a “normal” life. I didn’t want diabetes to impact her sense of adventure. I wanted her to know that she could still do anything she put her mind to with or without diabetes.

I quickly became a tireless advocate for Type 1 diabetes. I did anything I could to help “find a cure” and learn more about this crazy autoimmune disease.

I tried to anticipate the teenage years. I worried about what would happen to her diabetes when she was in charge. I wanted Lizzie to grow up to be a strong and healthy young woman. Ten years later, I came across a poignant home video of Lizzie when she was first hospitalized, and I decided to tell our family’s personal story.

I was a Type 1 snob and I had a big Type 2 prejudice. When Lizzie was diagnosed, people would say to me, “Well, how can Lizzie get diabetes? She’s so tiny, she’s so active.” They associated diabetes with being overweight, not exercising, and eating too much.

Type 2 has always been referred to as the “lifestyle disease,” which is caused by eating too much junk food and not exercising enough. It can easily be controlled, or in some cases cured, by eating healthy food and getting exercise. But for Type 1, there’s no cure.

Type 2 used to only impact adults, but now because of our terrible all-you-can-eat buffets and junk food dieters, the rates of Type 2 in kids and teens have skyrocketed. So an entirely new group is at risk. As I took a step back and looked at these predictions, it was a sobering wake-up call. It made me realize that this is a crisis. Fifty years ago, children with diabetes ONLY had Type 1. But in a few years the scales are going to tip and we are going to have more kids who have Type 2 than Type 1. At that point I knew that the film had to be about both types of diabetes and their impact on our youngest generation.

Even though both diseases have vastly different causes, once you get either type, your ability to control it is directly affected by food and exercise. What scared me is that the older Lizzie gets, the less control we have over her food, her exercise, and everything that impacted her diabetes. After watching her live with Type 1 for ten years, I started interviewing kids with both types of diabetes and decided to follow three families for two years. I wanted to discover how their families help them to stay healthy and tackle these two diabetes epidemics. As a mother and a filmmaker, I knew I had to look for answers and solutions.

Throughout the three-year production process, I have met many courageous, smart, and dedicated children, parents, and doctors. As I continued to learn more, I found out that Type 1 and Type 2 are NOT mutually exclusive. People with Type 1 can also be at risk of Type 2. If you have Type 1 and don’t exercise; eat horrible, high-calorie foods; and are injecting tons and tons of insulin, you can get Type 2 on top of it. So these two worlds can actually collide. All of us are at risk. Knowing that we are all at risk with our current lifestyle habits helped me to finish the film and to create an education and outreach campaign that will make a difference and inspire change.

As a parent, I want to see all schools serve fresh, nutritious food and get candy, soda, and junk food out. We must say NO to added sugar and processed food. This means rethinking how we advertise to children, planting gardens in schools, learning how to cook again, building bike paths and basketball hoops—anything that encourages kids to get off the couch and get more physical exercise.

None of this will be easy—cultural change comes slowly. But look at Big Tobacco. We finally took a stand and said, “No more.” I understand that these changes won’t magically take Lizzie’s Type 1 away, but they will give her a much better chance of controlling her diabetes and living a long and healthy life.

It’s my hope that Sugar Babies will inspire people to look at things that we can do on our own and also to look at solutions that we can implement collectively. We can’t wait for Congress to make changes; we have to lead the way ourselves. We need to make sure that schools stop serving fast food like Pizza Hut, McDonald’s and Chick-fil-A, and go back to making fresh food from scratch. We need to stop selling ALL soda and any beverage with added sugar in school vending machines. We need to bring back home economics classes in middle and high schools so that kids can learn to cook quality meals. This is a crisis, and we must turn these Type 2 diabetes numbers around. It’s up to us to save the health of our next generation.

Strong alone, fearless together!

