



**PROFESSOR WELLBODY'S ACADEMY  
OF HEALTH & WELLNESS  
AT PACIFIC SCIENCE CENTER**

**TEACHER'S GUIDE**





## PROFESSOR WELLBODY'S ACADEMY OF HEALTH & WELLNESS

### INTRODUCTION

Teachers and their students are invited to enter the imaginative world of Professor Wellbody from the comfort of their classrooms. This teacher's guide will provide you with supplementary materials and printable worksheets to accompany the four-part in-paper program that ran in The Seattle Times on February 3, 10, 24 and March 3. This program features a themed classroom activity focusing on various health and wellness themes including sleep, fitness, hygiene and nutrition. Take learning a step further by visiting Pacific Science Center's *Professor Wellbody's Academy of Health & Wellness* exhibit. Guests will discover how personal choices can positively affect their health and wellbeing through hands-on inventions, gadgets, activities and experiences.

This teacher's guide is an abbreviated version of Pacific Science Center's Grades 4-6 Educator's Handbook for Wellbody Academy. Developed for Pacific Science Center by Laughing Crow Curriculum LLC. Full-length Educator Handbook is available as a free download at [pacificsciencecenter.org](http://pacificsciencecenter.org). Educator Handbook also available for grades K-3 and in Spanish for both K-3 and 4-6.

### THE SEATTLE TIMES NEWSPAPERS IN EDUCATION (NIE)

To enroll in The Seattle Times NIE program and receive free access to the electronic version (e-edition) of the newspaper, lesson plans and curriculum guides, as well as the in-paper content for this guide, please email [nie@seattletimes.com](mailto:nie@seattletimes.com) or call **206/652-6290** (toll free: **1-888/775-2655**).

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**NUTRITION SCIENCE INFORMATION**

**What are nutrients, and how does my body use them?**

Food is such an important part of our lives, yet most of us know so little about how it provides materials that our bodies need to function. Nutrients are the important things inside your food that help you stay healthy. Most of them are so small that you can't see them without a microscope. Your body needs five different kinds of nutrients: carbohydrates, fats, proteins, vitamins and minerals. Your body also needs water which may contain minerals.

Your body has more water inside it than any other element — in fact, water makes up half or more of your weight (up to 70 percent)! Your body needs water for everything it does — from digesting food to carrying nutrients around the body to making sure you're not too hot or cold. Carbohydrates and fats are nutrients that provide the body with energy. Proteins are your personal construction workers — building and repairing wherever they are needed. Vitamins and minerals help the body use other nutrients.

To do its job, your body needs 13 major vitamins and about 20 minerals. The best way to get your vitamins and minerals is to eat foods that are chock full of them! Here's a chart of just a few of the important vitamins and minerals, what foods provide them and how they help your body.

Vitamin or mineral	How it helps the body	How to get it
Vitamin D	Strengthens bones	Fish, eggs, exposure to sunshine
Vitamin E	Protects cells and tissues; supports red blood cells	Whole grains, leafy green vegetables, vegetable oils, nuts, seeds
Vitamin C	Important for healthy bones, teeth, gums and blood vessels; helps the body heal	Oranges, sweet red peppers, kale, broccoli, cauliflower, strawberries, papaya
Iron	Helps cells carry oxygen all over the body	Eggs, spinach, peas, beans, nuts, dried fruit, seaweed, red meat
Calcium	Builds strong bones and teeth	Dairy products, dark leafy green vegetables
Sodium (salt)	Balances water in body tissues and blood	Sea salt, table salt (caution: it's easy to get too much salt from processed and canned foods)



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### How can eating keep me from getting sick?

Well, it's not just eating, but what you eat. All the nutrients that make up the food we eat help our body systems work and one of their jobs is building and maintaining a healthy immune system to fight sickness. For example, Vitamin C and the mineral zinc help fight infections and Vitamin E helps destroy germs that could make us sick.

