

JDRF IMPROVING
LIVES.
CURING
TYPE 1
DIABETES.

 **KIDS WALK TO CURE DIABETES**



JDRF KIDS WALK TO CURE DIABETES **CLASSROOM TOOLKIT**

The following pages teach about type 1 and type 2 diabetes, research, advocacy, and the importance of health and physical activity. This curriculum may be reproduced and distributed to students.

These materials are reproducible. For more information, fundraising tips, and classroom tools, please visit kidswalk.jdrf.org

HOW TO USE THE CLASSROOM TOOLKIT

The Classroom Toolkit is designed for you to use in conjunction with the JDRF Kids Walk to Cure Diabetes.

The materials contained in the Classroom Toolkit are designed to assist teachers in explaining the differences between type 1 and type 2 diabetes, the need for proper nutrition and physical activity, and the need to cure, treat, and prevent type 1 diabetes (T1D).

JDRF encourages teachers to reproduce all materials for use in their classrooms.

The activities in the Kids Walk curriculum are targeted to students in grades K-5. Some worksheets are geared toward elementary school-age students, while others are more appropriate for middle-school or junior high-school students. Teachers can select those activities that best suit the skill and reading levels of their students.

T1D FACTS

Each day, about 40 children and 40 adults are diagnosed with T1D in the United States alone.

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OVERVIEW

Preparation: Diabetes Basics

Review key diabetes terms in preparation for using the teaching materials in the classroom.

Lesson 1: What Is Diabetes?

Learn about type 1 and type 2 diabetes and the human body.

Activity 1 Diabetes—So Many Questions

Activity 2 Fill-in-the-Blank Mystery

Activity 3 Topsy Turvy: Where Does the Food Go?

Activity 4 The Truth about Type 1 Diabetes

Lesson 2: The Search for a Cure

Learn about the importance of research. Let students try their hand at invention!

Activity 1 Role-Play: Researchers Wanted

Activity 2 Research Maze

Lesson 3: You Can Make a Difference!

Learn about the importance of befriending a classmate who has type 1 diabetes (T1D) and about writing letters to Congress.

Activity 1 Be a Friend

Activity 2 Be an Advocate

Activity 3 What Would You Do?

Lesson 4: You Are What You Eat

Learn how to develop healthy eating habits.

Activity 1 Fruit and Vegetable Survey

Activity 2 See More, Eat More!

Lesson 5: Get Moving!

Learn about exercise and other healthy physical activities!

Activity 1 Activity List

Activity 2 Activity Journal



Diabetes Basics

Familiarize yourself with this background information prior to beginning lessons.

Diabetes in Kids

There are two main kinds of diabetes. Type 1 diabetes (T1D) develops in people of all ages—children, teenagers, and adults. Type 2 diabetes mostly affects adults but can also be diagnosed in children. Once a person develops T1D, it lasts a lifetime. T1D will never turn into type 2 diabetes.

Type 1 Diabetes (T1D)

T1D is an autoimmune disease. For reasons not fully understood, the body's immune system destroys the insulin-producing beta cells within the pancreas. Without insulin, glucose cannot move from the bloodstream into the cells of the body to provide them with the energy they need to function. So the cells must get insulin manually, either through daily injections or from an insulin pump.

Type 2 Diabetes

In type 2 diabetes, the pancreas makes some insulin, but either there's not enough of it or the cells don't use it well. Children and adults with type 2 diabetes don't always need insulin shots, as people with T1D do. Most of them control their diabetes with other medication and by eating healthy foods and exercising regularly.

The Role of Insulin

We all need insulin to live. Insulin delivers glucose from the food we eat to the cells in our bodies, which then use the glucose for energy. In people without diabetes, the pancreas makes the right amount of insulin at the right time. For people with T1D, the pancreas no longer makes insulin. Without insulin, the cells cannot receive the "fuel" they need, and in time, the cells starve. Furthermore, the extra glucose that floats unabsorbed in the bloodstream is toxic and can cause serious medical conditions over time.

A Balancing Act

Most people don't think about their pancreas and what it does, but people with T1D must be mindful of their blood-sugar control all the time. To maintain their blood sugar at a healthy level, they must balance food intake with exercise and insulin. Food tends to make glucose levels rise; exercise and insulin tend to make glucose levels fall. Figuring out how much insulin to take at any one time can be challenging for a person with T1D—it requires a lot of knowledge, care, and mathematical calculations. But it is very important.



Highs and Lows

The goal of T1D management is maintenance of healthy blood-sugar levels—or euglycemia (YOU-gly-SEE-me-uh)—but balancing the different factors involved can be a difficult task, and even the most careful person can experience blood-sugar levels that are too high or too low. Too much sugar in the system—or too little insulin—causes blood-sugar levels to go high, a condition called hyperglycemia. If a person’s blood glucose level is frequently high, or if the level becomes extremely high at any moment, the consequences can be serious. Additional insulin is required to lower a “high.” On the other hand, too much insulin in the system—or too little food, or exercise without extra food—can cause a low blood-sugar level, or hypoglycemia. A hypoglycemic emergency can develop quickly. Raising a “low” generally requires a source of fast-acting sugar, followed by retesting of the blood-sugar level, and it may even require medical attention.