Jenny Mackenzie
Table of Contents

1. The Short and Sweet Facts
2. Diabetes Warning Signs
3. Classroom Discussion Questions
4. Classroom and Homework Activities
5. Teacher’s Guide
6. Student Pre/Post Survey
7. Classroom Discussion Questions
   References and Resources
The Short and Sweet Facts

DIABETES 101

Diabetes occurs when your body can’t perform its most essential function: turning food into energy. When we eat something, whether it is a piece of pizza, a handful of grapes, or a scoop of ice cream, most of that food turns into glucose (sugar) for our bodies to use for energy. There are two types of diabetes, both of which are rising at epidemic rates. While both types result in an increase in the amount of glucose (sugar) in the bloodstream, they have different causes and different treatments.

**Type 1** diabetes is an ancient autoimmune disease that has been around for thousands of years. It cannot be cured, and until the discovery of insulin in 1922, it was fatal. Now, children diagnosed with Type 1 can survive with multiple daily injections of insulin, but they must check their blood sugar multiple times a day while carefully monitoring their food and exercise, or they risk seizure or even death.

**Type 2** diabetes was rarely diagnosed in children until the last quarter of the 20th century. It is a metabolic disorder that results in the body’s inability to use insulin properly. Now it is seen in younger and younger children as a result of the obesity epidemic, caused by diets high in sugar and more sedentary lifestyles that result in insulin suppression and resistance. People of certain ethnicities (African-American, Asian, Hispanic, Indian, and Native American) are at higher genetic risk for Type 2 because of insulin deficiency connected to family heredity.

**Type 1 Diabetes** *(formerly called Juvenile Diabetes)*

- In Type 1 diabetes, the pancreas stops making insulin. Without insulin, too much glucose (sugar) builds up in the blood, causing serious health problems.
- Type 1 is an autoimmune disease, which means that for unknown reasons, the immune system mistakenly attacks and destroys the cells in your pancreas that produce insulin. Insulin is a life-sustaining hormone, and without insulin, you will die.
- 5-10% of people with diabetes have Type 1.
- When a person has Type 1 Diabetes, they must learn how to inject themselves with insulin either through shots or through a small catheter that is attached to an insulin pump.
- Type 1 often has a sudden presentation of symptoms that include: excessive thirst, frequent urination, fatigue, extreme hunger, bed-wetting, and weight loss.

**Type 1 Diabetes** *(formerly called Juvenile Diabetes)*

- Type 2 diabetes is a metabolic disease that used to be primarily diagnosed in older adults, but recently it has become increasingly common in children and teenagers. About 90-95% of people with diabetes have Type 2.
- Generally, people with Type 2 diabetes make insulin but cannot make enough insulin and their bodies don’t use it properly.
- Being overweight and not getting enough exercise significantly increase the likelihood of getting Type 2 diabetes, but they are not the cause of Type 2.
- A family history of diabetes and a genetic predisposition are also risk factors for getting Type 2, which is why people with
diabetes in their families need to pay close attention to healthy lifestyle choices.

- Type 2 can often be controlled with a healthy, nutritious diet and regular exercise. When it cannot be controlled with diet and exercise, oral medications are used. If blood sugars still remain high after taking oral medication, insulin therapy is the final treatment of choice.
- Type 2 diabetes can have a gradual presentation of symptoms that can be difficult to detect because they have been present for a long period. Symptoms can include vision changes; slow healing of wounds; recurrent gum, skin or urinary tract infections; and weight loss.

**Healthy Eating Habits**

With or without diabetes, all of us need to eat healthy, fresh, nutritious food, and LESS processed food with added sugar. Here are some healthy eating guidelines:

1. **EAT REAL FOOD.** Eat lots of vegetables and fruits. Try picking from the rainbow of colors available to maximize variety.

2. **AVOID ADDED SUGAR.** Pay attention to ADDED sugar on labels. Sugar has many other names such as high fructose corn syrup, dextrose, cane syrup, glucose solids, and others.

3. Drink **WATER** and avoid **JUICE** and **SODA.** Choose water, it’s the best for us! Try to avoid soda, fruit punch, sweet tea, and other sugar-sweetened drinks.