### How do the nutrients get to the parts of the body that need them?

As food enters the body, the digestive system breaks it down so the nutrients can enter the bloodstream. Your body knows how to put each of the nutrients to work!

### How can you find out what's in your food?

All packaged food has nutrition facts label that lists the serving size, calories per serving and number of calories from fat, amount of saturated fat, cholesterol, sodium and daily values of nutrients (based on a 2,000 a day calorie diet for adults), as well as the ingredients. The ingredients that weigh the most (and make up most of the food) are listed first.

### What is a balanced diet?

Scientists at the United States Department of Agriculture (USDA) created MyPlate (<http://www.choosemyplate.gov/print-materials-ordering/graphic-resources.html>) to show healthy eating guidelines — it's a picture of a plate with different sections for the five food groups: fruits, vegetables, grains, protein and dairy. Oils are not considered a food group, but they contain essential nutrients, so it's best to eat a small amount of healthy oils.

To eat a balanced diet, fill half your plate with fruits and vegetables and make at least half your grains whole grains (which contain the entire seed of the plant, not just part of it as in refined flours). It's better to drink fat-free or low-fat (1%) milk and to choose water over sugary drinks. Because many Americans eat too much salt, compare sodium (a mineral found in salt) levels in foods such as soup, bread and frozen meals, then pick foods that have less salt. USDA MyPlate also recommends to limit portion size, because large portions contain too many calories — so supersizing is out!

### Are calories bad for me?

No! You could not survive without consuming calories. They give you energy to do everything from breathing to boogie-boarding. But if you take in too many calories and don't burn enough calories, then your body has more calories available to it than it is using and you can become overweight. If you eat more calories than you need, your body changes the leftover calories to fat and too much fat can be bad for you. The important thing is to find the right energy intake for your weight, gender, age and activity level.

### How many calories do I need?

Because kids come in all sizes and everyone burns calories at different rates, there is no magic number of calories that you should eat. Most school-age kids should eat between 1,600 and 2,500 calories a day, depending on their activity level, age and gender. If you are more active, you need more calories.

One way to think of the calories you need each day is as a "calorie budget." Just as it's helpful to have a budget for how much money you have to spend, it helps to think about how many calories you need to consume. Based on whether you are a boy or girl, your age and your activity level, you can calculate your personal calorie budget.



## Is fat good for your brain?

Without fat, you could not read this sentence because about 2/3 of your brain is composed of fats! The membranes of neurons and the brain cells responsible for communication in your brain are made up of fatty acids. Your brain depends on fat not only to read but to do all its other work — from making sure you breathe to learning how to spell “cerebrum.”

So then, why do people get so upset about eating fat? Well, there are good fats and bad fats. Unsaturated (polyunsaturated and monounsaturated) fats are in plant-based foods such as corn, avocados, nuts and olives, but they're also found in fish. Eating this kind of fat can help your blood vessels stay clear so the blood can flow easily. Saturated fats are solid (like butter) and mainly come from animals. Too much saturated fat can clog your blood vessels, making it hard for the blood to flow easily. Trans fats (also called partially hydrogenated oils) are made when vegetable oils are turned into solid fats such as margarine. Most scientists agree that trans fats are bad for your blood flow, and they can even undermine the smart work of the good fats. So stick with unsaturated fats whenever you can. In a balanced diet, school-age kids should aim to keep the (good) fat they eat to around 30% of their daily calories.

