Did you know that you have living microbiomes in your body?
A microbiome is a community of many organisms so small we can’t see them with the human eye. They are called microorganisms, and you may have already learned about them at school. It may seem gross, but they are important for digesting food, protecting us from germs, and even to help produce nutrients that our bodies need to survive!

Your mouth can have up to 700 organisms in its microbiome! Some are good—they protect you from infection and help break down the food you eat. Others are bad and can cause cavities, gum disease and other infections. The good bacteria in your mouth also help to fight the bad ones.

When you forget to brush every day, the bad bacteria can grow to out-number the good and start to eat away at your teeth and infect your gums. They join together to form a sticky surface on your teeth called biofilm, or dental plaque.

Microbe profile: *Streptococcus mutans*
There are many bacteria that can cause cavities but one of the most infamous is *Streptococcus mutans*. (S. Mutans for short.) S. Mutans likes to hide in the tiny cracks and holes in your teeth and destroy the enamel—the hard, outer layer that protects your teeth. Once they get through the enamel, decay and infection can spread quickly. If you don’t see a dentist to repair the decay, it can reach the root and become very painful. If left untreated, the tooth will be destroyed.

Preventing infection is easy and the best way to defeat BIO-FILM and his nasty gang of bacteria!
Wipe out S. Mutans and the other harmful organisms that live in biofilm by brushing your teeth two times each day for two minutes. Also, be sure to floss to remove biofilm from around the base of your tooth and gums. Flossing helps to prevent gum disease, which we will learn about in Lesson 2.
What is periodontitis?
That's a big word for gum disease, or an infection in the soft tissue that holds your teeth in place. If you don't keep your gums healthy, over time your teeth may become loose and fall out! Of course, your primary or baby teeth are meant to fall out to make room for your bigger, adult teeth. But when you lose your baby teeth because of tooth decay or gum disease it can cause a lot of problems!

First of all, the infection that caused the tooth loss can also infect the bigger tooth that should take its place. Early loss of baby teeth can also mess up the spacing of your teeth and may require braces to fix crooked teeth later on.

Secondly, if infection spreads to the tissue under your gums and destroys it, your adult teeth will not be held in place properly, so you could lose them too!

If your gums bleed when you brush or floss, that's an early sign of gum disease. You can still stop the infection before it's too late!

How do we destroy Aggie and other organisms that are bad for our gums? Be sure to floss every day, along with brushing your teeth. Flossing removes biofilm that hides between your teeth and just below the gumline. (The video above includes links to other videos about the proper way to floss and lots of different tools that make flossing easier. Be sure to check them out!)
What is halitosis?
Have you ever noticed that when food sits in the trash for a few days before the can is emptied and taken outside, it can get pretty stinky? That’s because microscopic organisms (bacteria and fungus too small to see without a microscope) are eating and breaking down the food in the trash. This process creates an unpleasant odor. A similar thing happens when tiny bits of food remain in your mouth for too long.

There can be many causes of stinky breath—but there are two that can be solved with good oral hygiene. The first is the presence of cavities and gum disease. We’ve already learned about preventing these conditions by brushing and flossing every day to keep plaque from forming on our teeth and below the gumline.

The second cause of bad breath can be your tongue and cheeks. Because your tongue is covered with ridges and bumps, it provides lots of places for bits of food and bacteria to hide and produce odors. When you brush each day, take a little extra time to brush your tongue or use a special tongue scraper to clean out all the bumps and ridges. Try using a mouthwash or rinse to be sure all the soft parts of your mouth have been cleaned.

If you do a good job of brushing, flossing, and cleaning your tongue but your breath still stinks, talk to your dentist or doctor to be sure you don’t have another health condition that could be causing the bad smell.

Microbe profile:
There is no single microbe that causes bad breath. It takes many working together. And they all live in the biofilm that coats your teeth and gums when you don’t brush!

Learn more with this fun video!
Visit YouTube.com and search: “What causes bad breath?
- Mel Rosenberg”