4. Save treats like cookies, cakes, and sweet snacks for **SPECIAL OCCASIONS.**

5. Shop the perimeter of your grocery store—that’s where the good stuff is, like fruits and vegetables.

6. Eat non-starchy vegetables such as spinach, carrots, broccoli, or green beans with meals instead of potatoes or corn.

7. Choose whole grain foods like brown rice or whole-wheat pasta.

8. Include dried beans, like kidney or pinto beans and lentils, in your meals.

9. Include fish in your meals two to three times a week.

10. Choose lean meats. A good tip is to look for meat cuts that end in the word “loin” like beef loin or pork loin. Remove the skin from chicken and turkey.

**The Importance of Exercise**

Exercise is good for everyone! It’s a simple fact. Incorporating regular exercise into your day is an important lifelong habit. For people with Type 1 Diabetes, exercise can result in an increased sensitivity to insulin. That means it will take less insulin to manage blood sugar levels—which is a good thing!

Staying active and getting regular exercise doesn’t mean that you need to join a gym or be on a sports team. Some examples of moderate-intensity physical activity are walking briskly, mowing the lawn, dancing, shooting baskets, swimming, or bicycling. It’s better to walk 10 or 20 minutes each day rather than one hour once a week. Try to remember, it’s all about developing good, sustainable habits for the long term.
Diabetes Warning signs

TYPE 1 DIABETES WARNING SIGNS AND SYMPTOMS
These symptoms occur suddenly and require immediate medical attention.

- Excessive thirst
- Frequent urination, sometimes exhibited by bed-wetting (in large quantities)
- Sudden vision changes
- Extreme hunger (increased appetite)
- Rapid or unexplained weight loss
- Fatigue (weak and tired)
- Irritability and mood changes
- Drowsiness, lethargy
- Nausea and/or vomiting
- Abdominal pain
- Rapid, hard breathing (heavy, labored)
- Stupor, unconsciousness
- High amounts of sugar in the blood and/or urine (a sweet, fruity odor may be present in urine or on one’s breath/body)

TYPE 2 DIABETES WARNING SIGNS AND SYMPTOMS
These symptoms occur gradually, however, they are no less important than those associated with TYPE I and must receive immediate medical attention.

- Blurred vision
- Tingling or numbness in the legs, feet, or fingers
- Frequent infections of the skin
- Recurring skin, gum, or urinary tract infections
- Itching of skin and/or genitals
- Drowsiness
- Slow healing of cuts and bruises
- Any of the symptoms listed under TYPE I Diabetes

www.diabetes.org  |  www.defeatdiabetes.org  |  www.jdrf.org
Classroom Questions

1. What are three warning signs of diabetes?

2. Lizzie’s mom wanted Lizzie to know that “she could still do anything she put her mind to with or without diabetes.” Why is this so important for a child with diabetes? Can you think of other diseases or medical conditions that the same ‘parenting philosophy’ should apply to?

3. Why is Type 2 diabetes (a metabolic disease) referred to as the “lifestyle” disease? What are the most common steps taken to try to control Type 2?

4. How does Type 1 diabetes differ from Type 2?

5. Even though these two diseases have different causes and treatments, what are two things that impact blood sugar level control for both Type 1 and 2?

6. In the film, Morgan describes food “temptations.” What is a temptation? What kinds of things in your everyday life at school, at home, at the grocery store, or with friends tempt you?

7. What is your favorite type of food or drink? Do you think it’s a healthy food? What are the ingredients? Does it contain added sugar?

8. What are some of the things a person with Type 2 diabetes can do to help manage their disease? Are these the same things that someone without diabetes can or should do?

9. Why is it important to start thinking about your health now (whether you have diabetes or not)? What are some of the things you can do to better manage your own health?

10. In the film, Prince tells us that he’s experiencing “diabetes burn-out.” What is diabetes burn-out, and why do Prince and Lizzie feel this way? What daily routines in your life make you feel “burnt out”?