## How much salt is too much?

Salt is made up of the minerals sodium (40%) and chloride (60%). Our bodies need sodium to do many different jobs including balancing fluids but too much sodium can cause high blood pressure, stroke and kidney disease in adults. Eating habits formed in childhood usually continue into adulthood. So if you avoid high-sodium foods and don't add extra table salt to food when you're young, you're less likely to overdo it as an adult. Children ages 7 to 11 should eat no more than 5-6 grams of sodium per day (1 teaspoon of salt has 2.3 grams of sodium). To avoid getting too much sodium, read nutrition facts labels and be aware of “salt bad guys,” such as fast foods and some prepared and canned foods, including:

- Tomato sauce
- Frozen meals
- Soups
- Pickles and sauerkraut
- Cured meats (bologna, salami, hot dogs, ham, bacon, sausage)
- Processed cheeses
- Condiments (ketchup, mayonnaise, salad dressing)
- Salty snacks

## Sugar's many aliases

More than 50 different names for sugar might appear on a nutrition facts label! If you're curious about what's in the food you're eating — look it up. Here are a few common names for different forms of sugar:

- Barley malt
- Caramel
- Corn syrup
- Dextrose
- Evaporated cane juice
- Fructose
- Fruit juice concentrate
- Glucose
- High-fructose corn syrup
- Lactose
- Maltose
- Molasses
- Sucrose
- Syrup



Name: \_\_\_\_\_ Date: \_\_\_\_\_

**PACK A SNACK WORKSHEET**  
**Nutrition Facts Label Data Chart**

<b>Chip brand/ kind (for example, Ruffles Original®)</b>						
Serving size (number of chips)						
Calories						
Sodium						
Calories from fat						
Total fat						
Saturated fat						
Trans fat						
Polyunsaturated fat						
Monounsaturated fat						



## FITNESS SCIENCE INFORMATION

### What is a calorie and how many are burned by doing different physical activities?

Calories are a unit of measurement, like a centimeter, a mile or a pound. Calories provide a measure of how much energy a food or beverage can make available to your body after you eat or drink it. For example, a medium-size apple has about 95 calories. A half-cup of peanut butter has around 590 calories. A glass of 2% milk has 122 calories. If you are curious about how many calories are in your food, look at the nutrition facts label on packages, but make sure to read and consider the serving size, too. If you eat two servings, you eat double the calories!

Your body is using calories all the time – even when you are sleeping. Calories provide the energy needed to keep your body running just like gas keeps a car running. When you are physically active, you use (or burn) more calories. Here are some examples of different activities and how many calories are burned by an 80-pound 11-year-old doing each activity for 30 minutes:

Activity	Calories
Sleeping	16
Reading	24
Eating	27
Swimming	109
Jumping rope	181
Playing with a dog	51

Activity	Calories
Vacuuming	62
Skateboarding	91
Attending class	32
Shooting hoops (basketball)	81
Doing homework	33
Listening to music	18

### Why does the body need physical activity?

Being active builds strong bones and muscles, helps your body fight illness, improves concentration, relieves stress, helps you sleep better and increases overall energy levels. Best of all, physical activity can be a lot of fun and there's no denying that it's great for your body, mind and mood!

### What happens to the body when you are physically active?

When you get active, do you notice that your breathing increases? When you huff and puff, you are working your heart muscle. Lifting a weight won't exercise your heart muscle; you have to do activities that make you breathe hard, like soccer, hip-hop dancing or rollerblading. When you're working hard doing these activities, your lungs also get a workout. The body needs to breathe more when you are active because your muscles need more oxygen to keep working. The lungs pump extra oxygen into the blood and then your heart pumps that oxygen-rich blood throughout your body. As you do more physical activity, your lungs and heart get stronger and better at their jobs: supplying your body with the oxygen it needs to sink that basket or do that cartwheel.

### Why should I warm up before I play soccer?

Warming up sends messages to your muscles and tendons: Wake up – we're gonna get active! As you stretch and move, you increase blood flow to the muscles, which helps them do their jobs better. Warm-up stretches and moves also raise your body temperature, sending more oxygen to important muscles and joints. It can also help prevent injuries and help you score more goals!

