

Chew on this!

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As I promised in October, this month we'll be exploring how insects eat using activities from the Junior Master Gardener program. There are four different types of insect mouthparts and they are very specialized. That means insects have mouthparts specifically designed to eat each insect's specific food.

You'll just need a few things for this month's activities and I'll bet you have most of them around your home. Cover your table with newspapers and get out a juice box, slice of bread, some M & M's or raisins, a sponge or paintbrush, 2 tablespoons of sugar on a plate, and a party blower (the kind that uncoils when you blow into it).

Chewing Mouthparts: Grasshoppers and crickets are two insects that have chewing mouthparts. They have pincer-like mandibles on either side of their mouths that they use to grasp food and bring it close. Make a fist on both sides of your mouth with your index fingers sticking out. Then, using just those fingers, try to pick up a raisin or candy and bring it into your mouth. Once you've done that, try something harder; pinch off a piece of bread and bring that to your mouth. It's not too easy, is it! When you see a plant leaf that looks like something has taken a bite out of it, it's probably been eaten by an insect with chewing mouthparts. That kind of insect can cause a lot of damage to plants and crops.

Piercing/Sucking Mouthparts: Mosquitoes are one kind of insect that has piercing/sucking mouthparts. They have a straw-like proboscis that they use to poke a hole into your arm and then suck out the blood! Other insects with piercing mouthparts poke their proboscis into a leaf and suck out the nutritious sap. The leaves are left with papery brown or yellow spots. To try this, take your juice box and unwrap the straw. Put the straw in your mouth and see if you can poke the end into the juice box. You can use your fingers to hold the straw straight if you have to. Once you poke through, drink the juice. When the box is empty, it will be useless, just like a leaf that's been sucked dry by an insect. That's bad for plants, but sometimes insects with piercing mouthparts use them to eat other insects and that's good!

Siphoning Mouthparts: You've all seen insects with siphoning mouthparts because you've all seen butterflies or moths. Siphoning mouthparts are very similar to piercing/sucking mouthparts because they use a long thin proboscis to drink. Instead of piercing a leaf, siphoning mouthparts drink nectar from flowers without causing any damage to the plant. Butterflies keep their straw-like proboscis coiled up under their head and just extend it when they have landed on a flower and are ready to drink. Take the party blower and see how it looks coiled up. Then, put it in your mouth and blow! See how the paper rolls in and out? It looks just like a butterfly's proboscis.

Sponging Mouthparts: Has anyone ever told you that flies are dirty? Well, they're right! Flies have mouthparts that act like sponges. Sponges can't pick up anything dry, so flies spit on food to soften it and make it easier to sponge up. Take your dry sponge or paintbrush and dab it in the sugar on your plate. Not much sugar will stick to it. Then put a little water on the sponge or paintbrush and try again. The moisture will dissolve some of the sugar and make it stick to your "mouth". Flies have terrible table manners, but they are good for pollinating flowers.

Human mouths aren't exactly like any of the insect mouthparts, but they come close to all of them. Think about that, how does your mouth work?