Healthy Eating and Activity

Everyone—adults and children, with or without diabetes—can benefit from a nutritious and balanced diet and regular exercise. For people with diabetes, food and exercise are especially important, because they affect blood-sugar levels. In general, many carbohydrate-rich foods add glucose to the body and tend to raise blood-sugar levels. Exercise tends to burn excess sugar and lower blood-sugar levels. For these reasons, each dose of insulin must be calculated individually—a person with T1D sometimes needs more insulin, and sometimes needs less, depending on all of these factors.

The Search for a Cure

While there is still no cure for T1D, there have been many advances in research. JDRF-funded researchers focus on three key goals:

CURE

Restoring a person’s insulin-producing capability and halting or reversing the body’s misguided immune attack on the pancreatic beta cells.

TREAT

Developing new devices and therapies that optimize blood-sugar control and treat or prevent the complications of T1D.

PREVENT

Preventing T1D from occurring or stopping the disease process before it damages the pancreas.



Lesson 1: What Is Diabetes?

OBJECTIVES

To describe the science of T1D, introduce students to the growing problem of diabetes, and distinguish between type 1 and type 2 diabetes.

WHAT TO DO

Introduce diabetes. Explain that there are nearly 26 million Americans living with diabetes; as many as three million have type 1 diabetes (T1D). Ask students if they know of anyone who has diabetes. The Diabetes Basics piece contains descriptions of the two types of diabetes. Since the JDRF Kids Walk to Cure Diabetes is a program of JDRF, these materials focus mainly on T1D.

ACTIVITY 1

Diabetes—So Many Questions

For intermediate students: Give the “Diabetes—So Many Questions!” handout to students to read, or read it with/to them. Discuss how the body of a person without diabetes normally works. Then review the science behind diabetes.

For primary students: Read “T1D Fast Facts,” available in the Resource Library at kidswalk.jdrf.org. Determine student interest level and understanding by the questions they ask. Discuss how the body of a person without diabetes normally works. Then review the science behind diabetes.

ACTIVITY 2

Fill-in-the-Blank Mystery

An activity to reinforce key terms.

ACTIVITY 3

Topsy Turvy: Where Does the Food Go?

Students trace the path of food through the body and locate the pancreas. Younger students can color and cut out the pancreas, then tape it onto their clothes.

ACTIVITY 4

The Truth about T1D

Use this handout as a true/false quiz for the class. Discuss the answers and dispel misconceptions. Suggest that students take the quiz home to test their families’ understanding of T1D.

OTHER GREAT IDEAS

Put a Face on the Disease

Possibly the best way to learn about diabetes is by inviting a person with the disease to talk to students. Ask them to describe what it is like to live with T1D and to demonstrate how they manage it. Students may also be interested in learning about famous people in history, sports, and entertainment who have T1D.

Pen Pals:

Want to Learn About T1D Firsthand?

Suggest students find pen pals through JDRF’s Find a Friend Bulletin Board (www.jdrf.org/kids). There, boys and girls of all ages are in search of pen pals and email pals. Help students come up with a list of questions. They can write individual letters or work in groups to learn more about living with T1D.

Picture Books/Story Books:

Ask older students

to create a picture book or storybook for kids in the younger grades. If “the best way to learn is to teach,” then creating a book to read to younger kids is a good way to master the information.



Lesson 1, Activity 1

Diabetes—So Many Questions!

Your body is an incredible machine.

The simple act of eating gives you the energy you need to breathe, run, jump, play ball, and walk—everything you do.

Your teeth chop your food. Your stomach turns it into a soupy mix.

Your body processes the digested food by breaking down much of it into a simple sugar—glucose—that it uses for fuel. This fuel, glucose, is sent through your bloodstream to nourish the trillions of cells of your body. Some of these cells are brain cells, heart cells, and muscle cells. But the cells can't use the sugar without insulin, a special hormone that helps the cells. Insulin is made in the pancreas (PAN-cree-us) by beta (BAY-tuh) cells. The pancreas is a small organ, tucked behind your stomach. It's only about six inches long and looks like the tongue of a shoe. It is not as well-known as the heart or brain, but the pancreas is a very smart organ. It knows how to make just the right amount of insulin that your hungry cells need.

But sometimes things go wrong ... like in T1D.

There is an enormous amount of research into what causes T1D, but so far there are no clear answers. Here's what we know:

- The failure of the pancreas is due to damage inflicted by your immune system.

- Something triggered your immune system to attack your beta cells, which are the cells in the body that produce insulin.
- Certain genes put people at a greater risk for developing T1D, but they are not the only things involved.

While there are no proven environmental triggers, scientists are looking for possible causes, such as infections and things that are toxic in our environment and foods.

Remember: We all need insulin in order to live.

People without diabetes don't have to think about this at all—their pancreases know exactly what to do. But people with T1D have to get insulin in other ways. Some get insulin through shots. Some have little machines that pump insulin and attach to their bodies. Either way, kids and adults with T1D have to figure out how much insulin their body needs all through the day and night. It's a big job, and it takes a lot of math and a good understanding of science too.





Lesson 1, Activity 2

Fill-in-the-Blank Mystery

Eating gives us the fuel we need to live. But that's only part of the story. Fill in the blanks in these sentences with words that have to do with diabetes. Then move the letters from each circle to the spaces near the bottom of the page. They will spell out the answer to the question.