11. The number of cases of Type 2 diabetes is rising quickly in teenagers and even in children. What do you think is contributing to these increasing numbers in our culture?

12. What are some of the changes that Morgan and her family made at home or at school to help their family lead a healthier life? What are some of the changes you’d like to see happen in your own family and for yourself?

13. Poor families appear to be at higher risk for Type 2 diabetes. Why do you think this is?

14. When it comes to school lunch, give an example of a “typical” school lunch. How about a “sack lunch from home”? Do you buy the cafeteria food or do you bring your own sack lunch? Compare the meals in terms of “real food,” nutrition, and added sugar. Which do you think is healthier?

15. How did the discovery of insulin change the course of Type 1 diabetes? What was life like before its discovery? Was insulin a cure?

16. Many of the people in the film talk about the importance of developing healthy eating habits and getting daily physical activity. What does this mean to you? In what ways are healthy eating habits practiced in and out of your home? In what ways could you improve these habits?

17. How many hours of TV do you watch every day? How many hours do you spend on a computer? A smartphone? Add all of those up, and you will get your total “screen time” hours.

18. When you are reading a nutrition label, what are the ingredients that should give us RED FLAG warning signs?
Fact or Fiction

1. Before the 1950’s, Type 2 diabetes used to mostly impact babies.

2. The symptoms for diabetes—extreme thirst, frequent urination, and weight loss—most often come on suddenly in Type 1 and more gradually in Type 2.

3. In Type 1 diabetes, your bladder stops producing insulin.

4. Diabetes is one of the leading causes of death in the U.S. and the world.

5. Type 1 diabetes is caused by eating too much sugar.

6. Before insulin was developed, people with Type 1 could lead long lives by controlling their blood sugar levels with diet and exercise.

7. Diabetes occurs when your body can’t convert food into energy.

8. The pancreas, an organ just below the stomach, produces insulin, a hormone that helps convert our food into energy.

9. The skyrocketing rates of Type 2 diabetes in teenagers and children are caused by the increase of processed junk foods and added sugars in our diets.

10. Healthy eating habits for people with diabetes are the same healthy eating habits for people who do not have diabetes.

11. On a nutrition facts label, ingredients are listed in descending order by weight and quantity (the amount that is in that particular food).

Classroom and Homework Activities

1. **My Family’s Food**
   
   What’s In Your Fridge?
   
   - Use your smart phone and take a photo of what’s in your fridge, freezer, and pantry.
   - After you take your photos, take three more photos of ONE label from a food item from each place (a total of three food labels).
   - When the students come back to class, they fill out the “What’s In Your Fridge Sheet” and begin to look at food that’s in their home.

2. **Our Daily Food Log**

   Create a daily food log and write down what you eat from the moment you rise until the time you go to bed.
   
   - What kind of foods appear more than once?
   - Which foods had added sugar in them?
   - Which foods were pre-packaged foods (not fresh)?
   - Which foods have added sugar?
   - Which foods were homemade?

3. **The Mind Game of Marketing**

   Go to YouTube and find your favorite cereal commercial. http://www.youtube.com/watch?v=fOwo4ISg5ZI or http://www.youtube.com/watch?v=qMU5rVzGG8A.

   - List the ingredients in that cereal.
   - How many ingredients do you know and recognize?
   - How much added sugar is in that cereal?
   - What are the marketing techniques they use to appeal to children (using celebrities, bright colors, free gifts inside, etc.)?

   Now think of a healthy substitute for breakfast. Write your healthy breakfast down, and find photos or images of that breakfast. Now try to replace the cereal with that healthy food in the commercial.