### What kind of physical activity does the body need to stay healthy and why?

Your body needs three kinds of activities to keep fit. **Aerobic**, **strength** and **stretching** activities are all key to keeping your heart and other organs healthy and your muscles flexible and strong. **Aerobic** means "with oxygen" and refers to any activity that requires extra air – like when you are jogging and breathing faster than normal. **Strength** exercises, such as push-ups or wall sits, require short bursts of hard work; they help build muscles. You can't do these activities for long because your muscles can't get enough oxygen to keep up such hard work for a long time. That's why these types of strengthening activities are also called anaerobic ("without oxygen"). **Stretching** exercises like touching your toes or side bends help increase your flexibility, which helps lengthen your muscles and protects you from getting hurt.

### How can being active improve my mood?

It sure is exciting to make that winning goal or learn a new swim stroke but being active feels good for another reason. When you work your body hard, your brain releases a group of chemicals called endorphins that can make you feel happy. So what are we waiting for? Let's get moving!



### SLEEP SCIENCE INFORMATION

#### When did people start studying sleep?

People have been curious about sleep and dreams since ... well, probably since they started sleeping and dreaming! And even though the American Medical Association didn't recognize sleep medicine as a specialty until 1996, more than 3,000 years ago the Egyptians were treating people with sleep problems. A lot has been learned about sleep in the past 60 years. Until the 1950s, people didn't think much happened during sleep but scientists have since learned that our brains are very active during sleep and that good sleep is key to good health.

#### What goes on in the body while we sleep?

Even though someone who is sleeping looks pretty relaxed, his or her brain is still busily making connections and storing memories. How do we know this? Scientists can see brain activity with a special machine called an electroencephalograph. They attach sensors called electrodes to a person's head so they can see the activity of the brain on an electronic display. The picture of brain activity is called an electroencephalogram (EEG), and the resulting wavy patterns are called "brain waves." Brain waves follow a pattern that is repeated several times per night.

#### What is REM?

REM refers to the stage of sleep when body muscles are totally relaxed and most of a person's dreaming takes place. REM stands for "rapid eye movement" — and that's a great name for it. Watch someone in REM sleep and you will see their eyeballs doing a crazy dance under their eyelids!

#### Is all sleep the same?

The short answer is no. When we sleep, our bodies follow a cycle that repeats about 4 or 5 times during an 8-hour period of sleep. During each sleep cycle, the sleeper passes through different stages of sleep including non-REM and REM. Brain waves show different types of activity taking place during each stage. As the sleep cycle repeats throughout the night, the periods of REM sleep tend to become longer. Growth hormones are released during the deep-sleep stage, so kids and teenagers spend more time in this phase than older people. Infants spend about half their sleep time in REM sleep, compared to adults who spend just 20% of their sleep time in this stage.

#### Why do we sleep?

One of the most exciting things about sleep science is that we're still learning about what happens during sleep! Many of the reasons why we sleep remain an exciting mystery, though scientists have proven that sleep is essential to survival. Studies have shown that if laboratory rats are kept awake too long they start to die! Other experiments show that sleep is essential to a healthy immune system — meaning sleep helps keep us from getting sick. Most scientists agree that sleep allows your body to:

- Restore itself — Studies show that even though part of your brain is asleep, other parts are busy helping you heal and grow.
- Support memory and learning — While you sleep, your brain is making sure all that thinking you did during the day is being organized and stored information in your "memory bank."
- Relax — After you've been busy all day eating, watching, listening, playing, learning and putting off practicing the piano, sleep gives your body the break it needs so you can do it all again tomorrow.

#### How much sleep do I need?

Kids from 5 to 12 years old need 10 to 11 hours of sleep a night. How much did you get last night? It's hard to get enough, but worth giving it your best shot. Sleep needs vary from person to person. To find your sleep "sweet spot," check in and see if you feel tired during the day. If you're dragging through your favorite sport or art class, try to get more sleep. Many people find that sleep improves if they go to bed at the same time every night.