HINT: One word is used twice.

When you _____, you not only feed your hunger, you also feed your body. From your head to your toes, your body is made up of trillions of _____.

To do their work, your body's cells need a fuel called _____. The sugar comes from the _____ we eat.

Another name for this fuel is _____.

But to be able to eat, the cells need to have access to the fuel with a key called _____.

Insulin is made in a part of your _____.

The pancreas is a small organ, about six inches long, behind your _____.

Special cells in the pancreas, called _____ cells, make insulin.

When T1D happens, the pancreas stops making _____.

_____ all need insulin to live.

QUESTION:

What do people living with diabetes hope for?

_____!

WORD BANK

- | | |
|---------|----------|
| Insulin | Stomach |
| Cells | Pancreas |
| Insulin | Eat |
| Beta | Food |
| Glucose | Sugar |
| We | |

WANT TO SEE A CELL?

With a lollipop stick or flat toothpick, gently scrape the inside of your cheek.

Put the cells on a slide with a little saliva. (Optional: add a drop of iodine solution to color cells.) Put the slide under the microscope lens.

Cells look like this:





Lesson 1, Activity 3

Topsy Turvy: Where Does the Food Go?

Oh dear! The body on the right is all mixed up. Cut out the body parts on the right. Put them in the correct order. Be careful—some parts are upside down!

You chop food with your teeth.

Your stomach turns it into a soupy mix.

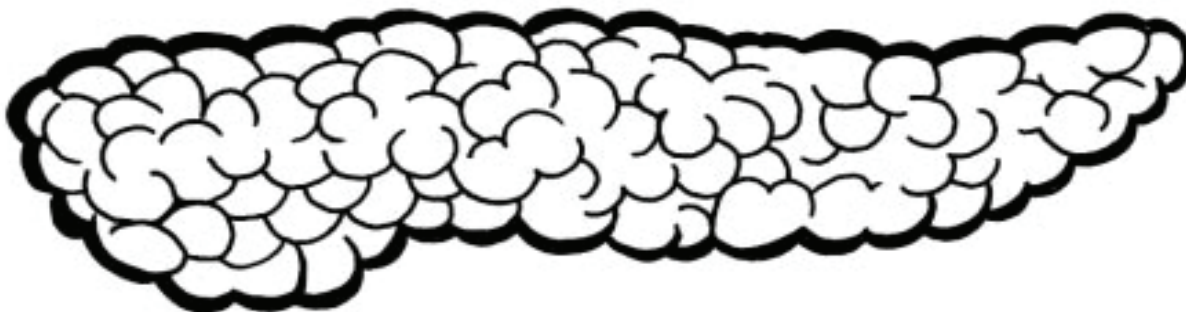
Your body processes the digested food by breaking down much of it into a simple sugar—glucose—that it uses for fuel. The fuel, glucose, is sent through your bloodstream to nourish the cells of your body. But the cells can't use the sugar without insulin, a special hormone that helps the cells. Insulin is made in the pancreas.



MEET YOUR PANCREAS

Your pancreas makes insulin. When type 1 diabetes (T1D) happens, most of the pancreas still works, just not the part that makes insulin. So, people with T1D have to take insulin to keep their cells fed, working and strong.

Color the pancreas and cut it out. Tape it onto your body, where your real pancreas is.





Lesson 1, Activity 4

The Truth about T1D

How much do you know about type 1 diabetes?

People have all sorts of ideas about T1D.

Here are some facts:

FACT: You **CAN'T** catch T1D.

Type 1 diabetes is not contagious. You can't catch it like a cold, the flu, or chicken pox. Doctors know some things about T1D, but they still don't know what causes the disease. One thing they are sure of: people living with T1D did not catch it from anyone else. Neither can you!

FACT: You **CAN'T** get T1D from eating too much candy.

You may get cavities from eating too many sweets; you may even gain weight. But you won't get T1D. People with T1D didn't do anything wrong. It just happened. So if you know someone with T1D, be a friend. It's nobody's fault.

FACT: Insulin is **NOT** a cure.

Everyone has a pancreas. Everyone needs insulin to live. Everyone with T1D has to make up for the fact that their pancreas no longer makes insulin. They take insulin through shots or a pump. But insulin is not a cure for T1D. It's a treatment. Scientists are trying to find ways to fix or replace the damaged pancreatic cells in people with T1D. They hope that the new cells will once again produce insulin. Now, that would be a cure!

FACT: People with T1D **CAN** eat cake and ice cream.

It's true. But like everybody else, they should not eat too many sweets.

FACT: You **CANNOT** tell if a person has T1D just by looking at them.

People with T1D are just like everyone else. They look and act perfectly "normal." It's only their pancreases that do not work right.

FACT: People with T1D **CAN** and **DO** lead amazing lives.

Living with T1D may not be easy, but people with the disease can do whatever they set their minds to. There are actors, doctors, writers, golfers, Olympic athletes, and even a Miss America who live with T1D.

TODO: Test your family: Read the statements; ask them "True or false?"

Set them straight with the facts!



Lesson 2: A Search for a Cure

OBJECTIVE

To explore research goals for type 1 diabetes (T1D).