   - What would it be like if commercials that marketed food to children were marketing healthy foods like fruits, vegetables, and cereals with NO added sugar?
   - How could you make these ads and commercials for healthy food as appealing as possible?
4. Being An Active Family
How active is your family? Being physically active doesn’t mean that you need to go to a gym every day.
- Give everyone in your family their Fitbit® for the week.
- Measure your daily activity by your ‘active’ steps that you take each day.
- Who in your family is the most active? Least?
- What’s the highest number of steps taken in one day?
- As a family, discuss your goals for active steps each day. What’s your goal?
- Identify three activities that can easily be integrated into your daily routine that will help you achieve that goal (i.e., parking at the far end of parking lots, walking a dog, taking the stairs instead of the escalator, etc.).

5. Grassroots Change Initiatives
- Discuss specific ideas of initiatives or campaigns you could start to improve dietary choices and increase physical activity within your school or community.
- Some possibilities include removing vending machines from your school, changing your school lunch menus to include more fresh fruits and vegetables and remove processed foods, coordinating local screenings of Sugar Babies, asking local gyms to provide reduced/free rates for children, setting up car pool networks to take kids hiking or to parks, etc.

6. Grocery Shopping Analysis
- Write a list of the items that your parents typically buy when they do a big grocery shopping trip.
- Beside each item, write down whether the food is healthy or unhealthy.
- Next to the unhealthy items, write down a nutritious alternative that your family could buy on your next trip.

---

Teacher’s Guide

Classroom Discussion Questions and Answers

1. What are three warning signs of diabetes?
   Extreme thirst, frequent urination, and weight loss.

2. Lizzie’s mom wanted Lizzie to know that “she could still do anything she put her mind to with or without diabetes.” Why is this so important for a child with diabetes? Can you think of other diseases or medical conditions that the same ‘parenting philosophy’ should apply to?
   Feeling empowered is an integral part of successfully managing diabetes and maintaining good mental health in general. A strong sense of self-efficacy makes it far more likely that people will have the willpower necessary to meet their goals and make good choices. This is important because people with diabetes live longer and healthier lives if they are able to effectively manage their dietary choices and blood sugar levels. It is also important for children (and adults) with other chronic diseases or disabilities to know that their condition does not define who they are and that there are ways to surmount even intimidating obstacles to achieve your goals.

3. Why is Type 2 diabetes (a metabolic disease) referred to as the “lifestyle” disease? What are the most common steps taken to try to control Type 2?
   Type 2 diabetes is known as the lifestyle disease because the key factors that cause Type 2 diabetes are a poor diet and lack of exercise. If a person eats too much sugar or other unhealthy foods, it becomes increasingly more difficult for the body to do its job, produce enough insulin, and use insulin correctly.

4. How does Type 1 diabetes differ from Type 2?
   Type 1 diabetes is an immune disorder. For unknown reasons, the immune system of a person with Type 1 diabetes mistakenly attacks and destroys the Beta cells in their pancreas that produce insulin. Type 2 diabetes is a metabolic disorder that can sometimes be controlled with a healthy diet and regular exercise. Type 2 diabetes disproportionately impacts certain ethnic groups like African Americans, Hispanic/Latino Americans, American Indians, Asian Americans, and Pacific Islander Americans. Being overweight and eating foods high in sugar significantly increase your risk of getting Type 2.
5. Even though these two diseases have different causes and treatments, what are two things that impact blood sugar level control for both Type 1 and 2?

A healthy diet and regular exercise help maintain good control of blood sugar levels for both Type 1 and Type 2 diabetes.

6. In the film, Morgan describes food “temptations.” What is a temptation? What kinds of things in your everyday life at school, at home, at the grocery store, or with friends tempt you?

A temptation is something that catches our attention and makes us want to stray from the choice we know to be right. While temptation can be strong, each person has the power to fight it.

7. What food or drink do you have most often? Do you think it’s a healthy food? What are the ingredients? Does it contain added sugar?

The food industry uses different names for sugar, so it is important to be aware of the different terms so that you know what you are eating. Some of the most common terms are corn syrup, cane juice, corn sweetener, glucose solids, and most terms ending with “ose” like dextrose or fructose. Even if a product says, “No added sugar,” you should still read the ingredients to see how much sugar is actually in the product; marketing labels can be very misleading.

