

CAVITIES!

Ninety-seven percent of all the people in the world have cavities. If you don't brush your teeth you get cavities, and if you ignore the cavities, they can cause you a lot of pain. Cavities, also called *dental caries*, are holes in your teeth caused by the enamel breaking down, and the inside of the tooth beginning to rot. It's not a nice thing to have happen! What exactly causes cavities? Some people say that eating too much sugar leads to cavities, but that is only half true. On its own, sugar won't hurt your teeth. But when you add sugar to the *microorganisms* living on your teeth, then you might have a problem. Microorganisms are tiny bacteria that are so small that you can only see them with a microscope. This sticky, slimy colony of microorganisms is called *plaque*. They normally live on your teeth, but you need to control the amount of microorganisms by brushing. Plaque that hasn't been removed by brushing can harden into *tartar*. Plaque begins to form 4–12 hours after you brush your teeth, so it is important that you brush your teeth at least twice a day!

It's the bacteria living on your teeth that can cause cavities. But how do the bacteria cause them? Some people say that the bacteria start to eat your teeth, but this isn't true. What does happen is that the bacteria produce acid right next to your teeth, and this acid breaks down the enamel that is the outer covering of your tooth. Enamel is usually quite hard, but it can't stand up to acid. What does this have to do with sugar? Well, the little microorganisms living on your teeth eat sugar! So if you have sugary foods, and then don't brush your teeth, the microorganisms are feeding as well and growing in numbers! The hole in the enamel keeps growing until you go to a dentist and have it fixed. If the hole gets all the way through, even the inside of your tooth will start to decay, and that's when you get toothaches.

Cavities aren't the only things that can happen if you don't brush your teeth. If tartar builds up it can cause big problems as well. Tartar comes from plaque that hasn't been removed by brushing. Plaque can harden to tartar in only a few days! The usual places for tartar to build up are between teeth and around the gum line. Build-up of tartar at the gum line can cause the gum to become red and sore and this can lead to *gingivitis* (gum disease).

Now that you know how cavities are caused, you can also prevent them. You should brush your teeth with fluoride toothpaste at least twice a day. It is better if you can brush your teeth after every time you eat. Remember that plaque starts to build up 4–12 hours after you brush, so you want to make sure to brush it off again regularly! You should use a soft toothbrush, and you don't need to brush hard. If the bristles on your toothbrush are bent sideways, you are pressing too hard. Floss your teeth at least once a day, usually in the evening. Flossing your teeth helps to get any food that is stuck between your teeth, and it also removes any plaque between your teeth and under your gums that your toothbrush missed. Try not to eat too many sugary foods and drinks like candy and soft drinks. You don't have to stop eating them, but make sure that you don't eat them right before bed, and that you can brush your teeth after you have eaten something sugary. And finally, remember to go to your dentist two times a year for a check-up! If you follow the steps to good tooth health, your teeth will last a very long time!

1. What is the difference between plaque and tartar?
 - a. Tartar is a colony of microorganisms.
 - b. Plaque is a hardened build-up of bacteria.
 - c. Tartar is the hardened building up of microorganisms caused by not brushing.
 - d. Dental caries that result when teeth are brushed too hard.

2. How quickly can plaque form on your teeth?
 - a. Plaque can form every hour.
 - b. Plaque can begin to form 4-14 hours after you brush your teeth.
 - c. Plaque begins to form every week.
 - d. Plaque doesn't form on teeth, only on gums.
3. If the bacteria in plaque don't eat your tooth enamel, how do they cause cavities?
 - a. Bacteria produce an acid which breaks down the enamel on your teeth.
 - b. Bacteria produce a base which breaks down the enamel on your teeth.
 - c. Bacteria produce a gas that causes plaque to harden which breaks apart of the enamel.
 - d. Bacteria cause food particles to attach to the tooth's enamel, which breaks it down.
4. How does sugar help to cause cavities?
 - a. Sugar mixes with the base the bacteria produce and creates an even more toxic substance that breaks down the enamel.
 - b. The bacteria use the sugar as food to grow and divide.
 - c. Sugar acts like sandpaper helping to break down the enamel.
 - d. Sugar causes a chemical reaction with the enamel that causes it to be thin and brittle.
5. What causes toothaches?
 - a. When gums start to recede away from a tooth, a toothache occurs.
 - b. Bacteria continue to grow and divide, producing a gas that causes bad breath and toothaches.
 - c. Tartar build-up between teeth can cause the teeth to move, which causes a toothache.
 - d. When the hole in the enamel gets all the way through the tooth, the interior of the tooth begins to decay, causing toothaches.
6. What can a build-up of tartar lead to?
 - a. The build-up of tartar at the gum line can cause the gum to become red and sore leading to gingivitis.
 - b. The build-up of tartar can lead to toothaches.
 - c. The build-up of tartar causes bacteria to grow and divide faster than ever.
 - d. The build-up of tartar causes teeth to fall out.
7. Which of the following is not a step you can take to have healthy teeth?
 - a. Brush your teeth at least twice a day, after every meal is best.
 - b. Hard bristles are best and be sure to press down hard when you brush to clean away all tartar.
 - c. Flossing helps to remove any food particles and plaque stuck between your teeth.
 - d. Avoid eating or drinking something sugary before going to bed without brushing your teeth.