WHAT TO DO

Explain: While there are many hopeful advances, there is still no cure for T1D. Insulin is not a cure. Scientists don't yet fully understand T1D. Many are working hard to find answers to this puzzling disease. Currently, JDRF researchers are focusing on three key areas: finding ways to CURE, TREAT, and PREVENT T1D.

ACTIVITY 1

Role-Play: Researchers Wanted

Encourage intermediate-school students to put on their researcher hats. Divide the class into three research teams. Assign each group one or all of the research goals listed on the worksheet. Challenge them to explore the science, identify the obstacles, and suggest some solutions. While they may not have a full understanding of the science of T1D, by thinking creatively and using common sense, they might just come up with some viable ideas to present to the class...and JDRF.

ACTIVITY 2

Research Maze

Tell students that the process of scientific research is not a straight path. Some ideas lead to uncertain outcomes; other ideas lead scientists down new paths; and some ideas take scientists straight to the goal.

OTHER GREAT IDEAS

Inventors Wanted

Living with T1D is not only very challenging, it is also a "pain." Kids with T1D must take shots and prick their fingers to test their blood sugar, or use pumps and special monitors. Many inventors are exploring new ways to give insulin. Some are working on an insulin pill to swallow and an insulin

mist to inhale. Others are designing "smart" pumps that can be implanted inside the body. They are also looking for less painful ways to test blood sugar, such as a watch-like device that measures blood sugar through the skin. Encourage students to think like inventors. Challenge them to think of new medical devices that could make management of T1D easier and pain-free. Send good ideas to *Countdown for Kids* at www.jdrf.org/kids.

The History of T1D

According to ancient Hindu writings, black ants were able to detect T1D thousands of years ago. These early records describe people with a mysterious and deadly disease that caused intense thirst, enormous urine output, and wasting away of the body. An early clue was the attraction of ants and flies to the "sugary" urine of the victims. There have been many breakthroughs since that time! Insulin was discovered in 1921. Suggest students create a timeline of the advances in T1D research or report on the discovery of insulin.

Diabetes in the News

Diabetes is a major health issue in the United States and other countries. Have students clip articles about diabetes from the newspaper or the internet. Have them sort stories about T1D and type 2 diabetes. Why have both types of diabetes become such a problem? Why are there so many more cases? How can T1D and type 2 diabetes be prevented, treated, and cured? What is causing each form of the disease? Suggest that some interested "reporters" summarize the stories and report to the class.



Lesson 2, Activity 1

Role-Play: Researchers Wanted



Scientists are trying to find out what causes T1D. They don't have all the answers yet. But they are getting closer each year.

Congratulations! You've been invited to work for a team of famous researchers on three important project goals. Working in small groups, discuss these problems, explore all obstacles, and brainstorm some solutions. Think like a scientist. Open your mind to new possibilities. Use common sense. See what new ideas you and your team can come up with.

TEAM 1: CURE

Restoring a person's insulin-producing capability and halting or reversing the body's misguided immune attack on the pancreas. The aim is to stop this damage and repair the cells. Recently, doctors started to replace the dead or damaged cells with new cells ... like a heart transplant or a kidney transplant. If this works, it could be a cure for T1D. There are many challenges: Where are they going to get new, healthy pancreas cells? Will the body reject them? Will T1D start over again in the new cells?

Your ideas?

TEAM 2: TREAT

Developing new devices and therapies that optimize blood-sugar control and treat or prevent the complications of T1D. One part of this effort is the development of an artificial pancreas: a device that monitors blood sugar and pumps insulin automatically to regulate blood-sugar levels. What other ideas or devices can you come up with that would help treat T1D?

Your ideas?

TEAM 3: PREVENT

Preventing T1D from occurring or stopping the disease process before it damages the pancreas. Once the body starts to attack its own beta cells, it continues until T1D develops. But what if the attack can be stopped before it goes too far? What if scientists can figure out what starts the attack on the body? Some scientists are exploring vaccines to prevent T1D. What are your ideas for stopping T1D forever?

Your ideas?