### What is a healthy sleep environment and what are some healthy pre-bedtime habits?

A healthy sleep environment is a fancy way of saying a good place to sleep. What makes some places better than others? Check out the lists below. You can also make a difference in the quality of your sleep by practicing healthy pre-bedtime habits.

#### Your sleep environment

##### Things that improve sleep

- Your lights and electronics are off, and your window shades are closed
- Your room is the perfect sleep temperature (a bit on the cool side)
- Sleeping without your pets

#### Your pre-bedtime habits

##### Things that improve sleep

- Your room is the perfect sleep temperature (a bit on the cool side)
- Doing something calming before bed, like taking a bath or listening to quiet music and not playing computer games right before bed or watching scary or fast-paced TV shows
- Drinking a glass of warm milk before bed and not eating chocolate, coffee, ice cream or soda before bed — they all contain caffeine and sugar, which can make it hard to relax
- Getting plenty of physical activity during the day
- Not being physically active right before you try to sleep

### What is a sleep study?

A sleep study is when doctors measure how much and how well you sleep. These are studies used to find out if someone has a sleep illness, like sleep apnea.

For a sleep study, you go to a sleep lab or center and goes to sleep! Really — the room where the tests are done usually looks a bit like a hotel room, with a bed, chair, TV and lamp. Sleep technicians put sticky patches called electrodes on the person's face, head, chest, arms, legs and a finger. It doesn't hurt — but it does look kind of funny. The person having the test goes to sleep and while they are sleeping the electrode sensors record brain activity, eye movements, heart rate and rhythm, blood pressure and the amount of oxygen in the blood. The sleep technician monitors the results on a computer screen in another room. Doctors can use the test results to find out why the person is not sleeping well and to try to help them.

### How does weight relate to sleep apnea?

Sleep apnea is a common sleep problem related to breathing. A person with sleep apnea breathes fine during the day but when they go to sleep the walls of their breathing tubes tighten and they cannot get enough air. Because not enough oxygen is getting into their blood, they wake up, but not so much that they are fully awake, just enough for them to take a deep breath to restore their oxygen levels. People with sleep apnea can wake up hundreds of times a night, which really messes with their sleep cycle. They are not getting enough restful sleep and begin to feel very tired during the day. Sleep apnea is more common in very overweight people because fat collects around the walls of the breathing tubes.



### SLEEP STUDY SCRIPT

*Jesse is a high-school junior (11th grader) who is having a lot of trouble sleeping. This situation has been getting worse over the past year and his parents decided to have him do a sleep study to find out if there is something physically wrong with him that is affecting his sleep. The following exchange is a pre-sleep study conversation between a sleep researcher and Jesse.*

**Sleep researcher:** Jesse, thanks for filling out your pre-sleep-study questionnaire and room review.

**Jesse:** Sure. I am so tired of not getting any sleep. *(Yawn)*

**Sleep researcher:** In looking over your questionnaire, I see that you don't usually go to bed at the same time each night.

**Jesse:** Yeah, I work late a couple nights a week and it's hard to keep a regular schedule.

**Sleep researcher:** Does that make it hard to get to school on time?

**Jesse:** Yeah, I'm late a few times a week, but my mom writes an excuse for me 'cause of my job and all.

**Sleep researcher:** But I bet it would be great not to be tired all the time.

**Jesse:** Definitely. I had to quit soccer because I couldn't stay awake — seriously! I'm goalie and I fell asleep and missed blocking a goal at one game. It was an epic fail.