8. What are some of the things a person with Type 2 diabetes can do to help manage their disease? Are these the same things that someone without diabetes can or should do?

A person with Type 2 diabetes can carefully manage their diet, eating fewer foods that are high in sugars and carbohydrates, and meanwhile increasing the amounts of fresh fruits, vegetables, and unprocessed foods they eat. They can also incorporate a regular exercise routine into their life, with simple ideas like walking each day or playing sports more often. These are smart habits that someone without diabetes should also incorporate into their life.

9. Why is it important to start thinking about your health now (whether you have diabetes or not)? What are some of the things you can do to better manage your own health?

We’re only given one body, and we should do our best to take care of it.

Building healthy habits now will ensure that we maintain healthy habits in the future.

10. In the film, Prince tells us that he’s experiencing “diabetes burn-out.” What is diabetes burn-out, and why do Prince and Lizzie feel this way? What daily routines in your life make you feel “burnt out”?

Diabetes burn-out is a state of mind in which people grow tired of managing their diabetes and simply want to ignore it for a period of time.

11. The number of cases of Type 2 diabetes is rising quickly in teenagers and even in children. What do you think is contributing to these increasing numbers in our culture?

Our increasingly sedentary lifestyles are contributing to the rise in diabetes. More time inside playing video games or watching television, instead of outside playing sports or other physical activities, is one major cause of the rise in Type 2 diabetes. Also, the types of food that we eat have changed in the last 50 years. Much of the food we now eat is highly processed, meaning that there are extra additives and extra sugar in many packaged foods. The combination of these two elements is leading to the increase of Type 2 diabetes.

12. What are some of the changes Morgan and her family made at home or at school to help their family lead a healthier life? What are some of the changes you’d like to see happen in your own family, and for yourself?

Morgan and her family made a conscious choice to change their eating habits. Instead of having dessert every night, it became something to have on special occasions. They decreased the amount of white bread and sugary soda in their diet, and increased the fruits, vegetables, and non-sugary drinks in their diet. Morgan and her family also made an effort to exercise more frequently, and to support one another and keep one another accountable in their habits.

13. Poor families appear to be at higher risk for Type 2 diabetes. Why do you think this is?

Depending on the type of food, at times the healthy food choice can be more expensive than the unhealthy food choice. Families who have a difficult time making ends meet face tough choices about how to best use limited resources.
14. When it comes to school lunch, give an example of a “typical” school lunch. How about a “sack lunch from home”? Do you buy the cafeteria food or do you bring your own sack lunch? Compare the meals in terms of “real food,” nutrition, and added sugar. Which do you think is healthier?

A typical school lunch often includes factory-farmed, heavily-processed meat, canned vegetables that often contain preservatives and added sugar, and lots of carbohydrates with added salt. Many schools provide this sort of food because it is often cheaper to purchase than fresh foods. If you have lots of fresh fruits and vegetables in your lunch, this is ideal for your health. A sack lunch can also be unhealthy if it mostly consists of pre-packaged meals, however, which typically contain large amounts of added salt and sugar.

15. How did the discovery of insulin change the course of Type 1 diabetes? What was life like before its discovery? Was insulin a cure?

Prior to the discovery of insulin, diabetes was fatal. Diabetes almost certainly meant a young and painful death for those diagnosed with the disease. While insulin was not a cure for diabetes, the proper use of insulin goes a long way to ensure that children with Type 1 diabetes can have a happy, healthy, and normal life.

16. Many of the people in the film talk about the importance of developing healthy eating habits and getting daily physical activity. What does this mean to you? In what ways are healthy eating habits practiced in and out of your home? In what ways could you improve these habits?

The most effective way to start improving your habits is to set small, achievable goals and raise those goals as you meet them. Trying to make big changes all at once can set you up for failure if you don’t feel as though the goal is achievable, so it’s far better to take reasonable steps over a period of time. Meeting the initial goals will give you a sense of accomplishment and the confidence to do more over time.