Lesson 2, Activity 2

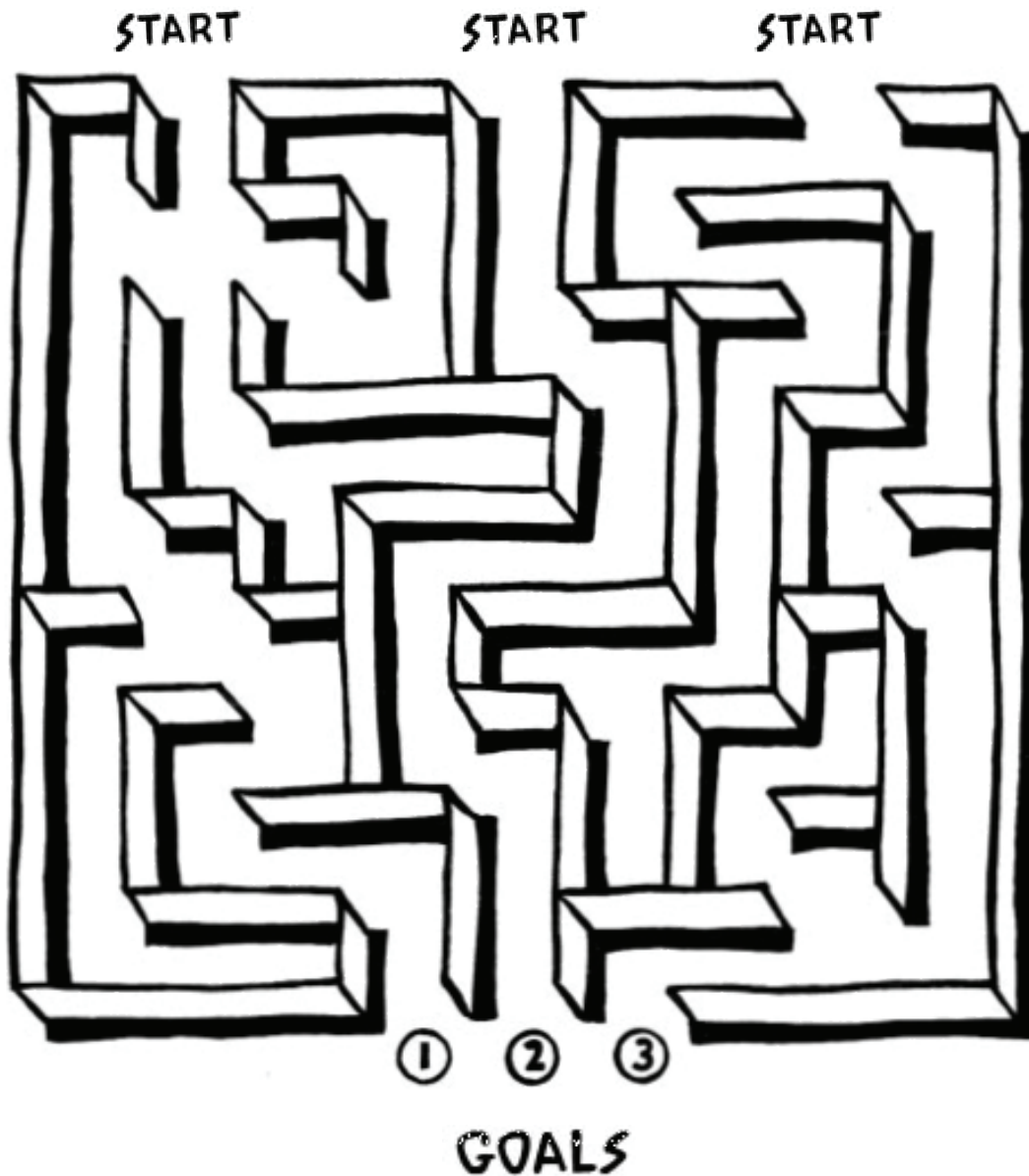
Research Maze

JDRF supports scientists who are searching for a cure, better treatments, and prevention for T1D. They are looking in three important directions. Can you help these three research teams find the way to their goal? JDRF supports many researchers who are working every day to reach these goals:

1: CURE

2: TREAT

3: PREVENT





Lesson 3: You Can Make a Difference

OBJECTIVE

To motivate students to help others.

WHAT TO DO

Plenty of kids ask, “I’m not a scientist, so what can I do to help find a cure, better treatments, and prevention for T1D?” They might be surprised by how much they can do! Research is very expensive. By participating in the Kids Walk to Cure Diabetes, they are raising money for scientific research—funds that could pay for scientists’ salaries and for important laboratory supplies. By learning about T1D, they are also raising awareness. They can share that knowledge with friends and family. They can be advocates for creating a better world: a world without T1D.

ACTIVITY 1

Be a Friend

How can you be a friend? Elementary- and intermediate-school students might be interested in role-playing a few of these situations. Older students could script a conversation and act out the scene.

ACTIVITY 2

Be an Advocate

Explain what an advocate is. Tell students that they can help make living with diabetes a little easier by suggesting some changes. Letter-writing and email are good ways to make students’ voices heard. Included are sample letters that students can use to write their own letters to family and friends about why they are walking and raising money to find a cure for T1D.

ACTIVITY 3

What Would You Do?

It is important that everyone know the signs and symptoms of T1D to know what to do in the case of an emergency.

OTHER GREAT IDEAS

Feelings

Kids with T1D sometimes feel different and left out. But feeling left out is not exclusive to children living with T1D. Discuss reasons why people feel different and left out. Invite groups of students to role-play situations when they have felt that way. Explore ways to help all children feel unique, but still feel like they belong.

Helping Others

Encourage students to write about an experience where they have helped someone. Have them explain the situation and describe how they felt about themselves.

Food Facts

Have students become investigative reporters. Ask them to list the places where they go to buy and eat food (e.g., grocery stores, restaurants, ice cream stores). Ask them to look for the “per serving” nutritional information wherever food is served or sold. If the information is not prominently displayed, have students ask for it. This information is useful for all people, but especially important for people with T1D, who have to balance the carbohydrates, proteins, and fats in the foods that they eat. Some grocery stores and restaurants display “food facts” for all customers to see; some keep them in books behind the counter for people who take the time to ask; some don’t have them at all. Have students report back to the class on their findings, collate the data, and write an article.