**Sleep researcher:** Well, hopefully our team can help get you back on track, and maybe even back on the soccer field.

**Jesse:** Cool.

**Sleep researcher:** And it says here on average you get about 7 hours of sleep a night.

**Jesse:** On a good night. Otherwise, it can be less.

**Sleep researcher:** On your worst nights, how much sleep do you get?

**Jesse:** Sometimes none — but that doesn't happen often. I guess a couple of times a week I get only 3 or 4 hours.

**Sleep researcher:** But otherwise it's 7 hours?

**Jesse:** And sometimes 8 if I'm lucky on the weekends. But I work then, too.

**Sleep researcher:** OK, now let's go over your room review together.

**Jesse:** OK.

**Sleep researcher:** Looks like you have a computer, TV and your cellphone by your bedside?

**Jesse:** Yup.

**Sleep researcher:** Are those off or on at night?

**Jesse:** Well, that depends on if I fall asleep with a movie or show on. I usually have my computer on to make sure I don't miss anything on Facebook. And my cell — it's off if it doesn't ring. *(Laughs)*

**Sleep researcher:** What kind of movies and shows do you watch?

**Jesse:** I love cop shows and horror movies. I want to be a makeup artist — to transform those guys' faces. That would be so cool!



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**Sleep researcher:** And do you answer your phone at night?

**Jesse:** Only if it's my girlfriend's ring. And I don't text after 2 a.m.

**Sleep researcher:** But otherwise your text alerts wake you up?

**Jesse:** I guess, yeah, that's true. But someone might need something. So, you know, I leave it on for that.

**Sleep researcher:** And do you eat anything as a snack while you watch your shows?

**Jesse:** Usually — I'll snack on some pizza or something like that, and ice cream. Oh, and a soda.

**Sleep researcher:** And that's usually after 9 p.m.?

**Jesse:** Yup — if I ride my bike home from work I microwave something and have a soda.

**Sleep researcher:** And how long is that bike ride?

**Jesse:** About 3 miles. It's a great workout — mostly uphill on the way home. Gotta do that to make up for eating ice cream!

**Sleep researcher:** And what is your diet like during the day?

**Jesse:** You mean do I eat a lot of junk food, right?

**Sleep researcher:** *(Laughs)* Well, that's part of it.

**Jesse:** Well, I do eat kind of on the run — it's hard to plan ahead because I've been so tired. *(Yawns)* I usually just grab a donut for breakfast and eat some cookies or something for a snack. I'm hungry after school, so I just grab a bag of chips or something, then I eat a good dinner at home if I'm not at work. My mom's a great cook. Then there's my after-work snack routine I told you about already.

**Sleep researcher:** OK, thanks. And do you have any pets?

**Jesse:** Yes — we have three cats. I've had them since they were kittens and they love to curl up and sleep by my feet or on my legs. It's hilarious — and kind of crowded sometimes! They come and go all night, but they have a cat door.

**Sleep researcher:** Do they ever wake you up?

**Jesse:** Sometimes, but only just for a second or something. Unless they bring in a mouse — then it gets a little hectic and gross. I have to try and save the mouse — but that only happens once in a while.

**Sleep researcher:** How often, if you had to guess?

**Jesse:** Maybe once a month or so.

**Sleep researcher:** And how about your window — do you have curtains or a shade?

**Jesse:** No, this might sound funny, but there's this really cool tree outside my window I like to stare at when I can't sleep — it's just a black outline at night — but I like it anyway. And I like to watch the moon when I can.

**Sleep researcher:** OK, that's all I have for now. Thanks, Jesse. Next, we'll get you set up for the sleep study.

**Jesse:** OK, thanks.



## HYGIENE SCIENCE INFORMATION

### What are germs?

Germs are tiny living things that we can't live with and can't live without. Some are essential to our good health and others can make us sick. They are so small that you can't see them without a microscope (they are also known as microorganisms or microbes) but they are so strong that they can make you stay in bed for a week. Here's the dirt on the four major types of germs:

- **Bacteria** — Only one cell in size, these microbes can survive outside or inside our bodies. Certain types of bacteria are responsible for strep throat, cavities and ear infections. But not all bacteria are bad! Our bodies rely on certain bacteria to digest our food and to stay healthy.
- **Viruses** — Many viruses make us sick because they kill healthy cells. These viruses invade cells, taking over and multiplying. Most of them need living things to survive. Viruses cause the common cold, flu, chickenpox and measles.
- **Fungi** — We're not talking toadstools here, though they are related. Fungi cannot make their own food, so they depend on plants, people and other animals for their nutrition. They thrive in damp, warm spots in or on the body and can cause athlete's foot and ringworm.
- **Protozoa** — These moisture-loving, single-celled microorganisms can spread disease through water. If they get inside your body, it may result in diarrhea.