17. How many hours of TV do you watch every day? How many hours do you spend on a computer? A smart phone? Add all of those up, and you will get your total “screen time” hours.

Children spend an average of seven hours a day using screens. This is a significant reason for the increase in obesity and Type 2 diabetes in our society. Try to make specific goals to lower your screen time, such as deciding to go outside to play for an hour right after school instead of using your computer or phone. Try to keep your phone use to a minimum when you’re with your friends. This will get easier over time. The excitement of checking social media sites like Instagram and Tumblr can become addictive to your brain, but the more you engage in face-to-face social interaction, the less time you will feel compelled to spend using a screen.

18. When you are reading a nutrition label, what are the ingredients that should give us RED FLAG warning signs?

Some examples of unhealthy ingredients include enriched flours, corn syrups or corn sweeteners, artificial colors, MSG, partially hydrogenated oils, and nitrates.

Fact or Fiction Cards and Answers

1. Before the 1950’s, Type 2 diabetes used to mostly impact babies.
   
   Fiction. Until recently, Type 2 diabetes (the metabolic disorder) used to primarily impact older adults.

2. The symptoms for diabetes—extreme thirst, frequent urination, and weight loss—most often come on suddenly in Type 1 and more gradually in Type 2.
   
   Fact. In Type 1, symptoms can occur very suddenly, and it’s important to seek medical attention immediately. In Type 2, symptoms may have been gradually occurring for several years. If Type 2 goes untreated, it can also be life-threatening, and seeking medical attention is critical.

3. In Type 1 diabetes, your bladder stops producing insulin.
   
   Fiction. It’s your pancreas, located just below your stomach, which is the organ that stops producing insulin.

4. Diabetes is one of the leading causes of death in the U.S. and the world.
   
   Fact. According to the CDC, diabetes is the seventh leading cause of death in the U.S., and that number may be higher since diabetes is often under-reported.

5. Type 1 diabetes is caused by eating too much sugar.
   
   Fiction. Type 1 diabetes is caused by an autoimmune process where your body destroys its own insulin-producing cells. Although it isn’t the
cause of Type 1, eating too much sugar and processed foods is bad for anyone, and sugar does raise blood sugar levels.

6. Before insulin was developed, people with Type 1 could lead long lives by controlling their blood sugar levels with diet and exercise.
   **Fiction.** Before the development of insulin, people with Type 1 diabetes usually died within a year. Although there is no cure for Type 1, insulin is a life-saving treatment. In addition, good nutrition and regular exercise help people with Type 1 to better control their blood sugar numbers.

7. Diabetes occurs when your body can’t convert food into energy.
   **Fact.** Converting food into energy is one of our body’s most important functions.

8. The pancreas, an organ just below the stomach, produces insulin, a hormone that helps convert our food into energy.
   **Fact.** The pancreas produces insulin and many other important hormones.

9. The skyrocketing rates of Type 2 diabetes in teenagers and children are caused by the increase of processed junk foods and added sugars in our diets.
   **Fact.** The increase of sugar and processed foods is directly correlated to the increasing rates of Type 2 diabetes in children and teens.

10. Healthy eating habits for people with diabetes are the same healthy eating habits for people who do not have diabetes.
    **Fact.** With or without diabetes, everyone needs to eat healthy, fresh, nutritious food, and eat LESS processed food with added sugar.

11. On a nutrition facts label, ingredients are listed in descending order by weight and quantity (the amount that is in that particular food).
    **Fact.** Ingredients are listed in order from top to bottom.

---

**Student Pre/Post Survey**

School: ____________________________
Teacher: __________________________ Grade: __________________________
Gender: __________________________ Race: __________________________

Based on your recollections from watching the film, how true or untrue do you believe the below statements are?

1. An autoimmune process that causes the body to stop producing insulin causes Type 1 diabetes.
   
<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not at all true</td>
<td>Somewhat true</td>
<td>Always</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. Diagnoses of Type 2 diabetes are increasing in children and teens in part because of the obesity epidemic.
   