Lesson 3, Activity 1

Be a Friend

Kids living with T1D are kids first ... but kids who happen to be living with a disease. They want to be just like everybody else, not labeled as “diabetic.” Here are some things that kids with T1D have said. What would you do if you heard someone saying the following things? How could you be a friend? Write your ideas next to each quote. Discuss your answers with the class.



WHAT KIDS SAY



YOUR RESPONSE

“It really upsets me when people think they can catch type 1 diabetes from me. They can’t.”	
“It’s important for me to be just a regular kid, to fit in. But it’s hard to hide all my diabetes stuff on the ball field or court or when I am hanging out with friends.”	
“I get so mad when people watch over me. The question I hate the most is ‘Are you sure you should be eating that?’ I know how to take care of myself.”	
“The worst thing kids with type 1 diabetes can do is keep it a secret. The best thing to do is tell as many people as possible that they have diabetes. Talk about it.”	
“I love my friends. They go with me when I have to give myself a shot or sit with me when I don’t feel well. I don’t think I could get through this without them.”	
“Sometimes people think I am bad at sports, so I have to work extra hard to show that having type 1 diabetes doesn’t make a difference. I’m good at sports even with type 1 diabetes.”	



Lesson 3, Activity 2

Be an Advocate



Even if you're a kid, you can help make life a little easier for a person with T1D. One of the things you can do is tell others what you know. Writing or emailing people in your family, the government, or local businesses can help. In your letters, explain the problem and ask them to help find some solutions. Here are some samples. **Write the letters in your own words and add your own thoughts.**

Dear Friend or Family Member:

We are studying about type 1 diabetes (T1D) at school and raising money to help cure, treat, and prevent T1D. I have learned that we all can make a difference. So I'm walking in the Kids Walk to Cure Diabetes and want to ask you to sponsor me. The money raised will be given to support research for T1D. Any amount that you give will help. Please write a check payable to JDRF, and you can send it to me to take to school. Thank you.

Sincerely,

Dear Member of Congress:

We are studying about type 1 diabetes (T1D). There are far too many people living with T1D, and we need to do all we can to help find a cure, better treatments, and prevention for T1D. Can you help by talking about T1D with other people in Congress? Maybe you can take action to fund more T1D research. That would be a great step!

Thank you.

Sincerely,

Dear Restaurant Owner:

We are studying about type 1 diabetes (T1D) at school. There are far too many people living with the disease. All people—those with and without T1D—need to eat healthy foods in reasonable portions. It is always helpful if you can include nutritional information for the foods that you serve in your restaurant and provide a variety of healthy choices. Thank you.

Sincerely,

Dear Food Editor:

We are studying about type 1 diabetes (T1D). There are far too many people living with the disease. All people—those with and without T1D—need to eat healthy foods in reasonable portions. Would it be possible for you to include the per-serving nutritional facts on all the recipes you publish? That way, we can make better food choices. Thank you for your time.

Sincerely,

Sign each letter or email with your name, age, name of school, and town.

Share all responses with your classmates.

1 CLASSROOM TOOLKIT

Lesson 3, Activity 3

What Would You Do?

Every day, all day, kids with T1D have to balance a lot of things in order to achieve healthy blood-sugar levels. That's their goal.



It is like a math problem.

- They have to know how much food they'll eat.
- They have to know about how active they'll be.
- They have to be aware of the stress they feel.
- They have to figure out how much insulin they need to balance all these things.

TOO HIGH

Sometimes a person with T1D has a blood-sugar level that is too high.

You know how you feel when you've eaten large amounts of candy, cake, or ice cream. You may feel "out of sorts," or have a stomachache. You might feel grouchy, faint, queasy, or thirsty.

When kids with T1D have high blood sugar, they need to drink lots of water and take insulin. If the high blood-sugar level continues, they need to call the doctor.

TOO LOW

Sometimes a person with T1D has a blood-sugar level that is too low.

You know how you feel when you've skipped a meal? You feel headachy? Look pale? Have no energy? Feel grouchy or shaky? Maybe you even get confused. That's your body telling you to eat something. The cells in your body need more fuel.

When kids with T1D have low blood sugar, it is URGENT that they eat or drink something sweet as fast as possible. It's important that they not be left alone and that an adult is called. They often feel better after eating something.

JUST RIGHT

Often, a person with T1D has healthy blood-sugar levels.

When blood-sugar levels are in the normal range, you feel good, clearheaded, energetic—ready to have fun.

QUESTION

What would you do in each situation?

- Your friend is looking pale and has his head slumped down on his desk.
- Your friend is feeling wobbly out on the soccer field.
- Your friend is acting really "goofy" and confused on the bus.
- Your friend is feeling nauseous and headachy.
- Your friend is not feeling well and insists on going alone to the nurse's office.

ANSWER

Tell an adult and don't leave your friend alone.



Lesson 4: You Are What You Eat

OBJECTIVE

To encourage students to monitor their eating habits.

WHAT TO DO

Explain that everyone is healthier eating a nutritious, balanced diet—one that is moderate in size and rich in variety. For you and anyone else, with or without diabetes, it's better to be eating a balanced diet with more fruits, vegetables, grains, lean meats, and fish. Many people with diabetes count the number of carbohydrates in the foods they eat. They figure out how much insulin to take based on how many carbohydrates they're going to eat.