### Are all germs bad?

No! In fact, we need bacteria to get nutrients from our food — they help break it down so our body can use it. Other bacteria help keep us from getting sick by making it hard for disease-causing organisms to find a place to set up shop.

### Why should I wash my hands? They don't look dirty!

Ah, it's probably a good thing we can't see all the microbes covering our bodies — just seeing their sheer numbers might make us sick! But they are the reason it's so important to wash our hands. We all are busy touching things all day long ... and our hands are busy picking up all kinds of bacteria. Good hand-washing is one of the best (and easiest!) ways to keep yourself, your friends and your family healthy.

### How do germs get into my body?

Germs can enter your bloodstream through a wound (that's why it's important to wash and cover a cut or sore) and through your nose and mouth. Germs hang out on doorknobs and desks, just waiting to hitch a ride from your hands to your mouth. This is why washing your hands is so important — especially before you eat and after you use the bathroom. Some germs can travel through the air and that's where good sneeze/cough etiquette comes in. If possible, sneeze or cough into a tissue and throw it away. If you don't have a tissue, sneeze or cough into your elbow to keep from spraying germs all over the room (and blasting your friends and family!) and to keep germs off your hands.



### What causes body odor?

This is a stinky question with an even smellier answer. When your feet or armpits start to smell, it's because the bacteria trapped on your skin are releasing organic acids. These acids feast on your dead skin cells and the oil on your skin, then produce waste that stinks! How's that for making you want to run to the shower?

### How can I fight bad breath?

Brush and floss. Poor dental hygiene is the number one cause of bad breath. If bits of food get stuck in your teeth, they start to rot and smell. Though some kinds of food (like onions and garlic) can cause a stinky "hello," stubborn bacteria clinging to your tongue and teeth are largely to blame. If you have good dental hygiene and still have bad breath that won't go away, see a dentist. You may have a tooth or gum infection.

### What's a cavity?

A cavity is a hole in your tooth caused by bacteria in plaque. Plaque is a slimy coat of bacteria that is always forming on teeth. Germs in plaque make acids that can eat away at the enamel, or top layer, of your teeth. If you don't get rid of these bacteria by brushing and flossing, they keep chomping away at your tooth and can make a hole, or cavity. If the cavity does not get filled by a dentist, the bacteria can get to the root of the tooth where the nerves are, causing a painful toothache.

### What do you mean by good oral hygiene?

"Oral" means mouth and "hygiene" is just a fancy word for cleanliness (or "being clean")! Scientists have discovered strong connections between a healthy mouth and good long-term overall health. Here is my six-step program for a sparkling-clean mouth:

1. Brush your teeth with fluoride toothpaste after every meal or at least two times a day, especially before bed.
2. Brush up and down on both the inside and outside of your teeth, making little circles with your toothbrush as you go.
3. Gently brush your gums and tongue.
4. Floss your teeth once a day to remove plaque and food stuck between your teeth.
5. Cut back on sweets and sugary drinks, such as soda and fruit juice (check the nutrition facts label to find out if a drink has sugar in it, and don't forget sugar's aliases as listed in the Nutrition Science Information. Drink plenty of water!
6. See your dentist twice a year.

### What is gum disease?

Gum disease has nothing to do with bubblegum — unless you chew gum with sugar in it. Also called periodontal disease, this disease happens when the bacteria in plaque buildup and infect your gums and teeth. If left unchecked, it can even destroy gum tissue and the bones that hold your teeth in place. The best way to prevent gum disease is — you guessed it — our old friends brush and floss!

