**“Magic Berries” Script**

**Source: BBB Society**

**Items:**

* Lemon juice
* Small dixie cups
* Magic berry tablets or fruit
* Poster

**Optional: SHOW THIS VIDEO:** [**https://www.youtube.com/watch?v=E4Ep1atfFlg**](https://www.youtube.com/watch?v=E4Ep1atfFlg)

Person 1: Hey guys, so today we are going to be talking about a special kind of fruit that can change the way your tongue tastes different foods-- this fruit is called the MAGIC BERRY!

Person 2: So do you guys know how your tongue can tell different foods apart by how they taste?

Person 3: Now, your tongue can sense different types of tastes because different parts of your tongue have different types of taste buds on it. Can you believe we have thousands of taste buds on our tongue that get replaced roughly every 2 weeks?! You can see these taste buds if you look hard enough, can everyone stick their tongue out and see if you can see these taste buds? *(have kids stick tongue out)*

Person 2*:* What are some different tastes you guys can think of? (*ask them, try to get salty, sweet, and bitter, if they don't say these on their own we can give them hints of certain foods that are those things like, what does sugar taste like? Etc.*).

* *Probe for: salt, sweet, bitter, umami, and sour*

Person 3: Who can give us an example of something that tastes….

* Salty
* Sweet
* Bitter
* Umami
* sour

Person 1: So, each different taste bud gets activated by a certain molecule that is specific to the type of taste in the food, and then this taste bud sends a signal to your brain telling you what it tasted. So, sour foods all have a molecule that makes it sour instead of sweet!

Person 2: Then, our bodies have specific receptors for those molecules--- those receptors are taste buds on our tongue! Our tongues have a taste bud for sweet tastes, for salty tastes, and for bitter tastes. Each receptor has a very specific shape so the specific molecule on the food can fit into it perfectly! Think of one of those toy boxes with circles, squares and triangles! Will a circle fit into a square?? No!

Person 1: So this "Magic Berry" which naturally grows out in West Africa, can make sour foods taste sweet. So if you were to suck on this lemon, before you have magic berries it will taste sour. After you eat magic berries, the lemon will taste really sweet, almost like lemonade. This happens because there is a special protein in the magic berries, called “miraculin", that binds to your sweet taste buds. And it is pretty miraculous!

Person 2: The special molecule covers your sweet taste buds, making those sweet taste buds more active. Then, when you taste something sour, the miraculin changes the shape of the sweet taste bud. So instead of the sour taste bud telling your brain what food is in your mouth, actually it is the sweet taste bud that tricks your brain into thinking that lemon you ate was actually sweet, and not sour. We are tricking our brains so now when you try the lemon it tastes sweet!

Person 1: This is how it works on your tongue-- the miraculin in the magic berry tricks your sweet tastebud on your tongue think that the sour things are actually sweet

Person 2: But don’t worry the effects of magic berries don’t last forever! They usually lasts for about an hour because your saliva eventually washes it away, but it is pretty cool to try out. So let's have everyone try the lemons first, then have the magic berries, and then we will all try the lemons again and see the difference. All right let's go!

[Run experiment]

Person 1: Ok-- so who can describe what the lemon tasted like after they had the magic berry?

Person 2: Does someone want to help explain how that worked?