ACTIVITY 1

Fruit and Vegetable Survey

Have students track the number of fruits and vegetables they eat each day for one week. Encourage them to eat many varieties and track the colors of the produce. Remind them that fruits and vegetables may be frozen, canned, or in the form of juice. Many juices and canned fruits contain a lot of sugar. Instruct them to read the labels and look for 100 percent juice.

The chart they create will evolve into a graph that can be used in math.

ACTIVITY 2

See More, Eat More!

Ask students to decode these “menus.” Each one provides a tip on ways to not overeat when eating out. Urge them to make posters for the school using these messages, and some of their own.

OTHER GREAT IDEAS

What's a Serving Size?

Ask each student to bring the packaging of one favorite food or snack to class. Show them where to find the serving size on the food label. Go around the room and have each student tell the actual serving size for his or her food. Some will be surprising. Compare the serving sizes to what students are really eating. Are they overeating?

What if?

Ask students to each write down his or her favorite food. Have them write a short essay to answer this question: if you ate your favorite food all the time, would it still be your favorite?

Recipe Book

Have students create a recipe book of healthy snacks, including ingredients, preparation directions, and reasons why the snack is nutritious and delicious.

Persuasion

Challenge students to write a persuasive essay to convince a friend—especially one with a sweet tooth—to choose healthy snacks.

Enough Is Enough

Are you eating too much? Many people are not aware when they've had enough to eat. Have students describe, with as many adjectives as they can, “how I know when I am full.” What are the signs that you have eaten enough? Do you listen to your stomach?



Lesson 4, Activity 1

Fruit and Vegetable Survey

Are you getting enough?

Health experts recommend filling at least half of our plates with vegetables and fruits. Younger children should aim for 1-1.5 cups of vegetables and 1 cup of fruit daily; older children should aim for 2-3 cups of vegetables and 1.5-2 cups of fruits daily. Vegetables and fruits are nutritious choices for many reasons: most are high in vitamins, minerals, and fiber, and low in fat.



How many cups of vegetables and fruits are you eating?

Keep track of the number of vegetables and fruits you eat each day. Then total the amount. Color each block with the color of the vegetable or fruit. If you're eating the recommended amount, congratulations! If not, find ways to add more servings and more color to your diet.

Total Servings Today							
9							
8							
7							
6							
5							
4							
3							
2							
1							
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday

Eating at least five servings of vegetables and fruits a day is easier than you think.

What's a serving?

- 1 cup of raw vegetables or cooked vegetables
- 1 cup of vegetable juice
- 1 cup of salad
- 1 medium-to-large piece of fresh fruit
- 1 cup of cut-up fresh fruit
- 1 cup of fruit juice

JUST FOR FUN!

Cross out all the even numbers and capital letters. What's left will remind you just how many fruits and vegetables you should eat each day.

C 5 8 Z o T R r X Q 2 m 6 o S r 4 K 2 e Y T



Lesson 4, Activity 2

See More, Eat More!

Studies show that the larger the serving size, the more a person will eat. Overeating can be an unhealthy eating habit—for people with and without T1D.

In the menus below, cross out all the lower case letters. The “leftovers” will spell out some healthy eating tips for eating out!

THE PIZZA PARLOR

meaTbAlls	KEtchup
oLivEs	FonTina
OlIVE oil	shRimp
SpinachH	pestO
Mushrooms	pEppers

CAFÉ ITALIANO

Olives	peppeRoni
DicEd cheese	RigAtoni
SalaMi	tomAto
Linguini	eggpLant
Sauce	tlramisu
piZza	parmEsean

MANNY’S DINER

Salad	Pizza
sLush	frles
hoT dogs	shAKes
Donuts	cookeS
Hamburgers	

HAMBURGER HEAVEN

Egg creAm	hoT dogs
SaLad	fried Onions
cheese sandWich	coLe slaw
Yellow lemonade	

Use these tips and other healthy-eating messages to create posters to display in your school.



Lesson 5: Get Moving!

OBJECTIVE

To motivate students to increase their physical activity each day and to develop lifelong good physical fitness habits.

WHAT TO DO: EXPLAIN

Like healthy eating, exercise is important for everyone, whether or not they have T1D. For people living with T1D, in some cases, exercise can help to lower blood-sugar levels and keep them under control. Plus, exercise can be a lot of fun. Healthy, active bodies encourage clearer thinking.

ACTIVITY 1

Activity List

While some children think of exercise as drudgery, the idea of activity and games can be fun. Help students expand their notion of what is exercise. Doing push-ups and sit-ups is exercise, as are playing tag, hitting a ball against a wall, in-line skating, and jumping rope. Suggest students think of 40 more ways to stay active. They can work as a class, in small groups, or independently.

ACTIVITY 2

Activity Journal

All kids and adults should do some form of exercise/activity — about 60 minutes each day. Have students track their activities for one week. Have them tabulate whether or not they are “moving” an hour a day. If not, get them moving!!

OTHER GREAT IDEAS

10,000 Steps a Day

Health experts say that people should be walking 10,000 steps a day. Simple “Stepometers” are available to count the number of steps you take in a day. If possible, give one to each student and ask that he or she wear it for a few days, 24 hours a day. Chart each student’s average steps to see how the class is doing.