<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not at all true</td>
<td>Somewhat true</td>
<td>Always</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. Sugar can have many different names like “fructose” or “sucrose” and can be disguised on food labels.
   
<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not at all true</td>
<td>Somewhat true</td>
<td>Always</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4. Anyone who has a junk food diet and does not get regular exercise is at risk of Type 2 diabetes.
   
<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not at all true</td>
<td>Somewhat true</td>
<td>Always</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

5. I feel motivated to eat foods with less sugar and to drink less soda after watching SUGAR BABIES.
   
<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not at all true</td>
<td>Somewhat true</td>
<td>Always</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6. I feel motivated to be more physically active on a daily basis after watching SUGAR BABIES.
   
<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not at all true</td>
<td>Somewhat true</td>
<td>Always</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Resources and References Articles


“7 Skills You Need to Develop to Manage Your Diabetes” published by the Joslin Diabetes Center. Found online at Joslin.org/info/essential-skills-for-managing-diabetes.html

“5 Common Myths for People with Diabetes Debunked” published by the Joslin Diabetes Center. Found online at Joslin.org/info/5-common-food-myths-for-people-with-diabetes.html

“Understanding Your Child’s Feelings about Diabetes” published by the Joslin Diabetes Center. Found online at Joslin.org/info/understanding_your_childs_feelings_about_diabetes.html

“10 Tips for Managing Your Child’s Diabetes” published by the Joslin Diabetes Center. Found online at Joslin.org/info/10_tips_for_managing_your_childs_diabetes.html

“General Diabetes Facts and Information” published by the Joslin Diabetes Center. Found online at Joslin.org/info/general_diabetes факs_and_information.html

2011 National Diabetes Fact Sheet, published by the Centers for Disease Control. Found online at CDC.gov/diabetes/pubs/factsheet11.htm

“Basics About Diabetes” published by the Centers for Disease Control. Found online at CDC.gov/diabetes/consumer/learn.htm

“Diabetes Health Concerns” published by the Centers for Disease Control. Found online at CDC.gov/diabetes/consumer/problems.htm

“Be Active” published by the Centers for Disease Control. Found online at CDC.gov/diabetes/consumer/beactive.htm


Books

The Omnivore’s Dilemma: A Natural History of Four Meals, Michael Pollan
The Driving Force: Food in Evolution and the Future, Michael Crawford and David Marsh
Cheating Destiny: Living with Diabetes, James S. Hirsch
Ending the Food Fight, David Ludwig
Diabetes Rising, Dan Hurley
The Blood Sugar Solution, Mark Hyman, MD
Fat Chance, Robert H. Lustig, MD
Eat to Live, Joel Fuhrman
The End of Diabetes, Joel Fuhrman
Diabesity: A Doctor and Her Patients on the Front Lines of the Obesity-Diabetes Epidemic, Francine R. Kaufman MD

Movies

Fed Up
Simply Raw: Reversing Diabetes in 30 Days

JDRF
JDRF.org

American Diabetes Association
Diabetes.org

Joslin Diabetes Center
Joslin.org

Children’s Diabetes Foundation
ChildrensDiabetesFoundation.org
Diabetes may be the world’s most misunderstood disease, and the confusion has only intensified as the epidemic has spread. SUGAR BABIES explains the stakes and shows the impact on its most vulnerable victims. In 2002, filmmaker Jenny Mackenzie’s 4-year-old daughter was the third generation in her family to be diagnosed with type 1 diabetes. Ten years later, Mackenzie reveals the spiraling epidemics of both type 1 and 2 diabetes in children through five real life stories, including her own. She uncovers the solutions that are within our reach and what we can do to take back the health of our next generation.

“Sugar Babies is a must see for anyone who cares about the diabetes epidemic and taking back our children’s health.” – Mark Hyman, MD / Author, The Blood Sugar Solution