Take a Break

Have students try one-minute “stretch” breaks throughout the school day. For example, you can use books as weights to strengthen arm muscles. Arms out in front, palms up, bend at elbow slowly 10 times. Try it with arms straight out at the sides. Now arms straight up, count to five, bend at elbow until hands are shoulder level, and count to five. Do this 10 times slowly. Get creative! Make up new exercises and other stretches.



Lesson 5, Activity 1

Activity List

Exercise = Activity = Fun

What are you doing for exercise? Experts recommend that kids and adults try to be physically active for 60 minutes each day. There are 20 activities listed here. See if you can come up with 40 more, one for each minute in every hour. Then circle the ones you like to do the most. And get moving!

- | | | |
|-----------------------|-----------|-----------|
| 1. Train for the Kids | 23. _____ | 46. _____ |
| Walk to Cure Diabetes | 24. _____ | 47. _____ |
| 2. Play soccer | 25. _____ | 48. _____ |
| 3. Play hopscotch | 26. _____ | 49. _____ |
| 4. Bicycle | 27. _____ | 50. _____ |
| 5. Jump rope | 28. _____ | 51. _____ |
| 6. Play tag | 29. _____ | 52. _____ |
| 7. Play Frisbee | 30. _____ | 53. _____ |
| 8. Dance | 31. _____ | 54. _____ |
| 9. Play tennis | 32. _____ | 55. _____ |
| 10. Play basketball | 33. _____ | 56. _____ |
| 11. Jog | 34. _____ | 57. _____ |
| 12. Walk to school | 35. _____ | 58. _____ |
| 13. Rake leaves | 36. _____ | 59. _____ |
| 14. Mow the lawn | 37. _____ | 60. _____ |
| 15. Mop the floor | 38. _____ | |
| 16. Wash the car | 39. _____ | |
| 17. Walk up stairs | 40. _____ | |
| 18. Walk the dog | 41. _____ | |
| 19. Ice skate | 42. _____ | |
| 20. In-line skate | 43. _____ | |
| 21. _____ | 44. _____ | |
| 22. _____ | 45. _____ | |

TIP:

Turn off the TV. On average, kids watch almost three hours of television a day. Almost any activity uses more energy than watching TV. Turn off the television for 30 minutes each day, and use that time for exercise, play, sports, or just running around.



Lesson 5, Activity 2

Activity Journal



How much exercise do you do each day?

Keep an activity journal for one full week. Your goal: exercise at least 60 minutes each day. Use this chart to record every physical activity you do and the time spent doing it. Total the time for each day. Walking, dancing, skipping, throwing a ball, climbing stairs, and going to gym classes—these activities all count as exercise. TIP: If you are not used to exercising, start slowly. But the more you do, the more you'll want to do. It takes about six months to “lock in” a new habit. Exercising is a healthy habit. You are on your way!

DAY	DESCRIBE ACTIVITY	TIME SPENT
Monday		Total
Tuesday		Total
Wednesday		Total
Thursday		Total
Friday		Total
Saturday		Total
Sunday		Total
		Total



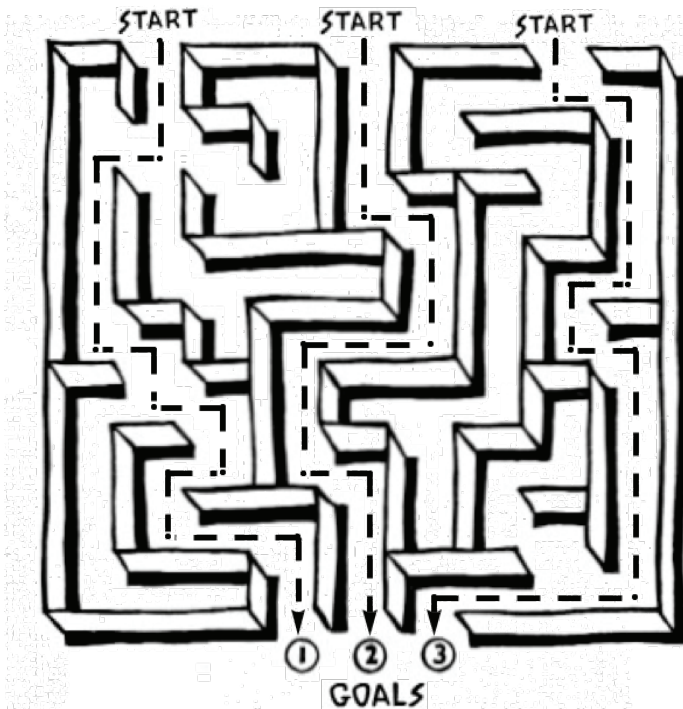
LESSON 1: ACTIVITY 2

Fill-in-the-Blank Mystery

Answer: A Cure Now!

LESSON 2: ACTIVITY 2

Research Maze:



LESSON 4: ACTIVITY 2

See More, Eat More!

The Pizza Parlor: Take Leftovers Home

Café Italiano: Order a Small Size

Manny's Diner: Split a Dish

Hamburger Heaven: Eat Slowly



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